




## Data in Many Forms.

Statistics Canada disseminates data in a variety of forms. In addition to publications, both standard and special tabulations are offered. Data are available on CD, diskette, computer print-out, microfiche and microfilm, and magnetic tape, Maps and other geographic reference materials are available for some types of data. Direct on-line access to aggregated information is possible through CANSIM, Statistics Canada's machine-readable data base and retrieval system.

## How to Obtain More Information

Inquiries about this publication and related statistics or services should be directed to:
General Social Survey,
Housing, Family and Social Statistics Division,
Statistics Canada, Ottawa, K1A OT6 (Telephone: $951-9180$ ) or to the Statistics Canada reference centre in:

| Halifax | $(1-902-426-5331)$ | Regina | $(1-306-780-5405)$ |
| :--- | :--- | :--- | :--- |
| Montréal | $(1-514-283-5725)$ | Edmonton | $(1-403-495-3027)$ |
| Ottawa | $(1-613-951-8116)$ | Calgary | $(1-403-292-6717)$ |
| Toronto | $(1-416-973-6586)$ | Vancouver | $(1-604-666-3691)$ |
| Winnipeg | $(1-204-983-4020)$ |  |  |

Toll-free access is provided in all provinces and territories, for users who reside outside the local dialing area of any of the regional reference centres.

| Newfoundland, Labrador, Nova Scotia, New Brunswick <br> and Prince Edward Island | $1-800-565-7192$ |
| :--- | ---: |
| Québec | $1-800-361-2831$ |
| Ontario | $1-800-263-1136$ |
| Saskatchewan | $1-800-667-7164$ |
| Manitoba | $1-800-661-7828$ |
| Alberta and Northwest Territories | $1-800-563-7828$ |
| British Columbia and Yukon | $1-800-663-1551$ |
| Telecommunications Device for the Hearing Impaired | $1-800-363-7629$ |
| Toll Free Order Only Line (Canada and United States) | $\mathbf{1 - 8 0 0 - 2 6 7 - 6 6 7 7}$ |

## How to Order Publications

This and other Statistics Canada publications may be purchased from local authorized agents and other community bookstores, through the local Statistics Canada offices, or by mail order to Marketing Division, Sales and Service, Statistics Canada, Ottawa, K1A OT6.

1(613)951-7277
Facsimile Number 1 (613) 951 -1584
National Toll Free Order Line: 1-800-267-6677
Toronto
Credit Card Only (973.8018)

Statistics Canada
Housing, Family and Social Statistics Division

## General Social Survey Analysis Series

# Health Status of Canadians: <br> Report of the 1991 General Social Survey 

Published by authority of the Minister responsible for Statistics Canada<br>- Minister of Industry<br>Science and Technology, 1994

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, pholocopying, recording or otherwise without prior written permission from Licence Services, Marketing Division, Statistics Canada,
Ottawa, Ontario, Canada K1A OT6.
March 1994
Price: Canada: $\$ 40.00$
United States: US\$48.00
Other Countries: US\$56.00
Catalogue No. 11.612E, No. 8
ISBN 0.660-15392.0
Ottawa
Version française de celte publication disponible sur demande ( $N^{\circ} 11-612 F, N^{\circ} 8$ au catalogue)

## 1994 International Year of the Family



The objectives of the International Year of the Family are to "highlight the importance of families; increase a better understanding of their functions and problems; and focus altention upon the right and responsibilities of all family members".

United Nations

[^0]
## Canadian Cataloguing in Publication Data

Health Status of Canadians : Report of the 1991 General Social Survey
(General Social Survey Analysis Series,
ISSN 0836-043X : 8)
Issued also in French under title: L'état de santé des Canadiens : Rapport de l'Enquête
sociale générale de 1991.
ISBN (0-660-15392-0
CSII-612E no. 8

1. Health surveys -- Canada. I. Statistics Canada. Housing, Family and Social Statistics Division. II. Title III. Series
```
RA407.5.C3 H42 1994 362.1`0971 C94-988018-3
```

The paper used in this publication meets the minimum requirements of American National Standard for Intormation Sciences - Permanence of Paper for Printed Library Materials, ANSI 239.48-1984 6

## PREFACE

The General Social Survey (GSS), a continuing program with a single survey cycle each year. has two principal objectives: first, to gather data on social trends in order to monitor changes in Canadian society over time, and second, to provide information on specific social issues of current or emerging interest.

The sixth annual cycle of the General Social Survey which collected data from January to December 1991. concentrated on health and marks the first repeat of the GSS core subject areas. The basic survey was supplemented by the Sentors Secretariat and other branches of Health Canada who provided funding for selected content modules and for the inclusion of an additional sample of persons aged 65 and over 10 allow for more in-depth analysis of data on seniors.

A data file from this survey was released in June, 1992 and a number of articles based on the data have been published in Canadian Social Trends and Health Reports. This report provides a detailed analysis of findings based on this survey and includes comparisons with findings from the 1985 GSS and the 1978-79 Canada Health Survey.

In recognition of the broad scope of the data being produced by the General Social Survey, as well as the wide range of expected users from governments, universities, institutes, business, media and the general public, the project has placed particular emphasis on access to the survey database. The public use microdata file allows researchers to caury out their own analysis of this rich database. Copies of this microdata file can be obtained by contacting the Housing, Family and Soctal Statistics Division, Statistics Canada.

This report was written by the following individuals: Wayne Millar (Chapters 5, 8, 9,10). Thomas Stephens (Chapters 2, 3. (6), Tamara Knighton (Chapters 1, 7). Randy Woods (Chapters 2, 6), and Jennifer Mosgrove (Chapter 4). Thomas Stephens also acted as editor for the overall report, with assistance from Marla Sheffer. Ed Praught wats the manager for the General Social Survey Cycle 6.

Ivan P. Fellegi<br>Chief Statistician of Canada

## ACKNOWLEDGEMENTS

Many people took time to review earlier drafts of this report. External reviews were conducted by: Owen Adams, Canadian Medical Association (Chapters 3 and 7): Edward Adlaf. Addiction Research Foundation (Ch. 8); Douglas Angus. Queens - University of Ottawa Economic Projects (Ch. 7); Michael Boyle, McMaster University (Ch. 3); Larry Chambers. McMaster University ( $\mathrm{Ch}, 4$ ); Cora Craig, Canadian Fitness and Lifestyle Research Institute (Chapters 5 and 10); David Feeny, McMaster University (Ch. 3): Janice Forsyth, Canadian Council on Smoking and Health (Ch. 9): William Furlong, McMaster University (Ch. 3); Gaston Godin. Laval University (Ch. 10); Paul Grayson, York University (Ch.6); Kathryn Green, University of Saskatchewan (Ch. 6); Silvana Luciani, Health Canada (Ch. 5); Parricia MacNeil, Health Canada (Ch. 8); Pranial Manga, University of Ottawa (Ch. 7); Ian McDowell, University of Ouza (Ch. 4): Linda Pederson, University of Westem Ontario (Ch. 9); Carol Silcoff, Health Canada (Ch. 4): Claude Strohmenger, Health Canada, (Ch. 3), George Torrance, McMaster University (Ch. 3); Brenda Wagman, Canadian Council on Smoking and Health (Ch. 9): and Kathryn Wilkins, Health Canada (Ch. 2).

Internal reviews of the report were conducted by: Gary Catlin, Adele Furrie. Robert Lussier, Douglas Norris, Jeanine Perreault, and Gordon Priest.

The assistance of the following Statistics Canada personnel is also gratefully acknowledged: Linda Bélanger, Claire Bradshaw (Survey Operations), Jeff Hatcher, Dave Paton (Social Survey Methods), Christian Branconnier, Evelyn Ryan. J. Kevin Workman (Census Operations), Rémi Gélinas, Steven James, Mario Lisciotto, Jennifer Meester, Jeannine Morissette, Joanne Pilon, Colette Richard, Cheryl Sarazin and Catherine Trainor (Housing, Family and Social Statistics).

Special thanks are owed to Nancy Tumer of the Housing. Family and Social Statistics Division, Statistics Canada for her work in coordinating the production of the report and her contributions to Chapter 2.

Finally. special thanks go to Russell Wilkins of the Canadian Centre for Health Information for his development of the income adequacy variable.

## TABLE OF CONTENTS

Page
CHAPTER

1. Introduction ..... 15
1.1 Highlights ..... 15
1.2 Features of Report ..... 17
1.2.1 Style and Themes of Report ..... 17
1.2.2 Organization of Report ..... 17
1.3 Overview of GSS Program and Cycle 6 ..... 17
1.3.1 Objectives ..... 17
1.3.2 Content ..... 18
1.3.3 Sample Design ..... 19
1.3.4 Data Collection and Forms ..... 19
1.3.5 Data Processing and Estimation ..... 19
1.3.6 Data Limitations ..... 20
1.3.7 Cycle 6 Special Features ..... 20
2. Chronic Conditions, Pain, and Sleep Difficulties ..... 25
2.1 Highlights ..... 25
2.2 Methods ..... 2.5
2.3 Results ..... 26
2.3.1 Prevalence of Chronic Conditions in Canada ..... 26
2.3.2 Pain Severity ..... 28
2.3.3 Sleep Difficulties ..... 29
2.3.4 Health Satisfaction and Health Problems ..... 29
2.4 Discussion ..... 29
2.4.1 Changes Since 1978 ..... 29
2.4.2 Other Observations ..... 30
2.4.3 Methodological Considerations ..... 32
3. Health and Function ..... 41
3.1 Highlights ..... 41
3.2 Methods ..... 41
3.3 Results ..... 43
3.3.1 Functional Limitations ..... 43
3.3.2 Activity Limitation ..... 45
3.3.3 Two-Week Disability Days ..... 45
3.3.4 Datys Off Work ..... 46
3.3.5 Health Satisfaction ..... 46
3.3.6 Satisfaction in the Presence of Activity Limitation ..... 47
3.4 Discussion ..... 48
3.4.1 Comparisons with 1978-79 and 1985 ..... 48
3.4.2 Methodological Issues ..... 49
3.4.3 Substantive Issues ..... 51

## Table of contents - Continued

Page
Chapter - Continued
4. Psychological Well-Being ..... 63
4.1 Highlights ..... 63
4.2 Methods ..... 63
4.2.1 Emotional Well-Being ..... 63
4.2.2 Satisfaction with Job or Main Activity ..... 64
4.3 Results ..... 64
4.3.1 Emotional Well-Being ..... 64
4.3.2 Satisfaction with Job or Main Activity ..... 68
4.4 Discussion ..... 68
4.4.1 Comparisons with 1978-79 ..... 68
4.4.2 Substantive Issues ..... 68
4.4.3 Methodological Issues ..... 70
5. Weight and Height ..... 77
5.1 Highlights ..... 77
5.2 Methods ..... 77
5.3 Results ..... 78
5.3. 1 Prevalence of Acceptable Weight ..... 78
5.3.2 Prevalence of Being Overweight ..... 78
5.3.3 Overweight and Smoking ..... 79
5.3.4 Body Mass Index and Self-Assessed Weight ..... 80
5.3.5 Relative Weight and Self-Reported Health Problems ..... 80
5.4 Discussion ..... 81
5.4.1 Methodological Issues ..... 81
5.4.2 Changes Over Time in the Prevalence of Being Overweight ..... 81
5.4.3 Substantive Issues ..... 81
6. Work and Health ..... 91
6.1 Highlights ..... 91
6.2 Methods ..... 91
6.3 Results ..... 92
6.3.1 Employment Health Benefits ..... 92
6.3.2 Perceived Exposure to Workplace Healih Hazards ..... 93
6.3.3 Perceived Health Impact of Exposure to Workplace Hazards ..... 94
6.3.4 Job Satisfaction ..... 96
6.4 Discussion ..... 98
6.4.1 Methodological Considerations ..... 98
6.4.2 Substantive Issues ..... 98

## Table of contents - Continued

Page
Chapter - Continued
7. Health Care Utilization ..... 105
7.1 Highlights ..... 105
7.2 Methods ..... 106
7.3 Results ..... 106
7.3.1 Contact with Health Care Professionals ..... 106
7.3.2 Frequency of Medical Doctor Contact ..... 109
7.3.3 Number of Institutionalized Nights ..... 109
7.3.4 Delays in Care ..... 109
7.3.5 Influenza Shots ..... 111
7.3.6 Type of Contact by Health Problem ..... 113
7.4 Discussion ..... 114
7.4.1 Changes Since 1978 and 1985 ..... 114
7.4.2 Other Observations ..... 115
8. Alcohol Use ..... 127
8.1 Highlights ..... 127
8.2 Methods ..... 127
8.3 Results ..... 128
8.3.1 Prevalence and Volume of Drinking ..... 128
8.3.2 Drinking and Smoking ..... 124
8.3.3 Drinking and Chronic Health Problems ..... 129
8.4 Discussion ..... 1.30
8.4.1 Change in Drinking Patterns Over Time ..... 130
8.4.2 Methodological Issues ..... 132
8.4.3 Substantive Issues ..... 134
9. Smoking ..... 141
9.1 Highlights ..... 141
9.2 Methods ..... 141
9.3 Results ..... 142
9.3.1 Smoking Prevalence ..... 142
9.3.2 Amount Smoked Daily ..... 143
9.3.3 Age Smoking Began ..... 143
9.3.4 Household Smoking Patterns ..... 144
9.3.5 Smoking and Health Problems ..... 144
9.4 Discussion ..... 144
9.4.1 Trends in Smoking Prevalence ..... 144
9.4.2 Methodological Issues ..... 145
9.4.3 Substantive Issues ..... 146

## Table of contents - Continued

Page
Chapter - Concluded
10. Leisure-Time Physical Activity ..... 155
10.1 Highlights ..... 155
10.2 Methods ..... 155
10.3 Results ..... 156
10.3.1 Age and Sex ..... 156
10.3.2 Provincial Differences ..... 156
10.3.3 Education ..... 157
10.3.4 Physical Activity and Smoking Behaviour ..... 157
10.3.5 Physical Activity and Health Problems ..... 158
10.4 Discussion ..... 158
10.4.1 Changes Since 1985 ..... 158
10.4.2 Methodological Considerations ..... 158
10.4.3 Other Considerations ..... 161
Appendices

1. Sample Design and Estimation Procedures ..... 167
Appendix Table 1 Sample Information Used to Estimate Standard Deviations ..... 170
2. Cycle 6 Questionnaires ..... 175
Figures
1-A Estimated sampling variability by size of estimate, Canada ..... 21
1-B Response magnitudes and rates ..... 22
2-A Prevalence (\%) of health problems by sex, age $15+$. Canada, 1991 ..... 27
2-B Prevalence (\%) of health problems by income adequacy, age $15+$, Canada, 1991 ..... 28
2-C Trouble sleeping by age group and leisure-time physical activity, age $15+$.
Canada. 1991 ..... 31
2-D Prevalence (\%) of health problems, age 15t. Canada, 1978-79 and 1991 ..... 32
3-A Atiributes with reduced function by age group, age 15+, Canada 1991 ..... 43
3-B Cause of activity limitation, population aged $15+$ with a long-term activity limitation. Canada, 1991 ..... 47
3-C Mean disability days in two weeks prior to survey by age group and sex. age 15+, Canada, 1991 ..... 48
3-D Activity limitation by age group, age 15t. Canada, 1978-79. 1985 and 1991 ..... 51
3-E Mean disability days in two weeks preceding survey by age group, age $15+$. Canada, 1978-79, 1985 and 1991 ..... 53

## Table of contents - Continued

Page

Figures - Continued
4-A Prevalence (\%) of "high positive" affect balance scale scores by income adequacy and sex, age $15+$, Canada, 1991

4-B Prevalence (\%) of "negative" affect balance scale scores by marital status and
sex, age $15+$. Canada, 1991

4-C Dissatisfaction with job or main activity by income adequacy and sex.
age $15+$. Canada, 1991

5-A Prevalence (\%) of being overweight (BMI $>27$ ) by age group and sex, ages 20
10 64, Canada, 1991
5-B Prevalence (\%) of health problems by body mass index, ages 45 to 64 . Canada. 1991 ..... 80
6-A Employment health benefits by sex. paid workers aged 15t. Canada, 1991 ..... 94
6-B Perceived exposure to health hazards at work by sex, population aged $15+$ working at a job or business, Canada, 1991 ..... 95
6-C Perceived impact of exposure to workplace hazards on health, by occupational status and sex, population aged $15+$ working at a job or business, Canada, 1991 ..... 96
7-A Medical specialist contacts in 12 months preceding survey by age group and sex. age 15+. Canada, 1991 ..... 108
7-B Health professional contacts in 12 months preceding survey, age $15+$. Canada. 1978-79, 1985 and 1991 ..... 115
7-C Medical specialist contacts in 12 months preceding survey by age group and sex, age 65t. Canada, 1985 and 1991 ..... 116
8-A Current drinkers by age group and sex, age 15+. Canada. 1991 ..... 129
8-B Current drinkers by education and age group. ages 15-24, Canada, 1991 ..... 130
8-C Prevalence (\%) of health problems by type of drinker, ages 45-64. Canada, 1991 ..... 131
8-D Current drinkers by age group, age 15t. Canada, 1985 and 1991 ..... 132
8-E Current drinkers by volume of alcohol consumed in the week preceding the survey. age 15+, Canada, 1978-79, 1985 and 1991 ..... 133
9-A Daily smokers by education and age group, age 20+. Canada, 1991 ..... 143
9-B Daily smokers by age group and sex, age 15t. Canada, 1985 and 1991 ..... 145
9-C Age-adjusted daily smoking rates, by region and sex, age 15t, Canada, 1966 and 1991 ..... 146

## Table of contents - Continued

## Page

Figures - Concluded
9-D Age-adjusted daily smoking rates, by education and sex, age 15+, Canada, 1985 and 1991
$\begin{array}{lll}\text { 10-A "Active" leisure-time physical activity by age group and sex, age } 15+, & 156 \\ \text { Canada, } 1991\end{array}$
$\begin{array}{ll}\text { 10-B } & \text { "Sedentary" leisure-time physical activity by age group and sex, age } 15+,\end{array}$
10-C "Active" leisure-time physical activity by region and sex, age 15+. Canada, 1991 158
10-D Prevalence (\%) of health problems by level of leisure-time physical activity.
ages $45-64$, Canada, 1991

## Text Tables

$\begin{array}{lll}1 \text {-A Income adequacy defined } & 18\end{array}$
2-A Prevalence of selected chronic conditions, age 15+. Canada, 199126
2-B Prevalence of sleep difficulties by sex, then age group, then income adequacy,
age $15+$, Canada, 1991
2-C Satisfaction with own health. by prevalence of chronic health prohlems, age $15+$,
Canada. 1991
3-A Prevalence of three health status indicators by province, age 15t, Canada, 1991 44
3-B Prevalence of three health status indicators by income adequacy, age 15t.
Canada. 1991
3-C Population very satisfied with own health by long-term activity limitation, age
group and sex, age $15+$, Canada, 1991
$\begin{array}{ll}\text { 3-D Long-term activity limitation by sex and age group, population aged } 15+\text { with } \\ \text { a long-term activity limitation, Canada, 1978-79. } 1985 \text { and } 1991 & 50\end{array}$
3-E Mean disability days by sex and age group, age $15+$, Canada, 1978-79,
1985 and 1991
4-A Affect Balance Scale scores by level of pain, age $15+$, Canada, 199169
4-B Affect Batance Scale scores by activity loss days, age 15+, Canada, 199167
4-C Affect Balance Scale scores by age group and sex, age $15+$, Canada, 1978-79
and 1991
5-A Body Mass Index by sex, ages 20 to 64, Canada, 1985, 1990 and 199182

## Table of contents - Continued

Page

## Text tables - Concluded

6-A Access to employment health benefits by occupational status, paid workers
age $15+$, Canada, 1991

6-B Annual days lost from work, by perceived exposure to workplace hazards and sex, population aged $15+$ whose main activity was working in the last two weeks, Canada, 1991
6-C Job satisfaction by sex and perceived exposure to workplace health hazards, population aged $15+$ working at a job or business, Canada, 1991 ..... 97
7-A Contact with a health care professional in 12 months preceding survey, by type of professional contacted and sex, age $15+$, Canada, 1991 ..... 107
7-B Medical doctor (includes both general practitioner and medical specialist) contacts in the 12 months preceding the survey by income adequacy, age $65+$. Canada, 1991 ..... 110
7-C Number of institutionalized nights in the 12 months preceding the survey by income adequacy, age 65+, Canada, 1991 ..... 110
7-D Delays in obtaining health care in the 12 months preceding the survey by province and sex, age $15+$. Canada. 1991 ..... 111
7-E Flu shots recommended and received in fall or winter $1990-91$ by province, age $65+$, Canada, 1991 ..... 112
7-F Contact with selected health care professionals in the 12 months preceding the survey by health problem, age $15+$. Canada, 1991 ..... 113
7-G General practitioner consultations in the 12 months preceding the survey by sex, age $15+$. Canada, 1985 and 1991 ..... 116
8-A Type of drinking behaviour, selected national surveys, age 15+, Canada, 1978-79 to 1991 ..... 131
10-A Physical activity level by selected smoking status, age 15t. Canada. 1991 ..... 160
10-B Physically active population by age group and sex, age $15+$, Canada, 1985 and 1991 ..... 160
Tables
2-1 Prevalence of selected health problems by sex and age group, age $15+$, Canada. 1991 ..... 34
2-2 Prevalence of selected health problems by sex and province, age $15+$. Canada. 1991 ..... 35
2-3 Prevalence of selected health problems by sex and income adequacy, age $15+$, Canada, 1991 ..... 37

## Table of contents - Continued

Page
Tables - Continued
2-4 Description of usual intensity of pain by sex and age group, age $15+$. Canada, 1991 ..... 38
2-5 Description of usual intensity of pain, by sex and income adequacy, age $15+$. Canada, 1991 ..... 39
3-1 Comprehensive Health Status Classification System attributes at reduced function by sex and age group, age 15+, Canada, 1991 ..... 55
3-2 Number of Comprehensive Health Status Classification System attributes at reduced function by age group and income adequacy, age 15+, Canada, 1991 ..... 56
3-3 Comprehensive Health Status Classification System attributes at reduced function by province, age $15+$, Canada, 1991 ..... 57
3-4 Long-term activity limitations by sex and age group, age 15+, Canada, 1991 ..... 58
3-5 Mean disability days in two weeks preceding survey by province, sex and age group. age 15+, Canada, 1991 ..... 59
3-6 Mean activity loss days in two weeks preceding survey by sex, age group, main activity and occupational status for those whose main activity was working, population aged $15+$ with specified main activity, Canada, 1991 ..... 60
3-7 Health satisfaction by sex and age group, age 15+, Canada, 1991 ..... 61
4-1 Bradburn Affect Balance Scale by sex and age group, age 15t. Canada, 1991 ..... 72
4-2 Bradburn Affect Balance Scale by sex and province, age 15+, Canada, 1991 ..... 73
4-3 Satisfaction with job or main activity by sex and main activity in 12 months preceding survey, age $15+$, Canada, 1991 ..... 74
4-4 Satisfaction with job or main activity by sex and age group, age $15+$. Canada, 1991 ..... 75
4-5 Satisfaction with job or main activity by sex and province, age 15+. Canada, 1991 ..... 76
5-1 Body Mass Index by age group and sex. ages 20 to 64. Canada. 1991 ..... 84
5-2 Body Mass Index by sex and province, ages 20 to 64, Canada, 1991 ..... 85
5-3 Body Mass Index by age group and income adequacy, ages 20 to 64, Canada, 1991 ..... 86
5-4 Body Mass Index by age group, sex and type of smoker, ages 20 to 64, Canada, 1991 ..... 87
5-5 Perception of weight by sex and Body Mass Index, ages 20 to 64, Canada, 1991 ..... 88

## Table of contents - Continued

Page
Tables - Continued
5-6 Prevalence of selected health problems, by age group and Body Mass Index,ages 20 to 64. Canada. 199189
6-1 Employment health benefits by sex and occupational status, paid workers aged 15+, Canada, 1991 ..... 100
6-2 Perceived exposure to workplace hazards by sex and occupational status, population aged $15+$ working at a job or business, Canada, 1991 ..... 101
6-3 Type of perceived workplace hazard exposure by sex and occupational status, population aged $15+$ working at a job or business. Canada, 1991 ..... 102
6-4 Job satisfaction by sex and employment benefits, paid workers aged $15+$. Canada, 1991 ..... 103
7-1 Type of health care professional contacted in 12 months preceding survey by sex and age group, age $15+$, Canada, 1991 ..... 119
7-2 Type of health care professional contacted in 12 months preceding survey by sex and province, age 15+. Canada, 1991 ..... 120
7-3 Type of health care professional contacted in 12 months preceding survey by sex and income adequacy, age 15+, Canada, 1991 ..... 121
7-4 Number of contacts with medical doctor in 12 montlis preceding survey by sex and age group, age $15+$, Canada, 1991 ..... 122
7-5 Number of institutionalized nights in 12 months preceding survey by sex and age group, age $15+$. Canada. 1991 ..... 123
7-6 Delays in obtaining health care in 12 months preceding survey by type of service sought, sex and age group, age 15+, Canada, 1991 ..... 124
7-7 Flu shots recommended then flu shots received in fall or winter 1990-91 by sex and age group, age 15+. Canada. 1991 ..... 125
7-8 Reasons for not receiving flu shots in fall or winter 1990-91 by sex and income adequacy, population aged $15+$ who did not receive flu shots, Canada, 1991 ..... 126
8-1 Type of drinker and volume of alcohol consumed in the week preceding the survey by sex and age group, age $15+$. Canada, 1991 ..... 136
8-2 Type of drinker and volume of alcohol consumed in the week preceding the survey by sex and province, age 15+, Canada, 1991 ..... 137
8-3 Type of drinker and volume of alcohol consumed in the week preceding the survey by age group and education, age $15+$, Canada, 1991 ..... 138
8-4 Type of drinker by age group and type of smoker, age 15+, Canada, 1991 ..... 139

## Table of contents - Concluded

Page
Tables - Concluded
8-5 Prevalence of selected health problems by age group and type of drinker, age 15+, Canada. 1991 ..... 140
9.1 Type of smoker and for regular smokers, the number of cigarettes smoked daily by sex and age group, age $15+$, Canada, 1991 ..... 149
9-2 Type of smoker by sex and province, age 15+, Canada, 1991 ..... 150
9-3 Type of smoker by age group and education, age 15+, Canada, 1991 ..... 151
9-4 Age started smoking daily by sex and age group, population aged $15+$ who smoke cigarettes daily, Canada, 1991 ..... 152
9-5 Type of smoker by age group and number of smokers in household (interviewed person excluded), age 15+, Canada, 1991 ..... 153
9-6 Prevalence of selected health problems by age group and type of smoker, age $15+$. Canada, 1991 ..... 154
10-1 Leisure-time physical activity level by sex and age group, age 15+, Canada, 1991 ..... 162
10-2 Leisure-time physical activity level by sex and province, age 15+. Canada, 1991 ..... 163
10-3 Leisure-time physical activity level by sex and education. age 15t. Canada, 1991 ..... 164
10-4 Prevalence of selected health problems by sex and leisure-time physical activity level, age 15+, Canada, 1991 ..... 165

## CHAPTER 1

## INTRODUCTION

The 1991 General Social Survey (GSS) Cycle 6 marks the tirst repeat of the GSS core subject areas. Most of the core content of Cycle 6 repeats that of Cycle 1 (1985). As well, much of the core content was included in the Canada Health Survey (1978-79). This report features changes in heath status over time using the three above-mentioned surveys. Differences in question wording or other survey methods are dealt with in this and subsequent chapters.

## I. 1 HIGHLIGHTS

- Skin or other allergies ( $21 \%$ ), arthritis and rheumatism ( $21 \%$ ), and high blood pressure ( $16 \%$ ) were the chronic heath problems most commonly reported by Canadian adults aged 15 and over in 1991.
- Allergies including hay fever, arthritis and theumatism, as well as, high blood pressure. migraines, digestive problems other than ulcers. emphysema, and asthma, were substantially more common in 199\} than in 1978.
- Most of the clironic health problems probed in the survey, as well as difficulties sleeping and troubles with pain, become more common as income adequacy declines. Hay fever is an exception: it is most prevalent at the highest income levels.
- Twenty percent of adults report being bothered by pain and discomfort, and one-quarter have trouble going to sleep or staying asleep.
- Over 2.3 million Canadian adults ( $11 \%$ of those aged 15 and over) report that a long-term heath problem limits the kind or amount of activity that they can do at home, work, or school. This compares with $14 \%$ in 1978-79 and $12 \%$ in 1985. Back problems were the single most important cause underlying long-term activity limitations in 1991.
- Less than one-third of Canadian adults (29\%) report no reduced health status function. The most common functional problems reported are: visual ( $50 \%$ ), cognitive ( $26 \%$ ), and emotional $(21 \%)$. Equal proportions have one attribute (35\% overall) or two or more attributes (34\%) affected.
- Over half of all adult Canadians ( $55 \%$ ) describe themselves as very satisfied with their health status, while only $3 \%$ are very dissatisfied.
- Sixteen percent of Canadian adults report high levels of positive well-being. Eight percent have a predominance of negative affect, indicating at least some emotional distress.
- Emotional well-being is positively related 10 financial well-being.
- Approximately 3.7 million Canadians are at risk of developing health problems because of excess body weight. This estimate represents $23 \%$ of the population aged 20 to 64 .
- Among those aged 20-64, the prevalence of being overweight is greater among men ( $28 \%$ ) than among women (18\%).
- About 1.5 million adults representing about $9 \%$ of the population aged 20 to 64 are underweight. The prevalence of being anderweight is greater among women ( $15 \%$ ) than among men (3\%).
- The highest prevalence of being underweight occurs among young women aged 20 to 24 . About $25 \%$ of women in this age group are underweight. Young women in British Columbia ( $33 \%$ ) and Quebec ( $28 \%$ ) are most likely to be underweight.
- Slightly more than half of the Canadian paid employed population aged 15 and over is provided with insurance for disability ( $56 \%$ ). extra medical/surgical care ( $53 \%$ ), and dental care (53\%) through work.
- Access 10 employment benefits of all kinds tends to increase with occupational status. but men are usually more likely than women working outside the home to have access to employment health benefits. Sex differences in disability, medical and dental benefits hold true for all occupational categories but are most pronounced in skilled and semi-skilled occupations.
- Two-thirds of employed Canadian adults approximately $9,689,000$ people in all -believe that they were exposed to some sort of physical health hazard in the workplace in the 12 months preceding the 1991 GSS. The most common perceived risks are exposure to dust or fibres in the air and working in proximity to a computer screen or terminal.
- The vast majority of employed Canadians describe themselves as very satisfied ( $57 \%$ ) or somewhat satisfied (28\%) with their jobs. Those with access to employment health benefits and less exposure to health hazards at work are more likely to be satisfied with their jobs.
- More than nine out of 10 Canadians ( $44 \%$ ) aged 15 and over reported contact with a health care professional in the 12 months prior to the 1991 GSS. General practitioner consultation is the most frequently cited contact, reported by $82 \%$ of Canadians. Psychologist consultation is the least frequently cited contact. reported by $4 \%$ of Canadians.
- People with a low income are more likely than higher-income Canadians to visit a general practitioner, medical specialist, nurse or psychologist. For example $86 \%$ of those with the lowest incomes reported visiting a general
practitioner, compared to $83 \%$ of those with the highest incomes.
- Canadians with a higher income are much more likely to consult at dentist at least once a year. Approximately $76 \%$ of Canadians with the highest incomes reported a visit with a dentist in the 12 months prior to the survey, compared to $33 \%$ of Canadians with the lowest incomes.
- Approximately 11.6 million persons, representing $55 \%$ of adult Canadians, are current drinkers - i.e. they report consuming alcoholic beverages at least once a month. This is a decrease from $63 \%$ in 1985.
- Men are more likely than women to be current drinkers and to consume more alcohol per week. Two thirds of men are current drinkers ( $67 \%$ ), compared to $44 \%$ of women. Fifteen percent of male current drinkers consume 14 or more drinks per week, compared to $4 \%$ of female current drinkers.
- For the first time since statistics on smoking hegan to be collected in Canada the prevalence of daily smoking is the same ( $26 \%$ ) for men and women.
- The prevalence of smoking is higher among young women (ages 15 to 19) than among young men. About $20 \%$ of young women smoke daily, compared to $12 \%$ of young men. Among young women, $26 \%$ are current smokers (daily plus occasional smokers), compared to $20 \%$ of young men.
- The prevalence of smoking declined in all age groups berween 1985 and 1991. The trend to lower smoking rates is apparent in all regions.
- The probability that a person is a smoker increases directly with the number of other smokers in the household.
- Approximately 6.7 million Canadian adults are physically active in their leisure time. This represents about $32 \%$ of the adult population. Conversely, approximately one in five Canadian adults $(22 \%)$ lead a sedentary lifestyle.
- Levels of leisure-time physical activity are associated with gender, and province. In general.
men tend to be more physically active than women, and residents of Ontario and Quebec are less active than Canadians in other regions of the country.
- Level of physical activity is associated with level of education. Persons with higher educational status are more likely to be physically active during their leisure hours than persons with lower levels of education.


### 1.2 FEATURES OF REPORT

### 1.2.1 Style and Themes of Report

All chapters in this report present results using consistent classifications of sex, age, income, and province. As well. additional independent variables are examined in several chapters. For the purpose of this report, the term adults refers to those aged 15 years and over. Throughout the report. differences were not tested for significance. Because of the large sample size. differences which are large enough to be meaningful from a subject matter point of view are likely to be statistically significant. The authors have focused on such differences.

The regular sample size of approximately 10,000 respondents was angmented by an oversample of 1.611 respondents from the population aged 65 and over. This additional sample was sponsored by the Seniors Secretariat, Health Canada, and allowed the results for those aged 65 and over to be presented in two detailed age groups - 65 to 74 and 75 and over.

Additionally, results are presented using a provincial breakdown rather than the regional breakdown that was consistently presented in the 1985 publication. Results presented by province can be more beneficial for interpretation because data presented hy region sometimes mask substantial variations among provinces in that region. Additionally, data presented by province are useful in making direct comparisons with legistation and policies, which may differ among provinces.

A new definition of income adequacy has been adopted for this report. This indicator takes into account both household income and household size 10 derive five levels of income adequacy
ranging from lowest to highest (Text Table 1-A). The term adequacy refers to the fact that the amount of income that is adequate depends on the number of people to be supported. This variable is formulated in a fashion similar to the Statistics Canada Low-Income Cut-Off levels, but the two variables should not be considered equivalent, as income-receiving units and the components included in total income are different. Income adequacy is expressed in categories which are multiples (or a fraction) of the upper limit of the income received by the poor and should be more meaningful for the analysis of inequalities.

### 1.2.2 Organization of Report

This report is organized into three sections. The first section deals with current health status and includes chapters on Chronic Conditions. Pain, and Sleep Difficulties (Chapter 2): Health and Function (Chapter 3); Psychological Well-Being (Chapter 4) and Weight and Height (Chapter 5). The second section of the report deals with health benefits and services, and includes Work and Health (Chapter 6) and Health Care Utilization (Chapter 7). The final section of the report deats with behavioural risk factors and includes Alcohol Use (Chapter 8). Smoking (Chapter 9). and Leisure-Time Physical Activity (Chapter 10).

This report provides a detailed analysis of findings from the 1991 GSS survey and includes comparisons with findings from the 1985 GSS and the 1978-79 Canada Health Survey. ${ }^{2}$ Other comparisons are made with the Health Promotion Surveys (1985. 1990) ${ }^{3.4}$ and the National Alcohol and Other Drugs Survey (1989). ${ }^{5}$

Each chapter hegins with highlights of the findings. describes methods and definitions specific to the subject matter of that chapter, presents detailed results, and concludes with a brief discussion on the implications of the findings.

### 1.3 OVERVIEW OF GSS PROGRAM AND CYCLE 6

### 1.3.1 Objectives

The GSS was initiated by Statistics Canada in order to reduce gaps in the statistical information system, particularly in relation to socio-economic trends. Many of these gaps could not be filled

TEXT TABLE 1-A
Income adequacy defined

| Income <br> group | Persons in household |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  | 1 | 2 | 3 | 4 | $5+$ |
|  |  | (Household income | $\$$ values expressed in thousands) |  |  |  |
|  | $<\$ 10$ | $<\$ 10$ | $<\$ 10$ | $<\$ 10$ | $<\$ 15$ |  |
|  | $\$ 10-14.9$ | $\$ 10-14.9$ | $\$ 10-19.9$ | $\$ 10-19.9$ | $\$ 15-29.9$ |  |
|  | $\$ 15-29.9$ | $\$ 15-29.9$ | $\$ 20-39.9$ | $\$ 20-39.9$ | $\$ 30-59.9$ |  |
| Upper middle | $\$ 30-59.9$ | $\$ 30-59.9$ | $\$ 40-79.9$ | $\$ 40-79.9$ | $\$ 60-79.9$ |  |
| Highest | $\$ 60-80+$ | $\$ 60-80+$ | $\$ 80+$ | $\$ 80+$ | $\$ 80+$ |  |

General Social Survey, 1991
through existing data sources or vehicles because of the range or periodicity of the information required or the lack of capacity of relevant vehicles.

The GSS has two principal objectives: first, to gather data on trends in Canadian society over time, and second, to provide information on specific policy issues of interest. To meet these objectives. the General Social Survey was established as a continuing program with a single survey cycle each year.

### 1.3.2 Content

The GSS gathers a wide variety of data to meet different kinds of needs for a very broad spectrum of users. To achieve the objectives outlined above, the GSS has three components: Core, Focus, and Classification.

Core content is directed primarily at monitoring long-term social trends by measurement of temporal changes in living conditions and wellbeing. Main topics within Core content include health. time use, personal risk, work and education, and family and social support. As all Core content topics cannot be treated adequately in each survey cycle, a single cycle covers a specific topic, which recurs on a periodic hasis. The Core content of the 1991 General Social Survey, the sixth cycle, was health.

Within a rypical survey cycle, data on the status of the Canadian population in terms of the Core topics are collected, as well as data on factors that act as barriers and bridges to improving this status. Thus, in Cycle 6, data on health status measures such as activity limitation, well-being, and chronic health problens were collected, as well as data on smoking, alcohol use, and physical activity - barriers and bridges to improving health status.

Focus content is aimed at meeting the second objective of the General Social Survey, namely. to provide information touching directly on a specific policy issue or social problem, such as influenza vaccinations. In comparison to Core conten. Focus is more specific to immediate policy issues. This does not imply that Core content has little relevance to policy questions and social issues. However, in comparison to Focus content, Core content is not principally driven by short-term policy issues, bul rather provides the means for monitoring and analysis of important aspects of behaviour and living conditions of Canadians over the longer term. Focus content for Cycle 6 covered flu vaccinations, job benefits, old age and disability income, and measures of emotional health.

Classification content provides the means of delineating population groups and is used in the analysis of Core and Focus data. Examples of
classification variables are age. sex, education. and income.

A public use microdata tape is available to facilitate further analysis. To purchase this tape or for further information, please contact:

General Social Survey
Housing. Family and Social Statistics Division
Statistics Canada
Ottawa, Ontario
K1A 0T6
(Telephone (613) 951-9180)

### 1.3.3 Sample Design

The target population of the 1991 GSS consisted of all individuals aged 15 and over living in the 10 provinces of Canada. with the exception of full-time residents of institutions.

The population was sampled using random digit dialling (RDD) techniques and interviewed by telephone, thus excluding from the sample those persons living in households without telephones. These households accoum for less than $2 \%$ of the target population. The sample was allocated to provinces in proportion to the square root of the size of their populations, and to strata within provinces in proportion to their population. In addition, the sample was augmented by an oversample of the population aged 65 and over. The additional sample was drawn from the Labour Force Survey rotate-outs. A total of 11.924 persons were interviewed and answered the questionnaire, yielding a response rate of $80 \%$. This sample size was large enough to allow extensive analysis at the national level and increasingly more limited analyses as the geographical focus shifts to regions and provinces.

Appendix I contains additional information on the sample design and estimation procedures.

### 1.3.4 Data Collection and Forms

For the first time, data for the 1991 GSS were collected over the 12 months to counterbalance seasonal variations in many health and lifestyle issues. Data collection took place from five regional offices - Halifax, Montreal. Sturgeon Falls, Wimnipeg and Vancouver. Advantages of monthly data collection include experienced interviewing staff and controlling for the effects of seasonatity.

One disadvantage of this method is that the small number of imerviewing staff could introduce a data collection bias.

Data were collected from 11,924 respondents aged 15 and over. There were 2,951 non-responses. for a total sample size of 14,875 . Copies of the questionnaires used are shown in Appendix II.

Data were collected on two forms. The Selection Control Form (GSS 6-1) was used 10 ensure that the telephone number reached belonged 10 an eligible household, to record some demographic data for each household member (age, sex. marital status, and relationship to a reference person). and to randomly select a respondent aged 15 and over. Only one respondent per household was selected. The Health Questiomaire (GSS 6-2). composed of the Core content questions. Focus content questions, and the Classification content questions, was then administered. The 1991 survey is the first GSS cycle to accept proxy interviews. Proxy interviews were allowed in instances where the selected person was 100 ill to participate and where the setected person was unable to speak either Englisth or French and someone in the household was able to provide the information. They represent $4 \%$ of the interviews ohtained.

### 1.3.5 Data Processing and Estimation

Data capture personnel in the Statistics Canada regional offices keyed data directly from the survey questionaares into minicomputers. Following the interviews, all questionnaires were captured and put through a computer edit allowing the interviewers to resolve any problems (e.g., improper skip problems or key punch errors). These datal were then transmitted electronically 10 Ottawa. All survey records were again subjected to an extensive computer edit. Partial non-responses and flow pattern errors were identified. Missing or incorrect data were recoded as "not stited" (n.s.) or, in a very few cases. for key classification variables imputed from other areas in the same questionnaire.

Each person in a probability sample can be considered to represent a number of others in the surveyed population. In recognition of this. and utilizing sample design information, each survey record was assigned a weight that reflected the number of individuals in the population that the record represented. These weights were adjusted for non-response and for the differences between
the target population and the surveyed population using population counts for the targer population. The estimates presented in this report were calculated using the adjusted weights.

More information on the sampling and estimation procedures can be found in Appendix I.

### 1.3.6 Data Limitations

It is important to recognize that the figures that appear in this report are estimates based on data collected from a small fraction of the population (roughly one person in 2,000 ) and are subject 10 error. The error can be divided into two components: sampling error and non-sampling error.

Sampling error is the difference between an estimate derived from the sample and the one that would have been obtained from a census that used the same procedures to collect data from every person in the population. The size of the sampling error can be estimated from the survey results, and an indication of the magnitude of this error is given for the estimates in this report. Figure 1-A shows the relationship between the size of an estimate and its sampling error (expressed as the coefficient of variation: the ratio of the standard deviation to the estimate). If the estimated sampling error is greater than $33 \%$ of the estimate, it is considered too unreliable to publish and the symbol ' $\because$ ' is printed in table cells where this occurs. In terms of Figure 1-A, all estimates below point (A) on the estimate axis fall into this "unreliable" category. Although not considered too unreliable to publish, estimates with an estimated error between $16.5 \%$ and $33 \%$ of the related estimate should be "qualified" and used with caution. All estimates between points (A) and (B) on the estimate axis of Figure 1-A fall into this "qualified" category. All estimates above point (B) on the estimate axis can be published without qualification. Appendix I presents guidelines for estimating standard deviations, calculating confidence intervals and performing hypothesis lesting.

All other types of errors. such as coverage, response, processing, and non-response, are nonsampling errors. Many of these errors are difficult to identify and quantify.

Coverage errors arise when there are differences between the target population and the surveyed population. Households without telephones represent
a part of the target population that was excluded from the surveyed population. To the extent that this excluded population differs from the rest of the target population, the estimates will be biased. As these exclusions are small, one would expect the biases introduced to he small. However, since there are correlations between a number of questions asked on this survey and the groups excluded, the biases may be more significant than the small size of the groups would suggest.

Individuals residing in institutions were excluded from the surveyed population. The effect of this exclusion is greatest for people 65 years and over, for whom it approaches $9 \%{ }^{6}$

In a similar way, to the extent that the nonresponding households and persons differ from the rest of the sample. the estimates will be biased. The overall response rate for the survey was $80 \%$. Non-response could occur at several stages in the survey. There were two stages of information collection: at the household and individual levels. As is shown in Figure 1-B, about $73 \%$ of non-response occurred at the household level. Non-response also occurs at the level of individual questions. For most questions, the response rate was high, and, in tables, the non-responses appear under the heading "not stated".

While refusal to answer specific questions was very low, accuracy of recall and ability to answer some questions completely can be expected to affect some of the results presented in the subsequent chapters. Awareness of exact question. wording (Appendix II) will help the reader interpret the survey results.

Since the survey is a cross-sectional survey, caution is required in making causal inferences about the association between variables. Observed associations may be a reflection of differences between cohorts, period effects, differences between age groups, or a combination of these factors.

### 1.3.7 Cycle 6 Special Features

In addition to the survey, two special projects were conducted. A feasibility pilot test of longitudinal data collection procedures was conducted in September 1991 and involved households that had participated in the 1990 GSS Cycle 5 Survey on Family and Friends. The test

## FIGURE 1-A

Estimated sampling variability by size of estimate, Canada

Core sample, persons 15 years and over


Note: Only coefficients of variation (c.v.) applicable to estimates for Canada as a whole are shown in Figure 1-A. The difference between the true population size and the estimated population size (expressed as a percentage of the estimate) will be less than the c.v. $68 \%$ of the time. less than twice the c.v. $95 \%$ of the time, and less than three times the c.v. $99 \%$ of the time.

The corresponding out-oft points (i.e. points $(A)$ and $(B)$ tor the regions and provinces are as follows: Allantic Region $(9,40)$, Newtoundland (8,30). Prince Edward Island (3,12), Nova Scotia (11,40), New Brunswick $(9,35)$; Quebec $(25,100)$; Ontano $(35,150)$; Prairis Region ( 13,55 ), Manitoba ( 11,40 ), Saskatchewan $(9,35)$, Alberta $(15,60)$; British Columbia $(19,75)$.

## FIGURE 1-B

Response magnitudes and rates


General Social Survey, 1991
involved 1.000 households, 700 in which only tracing procedures were tested and 300 additional in which both tracing and a Cycle 6 questionnaire were administered. Although the pilot test proved successful, any future longitudinal component will be contingent on funding support.

The second project involved a reinterview study. The principal focus of this study was a series of questions newly developed by researchers at McMaster University and intended to classify individuals along a continuum of health status. ${ }^{7}$ Other ohjectives of the reinterview were: to measure the quality of data obtained from the main survey; to measure the response variance of respondents, i.e. the extent 10 which respondents "changed" their answers from day to day; and to measure changes in the respondents' health. The reinterview questionnaire was composed of Sections A 10 Ffrom the Main Survey and a new Section G. which sought to determine if there had been any changes in the respondents' health since the main survey interview. Sub-samples of respondents from the August and September RDD samples were reinterviewed in September and October, respectively. Reinterviews were attempted with 555 main survey respondents, and 510 responses were obtained.

None of the analyses in this report relates to either the longitudinal follow-up pilot study or the reinterview project.

## REFERENCES

1. Statistics Canada, Heclth and Social Support, 1985. General Social Survey Analysis Series. Ottawa: Minister of Supply and Services Conada, 1987. Catalogue No. 11-612E. No. 1.
2. Health and Welfare Canada and Statistics Cinada. The Health of Canadians: repon of the Canadu Health Survey. Ottawa: Minister of Supply and Services Canada, 1981. Statistics Canada Catalogue No. 82-538E.
3. Health and Welfare Canada, Rootman I, Warren R, Stephens T, Peters L, eds. Canada's Health Promotion Survey 1990: technical report. Ottawa: Minister of Supply and Services Canada, 1988. Catalogue No. H39-119/1988E.
4. Health and Welfare Canada, Stephens $T$, Fowler Graham D, eds. Canada's Healsh Promotion Survey 1990: technical report. Ottawa: Minister of Supply and Services Canada, 1993. Catalogue No. H39-263/2-1990E.
5. Health and Welfare Canada. Alcohol and other drug use by Canadians: a National Alcohol and Other Drugs Survey (1989)rechnical report. Ottawa: Minister of Supply and Services Canada, 1992. Catalogue No. H39-251/1992E.
6. Statistics Canada. Age, Sex and Marital Starus. Ottawa: Miniter of Supply and Services Canada, 1992. 1991 Census of Canada. Catalogue $\mathrm{N}_{0}$. 93-310.
7. Torrance GW, Furlong W, Feeny D. Boyle MH. Provisional health status index for the Ontario Health Survey. Final report of Project No. 44400900187 . Submitted to Statistics Canada, Feb. 1992.

## CHAPTER 2

## CHRONIC CONDITIONS, PAIN, AND SLEEP DIFFICULTIES

### 2.1 HIGHLIGHTS

- Skin or other allergies ( $21 \%$ ) , arthritis and rheumatism $(21 \%)$, and high blood pressure ( $16 \%$ ) were the chronic health problems most commonly reported by Canadian adults aged 15 and over in 1991.
- Allergies including hay fever, arthritis and rheumatism, and high blood pressure, as well as migraines, digestive problems other than ulcers, emphysema, and asthma, were substantially more common in 1991 than in 1978.
- Most of these conditions become more common with age, especially at ages 65 to 74 . although there is little further increase at age 75 and over.
- Most of these chronic health problems, as well as difficulties sleeping and troubles with pain, become more common as income adequacy declines. Hay fever is an exception: it is most prevalent at the highest income levels.
- Twenty percent of adults report being bothered by pain and discomfort, and one-quarter have trouble going to sleep or staying asleep.
- The vast majority of Canadians aged 15 and over report that they are very or somewhat satisfied with their health.


### 2.2 METHODS

This chapter describes survey results regarding chronic conditions, pain and discomfort, and sleep difficulties. It is important to emphasize that, for most of these symptoms and conditions, the data obtained were based strictly on self-report. However, reports of three conditions were based on the earlier assessment of a health professional.

Hypertension (high blood pressure), heart trouble, and diabetes were identified by Questions A4-A9. respectively (see Appendix It), each requiring the respondent to report an earlier medical diagnosis. Thus, the data for these conditions are lifetime prevalence rates. The questions were the same as in the 1985 GSS. All other chronic conditions reported in this chapter were listed in Question A10. and the respondent was simply asked if he or she currently had the condition - that is, the questions provide point prevalence. Some of these conditions were probed in the 1978-79 Canada Health Survey; most were not in the 1985 GSS.

The experience of chronic pain (Questions E30-E31) was queried as part of a battery of questions about health status indicators (see Chapter 3). Regular "trouble going to sleep or staying asleep" (Question H3) was part of a short series of questions about sleep at about the midpoint of the GSS interview. Questions concerning both pain and sleep difficulties were new in 1991.

Non-response for these questions was generally $1 \%$ or less of the total, except for "one or more health problems," for which it was $5 \%$.

Further details on the methods, including the sample design, may be found in Chapter 1.

### 2.3 RESULTS

### 2.3.1 Prevalence of Chronic Conditions in Canada

Almost two-thirds $(63 \%)$ of Canadian adults, or 13.2 million persons, reported at least one chronic health problem at the time of the 1991 GSS. The most common problems reported from the 13 conditions presented to the respondent were skin or other allergies $(21 \%)$, arthritis and rheumatism ( $21 \%$ ), and hypertension ( $16 \%$ ) (Text Table 2-A).

## Chronic conditions and age

The number of Canadians reporting at least one health problem increases with age. This is hardly surprising when three of the conditions are based on lifetime prevalence, but this observation is not limited to these three conditions. Arthritis and rheumatism, heart trouble. hypertension, diabetes, emphysema, and emotional disorders all occur more frequently in older segments of the population. However, the prevalence of hay fever and allergies decreases with age (Table 2-1).

Almost $90 \%$ of Canadians aged 75 and older report at least one of these conditions. For many of these conditions, there is a pronounced increase in prevalence at ages 65-74. Interestingly, heart trouble is the only one of these conditions clearly more prevalent among those 75 years of age and older than among those aged 65 to 74 (Table 2-1).

## Chronic conditions and sex

More Canadian women than men ( $66 \%$ vs. $59 \%$ ) report at least one health problem (Table 2-1). All the chronic conditions considered by the GSS except high blood cholesterol are at least as common among Canadian women as among Canadian men, and some conditions are substantially more prevalent among women. In particular, women report higher rates of arthritis, allergies, migraine headaches, and emotional troubles (Figure 2-A).

## Provincial variations in chronic conditions

The prevalence of at least one chronic condition ranges from a high of $67 \%$ in Nova Scotia to a low of $59 \%$ in Alberta, but the prevalence rates recorded by most provinces are within a few percentage points of the national average of $63 \%$ (Table 2-2). The major exceptions to this generalization are the rates of emotional disorders in Quebec and Ontario. On a national basis. $5 \%$ of the Canadian population aged 15 and over report suffering from ongoing emotional trouble. The

TEXT TABLE 2-A
Prevalence of selected chronic conditions, age 15+, Canada, 1991

| Conditlon | Proportion affected <br> (Percent) | Number affected |
| :--- | :---: | :---: |
| At least one | 63 | $13,168,000$ |
| Skin or other allergies | 21 | $4,340,000$ |
| Arthritis \& rheumatism | 21 | $4,335,000$ |
| Hypertension | 16 | $3,311,000$ |
| Hay fever | 12 | $2,528,000$ |
| Migraine headaches | 9 | $1,950,000$ |

General Social Survey, 1991
Health Status of Canadians

FIGURE 2-A
Prevalence (\%) of health problems by sex, age 15t, Canada, 1991

Chronic health problem


General Social Survey, 1991
prevalence of emotional disorders in Quebec is much higher (11\%), whereas it is dramatically lower in Ontario (2\%).

The prevalence of hypertension also varies by province, albeit in a less dramatic fashion. Nationally. $16 \%$ of the population aged 15 and over reports suffering from hypertension. This figure is considerably higher in Nova Scotia ( $21 \%$ ) and Prince Edward Island ( $22 \%$ ). The elevated figure for Nova Scotia is primarily due to an exceptionally high prevalence of hypertension among Nova Scotian women ( $24 \%$ compared to the national norm for women of $16 \%$ ).

Male-female differences in the prevalence of health problems in general are highest in Manitoba, where considerably more women than men report health problems ( $68 \%$ vs. $53 \%$ ), and lowest in Prince Edward Island, where an equal percentage of the mate and female populations report health problems
( $61 \%$ ). In other provinces, the sex difference in the prevalence of health problems is within a few percentage points of the national norm (Table 2-2).

The extent of sex differences in the prevalence of specific conditions varies substantially between provinces. For example, the prevalence of allergies in men and women differs by 19 percentage points in New Brunswick ( $33 \%$ in women; $14 \%$ in men) but by only five percentage points in each of Newfoundland ( $20 \%$ in women; $15 \%$ in men) and Prince Edward Island ( $26 \%$ women. $21 \%$ men). In comparison with the rest of the country, sex differences in the prevalence of most conditions are smallest in Prince Edward Island. For example, the substantial difference between women and men in the prevalence of arthritis in the national population ( $25 \%$ in women: $16 \%$ in men) is absent in Prince Edward Island ( $23 \%$ in women; $24 \%$ in men).

## Chronic conditions and income adequacy

The prevalence of many chronic conditions appears to be linked to the economic status of the individual. Affluent Canadians are less likely than those at the opposite end of the income adequacy scale to report all but one of the surveyed chronic conditions (hay fever) (Table 2-3). For some conditions, the difference in prevalence is dramatic (Figure 2-B). Canadians with the lowest income adequacy are more than three times as likely to report arthritis as are Canadians with the highest ( $37 \%$ vs. $12 \%$ ). Equally striking is the concentration of emotional disorders among the least affluent Canadians. Canadians in the lowest income adequacy group are about three times as likely to report an emotional disorder as are those in the middle group ( $17 \%$ vs. $6 \%$ ) and almost nine times as likely as the highest ( $2 \%$ ). In contrast, hay fever becomes more common with increased income adequacy, starting with individuals with lower middle income adequacy. The highest income
group reports the highest prevalence of hay fever, unlike any other condition.

With one exception, the relationship of chronic conditions to income adequacy is stronger for women than for men. For example, the prevalence of heart trouble is two and one-half times as high among men in the lowest group as among men in the highest group ( $10 \%$ vs. $4 \%$ ), but almost six times as high among women in the lowest group as among women in the highest ( $17 \% \mathrm{vs}$. $3 \%$ ) (Table 2-3). The only exception to this trend is the prevalence of stomach ulcers in the Canadian population, which declines more substantially with income adequacy among men than among women.

### 2.3.2 Pain Severity

Twenty percent of Canadian adults aged 15 and over - over 4 million people - report experiencing trouble due to pain or discomfort. About half of

FIGURE 2-B
Prevalence (\%) of health problems by income adequacy, age 15+, Canada, 1991


Income adequacy

General Social Survey, 1991
these individuals ( $9 \%$ overall) describe the severity of their pain as moderate. The other half of this group is divided between individuals who report mild pain ( $6 \%$ ) and individuals whose experience of pain is severe ( $4 \%$ ). Eighty percent of Canadian addults report no trouble with pain or discomfort (Table 2-4).

## Pain severity, age, and sex

The percentage of Canadians reporting any level of pain increases with age, from a low of $11 \%$ at ages 1.5 to 24 to a high of $35 \%$ among those 75 years of age and older. This trend is true for all levels of pain severity but is stronger for moderate and severe pain than for mild pain (Table 2-4).

For most age groups, Canadian women are more likely than Canadian men to report pain, and they are likely to describe it as more severe. These sex differences in pain prevalence and severity are most apparent among older Canadians. Between the ages of 25 and 44 , pain troubles an equal proportion of men ( $15 \%$ ) and women ( $16 \%$ ). At 45 years of age and over. more women than men report pain, and this male-female difference increases with age. Among Canadians 65 to 74 years old. 1.4 times as many women as men experience some degree of pain ( $33 \%$ vs. $23 \%$ ). The prevalence of mild pain does not vary consistently between sexes, but more women than men 45 years of age and over report moderate and severe pain (Table 2-4).

## Pain severity and income adequacy

There is an inverse relationship between income adequacy and reports of pain of moderate and severe intensity (Table 2-5). These trends are generally true for both men and women, but among Canadians with the lowest income adequacy, considerably more women than men report moderate pain ( $19 \% \mathrm{vs} .13 \%$ ). As a result, the total difference in prevalence of moderate pain between the lowest and highest income groups for Canadian women (13 percentage points) is almost double the corresponding difference among men (seven percentage points).

### 2.3.3 Sleep Difficulties

Approximately one-quarter of Canadians report trouble going to sleep or remaining asleep, and this difficulty is related to sex and age (Text Table 2-B). The prevalence of sleep troubles increases
with age, from one-fifth of the 15 to 24 year old population to more than one-third of the population 75 years of age and older. Overall, more women than men report difficulty sleeping ( $28 \% \mathrm{vs} .19 \%$ ). This sex difference is especially apparent among Canadians over 44 years of age.

The prevalence of sleeping difficulties is strongly related to income adequacy. The percentage of Canadians in the lowest income group that have trouble falling or staying asleep is almost double the national average ( $47 \%$ vs. $24 \%$ ) and more than two and one-half times the percentage of Canadians in the highest group ( $18 \%$ ) (Text Table 2-B).

There also appears to be a relationship between exercise and quality of sleep. The 1991 GSS data suggest that sedentary Canadians are the most likely to report sleep difficulties, and active Canadians the least. The sleep problems of moderately active persons fall between those of the most and least active, and this is true for every age group except the youngest and the oldest (Figure 2-C).

### 2.3.4 Health Satisfaction and Health Problems

Despite the prevalence of health problemschronicled above, most Canadians aged 15 and over are either very satisfied (55\%) or somewhat satisfied (29\%) with their health. Dissatisfaction with the state of their health is expressed by only $12 \%$ of the population (Text Table 2-C).

Nevertheless, there is a strong relationship between the presence of health problems and dissatisfaction with one's health. Canadians who have no problems are much more likely than those who do to be very satisfied with their health ( $71 \%$ vs. $47 \%$ ), whereas those with health problems are four times more likely than those who have no problems to express dissatisfaction with their health ( $16 \% \mathrm{vs}, 4 \%$ ). Aside from women expressing more dissatisfaction with their health when health problems exist, there is little difference between men and women in the relationship between health problems and satisfaction with health (data not shown).

### 2.4 DISCUSSION

### 2.4.1 Changes Since 1978

Most of the chronic conditions reported in Table 2-1 were also probed in the 1978-79 Canada Health Survey ${ }^{1}$ using reasonably comparable questions. With

## TEXT TABLE 2-B

Prevalence of sleep difficulties by sex then age group, then income adequacy, age 15+, Canada, 1991

| Sex, then age group then income adequacy | Prevalence of sleep difficulties (Percent) |
| :---: | :---: |
| Total population 15+ |  |
| Both sexes | 24 |
| Male | 19 |
| Female | 28 |
| Age group |  |
| 15-24 |  |
| Both sexes | 20 |
| Male | 16 |
| Fermale | 23 |
| 25-44 |  |
| Both sexes | 21 |
| Male | 19 |
| Fernale | 23 |
| 45-64 |  |
| Both sexes | 26 |
| Male | 19 |
| Female | 32 |
| 65-74 |  |
| Both sexes | 30 |
| Male | 22 |
| Female | 37 |
| 75+ |  |
| Both sexes | 35 |
| Male | 28 |
| Female | 40 |
| Income adequacy |  |
| Lowest | 47 |
| Lower middle | 32 |
| Middle | 25 |
| Upper middle | 21 |
| Highest | 18 |

General Social Survey, 1991
the single exception of emotional disorders, the prevalence of every condition increased between 1978 and 1991 (Figure 2-D). For some of these conditions - notably allergies, arthritis and rheumatism. hypertension, migraines, digestive disorders other than ulcers, emphysema. and asthma, the increases were pronounced. These rates are not age-standardized and thus reflect, in part, the aging of the population. Whether due to aging or other changes within the population, these increases represent potential new demands on the health care system.

These demands are "potential" because the data may reflect changes other than an increasing prevalence of chronic conditions. For example, the near doubling in reported hypertension may reflect more extensive detection, not more disease. Other increases in Figure 2-D may be due to a more knowledgeable or health-conscious population that is more inclined to report health problems. The fact that the data are based on self-report does not mean that they should be dismissed, however, as these perceptions are likely to be translated into demands on the health care system.

### 2.4.2 Other Observations

Considering for the moment just the 1991 data, it is important to remember their self-report nature when making intergroup comparisons in the prevalences of certain chronic conditions. For example, the large differences in the prevalences of emotional disorders between Ontario and Quebec may be due to a greater willingness to report these problems in Quebec, which in turn may be due to the extensive surveying on mental health by Santé

TEXT TABLE 2-C
Satisfaction with own health, by prevalence of chronic health problems, age 15+, Canada, 1991

|  | Total | No problems | 1+ health problems |
| :---: | :---: | :---: | :---: |
| Satisfaction wi | (Percent) |  |  |
| Total | 100 | 100 | 100 |
| Very satisfied | 55 | 71 | 47 |
| Somewhat satisfied | 29 | 22 | 33 |
| Dissatisfied | 12 | 4 | 16 |
| No opinion | 4 | 4 | 4 |

General Social Survey, 1991

FIGURE 2-C
Trouble sleeping by age group and leisure-time physical activity, age 15+, Canada, 1991


Age group

General Social Survey, 1991

Québec ${ }^{2}$ four years prior to the 199| GSS. If this is so. the Ontario Health Survey focus on mental health ${ }^{3}$ at approximately the same time as the 1991 GSS may complicate future comparisons with the 1991 GSS. Similarly, the higher prevalence of hypertension in Nova Scotia and Prince Edward Island may be partly due to more diligent detection in these two provinces, and there is some evidence supporting this conclusion from other surveys. For example, Nova Scotian women had among the highest rates of recent lesting for high blood pressure in 1990.4 It should be recognized that imterprovincial comparisons depend upon smaller samples, and thus greater imprecision of estimates. This is particularly true of relatively rare conditions such as asthma, diabetes, stomach ulcers, and emotional disorders.

The 1991 GSS prevalence of hypertension ( $16 \%$ ) is the same as that obtained by the 1990 Health Promotion Survey ${ }^{4}$ and only one percentage point above the prevalence of high diastolic pressure ( $>90 \mathrm{~mm}$ ) obtained through measurement by the Canadian Heart Health Surveys. ${ }^{5}$ However, the

1991 GSS prevalence is somewhat lower than the prevalence of $20 \%$ for either high diastolic or lugh systolic pressure obtained by measurement.

Eight percent of Canadian adults report current ligh blood cholesterol (Table 2-1). This finding is considerably lower than the proportion of $46 \%$ observed by the Canadian Heart Health Surveys on the basis of blood analysis ${ }^{6}$ and deemed to be above the desirable level (at least $5.2 \mathrm{mmol} / \mathrm{L}$ ), or even the value of $17 \%$ in the high-risk category (at least $6.2 \mathrm{mmol} / \mathrm{L}$ ). This discrepancy in findings illustrates the limitation of self-report methods for assessing conditions which are asymptomatic and rarely screened.

The GSS is one of the few to provide detailed age breakdowns for those aged 65 and over. It is instructive that, on many measures of health problems, there is little difference between Canadians aged 65 to 74 and those aged 75 and older. This is probably evidence of a "heathy survivor" effect -that is, the increasing probability that only the heallhy will live to an advanced age. This is particularly true of older Canadians still living in

FIGURE 2-D
Prevalence (\%) of health problems, age 15+, Canada, 1978-79 and 1991
Chronic health problem


Canada Health Survey, 1978-79
General Social Survey, 1991
(1) Canada Health Survey - refers 10 grouping of "hay fever and other allergies" and "skin disorders" while the

General Social Survey refers to grouping of "hay fever" and "skin or other allergies".
(2) Canada Heaith Survey - refers to "mental disorders".
(3) Canada Health Survey - refers 10 "gastric \& duodenal ulcers".
households and thus eligible to participate in a survey such as the GSS.

The relationships reported here between health problems and economic well-being are consistent with the well-established trend of greater death and disability among the poor ${ }^{7}$ and their greater exposure to health risks." despite access to health care. The present findings reveal for the first time that pain and sleep difficulties are part of the health burdens suffered by lower income groups.

Another new finding is the relationship between exercise and quality of sleep. This should not be taken as evidence of a causal relationship, as the data are, of course, strictly cross-sectional. The relationship may be due to a third factor such as social status, as this is associated with both sleep problems (Text Table 2-B) and exercise (see Chapter 10). Further analysis could examine and perhaps rule out this possibility, just as Figure 2-C
reveals that the exercise-sleep relationship is independent of age.

### 2.4.3 Methodological Considerations

In addition to the cautions regarding data interpretation discussed above, there are other caveats to bear in mind. Already noted under Methods is the differing structure of the questions on conditions. yielding lifetime prevalence rates for diabetes, hypertension, and heart trouble and point prevalence for all others.

Differences in collection methodology and presentation between the CHS of 1978-79 and the GSS of 1991 also have a bearing on some comparisons in Figure 2-D. In particular, "hay fever" was presented overlapping with other allergies in the 1978 analysis, making it necessary to combine "hay fever" with "skin or other allergies" in 1991 for the sake of comparison. It is reasonable to
suppose that separate questions. combined, would yield higher rates than a single undifferentiated question. Similarly, the 1991 question on emphysema also specified "chronic bronchitis, persistent cough or shormess of breath"; these last two signs were not specified in 1978. In addition to these specific changes. there is the fact that much of the health problem data from the Canada Health Survey were obtained by proxy, whereas this was only rarely true of the 1991 GSS (see Chapter 1). This, 100, might have the effect of elevating the reports of some conditions in the 1991 GSS. Finally, offsetting these factors somewhat, it should be noted that Canada Health Survey estimates were presented on a condition level basis while those of the GSS are on a person level basis. However, it is estimated that this difference will have very little impact on the magnitude of the prevalence estimates.

Even though methodological differences mayexplain some of the increases between 1978 and 1991. it seems fair to conclude that the increases in the prevalences of chronic conditions reported in this chapter are largely genuine.

## REFERENCES

1. Health and Welfare Canada and Statistics Canada. The Health of Canadians. Report of the Canada Health Survey. Ottawa: Minister of Supply and Services Canada, 1981. Statistics Canada Catalogue No. 82-538E.
2. Perrault C. Mental heath instruments methodology: scope and limitations. Enquête Santé Québec, 1987.
3. Ontario Health Survey 1990: highlights. Toronto: Ontario Ministry of Health, 1992.
4. Lauzon R. Heart disease prevention. In: Health and Welfare Canada, Stephens T, Fowler Graham D. eds. Canada's Health Promotion Survey 1990: rechnical report. Ottawa: Minister of Supply and Services Canada, 1993. Catalogue No. H39-263/ 2-1990E.
5. Joffres M, Hamet P. Rabkin SW et al. Canadian Heart Health Surveys Research Group. Prevalence, control and awareness of high blood pressure among Canadian adults. Journal of the Canadian Medical Association 1992; 146(11): 19972004 .
6. Connelly PW, MacLean DR. Horlic L et al. Canadian Heart Health Surveys Research Group. Plasma lipids and lipoproteins and the prevalence of risk for coronary heart disease in Camadian adults. Journal of the Canadian Medical Association 1992: 146(11):1977-87.
7. Wilkins R, Adams O. Brancker A. Changes in mortality by income in urban Canada from 1971 to 1986. Health Reporis 1989;1(2):137-74. Statistics Canada Catalogue No. 82-003.
8. Millar WJ, Stephens T. Social status and health risks in Canadian adults: 1985 and 1991. Health Reports 1993;5(2)143-156. Statistics Canada Catalogue No. 82-003.

TABLE 2-1
Prevalence of selected health problems by sex and age group, age 15+, Canada, 1991

| Sex and age group | Health probiem (1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ | Ary health problem |  | Hypertension |  | Hear! trouble |  | Diabetes |  | Arthrius/ rheumatism |  | Asthma |  | Emphysema. eic. |  | Hay fever |  | Skin or other aliergies |  | Stomach ulcer |  | Other digestive problems |  | Recurring migraines |  | High blood cholesterol |  | Any emotional disorders |  |
|  | No. \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No, | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |

(No. in thousands)

| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Population 15+ | 20,98 | 100 | 13.168 | 63 | 3,311 | 16 | 1,437 | 7 | 740 | 4 | 4,335 | 21 | 1,238 | 6 | 1.671 | 8 | 2.528 | 12 | 4,340 | 21 | 969 | 5 | 1,634 | 8 | 1,950 | 9 | 1,759 | 8 | 1.114 |  |
| 15-24 years | 3,793 | 100 | 1.878 | 50 | 119 | 3 | 70 | 2 | -- | -- | 149 | 4 | 357 | 9 | 213 | 6 | 585 | 15 | 916 | 24 | 88 | 2 | 117 | 3 | 330 | 9 | 80 | 2 | 107 |  |
| 25-44 years | 9,005 | 100 | 4.932 | 55 | 860 | 10 | 250 | 3 | 133 | 1 | 955 | 11 | 427 | 5 | 492 | 5 | \$,186 | 13 | 1,949 | 22 | 433 | 5 | 573 | 6 | 916 | 10 | 457 | 5 | 358 |  |
| 45.64 years | 5.275 | 100 | 3.866 | 73 | 1,271 | 24 | 491 | 8 | 288 | 5 | 1.685 | 32 | 252 | 5 | 440 | 8 | 523 | 10 | 947 | 18 | 255 | 5 | 538 | 10 | 524 | 10 | 834 | 16 | 388 |  |
| $65+$ years | 2,908 | 100 | 2.491 | 86 | 1,06\% | 36 | 705 | 24 | 293 | 10 | 1.554 | 53 | 201 | 7 | 527 | 18 | 234 | 8 | 528 | 18 | 192 | 7 | 406 | 14 | 180 | 6 | 387 | 13 | 262 |  |
| 65.74 years | 1,824 | 100 | 1.540 | 84 | 672 | 37 | 382 | 21 | 178 | 10 | 923 | 59 | 829 | 7 | 308 | 17 | 155 | 8 | 352 | 19 | 112 | 6 | 238 | 13 | 115 | 6 | 285 | 16 | 162 |  |
| $75+$ years | 1,084 | 100 | 952 | 88 | 388 | 36 | 323 | 30 | 115 | 11 | 631 | 58 | 72 | 7 | 299 | 20 | 79 | 7 | 176 | 16 | 80 | 7 | 168 | 15 | 65 | 6 | 102 | 9 | 99 |  |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10,266 | 100 | 6,055 | 59 | 1,605 | 16 | 683 | 7 | 365 | 4 | 1,684 | 96 | 608 | 6 | 737 | 7 | 1.180 | 11 | 7.639 | 16 | 449 | 4 | 681 | 7 | 517 | 5 | 879 | 9 | 395 |  |
| 15-24 years | 1,935 | 100 | 901 | 47 | 67 | 3 | -- | -- | -- | -- | 35 | 2 | 196 | 10 | 106 | 5 | 274 | 14 | 399 | 21 | 38 | 2 | 57 | 3 | 93 | 5 | - | - | 39 |  |
| 25-44 years | 4,476 | 100 | 2,287 | 51 | 516 | 12 | 125 | 3 | 63 | 1 | 420 | 9 | 213 | 5 | 219 | 7 | 575 | 13 | 765 | 17 | 230 | 5 | 259 | 6 | 228 | 5 | 268 | 6 | 146 |  |
| 45-64 years | 2.611 | 100 | 1,834 | 70 | 641 | 25 | 205 | 8 | 155 | 6 | 663 | 25 | 116 | 4 | 181 | 7 | 234 | 9 | 300 | 11 | 83 | 3 | 220 | 8 | 139 | 5 | 454 | 17 | 137 |  |
| $65+$ years | 1,245 | 100 | 1,034 | 83 | 381 | 31 | 309 | 25 | 141 | 11 | 567 | 46 | 83 | 7 | 231 | 19 | 97 |  | 974 | 14 | 98 | 8 | 145 | 12 | 57 | 5 | 120 | 10 | 74 |  |
| $65-74$ years | 796 | 100 | 651 | 82 | 260 | 33 | 175 | 22 | 82 | 10 | 347 | 44 | 54 | 7 | 147 | 19 | 62 | 8 | 117 | 15 | 52 | 7 | 79 | 10 | 35 | 4 | 81 | 10 | 51 |  |
| $75+$ years | 448 | 100 | 383 | 85 | $12 \%$ | 27 | 134 | 30 | 50 | 13 | 220 | 49 | 29 | 6 | 84 | 19 | 35 | 8 | 57 | 13 | 46 | 10 | 66 | 15 | -- | -- | 38 | 9 |  |  |
| Fomale |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10,7:5 | 100 | 7.813 | 66 | 1,705 | 16 | 754 | 7 | 375 | 4 | 2,651 | 25 | 629 | 6 | 934 | 9 | 1,349 | 13 | 2.701 | 25 | 519 | 5 |  | 9 | 1,433 | 13 | 880 | 8 | 719 |  |
| 15-24 years | 1,857 | 100 | 978 | 53 | 52 | 3 | 26 | 1 | -- | -- | 106 | 6 | 361 | 9 | 107 | 6 | 311 | 17 | 597 | 28 | 50 | 3 | 59 | 3 | 237 | 13 | 43 | 2 | 68 |  |
| 25.44 years | 4.530 | 100 | 2,646 | 58 | 344 | 8 | 125 | 3 | 70 | 2 | 535 | 12 | 214 | 5 | 273 | 6 | 619 | 13 | 1,983 | 26 | 203 | 4 | 315 | 7 | 688 | 15 | 189 | 4 | 212 |  |
| $45-64$ years | 2,664 | 100 | 2,032 | 76 | 630 | 24 | 206 | 8 | 133 | 5 | 1,022 | 38 | 136 | 5 | 259 | 10 | 290 | 19 | 647 | 24 | 172 | 6 | 318 | 12 | 385 | 14 | 380 | 14 | 251 |  |
| $65+$ years | 1.664 | 100 | 1,457 | 88 | 679 | 41 | 397 | 24 | 152 | 9 | 987 | 59 | 118 | 7 | 295 | 18 | 137 | 8 | 354 | 21 | 95 | 6 | 261 | 16 | 123 | 7 | 268 | 16 | 188 | 1 |
| $65-74$ years | 1,028 | 100 | 888 | 86 | 412 | 40 | 207 | 20 | 96 | 9 | 576 | 56 | 75 | 7 | 161 | 16 | 93 | 9 | 234 | 23 | 60 | 6 | 159 | 15 | 79 | 8 | 204 | 20 | 112 |  |
| $75+$ years | 636 | 100 | 569 | 89 | 267 | 42 | 189 | 30 | 56 | 9 | 411 | 65 | 43 | 7 | 135 | 21 | 44 | 7 | 119 | 19 | 34 | 5 | 102 | 16 | 44 | 7 | 64 | 10 | 76 |  |

(1) Number and proponion do not add to totals as these are separate variables. Only number and propontion of affirmative responses shown.

TABLE 2-2
Prevalence of selected health problems by sex and province, age 15+, Canada, 1991

| Sex and province | Health problem(1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Any health problem |  | Hypertension |  | Heart trouble |  | Diabetes |  | Arthritis : meumatism |  | Asthma |  | Emphysema, etc. |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 20.981 | 100 | 13,168 | 63 | 3.311 | 16 | 1,437 | 7 | 740 | 4 | 4,335 | 21 | 1.238 | 6 | 1,671 | 8 |
| Atlantic | 1,806 | 100 | 1,161 | 64 | 339 | 19 | 153 | 8 | 56 | 3 | 434 | 24 | 88 | 5 | 187 | 10 |
| Nild. | 438 | 100 | 261 | 60 | 84 | 19 | 34 | 8 | 18 | 4 | 86 | 20 | 21 | 5 | 35 | 8 |
| P.E.I. | 98 | 100 | 60 | 61 | 21 | 22 | 8 | 8 | 3 | 3 | 23 | 23 | 6 | 6 | 8 | 8 |
| N.S | 704 | 100 | 473 | 67 | 147 | 21 | 64 | 9 | 26 | 4 | 173 | 25 | 31 | 4 | 80 | 11 |
| N.B. | 566 | 100 | 368 | 65 | 88 | 15 | 47 | 8 | -- | - | 152 | 27 | 29 | 5 | 64 | 11 |
| Quebec | 5,384 | 100 | 3,269 | 61 | 808 | 15 | 360 | 7 | 182 | 3 | 970 | 18 | 357 | 7 | 515 | 10 |
| Ontario | 7.778 | 100 | 5,030 | 65 | 1,139 | 15 | 547 | 7 | 238 | 3 | 1,633 | 21 | 476 | 6 | 530 | 7 |
| Prairies | 3.482 | 100 | 2,088 | 60 | 576 | 17 | 197 | 6 | 109 | 3 | 747 | 21 | 194 | 6 | 286 | 8 |
| Man. | 839 | 100 | 512 | 61 | 141 | 17 | 41 | 5 | 25 | 3 | 203 | 24 | 39 | 5 | 73 | 9 |
| Sask. | 742 | 100 | 458 | 62 | 121 | 16 | 56 | 8 | 22 | 3 | 191 | 26 | 35 | 5 | 63 | 8 |
| Alta. | 1.901 | 100 | 1.118 | 59 | 314 | 17 | 101 | 5 | 62 | 3 | 353 | 19 | 120 | 6 | 150 | 8 |
| B.C. | 2,532 | 100 | 1.619 | 64 | 448 | 18 | 179 | 7 | 155 | 6 | 550 | 22 | 124 | 5 | 154 | 6 |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 10.266 | 100 | 6,055 | 59 | 1,605 | 16 | 683 | 7 | 365 | 4 | 1.684 | 16 | 608 | 6 | 737 | 7 |
| Atlantic | 885 | 100 | 533 | 60 | 151 | 17 | 74 | 8 | 22 | 2 | 187 | 21 | 40 | 5 | 85 | 10 |
| Nfld. | 217 | 100 | 125 | 58 | 41 | 19 | 17 | 8 | - | -- | 35 | 16 | 12 | 6 | 18 | 8 |
| P.E.I. | 48 | 100 | 29 | 61 | 10 | 21 | 4 | 9 | -- | -- | 12 | 24 | - | - | 4 | 7 |
| N.S. | 343 | 100 | 213 | 62 | 60 | 18 | 28 | 8 | 14 | 4 | 74 | 22 | -- | - | 37 | 11 |
| N.B. | 277 | 100 | 165 | 60 | 39 | 14 | 24 | 8 | -- | - | 67 | 24 | 12 | 4 | 27 | 10 |
| Quebec | 2.617 | 100 | 1.483 | 57 | 365 | 14 | 131 | 5 | 89 | 3 | 401 | 15 | 167 | 6 | 244 | 9 |
| Ontario | 3,796 | 100 | 2,309 | 61 | 589 | 16 | 285 | 7 | 121 | 3 | 566 | 15 | 254 | 7 | 207 | 5 |
| Prairies | 1,725 | 100 | 958 | 56 | 285 | 17 | 97 | 6 | 57 | 3 | 299 | 17 | 80 | 5 | 128 | 7 |
| Man. | 411 | 100 | 220 | 53 | 56 | 14 | 20 | 5 | 12 | 3 | 80 | 19 | 18 | 4 | 33 | 8 |
| Sask. | 367 | 100 | 216 | 59 | 61 | 17 | 25 | 7 | 10 | 3 | 79 | 22 | 15 | 4 | 31 | 8 |
| Alta | 948 | 100 | 522 | 55 | 168 | 18 | 52 | 5 | 35 | 4 | 139 | 15 | 47 | 5 | 64 | 7 |
| B.C | 1,243 | 100 | 772 | 62 | 215 | 17 | 97 | 8 | 75 | 6 | 231 | 19 | 67 | 5 | 73 | 6 |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 10.715 | 100 | 7.113 | 66 | 1.705 | 16 | 754 | 7 | 375 | 4 | 2,651 | 25 | 629 | 6 | 934 | 9 |
| Atlantic | 921 | 100 | 629 | 68 | 188 | 20 | 79 | 9 | 34 | 4 | 246 | 27 | 47 | 5 | 101 | 11 |
| Nild. | 221 | 100 | 136 | 62 | 42 | 19 | 16 | 7 | 15 | 7 | 51 | 23 | - - | - | 17 | 8 |
| P.E.I. | 50 | 100 | 31 | 61 | 11 | 22 | 4 | 7 | -- | -- | 11 | 23 | -- | - | 4 | 9 |
| N.S. | 361 | 100 | 259 | 72 | 86 | 24 | 36 | 10 | 12 | 3 | 99 | 27 | 18 | 5 | 43 | 12 |
| N.B. | 289 | 100 | 203 | 70 | 49 | 17 | 23 | 8 | -- | -- | 85 | 29 | 16 | 6 | 37 | 13 |
| Quebec | 2,767 | 100 | 1,786 | 65 | 442 | 16 | 229 | 8 | 92 | 3 | 570 | 21 | 190 | 7 | 271 | 10 |
| Ontario | 3,982 | 100 | 2.721 | 68 | 550 | 14 | 263 | 7 | 118 | 3 | 1,067 | 27 | 222 | 6 | 323 | 8 |
| Prairies | 1,756 | 100 | 1,130 | 64 | 292 | 17 | 101 | 6 | 52 | 3 | 448 | 26 | 114 | 6 | 158 | 9 |
| Man. | 428 | 100 | 293 | 68 | 86 | 20 | 21 | 5 | 13 | 3 | 123 | 29 | 21 | 5 | 40 | 9 |
| Sask. | 375 | 100 | 242 | 64 | 60 | 16 | 31 | 8 | 12 | 3 | 111 | 30 | 19 | 5 | 32 | 8 |
| Alta. | 953 | 100 | 596 | 62 | 146 | 15 | 49 | 5 | 27 | 3 | 214 | 22 | 73 | 8 | 87 | 9 |
| B.C. | 1,288 | 100 | 848 | 66 | 233 | 18 | 82 | 6 | 79 | 6 | 319 | 25 | 57 | 4 | 81 | 6 |

Continued on next page

TABLE 2-2
Prevalence of selected health problems by sex and province, age 15+, Canada, 1991 - concluded

| Sex and province | Health problem(1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ | Any health problem | Hay fever |  | Skin or other allergies |  | Stomach ulcer |  | Other digestive problems |  | Recurring migraines |  | High blood cholesterol |  | Any emotional disorders |  |
|  | No. \% | No. \% | No. | \% | No. |  | No. | \% | No. | \% | No. | $\%$ | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Both sexes

| oth sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Canada | 20,981 | 100 | 13,168 | 63 | 2,528 | 12 | 4,340 | 21 | 969 | 5 | 1,634 | 8 | 1,950 | 0 | 1,759 | 8 | 1.114 | 5 |
| Attantic | 1.806 | 100 | 1,161 | 64 | 198 | 11 | 396 | 22 | 99 | 5 | 173 | 10 | 177 | 10 | 127 | 7 | 112 | 6 |
| Nild. | 438 | 100 | 261 | 60 | 28 | 6 | 77 | 18 | 25 | 6 | 28 | 6 | 50 | 11 | 34 | 8 | 26 | 6 |
| P.E. | 98 | 100 | 60 | 61 | 12 | 12 | 23 | 24 | 5 | 5 | 6 | 6 | 6 | 6 | 9 | 9 | 5 | 6 |
| N.S. | 704 | 100 | 473 | 67 | 98 | 14 | 163 | 23 | 38 | 5 | 70 | 10 | 62 | 9 | 49 | 7 | 52 | 7 |
| N.B. | 566 | 100 | 368 | 65 | 59 | 10 | 133 | 23 | 31 | 6 | 70 | 12 | 58 | 10 | 36 | 6 | 29 | 5 |
| Quebec | 5,384 | 100 | 3,269 | 61 | 650 | 12 | 1,013 | 19 | 249 | 5 | 453 | 8 | 575 | 11 | 499 | 9 | 601 | 11 |
| Ontario | 7,778 | 100 | 5,030 | 65 | 985 | 13 | 1.819 | 23 | 342 | 4 | 594 | 8 | 720 | 9 | 689 | 9 | 179 | 2 |
| Prairies | 3,482 | 100 | 2.088 | 60 | 349 | 10 | 679 | 19 | 169 | 5 | 214 | 6 | 293 | 8 | 276 | 8 | 144 | 4 |
| Man. | 839 | 100 | 512 | 61 | 80 | 10 | 176 | 21 | 38 | 4 | 59 | 7 | 76 | 9 | 62 | 7 | 39 | 5 |
| Sask. | 742 | 100 | 458 | 62 | 73 | 10 | 147 | 20 | 33 | 4 | 47 | 6 | 55 | 7 | 62 | 8 | 37 | 5 |
| Alta. | 1.901 | 100 | 1,118 | 59 | 196 | 10 | 356 | 19 | 98 | 5 | 108 | 6 | 162 | 9 | 152 | 8 | 67 | 4 |
| B.C. | 2,532 | 100 | 1,619 | 64 | 347 | 14 | 433 | 17 | 110 | 4 | 201 | 8 | 185 | 7 | 167 | 7 | 78 | 3 |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 10,266 | 100 | 6,055 | 59 | 1,180 | 11 | 1,639 | 16 | 449 | 4 | 681 | 7 | 517 | 5 | 879 | 9 | 395 | 4 |
| Atlantic | 885 | 100 | 533 | 60 | 91 | 10 | 142 | 16 | 53 | 6 | 68 | 8 | 59 | 7 | 66 | 7 | 35 | 4 |
| Nfid. | 217 | 100 | 125 | 58 | 15 | 7 | 32 | 15 | 16 | 7 | 10 | 5 | 20 | 9 | 19 | 9 | -- |  |
| P.E.I. | 48 | 100 | 29 | 61 | 6 | 12 | 10 | 21 | -- | - | -- | - | -- | - | -- | - | -- | -- |
| N.S. | 343 | 100 | 213 | 62 | 47 | 14 | 63 | 18 | 17 | 5 | 26 | , | 23 | 7 | 23 | 7 | 13 | 4 |
| N.B. | 277 | 100 | 165 | 60 | 23 | 8 | 38 | 14 | 18 | 6 | 30 | 11 | 15 | 5 | 19 | 7 | -- |  |
| Quebec | 2,617 | 100 | 1.483 | 57 | 335 | 13 | 395 | 15 | 93 | 4 | 188 | 7 | 132 | 5 | 242 | 9 | 208 | 8 |
| Ontario | 3,796 | 100 | 2,309 | 61 | 435 | 11 | 695 | 18 | 158 | 4 | 245 | 6 | 213 | 6 | 361 | 10 | 58 | 2 |
| Prairies | 1,725 | 100 | 958 | 56 | 148 | 9 | 246 | 14 | 81 | 5 | 87 | 5 | 70 | 4 | 128 | 7 | 64 | 4 |
| Man. | 411 | 100 | 220 | 53 | 39 | 9 | 59 | 14 | 17 | 4 | 26 | 6 | 17 |  | 21 | 5 | 17 | 4 |
| Sask. | 367 | 100 | 216 | 59 | 33 | 9 | 54 | 15 | -- | - | 19 | 5 | 17 | 5 | 27 | 7 | 16 | 4 |
| Alta. | 948 | 100 | 522 | 55 | 76 | 8 | 132 | 14 | 53 | 6 | 43 | 5 | 36 | 4 | 80 | 8 | 30 | 3 |
| B.C. | 1,243 | 100 | 772 | 62 | 171 | 14 | 160 | 13 | 64 | 5 | 92 | 7 | 43 | 3 | 83 | 7 | 31 | 2 |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 10,715 | 100 | 7.113 | 66 | 1,349 | 13 | 2,701 | 25 | 519 | 5 | 953 | 9 | 1.433 | 13 | 880 | 7 | 719 | 8 |
| Atlantic | 921 | 100 | 629 | 68 | 107 | 12 | 253 | 28 | 46 | 5 | 104 | 11 | 118 | 13 | 61 | 7 | 76 | 8 |
| NHId. | 221 | 100 | 136 | 62 | 14 | 6 | 45 | 20 | 9 | 4 | 17 | 8 | 30 | 14 | 15 |  | 17 | 8 |
| P.E.I. | 50 | 100 | 31 | 61 | 6 | 12 | 13 | 26 | -- | - | -- | - | -- | - | 4 | 9 | $\bigcirc$ | 11 |
| N.S. | 361 | 100 | 259 | 72 | 51 | 14 | 100 | 28 | 21 | 6 | 44 | 12 | 40 | 11 | 25 |  | 39 | 11 |
| N.B. | 289 | 100 | 203 | 70 | 36 | 12 | 95 | 33 | 13 | 5 | 40 | 14 | 44 | 15 | 17 | 6 | 18 | 6 |
| Quebec | 2,767 | 100 | 1,786 | 65 | 315 | 11 | 618 | 22 | 156 | 6 | 265 | 10 | 443 | 16 | 258 | 9 | 393 | 14 |
| Ontario | 3,982 | 100 | 2,721 | 68 | 550 | 14 | 1.124 | 28 | 184 | 5 | 348 | 9 | 507 | 13 | 329 | 8 | 122 | 3 |
| Prairies | 1,756 | 100 | 1,130 | 64 | 201 | 11 | 433 | 25 | 87 | 5 | 127 | 7 | 223 | 13 | 148 | 8 | 80 |  |
| Man. | 428 | 100 | 293 | 68 | 42 | 10 | 117 | 27 | 20 | 5 | 33 | 8 | 59 | 14 | 41 | 10 | 22 |  |
| Sask. | 375 | 100 | 242 | 64 | 39 | 11 | 93 | 25 | 21 | 6 | 29 | 8 | 38 | 10 | 35 | 9 | 21 | 6 |
| Alta. | 953 | 100 | 596 | 62 | 120 | 13 | 223 | 23 | 46 | 5 | 65 | 7 | 126 | 13 | 72 | 8 | 37 | 4 |
| B.C. | 1.288 | 100 | 848 | 66 | 176 | 14 | 273 | 21 | 46 | 4 | 109 | 8 | 142 | 11 | 84 | 7 | 47 | 4 |

General Social Survey. 1991
(1) Number and proportion do not add to totals as these are separate variables.

Only number and proportion of affirmative responses shown.

TABLE 2-3
Prevalence of selected health problems by sex and income adequacy, age 15+, Canada, 1991

| Sex and income adequacy | Health problem(1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Any health problem |  | Hyperlension |  | Hear trouble |  | Diabetes |  | Arthritis / rheumatism |  | Asthma |  | Emphysema, etc. |  | Hay lever |  | Skin or other allergies |  | Slomach ulcer |  | Other digestive problems |  | Recurring migraines |  | High blood cholesterol |  | Any emotional disorders |  |
|  | No. | \% | No. | $\%$ | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 20.981 | 100 | 13,168 | 63 | 3,311 | 16 | 1.437 | 7 | 740 | 4 | 4,335 | 21 | 1,238 | 6 | 1,671 | 8 | 2,528 | 12 | 4,340 | 21 | 969 | 5 | 1,634 | 8 | 1,950 | 9 | 1.759 | 8 | 1.114 | 5 |
| Lowest | 799 | 100 | 581 | 73 | 176 | 22 | 118 | 15 | 35 | 4 | 297 | 37 | 65 | 8 | 149 | 19 | 109 | 14 | 191 | 24 | 70 | 9 | 1, 96 | 12 | 126 | 16 | 1.75 | 9 | 133 | 17 |
| Lower middle | 1.633 | 100 | 1,15? | 71 | 355 | 22 | 202 | 12 | 117 | 7 | 510 | 31 | 124 | 8 | 243 | 15 | 147 | 9 | 343 | 21 | 197 | 7 | 177 | 11 | 190 | 12 | 188 | 12 | 149 | 9 |
| Middle | 4.766 | 100 | 2,993 | 63 | 803 | 17 | 374 | 8 | 151 | 3 | 1,099 | 23 | 224 | 5 | 419 | 9 | 444 | 9 | 904 | 19 | 263 | 6 | 484 | 10 | 475 | 10 | 382 | 8 | 290 | 6 |
| Upper middle | 5.743 | 100 | 3.428 | 60 | 816 | 14 | 275 | 5 | 155 | 3 | 935 | 16 | 287 | 5 | 335 | 6 | 766 | 13 | 1,238 | 22 | 231 | 4 | 391 | 7 | 511 | 9 | 468 | 8 | 229 | 4 |
| Highest | 2,171 | 100 | 1,331 | 61 | 308 | 14 | 77 | 4 | 71 | 3 | 271 | 12 | 138 | 6 | 80 | 4 | 344 | 16 | 395 | 18 | 48 | 2 | 122 | 6 | 146 | 7 | 199 | 9 | 51 | 2 |
| Not stated | 5,869 | 100 | 3,678 | 63 | 852 | 15 | 391 | 7 | 211 | 4 | 1.224 | 21 | 399 | 7 | 447 | 8 | 717 | 12 | 1.268 | 22 | 240 | 4 | 364 | 6 | 503 | 9 | 448 | 8 | 261 | 4 |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 10,266 | 100 | 6,055 | 59 | 1.605 | 16 | 683 | 7 | 365 | 4 | 1,684 | 16 | 608 | 6 | 737 | 7 | 1,980 | 11 | 1.639 | 16 | 449 | 4 | 681 | 7 | 517 | 5 | 879 | 9 | 395 | 4 |
| Lowest | 261 | 100 | 158 | 61 | 50 | 19 | 26 | 10 | -- | -- | 82 | 31 | -- | -- | 40 | 15 | 44 | 17 | 44 | 17 | 25 | 10 | 26 | 10 | -- | -- | -- | -- | 26 | 10 |
| Lower middle | 686 | 100 | 480 | 70 | 127 | 19 | 91 | 13 | 64 | 9 | 196 | 29 | 70 | 10 | 119 | 17 | 63 | 9 | 114 | 17 | 53 | 8 | 79 | 11 | 44 | 6 | 89 | 13 | 41 |  |
| Middle | 2,264 | 100 | 1,332 | 59 | 368 | 16 | 183 | 8 | 81 | 4 | 464 | 21 | 89 | 4 | 186 | 8 | 197 | 9 | 320 | 14 | 134 | 6 | 195 | 9 | 131 | 6 | 180 | 8 | 117 | 5 |
|  | 3,067 | 100 | 1,703 | 56 | 480 | 16 | 152 | 5 | 86 | 3 | 397 | 13 | 170 | 6 | 161 | 5 | 377 | 12 | 502 | 16 | 103 | 3 | + 173 | 6 | 137 | 6 4 | 272 | 8 | 101 | 3 |
| Highest | 1,340 | 100 | 835 | 62 | 236 | 18 | 52 | 4 | 43 | 3 | 140 | 10 | 83 | 6 | 46 | 3 | 220 | 16 | 189 | 14 | -- | 3 | +86 | 6 | 137 66 | 4 | 138 | 10 | 101 | - |
| Not stated | 2,648 | 100 | 1,547 | 58 | 344 | 13 | 179 | 7 | 86 | 3 | 405 | 15 | 182 | 7 | 186 | 7 | 280 | 19 | 470 | 18 | 104 | 4 | 123 | 5 | 197 | 4 | 185 | 7 | 86 | 3 |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 10.715 | 100 | 7,113 | 66 | 1.705 | 16 | 754 | 7 |  | 4 | 2.651 | 25 | 629 | 6 |  | 9 | 9,349 | 13 | 2,701 | 25 | 519 | 5 | 953 | 9 | 1,433 | 13 | 880 | 8 | 719 | 7 |
| Lowest | 538 | 100 | 423 | 79 | 126 | 23 | 92 | 17 | 29 | 5 | 215 | 40 | 51 | 9 | 109 | 20 | 66 | 12 | 147 | 27 | 44 | 8 | 70 | 13 | 104 | 19 | 60 | 11 | 107 | 20 |
| Lower middle | 947 | 100 | 677 | 72 | 228 | 24 | 110 | 12 | 54 | 6 | 313 | 33 | 54 | 6 | 124 | 13 | 84 | 9 | 230 | 24 | 64 | 8 | 98 | 10 | 146 | 15 | 99 | 10 | 108 | 11 |
| Middle | 2.503 | 100 | 1,661 | 66 | 434 | 17 | 191 | 8 | 70 | 3 | 635 | 25 | 135 | 5 | 233 | 9 | 248 | 10 | 584 | 23 | 129 |  | 289 | 12 | 344 | 14 | 202 | 8 | 373 | 7 |
| Upper middle | 2.676 | 100 | 1.725 | 64 | 337 | 13 | 123 | 5 | 69 | 3 | 538 | 20 | 117 | 4 | 174 | 6 | 389 | 15 | 736 | 28 | 127 | 5 | 218 | 8 | 374 | 14 | 196 | 7 | 128 | 5 |
| Highest <br> Not stated | 831 | 100 | 496 | 60 | 72 | 9 | 26 | 3 | -- | -- | 131 | 16 | 55 | 7 | 34 | 4 | 125 | 15 | 206 | 25 | -- | -- | 36 | 4 | 79 | 10 | 69 | 7 | -- | -- |
| Not stated | 3.221 | 100 | 2.131 | 66 | 509 | 16 | 212 | , | 125 | 4 | 819 | 25 | 218 | 7 | 261 | 8 | 438 | 14 | 798 | 25 | 136 | 4 | 240 | 7 | 386 | 12 | 253 | 8 | 175 | 5 |

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of aflirmative responses shown

TABLE 2-4
Description of usual intensity of pain by sex and age group, age 15+, Canada, 1991


TABLE 2-5
Description of usual intensity of pain, by sex and income adequacy, age 15+, Canada, 1991


General Social Survey, 1991

## CHAPTER 3

## HEALTH AND FUNCTION

### 3.1 HIGHLIGHTS

- Over 2.3 million Canadian adults ( $11 \%$ of those aged 15 and over) reported that a long-term healuh problem limits the kind or amount of activity that they can do at home, work, or school. This compares with $14 \%$ in 1978-79 and $12 \%$ in 1985. Back problems were the single most important cause underlying longterm activity limitations in 1991.
- Less than one-third of Canadian adults $(29 \%)$ report no reduced function. The most common functional problems reported are: visual ( $50 \%$ ), cognitive ( $26 \%$ ), and emotional $(21 \%)$. Equal proportions have one attribute ( $35 \%$ overall) or two or more attributes $(34 \%)$ affected.
- The normal activity of Canadians was affected by health problems for an average of 0.64 days during the two weeks prior to the survey. This is a decline from an average of 0.72 days in 1978-79 and 0.74 days in 1985. In 1991, health affected the work performance of employed Canadians for an average of 0.24 days in the prior two weeks.
- Over half of all adult Canadians ( $55 \%$ ) describe themselves as very satisfied with their health status, while only $3 \%$ are very dissatisfied.
- There is a consistent relationship between these indicators of health status and income adequacy. As income increases, there is a reduced prevalence of functional limitations (all but speech problems), activity limitation, and disability days and an increased likelihood of satisfaction with health.
- There are wide variations between provinces, sometimes even provinces within the same region, in many of these health status indicators.


### 3.2 METHODS

This chapter describes findings related to shortand long-term disabilities and satisfaction with one's own health. While many of the relevant questions were new in the 1991 GSS (see Appendix II), others are consistent with the 1985 GSS $^{1}$ and the 1978-79 Canada Health Survey $(\mathrm{CHS})^{2}$ allowing for the examination of temporal trends.

Most of the questions in this chapter focus on longer-term physical health problems. The most detailed of these is a series (Questions E2-E26, E28, E29) concerning problems with vision, hearing. speech, mobility, dexterity, memory, and thinking. These questions, along with others on pain (see Chapter 2) and feelings, constitute a scale of
functional ability known as the Comprehensive Health Status Classification System ${ }^{3}$ (the CHSCS, informally known as the Torrance or McMaster Index). The index was used in the 1990 Ontario Health Survey ${ }^{4}$ and will be part of the National Population Health Survey starting in 1994. ${ }^{5}$

The CHSCS was designed as an index which would summarize the individual's status on these eight attributes with a single score. In order 10 achieve this overall score, weights or "utilities" must be assigned to the various health states which can arise from combilations of scores on the eight separate attributes. However, because the scoring system for the CHSCS is still under development, this chapter is limited 10 reporting the prevalence of the individual atributes and to multiple attributes ( $0,1,2$ or more). (Note that pain is treated more fully in Chapter 2, with other symptoms and conditions, although it is part of the index and appears in some tables in this chapter. Similarly, emotional health is treated more fully in Chapter 4, although results from Ques. E27 on happiness appear in this chapter with the other attributes of the CHSCS.)

Definitions of reduced function are as follows:
vision problems - blind, near-sighted or far-sighted
hearing problems - cannot hear what is said either in a group conversation with three or more other people or in a conversation with one other person in a quiet room
speech problems - any problems being undersiood by strangers or acquaintances
mobility problems - needs a wheelchair or other aid, or the help of another person to get around, or cannot walk at all
dexteriny problems - less than full use of both hands and all 10 fingers, requires special equipment or the help of another person
cognitive problems - forgetful and/or has difficulty thinking and solving problems
pain - experiences trouble with pain or discomfort emotional problems - less than "happy and interested in life."

In addition to the detailed questions on functional limitations, there are broad questions on activity limitation (Ques. F1-F3). The basic question ("Are you limited in the amount or kind of activity you can do at home, at work or at school because of a long-term physical condition or health problem?") is repeated without change from 1985. but is a condensed version of one asked in the CHS. Nevertheless, some cautious comparisons with 1978-79 are wartanted.

Respondents reporting an activity limitation were asked to describe the underlying health reason. The description was recorded verbatim and later coded to a list of selected diseases and systems. as reported below. (This question did not appear in the 1985 GSS: it was asked in the CHS, but coded differently, precluding comparisons.)

Two-week disability days are a combination of hed days (Ques. B3) and reduced-activily days (Ques. B8) (not restricted to major activity) occurring for health reasons during the two weeks prior to the survey. Because data collection took place throughout the year, as explained in Chapter 1, it is reasonable to aggregate these data for the population without adjustment for any seasonal patterns in shor-term disability. These questions were essentially unchanged from 1985 and 1978-79, although readers should be cautioned that there are potential problems when comparing change across time with the three surveys. In the case of the 1985 GSS, data collection occurred in September and October only, however, this would appesir to be representative of the average full year expected values as determined by the CHS (see Appendix 2 of reference 2). In the case of the CHS, a much higher proportion of the total response was by a third party, though this is not thought to have had a significant impact.

Satisfaction with health was a new question (Ques. N2a) in 1991, part of a short series that also probed satisfaction with work (see Ch.4) and with life in general. As this question came relatively late in the interview, it is reasonable to assume that the response elicited was fairly thoughtful. It should be noted, however, that the satisfaction questions preceded two detailed series on stress and happiness (reported in Ch. 4).

Non-response to most of the questions reported in this chapter is comparable to that for other topics in this report - that is, less than $2 \%$ for the population as a whole. The only exception of note is for health satisfaction. At 3\% "not stated" for the total population, this is still highly acceptable. However, for some groups, the non-response exceeds $20 \%$; this would have to be taken into account if such groups were being compared with others.

### 3.3 RESULTS

### 3.3.1 Functional Limitations

Less than one-third of Canadian adults (29\%) report no reduced function (Table 3-1). The most common functional problems reported are: visual (50\%), cognitive ( $26 \%$ ), and emotional ( $21 \%$ ). Equal proportions have one attribute ( $35 \%$ overall) or two or more atributes ( $34 \%$ ) affected (Table 3-2).

Not all of these problems have the same impact, however, and the questionnaire clearly distinguishes between corrected and uncorrected problems in the case of vision and hearing. In the adult Canadian population. $4 \%$ ( 762.000 persons) have a hearing problem which is not overcome with an aid while $2 \%(405,000)$ have an uncorrected sight problem (data not in table).

## Age and sex

The prevalence of one or more attributes at reduced function increases with age for both men and women (Table 3-1), with a particularly sharp increase of 30 percentage points between ages 25-44 and 45-64. Reduced function of individual attributes also increases with age (Figure 3-A). However, this increase is fairly gradual in the case of speech and emotion. Only vision increases sharply between young adulthood (age 25-44) and middle-age (age 45-64).

FIGURE 3-A
Attributes with reduced function by age group, age 15+, Canada, 1991


General Social Survey, 1991

The prevalence of reduced function among women is seven percentage points higher than among men $(74 \%$ vs. $67 \%$ ). This difference is most pronounced at age 20-24 (13 percentage points) and all but disappears by age 75 and older (Table 3-1). The attributes which most distinguish men from women are vision ( 12 percentage points) and pain ( 5 percentage points) on an absolute basis and hearing, mobility and dexterity on a relative basis where although the differences are not large at one or two percentage points, they potentially represent important sex differences. There are no sex differences in reduced speech, emotional or cognitive functioning.

## Province

The lowest prevalence of reduced function is reported by adults living in Newfoundland (65\%), Ontario ( $66 \%$ ), New Brunswick and British Columbia (each 67\%). These rates contrast with those in Quebec" (77\%) and Saskatchewan (76\%), which are the highest in the country (Text Table 3-A).

Rates for individual attributes tend to repeat this pattern: for example, vision problems are least common in Newfoundland, Ontario and New Brunswick; and reduced cognitive function is most

TEXT TABLE 3-A
Prevalence of three health status indicators by province, age 15+, Canada, 1991

| Province | At least one function affected | Activity limited | Two-week disability |
| :---: | :---: | :---: | :---: |
|  | (Percent) |  | (Mean no. of days) |
| Canada | 70 | 11 | 0.64 |
| Allantic | 69 | 17 | 0.73 |
| Newfoundland | 65 | 13 | 0.75 |
| Prince Edward Island | 72 | 18 | 0.80 |
| Nova Scotia | 72 | 20 | 0.80 |
| New Brunswick | 67 | 14 | 0.63 |
| Quebec | $77^{*}$ | 10 | 0.70 |
| Ontanio | 66 | 9 | 0.55 |
| Praines | 72 | 10 | 0.58 |
| Manitoba | 72 | 10 | 0.50 |
| Saskatchewan | 76 | 12 | 0.55 |
| Alberta | 70 | 10 | 0.63 |
| BritishColumbia | 67 | 17 | 0.76 |

common in Quebec and Saskatchewan. Hearing impairments present an interesting exception to these patterns, however, since there are relatively high levels of impaired hearing in Newfoundland and New Brunswick, but low levels in Quebec (Table 3-3). The reasons for this are not clear.

## Income adequacy

As income adequacy improves, the likelihood of reduced function in one or more attributes drops (Table 3-2). This relationship appears to be independent of age. For example, at age 45 and older, those in the lowest income group are ten percentage points more likely to have some reduced function than those in the highest income group ( $95 \%$ vs. $85 \%$ ). This advantage of income is even more pronounced for those younger than age 45 , where 14 percentage points separate the highest from the lowest income groups.

### 3.3.2 Activity Limitation

Over 2.3 million Canadian adults (i.e. $11 \%$ of those aged 15 and over) reported that a longterm health problem limits the kind or amount of activity that they can do at home, work, or school (Table 3-4).

## Age and sex

Long-term limitations are, not surprisingly, directly related to age for both men and women (Table 3-4). In the combined population, the rate of activity limitation increases steadily from $4 \%$ of 15 to 24 year olds, through $14 \%$ of 45 to 64 year olds, to $32 \%$ of Canadians aged 75 and older. For the general population. the prevalence of activity limitation is two percentage points higher for women than for men ( $12 \%$ vs. $10 \%$ ), but this sex difference is not consistent in all age groups. In particular, at ages 65 to 74, women are less likely than men to report a limitation ( $19 \%$ vs. $22 \%$ ).

[^1]
## Province

There are remarkably wide variations in the provincial prevalence rates for long-term disability, ranging from a low of $9 \%$ in Ontario to a high of $20 \%$ in Nova Scotia (Text Table 3-A). Even within the Atlantic region, rates range from $13 \%$ in Newfoundland to $20 \%$ in Nova Scotia. Among Canadians aged 75 and over, the lowest prevalence of activity limitation is in Alberta (24\%), while the highest is in Prince Edward Island (46\%) (data not shown).

## Income adequacy

Long-term limitations on activity are strongly related to income adequacy. Canadians in the lowest income group are almost four times as likely 10 be limited as those in the highest income group (Text Table 3-B). As with the functional limitations reported above, this is probably due in part, but not entirely, to the lower income of older people. The pattern is very similar for both men and women (data not shown).

## Reasons for activity limitation

A wide range of conditions was reported as underlying the long-term limitations of activity. Musculo-skeletal problems were the most common of these, in particular back problems ( $20 \%$ of those with a limitation): these were followed by arthritis other than limbs, back. or spine (12\%) and limb problems ( $12 \%$ ). Other problems were mentioned less frequently (Figure 3-B).

Overall, the prevalence of these conditions was too low for much sub-group analysis. The exception is back problems, which occurred equally often for men and women, and which appear to be fairly evenly distributed over income groups (data not shown).

### 3.3.3 Two-Week Disability Days

During the two weeks prior to the survey interview, the normal activity of Canadians was affected by heath problems for an average of 0.64 days (Table 3-5).

## Age and sex

Men reported $21 \%$ fewer disability days ( 0.56 days) than women ( 0.71 days). For both sexes.

TEXT TABLE 3-B
Prevalence of three health status indicators by income adequacy, age 15+, Canada, 1991

|  |  | Health | status indicator |
| :--- | :--- | :--- | :--- |
| Income adequacy | Activity <br> limitation | Two-week <br> disability | Very satisfied <br> with health |
| (Percent) | (Mean no. of days) | (Percent) |  |
| Total | 11 | 0.64 | 55 |
| Lowest | 25 | 1.34 | 37 |
| Lowermiddle | 19 | 0.96 | 47 |
| Middle | 13 | 0.70 | 54 |
| Uppermiddle | 9 | 0.53 | 57 |
| Highest | 7 | 0.48 | 65 |
| Not stated | 10 | 0.56 | 55 |

General Social Survey, 1991
days affected by health problems tended to increase with advancing years, from a low of 0.53 days at ages 15 to 19 to a high of 1.07 days at ages 75 and over (Table 3-5). Among women, however, this increase is not monotonic, as there is a surprisingly high level of disability days (0.84) at ages 20 to 24 (Figure 3-C).

## Province

Average values for disability days range fairly widely, from 0.50 days in Manitoba to 0.80 days in Prince Edward Island and Nova Scotia (Text Table 3-A). Among men, the highest level of disability days is in Prince Edward Island ( 0.89 days) while the lowest is in New Brunswick, Saskatchewan, and British Columbia (each 0.42 days, Table 3-5). In contrast, disability days for women are highest in British Columbia ( 1.09 days) and lowest in Ontario and Manitoba (each 0.55 days).

## Income adequacy

There is an inverse relationship between short-term disability and income adequacy: the higher the income, the fewer the days affected by health (Texı Table 3-B).

### 3.3.4 Days Off Work

Health affected the work performance of employed Canadians for an average of 0.24 days in the two weeks before the 1991 GSS (Table 3-6). With a few exceptions, most occupational groups are fairly close to the average value. Supervisors and skilled workers experience well below-average activity-loss ( 0.05 and 0.18 days, respectively), while the activity-ioss for semi-skilled workers is above average ( 0.31 days). Employed women are more affected than employed men ( 0.28 vs. 0.22 days), and this is true of all occupational classes except unskilled workers, where men experience more activity-loss ( 0.25 vs. 0.19 days; see Chapter 6 for further findings on this topic).

### 3.3.5 Health Satisfaction

Over half of all adult Canadians (55\%) describe themselves as very satisfied with their health status, and only $3 \%$ describe themselves as very dissatisfied (Table 3-7). Since 29\% are "somewhat satisfied," the overall picture is fairly positive as regards satisfaction with health. Provincial differences are very small: all are within three percentage points of the average of $55 \%$ very satisfied (data not shown).

FIGURE 3-B
Cause of activity limitation, population age $15+$ with a long-term activity limitation, Canada, 1991

Cause of activity limitation


General Social Survey, 1991

## Age and sex

Over all ages, men are only slightly more likely than women to express high levels of satisfaction with their health ( $56 \%$ vs. $54 \%$ ). At certain ages, however, the sex differences are substantial: among teens (ages 15 to 19) and young adults (ages 20 to 24), men are six to nine percentage points more likely than women to be very satisfied (Table 3-7). Interestingly, at ages 25 to 44, it is women, not men, who are more likely to be very satisfied with their health ( $59 \%$ vs. $56 \%$ ).

For both men and women, there is a decline in health satisfaction with advancing age. While $60 \%$ of teens are very satisfied with their health, this is true ol only $43 \%$ of older seniors (age 75 and over). However, the decline is less marked than for other health indicators reported in this chapter, and dissatisfaction remains relatively rare at all ages: 5\% of Canadians ages 65 to 74 are very dissatisfied with their heath. which is the highest prevalence of this sentiment (Table 3-7).

## Income adequacy

The likelihood of being very satisfied with one's health increases in direct proportion to income adequacy (Text Table 3-B). Only $37 \%$ of those in the lowest group are very satisfied, compared to $65 \%$ in the highest group. Conversely, dissatisfaction increases as income adequacy decreases: $11 \%$ of those in the lowest group are very dissatisfied. compared to $3 \%$ of the upper middle income group, while dissatisfaction in the highest group is 100 rare to even be reported (data not shown).

### 3.3.6 Satisfaction in the Presence of Activity Limitation

While the survey did not ask for the specific reasons behind the satisfaction ratings, the satisfaction question did follow all of the questions on health status reponed earlier in this chapter. Thus, it is instructive, if not completely conclusive, to compare the health satisfaction of Canadians with and without long-term activity limitations.

FIGURE 3-C
Mean disability days in two weeks prior to survey by age group and sex, age 15+, Canada, 1991

## Mean disability days



Age group
General Social Survey, 1991

The differences in satisfaction are in fact very large, and in the expected direction. Only $18 \%$ of Canadians with an activity limitation are very satisfied with their health, compared to $60 \%$ of those with no limitation (Text Table 3-C). Women with a limitation are even less likely than men, at all ages, to express high levels of satisfaction with their health.

### 3.4 DISCUSSION

### 3.4.1 Comparisons with 1978-79 and 1985

## Activity limitation

Between 1978-79 and 1991, the overall prevalence of long-term activity limitation declined by three percentage points - from $14 \%$ to $11 \%$ (Text Table 3-D). This decline was equally true of men ( $13 \%$ to $10 \%$ ) and women ( $15 \%$ 10 $12 \%$ ). Not all age groups experienced a similar decline in limitation, however (Figure 3-D). Gains were
inversely related to age: that is, Canadians in the 65 and older group experienced the grearest reductions in disability, while there was only very marginal change for those aged 15 to 44. This pattern is similar for both men and women (Text Table 3-D), and the decreases for the period 19851991 are similar in magnitude to those reported for the perind 1985-1990 by the Health Promotion Survey (HPS). ${ }^{6}$ However, this trend contrasts with the 1986 and 1991 Health and Activity Limitation Surveys, which show a slight increase in activity limitation on the part of older women. ${ }^{7.8}$

## Disability days

Two-week disability days declined from a mean of 0.72 days in 1978-79 to 0.64 days in 1991 (Text Table 3-E). Most of this change is due to the gains by women ( 0.88 to 0.71 days), as there was virtually no change for men $(0.55$ to 0.56 days). Nor were the gains in iwo-week disability days equal for all age groups or at an even pace

TEXT TABLE 3-C
Population very satisfied with own health by long-term activity limitation, age group and sex, age 15+, Canada, 1991

|  | Very satisfied |  |  | with health |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Age group and sex | Total | Activity limited | Activity not limited | Not stated |
|  |  |  | (Percent) |  |
|  |  |  |  |  |

General Social Survey, 1991
over this 13-year period (Figure 3-E): the greatest gains were among Canadians aged 65 and older. and all of this improvement occurred during the period 1985-1991.

Among middle-aged Canadians, men and women experienced equal improvements in disability days. Among younger adults (aged 15 to 44), however, women gained only marginally ( 0.65 to 0.60 days), while men lost ground markedly (0.33 to 0.53 days). There was little difference between 1985 and 1991 for younger men, however, pointing to the possibility that the low value for 1978-79 is due in part to the higher level of proxy reporting in the CHS .

### 3.4.2 Methodological Issues

The major issue in making comparisons between surveys is the consistency of question wording, sample design. and methods of data collection. There are few such differences between the 1985 and 1991 GSS cycles that would affect the data in
this chapter, hut the same cannot be said of comparisons with the 1978-79 CHS. As noted earlier. proxy responses were freely accepted in the CHS, a method of data collection which can lead to some under-reporting of cut-down days. This, in turn, could depress the estimates of two-week disability days in 1978-79. As proxy reporting most often affects the data of young men, this might help to explain the apparent increase from 1978-79 to 1991 in the disability days of men aged 15 to 44 while every other age-sex group showed a decline. However, it is noteworthy that this same group of younger men was also unique in showing no improvement in two-week disability days between 1985 and 1991. This suggests that the findings in Figure 3-E should not be dismissed lightly. However, the reasons for short-term disability were not determined in the GSS, and an explanation for this temporal trend is beyond the scope of this analysis.

In a similar fashion, it is possible to find differences between the CHS and the 1991 GSS in the

TEXT TABLE 3-D
Long-term activity limitation by sex and age group, population age $15+$ with a longterm activity limitation, Canada, 1978-79, 1985 and 1991

| Sex and age group | 1978-79 |  | 1985 |  | 1991 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (No. in thousands) | (\%) | (No. in thousands) | (\%) | (No. in thousands) | (\%) |
| Both sexes |  |  |  |  |  |  |
| Population 15+ | 2,510 | 14 | 2,306 | 12 | 2,330 | 11 |
| 15-64 years | 1,736 | 11 | 1.523 | 9 | 1,620 | 9 |
| 15-44 | 784 | 7 | 740 | 6 | 888 | 7 |
| 45-64 | 952 | 21 | 784 | 16 | 732 | 14 |
| $65+$ years | 774 | 38 | 783 | 32 | 710 | 24 |
| Male |  |  |  |  |  |  |
| Population 15+ | 1,153 | 13 | 1.030 | 11 | 1.075 | 10 |
| 15-64 years | 814 | 11 | 724 | 8 | 772 | 9 |
| 15-44 | 354 | 6 | 320 | 5 | 446 | 7 |
| 45-64 | 459 | 21 | 404 | 17 | 326 | 12 |
| $65+$ years | 339 | 38 | 307 | 29 | 304 | 24 |
| Female |  |  |  |  |  |  |
| Population 15+ | 1,357 | 15 | 1.276 | 13 | 1,255 | 12 |
| 15-64 years | 922 | 12 | 800 | 9 | 848 | 9 |
| 15-44 | 430 | 8 | 420 | 7 | 442 | 7 |
| 45-64 | 492 | 22 | 380 | 15 | 406 | 15 |
| 65+ years | 435 | 38 | 476 | 34 | 407 | 24 |

Canada Health Survey, 1978-79
General Social Survey, 1985 and 1991
approach to measuring long-term activity limitation. These include the greater tolerance of proxy reporting in the earlier survey and. more importantly, more detailed questioning in the CHS. It is reasonable to suppose that separate questions about limitations at work, play, and school would elicit more positive responses than a single, combined question. thus elevating the prevalence of activity limitation in 1978-79. However, the decline in activity limitation between 1978-79 and 1985 is very similar to the decline between 1985 and 1991 (see Text Table 3-D). and the decline during this latter period is consistent with the
decline from 1985 to 1990 reported by the HPS. ${ }^{6}$ However, as noted above, this trend toward reduced activity limitation is contradicted by the more specialized disability surveys of $1983-84 .{ }^{9} \quad 1986 .{ }^{7}$ and 1991.8 This calls for further analysis.

In addition to the validity of trends over time, there remains the question of the true prevalence of activity limitation. According to the 1991 Health and Activity Limitation Survey, $49 \%$ of women aged 65 and older have a disability. ${ }^{8}$ while the rate for this same group is $30 \%$ in the 1990 HPS $^{6}$ and $24 \%$ in the 1991 GSS. Similar differences between the

FIGURE 3-D
Activity limitation by age group, age 15+, Canada, 1978-79, 1985 and 1991


Canada Health Survey, 1978-79
General Social Survey, 1985 and 1991
latter two surveys occur across all age-sex groups. with the rate reported by the HPS always a few percentage points higher than that reported by the GSS. This may be due to the fact that the HPS inquired separately about limitations at home, at work. at school, and during other activities (in a fashion similar to the CHS). while the GSS combined these into a single question. However, this explanation is only speculative. suggesting that the effect of question wording on such estimates would be a worthwhile topic for further study.

### 3.4.3 Substantive Issues

The fy9l GSS is one of the few surveys to provide data for the age group 75 and over. As the population ages there will be increasing numbers of Canadians in this group: knowledge of their heath status will be important for planning health care services. For this group, the most common
functional limitations are cognitive difficulties, hearing troubles, mohility troubles, and vision problems, but these affect only a minority: two thirds report no limitations to their regular activities, and $43 \%$ are very satisfied with their heallh. This is a generally positive picture, slightly tempered by the knowledge that it is confined to the approximately $84 \%$ of seniors still living in private households. 19.11

The availability of better data on "older old" Canadians should not obscure the fact that there are health concerns among younger groups. This chapter reveals that, in contrast to men of the same age or women who are older, women age 20-24 have relatively high levels of reduced function and of disability days. This may be due to pregnancy and childhearing since long-term activity limitation among these young women is not elevated. but, since the survey did not determine pregnancy status, this explanation remains speculative.

TEXT TABLE 3-E
Mean disability days, by sex and age group, age 15+, Canada, 1978-79, 1985 and 1991

|  | 1978-79 | 1985 | 1991 |
| :---: | :---: | :---: | :---: |
| gr |  | Mean disability | days |
| Both sexes |  |  |  |
| Population 15+ | 0.72 | 0.74 | 0.64 |
| 15-44 years | 0.49 | 0.59 | 0.57 |
| 45-64 years | 0.97 | 0.80 | 0.66 |
| $65+$ years | 1.40 | 1.39 | 0.90 |
| Male |  |  |  |
| Population 15+ | 0.55 | 0.63 | 0.56 |
| 15-44 years | 0.33 | 0.52 | 0.53 |
| 45-64 years | 0.84 | 0.71 | 0.53 |
| $65+$ years | 1.21 | 1.07 | 0.72 |
| Female |  |  |  |
| Population 15+ | 0.88 | 0.86 | 0.71 |
| 15-44 years | 0.65 | 0.66 | 0.60 |
| 45-64 years | 1.08 | 0.90 | 0.79 |
| $65+$ years | 1.54 | 1.64 | 1.02 |

This report is also somewhat unusual among health survey reports in providing findings by province, rather than region. In this chapter. significant interprovincial differences are reported for long-term activity limitation and two-week disability days. In some cases. there can be meaningful differences within the Atlantic provinces or Prairies. underlining the value of reporting data at the level of the province rather than the region whenever sample size permits.

As with many other topics covered elsewhere in this report. this chapter reveals a consistent inverse relationship between good health and income. This is true for most forms of functional limitation, activity limitation, two-week disability days, and even health satisfaction. These findings are consistent with other surveys and non-survey indicators of health ${ }^{12,13}$ and cannot be attributed to the relationship between age and income. Since there is reasonable
equality of access to health care services across income groups (see Chapter 7), these differences in healch status must be due to differential exposure to risks, or to differing abilities to cope with physical and mental stress. Chapters 5,9, and 10 document socio-economic inequalities in being overweight, smoking, and physical activity; beginning in 1994, the National Population Health Survey will document responses 10 stressful situations and the distribution of resources for coping with stress. This should help to explain these relationships between health and social status.

There is an apparent paradox revealed in this report which deserves further study. While activity limitation declined from 1978-79 to 1991. the prevalence of many chronic conditions increased markedly (Chapter 2). Apparenily these are independent indicators of health status, as these conditions do not always result in activity limitation, particularly

FIGURE 3-E
Mean disability days in two weeks preceding survey by age group, age 15+, Canada, 1978-79, 1985 and 1991

## Mean disability days



$$
\begin{aligned}
& -65+ \\
& -45.64 \\
& -15.44
\end{aligned}
$$

## Year

Canada Health Survey, 1978-79
General Social Survey, 1985 and 1991
among the non-institutionalized population. This may be due to the wider availability of facilities and services for overcoming impairments and disabilities, or to changing views of what constitutes "normal" activity and what constitutes a limitation.

This chapter also reveals the complexity of measuring health and function in a population. It is apparent that reduced function does not necessarily lead to activity limitation, since $70 \%$ of adults have at least one functional attribute affected but only $11 \%$ are affected in their work, play or other normal activities (Text Table 3-A). The simplest explanation for this is the fact that vision is the attribute which is most often affected, but almost all adults with vision problems have corrective lenses. This is not the entire explanation, however, and further analysis of the GSS 6 and
other surveys is required to better understand the various meanings which the public may attach to the term "limited in your normal activity." It is even possible that meanings vary from province to province. For example, while Newfoundland, New Brunswick and Ontario have the lowest levels of reduced function (Text Table 3-A), Newfoundland and New Brunswick report levels of activity limitation that are above the national average. Quebec and Saskatchewan, on the other hand, have the highest levels of reduced function according to the CHSCS but are near the national average in activity limitation. These questions invite further analysis; the large provincial samples of the 1991 GSS and the Health and Activity Limitation Surveys make this analysis possible.

## REFERENCES

1. Statistics Canada. Healh and social support, 1985. General Social Survey Analysis Series. Ottawa: Minister of Supply and Services Canada, 1987. Catalogue No. 11-612E. No.l.
2. Health and Welfare Canada and Statistics Canada. The Health of Canadians: report of the Canada Health Survey. Ottawa: Minister of Suppy and Services Canada, 1981. Statistics Canada Catalogue No. $82-538 \mathrm{E}$.
3. Torrance GW, Furlong W . Feeny D. Boyle MH. Provisional health status index for the Ontario Health Survey. Final report of Project No. 44400900187 . Submitted to Statistics Canada, Feb. 1992.
4. Ontario Ministry of Health. Ontario Health Survey. 1990: highlights. Toronto: Ontario Ministry of Health. 1992.
5. Catlin $G$, Will $P$. The National Population Health Survey: highlights of initial developments. Health Reporis 1992;4(3). Statistics Canada Catalogue No. 82-003.
6. Adams O. Health status. In: Health and Welfare Canada, Stephens T. Fowler Graham D. eds. Canada's Health Promotion Survey 1990: rechnical reporr. Ottawa: Minister of Supply and Services Canada, 1993. Catalogue No. H39-263/2-1990E.
7. Statistics Canada. Highlights: disabled persons in Canada. Ottawa: Minister of Supply and Services Canada. 1990. Catalogue No. 82-602.
8. Statistics Canada. 1991 Health and Acrivity Limitation Survey: highlights. Statistics Canada Daily, 13 Oct. 1992. Catalogue No. 11-001E.
9. Statistics Canada. Report of the Canadian Health and Disability Survey, 1983-84. Ottawa: Minister of Supply and Services Canada, 1986. Catalogue No. 82-555.
10. Statistics Canada. Age. Sex and Marital Stams. Ottawa: Minister of Supply and Services Canada, 1992. 1991 Census of Canada. Catalogue No. 93-310.
11. Statistics Canada. Dwellings and Houscholds. Ottawa: Minister of Supply and Services Canada, 1992. 1991 Census of Canada. Catalogue No. 93-311.
12. Manga P. Socio-economic inequalities. In: Health and Welfare Canada Stephens T. Fowler Graham D. eds. Canada's Health Promotion Survey 1990: Iechnical report. Ottawa: Minister of Supply and Services Canada. 1993. Catalogue No. H39-263/2-1990E.
13. Adams O, Wilkins R. Social inequalities in health in Canada: a review of current research, dara and methodological issues. Ottawa: Statistics Canada, Health Division, 1988.

TABLE 3-1
Comprehensive Health Status Classification System attributes at reduced function by sex and age group, age 15+, Canada, 1991

| Sex and age group | Total population $15+$ |  | No attributes at reduced function |  | At least one atribute at reduced function( 1 ( ${ }^{\text {a }}$ ( ${ }^{\text {a }}$ Not |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Total |  | Vision |  | Hearing |  | Speech |  | Mobility |  | Dexterity |  | Emotion |  | Cognition |  | Pain |  |  |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 20,981 | 100 | 6,080 | 29 | 14,764 | 70 | 10,488 | 50 | 1.072 | 5 | 170 | 1 | 654 | 3 | 349 | 2 | 4,307 | 21 | 5.411 | 26 | 4.092 | 20 | 137 | 1 |
| 15-64 years | 18.073 | 100 | 5,898 | 33 | 12,053 | 67 | 7.985 | 44 | 470 | 3 | 124 | 1 | 233 | 1 | 214 | 1 | 3,560 | 20 | 4,273 | 24 | 3,190 | 18 | 122 | 1 |
| $15-24$ years | 3,793 | 100 | 1.517 | 43 | 2.149 | 57 | 1.002 | 26 | 46 | 1 | 47 | 1 | -- | -- | -- | -- | 748 | 20 | 893 | 24 | 433 | 11 | 26 | $\uparrow$ |
| 15-19 years | 1,825 | 100 | 800 | 44 | 1,019 | 56 | 470 | 26 | -- | - | 28 | 2 | -- | - - | - | -- | 383 | 21 | 443 | 24 | 227 | 12 | -- | - |
| 20-24 years | 1.967 | 100 | 818 | 42 | 1,131 | 57 | 533 | 27 | -- | - | -- | - | -- | - | -- | - | 365 | 19 | 450 | 23 | 205 | 10 | -- | - |
| $25-44$ years | 9,005 | 100 | 3,668 | 41 | 5,266 | 58 | 2,816 | 31 | 134 | 1 | 55 | 1 | 72 | 1 | 86 | 1 | 1,686 | 19 | 1,956 | 22 | 1.428 | 16 | 71 | 1 |
| 45-64 years | 5.275 | 100 | 613 | 12 | 4,637 | B8 | 4,167 | 79 | 290 | 5 | -- | - | 149 | 3 | 115 | 2 | 1,127 | 21 | 1.424 | 27 | 1.330 | 25 |  | - |
| $65+$ years | 2,908 | 100 | 181 | 6 | 2,712 | 93 | 2,502 | 86 | 602 | 21 | 46 | 2 | 421 | 14 | 135 | 5 | 747 | 26 | 1,138 | 39 | 902 | 31 | -- | - |
| $65-74 \text { years }$ | 1,824 |  | 127 | 7 | 1.685 | 92 | 1.567 | 86 | 282 | 15 | -- |  | 158 | 9 | 63 | 3 | 433 | 24 | 629 | 34 | 522 | 29 | - - | -- |
| $75+\text { years }$ |  |  | 54 | 5 |  |  |  |  |  |  | 28 | 3 |  |  |  | 7 |  |  |  |  |  | 35 | - - | - |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10,266 | 100 | 3.300 | 32 | 6,888 | 67 | 4,500 | 44 | 601 | 6 | 102 | 1 | 256 | 2 | 195 | 2 | 2.131 | 21 | 2,560 | 25 | 1,751 | 17 | 78 | 1 |
| 15-64 years | 9.022 | 100 | 3.208 | 36 | 5,743 | 64 | 3.474 | 39 | 282 | 3 | 82 | 1 | 116 | 1 | 130 | 1 | 1,839 | 20 | 2.064 | 23 | 1,430 | 16 | 71 | 1 |
| 15-24 years | 1.935 | 100 | 915 | 47 | 1.009 | 52 | 374 | 19 | -- | -- | -- | -- | -- | -- | -- | -- | 387 | 20 | 513 | 26 | 167 | 9 | - | -- |
| 15-19 years | 936 | 100 | 435 | 47 | 499 | 53 | 192 | 20 | -- | - | -- | -- | - | -- | -- | -- | 195 | 21 | 249 | 27 | 93 | 10 | - | -- |
| 20-24 years | 1,000 | 100 | 480 | 48 | 510 | 51 | 179 | 18 | -- | -- | -- | - | -- | -- | -- | -- | 192 | 19 | 264 | 26 | 74 | 7 | -- | -- |
| 25-44 years | 4.476 | 100 | 1,941 | 43 | 2,495 | 56 | 1.131 | 25 | 69 | 2 | 40 | 1 | 44 | 1 | 57 | 1 | 910 | 20 | 945 | 21 | 693 | 15 | 40 | 1 |
| 45-64 years | 2.611 | 100 | 351 | 13 | 2.239 | 86 | 1.973 | 76 | 188 | 7 | -- | - - | 72 | 3 | 63 | 2 | 542 | 21 | 606 | 23 | 569 | 22 |  | - |
| $65+$ years | 1,245 | 100 | 92 | 7 | 1,145 | 92 | 1.026 | 82 | 318 | 25 | -- | - - | 139 | 11 | 65 | 5 | 292 | 23 | 496 | 40 | 321 | 26 | - | -- |
| 65-74 years | 796 | 100 | 66 | 8 | 723 | 91 | 653 | 82 | 159 | 20 | -- | -- | 56 | 7 | 29 | 4 | 175 | 22 | 286 | 36 | 184 | 23 | - | -- |
| $75+$ years | 448 | 100 | 26 | 6 | 422 | 94 | 373 | 83 | 159 | 36 | -- | -- | 84 | 19 | 38 | 8 | 117 | 26 | 210 | 47 | 137 | 31 | -- | - |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population $15+$ | 10,715 | 100 | 2,780 | 26 | 7.877 | 74 | 5,987 | 56 | 471 | 4 | 6B | 1 | 398 | 4 | 154 | 1 | 2.176 | 20 | 2,851 | 27 | 2,340 | 22 | 58 | 1 |
| $15-64$ years | 9.051 | 100 | 2.690 | 30 | 6,310 | 70 | 4.511 | 50 | 187 | 2 | 42 | - | 117 | 1 | 84 | 1 | 1.721 | 19 | 2.209 | 24 | 1.760 | 19 | 51 | 1 |
| $15-24$ years | 1,857 | 100 | 702 | 38 | 1,141 | S1 | 632 | 34 | -- | -- | -- | -- | - | -- | -- | -- | 360 | 19 | 380 | 20 | 265 | 14 | - | - |
| 15.19 years | 890 | 100 | 364 | 41 | 520 | 58 | 278 | 31 | -- | -- | - - | -- | -- | - | -- | -- | 188 | 21 | 195 | 22 | 134 | 15 | - | -- |
| 20-24 years | 968 | 100 | 338 | 35 | 621 | 64 | 354 | 37 | -- | -- | -- |  | -- | -- | -- | -- | 173 | 18 | 186 | 19 | 131 | 14 | -- | -- |
| 25-44 years | 4,530 | 100 | 1.727 | 38 | 2.771 | 61 | 1,686 | 37 | 65 | 1 | - |  | 28 | 1 | 29 | 1 | 776 | 17 | 1,011 | 22 | 735 | 16 | 31 | 1 |
| 45-64 years | 2,664 | 100 | 261 | 10 | 2,398 | 90 | 2,194 | 82 | 102 | 4 | -- | - | 77 | 3 | 52 | 2 | 584 | 22 | 817 | 31 | 760 | 29 |  | - |
| 65 + years | 1,664 | 100 | 90 | 5 | 1,567 | 94 | 1,476 | 89 | 283 | 17 | 27 | 2 | 282 | 17 | 70 | 4 | 455 | 27 | 642 | 39 | 580 | 35 | -- | - |
| 65-74 years | 1.028 | 100 | 61 | 6 | 962 | 94 | 915 | 89 | 123 | 12 | -- | - | 102 | 10 | 33 | 3 | 258 | 25 | 343 | 33 | 338 | 33 | -- | -- |
| $75+$ years | 636 | 100 | 29 | 4 | 605 | 95 | 561 | 88 | 160 | 25 | -- | -- | 180 | 28 | 37 | 6 | 197 | 31 | 299 | 47 | 242 | 38 | - | -- |

[^2]TABLE 3-2
Number of Comprehensive Health Status Classification System attributes at reduced function by age group and income adequacy, age 15+, Canada, 1991

| Total <br> population <br> $15+$ | No attributes <br> at reduced <br> function | At least one attribute at reduced function |
| :---: | :---: | :---: | | Not |
| :---: |
| stated |

Age group and income adequacy

|  |  |  |  | Total |  | One attribute |  | Two or more attributes |  | Not stated |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |

(No. in thousands)

| Population 15* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total | 20.981 | 100 | 6.080 | 29 | 14,764 | 70 | 7.422 | 35 | 7.166 | 34 | 177 | 1 | 137 | 1 |
| Lowest | 799 | 100 | 148 | 19 | 647 | 81 | 182 | 23 | 460 | 58 | -- | -- | -- | -- |
| Lower middle | 1,633 | 100 | 350 | 21 | 1,280 | 78 | 482 | 30 | 785 | 48 | -- | -- | -- | - - |
| Middle | 4,766 | 100 | 1,234 | 26 | 3.510 | 74 | 1.590 | 33 | 1,903 | 40 | -- | -- | -- | -- |
| Upper middle | 5,743 | 100 | 1.758 | 31 | 3.947 | 69 | 2.232 | 39 | 1.675 | 29 | 40 | 1 | 38 | 1 |
| Highest | 2,171 | 100 | 741 | 34 | 1.421 | 65 | 928 | 43 | 484 | 22 | -- |  | -- | -- |
| Not stated | 5,869 | 100 | 1,848 | 31 | 3,960 | 67 | 2,007 | 34 | 1,858 | 32 | 94 | 2 | 61 | 1 |
| 15-44 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 12,798 | 100 | 5,285 | 41 | 7.416 | 58 | 4.447 | 35 | 2,886 | 23 | 83 | 1 | 97 | 1 |
| Lowest | 398 | 100 | 131 | 33 | 266 | 67 | 111 | 28 | 151 | 38 | -- | - - | -- | -- |
| Lower middle | 839 | 100 | 298 | 35 | 542 | 65 | 264 | 31 | 271 | 32 | -- | - - | -- | -- |
| Middle | 2.903 | 100 | 1.110 | 38 | 1.771 | 61 | 997 | 34 | 763 | 26 | - | -- | -- | - |
| Upper middle | 3,834 | 100 | 1,548 | 40 | 2,251 | 59 | 1,434 | 37 | 785 | 20 | 32 | 1 | 35 | 1 |
| Highest | 1.313 | 100 | 615 | 47 | 692 | 53 | 468 | 36 | 223 | 17 | -- | -- | -- | - |
| Not stated | 3,511 | 100 | 1,585 | 45 | 1,895 | 54 | 1,172 | 33 | 692 | 20 | -- | -- | 31 | 1 |
| $45+$ years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 8,183 | 100 | 794 | 10 | 7,349 | 90 | 2.976 | 36 | 4,280 | 52 | 93 | 1 | 40 | -- |
| Lowest | 401 | 100 | -- | -- | 382 | 95 | 70 | 18 | 310 | 77 | -- | - - | -- | -- |
| Lower middle | 794 | 100 | 52 | 7 | 738 | 93 | 218 | 27 | 514 | 65 | -- | -- | -- | -- |
| Middle | 1,864 | 100 | 125 | 7 | 1,739 | 93 | 593 | 32 | 1,139 | 61 | -- | -- | -- | -- |
| Upper middle | 1,909 | 100 | 210 | 11 | 1,696 | 89 | 798 | 42 | 890 | 47 | -- | -- | -- | -- |
| Highest | 858 | 100 | 127 | 15 | 728 | 85 | 461 | 54 | 261 | 30 | -- | - | -- | -- |
| Not stated | 2,358 | 100 | 263 | 11 | 2,065 | 88 | 835 | 35 | 1,166 | 49 | 64 | 3 | 30 | 1 |
| 45-64 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 5,275 | 100 | 613 | 12 | 4,637 | 88 | 2,160 | 41 | 2,422 | 46 | 55 | 1 | -- | -- |
| Lowest | 206 | 100 | -- | -- | 197 | 96 | 36 | 18 | 161 | 78 | -- | -- | -- | -- |
| Lower middle | 345 | 100 | 29 | 8 | 316 | 92 | 106 | 31 | 206 | 60 | -- | -- | -- | - - |
| Middle | 1.035 | 100 | 72 | 7 | 962 | 93 | 361 | 35 | 597 | 58 | -- | -- | -- | -- |
| Upper middle | 1.552 | 100 | 183 | 12 | 1,366 | 88 | 670 | 43 | 689 | 44 | -- | -- | -- | -- |
| Highest | 769 | 100 | 121 | 16 | 645 | 84 | 424 | 55 | 215 | 28 | 32 | -- | -- | -- |
| Not stated | 1.368 | 100 | 198 | 14 | 1.150 | 84 | 563 | 41 | 555 | 41 | 32 | 2 | -- | - |
| 65+ years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 2,908 | 100 | 181 | 6 | 2,712 | 93 | 816 | 28 | 1,858 | 64 | 38 | $\dagger$ | -- | -- |
| Lowest | 195 | 100 | -- | -- | 185 | 95 | 34 | 18 | 149 | 77 | -- | -- | -- | -- |
| Lower middle | 449 | 100 | -- | - | 422 | 94 | 112 | 25 | 308 | 69 | -- | -- | -- | - - |
| Middle | 829 | 100 | 52 | 6 | 777 | 94 | 232 | 28 | 542 | 65 | -- | - | -- | -- |
| Upper middle | 357 | 100 | 27 | 8 | 330 | 92 | 128 | 36 | 201 | 56 | -- | -- | -- | -- |
| Highest | 89 | 100 | -- | -- | 83 | 94 | 37 | 42 | 46 | 52 | -- | -- | -- | -- |
| Not stated | 990 | 100 | 65 | 7 | 915 | 92 | 272 | 27 | 611 | 62 | 31 | 3 | - | - |

General Social Survey, 1991

TABLE 3-3
Comprehensive Health Status Classification System attributes at reduced function by province, age 15+, Canada, 1991

| Province | Total population |  | No altributes at reduced lunction |  | Al least one attribute at reduced function ${ }^{(1)}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Total |  | Vision |  | Hearing |  | Speech |  | Mobility |  | Dexterity |  | Emotion(2) |  | Cognition(2) |  | Pain |  |  |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | $\%$ | No. | $\%$ | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population $15+$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Atlantic | 1,806 | 100 | 556 | 31 | 1.238 | 69 | 891 | 49 | 150 | 8 | 49 | 3 | 72 | 4 | 50 | 3 | 312 | 17 | 412 | 23 | 322 | 18 | -- | - |
| Newfoundland | 438 | 100 | 151 | 34 | 286 | 65 | 196 | 45 | 34 | 8 | 15 | 3 | 11 | 3 | 13 | 3 | 80 | 18 | 96 | 22 | 68 | 15 | -- | -- |
| P.E.I. | 98 | 100 | 27 | 28 | 70 | 72 | 50 | 50 | 8 | 9 | -- | -- | 3 | 3 | -- | -- | 14 | 14 | 26 | 26 | 15 | 15 | - | -- |
| Nova Scotia | 704 | 100 | 192 | 27 | 505 | 72 | 379 | 54 | 60 | 8 | 17 | 2 | 38 | 5 | 14 | 2 | 121 | 17 | 144 | 20 | 139 | 20 | -- | -- |
| New Brunswick | 566 | 100 | 186 | 33 | 377 | 67 | 266 | 47 | 49 | 9 | -- | -- | 20 | 4 | 17 | 3 | 98 | 17 | 147 | 26 | 100 | 18 | -- | -- |
| Quebec | 5,384 | 100 | 1,206 | 22 | 4,161 | 77 | 2,777 | 52 | 268 | 5 | 54 | 1 | 128 | 2 | 81 | 1 | 1,692 | 31 | 1.978 | 37 | 1,400 | 26 | -- | - |
| Ontario | 7.778 | 100 | 2,560 | 33 | 5,168 | 66 | 3,754 | 48 | 304 | 4 | -- | -- | 275 | 4 | 121 | 2 | 1,235 | 16 | 1.638 | 21 | 1,384 | 18 | 50 | 1 |
| Prairies | 3.482 | 100 | 934 | 27 | 2,502 | 72 | 1.815 | 52 | 218 | 6 | 35 | 1 | 95 | 3 | 49 | 1 | 643 | 18 | 968 | 28 | 493 | 14 | 45 | 1 |
| Manitoba | 839 | 100 | 218 | 26 | 608 | 72 | 423 | 50 | 51 | 6 | -- | -- | 25 | 3 | -- | -- | 170 | 20 | 240 | 29 | 114 | 14 | -- | -- |
| Saskatchewan | 742 | 100 | 175 | 24 | 560 | 76 | 411 | 55 | 65 | 9 | -- | -- | 23 | 3 | 12 | 2 | 137 | 18 | 233 | 31 | 118 | 16 | -- | -- |
| Alberta | 1,901 | 100 | 542 | 29 | 1,334 | 70 | 980 | 52 | 103 | 5 | -- | -- | 46 | 2 | 26 | 1 | 336 | 18 | 495 | 26 | 262 | 14 | 25 | 1 |
| British Columbia | 2.532 | 100 | 824 | 33 | 1,696 | 67 | 1.251 | 49 | 131 | 5 | -- | -- | 83 | 3 | 49 | 2 | 424 | 17 | 415 | 16 | 492 | 19 | -- | -- |

[^3](2) One reviewer suggested that English and French questions covering emotion and cognition (E27. E28 and E29) were not equivalent as the French ranslation of these questions omitred the concept of "usual" "usually". This omission may partially explain some of the difference found between Quebec and the other provinces on these attributes and may have contributed to Quebec having the highest rate of reduced function amongst the provinces.

TABLE 3-4
Long-term activity limitations by sex and age group, age 15+, Canada, 1991

| Sex and age group | Long-term activity limitations |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Yes |  | No |  | Not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |
| Population 15+ | 20,981 | 100 | 2,330 |  | 18.591 | 89 | 59 |  |
| 15-64 years | 18,073 | 100 | 1,620 | 9 | 16,425 | 91 | 28 | -- |
| 15-24 years | 3,793 | 100 | 159 | 4 | 3,630 | 96 | -- | -- |
| 15-19 years | 1,825 | 100 | 69 | 4 | 1,756 | 96 | - | -- |
| 20-24 years | 1,967 | 100 | 90 | 5 | 1,874 | 95 | -- | -- |
| $25-44$ years | 9,005 | 100 | 729 | 8 | 8,264 | 92 | --- | -- |
| 45-64 years | 5.275 | 100 | 732 | 14 | 4.531 | 86 | 31 | -- |
| $65+$ years | 2,908 | 100 | 710 | 24 | 2,166 | 74 | 31 | 1 |
| 65.74 years | 1,824 | 100 | 366 | 20 | 1.438 | 79 | -- | -- |
| $75+$ years | 1.084 | 100 | 344 | 32 | 729 | 67 | -- | -- |
| Male |  |  |  |  |  |  |  |  |
| Population $15+$ | 10,266 | 100 | 1,075 | 10 | 9,162 | 89 | 29 | -- |
| $15-64$ years | 9,022 | 100 | 772 | 9 | 8,232 | 91 | -- | -- |
| 15-24 years | 1,935 | 100 | 60 | 3 | 1.873 | 97 | -- | -- |
| 15-19 years | 936 | 100 | -- | -- | 906 | 97 | -- | -- |
| 20-24 years | 1,000 | 100 | -- | - | 967 | 97 | -- | -- |
| $25-44$ years | 4,476 | 100 | 386 | 9 | 4,083 | 91 | -- | -- |
| $45-64$ years | 2,611 | 100 | 326 | 12 | 2,276 | 87 | -- | -- |
| $65+$ years | 1,245 | 100 | 304 | 24 | 929 | 75 | -- | -- |
| 65.74 years | 796 | 100 | 172 | 22 | 618 | 78 | -- | -- |
| 75+ years | 448 | 100 | 132 | 29 | 312 | 69 | -- | -- |
| Female |  |  |  |  |  |  |  |  |
| Population 15+ | 10.715 | 100 | 1,255 | 12 | 9.430 | 88 | 30 | -- |
| 15-64 years | 9.051 | 100 | 848 | 9 | 8,193 | 91 | -- | -- |
| 15-24 years | 1.857 | 100 | 99 | 5 | 1,757 | 95 | -- | -- |
| 15-19 years | 890 | 100 | 40 | 4 | 850 | 96 | -- | -- |
| 20.24 years | 968 | 100 | 60 | 6 | 907 | 94 | -- | -- |
| $25-44$ years | 4,530 | 100 | 343 | 8 | 4,181 | 92 | -- | -- |
| 45-64 years | 2,664 | 100 | 406 | 15 | 2,255 | 85 | -- | -- |
| $65+$ years | 1,664 | 100 | 407 | 24 | 1,237 | 74 | -- | -- |
| 65.74 years | 1,028 | 100 | 194 | 19 | 820 | 80 | -- | -- |
| $75+$ years | 636 | 100 | 213 | 33 | 417 | 66 | -- | -- |

TABLE 3-5
Mean disability days in two weeks preceding survey by province, sex and age group, age 15+ ${ }^{(1)}$, Canada, 1991


General Social Survey, 1991
(1) Population who reported partial days were attributed with 0.5 disability days while those who were "not stated" for disability days were excluded from the calculations.

TABLE 3-6
Mean activity loss days in the two weeks preceding the survey by sex, age group, main activity ${ }^{(1)}$ and occupational status for those whose main activity was working, population aged $15+$ with specified main activity, Canada, 1991

| and o | Mean activity loss days |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Both sexes |  | Male |  | Female |  |
|  | No. | Мөал | No. | Mean | No. | Mean |
|  | (No. in thousands) |  |  |  |  |  |
| Population 15* |  |  |  |  |  |  |
| Toial main activity | 16,434 | 0.32 | 7.471 | 0.23 | 8,963 | 0.39 |
| Working | 90,736 | 0.24 | 6,396 | 0.22 | 4,340 | 0.28 |
| Protessionals/ high-level management | 1,451 | 0.29 | 821 | 0.25 | 630 | 0.34 |
| Semi-prolessionals/ technicians \& middle man. | 1.934 | 0.28 | 1,086 | 0.27 | 849 | 0.30 |
| Supervisors/fore(wo)men | 623 | 0.05 | $\begin{array}{r}450 \\ \hline\end{array}$ | 0.04 | 174 | 0.06 |
| Skilled workers | 2.248 | 0.18 | 1,550 | 0.16 | 699 | 0.22 |
| Semi-skilled workers | 2.292 | 0.31 | 1,143 | 0.27 | 1.149 | 0.35 |
| Unskilled workers | 1,985 | 0.23 | 1,216 | 0.25 | 770 | 0.19 |
| Not stated | 201 | 0.22 | 132 | 0.24 | 70 | 0.18 |
| Going to school | 1.863 | 0.39 | 917 | 0.27 | 945 3.678 | 0.50 |
| Keeping house | 3.836 | 0.49 | 158 | 0.12 | 3,678 | 0.50 |
| 15-24 years 0 |  |  |  |  |  |  |
| Total main activity | 3,364 1.579 | 0.37 | 1,668 | 0.26 | 1,696 716 | 0.48 0.34 |
| Working | 1.579 | 0.27 | 863 | 0.22 | 716 58 | 0.34 0.08 |
| Professionals/ high-lovel management | 85 | 0.28 | 93 | 0.06 | 58 119 | 0.08 0.02 |
| Semi-professionals/ technicians \& middle man. | 212 | 0.04 | 93 | 0.06 | 119 | 0.02 |
| Supervisors/ fore(wo)men | 34 | 0.00 | -- | -- | -- |  |
| Skilled workers | 301 | 0.15 | 177 | 0.01 | 124 | 0.36 |
| Semi-skilled workers | 556 | 0.44 | 280 | 0.27 | 276 | 0.55 |
| Unskilled workers | 383 | 0.33 | 261 | 0.33 | 123 | 0.34 |
| Not stated | -- | -- | -- | -- | -- | --5 |
| Going to school | 1.564 | 0.42 | 793 | 0.30 | 770 | 0.53 |
| Keaping house | 222 | 0.72 | -- | -- | 210 | 0.76 |
| 25-44 years |  |  |  |  |  |  |
| Total main activity | 8,096 | 0.27 | 3,875 | 0.23 | 4,221 | 0.31 |
| Working | 6,218 | 0.25 | 3,646 | 0.24 | 2.572 415 | 0.27 0.36 |
| Prolessionals/ high-level management | . 908 | 0.27 | 492 | 0.20 0.35 | 415 538 | 0.36 0.37 |
| Semi-protessionals/ technicians \& middle man. | 1,202 | 0.36 | 664 | 0.35 | 538 | 0.37 0.10 |
| Supervisors/ fore(wo)men | 393 | 0.08 | 284 | 0.07 | 425 | 0.19 |
| Skilled workers | 1,342 | 0.20 | 917 | 0.21 | 425 | 0.29 |
| Serni-skilled workers | 1,189 | 0.33 | 608 | 0.37 | 581 | 0.29 |
| Unskilled workers | 1,059 | 0.13 | 610 | 0.11 | 450 | 0.16 |
| Not stated | 124 | 0.31 | 71 | 0.45 | 54 | 0.12 |
| Going to school | 274 | 0.24 | 123 | 0.06 | ¢51 | 0.40 |
| Keeping house | 1.604 | 0.37 | 105 | 0.15 | 1,499 | 0.38 |
|  |  |  |  |  |  |  |
| Total main activity | 4,112 | 0.30 | f, 823 | 0.20 | 2,289 | 0.38 |
| Working | 2,827 | 0.22 | 1.794 | 0.20 | 1,033 | 0.26 |
| Professionals/ high-level management | 437 | 0.36 | 281 | 0.34 | 157 | 0.40 |
| Semi-prolessionals/ technicians \& middle man. | 507 | 0.20 | 318 | 0.16 | 189 | 0.27 |
| Supervisors/ fore(wo)men | 186 | -- | 133 | 0.13 | 53 | 0.00 |
| Skilled workers | 567 | 0.15 | 423 | 0.13 | 145 | 0.21 |
| Semi-skilled workers | 536 | 0.16 | 250 | 0.02 | 286 | 0.29 |
| Unskilled workers | 525 | 0.35 | 333 | 0.44 | 192 | 0.19 |
| Not stated | 68 | 0.08 | 58 | 0.00 | -- | -- |
| Going to schiool | 126 | 0.47 | -- | 0.11 | - 233 | 0.48 |
| Keeping house | 1.261 | 0.47 | 28 | 0.11 | 1.233 | 0.48 |
| $65+$ years 750.70 |  |  |  |  |  |  |
| Total main acrivity | 861 | 0.63 | 105 | 0.13 | 756 | 0.70 |
| Working | 111 | 0.13 | 92 | 0.15 | -- | 0.01 |
| Professionals/ high-level management | --- | 0.00 | -- | 0.00 | -- | -- |
| Semi-professionals/ technicians \& middle man. | -- | 0.44 | -- | -- | -- | -- |
| Supervisors/ fore(wo)men | -- | -- | -- | -- | -- | -- |
| Skilled workers | 38 | 0.02 | 33 | 0.02 | -- | -- |
| Serni-skilled workers | -- | -- | -- | -- | -- | -- |
| Unskilled workers | -- | 0.26 | -- | -- | -- | -- |
| Going to school | -- | -- | -- | -- | - | 0 |
| Keaping house | 750 | 0.70 | -- | 0.00 | 736 | 0.71 |

General Social Survey, 1991

[^4]TABLE 3-7
Health satisfaction by sex and age group, age 15+, Canada, 1991

| Sex and age group | Health satisfaction |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population 15+ |  | Very dissatisfied |  | Somewhat dissatisfied/ degree n.s. |  | Somewhat satistied degreen.s. |  | Very satistied |  | No opinion/ not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 20,981 | 100 | 721 | 3 | 1,713 | 8 | 6,106 | 29 | 11,604 | 55 | 838 | 4 |
| 15-64 years | 18,073 | 100 | 584 | 3 | 1.435 | 8 | 5,270 | 29 | 10.227 | 57 | 556 | 3 |
| 15.24 years | 3.793 | 100 | 83 | 2 | 253 | 7 | 1,170 | 31 | 2,218 | 58 | 69 | 2 |
| 15.19 years | 1,825 | 100 | -- | -- | 109 | 6 | 577 | 32 | 1.100 | 60 | -- | - |
| 20.24 years | 1,967 | 100 | 66 | 3 | 144 | 7 | 593 | 30 | 1,117 | 57 | 46 | 2 |
| $25-44$ years | 9,005 | 100 | 284 | 3 | 664 | 7 | 2.600 | 29 | 5,205 | 58 | 252 | 3 |
| 45-64 years | 5,275 | 100 | 218 | 4 | 518 | 10 | 1,499 | 28 | 2.805 | 53 | 235 | 4 |
| $65+$ years | 2,908 | 100 | 136 | 5 | 277 | 10 | 836 | 29 | 1.377 | 47 | 282 | 10 |
| 65-74 years | 1,824 | 100 | 93 | 5 | 157 | 9 | 528 | 29 | 913 | 50 | 133 | 7 |
| $75+$ years | 1,084 | 100 | 43 | 4 | 120 | 11 | 308 | 28 | 464 | 43 | 148 | 14 |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10,266 | 100 | 281 | 3 | 751 | 7 | 3.033 | 30 | 5,771 | 56 | 430 | 4 |
| 15-64 years | 9,022 | 100 | 229 | 3 | 649 | 7 | 2.678 | 30 | 5,156 | 57 | 310 | 3 |
| 15-24 years | 1,935 | 100 | - - | -- | 120 | 6 | 558 | 29 | 1.203 | 62 | - | -- |
| 15-19 years | 936 | 100 | -- | - | 37 | 4 | 278 | 30 | 604 | 65 | -- | -- |
| 20.24 years | 1,000 | 100 | -- | -- | 83 | 8 | 279 | 28 | 599 | 60 | - | -- |
| $25-44$ years | 4,476 | 100 | 126 | 3 | 309 | 7 | 1.381 | 31 | 2.524 | 56 | 136 | 3 |
| 45.64 years | 2,611 | 100 | 80 | 3 | 220 | 8 | 739 | 28 | 1.428 | 55 | 143 | 5 |
| $65+$ years | 1,245 | 100 | 52 | 4 | 103 | 8 | 356 | 29 | 615 | 49 | 119 | 10 |
| 65.74 years | 796 | 100 | 36 | 5 | 66 | 8 | 223 | 28 | 417 | 52 | 54 | 7 |
| $75+$ years | 448 | 100 | - - | - - | 36 | 8 | 133 | 30 | 198 | 44 | 65 | 15 |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10,715 | 100 | 439 | 4 | 961 | 9 | 3,072 | 29 | 5,833 | 54 | 408 | 4 |
| 15-64 years | 9,051 | 100 | 355 | 4 | 787 | 9 | 2,592 | 29 | 5,072 | 56 | 246 | 3 |
| 15-24 years | 1,857 | 100 | 60 | 3 | 133 | 7 | 613 | 33 | 1.015 | 55 | 37 | 2 |
| $15-19 \text { years }$ | 890 | 100 | -- | -- | 72 | 8 | 299 | 34 | 496 | 56 | - | - - |
| 20.24 years | 968 | 100 | 46 | 5 | 60 | 6 | 314 | 32 | 518 | 54 | -- | - |
| 25.44 years | 4,530 | 100 | 158 | 3 | 356 | 8 | 1,219 | 27 | 2,681 | 59 | 117 | 3 |
| 45-64 years | 2,664 | 100 | 137 | 5 | 298 | 11 | 760 | 29 | 1,376 | 52 | 92 | 3 |
| 65 + years | 1,664 | 100 | 84 | 5 | 174 | 10 | 481 | 29 | 762 | 46 | 163 | 10 |
| 65.74 years | 1.028 | 100 | 57 | 6 | 91 | 9 | 305 | 30 | 496 | 48 | 79 | 8 |
| $75+$ years | 636 | 100 | 27 | 4 | 84 | 13 | 176 | 28 | 266 | 42 | 83 | 13 |

General Social Survey, 1991

## CHAPTER 4

## PSYCHOLOGICAL WELL-BEING

### 4.1 HIGHLIGHTS

- Sixteen percent of Canadian adults report high levels of positive well-heing. Eight percent have a predominance of negative affect, indicating al least some emotional distress.
- Twenty-two percent of widowed men display negative affect, compared to $6 \%$ of married men.
- Since 1978, well-being has improved.
- The proportion of people who are negative in emotional well-being is four times greater for those who live with severe pain ( $24 \%$ ) than for those who live without pain ( $6 \%$ ).
- Emotional well-being is positively related 10 financial well-being.
- While the majority of Canadians are satisfied with their job or main activity ( $84 \%$ ), nearly half $(46 \%)$ of Canadians who report their main activity to be looking for work are dissatisfied.
- More than one in four men (27\%) and more than one in five women ( $21 \%$ ) in the lowest income group are dissatisfied with their job or main activity.


### 4.2 METHODS

This chapter reports findings of the 1991 GSS related to emotional health, focusing on emotional well-being and satisfaction with one's job or other main activity. While these indicators provide some important information on health status to complement the predominantly physical health focus in other chapters, they do not provide a comprehensive view of mental health. As revealed by the experience of both the Ontario Health Survey' and Enquête Santé Québec. ${ }^{2}$ such a comprehensive view requires a special survey with its own methods.

### 4.2.1 Emotional Well-Being

The Bradburn Affect Balance Scale (ABS) ${ }^{3}$ was used in the 1991 GSS to indicate emotional well-being. The Bradburn scale is an easily administered measure suitable for face-to-face and telephone interviews. The scale was used in the 1978-79 Canada Heath Survey, ${ }^{4}$ the 1981 Canada Fitness Survey, ${ }^{5}$ the 1988 Campbell's Survey on Well-Being in Canada, ${ }^{6}$ and the 1991 Survey on Aging and Independence ${ }^{7}$; thus, comparisons of findings across surveys are possible (with appropriate care for consistency of scoring). The scale has adequate
validity and reliability ${ }^{8}$ and a clear conceptual framework.

Bradburn conceptualized emotional health on two dimensions; thus, the scale assesses both positive and negative affect and provides separate scores for these dimensions. ${ }^{3}$ Positive affect is characterized by feelings of happiness, contentment, and energy, whereas negative affect is characterized by feelings of unhappiness, unease, and boredom. The scale was the first designed for use in population surveys that treated emotional wellbeing as more than the absence of emotional problems. On the other hand, it is unable to identify specific disorders such as anxiety or depression.

The scale inquires directly about emotional wellbeing by asking five questions that describe positive affect and five questions on negative affect (see Section P in Appendix II). Respondents indicate the frequency with which they have experienced each of these states during the past few weeks.

To produce a score, frequencies ("often," "sometimes," or "never") were weighted with values of 1,2 , and 3 . Scale scores thus range from 5 to 15 . For the negative affect scale, a score of 5 indicates 5 "often" responses while a score of 15 indicates 5 "never" responses. Lower scores on this scale are indicative of high negative affect. The scoring is analogous for the positive affect scale, but in this case a low score is indicative of greater positive affect and consequently greater emotional well-being.

Although positive and negative affect were postulated to be independent, Bradburn advocates incorporating both sub-scales into the ABS as the best assessment of general emotional well-being. The method used here to calculate the ABS score is to subtract the positive affect score from the negative affect score. To maintain positive numbers, 10 is added to the difference, yielding a score within the range of 0 to 20 . In contrast to the negative category which has a naturally defined cut-off point, the cut-off points for the positive categories were chosen arbitrarily. The categories were defined as follows:

$$
\begin{array}{cll}
0-9 & \text { - negative } \\
10-16 & \text { - } & \text { low-positive, neutral, or mixed } \\
17-20 & \text { - highly positive. }
\end{array}
$$

In the 1991 GSS, the non-response proportion for the ABS is $11 \%$ - one of the highest for any variable in the GSS. As the Bradburn scale is very subjective, ${ }^{9}$ most respondents who completed the GSS by proxy were not asked the questions in Section P. Non-responses due to proxy interviews account for $30 \%$ of the total non-response rate. In addition, if the respondent did not answer one of the 10 questions in Section $P$, the $A B S$ score was not calculated. (Some respondents may have chosen not to answer a question because the meaning was not clear for them. Bradburn designed the scale in 1969, and some of the items contain idioms with which 1991 respondents may have been unfamiliar. In particular, difficulty with the term "on top of the world" was reported by some GSS interviewers; previous researchers have also noted this. ${ }^{10}$ ) Interpreting the meaning of the non-response is discussed further below.

### 4.2.2 Satisfaction with Job or Main Activity

Satisfaction with job or main activity was measured by Question N2b (Appendix II). The satisfaction question was preceded by a series of questions that inquire about the nature of the job or main activity, and satisfaction with job or main activity as reported in this chapter is not restricted to paid work. Respondents were asked "Are you satisfied or dissatisfied with your job or main activity?" Once general satisfaction or dissatisfaction had been ascertained, respondents were asked "Is that somewhat or very?," thus yielding a four-point scale. The two levels of dissatisfaction have been combined into "dissatisfied" in reporting results because extreme dissatisfaction was rare.

This satisfaction measure has been used in all past cycles of the GSS, although exact phrasing and response options have varied. The non-response rate was $6 \%$, which is comparable with rates from past surveys for this question. However, this rate varies considerably according to the respondent's age and labour force status.

### 4.3 RESULTS

### 4.3.1 Emotional Well-Being

Overall, twice as many Canadian adults are classified on the Bradburn scale as highly positive ( $16 \%$ ) as negative ( $8 \%$ ). Almost two-thirds ( $65 \%$ ) fall into the middle category, denoting low-positive,
neutral, or mixed feelings about their emotional well-being (Table 4-1).

## Age and sex

There is a greater lendency for women to report highly positive well-being ( $17 \%$ ) than men ( $14 \%$ ). but there is little difference between the sexes in unhappy feelings ( $9 \%$ vs. $8 \%$ ). The proportion of Canadians who are more negative than positive varies little across age groups ( $8 \%$ overall). The most notable exception, is young women aged 15-24. $11 \%$ of whom report negative feelings. The lighest rates of positive well-being are at ages 45 to 64 for both men and women (Table 4-1). Men and women aged 75 and older have the lowest rates of happiness for their respective sexes ( $8 \%$ and $11 \%$ highly positive, respectively).

## Province

Highly positive ABS scores vary quite widely by province, from high values of $21 \%$ in British

Columbia and $20 \%$ in Nova Scotia to a low of 13\% in Ontario (Table 4-2). Negative scores are most common in Quebec (12\%) and least common in western Canada ( $6 \%$ in each of the four western provinces).

Among men, positive well-being is most apparent in British Columbia ( $20 \%$ ), Prince Edward Island ( $19 \%$ ) , and Newfoundland ( $19 \%$ ). Women in British Columbia, Alberta, and Nova Scotia ( $22 \%$ each) are more likely than other Canadian women 10 have highly positive ABS scores.

## Income adequacy

Emotional and financial well-being are linked for both sexes (Figure 4-A). Only one in 10 ( $10 \%$ ) individuals in the lowest income group is highly positive, compared to one in four (25\%) in the highest group (data not shown). The relationship between happiness and income adequacy appears to be somewhat stronger for women than for men.

FIGURE 4-A
Prevalence (\%) of "high positive" affect balance scale scores by income adequacy and sex, age 15+, Canada, 1991

Prevalence (\%)


Income adequacy
General Social Survey, 1991

## Marital status

There are pronounced differences in emotional well-heing associated with marital status. Married Canadians, including those living common law, are the least likely to score negatively on the ABS and the most likely to be classified positively (Figure 4-B). Six percent of this group score negatively, compared to $11 \%$ of the singles (never married). $16 \%$ of the separated/divorced group, and $16 \%$ of widowed adults (dara for "both sexes" not shown). By gender, there are few differences across marital status groups in emotional well-being. The most notable difference: a large proportion of widowed men score negatively, $22 \%$ scoring as unhappy on the ABS, as compared $1014 \%$ of widowed women.

## Pain and emotional well-being

There is a strong and direct relationship between negative affect and chronic suffering from pain (Text Table 4-A). Nearly one in four people (24\%)
who live with severe pain have negative feelings predominating over positive feelings. This is iwo times greater than the population that lives with mild pain ( $12 \%$ ) and four times greater than the population that lives without pain ( $6 \%$ ). Similarly, a greater proportion of people who live without pain ( $17 \%$ ). compared to those who live with it ( $10 \%$ ), have highly positive ABS scores.

## Activity loss and emotional well-being

Emotional well-being is related to activity loss days in a manner similar to its relationship to pain (Text Table 4-B). Activity loss days are days when one's job or main activity (e.g., going to school, keeping house) is curtailed for heath reasons (see also Chapter 3). Of those Canadians who did not require any days away from their job or main activity in the two weeks prior to the survey, $7 \%$ had negative ABS scores. This is the same as those who had only one or two days off, but one third the rate $(22 \%)$ of those who had three or more days off.

FIGURE 4-B
Prevalence (\%) of "negative" affect balance scale scores by marital status and sex, age 15+, Canada, 1991


## Marital status

General Social Survey, 1991

TEXT TABLE 4-A
Affect Balance Scale scores by level of pain, age 15+, Canada, 1991

| Level of pain | Total | Affect B | Balance Scale | scores |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Negative | Neutral/ low positive | High positive | Not stated |
|  | (Percent) |  |  |  |  |
| Total population | 100 | 8 | 65 | 16 | 11 |
| None | 100 | 6 | 66 | 17 | 10 |
| Total with pain | 100 | 16 | 62 | 10 | 12 |
| Mild | 100 | 12 | 68 | 10 | 10 |
| Moderate | 100 | 16 | 61 | 10 | 13 |
| Severe | 100 | 24 | 54 | 8 | 13 |
| Not stated | 100 | -- | -- | -- | 74 |

General Social Survey, 1991

TEXT TABLE 4-B
Affect Balance Scale scores by activity loss days, age 15+, Canada, 1991


General Social Survey, 1991

### 4.3.2 Satisfaction with Job or Main Activity

The vast majority of Canadians express satisfaction with their job or main activity. Over half (55\%) are very satisfied, and another $28 \%$ are somewhat satisfied (Table 4-3). Only $11 \%$ express dissatisfaction. However, both satisfaction and dissatisfaction vary greatly according to the nature of the activity. For those Canadians who are working, in school, keeping house, or retired, the general level of dissatisfaction ranges from 7 to $10 \%$ of the population. The iwo remaining groups, those looking for work and "other" (primarily people who are chronically ill or disabled), are highly dissatisfied ( $46 \%$ and $45 \%$. respectively). Overall, there is little difference between men and women in satisfaction with job or main activity. An exception is the much higher level of dissatisfaction among men keeping house compared to their female counterparts ( $36 \%$ vs. $9 \%$ ). Until confirmed by future research, this finding should be viewed cautiously, however, as the estimate of the number of men keeping house has high sampling variance and therefore the results could have been susceptible to extreme scores.

## Age and sex

The proportion of Canadians who report that they are very satisfied with their job or main activity is fairly consistent across all age groups up to ages 75 and over, when it decreases markedly for both men and women (Table 4-4). Interestingly, the level of "non-response/no opinion" increases markedly with age for both sexes.

## Province

High levels of satisfaction with job or main activity vary only slightly according to province of residence - from a high of $57 \%$ in Ontario and Prince Edward Island to a low of $50 \%$ in New Brunswick (Table 4-5). The ranges are more striking when each sex is considered separately. Among men, dissatisfaction with job or main activity is highest in Newfoundland (18\%) and lowest in New Brunswick and Manitoba ( $10 \%$ ). Women are most likely to be dissatisfied with their job or main activity in Quebec ( $14 \%$ ) and least likely to be dissatisfied in Ontario (7\%).

## Income adequacy

There is a strong positive relationship between satisfaction with job or main activity and income adequacy (Figure 4-C). Nearly one quarter of Canadians (23\%) in the lowest group report dissatisfaction with their job or main activity, compared to only $6 \%$ of those in the highest group (data for both sexes not shown).

Across all levels except the highest, men are more likely than women to report dissatisfaction. This is most pronounced within the lower middle group, where $24 \%$ of the men but only $14 \%$ of the women report dissatisfaction. In general, as income adequacy increases, the disparity between the dissatisfaction rates reported by men and women lessens, until the highest bracket, where it disappears.

### 4.4 DISCUSSION

### 4.4.1 Comparisons with 1978-79

In order 10 assess how the emotional health of Canadians has changed over time, data from the 1978-79 Canada Health Survey were regrouped using the categories described above. Consequently, the results presented here are different from those in the Canada Health Survey report. ${ }^{4}$

Compared to 1978-79 (Text Table 4-C). more Canadians in 1991 were highly positive on the ABS (an increase from $9 \%$ 10 $16 \%$ ) and fewer were negative (from $12 \%$ to $8 \%$ ). These trends are demonstrated for both men and women and across all age groups. It is worth noting the substantial increase in highly positive well-being among women of all ages (from $10 \% 1017 \%$ ), especially among women aged 45 to 64 (from $10 \%$ to $20 \%$ ). The level of "not stated" responses is very similar for the two surveys, with the exception of a decline among women aged 45 to 64 (five percentage points).

### 4.4.2 Substantive Issues

The results reported in this chapter include measures of emotional well-being and satisfaction. While both are measures of positive mental

FIGURE 4-C
Dissatisfaction with job or main activity by income adequacy and sex, age 15+, Canada, 1991


Income adequacy
General Social Survey, 1991
health, they are distinct measures. Satisfaction, as reported in this chapter, is specific to one's job or main activity, while the Bradbum Affect Balance Scale is a global measure. Despite this distinction, these measures have similar implications for health planners.

In spite of the apparent increase in the well-being of Canadians, there are still, in 1991, some groups who stand out as low in emotional well-being. These include the elderly, widowed men, women aged 15 to 24, lower-income individuals, people living with pain, and people who require substantial days off from their job or main activity. These groups are not mutually exclusive, and future research should take account of multiple-group membership. In general, these patterns are consistent with the results from earlier Canadian surveys usitg the Bradburn scale. ${ }^{4,6}$

Provinces or age groups that are lowest in positive affect are not always the same as those highest in negative affect, and vice versa. Further, positive affect and satisfaction with joh or main activity
appear to be independent properties, at least in the aggregate. For example, Ontario residents have the highest level of satisfaction with their job or main activity but the lowest level of positive affect overall. Further research is needed to examine these relationships, taking account of labour force status and occupation, among other factors (see also Chapter 6). Similarly, the relationship of marital status to positive affect needs further analysis, taking account of age.

As the results in this chapter demonstrate, just slightly more than half of all Canadians (55\%) are very satisfied with their job or main activity, and an additional $28 \%$ are somewhat satisfied. Satisfaction with job or main activity correlates positively with measures of socio-economic status, such as income and labour force status. It is not surprising that those looking for work reported the highest levels of dissatisfaction in 1991, and that dissatisfaction with job or main activity is most keenly felt in Newfoundland, which has the second lowest level of disposable income in Canada. ${ }^{11}$ (However, it is intriguing that

TEXT TABLE 4-C
Affect Balance Scale scores by age group and sex, age 15+, Canada, 1978-79 and 1991

| Sex and age group | Affect Balance Scale scores |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Negalive |  | Neutral/ low positive |  | High positive |  | Not | stated |
|  | 1978-79 | 1991 | 1978-79 | 1991 | 1978.79 | 1991 | 1978-79 | 1991 |
|  | (Percent) |  |  |  |  |  |  |  |
| Population 15+ | 12 | 8 | 69 | 65 | 9 | 16 | 10 | 11 |
| Male | 11 | 8 | 71 | 66 | 9 | 14 | 9 | 12 |
| Female | 13 | 9 | 67 | 65 | 10 | 17 | 10 | 10 |
| 15-24 | 15 | 9 | 73 | 73 | 7 | 13 | 4 | 5 |
| Male | 13 | 8 | 75 | 74 | 7 | 12 | 5 | 6 |
| Female | 17 | 11 | 72 | 72 | 8 | 13 | 4 | 4 |
| 25-44 | 11 | 8 | 73 | 68 | $10$ | 16 | 6 | 8 |
| Male | $10$ | $8$ | $76$ | $68$ | $9$ | $15$ | $5$ | 9 |
| Female | 12 | 8 | 71 | 68 | 10 | 17 | 6 | 7 |
| 45-64 | 10 | 8 | 66 | 62 | 10 | 18 | $14$ | $12$ |
| Male | 9 | 7 | 66 | 63 | 10 | 17 | 14 | 13 |
| Female | 11 | 9 | 65 | 61 | 10 | 20 | 15 | 10 |
| 65+ | 12 | 9 | 53 | 53 | 11 | 13 | 24 | 25 |
| Male | 10 | 8 | 57 | 52 | 9 | 12 | 24 | 29 |
| Female | 13 | 9 | 51 | 54 | 12 | 15 | 25 | 23 |

Canada Health Survey, 1978-79
General Social Survey, 1991

Prince Edward Island, with the lowest disposable income in Canada. ${ }^{11}$ has one of the lowest rates of dissatisfaction with job or main activity.) Documenting the health burden of the recession is beyond the scope of this analysis, but even this brief review of findings makes it clear that the economy plays a major role in shaping the emotional well-being of Canadians. Even among those who are currently working, job satisfaction is negatively related to exposure to health hazards in the workplace and positively related to access to health-related employment benefits (see Chapter 6).

In the aggregate, these findings suggest that youth, those looking for work, and those with low incomes express relatively high levels of dissatisfaction with their job or main activity. As noted above with regard to the ABS scores, these groups are not mutually exclusive, and it is likely that those who fall into more than one category will be especially dissatisfied.

### 4.4.3 Methodological Issues

The Bradburn scale has been used in many Canadian surveys and is regarded as an efficient measure of well-being. The question wording has been consistent over the years, and comparisons are readily made as long as scoring differences are taken into account. The major complication with the Bradburn scale is interpreting the high level of non-response. Overall, this was quite similar in 1978-79 and 1991: however, for some groups, such as women aged 45 and over and men 65 years and over, non-response changed substantially. In effect, this means that there is as much as an additional five percentage points in the three ABS categories, thereby complicating the comparisons over the years.

Similar complications arise with the comparison of age groups within the cross-sectional data: nonresponse by the oldest age group in 1991 is a full 20 percentage points higher than for the youngest
age group. The level of non-response to the satisfaction measure is similarly uneven in its distribution over the various demographic groups. Like the ABS, non-response on job or main activity satisfaction rises steadily with age. This may reflect some confusion about how to define one's main activity, but it may also indicate some ambivalent feelings or reluctance to report negative feelings.

Further research into the nature of this nonresponse is necessary in order to decide how best to treat it. If non-response is correlated with other measures of negative well-being, the "not stated category" could be reassigned to the negative ABS or satisfaction categories. If, on the other haud, the non-responses are independent of responses to other well-being questions and simply reflect a failure to understand one or two items, these responses could be averaged into the remaining categories.

## REFERENCES

1. Ontario Ministry of Health. Ontario Health Survey, 1990: highlights. Toronto: Ontario Ministry of Health, 1992.
2. Santé Québec et Hôpital Rivière-des-Prairies. Faits saillants: Enquêre québecoise sur la santé mental des jeunes. Montreal: Santé Québec, 1993.
3. Bradburn NM. The structure of psychological well-being. Chicago: Aldine Publishing Co., 1969.
4. Health and Welfare Canada and Statistics Canada. The Health of Canadians: report of the Canada Health Survey. Ottawa: Minister of Supply and Services Canada, 1981. Statistics Canada Catalogue No. 82-538E.
5. Canada Fitness Survey. Fitness and lifestyle in Canada. Ottawa: Canadian Fitness and Lifestyle Research Institute, 1983.
6. Stephens T. Craig CL. The well-being of Canadians: highlights of the 1988 Campbell's Survey on Well-Being in Canada. Ottawa: Canadian Fitness and Lifestyle Research Institute. 1990.
7. Semiors Secretariat. Aging and independence: overview of a national survey. Ottawa: Health and Welfare Canada, 1993. Catalogue No. H88-3/13-1993.
8. Stacey CA. Gatz M. Cross-sectional age differences and longitudinal change on the Bradburn affect balance scale. Journal of Gerontology 1991;46(2):76-78.
9. Campbell A. Subjective measures of well-being. American Psychologist 1976;31:117-24.
10. McDowell I, Praught E. On the measurement of happiness: an examination of the Bradburn Scale in the Canada Health Survey. American Journal of Epidemiology 1982:116(6):949-58.
11. Statistics Canada. System of national accounts. provincial economic accounts, annual estimates. 1981-1991. Catalogue No.13-213. Annual (Table 19).

TABLE 4-1
Bradburn Affect Balance Scale by sex and age group, age 15+, Canada, 1991

| Sex and age group | Aftect Balance Scale |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Negative |  | Neutral / low positive |  | High positive |  | Not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
| (No. in thousands) |  |  |  |  |  |  |  |  |  |  |

Both sexes

| Population $15+$ | 20,981 | 100 | 1,755 | 8 | 13,697 | 65 | 3,257 | 16 | 2,272 | 11 |
| :--- | ---: | :--- | ---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $15-24$ years | 3,793 | 100 | 356 | 9 | 2,768 | 73 | 484 | 13 | 185 | 5 |
| $25-44$ years | 9,005 | 100 | 742 | 8 | 6,106 | 68 | 1,426 | 16 | 732 | 8 |
| $45-64$ years | 5,275 | 100 | 404 | 8 | 3,288 | 62 | 959 | 18 | 624 | 12 |
| $65+$ years | 2,908 | 100 | 253 | 9 | 1,536 | 53 | 388 | 13 | 731 | 25 |
| $65-74$ years | 1,824 | 100 | 155 | 8 | 1,021 | 56 | 284 | 16 | 365 | 20 |
| $75+$ years | 1,084 | 100 | 99 | 9 | 515 | 47 | 104 | 10 | 366 | 34 |

Male

| Population 15+ | 10,266 | 100 | 798 | 8 | 6,767 | 66 | 1,467 | 14 | 1,234 | 12 |
| :--- | ---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $15-24$ years | 1,935 | 100 | 150 | 8 | 1,432 | 74 | 236 | 12 | 117 | 6 |
| $25-44$ years | 4,476 | 100 | 376 | 8 | 3,036 | 68 | 654 | 15 | 410 | 9 |
| $45-64$ years | 2,611 | 100 | 173 | 7 | 1,654 | 63 | 433 | 17 | 351 | 13 |
| $65+$ years | 1,245 | 100 | 99 | 8 | 645 | 52 | 145 | 12 | 356 | 29 |
| $65-74$ years | 796 | 100 | 63 | 8 | 440 | 55 | 110 | 14 | 183 | 23 |
| $75+$ years | 448 | 100 | 36 | 8 | 205 | 46 | 35 | 8 | 173 | 39 |

## Female

| Population 15+ | 10,715 | 100 | 957 | 9 | 6,930 | 65 | 1,790 | 17 | 1,038 | 10 |
| :--- | ---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $15-24$ years | 1,857 | 100 | 205 | 11 | 1,336 | 72 | 248 | 13 | 68 | 4 |
| $25-44$ years | 4,530 | 100 | 366 | 8 | 3,070 | 68 | 773 | 17 | 322 | 7 |
| $45-64$ years | 2,664 | 100 | 231 | 9 | 1,634 | 61 | 526 | 20 | 273 | 10 |
| $65+$ years | 1,664 | 100 | 155 | 9 | 890 | 54 | 243 | 15 | 375 | 23 |
| $65-74$ years | 1,028 | 100 | 92 | 9 | 581 | 57 | 173 | 17 | 182 | 18 |
| $75+$ years | 636 | 100 | 63 | 10 | 309 | 49 | 70 | 11 | 194 | 30 |

General Social Survey, 1991

TABLE 4-2
Bradburn Affect Balance Scale by sex and province, age 15+, Canada, 1991

| Sex and province | Affect Balance Scale |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population 15+ |  | Negative |  | Neutral / low positive |  | High positive |  | Not stated |  |
|  | No. | \% | No. | \% | No . | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |
| Both Sexes |  |  |  |  |  |  |  |  |  |  |
| Canada | 20,981 | 100 | 1,755 | 8 | 13,697 | 65 | 3,257 | 16 | 2,272 | 11 |
| Allantic | 1,806 | 100 | 156 | 9 | 1,170 | 65 | 332 | 18 | 148 | 8 |
| Newfoundland | 438 | 100 | 37 | 9 | 280 | 64 | 82 | 19 | 39 | 9 |
| Prince Edward Island | 98 | 100 | 8 | 8 | 68 | 69 | 17 | 17 | 6 | 7 |
| Nova Scotia | 704 | 100 | 62 | 9 | 442 | 63 | 140 | 20 | 59 | 8 |
| New Brunswick | 566 | 100 | 49 | 9 | 380 | 67 | 93 | 16 | 44 | 8 |
| Quebec | 5,384 | 100 | 653 | 12 | 3.831 | 71 | 789 | 15 | 111 | 2 |
| Ontario | 7.778 | 100 | 587 | 8 | 5,086 | 65 | 993 | 13 | 1.111 | 14 |
| Prairies | 3.482 | 100 | 205 | 6 | 2,174 | 62 | 617 | 18 | 486 | 14 |
| Manitoba | 839 | 100 | 53 | 6 | 515 | 61 | 122 | 15 | 148 | 18 |
| Saskatchewan | 742 | 100 | 44 | 6 | 486 | 66 | 127 | 17 | 85 | 11 |
| Alberta | 1,901 | 100 | 108 | 6 | 1,172 | 62 | 368 | 19 | 254 | 13 |
| British Columbia | 2,532 | 100 | 154 | 6 | 1,437 | 57 | 527 | 21 | 414 | 16 |
| Male |  |  |  |  |  |  |  |  |  |  |
| Canada | 10,266 | 100 | 798 | 8 | 6,767 | 66 | 1.467 | 14 | 1,234 | 12 |
| Atlantic | 885 | 100 | 61 | 7 | 601 | 68 | 144 | 16 | 80 | 9 |
| Newfoundland | 217 | 100 | 13 | 6 | 143 | 66 | 40 | 19 | 20 | 9 |
| Prince Edward Island | 48 | 100 | -- | -- | 31 | 65 | 9 | 19 | 3 | 6 |
| Nova Scotia | 343 | 100 | 23 | 7 | 231 | 67 | 59 | 17 | 30 | 9 |
| New Brunswick | 277 | 100 | 20 | 7 | 195 | 70 | 35 | 13 | 27 | 10 |
| Quebec | 2,617 | 100 | 290 | 11 | 1.939 | 74 | 328 | 13 | 60 | 2 |
| Ontario | 3,796 | 100 | 288 | 8 | 2,389 | 63 | 490 | 13 | 629 | 17 |
| Prairies | 1,725 | 100 | 96 | 6 | 1,109 | 64 | 257 | 15 | 264 | 15 |
| Manitoba | 411 | 100 | 23 | 6 | 258 | 63 | 52 | 13 | 78 | 19 |
| Saskatchewan | 367 | 100 | 27 | 7 | 246 | 67 | 48 | 13 | 45 | 12 |
| Alberta | 948 | 100 | 46 | 5 | 604 | 64 | 157 | 17 | 140 | 15 |
| British Columbia | 1,243 | 100 | 64 | 5 | 730 | 59 | 249 | 20 | 201 | 16 |
| Fernale |  |  |  |  |  |  |  |  |  |  |
| Canada | 10,715 | 100 | 957 | 9 | 6,930 | 65 | 1.790 | 17 | 1,038 | 10 |
| Atlantic | 921 | 100 | 96 | 10 | 569 | 62 | 188 | 20 | 68 | 7 |
| Newfoundland | 221 | 100 | 24 | 11 | 136 | 62 | 42 | 19 | 19 | 9 |
| Prince Edward Island | 50 | 100 | -- | -- | 36 | 72 | 7 | 14 | -- | -- |
| Nova Scotia | 361 | 100 | 40 | 11 | 212 | 59 | 81 | 22 | 29 | 8 |
| New Brunswick | 289 | 100 | 29 | 10 | 185 | 64 | 59 | 20 | 17 | 6 |
| Quebec | 2,767 | 100 | 363 | 13 | 1,892 | 68 | 460 | 17 | 52 | 2 |
| Ontario | 3,982 | 100 | 299 | 8 | 2,697 | 68 | 503 | 13 | 482 | 12 |
| Prairies | 1,756 | 100 | 108 | 6 | 1,065 | 61 | 360 | 21 | 223 | 13 |
| Manitoba | 428 | 100 | 30 | 7 | 257 | 60 | 71 | 17 | 70 | 16 |
| Saskatchewan | 375 | 100 | 17 | 4 | 240 | 64 | 79 | 21 | 40 | 11 |
| Alberta | 953 | 100 | 61 | 6 | 568 | 60 | 211 | 22 | 113 | 12 |
| British Columbia | 1,288 | 100 | 90 | 7 | 707 | 55 | 278 | 22 | 214 | 17 |

General Social Survey, 1991

TABLE 4-3
Satisfaction with job or main activity by sex and main activity in 12 months preceding survey, age $15+$, Canada, 1991

| Sex and main activity | Satisfaction with job or main activity |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Dissatisfied |  | Somewhat satisfied |  | Very satisfied |  | No opinion/ not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |

## Both sexes

|  |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Total main activity | 20,981 | 100 | 2,298 | 11 | 5,931 | 28 | 11,596 | 55 | 1,155 | 6 |
| Working | 11,505 | 100 | 1,091 | 9 | 3,255 | 28 | 6,818 | 59 | 341 | 3 |
| Looking for work | 565 | 100 | 260 | 46 | 150 | 27 | 100 | 18 | 54 | 10 |
| School | 2,371 | 100 | 216 | 9 | 738 | 31 | 1,362 | 57 | 54 | 2 |
| Keeping house | 3,496 | 100 | 346 | 10 | 1,048 | 30 | 1,852 | 53 | 250 | 7 |
| Retired | 2.569 | 100 | 182 | 7 | 616 | 24 | 1,399 | 54 | 372 | 14 |
| Other | 453 | 100 | 203 | 45 | 124 | 27 | 65 | 14 | 62 | 14 |
| Not stated | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

## Male

|  |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Total main activity | 10,266 | 100 | 1,235 | 12 | 2,912 | 28 | 5,560 | 54 | 559 | 5 |
| Working | 6,755 | 100 | 660 | 10 | 1,932 | 29 | 3,946 | 58 | 217 | 3 |
| Looking for work | 381 | 100 | 171 | 45 | 105 | 27 | 59 | 16 | -- | -- |
| School | 1,209 | 100 | 103 | 9 | 387 | 32 | 683 | 57 | -- | -- |
| Keeping house | 82 | 100 | 29 | 36 | 29 | 36 | -- | -- | -- | -- |
| Retired | 1,501 | 100 | 125 | 8 | 363 | 24 | 815 | 54 | 198 | 13 |
| Other | 320 | 100 | 146 | 46 | 96 | 30 | 39 | 12 | 40 | 12 |
| Not slated | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

## Female

|  |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: |
| Total main activity | 10,715 | 100 | 1,063 | 10 | 3,020 | 28 | 6,036 | 56 | 596 | 6 |
| Working | 4,750 | 100 | 431 | 9 | 1,323 | 28 | 2,872 | 60 | 124 | 3 |
| Looking for work | 184 | 100 | 89 | 48 | 45 | 25 | 41 | 22 | -- | -- |
| School | 1,162 | 100 | 113 | 10 | 351 | 30 | 679 | 58 | $\ldots$ | -- |
| Keeping house | 3,414 | 100 | 317 | 9 | 1,019 | 30 | 1,835 | 54 | 244 | 7 |
| Retired | 1,068 | 100 | 57 | 5 | 253 | 24 | 584 | 55 | 174 | 16 |
| Other | 133 | 100 | 57 | 43 | 28 | 21 | 26 | 20 | -- | -- |
| Not stated | -- | -- | -- | -- | -- | -- | -- | $\ldots$ | $\ldots$ | -- |

TABLE 4-4
Satisfaction with job or main activity by sex and age group, age 15+, Canada, 1991

| Sex and age group | Satisfaction with job or main activity |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population 15+ |  | Dissatisfied |  | Somewhat satisfied |  | Very satisfied |  | No opinion/ not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |
| Population $15+$ | 20,981 | 100 | 2,298 | 11 | 5,931 | 28 | 11,596 | 55 | 1.155 | 6 |
| 15-24 years | 3,793 | 100 | 503 | 13 | 1,251 | 33 | 1,955 | 52 | 83 | 2 |
| 25-44 years | 9.005 | 100 | 1.095 | 12 | 2.523 | 28 | 5,037 | 56 | 351 | 4 |
| $45-64$ years | 5,275 | 100 | 522 | 10 | 1,435 | 27 | 3,027 | 57 | 291 | 6 |
| $65+$ years | 2,908 | 100 | 179 | 6 | 722 | 25 | 1,577 | 54 | 430 | 15 |
| $65-74$ years | 1.824 | 100 | 124 | 7 | 434 | 24 | 1,060 | 58 | 206 | 11 |
| $75+$ years | 1,084 | 100 | 55 | 5 | 288 | 27 | 517 | 48 | 224 | 21 |
| Male |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10,266 | 100 | 1,235 | 12 | 2.912 | 28 | 5,560 | 54 | 559 | 5 |
| $15-24$ years | 1.935 | 100 | 240 | 12 | 682 | 35 | 962 | 50 | -- | - |
| 25.44 years | 4,476 | 100 | 634 | 14 | 1,266 | 28 | 2.387 | 53 | 188 | 4 |
| 45.64 years | 2,611 | 100 | 277 | 11 | 655 | 25 | 1.525 | 58 | 154 | 6 |
| $65+$ years | 1.245 | 100 | 84 | 7 | 310 | 25 | 686 | 55 | 165 | 13 |
| $65-74$ years | 796 | 100 | 62 | 8 | 184 | 23 | 475 | 60 | 75 | 9 |
| $75+$ years | 448 | 100 | - | -- | 126 | 28 | 211 | 47 | 90 | 20 |
| Female |  |  |  |  |  |  |  |  |  |  |
| Population $15+$ | 10,715 | 100 | 1,063 | 10 | 3,020 | 28 | 6.036 | 56 | 596 | 6 |
| 15-24 years | 1,857 | 100 | 263 | 14 | 570 | 31 | 994 | 54 | 31 | 2 |
| $25-44$ years | 4,530 | 100 | 461 | 10 | 1,257 | 28 | 2,649 | 58 | 162 | 4 |
| $45-64$ years | 2,664 | 100 | 244 | 9 | 780 | 29 | 1,502 | 56 | 137 | 5 |
| $65+$ years | 1,664 | 100 | 95 | 6 | 413 | 25 | 891 | 54 | 265 | 16 |
| 65-74 years | 1.028 | 100 | 62 | 6 | 250 | 24 | 585 | 57 | 131 | 13 |
| $75+$ years | 636 | 100 | 33 | 5 | 163 | 26 | 306 | 48 | 134 | 21 |

General Social Survey, 1991

TABLE 4-5
Satisfaction with job or main activity by sex and province, age 15+, Canada, 1991

| Sex and province | Satislaction with job or main activity |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Dissatisfied |  | Somewhat satisfied |  | Very satisfied |  | No opinion/ not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |
| Both sexes 5 |  |  |  |  |  |  |  |  |  |  |
| Canada | 20,981 | 100 | 2,298 | 11 | 5,931 | 28 | 11,596 | 55 | 1,155 |  |
| Adlantic | 1,806 | 100 | 230 | 13 | 544 | 30 | 972 | 54 | 60 | 3 |
| Newfoundland | 438 | 100 | 63 | 14 | 116 | 26 | 241 | 55 | 17 | 4 |
| Prince Edward Island | 98 | 100 | 10 | 10 | 31 | 31 | 56 | 57 | -- | - |
| Nova Scotia | 704 | 100 | 97 | 14 | 192 | 27 | 394 | 56 | 21 | 3 |
| New Brunswick | 566 | 100 | 60 | 11 | 205 | 36 | 281 | 50 | 21 | 4 |
| Quebec | 5,384 | 100 | 686 | 13 | 1,563 | 29 | 2.910 | 54 | 225 | 4 |
| Ontario | 7.778 | 100 | 724 | 9 | 2,073 | 27 | 4,414 | 57 | 567 | 7 |
| Prairies | 3,482 | 100 | 368 | 11 | 1,006 | 29 | 1,871 | 54 | 236 | 7 |
| Manitoba | 839 | 100 | 83 | 10 | 255 | 30 | 436 | 52 | 65 | 8 |
| Saskatchewan | 742 | 100 | 77 | 10 | 223 | 30 | 378 | 51 | 64 | 9 |
| Alberta | 1,901 | 100 | 208 | 11 | 529 | 28 | 1,057 | 56 | 108 | 6 |
| British Columbia | 2,532 | 100 | 291 | 11 | 745 | 29 | 1,429 | 56 | 66 | 3 |
| Male |  |  |  |  |  |  |  |  |  |  |
| Canada | 10,266 | 100 | 1,235 | 12 | 2,912 | 28 | 5,560 | 54 |  | 5 |
| Atlantic | 885 | 100 | 125 | 14 | 274 | 31 | 457 | 52 | 30 | 3 |
| Newfoundland | 217 | 100 | 38 | 18 | 60 | 28 | 109 | 50 | -- | -- |
| Prince Edward Island | 48 | 100 | -- | -- | 15 | 32 | - 26 | 54 55 | - | -- |
| Nova Scotia | 343 | 100 | 55 | 16 | 95 | 28 | 188 | 55 | -- | $\stackrel{\square}{5}$ |
| New Brunswick | 277 | 100 | 26 | 10 | 104 | 37 | 134 | 48 | 13 | 5 |
| Quebec | 2,617 | 100 | 311 | 12 | 738 | 28 | 1,477 | 56 | 92 | 4 |
| Ontario | 3,796 | 100 | 437 | 12 | 973 | 26 | 2,083 | 55 | 303 | 8 |
| Prairies | 1,725 | 100 | 206 | 12 | 542 | 31 | 872 | 51 | 106 | 6 |
| Manitoba | 411 | 100 | 42 | 10 | 125 | 30 | 213 | 52 | 31 | 7 |
| Saskatchewan | 367 | 100 | 44 | 12 | 114 | 31 | 181 | 49 | 28 | 8 |
| Alberta | 948 | 100 | 120 | 13 | 303 | 32 | 478 | 50 | 47 | 5 |
| British Columbia | 1,243 | 100 | 157 | 13 | 386 | 31 | 672 | 54 | 29 | 2 |
| Fermale |  |  |  |  |  |  |  |  |  |  |
| Canada | 10,715 | 100 | 1.063 | 10 | 3,020 | 28 | 6.036 | 56 |  | 6 |
| Atlantic | 921 | 100 | 105 | 11 | 270 | 29 | 516 | 56 | 31 | 3 |
| Newfoundland | 221 | 100 | 25 | 12 | 56 | 25 | 133 | 60 | -- | -- |
| Prince Edward Island | 50 | 100 | -- | -- | 16 | 31 | 30 | 60 | -- | - |
| Nova Scotia | 361 | 100 | 42 | 12 | 97 | 27 | 206 | 57 | 15 | 4 |
| New Brunswick | 289 | 100 | 33 | 11 | 101 | 35 | 146 | 51 | -- | - |
| Quebec | 2,767 | 100 | 375 | 14 | 825 | 30 | 1,433 | 52 | 133 | 5 |
| Ontario | 3,982 | 100 | 287 | 7 | 1,100 | 28 | 2.331 | 59 | 264 | 7 |
| Praines | 1.756 | 100 | 162 | 9 | 465 | 26 | 999 | 57 | 131 | 7 |
| Manitoba | 428 | 100 | 42 | 10 | 130 | 30 | 223 | 52 | 34 | 8 |
| Saskatchewan | 375 | 100 | 33 | 9 | 109 | 29 | 197 | 53 | 36 | 10 |
| Alberta | 953 | 100 | 87 | 9 | 226 | 24 | 579 | 61 | 61 | 6 |
| British Columbia | 1.288 | 100 | 134 | 10 | 360 | 28 | 758 | 59 | 37 | 3 |

## CHAPTER 5

## WEIGHT AND HEIGHT

### 5.1 HIGHLIGHTS

- Approximately 7.7 million Canadians aged 20 to 64 have an acceptable weight for their height.
- Approximately 3.7 million Canadians are at risk of developing health problems because of excess body weight. This estimate represents $23 \%$ of the population aged 20 to 64 .
- The prevalence of being overweight is greater among men (28\%) than among women (18\%).
- About 1.5 million adults representing about $9 \%$ of the population aged 20 to 64 are underweight. The prevalence of being underweight is greater among women ( $15 \%$ ) than among men ( $3 \%$ ).
- The highest prevalence of being underweight occurs among young women aged 20 to 24 . About $25 \%$ of women in this age group are underweight. Young women in British Columbia ( $33 \%$ ) and Quebec ( $28 \%$ ) are most likely to be underweight.
- Among adults who are overweight, men are more likely than women to regard their current weight as "just about right." Women, on the other hand, are likely to regard themselves as overweight, even when their relative weight is within the desirable range from a health perspective.
- Compared to persons who have a normal weight for their height, persons who are overweight have a higher prevalence of hypertension. heart trouble, arthritis and rheumatism, and high blood cholesterol.


### 5.2 METHOISS

Height and weight values in the 1991 GSS were reported by the respondent (Section G, Appendix II). Respondents were asked "How tall are you without your shoes on?" (Ques. G2) and "How much do you weigh?" (Ques. G3). These estimates could be provided in either imperial or metric units. Respondents were also asked to assess their own weight, that is, whether they considered themselves 10 be "overweight, underweight, or just about right" (Ques. G4).

The Quetelet or Body Mass Index (BMI) was chosen as a measure of weight for height.' The BMI is defined as body weight ( kg ) divided by the square of body height $\left(\mathrm{m}^{2}\right)$ and is calculated for ages 20 to 64 only, as interpretive norms do not exist for younger and older age groups. "Not stated" values for the BMI arise when either height or weight was not provided. Overall, this amounts to only $3 \%$ of the population and does not exceed $5 \%$ in any age-sex group.

While various BMI cutoff points exist to classify individuals by relative body weight, for the purposes
of this report the cutoff points recommended by Health and Welfare Canada, ${ }^{2}$ except as noted below are employed. Four levels of relative body weight are used in the Health and Welfare Canada classification:

BMI $<20$ may be associated with health problems
BMI 20-25 considered to be good weight for most people
BMI 25-27 may lead to health problems in some people
BMI $>27 \quad$ increasing risk of developing health problems

For the present chapter, the second BMI category is defined as 20 to $<25$. In the chapter, the term "overweight" refers to a BM1 greater than 27 . The term "obese" is not appropriate. however, as this rerm refers specifically 10 an excess of body fat, which cannot adequately be measured by answers to questions alone.

### 5.3 RESULTS

### 5.3.1 Prevalence of Acceptable Weight

In total, $47 \%$ of Canadian adults aged $20-64$ years have an acceptable weight for their height. Fifty percent of women have an acceprable weighr compared to $44 \%$ of males. At age 20-24, the proportion of males with an acceptable weight for height is $61 \%$ compared to $53 \%$ among females. However, for ages 25-64, women are more likely to have an acceptable weight for their height.

### 5.3.2 Prevalence of Being Overweight

## Age and sex

Approximately 3.7 million Canadians are overweight (BMI >27). This estimate represents $23 \%$ of the population aged 20 to 64 (Table 5-1). In the total population, the proportion of adults who are overweight rends to increase with advancing age. at least up to ages 45 to 54 . At ages 20 to $24,10 \%$ of adults are overweight, compared to $21 \%$ in the 25 to 44 age group, $32 \%$ in the 45 to 54 age group. and $30 \%$ among persons aged 55 to 64 years.

Overall, $28 \%$ of men are overweight, compared to $18 \%$ of women. Between ages 20 and 54 , the prevalence of being overweight is considerably
greater among men than among women at all ages, but the difference diminishes at ages 55 to 64 (Figure 5-A).

At the opposite end of the relative body weight continuum are persons whose BMI is less than 20. About $9 \%$ of the population aged 20 to 64 (representing 1.5 million Canadians) is underweight. The prevalence of being underweight is greatest in the 20 to 24 age group ( $15 \%$ ) and dectines with increasing age. In general, women are more likely than men to be classified as underweight $(15 \%$ vs. $3 \%$, respectively). This tendency is true at all age levels but is most noticeable in the 20 to 24 age group. Twenty-five percent of women aged 20 to 24 are underweight, compared to $6 \%$ of men in this age group (Table 5-1).

## Provincial differences

There are fairly wide variations between provinces in the prevalence of being overweight, ranging from high values of $30-31 \%$ in Newfoundland, Nova Scotia, and Saskatchewan to lows of 21 $22 \%$ in Quebec and Ontario (Table 5-2). Among men, Newfoundland stands out, with a prevalence of $39 \%$ overweight, while Ontario is the lowest, at $25 \%$. The pattern is different for women: women in Nova Scotia are most likely to be overweight $(26 \%)$, and women in Quebec and Ontario are least likely ( $17 \%$ ).

There are also noteworthy provincial differences in the prevalence of being underweight ( $\mathrm{BMI}<20$ ): Quehec, at $11 \%$, has more than double the prevalence of Nova Scotia (5\%). As noted above, underweight Canadians are predominantly women, among whom the prevalence of being underweight ranges from $18 \%$ (Quebec) to $9 \%$ (Atlantic provinces). For women aged 20 to 24 , the highest prevalence of being underweight is in British Columbia ( $33 \%$ ) and Quebec ( $28 \%$ ) (data not shown).

## Income adequacy

Table 5-3 shows the association between income adequacy and relative weight. In the lotal population aged 20 to 64 , the prevalence of being overweight varies little by income level and is actually lowest for the lowest income group. The usual inverse relationship between being overweight and socio-economic status is found only among those aged 25 to 44; even in this age group the relationship is a weak one. For age

FIGURE 5-A
Prevalence (\%) of being overweight (BM|>27) by age group and sex, ages 20-64, Canada, 1991


General Social Suvey, 1991
groups 45 to 54 and 551064 , there is a tendency for the prevalence of being overweight to increase with income. On the other hand, the prevalence of being underweight is consistently associated with less income across all age groups.

The lack of a strong gradient in the prevalence of overweight by income groups appears to be associated with sex differences. Among both males and females, there are three distinct groups. Persons in the lowest income category form the first group, persons in the lower middle to upper middle income levels form the second group and persons with the highest income level form the last group. Over these three groups. there is a gradient in the prevalence of being overweight. Twenty-one percent of males in the lowest income group are overweight compared to $29 \%$ of males in the middle group and $32 \%$ of males in the highest income group (data not shown). In contrast, among women, $23 \%$ of women in the lowest income group are overweight compared to
approximately $18 \%$ of women in the middle income group and $14 \%$ in the highest income group (data not shown separately by sex).

### 5.3.3 Overweight and Smoking

Table 5-4 displays the distribution of relative weight within smoking categories. Because of the relationship of age and sex to BMI (see Table 5-1), it is desirable to control for these variables, but sample size limits the data to only two age groups. 20 to 44 and 45 to 64 . In the total population, the greatest contrist is between former smokers and regular smokers. About $31 \%$ of former smokers are overweight, compared $1021 \%$ of regular smokers and $21 \%$ of persons who never smoked daily. This is true of bothsexes. although less so for women than for men, and for both age groups, although less for the younger than for the older. Thus, among men aged 45 to 64 who are former smokers. 45\% are overweight: this compares with $36 \%$ of all men in this age
group, and $29 \%$ who are regular smokers. Among younger women (ages 20 to 44), $17 \%$ of former smokers are overweight, compared to only $14 \%$ of the overall group.

### 5.3.4 Body Mass Index and Self-Assessed Weight

The relationship between being overweight, as classified by BMI values, and self-perceptions of being overweight is high, but it is not a perfect correlation. Among adults who were overweight. $84 \%$ considered themselves to be overweight. The remaining $16 \%$ considered their weight to be "just about right" (Table 5-5). The tendency of overweight persons to consider their weight to be acceptable is much more prevalent among men than among women. Only $7 \%$ of overweight women consider their weight to be just about right, compared to $21 \%$ of overweight men. Similarly, of those with a BMI of 25-27 (possibly overweight, $83 \%$ of women and only $43 \%$ of men considered themselves to be overweigh.

Among those classified as underweight (BMI $<20$ ), $48 \%$ of men considered themselves underweight, compared 10 only $21 \%$ of women. Over three quarters of the women in this category considered themselves to be "just about right."

These patterns are repeated for all age groups (data not shown).

### 5.3.5 Relative Weight and Self-Reported Health Problems

In the total population aged 20 to 64 , the prevalence of selected self-reported health problems increases with increasing BMI (Table 5-6). However, as both relative weight and most chronic health problems increase with advancing age (see Chapter 2), it is instractive to examine the prevalence of health problems by BMI categories within age groups. For example. among adults aged 45 to 64 , the prevalence of arthritis/rheumatism, hypertension, high cholesterol. and heart trouble all increase rather dramatically with increases in relative body weight (Figure 5-B).

FIGURE 5-B
Prevalence (\%) of health problems by body mass index, ages 45-64, Canada, 1991

## Prevalence (\%)



Body mass index
General Social Survey, 1991

### 5.4 DISCUSSION

### 5.4.1 Methodological Issues

Because the BMI is derived from self-reported information, there is a possibility of misclassification of relative weight. In particular, the overweight category may be underestimated as a result of height being exaggerated or weight being minimized during the interview. ${ }^{3}$ Moreover. the tendency 10 underreport weight may vary from one survey to the next as a function of the historical context of the survey. Fads and fashions dictate desirable weight norms, and survey responses may be influenced by a person"s perception of current social norms relating to relative body weight. ${ }^{4}$ However, such changes are unlikely to be significant over a period of five or six years.

The assumption in this report and others on this topic is that whatever bias exists affects all age groups equally and that the relative differences between age or social groups are valid. Comparisons between the sexes are less meaningful, not jusi because of the possibility of different degrees of reporting bias, but also because men tend to be more muscular than women, and muscle tissue is more dense than fat. This tends to increase the BMI value of a muscular individual.

The prevalence of overweight in a population is dependent on a complex set of medical, genetic, nutritional and lifestyle related factors. The validity of self-reported data relating to weight and height as a means of monitoring population heald status and the circumstances in which BMI may be most profitably employed as a health status indicator are worthy of further investigation. Self-reported weight and height data have not been collected long enough in a series of surveys to determine whether these measures are valid indicators of trends in health status.

### 5.4.2 Changes Over Time in the Prevalence of Being Overweight

Comparison of the $1985^{5}$ GSS with the 1991 GSS reveals that the body mass distribution of the population has shifted towards the overweight end of the continuum. During this six-year period. the prevalence of being overweight increased six percentage points among men (from $22 \%$ to $28 \%$ ) and five percentage points among women (from $14 \%$ to $19 \%$ ) (Text Table 5-A). Among women,
there was also a notable decrease of four percentage points (from $20 \%$ to $16 \%$ ) in the prevalence of being underweight. This increase in the overweight population is consistent with the results of the two Health Promotion Surveys, conducted in $1985^{\circ}$ and 1990. ${ }^{7}$

### 5.4.3 Substantive Issues

Women appear to be much more concerned than men about being overweight. At all ages, over one in three women ( $36 \%$ ) who on the basis of selfreported weight and height are classified as normal weight express the view that they are overweight (see Table 5-5). These data are consistent with reports indicating that the desire to reduce weight is particularly pronounced among women. ${ }^{78}$

A number of studies have considered the association between weight and smoking status. ${ }^{9}$ Weight gain tends to be associated with smoking cessation and has been cited as a factor tham inhibits the motivation of smokers to quit. ${ }^{10}$ It has also been suggested that some individuals take up smoking with the intention of controlling weight gain."1 However, the 1991 GSS data suggest that being overweight is mainly a problem for former smokers who are middle-aged men and is not an issue for younger women; ather GSS data reveal that the exercise levels of middle-aged men are much lower than they might be (see Chapter 10), and this may well be related to their overweight status.

The associations between being overweight and self-reported high blood pressure and heart problems are consistent with associations detected in other surveys and studies. ${ }^{12}$ While the cross-sectional nature of the GSS data makes it impossible to conctude anything about cause and effect, the steep gradients (see Figure 5-B) and the high prevalence of being overweight point to a challenge for health promotion in Canada. Moreover, the association between being overweight and high cholesterol points to a compounding of risk.

As described elsewhere in this report (Chapters 9 and 10), the prevalence of smoking declined substantially between 1985 and 1991, and the prevalence of "active" leisure time increased modestly or not at all. These changes are consistent with an increase in the prevalence of being overweight between the 1985 GSS and the 1991 GSS.


## Notes:

1. Not stated values were excluded from the tabulations. The proportion of not stated ranged from $1 \%$ to $3 \%$. The proportion of not stated tended to be higher among women.
2. HPS = Health Promotion Survey (also self-reported weight and height). 1985 data are from reference 6, 1990 data from reference 7.

The lack of association between being overweight and income is somewhat surprising, given the number of other surveys and studies that have documented such an association. For example, the Health Promotion Survey reported an inverse relationship between BMI and both education and income. ${ }^{7}$ In the current survey, there is an inverse association with education (data not shown), but not income. Further examination of this relationship is called for, including the association between education and income.

## REFERENCES

1. Khosla T, Lowe CR. Indices of obesity derived from body weight and height. British Journal of Preventive and Social Medicine 1967:21:122-8.
2. Health and Welfare Canada. Canadian guidelines for healthy weights. Report of an Expert Group. Ottawa: Health and Welfare Canada, Health Promotion Directorate, Health Services and Promotion Branch, 1988.
3. Millar WJ. Distribution of body weight and height: comparison of estimates based on selfreported and observed measures. Journal of Epidemiologyand Communiry Health 1986: 40(4):319-323.
4. Salans L. Natural history of obesity. In: Bray G, ed. Obesity in America. U.S. Deparment of Health, Education and Welfare, National Institutes of Health. 1979:69-94 (NIH Publ. No. 79-359).
5. Statistics Canada. Health and Social Support. 1985. General Social Survey Analysis Series. Ottawa: Minister of Supply and Services Canada, 1987. Catalogue No. 11-612E. No. 1.
6. Nielsen H. Nutrition. In: Health and Welfare Canada, Rootman I, Warren R, Stephens T. Peters L, eds. Canada's Health Promorion Survey: rechnical report. Ottawa: Minister of Supply and Services Canada. 1988. Catalogue No. H39119/1988E.
7. Craig CL. Nutrition. In: Health and Welfare Canada, Stephens T, Fowler Graham D, eds. Canada's Health Promotion Survey 1990: technical report. Ottawa: Minister of Supply and Services Canada, 1993. Catalogue No.H39-263/2-1990)E.
8. Millar WJ. A comparison of self-reported weight and height and preferred hody weigh. Chronic Diseases in Canada 1987:8(2):24-9.
9. Noppa H. Bengtsson C. Ohesity in relation to smoking: a population study of women in Gotehorg. Sweden. Preventive Medicine 1980;9:534-43.
10. Stephens T. Pederson L, Hill JS. Smoking. physical activity and health. In: Forbes WF, Frecker RC, Nositakken D, eds. Proceedings of the Fifth World Conference on Smoking and Health, Winnipeg. Vol. I. Ottawa: Canadian Council on Smoking, 1983.
11. Charlon A. Smoking and weight control in teenagers. Public Health (London) 1984:98:27781.
12. Keys A. Aravanis C, Blackburn H. Coronary heart disease: overweight and ohesity as risk factors. Annals of Internal Medicine 1972:77:1527.

TABLE 5-1
Body Mass Index by age group and sex, ages 20-64, Canada, 1991

| Age group and sex | Body Mass Index |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population$20-64$ |  | Underweight |  | Recommended weight |  | Possibly overweight |  | Overweight |  | Not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |
| Population 20-64 20.658 |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes | 16,247 | 100 | 1,491 | 9 | 7.658 | 47 | 2,931 | 18 | 3,749 | 23 | 419 | 3 |
| Male | $8,086$ | $100$ | $228$ | $3$ | $3,541$ | $44$ | $1,909$ | 24 | 2,254 | 28 | 153 | 2 |
| Female | $8.162$ | $100$ | 1,262 |  | 4,116 |  |  | 13 | 1,495 | 18 | 266 | 3 |
| 20-24 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes | 1.967 | 100 | 299 | 15 | 1,118 | 57 | 296 | 15 | 197 |  | 58 | 3 |
| Male | 1,000 | 100 | 61 | 6 | 607 | 61 | 192 | 19 | 126 | 13 | -- | - |
| Female | 968 | 100 | 238 | 25 |  | 53 | 104 | 11 |  | 7 | 44 | 5 |
| 25-44 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes | 9,005 | 100 | 923 | 10 | 4.473 | 50 |  |  |  |  |  | 2 |
| Male | 4,476 | 100 | 135 | 3 | 2,065 | 46 | $1,020$ | $23$ | $1,189$ | $27$ | $66$ | 1 |
| Female | 4,530 | 100 | 788 | 17 | 2,408 | 53 |  |  | 701 |  |  | 3 |
| 45-64 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes | 5,275 | 100 | 269 | 5 | 2,066 | 39 | 1,133 |  |  |  |  | 3 |
| Male | 2.611 | 100 | 32 | 1 | 870 | 33 | $697$ | 27 | $939$ | $36$ | $73$ | 3 |
| Female | 2,664 | 100 | 237 | 9 | 1,196 | 45 | 436 | 16 | 723 | 27 | 72 | 3 |
| 45-54 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes | 2,923 | 100 | 153 | 5 | 1,145 | 39 | 592 | 20 |  |  | 84 | 3 |
| Male | 1,458 | 100 | -- | -- | 461 | 32 | 372 | 25 | $576$ | $40$ | -- | -- |
| Female | 1.464 | 100 | 142 | 10 | 684 | 47 | 221 | 15 | 372 | 25 | 45 | 3 |
| 55-64 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes | 2,352 | 100 | 116 | 5 | 921 | 39 | 541 | 23 | 714 | 30 | 60 | 3 |
| Male | 1,152 | 100 | -- | -- | 408 | 35 | 325 | 28 | 363 | 32 | -- | -- |
| Female | 1,200 | 100 | 95 | B | 512 | 43 | 216 | 18 | 351 | 29 | 26 | 2 |

General Social Survey, 1991

TABLE 5-2
Body Mass Index by sex and province, ages 20-64, Canada, 1991

| Sex and province | Body Mass Index |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population 20-64 |  | Underweight |  | Recommended waight |  | Possibly overweight |  | Overweight |  | Not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 16,247 | 100 | 1,491 | 9 | 7.658 | 47 | 2,931 | 18 | 3,749 | 23 | 419 | 3 |
| Atlantic | 1,362 | 100 | 74 | 5 | 598 | 44 | 274 | 20 | 396 | 29 | 20 | 1 |
| Newtoundland | 334 | 100 | 16 | 5 | 137 | 41 | 73 | 22 | 103 | 31 | -- | - |
| P.E.I. | 69 | 100 | -- | - | 34 | 50 | 12 | 17 | 19 | 27 | -- | - |
| Nova Scotia | 532 | 100 | 29 | 5 | 230 | 43 | 105 | 20 | 161 | 30 | - | - |
| New Brunswick | 427 | 100 | 27 | 6 | 197 | 46 | 84 | 20 | 113 | 26 | -- | - - |
| Quebec | 4,238 | 100 | 476 | 11 | 2,010 | 47 | 759 | 18 | 942 | 22 | 51 | 1 |
| Ontario | 6.034 | 100 | 555 | 9 | 2,874 | 48 | 1,052 | 17 | 1.273 | 21 | 280 | 5 |
| Prairies | 2.681 | 100 | 221 | 8 | 1,237 | 46 | 482 | 18 | 685 | 26 | 56 | 2 |
| Manitoba | 625 | 100 | 52 | 8 | 268 | 43 | 120 | 19 | 168 | 27 | -- | - |
| Saskatchewan | 542 | 100 | 37 | 7 | 231 | 43 | 102 | 19 | 164 | 30 | -- | - |
| Alberta | 1.514 | 100 | 131 | 9 | 738 | 49 | 259 | 17 | 353 | 23 | 32 | 2 |
| British Columbia | 1,932 | 100 | 165 | 9 | 938 | 49 | 364 | 19 | 453 | 23 | -- | -- |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 8.086 | 100 | 228 | 3 | 3,541 | 44 | 1,909 | 24 | 2,254 | 28 | 153 | 2 |
| Atlantic | 677 | 100 | - - | -- | 252 | 37 | 173 | 26 | 233 | 34 | - | -- |
| Newfoundland | 166 | 100 | -- | -- | 56 | 33 | 43 | 26 | 64 | 39 | - | - |
| P.E.I. | 33 | 100 | - | - | 16 | 47 | 6 | 18 | 11 | 34 | - | - |
| Nova Scotia | 264 | 100 | - | - - | 101 | 38 | 61 | 23 | 92 | 35 | - | - |
| New Brunswick | 213 | 100 | -- | -- | 81 | 38 | 62 | 29 | 66 | 31 | - | - |
| Quebec | 2,099 | 100 | 87 | 4 | 919 | 44 | 503 | 24 | 579 | 28 | - | - - |
| Ontario | 2,997 | 100 | 78 | 3 | 1,362 | 45 | 677 | 23 | 763 | 25 | 118 | 4 |
| Prairies | 1,349 | 100 | 33 | 2 | 574 | 43 | 322 | 24 | 404 | 30 | -- | - |
| Manitoba | 312 | 100 | -- | -- | 117 | 37 | 77 | 25 | 99 | 32 | - | -- |
| Saskatchewan | 272 | 100 | -- | -- | 108 | 40 | 63 | 23 | 96 | 35 | -- | - |
| Alberta | 765 | 100 | - - | - | 348 | 46 | 182 | 24 | 209 | 27 | -- | - - |
| British Columbia | 964 | 100 | -- | -- | 435 | 45 | 233 | 24 | 274 | 28 | -- | - |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 8,162 | 100 | 1,262 | 15 | 4,116 | 50 | 1,022 | 13 | 1,495 | 18 | 266 | 3 |
| Atlantic | 686 | 100 | 64 | 9 | 345 | 50 | 101 | 15 | 162 | 24 | 12 | 2 |
| Newfoundland | 167 | 100 | 15 | 9 | 81 | 48 | 30 | 18 | 38 | 23 | -- | - |
| P.E.I. | 36 | 100 | -- | -- | 19 | 52 | 6 | 17 | 7 | 21 | - - | - |
| Nova Scotia | 268 | 100 | 23 | 8 | 130 | 48 | 43 | 16 | 69 | 26 | -- | - |
| New Brunswick | 215 | 100 | 23 | 11 | 116 | 54 | 22 | 10 | 48 | 22 | -- | -- |
| Quebec | 2,139 | 100 | 389 | 18 | 1.091 | 51 | 256 | 12 | 363 | 17 | 40 | 2 |
| Ontario | 3,037 | 100 | 477 | 16 | 1,513 | 50 | 375 | 12 | 510 | 17 | 162 | 5 |
| Prairies | 1.332 | 100 | 188 | 14 | 663 | 50 | 160 | 12 | 281 | 21 | 40 | 3 |
| Manitoba | 313 | 100 | 40 | 13 | 151 | 48 | 43 | 14 | 69 | 22 | -- | - |
| Saskatchewan | 270 | 100 | 32 | 12 | 123 | 45 | 40 | 15 | 68 | 25 | -- | -- |
| Alberta | 749 | 100 | 115 | 15 | 390 | 52 | 77 | 10 | 144 | 19 | 24 | 3 |
| British Columbia | 968 | 100 | 145 | 15 | 503 | 52 | 131 | 13 | 179 | 18 | -- | -- |

General Social Survey, 1991

TABLE 5-3
Body Mass Index by age group and income adequacy, ages 20-64, Canada, 1991

| Age group and income adequacy | Body Mass Index |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population 20-64 |  | Underweight |  | Recommended weight |  | Possibly overweight |  | Overweight |  | Not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |


| Population 20-64 years |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total | 16,247 | 100 | 1.491 | 9 | 7.658 | 47 | 2,931 | 18 | 3,749 | 23 | 419 | 3 |
| Lowest | 558 | 100 | 85 | 15 | 244 | 44 | 83 | 15 | 125 | 22 | - | - |
| Lower middle | 1,113 | 100 | 123 | 11 | 515 | 46 | 170 | 15 | 276 | 25 | 29 | 3 |
| Middle | 3,702 | 100 | 335 | 9 | 1,783 | 48 | 669 | 18 | 860 | 23 | 56 | 2 |
| Upper middle | 5,124 | 100 | 458 | 9 | 2,358 | 46 | 1,000 | 20 | 1,259 | 25 | 49 | 1 |
| Highest | 1,997 | 100 | 128 | 6 | 1,007 | 50 | 354 | 18 | 497 | 25 | -- | - |
| Not stated | 3,754 | 100 | 361 | 10 | 1,751 | 47 | 655 | 17 | 732 | 20 | 255 | 7 |
| 20-24 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 1,967 | 100 | 299 | 15 | 1,118 | 57 | 296 | 15 | 197 | 10 | 58 | 3 |
| Lowest | 94 | 100 | - | -- | 54 | 58 | -- | -- | -- | -- | -- | -- |
| Lower middle | 151 | 100 | 30 | 20 | 75 | 50 | -- | -- | -- | - | -- | -- |
| Middle | 421 | 100 | 64 | 15 | 221 | 52 | 84 | 20 | 34 | 8 | -- | -- |
| Upper middle | 508 | 100 | 87 | 17 | 295 | 58 | 67 | 13 | 54 | 11 | -- | -- |
| Highest | 181 | 100 | -- | - | 104 | 58 | -- | -- | -- | -- | -- | -- |
| Not stated | 612 | 100 | 74 | 12 | 368 | 60 | 87 | 14 | 51 | 8 | -- | -- |
| 25-44 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 9,005 | 100 | 923 | 10 | 4,473 | 50 | 1.502 | 17 | 1,890 | 21 | 217 | 2 |
| Lowest | 257 | 100 | 49 | 19 | 104 | 40 | 33 | 13 | 63 | 25 | -- | -- |
| Lower middle | 617 | 100 | 75 | 12 | 291 | 47 | 88 | 14 | 145 | 23 | -- | -- |
| Middle | 2,247 | 100 | 223 | 10 | 1,155 | 51 | 355 | 16 | 481 | 21 | 34 | 2 |
| Upper middle | 3.064 | 100 | 293 | 10 | 1,472 | 48 | 588 | 19 | 686 | 22 | -- | -- |
| Highest | 1.047 | 100 | 77 | 7 | 600 | 57 | 153 | 15 | 208 | 20 | -- | - 7 |
| Not stated | 1,773 | 100 | 207 | 12 | 852 | 48 | 285 | 16 | 308 | 17 | 121 | 7 |
| 45-64 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 5,275 | 100 | 269 | 5 | 2,066 | 39 | 1,133 | 21 | 1,663 | 32 | 144 | 3 |
| Lowest | 206 | 100 | -- | -- | 86 | 42 | 38 | 18 | 53 | 26 | -- | -- |
| Lower middle | 345 | 100 | -- | -- | 149 | 43 | 62 | 18 | 107 | 31 | -- | -- |
| Middle | 1,035 | 100 | 49 | 5 | 407 | 39 | 231 | 22 | 345 | 33 | -- | -- |
| Upper middle | 1.552 | 100 | 78 | 5 | 590 | 38 | 346 | 22 | 520 | 33 | -- | -- |
| Highest | 769 | 100 | -- | -- | 303 | 39 | 174 | 23 | 265 | 34 | -- | -- |
| Not stated | 1,368 | 100 | 80 | 6 | 531 | 39 | 283 | 21 | 374 | 27 | 100 | 7 |
| 45-54 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 2,923 | 100 | 153 | 5 | 1,145 | 39 | 592 | 20 | 948 | 32 | 84 | 3 |
| Lowest | 87 | 100 | -- | -- | 41 | 47 | -- | -- | - | -- | -- | -- |
| Lower middle | 126 | 100 | -- | -- | 62 | 49 | -- | -- | 34 | 27 | -- | -- |
| Middle | 510 | 100 | -- | - | 199 | 39 | 107 | 21 | 178 | 35 | -- | -- |
| Upper middle | 978 | 100 | 55 | 6 | 374 | 38 | 217 | 22 | 320 | 33 | -- | -- |
| Highest | 569 | 100 | -- | -- | 217 | 38 | 126 | 22 | 205 | 36 | -- | - |
| Not stated | 653 | 100 | 40 | 6 | 253 | 39 | 119 | 18 | 188 | 29 | 52 | 8 |
| 55-64 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 2,352 | 100 | 116 | 5 | 921 | 39 | 541 | 23 | 714 | 30 | 60 | 3 |
| Lowest | 119 | 100 | -- | -- | 45 | 38 | 27 | 23 | 29 | 24 | -- | -- |
| Lower middle | 219 | 100 | -- | -- | 87 | 40 | 50 | 23 | 73 | 33 | -- | -- |
| Middle | 525 | 100 | -- | -- | 208 | 40 | 124 | 24 | 167 | 32 | -- | -- |
| Upper middle | 574 | 100 | -- | -- | 217 | 38 | 130 | 23 | 200 | 35 | -- | -- |
| Highest | 201 | 100 | -- | -- | 86 | 43 | 48 | 24 | 60 | 30 | -- | -- |
| Not stated | 715 | 100 | 40 | 6 | 277 | 39 | 163 | 23 | 186 | 26 | 48 | 7 |

TABLE 5-4
Body Mass Index by age group, sex and type of smoker, ages 20-64, Canada, 1991

| Age group, sex and type of smoker | Body Mass Index |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population 20-64 |  | Underweight |  | Recommended weight |  | Possibly overweight |  | Overweight |  | Not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | $\%$ | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |
| Population 20-64 years Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 16,247 | 100 | 1,491 | 9 | 7,658 | 47 | 2,931 | 18 | 3,749 | 23 | 419 | 3 |
| Regular smoker | 4.752 | 100 | 486 | 10 | 2,361 | 50 | 821 | 17 | 1.013 | 21 | 71 | 2 |
| Occasional smoker | 840 | 100 | 105 | 12 | 418 | 50 | 430 | 15 | 156 | 19 | -- | - |
| Never daily smoker | 6,837 | 100 | 657 | 10 | 3,366 | 49 | 1,239 | 18 | 1,425 | 21 | 150 | 2 |
| Former smoker | 3,684 | 100 | 236 | 6 | 1,496 | 41 | 728 | 20 | 1,141 | 31 | 83 | 2 |
| Not stated | 135 | 100 | -- | - | -- | -- | -- | -- | -- | -- | 84 | 63 |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 8.086 | 100 | 228 | 3 | 3,541 | 44 | 1,909 | 24 | 2,254 | 28 | 953 | 2 |
| Regular smoker | 2,388 | 100 | 96 | 4 | 1.156 | 48 | 496 | 21 | 616 | 26 | -- | - |
| Occasional smoker | 489 | 100 | -- | -- | 238 | 49 | 98 | 20 | 106 | 22 | -- | - |
| Never daily smoker | 3,071 | 100 | 68 | 2 | 1.441 | 47 | 779 | 25 | 748 | 24 | -- | - |
| Former smoker | 2,068 | 100 | -- | -- | 701 | 34 | 528 | 26 | 782 | 38 | -- | - |
| Not staled | 69 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | 55 | 79 |
| Fernale |  |  |  |  |  |  |  |  |  |  |  |  |
| Tatal | 8,162 | 100 | 1,262 | 15 | 4,116 | 50 | 1.022 | 13 | 1.495 | 18 | 266 | 3 |
| Regular smoker | 2,364 | 100 | 390 | 16 | 1.205 | 51 | 324 | 14 | 397 | 17 | 47 | 2 |
| Occasional smoker | 351 | 100 | 77 | 22 | 181 | 52 | 32 | 9 | 50 | 14 | -- | - |
| Never daily smoker | 3,766 | 100 | 589 | 16 | 1.925 | 59 | 460 | 12 | 677 | 18 | 116 | 3 |
| Former smokar | 1,616 | 100 | 200 | 12 | 796 | 49 | 200 | 12 | 359 | 22 | 61 | 4 |
| Not stated | 65 | 100 | -- | -- | -- | -- | -- | -- | -- | - | 30 | 46 |
| 20-44 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes $0^{\text {c }}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 10,972 | 100 | 1,222 | 11 | 5.591 | 51 | 1,798 | 16 | 2,086 | 19 | 275 | 3 |
| Regular smoker | 3.367 | 100 | 382 | 11 | 1.762 | 52 | 522 | 16 | 651 | 19 | 49 | 1 |
| Occasional smoker | 638 | 100 | 95 | 15 | 327 | 51 | 92 | 14 | 96 | 45 | -- | - |
| Never daily smoker | 4,783 | 100 | 534 | 11 | 2,526 | 53 | 786 | 16 | 834 | 97 | 103 | 2 |
| Former smoker | 2,121 | 100 | 205 | 10 | 965 | 46 | 394 | 19 | 505 | 24 | 52 | 2 |
| Not stated | 64 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | 43 | 68 |
| Mala |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 5,475 | 100 | 196 | 4 | 2,672 | 49 | 1,212 | 22 | 1.315 | 24 | 81 | 1 |
| Regular smoker | 1,746 | 100 | 79 | 5 | 908 | 52 | 308 | 18 | 432 | 25 | -- | - |
| Occasional smoker | 364 | 100 | -- | -- | 193 | 53 | 69 | 19 | 64 | 17 | -- | - |
| Never daily smoker | 2,301 | 100 | 65 | 3 | 1,165 | 51 | 555 | 24 | 498 | 22 | - - | - |
| Former smoker | 1,040 | 100 | -- | -- | 405 | 39 | 277 | 27 | 321 | 31 | -- | -- |
| Nol stated | . | -- | -- | - | - | -- | - | -- | - | - | -- | - |
| Fermale |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 5,497 | 100 | 1,026 | 19 | 2.920 | 53 | 586 | 11 | 772 | 14 | 194 | 4 |
| Regular smoker | 1,621 | 100 | 303 | 19 | 854 | 53 | 214 | 13 | 219 | 14 | 30 | 2 |
| Occasional smoker | 274 | 100 | 72 | 26 | 135 | 49 | -- | -- | 33 | 12 | -- | - |
| Never daily smoker | 2,482 | 100 | 469 | 19 | 1.361 | 55 | 231 | 9 | 336 | 14 | 85 | 3 |
| Former smoker | 1,080 | 100 | 176 | 16 | 560 | 52 | 117 | 11 | 184 | 17 | 44 | 4 |
| Nol slated | 40 | 100 | -- | -- | -- | -- | -- | -- | -- | - | -- | - |
| 45-64 yeara |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 5,275 | 100 | 269 | 5 | 2,066 | 39 | 1,133 | 21 | 1,663 | 32 | 144 | 3 |
| Regular smoker | 1.385 | 100 | 104 | 8 | 599 | 43 | 298 | 22 | 362 | 26 | -- | - |
| Occasional smoker | 202 | 100 | -- | -- | 91 | 45 | -- | -- | 60 | 30 | -- | - |
| Never daily smoker | 2,054 | 100 | 123 | 6 | 840 | 41 | 454 | 22 | 591 | 29 | 47 | 2 |
| Former smaker | $\bigcirc .563$ | 100 | 31 | 2 | 531 | 34 | 334 | 21 | 636 | 41 | -- | -- |
| Not slated | 71 | 100 | -- | -- | -- | -- | -- | -- | -- | - | 41 | 58 |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 2,611 | 100 | 32 | 1 | 870 | 33 | 697 | 27 | 939 | 36 | 73 | 3 |
| Regular smoker | 642 | 100 | -- | -- | 248 | 39 | 188 | 29 | 183 | 29 | -- | -- |
| Occasional smoker | 125 | 100 | -- | - | 45 | 36 | -- | -- | 43 | 34 | - | -- |
| Never daily smoker | 770 | 100 | - | -- | 276 | 36 | 225 | 29 | 250 | 32 | - | -- |
| Former smoker | 1.028 | 100 | -- | -- | 295 | 29 | 251 | 24 | 461 | 45 | -- | - |
| Not stated | 46 | 100 | -- | -- | - | -- | -- | -- | - | -- | -- | - |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 2,664 | 100 | 237 | 9 | 1.196 | 45 | 436 | 16 | 723 | 27 | 72 | 3 |
| Regular smoker | 743 | 100 | 86 | 12 | 351 | 47 | 110 | 15 | 178 | 24 | -- | - |
| Occaslonal smoker | 77 | 100 | -- | -- | 46 | 60 | -- | -- | -- | -- | -- | -- |
| Never daily smoker | 1,284 | 100 | 120 | 9 | 563 | 44 | 229 | 18 | 341 | 27 | 31 | 2 |
| Former smoker | 535 | 100 | -- | -- | 236 | 44 | 83 | 16 | 175 | 33 | -- | -- |
| Not stated | -- | -- | -- | -- | , | - - | - | -- | -- - | -- | - | -- |

TABLE 5-5
Perception of weight by sex and Body Mass Index, ages 20-64, Canada, 1991

| Sex and Body Mass Index | How do you consider yourself? |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population 20-64 |  | Overweight |  | Underweight |  | Just about right |  | Not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |

## Both sexes

|  |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: | :---: |
| Population 20-64 | 16,247 | 100 | 6,957 | 43 | 847 | 5 | 8,352 | 51 | 92 | 1 |
| Underweight | 1,491 | 100 | 39 | 3 | 371 | 25 | 1,077 | 72 | -- | -- |
| Recommended weight | 7,658 | 100 | 1,924 | 25 | 413 | 5 | 5,315 | 69 | -- | -- |
| Possibly overweight | 2,931 | 100 | 1,666 | 57 | -- | -- | 1,232 | 42 | -- | -- |
| Overweight | 3,749 | 100 | 3,150 | 84 | -- | -- | 584 | 16 | -- | -- |
| Not staled | 419 | 100 | 178 | 42 | -- | -- | 144 | 34 | 80 | 19 |

## Male

| Population 20-64 | 8,086 | 100 | 3,039 | 38 | 507 | 6 | 4,481 | 55 | 58 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Underweight | 228 | 100 | -- | -- | 110 | 48 | 113 | 49 | - |
| Recommended weight | 3.541 | 100 | 427 | 12 | 349 | 10 | 2,764 | 78 | -- |
| Possibly overweight | 1,909 | 100 | 817 | 43 | -- | -- | 1.061 | 56 | -- |
| Overweight | 2,254 | 100 | 1,762 | 78 | -- | -- | 480 | 21 | -- |
| Not stated | 153 | 100 | -- | -- | -- | -- | 64 | 42 | 53 |

Female

| Population 20-64 | 8,162 | 100 | 3,918 | 48 | 339 | 4 | 3,870 | 47 | 34 | -- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Underweight | 1,262 | 100 | 35 | 3 | 261 | 21 | 965 | 76 | -- | -- |
| Recommended weight | 4,116 | 100 | 1.497 | 36 | 65 | 2 | 2,550 | 62 | -- | -- |
| Possibly overweight | 1,022 | 100 | 849 | 83 | -- | -- | 171 | 17 | -- | -- |
| Overweight | 1.495 | 100 | 1,388 | 93 | -- | -- | 104 | 7 | -- | -- |
| Nol stated | 266 | 100 | 149 | 56 | -- | -- | 80 | 30 | 27 | 10 |

General Social Survey, 1991

TABLE 5-6
Prevalence of selected health problems, by age group and Body Mass Index, ages 20-64, Canada, 1991

| Age group and Body Mass Index | Health problems(1) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population 20-64 |  | Hypertension |  | Heart trouble |  | Arthritis \& rheumatism |  | High blood cholesterol |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |
| Population 20-64 years |  |  |  |  |  |  |  |  |  |  |
| Total - BMI | 16,247 | 100 | 2,220 | 14 | 718 | 4 | 2,728 | 17 | 1.355 | 8 |
| Underweight | 1,491 | 100 | 95 | 6 | 35 | 2 | 158 | 11 | 50 | 3 |
| Recommended weight | 7,658 | 100 | 698 | 9 | 284 | 4 | 1,082 | 14 | 475 | 6 |
| Possibly overweight | 2,931 | 100 | 468 | 16 | 141 | 5 | 498 | 17 | 313 | 11 |
| Overweight | 3,749 | 100 | 913 | 24 | 230 | 6 | 910 | 24 | 479 | 13 |
| Not stated | 419 | 100 | 46 | 11 | -- | -- | 81 | 19 | - - | -- |
| 20-24 years |  |  |  |  |  |  |  |  |  |  |
| Total - BM\| | 1,967 | 100 | 89 | 5 | 57 | 3 | 88 | 4 | 63 | 3 |
| Underweight | 299 | 100 | -- | - | -- | -- | -- | - | -- | - - |
| Recommended weight | 1,118 | 100 | 47 | 4 | -- | -- | 51 | 5 | -- | -- |
| Possibly overweight | 296 | 100 | -- | -- | -- | -- | -- | -- | -- | -- |
| Overweight | 197 | 100 | -- | -- | -- | -- | -- | -- | -- | -- |
| Not stated | 58 | 100 | -- | -- | -- | -- | -- | - - | -- | -- |
| 25-44 years |  |  |  |  |  |  |  |  |  |  |
| Total - BM\| | 9.005 | 100 | 860 | 10 | 250 | 3 | 955 | 11 | 457 | 5 |
| Undenweight | 923 | 100 | 48 | 5 | -- | - | 81 | 9 | -- | -- |
| Recommended weight | 4,473 | 100 | 282 | 6 | 110 | 2 | 410 | 9 | 172 | 4 |
| Possibly overweight | 1.502 | 100 | 180 | 12 | 44 | 3 | 158 | 11 | 110 | 7 |
| Overweight | 1.890 | 100 | 324 | 17 | 55 | 3 | 275 | 15 | 133 | 7 |
| Not stated | 217 | 100 | - | -- | -- | -- | -- | -- | - | -- |
| 45.64 years |  |  |  |  |  |  |  |  |  |  |
| Total - BMI | 5,275 | 100 | 1,271 | 24 | 411 | 8 | 1,685 | 32 | 834 | 16 |
| Underweight | 269 | 100 | 32 | 12 | -- | - | 73 | 27 | -- | -- |
| Recommended weight | 2,066 | 100 | 369 | 18 | 146 | 7 | 621 | 30 | 274 | 13 |
| Possibly overweight | 1,133 | 100 | 280 | 25 | 83 | 7 | 324 | 29 | 187 | 16 |
| Overweight | 1,663 | 100 | 569 | 34 | 162 | 10 | 616 | 37 | 336 | 20 |
| Not stated | 144 | 100 | -- | -- | -- | -- - | 51 | 35 | -- | -- |

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

## CHAPTER 6

## WORK AND HEALTH

### 6.1 HIGHLIGHTS

- Slightly more than half of the Canadian paid employed population aged 15 and over is provided with insurance for disability ( $56 \%$ ), extra medical/ surgical care ( $53 \%$ ), and dental care $(53 \%)$ through work.
- About one-third of Canadian paid workers are entitled to counselling services for personal problems $(31 \%)$ and paid maternity or paternity leave ( $30 \%$ ) as employment benefits.
- Access 10 employment benefits of all kinds tends to increase with occupational status, but men are usually more likely than women working outside the home to have access to employment health bencfits. Sex differences in disability, medical, and dental benefits hold true for all occupational categories but are most pronounced in skilled and semi-skilled occupations.
- Two-thirds of employed Canadian adults 9,689,000 people in all - believe that they were exposed to some sort of plyssical health hazard in the workplace in the 12 months preceding the 199! GSS. The most common perceived risks are exposure to dust or fibres in the air and working in proximity to a computer screen or terminal.
- Some workplace hazards, such as suress from job demands, poor interpersonal relations, and exposure to computer screens, decrease in prevalence with each occupational category, from professional through to unskilled labourer. Other perceived health risks, particularly those related to the physical environment, tend to be most often reported by skilled workers.
- Thirty-two percent of all employed workers believe that these exposures have had a negative impact on their health.
- The average employed worker was off work for health reasons for 6.2 days in the 12 months before the survey. Those who perceived that they were exposed to the risk of accident or injury, however, were off for an average of 16.6 days.
- The vast majority of employed Canadians describe themselves as very satisfied ( $57 \%$ ) or somewhat satisfied ( $28 \%$ ) with their jobs. Those with access to employment health benefits and less exposure 10 health hazards at work are more likely to be satisfied with their jobs.


### 6.2 METHODS

Questions on employment and health issues related 10 work were covered in Section $M$ of the 1991

GSS interview (see Appendix II). Of particular interest to this chapter are the questions on employment benefits (M25), psychosocial work demands (M30), and health risks related to the physical environment at work (M34-M39).

All such questions asked about the respondent's current or most recent employment, including selfemployment. If more than one position was held in the year preceding the survey, the questions focused on the job of the longest duration. Thus, in a relatively few cases, there is the possibility of a misalignment of the occupational data and the 12 month recall data. Questions about benefits were asked of paid (non-self-employed) workers only. The benefits included those paid either in full or in part by the employer, and the questions stipulated that the benefits were in addition to those provided by government. The psychosocial stressors (excessive job demands or hours, poor interpersonal relations, risk of accident or injury) were identified as those causing "excess worry or stress." Questions about the physical work environment asked first about perceptions of exposure, and then whether the respondent perceived any negative impact on health.

Questions on days of activity lost for all health reasons appeared near the beginning of the interview (Section B), whereas those on job satisfaction were part of a brief series of questions dealing with satisfaction with varied aspects of one's life in Section $N$.

Occupational status, which appears in many of the tables in this chapter, is based on the Pineo-Carroll-Moore classification of occupations. ${ }^{1}$ The classification uses the four-digit occupational code which describes the nature of work including management responsibilities (Questions M20-23). For present purposes, the 16 Pineo classifications have been collapsed to six.
All the questions on work conditions and satisfaction were new in 1991, and thus comparisons with earlier surveys are not possible. Non-response for most of these variables was $2 \%$. Further details on survey methods, including the sample, may be found in Chapter 1.

### 6.3 RESULTS

### 6.3.1 Employment Health Benefits

Slightly more than half of the Canadian paid working population aged 15 and over is provided with insurance for disability ( $56 \%$ ), extra medical/ surgical care ( $53 \%$ ), and dental care ( $53 \%$ ) through work, over and above coverage provided by the federal and provincial governments. About onethird of Canadians are entitled to counselling services for personal problems ( $31 \%$ ) and paid maternity or paternity leave ( $30 \%$ ) as employment benefits (Text Table 6-A).

## Employment health benefits and occupational status

Access to employment benefits of all kinds tends to increase with occupational status (Text Table 6 -A). The proportion of professionals and highlevel managers with the most common healthrelated coverage is roughly double the proportion of unskilled workers with comparable benefits. The least common employment benefits - personal counselling and maternity or paternity leave decrease with each occupational category, from professionals through to unskilled workers. For the most part, the availability of medical, dental, and disability benefits follows the same pattern, decreasing with occupational status. The major departure from this trend is the relatively low prevalence of these employment benefits in the semi-professional/technical and middle managerial category. Also noteworthy is the slightly higher prevalence of medical benefits among unskilled workers compared to semi-skilled workers.

## Employment health benefits and sex

Women are less likely than men to receive each of these employment health benefits, with the exception of maternity/paternity leave, which women are six percentage points more likely to receive (Figure 6-A). The difference between the sexes is greatest for those receiving disability benefits (15 percentage points higher for men) and smallest for personal counselling as an employment benefit (two percentage points higher for men).

TEXT TABLE 6-A
Access to employment health benefits, by occupational status, paid workers age $15+$, Canada, 1991

| Occupational status | Employment health |  |  | benefits |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Disability insurance | Medical/ surgical care | Dental care | Counselling services | Maternity/ paternity leave |
|  | (Percent) |  |  |  |  |
| All groups | 56 | 53 | 53 | 31 | 30 |
| Professional and high-levelmanagerial | 80 | 77 | 78 | 58 | 50 |
| Semi-professional/technical and middle managerial | 68 | 64 | 66 | 44 | 44 |
| Supervisors, fore(wo)men | 80 | 71 | 75 | 42 | 35 |
| Skilled workers and employees | 62 | 61 | 59 | 33 | 28 |
| Semi-skilled workers and employees | 42 | 40 | 39 | 20 | 21 |
| Unskilled workers and employees | 47 | 42 | 42 | 20 | 21 |

General Social Survey, 1991

These sex differences in disability, medical, and dental benefits hold true for all occupational categories but are most pronounced in skilled and semi-skilled occupations.

Counselling for personal problems is a relatively new benefit. one that is of interest as concern with addictions and with the "whole" emplayee grows. It is the benefit most equally accessible to employed men and women, but the sex difference in counselling as a benefit varies considerably with occupational status. For the semi-professional and supervisory job categories, women are seven and 10 percentage points respectively, more likely than men 10 have this benefit, but nine and seven percentage paints, less likely than men in skilled and semi-skilled occupational categories, respectively (Table 6-1).

### 6.3.2 Perceived Exposure to Workplace Health Hazards

Two-thirds of Canadian adults working at a job or business - 9,689,000 people in all - believe that they were exposed to some sort of health
hazard in the physical environment at work in the year preceding the 1991 GSS (Table 6-2). The most common perceived risks are exposure to dust or fibres in the air ( $34 \%$ ) and working in proximity to a computer screen or terminal ( $31 \%$ ), both of which were reponed by approximately one-third of employed Canadians (Table 6-3). Roughly one-quarter of Canadians ( $26 \%$ ) reported being exposed to loud noise in the workplace in the year preceding the survey, and an equal number reported excessive stress $(26 \%$ ) as a result of the demands placed on them by their jobs.

## Workplace health hazards and sex

Perceived exposure to at least one workplace health hazard is reported by 10 percentage points more men than women ( $71 \%$ vs. $61 \%$ ). This male-female difference exists for all occupational categories but is most pronounced among individuals employed as supervisors, where the sex difference in exposure to workplace hazards ( $82 \%$ of men; $63 \%$ of women, or 19 percentage points) is almost double the national difference of 10 percentage points.

FIGURE 6-A
Employment health benefits by sex, paid workers age 15+, Canada, 1991

Health benefit


General Social Survey, 1991

Variations in health risk exposure are more striking when individual health risks are examined. Rates of perceived exposure are higher for men than for women for every hazard except computer screens ( $36 \%$ women, $27 \%$ men) and the stress caused by poor interpersonal relations ( $12 \%$ women, $11 \%$ men) (Figure 6-B). For example. exposure to loud noise in the workplace is reported almost three times more often by men than by women ( $36 \%$ vs. $13 \%$ ). Similarly, exposure to dust or fibres in workplace air is reported much more often by men than by women ( $41 \%$ vs. $24 \%$ ), as is exposure to dangerous chemicals ( $25 \% \mathrm{vs} .10 \%$ ).

## Workplace health hazards and occupational status

When examined in light of perceived exposure to health hazards in the workplace, occupations fall into two broad categories. Those employed in professional, semi-professional, supervisory, or skilled positions rend to report higher levels of
exposure to workplace hazards than those employed as semi-skilled or unskilled workers. This division exists for both sexes but is more pronounced among men than among women (Table 6-2).

The perception of a number of specific health risks tends to vary with occupational status. Some, such as stress from job demands, poor interpersonal relations, and exposure to computer screens, decrease in prevalence with each occupational category, from professional through to unskilled labourer. Other health risks (Table 6-3), particularly those related 10 the physical environment, tend to be most often reported by skilled workers.

### 6.3.3 Perceived Heath Impact of Exposure to Workplace Hazards

Of the $66 \%$ of Canadian adults reporting exposure 10 one or more physical workplace health hazards. over 4.5 million ( $32 \%$ of those working at a job or business) helieved that this exposure had negatively

FIGURE 6-B
Perceived exposure to health hazards at work by sex, population aged $15+$ working at a job or business, Canada, 1991

Health hazard


General Social Survey, 1991
affected their health (Table 6-2). This figure does not vary by more than a few percentage points with occupational status, with two exceptions: skilled workers are somewhat more likely than the total working population to believe that workplace health hazards have affected their health $(40 \%$ vs. $32 \%$ of those working at a job or business), whereats semi-skilled labourers are less likely ( $27 \%$ vs. $32 \%$ ).

Overall, fewer women ( $28 \%$ ) than men ( $34 \%$ ) reported health effects as a result of workplace exposure (Figure 6-C). Among those employed in semi-professional positions, however, marginally more women than men ( $35 \%$ vs. $32 \%$ ) associated health risks at work with damage to their own health. Sex differences are largest among those employed as supervisors or foremen/women ( $33 \%$ of men: $23 \%$ of women), skilled labourers ( $43 \%$,
of men: $33 \%$ of women), and semi-skilled labourers ( $31 \%$ of men; $23 \%$ of women).

Days of activity lost and perceived workplace health hazards

As reported in Chapter 3, Canadian paid workers were off the job for health reasons 0.24 days in the two weeks leading up to the survey; this translates into 6.24 days in the previous 12 months (excluding holidays). Although there were no specific reasons ascertained by the survey for time off work, the findings are consistent with the belief that workplace health risks affect the health of some workers.

Workers worried about the risk of accident or injury were by far the most likely to lose time from work - 16.6 annual days, on average. This

FIGURE 6-C
Perceived impact of exposure to workplace hazards on health, by occupational status and sex, population aged $15+$ working at a job or business, Canada, 1991


General Social Survey, 1991
is well ahead of the next hazard - poor air quality ( 8.6 days). The 8.1 days associated with excessive job demands and the 7.3 days associated with poor interpersonal relations are also important. especially when one considers the number of workers involved (Text Table 6-B).

There are pronounced sex differences in the relationship between time lost from work and perceived workplace hazards. For those who cite exposure to the risk of accident or injury, and computer screens, men lose more time than women. The reverse is true - women lose more time than men - for those who are stressed by excessive job demands or poor interpersonal relations or who are exposed to chemicals/fumes and other physical hazards.

### 6.3.4 Job Satisfaction

The vast majority of working Canadians describe themselves as either very satisfied ( $57 \%$ ) or
somewhat satisfied ( $23 \%$ ) with their jobs. Only $11 \%$ of employed Canadian adults are dissatisfied with their current jobs (Text Table 6-C). Whereas the survey did not probe specific reasons for job satisfaction. there does seem to be a negative relationship with exposure to health hazards in the workplace and a positive association with access to health-related employment benefits.

## Job satisfaction and exposure to workplace health hazards

Exposure to perceived workplace health hazards appears to be associaied with job dissatisfaction. Whereas most men who report one or more health hazards at work describe themselves as very satisfied with their jobs ( $55 \%$ ), this figure is seven percentage points less than for those who do not report such exposure ( $62 \%$ ). Women are also somewhat less satisfied with their job if they perceive themselves as exposed to health hazards (Text Table 6-C). However, the relationships are

TEXT TABLE 6-B
Annual days lost from work, by perceived exposure to workplace hazards and sex, population aged $15+$ whose main activity was working in the last two weeks, Canada, 1991

| Perceived | Time lost from work |  |  |
| :---: | :---: | :---: | :---: |
|  | Both sexes | Male | Female |
|  | (Days per year) |  |  |
| Total | 6.2 | 5.7 | 7.3 |
| Risk of accident or injury | 16.6 | 18.5 | 10.7 |
| Poor air quality | 8.6 | 8.6 | 8.3 |
| Computer screens | 6.8 | 7.5 | 6.0 |
| Excessive job demands | 8.1 | 7.0 | 9.6 |
| Dust/fibres in air | 6.8 | 6.8 | 7.0 |
| Loud noise | 6.8 | 6.8 | 7.0 |
| Dangerous chemicals/fumes | 6.5 | 6.2 | 8.3 |
| Poor interpersonal relations | 7.3 | 5.7 | 9.4 |
| Other physical hazards | 6.8 | 5.5 | 9.9 |

General Social Survey, 1991

TEXT TABLE 6-C
Job satisfaction by sex and perceived exposure to workplace health hazards, population aged 15+ working at a job or business, Canada, 1991

| Sex and perceived exposure to workplace health hazards | Job satisfaction |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total job satisfaction | Dissatisfied | Somewhat satisfied | Very <br> satisfied | No opinion/ N.S. |
|  | (Percent) |  |  |  |  |
| Both sexes | 100 | 11 | 28 | 57 | 4 |
| Exposed | 100 | 12 | 30 | 57 | 1 |
| Not exposed | 100 | 9 | 26 | 63 | 2 |
| Male | 100 | 11 | 29 | 56 | 4 |
| Exposed | 100 | 13 | 30 | 55 | 1 |
| Not exposed | 100 | 8 | 26 | 62 | 3 |
| Female | 100 | 10 | 27 | 59 | 4 |
| Exposed | 100 | 10 | 29 | 59 | 1 |
| Not exposed | 100 | 9 | 25 | 64 | 2 |

General Social Survey. 1991
weak for both sexes, and the majority of Canadians working at a job or business express high levels of satisfaction regardless of their perception of health hazards.

## Job satisfaction and employment health benefits

A higher proportion of male and female Canadians who receive a licalth-related job benefit report being very satisfied with their jobs compared to those not receiving the benefit, and this is true regardless of the benefit being provided (Table 6-4). As might be anticipated, the majority of non-self-employed Canadians who are dissatisfied with their jobs do not receive employment health benefits. It should be noted. however, that these patterns may reflect occupational status and economic perquisites that accompany employment health benefits, rather than a strict concern with health coverage.

### 6.4 DISCUSSION

### 6.4.1 Methodological Considerations

Although the questions in Section $M$ of the GSS questionnare were new in 1991, there is little reason not to accept the data at face value. Responses of "don't know" for the questions on employment benefits were acceptably low for most benefits (e.g.. $5 \%$ for disability insurance), although there was a higher level of uncertainty about counselling ( $12 \%$ ) and maternity leave $(17 \%)$. It is noteworthy that the proportion of "don't know" answers for some of the less common employment benefits increases as occupational status decreases (data not shown). However, this is as much a substantive finding as it is a methodological issue.

In order to improve accuracy of recall, the survey used a two-week reporting period for questions about sick leave (see Appendix II). In this chapter, these values have been multiplied by 2610 achieve an annual figure. This calculation makes no provision for vacation leave or other paid holidays; thus, the values in Text Table 6-B slightly overstate the actual loss of productivity due 10 health problems. However, days of arunal holiday leave vary considerably by occupational status and were not determined by the survey, making correction of these lost time values a complex matter. As shown in Text Table 6-B, annual days lost from work provide a reasonable basis
for comparing associated hazards. Moreover, because the survey data were collected throughout the year (see Ch. 1), there is no worry about seasonality when inflating the two-week reports to annual values.

Text Table 6-B links time lost from work with exposure to various job hazards, and it is very important to note that this is a statistical association only. Survey respondents were not asked the specific reason for their absence, so it is not accurate to relate these days lost to particular causes. Although such an association is plausible. so are other explanations. For example, workers who take a lot of sick days may also be predisposed to identify health hazards at work. Because of the large number of work days involved, this issue demands further examination.

In a similar fashion, the relationships between joh satisfaction and exposure to workplace health hazards (Text Table 6-C) and between job satisfaction and employment health benefits are only associational: reasons for (dis)satisfaction were not determined, and this whole question needs further study. What is perhaps most striking about these findings is the high level of satisfaction regardless of the benefits or hazards experienced. However, high satisfaction is not a new finding in surveys of Canadian workers. ${ }^{2}$

### 6.4.2 Substantive Issues

Just under 10 million Canadians are exposed to heatth hazards on the job, by their own report, and over 4.5 million believe their health has been adversely affected by these exposures. These are large and impressive numbers. underscoring the importance of these new findings.

This chapter also reveals some recurring patterns regarding work and health as related to occupational status and the sex of the worker. Women, whose relatively low eamings compared to those of men have heen amply documented. ${ }^{3}$ also have less access to many health-related employment benefits. This is true of all occupational categories, especially skilled and semi-skilled occupations. Further examination of this issue, laking account of the union membership of the worker as well as more detailed descriptions of occupation, might be revealing. Such an examination should also take account of the fact that men are more likely than women to report
exposure to hazards on the job, as well as negative health impacts due to these exposures.

A related issue is the sex difference in time lost from work: for some associated hazards. time off is greater for men; for others, it is greater for women. The reasons for this are unclear, but they are of potential importance for practical purposes.

Access to emplayment health benefits is directly related to occupational status, yet exposure to health hazards is inversely related to occupational status, at least for some hazards. Among the more exposed groups of employees. skilled workers are noteworthy for their tendency $t 0$ cite both exposure and harm, compared to semi-skilled and unskilled workers. As with the sex issue, this calls for further analysis to take account of occupational status, indusiry, and union membership. It would be important to know. for example, whether information on workplace hazards is equally available to all occupational groups.

The familiar finding of an apparently high level of job satisfaction should not be cause for complacency on the part of employers or managers. When the average worker stressed by poor interpersonal relations on the job, for example. takes 7.3 days of sick leave annually, the lost productivity on an aggregate basis is considerable. Although such workers may be glad to have had a job during the depth of the recession when the survey was conducted, this and other results of the 1991 GSS suggest many challenges for those concerned with the future of the Canadian economy.

## REFERENCES

1. Pineo. Peter. (1985), Revisions to the Pineo-Porter-McRoberts socio-economic classification of occupations for the 1981 Census. Research report No.125, Program for Quanitative Studies in Economirs and Population. Hamilton: McMaster University, 1985.
2. Krahn. H. Quality of Work in the Service Sector. General Social Survey Analysis Series. Ottawa: Minister of Industry. Science and Technology. 1993. Statistics Canada Catalogue No. 11-612E. No. 6.
3. Statistics Canada-Income After Tax. Distributions by Size in Canada, 1990. OHawa: Minister of Industry, Science and Technology, 1992. Catalogue No. 13-210.

TABLE 6-1
Employment health benefits by sex and occupational status, paid workers aged 15+, Canada, 1991

| Sex and occupational status | Employment health benefits(1) |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Paid workers age 15+ |  | Disability insurance |  | Medical benefits |  | Dental benefits |  | Counselling services |  | Maternity leave |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |
| All groups | 12,350 | 100 | 6,954 | 56 | 6,547 | 53 | 6,535 | 53 | 3,843 | 31 | 3,657 | 30 |
| Prof/ high-level man. | 1,501 | 100 | 1.197 | 80 | 1,160 | 77 | 1,166 | 78 | 872 | 58 | 745 | 50 |
| Semi-prot/ tech \& middle man. | 1,973 | 100 | 1,351 | 68 | 1,264 | 64 | 1,300 | 66 | 860 | 44 | 866 | 44 |
| Supervisors/ fore(wo)men | 451 | 100 | 363 | 80 | 320 | 71 | 338 | 75 | 191 | 42 | 160 | 35 |
| Skilled workers | 2,270 | 100 | 1.413 | 62 | 1,387 | 61 | 1,344 | 59 | 740 | 33 | 630 |  |
| Semi-skilled workers | 3,069 | 100 | 1,287 | 42 | 1,220 | 40 | 1,182 | 39 | 608 | 20 | 646 |  |
| Unskilled workers | 2,715 | 100 | 1,274 | 47 | 1.128 | 42 | 1.129 | 42 | 548 | 20 | 572 |  |
| Not stated | 370 | 100 | 68 | 18 | 67 | 18 | 78 | 21 | -- | -- | 39 | 11 |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |
| All groups | 6.709 | 100 | 4.237 | 63 | 3,938 | 59 | 3.938 | 59 | 2.172 |  | 1.800 | 27 |
| Proi/ high-level man. | 767 | 100 | 659 | 86 | 625 | 81 | 631 | 82 | 471 |  | 376 |  |
| Semi-prof/ tech \& middle man. | 990 | 100 | 707 | 71 | 672 | 68 | 674 | 68 | 397 | 40 | 376 | 38 |
| Supervisors/ fore(wo)men | 306 | 100 | 258 | 84 | 217 | 71 | 234 | 77 | 119 | 39 | 104 | 34 |
| Skilled workers | 1,409 | 100 | 954 | 68 | 961 | 68 | 951 | 68 | 504 | 36 | 330 |  |
| Semi-skilled workers | 1,363 | 100 | 761 | 56 | 681 | 50 | 656 | 48 | 322 | 24 | 294 |  |
| Unskilled workers | 1,672 | 100 | 849 | 51 | 739 | 44 | 742 | 44 | 345 | 21 | 302 | 18 |
| Not stated | 202 | 100 | -- | -- | -- | - | -- | - | -- | -- |  | -- |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |
| All groups | 5,641 | 100 | 2.718 | 48 | 2,608 | 46 | 2.597 | 46 | 1,671 | 30 | 1,857 | 33 |
| Prof/ high-level man. | 733 | 100 | 538 | 73 | 535 |  | 535 | 73 | 401 | 55 | 369 |  |
| Semi-prof/ tech \& middle man. | 983 | 100 | 644 | 66 | 593 |  | 626 | 64 | 463 |  | 490 | 50 |
| Supervisors/ fore(wo)men | 145 | 100 | 106 | 73 | 103 | 71 | 103 | 71 |  |  | 57 |  |
| Skilled workers | 861 | 100 | 459 | 53 | 426 | 49 | 393 | 46 | 236 |  | 299 |  |
| Semi-skilled workers | 1,707 | 100 | 526 | 31 | 539 | 32 | 526 | 31 | 286 |  | 352 |  |
| Unskilled workers | 1,042 | 100 | 425 | 41 | 389 | 37 | 386 | 37 | 203 | 20 | 271 | 26 |
| Not stated | 168 | 100 |  |  |  | -- |  | -- | -- | -- |  |  |

(1) Number and proportion do not add to totals as these are separate variables.

Only number and proportion of affirmative responses shown.

TABLE 6-2
Perceived exposure to workplace hazards by sex and occupational status, population aged $15+$ working at a job or business, Canada, 1991


General Social Survey, 1991

TABLE 6-3
Type of perceived workplace hazard exposure by sex and occupational status, population aged $15+$ working at a job or business,
Canada, 1991

| Sex and occupational status | Type of hazard(1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Workforce population $15+$ |  | Too many demands / hours |  | Risk of accident / injury |  | Poor interpersonal relations |  | Dust in air |  | Dangerous chemicals |  | Loud noise |  | Computer screens |  | Air quality |  | Other dangers |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All groups | 14,597 | 100 | 3,822 | 26 | 1,015 | 7 | 1,668 | 11 | 4,891 | 34 | 2.686 | 18 | 3.748 | 26 | 4.470 | 31 | 3.220 | 22 | 816 | 6 |
| Professionals/ high-level management | 1.733 | 100 | 739 | 43 | 70 | 4 | 289 | 17 | 388 | 22 | 201 | 12 | 249 | 14 | 954 | 55 | 445 | 26 | 102 | 6 |
| Semi-prof./ technicians \& middle management | 2.407 | 100 | 912 | 38 | 147 | 6 | 361 | 15 | 634 | 26 | 356 | 15 | 409 | 17 | 1,137 | 47 | 623 | 26 | 144 | 6 |
| Supervisors/ fore(wo)men | 724 | 100 | 227 | 31 | 45 | 6 | 81 | 11 | 346 | 48 | 140 | 19 | 215 | 30 | 228 | 31 | 138 | 19 | 44 | 6 |
| Skilled workers | 2.868 | 100 | 666 | 23 | 244 | 9 | 287 | 10 | 1,303 | 45 | 804 | 28 | 1.114 | 39 | 907 | 32 | 785 | 27 | 219 | 8 |
| Semi-skilled workers | 3.383 | 100 | 661 | 20 | 232 | 7 | 345 | 10 | 1,019 | 30 | 565 | 17 | 876 | 26 | 723 | 21 | 609 | 18 | 165 | 5 |
| Unskilled workers | 3.094 | 100 | 589 | 19 | 267 | 9 | 296 | 10 | 1.172 | 38 | 613 | 20 | 865 | 28 | 486 | 16 | 602 | 19 | 139 | 4 |
| Not stated | 389 | 100 | - - | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 36 | 9 | - - | -- - | - | -- |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All groups | 8.194 | 100 | 2.194 | 27 | 710 | 9 | 904 | 11 | 3.366 | 41 | 2,031 | 25 | 2.919 | 36 | 2,175 | 27 | 1.928 | 24 | 576 | 7 |
| Protessionals/ high-level management | 938 | 100 | 443 | 47 | 40 | 4 | 168 | 18 | 207 | 22 | 129 | 14 | 151 | 16 | 564 | 60 | 230 | 24 | 70 | 8 |
| Semi-prol./ technicians \& middle management | 1,280 | 100 | 501 | 39 | 60 | 5 | 182 | 14 | 358 | 28 | 180 | 14 | 285 | 22 | 663 | 52 | 326 | 25 | 82 | 6 |
| Supervisors/ fore(wo)men | 506 | 100 | 158 | 31 | 43 | 8 | 56 | 11 | 282 | 56 | 121 | 24 | 194 | 38 | 153 | 30 | 101 | 20 | 40 | 8 |
| Skilled workers | 1.848 | 100 | 415 | 22 | 203 | 11 | 162 | 9 | 1.058 | 57 | 723 | 39 | 993 | 54 | 335 | 18 | 544 | 29 | 195 | 11 |
| Semi-skilled workers | 1,555 | 100 | 314 | 20 | 168 | 11 | 180 | 12 | 629 | 40 | 416 | 27 | 627 | 40 | 264 | 17 | 333 | 21 | 104 | 7 |
| Unskilled workers | 1.853 | 100 | 343 | 19 | 192 | 10 | 156 | B | 816 | 44 | 456 | 25 | 657 | 35 | 171 | 9 | 379 | 20 | 85 | 5 |
| Not stated | 214 | 100 | -- | - - | - - | -- | -- | - - | - - | - - | -- | -- | -- | - - | -- | - - | -- | -- | -- | - - |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All groups | 6,403 | 100 | 1,628 | 25 | 304 | 5 | 764 | 12 | 1.525 | 24 | 655 | 10 | 829 | 13 | 2.295 | 36 | 1.292 | 20 | 240 |  |
| Prolessionals/ high-level management | 795 | 100 | 296 | 37 | 30 | 4 | 121 | 15 | 181 | 23 | 72 | 9 | 98 | 12 | 390 | 49 | 215 | 27 | 32 | 4 |
| Semi-prof./ technicians \& middle management | 1,126 | 100 | 411 | 36 | 87 | 8 | 178 | 16 | 276 | 24 | 176 | 16 | 124 | 11 | 474 | 42 | 297 | 26 | 63 | 6 |
| Supervisors/ fore(wo)men | 218 | 100 | 68 | 31 | -- | -- | 26 | 12 | 65 | 30 | -- | -- | - | -- | 75 | 34 | 37 | 17 | -- |  |
| Skilled workers | 1.020 | 100 | 250 | 25 | 42 | 4 | 125 | 12 | 245 | 24 | 81 | 8 | 121 | 12 | 572 | 56 | 241 | 24 |  |  |
| Semi-skilled workers | 1,828 | 100 | 347 | 19 | 65 | 4 | 165 | 9 | 391 | 21 | 150 | 8 | 248 | 14 | 459 | 25 | 276 | 15 | 61 | 3 |
| Unskilled workers | 1,240 | 100 | 246 | 20 | 76 | 6 | 141 | 11 | 356 | 29 | 156 | 13 | 208 | 17 | 315 | 25 | 223 | 18 | 54 | 4 |
| Not stated | 175 | 100 | - - | - - | -- | -- | -- | -- | - - |  | - - | -- | -- | -- | -- | -- | -- | -- | -- |  |

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

TABLE 6-4
Job satisfaction by sex and employment benefits, paid workers aged 15+, Canada, 1991

| $\begin{aligned} & \text { Sex and } \\ & \text { employment benefits }(1) \end{aligned}$ | Job satisfaction |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total job satisfaction |  | Dissatistied |  | Somewhat satisfied |  | Very satisfied |  | No opinion/ not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |

Both sexes

| Paid workers age 15+ | 12,350 | 100 | 1,426 | 12 | 3,561 | 29 | 6,841 | 55 | 521 | 4 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :--- |
| Disability Insurance | 6,954 | 100 | 633 | 9 | 2,045 | 29 | 4,193 | 60 | 83 | 1 |
| Medical benefits | 6,547 | 100 | 622 | 10 | 1,931 | 29 | 3,901 | 60 | 92 | 1 |
| Dental benefits | 6,535 | 100 | 657 | 10 | 1,950 | 30 | 3,833 | 59 | 95 | 1 |
| Counselling services | 3,843 | 100 | 316 | 8 | 1,100 | 29 | 2,395 | 62 | 33 | 1 |
| Maternity leave | 3,657 | 100 | 282 | 8 | 998 | 27 | 2.337 | 64 | 40 | 1 |

Male

| Paid workers age 15+ | 6,709 | 100 | 835 | 12 | 1,981 | 30 | 3,594 | 54 | 299 | 4 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Disability Insurance | 4,237 | 100 | 416 | 10 | 1,281 | 30 | 2,471 | 58 | 68 | 2 |
| Medical benefits | 3,938 | 100 | 399 | 10 | 1,198 | 30 | 2,273 | 58 | 68 | 2 |
| Dental benefits | 3,938 | 100 | 424 | 11 | 1,207 | 31 | 2,235 | 57 | 72 | 2 |
| Counselling services | 2,172 | 100 | 187 | 9 | 641 | 29 | 1,325 | 61 | -- | -- |
| Matemity leave | 1,800 | 100 | 144 | 8 | 501 | 28 | 1,137 | 63 | -- | -- |

Female

| Paid workers age 15+ | 5,641 | 100 | 591 | 10 | 1,580 | 28 | 3,247 | 58 | 222 | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Disability Insurance | 2,718 | 100 | 217 | 8 | 764 | 28 | 1,722 | 63 | -- | -- |
| Medical benetits | 2,608 | 100 | 223 | 9 | 733 | 28 | 1.628 | 62 | -- | -- |
| Dental benefits | 2,597 | 100 | 233 | 9 | 743 | 29 | 1.598 | 62 | -- | -- |
| Counselling services | 1,671 | 100 | 129 | 8 | 460 | 28 | 1.069 | 64 | -- | -- |
| Maternity leave | 1.857 | 100 | 138 | 7 | 497 | 27 | 1,199 | 65 | -- | -- |

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

## CHAPTER 7

## HEALTH CARE UTILIZATION

### 7.1 HIGHLIGHTS

- More than nine out of 10 Canadians (94\%) aged 15 and over reported contact with a health care professional in the 12 months prior to the 1991 GSS. General practitioner consultation is the most frequently cited contact, reported by $82 \%$ of Canadians. Psychologist consultation is the least frequently cited contact, reported by $4 \%$ of Canadians.
- People with a low income are more likely to visit a general practitioner, medical specialist, nurse or psychologist than higher-income Canadians. For example, $86 \%$ of those with the lowest incomes reported visiting a general practitioner, compared to $83 \%$ of those with the highest incomes.
- Canadians with a higher income are much more likely to consult a dentist at least once a year. Approximately $76 \%$ of Canadians with the highest incomes reported a visit with a dentist in the 12 months prior to the survey. compared to $33 \%$ of Canadians with the lowest incomes.
- Overall, $11 \%$ of Canadians living in private households spent at teast one night in a health care institution in the 12 months prior 10 the survey. Canadians 65 years of age and over with the lowest incomes were more likely ( $19 \%$ ) to spend time in an institution
than Canadians 65 years of age and over in the two highest income groups ( $14 \%$ ).
- Canadians from the Allantic provinces are more likely than their Prairie counterparts to experience a delay in obtaining health care. Twelve percent of people from Atlantic Canada experienced a delay in obtaining health care. compared to $3 \%$ of people from the Prairie provinces.
- Overall, $51 \%$ of Canadians aged 65 and over were advised to get an influenza inoculation in the fall or winter of 1990-91. The proportion of people aged 65 and over who were advised to get a flu shot is lighest for people in Ontario $(56 \%)$, Newfoundland ( $54 \%$ ) and Quebec ( $54 \%$ ) and lowest for people in Saskatchewan ( $33 \%$ ) and New Brunswick ( $36 \%$ ).
- Nurse utilization patterns by region have changed since 1985. While overall the proportion of Canadians who reported visiting a nurse in the 12 months prior to the survey has remained stable since 1985 at $11 \%$, the proportion of people in Quebec who reported visiting a nurse increased from $7 \%$ in 1985 to $17 \%$ in 1991, and the proportion of people in British Columbia who reported visiting a nurse increased from $8 \%$ in 1985 to $12 \%$ in 1991. Conversely, the proportion of people in Ontario who reported a consultation with a nurse decreased from $13 \%$ in 1985 to $8 \%$ in 1991.


### 7.2 METHODS

The utilization of health care services during the 12 months prior to the 1991 GSS was determined through a series of questions presented in Section C of the GSS questionnaire (see Appendix II). Respondents were asked about the number of times they had seen or talked to each of nine categories of health care professionals - general practitioner; medical specialist: dentist; nurse; optometrist or optician; chiropractor; psychologist. social worker, or counsellor; physio-therapist; and any other health care professional - during the 12 months preceding the survey (Question Cl ). Respondents were then asked if they had spent any nights as a patient in a hospital, nursing home, or convalescent home during the 12 months before the survey (Question C2). Finatly, respondents were asked if they had experienced any delays in obtaining health care in the 12 months prior to the survey (Question C3); those who responded positively were asked for which lype of medical service the delay had occurred (Question C4).

Information on influenza inoculations was collected in Section D. First, respondents were asked if a doctor or nurse had recommended that they get a flu shot during the fall or winter of 1990-91 (Question D1). All respondents were then asked if they had received a flu shot during the fall or winter of 1990-91 (Question D3). Those respondents who had not received a flu shot were asked why they had not received a shot (Question D4).

The proportion of people surveyed who did not respond to questions examined in this chapter is low. Question Cl had a non-response rate of less than $1 \%$. The non-response rates for questions on flu shots recommended and received, and on delays in obtaining care, were also well below one percent.

Several caveats should be noted when interpreting the data. First, the use of a 12 -month recall period for the frequency of health care contact may result in an underestimate of this frequency. While the National Health Interview Survey in the United States has shown that annual estimates of physician visits based on a two-week recall period are higher than those based on a 12 -month period, estimates based on a longer period are more useful in identifying groups of individuals who tend to use health services more than others. Moreover, health
care is seasonal and this seasonality cannot be readily adjusted for in surveys using very much shorter recall periods and a 12 -month reference period is unavoidable for relatively rare events such as visits to a psychologist or psychotherapist. The assumption that underlies the use of a 12 -month period is that all respondents are equally prone to reporting errors, regardless of age, sex, income, or other characteristics.

Questions relating to delays in obtaining health care (C3, C4) were based on self-perceived delays only. No attempt was made to separate health threatening delays from non-threatening delays.

Finally, since income adequacy and age are highly correlated, data on income adequacy and health care utilization are presented for those aged 65 years and older to control for the confounding age variable.

### 7.3 RESULTS

### 7.3.1 Contact with Health Care Professionals

More than nine out of 10 Canadians ( $94 \%$ ) aged 15 and over contacted a health care professional during the 12 months prior to the survey (Text Table 7-A). General practitioner consultation is the most frequently reported type of contact ( $82 \%$ ), followed by consultation with a dentist ( $55 \%$ ), optometrist $(29 \%)$, and medical specialist $(28 \%)$. Contact with a psychologist is the least frequently reported ( $4 \%$ ).

## Contact by age and sex

In all cases, an equal or higher proportion of women than men reported visiting a health care professional (Text Table 7-A). The gap between the sexes is largest for general practitioners, with which $87 \%$ of women reported contact compared to $77 \%$ of men. No difference exists between the sexes for nurse contact, with $11 \%$ of both sexes reporting contact.

Overall, the proportion of Canadians who visit a health care professional tends to increase with age (Table 7-1). By type of health care professional, the proportion of people who have contact increases with age for general practitioners, medical specialists, and "other" health care professionals. Conversely, the proportion of Canadians who visit a health care professional

TEXT TABLE 7-A
Contact with a health care professional in the 12 months preceding the survey, by type of professional contacted and sex, age 15+, Canada, 1991

| Type of professional contacted | Contact with pr |  | professional |
| :---: | :---: | :---: | :---: |
|  | Both sexes | Male | Female |
|  | (Percent) |  |  |
| At least one health care professional | 94 | 91 | 96 |
| General practitioner | 82 | 77 | 87 |
| Dentist | 55 | 53 | 57 |
| Optometrist | 29 | 26 | 33 |
| Medical specialist | 28 | 24 | 32 |
| Nurse | 11 | 11 | 11 |
| Chiropractor | 9 | 9 | 10 |
| Physiotherapist | 6 | 5 | 6 |
| Other | 6 | 5 | 6 |
| Psychologist | 4 | 3 | 4 |

General Social Survey, 1991
decreases with age for dentists and psychologists. Ten percent of all Canadians between the ages of 25 and 74 reported seeing a nurse, while a higher proportion of the 15 to 24 year age group ( $14 \%$ ) and the 75 and older age group ( $17 \%$ ) consulted with a nurse. Chiropractor and physiotherapist consultation gradually increases until mid-life (age 45-64) and then decreases for those aged 65 and older.

Several interesting patterns emerge when contact is examined by both sex and age (Table 7-1). While a higher proportion of women reported contact with a health professional, the difference between the sexes is most pronounced in the 25 to 44 year old age category. For example. $86 \%$ of women aged 25 to 44 reported general practitioner contact, compared to $72 \%$ of men aged 25 to 44 , a difference of 14 percentage points. Similarly, $31 \%$ of women aged

25 to 44 reported visiting a medical specialist, compared to $19 \%$ of men, a difference of 12 percentage points.

The age trend for medical specialist contact varies between the sexes. The proportion of men who report visiting a medical specialist increases at a steeper rate than for women (Figure 7-A). For men, there is a 25 percentage point difference between those aged 15 to $24(18 \%)$ and those aged 75 and over ( $43 \%$ ) who reported a contact, compared to only a seven percentage point difference for women ( $28 \%$ vs. $35 \%$ ). As a result of the steep increase observed for men, a higher proportion of women than men aged 64 and under reporled visiting a medical specialist. whereas a higher proportion of men than women aged 65 and older reported visiting a specialist.

FIGURE 7-A
Medical specialist contacts in the 12 months preceding the survey by age group and sex, age 15+, Canada, 1991


## Age group

General Social Survey, 1991

## Contact by province

Contact with health care professionals varies across the provinces (Table 7-2). Compared to the other provinces. a lower proportion of people from Quebec ( $78 \%$ ) visited a general practitioner in the 12 months prior to the survey, whereas a higher proportion of people from Prince Edward Island ( $86 \%$ ) and British Columbia ( $85 \%$ ) reported such contact. A higher proportion of people from Quebec (32\%) and Nova Scotia (33\%) reported contact with a specialist, whereas a lower proportion of people from the Prairie provinces ( $23 \%$ ), Newfoundland ( $21 \%$ ), and Prince Edward Island ( $25 \%$ ) reported contact with a medical specialist. In Quebec, $17 \%$ of residents indicated a visit with a nurse, compared to only $8 \%$ of residents of Ontario and Saskatchewan. Provincial varialion in contact with a dentist is marked. Sixty-three percent of Ontario residents reported contact with a dentist, followed by $59 \%$ in

British Columbia; only $37 \%$ of people in Newfoundland reported a dental visit.

Utilization of other types of health care professionals (chiropractor, psychologist, and physio-therapist) is generally higher in western Canada. For example, $18 \%$ of people from Saskatchewan, $16 \%$ of people from Manitoba, and $13 \%$ of people from British Columbia reported seeing a chiropractor, compared to only $7 \%$ in Quebec and $3 \%$ in New Brunswick. Ten percent of residents in British Columbia reported visiting a physiotherapist, compared to $6 \%$ for all of Canada.

A very high proportion of residents in Nova Scotia ( $33 \%$ ), New Brunswick ( $30 \%$ ), Newfoundland ( $26 \%$ ), and Prince Edward Island ( $26 \%$ ) reported contact with an "other" health care professional, compared to only $6 \%$ for all of Canada.

## Contact by income adequacy

A higher proportion of those in the lowest group reported consulting a general practitioner, medical specialist, nurse, and psychologist (Table 7-3). Eighty-six percent of Canadians in this group reported consulting a physician compared $1082 \%$ for the entire population, $33 \%$ reported consulting a medical specialist compared to $28 \%$ for the entire population, $17 \%$ reported contacting a nurse compared to $11 \%$ for the entire population, and $11 \%$ reported contacting a psychologist compared to $4 \%$ for the entire population.

Conversely, the proportion of Canadians who reported visiting a dentist increases as income adequacy increases. Only $33 \%$ in the lowest group reported consulting a dentist, compared to $76 \%$ of those in the highest group.

### 7.3.2 Frequency of Medical Doctor Contact

Frequency of contact by age and sex
Four out of ten Canadians ( $42 \%$ ) consulted a medical doctor (includes general practitioner and medical specialist) on one or two occasions in the year preceding the survey, while $11 \%$ reported 10 or more medical doctor contacts in that year (Table 7-4). As age increases, the proportion of Canadians who contact a medical doctor more frequently also increases. For example. $7 \%$ of those aged 15 to 24 reported consulting a medical doctor 10 or more times, compared to $27 \%$ for those aged 75 and over. Conversely, $45 \%$ of those aged 15 to 24 consulted a medical doctor one or two times, compared to only $21 \%$ for those aged 75 and over. The same pattern holds true when examined by sex.

## Frequency of contact by income adequacy

Among older Canadians, income adequacy and frequency of contact are inversely related. Those in a higher group are more likely to contact a medical doctor on just one or two occasions, while those in a lower group are more likely to contact a medical doctor 10 or more times (Text Table 7-B). Twenty-eight percent of those in the upper middle group reported one or two medical doctor contacts, compared to $19 \%$ of those in the lowest category. Conversely, only $15 \%$ of those in the upper middle group reported 10 or more medical
doctor contacts, compared to $30 \%$ of those in the lowest group.

### 7.3.3 Number of Institutionalized Nights

Institutionalized nights by age and sex
Overall. $11 \%$ of Canadians living in private households spent at least one night as a patient in a hospital, nursing home or convalescent home during the 12 months preceding the survey (Table 7-5). This percentage was lowest for those aged 45 to $64(9 \%)$ and highest for those aged 75 and over (22\%). A lower proportion of men aged 44 and under spent at least one night in an institution compared to their female counterparts. Conversely, a higher proportion of men aged 45 and over spent at least one night in an institution compared to their female counterparts.

## Institutionalized nights by income adequacy

A higher proportion of senior Canadians in a lower group reported spending at least one night in an institution compared to those in a higher group (Text Table 7-C). As well, those in a lower group are more likely to spend more time in an institution than those in a higher group. For example, $15 \%$ of those aged 65 years and older in the lowest group spent three or more nights in an institution, compared $1010 \%$ of those aged 65 years and over in the two highest categories combined.

### 7.3.4 Delays in Care

Delays by age and sex
Overall, 7\% of Canadians experienced a delay in obtaining some form of health care in the 12 months prior to the survey (Table 7-6). A higher proportion of women ( $8 \%$ ) than men ( $5 \%$ ) experience delays in health care. The proportion of Canadians who experience a delay in obtaining health care is relatively consistent across all age groups (Table 7-6). By type of medical service sought, 1 \% of Canadians aged 15 and over experienced a delay in obtaining hospital emergency room treatment, a medical appointment with a general practitioner and hospital admission for surgery or some other medical treatment; $2 \%$ experienced a delay in obtaining a medical appointment with a specialist.

TEXT TABLE 7-B
Medical doctor (includes both general practitioner and medical specialist) contacts in the 12 months preceding the survey, by income adequacy, age 65+, Canada, 1991

| Income adequacy | Number of contacts with a medical doctor |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | None | 1-2 | 3-9 | $10+$ | Not | stated |
|  | (Percent) |  |  |  |  |  |  |
| Total | 100 | 8 | 25 | 43 | 22 | 2 |  |
| Lowest | 100 | 7 | 19 | 43 | 30 | -- |  |
| Lower middle | 100 | 6 | 20 | 48 | 26 | -- |  |
| Middle | 100 | 7 | 26 | 45 | 21 | - |  |
| Upper middle | 100 | 10 | 28 | 47 | 15 | - |  |
| Highest | 100 | .. | 31 | 49 | - | -- |  |
| Not stated | 100 | 8 | 27 | 38 | 24 | 3 |  |

General Social Survey, 1991

TEXT TABLE 7-C
Number of institutionalized nights in the 12 months preceding the survey, by income adequacy, age 65+, Canada, 1991

| Income adequacy | Number of nights |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | None | $1+$ | 1-2 | $3+$ | Not | stated |
|  | (Percent) |  |  |  |  |  |  |
| Total | 100 | 83 | 17 | 3 | 14 | -- |  |
| Lowest | 100 | 80 | 19 | -- | 15 | - |  |
| Lower Middle | 100 | 79 | 21 | -- | 18 | -- |  |
| Middle | 100 | 83 | 17 | 3 | 14 | - |  |
| Upper middle | 100 | 86 | 14 | -- | 10 | -- |  |
| Highest | 100 | 86 | - | -- | -- | -- |  |
| Not stated | 100 | 84 | 16 | - | 13 | - |  |

## Delays by province

Provincial variations exist in delays in obtaining health care (Text Table 7-D). A higher proportion of people from the east experienced delays in obtaining health care compared to their western counterparts. The proportion of people experiencing delays in obtaining health care is lowest in Ontario and the Prairie provinces. This general pattern is true for both sexes.

### 7.3.5 Influenza Shots

Influenza shots by age and sex

Overall. $14 \%$ of Canadians were advised to get an influenza inoculation, and $14 \%$ of Canadians actually received a flu shot in the fall or winter of 1990-91 (Table 7-7). As age increases, the proportion of Canadians who were advised to get.

TEXT TABLE 7-D
Delays in obtaining health care in the 12 months preceding the survey, by province and sex, age 15+, Canada, 1991

| Province | Delays in obtaining health care |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Both | sexes | Male | Female |
|  | (Percent) |  |  |  |
| Canada | 7 |  | 5 | 8 |
| Atlantic | 12 |  | 11 | 13 |
| Newtoundland | 11 |  | 10 | 13 |
| Prince Edward Island | 16 |  | 13 | 19 |
| Nova Scotia | 11 |  | 10 | 13 |
| New Brunswick | 12 |  | 12 | 12 |
| Quebec | 9 |  | 6 | 11 |
| Ontario | 5 |  | 4 | 6 |
| Prairies | 3 |  | 3 | 3 |
| Manitoba | 4 |  | -- | 7 |
| Saskatchewan | 3 |  | $\rightarrow$ | 3 |
| Alberta | 4 |  | 3 | 4 |
| British Columbia | 8 |  | 8 | 9 |

and who obtained, a flu shot increases dramatically. For example $.47 \%$ of those aged 75 and over received a flu shot, compared $107 \%$ of those aged 44 and under. A slightly higher proportion of women ( $15 \%$ ) than men ( $13 \%$ ) received a flu shot. While this pattern generally holds true when examined by age, a higher proportion of men ( $51 \%$ ) than women ( $45 \%$ ) aged 75 and older received a flu shot.

## Reasons for not obtaining an influenza shot

The most frequently cited reasons for not obtaining a flu shot (Table 7-8) include: "I hardly ever get the flu" ( $40 \%$ ); "I never thought about it" ( $22 \%$ );
"my doctor never mentioned it" ( $12 \%$ ): "I haven't heard about it" ( $7 \%$ ); and "fear of side effects" (6\%).

## Influenza shots by province

Generally, a higher proportion of Canadians aged 65 and over from the eastern provinces (except New Brunswick) were advised to get a flu shot compared to their westem counterparts (Text Table 7-E). The proportion of Canadians aged 65 and over who were advised to get a flu shot is highest in Ontario ( $56 \%$ ) and Newfoundland ( $54 \%$ ) and lowest in Saskatchewan (33\%) and New Brunswick (36\%). The proportion of older Canadians

TEXT TABLE 7-E
Flu shots recommended and received in fall or winter 1990-91, by province, age 65+, Canada, 1991

| Province | Flu shot recommended | Flu shot received |
| :---: | :---: | :---: |
|  | (Percent) |  |
| Canada | 51 | 45 |
| Atlantic | 48 | 40 |
| Newtoundland | 54 | 43 |
| Prince Edward Island | 51 | 49 |
| Nova Scotia | 53 | 44 |
| New Brunswick | 36 | 31 |
| Quebec | 54 | 37 |
| Ontario | 56 | 53 |
| Prairies | 42 | 40 |
| Manitoba | 44 | 40 |
| Saskatchewan | 33 | 31 |
| Alberta | 47 | 46 |
| British Columbia | 42 | 44 |

who actually received a flu shot is highest in Ontario ( $53 \%$ ), Prince Edward Island ( $49 \%$ ), and Alberta ( $46 \%$ ) and lowest in New Brunswick (31\%) and Saskatchewan (31\%).

It is interesting to note the provincial variations between the proportion of seniors who were advised to get, and who actually received, a flu shot. In most provinces, the proportion of individuals who received a flu shot was within a few percentage
points of the proportion of people who were advised to get a flu shot. In Newfoundland, Nova Scotia, and Quebec, however, substantially fewer residents received shots than were advised to get shots.

### 7.3.6 Type of Contact by Health Problem

Almost two-thirds of Canadians reported some health problems in the year before the survey (see Chapter 2). Not surprisingly, those with a health

TEXT TABLE 7-F
Contact with selected health care professionals in the 12 months preceding the survey, by health problem, age 15+, Canada, 1991

| Health problem | Type of he | protessional cont |  |
| :---: | :---: | :---: | :---: |
|  | General practitioner | Medical specialist | Nurse |
|  | (Percent) |  |  |
| Population 15+ | 82 | 28 | 11 |
| Heart trouble | 95 | 52 | 17 |
| Diabetes | 94 | 51 | 22 |
| High blood cholesterol | 91 | 39 | 16 |
| Any emotional disorder | 91 | 48 | 23 |
| Hypertension | 90 | 35 | 14 |
| Arthritis \& meumatism | 90 | 39 | 14 |
| Asthma | 89 | 36 | 16 |
| Emphysema | 89 | 44 | 20 |
| Digestive problems other than stomach ulcers | 89 | 43 | 14 |
| Recurring migraine headaches | 89 | 36 | 11 |
| Stomach ulcer | 89 | 40 | 13 |
| Hay fever | 85 | 34 | 12 |
| Skin or other allergies | 87 | 37 | 13 |

problem are more likely to visit a general practitioner, medical speciatist, or nurse compared to the general Canadian population aged 15 and over (Text Table 7-F). Of all the types of health problems listed, people with heart trouble and people with diabetes are most likely to report contact with a general practitioner or medical specialist. Ninety-five percent of Canadians with heart trouble reported visiting a general practitioner, followed by $94 \%$ of diabetics; this compares with $82 \%$ of the total population. Similarly, $52 \%$ of those with heart trouble reported seeing a medical specialist, followed by $51 \%$ of those with diabetes; this compares with $28 \%$ of the total Canadian population. Nurse contact was reported by a higher proportion of people with any emotional disorder ( $23 \%$ ), diabetes ( $22 \%$ ), and emphysema ( $20 \%$ ) compared to those with other health care problems listed in the survey.

### 7.4 DISCUSSION

### 7.4.1 Changes Since 1978 and 1985

Questions on contact with one or more medical doctors, dentists, and nurses were asked in the 1978-79 Canada Health Survey. ${ }^{1}$ The 1978 Canada Health Survey collected information on medical doctor contact but did not distinguish between general practitioner and medical specialist. The 1985 GSS $^{2}$ collected information on general practitioner, medical specialist, dentist and nurse contact. As well, frequency of medical doctor contact (includes both general practitioner and medical specialist) was probed in both the 1978-79 CHS and the 1985 GSS. This section reports on the results of changes over time in utilization of various health care professionals using the 1978-79, 1985, and 1991 data from the above-mentioned surveys.

For the purpose of making comparisons across surveys, the term "medical doctor" refers to both general practitioners and medical specialists.

## Contact with health care professionals

The proportion of adult Canadians who reported consulting a medical doctor increased from $76 \%$ in 1978-79 to $84 \%$ in 1991 (Figure 7-B). Similarly, the proportion of Canadians who reported contacting a dentist increased from $47 \%$ in 1978-79 to $55 \%$ in 1991. As shown in Figure 7-B, the proportion of Canadians who reported contacting a nurse has
remained relatively stable since 1978 at about 10-11\%.

When utilization patterns over time are examined by sex and age group, some interesting pattems emerge. For example, the proportion of men who consulted a general practitioner has increased at a slightly higher rate ( $71 \%$ in 1985 to $77 \%$ in 1991) than the proportion of women ( $82 \%$ in 1985 to $87 \%$ in 1991). Still, a higher proportion of women than men consulted a general practitioner in both years. One of the key reasons women aged 25 to 44 make a higher proportion of contacts with general practitioners relates to the health care requirements associated with pregnancy and childbirth (Text Table 7-G).

While the proportion of Canadians who reported consulting a medical specialist has remained at about $28 \%$ since 1985, changes in utilization patterns are observed by sex and age categories. For example, Canadians aged 25 to 44 showed a decrease in utilization from $28 \%$ in 1985 to $25 \%$ in 1991. This same pattern holds true by sex (data not shown). Of particular interest is the change in medical specialist utilization patterns for the elderly population (Figure 7-C). For both sexes aged 65 1074 and for women aged 75 and over, the proportion who reported consulting a medical specialist decreased modestly (Figure 7-C). Conversely, for men aged 75 and over, utilization increased rather markedly, from $35 \%$ in 1985 to $43 \%$ in 1991.

The decrease in the proportion of specific age groups that reported contacting a specialist raises some interesting questions. While more research into this area is required, perhaps some questions to consider are: (a) do shortages of certain types of specialists exist? (b) is health status such that there is less need for certain types of medical specialists? (c) are general/family practitioners dealing with certain patient health problems themselves instead of referring them to specialists? The notable increase in utilization of specialists for men aged 75 and over may be in part attributable to the fact that the life expectancy of men is increasing and. correspondingly, there is an increased severity of morbidity among elderly men.

Generally, the changing utilization pattern from 1985 to 1991 observed for medical specialists and general practitioners also holds true for the regions. However, nurse utilization patterns over time are

Figure 7-B
Health professional contacts in 12 months preceding the survey, age 15+, Canada, 1978-79, 1985 and 1991


Health professional
(1) Indudes general practitioner and medical specialist.

Canada Health Survey 1978-79
General Social Survey, 1985 and 1991
quite different by region. In 1985, $7 \%$ of people in Quebec reported contacting a nurse. This proportion increased dramatically to $17 \%$ in 1991. Similarly, the proportion of people in British Columbia who reported consulting a nurse increased from $8 \%$ in 1985 to $12 \%$ in 1991. In Ontario, however, the proportion of people who reported consulting a nurse decreased from $13 \%$ in 1985 to $8 \%$ in 1991.

Without knowing where the nurse visit took place or the reason for the contact. it is difficult to speculate on the regional variations in nurse utilization. The relatively low utilization of physicians and high utilization of nurses in Quebec may be a reflection of that provinces's health care delivery system, which emphasizes offering a wide range of health and social services in a single location ("CLSCs") by a variety of health care professionals. ${ }^{3,4}$

### 7.4.2 Other Observations

## Provincial variations

Provincial variations in the use of chiropractors, physiotherapists, and psychologists may be a reflection of variations in both provincial coverage and supply. For example, the five provinces with the highest proportion of residents reporting contact with a chiropractor (Saskatchewan, Manitoba, British Columbia, Alberta, Ontario) all include at least some form of payment for chiropractic services under provincial legislation. ${ }^{5}$ As well, in 1990 these provinces had a higher supply of chiropractors per capita than did the Atlantic provinces which reported lower utilization rates. ${ }^{6}$ However, it is interesting to note that although Quebec had the highest supply of licensed chiropractors per capita in 1990, ${ }^{6}$ the utilization of chiropractors in this

TEXT TABLE 7-G
General practitioner consultations in the 12 months preceding the survey, by sex, age 15+, Canada, 1985 and 1991

| Age group |  |  | Consulted a general |  | practitioner |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Both sexes |  | Male |  | Fernale |  |
|  | 1985 | 1991 | 1985 | 1991 | 1985 | 1991 |
|  | (Percent) |  |  |  |  |  |
| Population 15+ | 76 | 82 | 71 | 77 | 82 | 87 |
| 15-24 | 75 | 82 | 67 | 77 | 83 | 87 |
| 25-44 | 75 | 79 | 68 | 72 | 81 | 86 |
| 45-64 | 76 | 82 | 72 | 79 | 80 | 86 |
| 65-74 | 82 | 89 | 81 | 87 | 84 | 92 |
| 75+ | 86 | 91 | 82 | 89 | 89 | 92 |

General Social Survey, 1985 and 1991

FIGURE 7-C
Medical specialist contacts in the 12 months preceding the survey by age group and sex, age 65+, Canada, 1985 and 1991


General Social Survey, 1985 and 1991
province was quite low. This may be attributable to the fact that provincial insurance in Quebec does not extend to chiropractic services.

Similarly, for physiotherapists and psychologists, a relationship exists between the proportion of people who reported contact and supply. For example, the smallest proportion of people who reported physiotherapist and psychologist contact resided in Newfoundland. In 1988, this province also had the lowest proportion of active physiotherapists per capita ${ }^{\circ}$ and the lowest proportion of active registered or licensed psychologists per capita. ${ }^{6}$ Conversely, the highest proportion of individuals who reported a physiotherapist contact were from British Columbia, and this province also had the highest proportion of licensed physiotherapists per capita. ${ }^{\text {b }}$ In addition, British Columbia had the second highest number of psychologists and contacts with psychologists.

The high proportion of residents in the Atlantic provinces who reported contacting an "other" health care professional may be an artifact of the data collection process. When conducting a survey with a relatively small number of interviewers, there is a risk of interviewers introducing their personal technique in collecting data. In this case "other" health care professional consisted mainly of technologists. It may have been that the interviewers from this region probed more deeply into consultation with this category than did interviewers from the other regions.

## Individuals with health problems

Of interest is the low proportion of individuals with health problems who reported consulting a medical specialist. While a higher proportion of people with health problems contacted a medical specialist, it is surprising, for example, that the percentage is not higher for those with heart trouble, diabetes, and hypertension. One would expect that these specific groups would contact a general practitioner at least on an annual basis. The fact that the percentage of individuals with specific health problems who contacted a general practitioner is not $100 \%$ may be reflective of several points. First, individuals may have reported a health problem that has not been diagnosed or treated by a general practitioner. Second, some individuals may have health problems that are under control and do not require the attention of a general practitioner. And third. assuming that $100 \%$ of
individuals with a health problem contact a general practitioner on an annual basis, the 12 -month recall period used in the survey may have resulted in an under-representation of the true rate of consultation. ${ }^{2}$

## Income adequacy and health care utilization

Results from this survey indicate that, even when controlling for age, income adequacy is inversely related to utilization of general practitioners and medical specialists and directly related to utilization of dentists.

People with a low income adequacy are more likely to contact a general practitioner and medical specialist and are more likely to contact their general practitioner more frequently than those in a high group. This observation may be a reflection of the paradox of equality of access and inequalities in health status described by Manga. ${ }^{7}$ While universal medical insurance has eliminated the financial barrier to accessing medically necessary services, ${ }^{8,9}$ it has not eliminated the inequalities in health status. The observation that a higher proportion of people in the lowest group consult medical doctors and consult them more frequently may be a result of the complex interaction of living and working conditions and lifestyle factors that contribute to the fundamental causes of illness and disability observed in the poor, requiring them 10 utilize more health services. ${ }^{7,10}$

The inverse relationship that exisis between dental contact and income adequacy suggests that dental contact is related to financial ability and perhaps insurance coverage. While medical care insurance is universal in Canada, insurance coverage for dentists is not. This observation is supported by results of the 1990 Health Promotion Survey, which show a direct relationship between the proportion of individuals who contacted a dentist and insurance coverage. ${ }^{11}$

## Recommendation of influenza shots

It is interesting to note the low proportion of Canadians aged 65 and over who were advised to get an influenza shot. Both Health and Welfare Canada ${ }^{12}$ and the Canadian Medical Association ${ }^{13}$ recommend that all those aged 65 and over obtain a flu shot, yet $49 \%$ of Canadians aged 65 and over stated that the recommendation of a flu shot had not been made. Of the $54 \%$ of Canadians aged

65 and over who did not receive a flu shot, $39 \%$ stated that they hardly ever got the flu, $20 \%$ said they had fear of side effects, $12 \%$ stated that they had never thought about it, and $9 \%$ stated that their doctor never mentioned it or that the flu shot doesn't work.

## Delays in obtaining care

A concem regarding Canada's health care delivery system is the existence of waiting lists for medical procedures and treatments. A recent study conducted by the Fraser Institute on waiting times for certain procedures among medical specialists actoss Canada concluded that "substantial waiting for health services is a reality in Canada". ${ }^{14}$ Data from the 1991 GSS indicate that $7 \%$ of adult Canadians perceived experiencing a delay in obtaining health care. By type of health care service sought, the most frequently cited delay in obtaining care was for a delay in obtaining a medical appointment with a specialist, reported by $2 \%$ of adult Canadians. Of those reporting a delay with a medical specialist, about 6 out of 10 reported the duration of the delay was 8 weeks or less while the remainder said it was greater than 8 weeks (data not shown). Analysis on delays in obtaining care would be more meaningful if done in the context of both need for service and detailed duration of delay. It is interesting to note the relative differences among the provinces in the proportion of people who experienced a delay. Further analysis should be conducted to examine this issue in more detail.

## REFERENCES

1. Health and Welfare Canada and Statistics Canada. The Health of Canadians: report of the Canada Health Survey. Ottawa: Minister of Supply and Services Canada, 1981. Satistics Canada Catalogue No. $82-538 \mathrm{E}$.
2. Statistics Canada. Health and Social Support, 1985. General Social Survey Analysis Series. Ottawa: Minister of Supply and Services Canada, 1987. Catalogue No. 11-612, No. 1.
3. Grenier L. The Quebec health care system: past, present and future direction. Focus Econ 1987;4(1):18-25. Ottawa: Canadian Medical Association.
4. Renaud M. Reform or illusion? An analysis of the Quebec state intervention in health. In: Coburn D,

D'Arcy C, Torrance G, New P, eds. Health and Canadian sociery: sociological perspectives. 2nd edition, Markham: Fizhenry and Whiteside. 1987.
5. Coburn D, Biggs L. Chiropractic: legitimation or medicalization? In: Coburn D, D'Arcy C, Torrance G, New P, eds. Health and Canadian society: sociological perspectives. 2nd edition. Markham : Fizhenry and Whileside. 1987.
6. Health and Welfare Canada. Health personnet in Canada 1990. Ottawa: Minister of Supply and Services Canada, 1992.
7. Manga P. Equality of access and inequalities in health status: policy implications of a paradox. In: Coburn D, D'Arcy C. Torrance G, New P, eds. Health and Canadian society: sociological perspectives. 2nd edition. Markham : Fizhenry and Whiteside. 1987.
8. Broyles R. W.. Manga P.. Binder D. A. Angus D. E., and Charette A. 1983. The use of physician services under a national health insurance scheme: an examination of the Canada Health Survey. Medical Care; 21: 1037-1053.
9. Manga P., Broyles R.W., Angus D.E. 1987. The determinants of hospital utilization under a universal public insurance program in Canada. Medical Care; 25: 658-670.
10. Canadian Medical Association. Health care for the elderly: today's challenges, tomorrow's options. Ottawa: Canadian Medical Association. 1987.
11. Charette A. Dental health. In: Health and Welfare Canada, Stephens T, Fowler Graham D, eds. Canada's Health Promotion Survey 1990: technical report. Ottawa: Minister of Supply and Services Canada, 1993. Catalogue No. H39-263/2-1990E.
12. Health and Welfare Canada. Canadian immunization guide. 3rd edition. Ottawa: Minister of Supply and Services Canada, 1992.
13. Canadian Medical Association. News release communiqué: Flu-Prevention Awareness Month. Ottawa: Canadian Medical Association, August 31. 1992.
14. Miyake J. Walker M. Waiting your turn: hospital waiting lists in Canada. 3rd edition. Vancouver: The Fraser Institute, May 1993.

TABLE 7-1
Type of health care professional contacted in 12 months preceding survey by sex and age group, age 15+, Canada, 1991

| Sex and age group | Health care professional contacted(1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Any contact |  | MD |  | GP |  | Specialist |  | Dentist |  | Nurse |  | Optometrist |  | Chiropractor |  | Psychologist |  | Physiotherapist |  | Other |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | $\%$ |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 20,981 | 100 | 19,640 | 94 | 17.639 | 84 | 17,196 | 82 | 5.873 | 28 | 11,532 | 55 | 2,345 | 11 | 6,140 | 29 | 1,990 | 9 | 819 | 4 | 1,157 | 6 | 1,195 | 6 |
| 15-24 years | 3.793 |  | 3,603 | 95 | 3,164 | 83 | 3,107 | 82 | 871 | 23 | 2.466 | 65 | 537 | 14 | 1,111 | 29 | 286 | 8 | 239 | 6 | 145 | 4 | 172 | 5 |
| 25-44 years | 9,005 |  | 8,369 | 93 | 7.345 | 82 | 7.130 | 79 | 2,279 | 25 | 5.486 | 61 | 912 | 10 | 2.245 | 25 | 906 | 10 | 404 | 4 | 492 | 5 | 443 | 5 |
| $45-64$ years | 5,275 |  | 4,907 | 93 | 4.486 | 85 | 4,345 | 82 | 1,647 | 31 | 2.625 | 50 | 527 | 10 | 1,687 | 32 | 583 | 11 | 144 | 3 | 360 | 7 | 331 | 6 |
| $65+$ years | 2,908 | 100 | 2.762 | 95 | 2,644 | 91 | 2.615 | 90 | 1,076 | 37 | 955 | 33 | 369 | 13 | 1,098 | 38 | 216 | 7 | 32 | 1 | 161 | 6 | 249 | 9 |
| $65-74$ years | 1,824 |  | 1,728 | 95 | 1,645 | 90 | 1.632 | 89 | 658 | 36 | 711 | 39 | 189 | 10 | 660 | 36 | 149 | 8 | -- | -- | 98 | 5 | 161 | 9 |
| $75+$ years | 1,084 | 100 | 1,034 | 95 | 999 | 92 | 983 | 91 | 418 | 39 | 244 | 23 | 180 | 17 | 438 | 40 | 67 | 6 | - - | -- | 62 | 6 | 88 | 8 |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10,266 |  | 9.349 | 91 | 8.058 | 78 | 7,865 | 77 | 2,463 | 24 | 5.446 | 53 | 1.126 | 11 | 2.645 | 26 | 969 | 9 | 345 | 3 | 516 | 5 | 513 | 5 |
| 15-24 years | 1,935 |  | 1,791 | 93 | 1,508 | 78 | 1,482 | 77 | 356 | 18 | 1.172 | 61 | 268 | 14 | 478 | 25 | 132 | 7 | 102 | 5 | 83 | 4 | 76 | 4 |
| 25-44 years | 4.476 | 100 | 4,014 | 90 | 3,307 | 74 | 3.230 | 72 | 862 | 19 | 2.514 | 56 | 427 | 10 | 961 | 21 | 474 | 11 | 163 | 4 | 235 | 5 | 185 | 4 |
| $45-64$ years | 2.611 | 100 | 2,380 | 91 | 2,132 | 82 | 2,062 | 79 | 753 | 29 | 1,335 | 51 | 284 | 11 | 776 | 30 | 279 | 11 | 67 | 3 | 142 | 5 | 141 | 5 |
| $65+$ years | 1.245 | 100 | 1,163 | 93 | 1.110 | 89 | 1.090 | 88 | 491 | 39 | 425 | 34 | 147 | 12 | 430 | 35 | 84 | 7 | -- |  | 57 | 5 | 110 | 9 |
| 65-74 years | 796 |  | 736 | 92 | 696 | 87 | 690 | 87 | 298 | 37 | 311 | 39 | 78 | 10 | 255 | 32 | 65 | 8 | -- | - | 35 | 4 | 74 | 9 |
| $75+$ years | 448 | 100 | 427 | 95 | 414 | 92 | 400 | 89 | 193 | 43 | 114 | 26 | 70 | 16 | 175 | 39 |  |  | - | - | -- | -- | 36 | 8 |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10,715 | 100 | 10,292 | 96 | 9,581 | 89 | 9,331 | 87 | 3.411 | 32 | 6,085 | 57 | 1.218 | 11 | 3,496 | 33 | 1.021 | 10 | 474 | 4 | 641 | 6 | 683 | 6 |
| 15.24 years | 1,857 |  | 1,812 | 98 | 1,656 | 89 | 1,625 | 87 | 515 | 28 | 1.294 | 70 | 268 | 14 | 633 | 34 | 154 | 8 | 138 | 7 | 62 | 3 | 96 | 5 |
| $25-4.4$ years | 4,530 |  | 4.354 | 96 | 4,038 | 89 | 3,900 | 86 | 1,416 | 31 | 2.971 | 66 | 485 | 11 | 1.284 | 28 | 432 | 10 | 241 | 5 | 258 | 6 | 258 | 6 |
| $45-64$ years | 2,664 | 100 | 2.527 | 95 | 2,354 | 88 | 2,283 | 86 | 895 | 34 | 1.290 | 48 | 243 | 9 | 912 | 34 | 303 | 11 | 77 | 3 | 218 | 8 | 190 | 7 |
| $65+$ years | 1,664 |  | 1.598 | 96 | 1,534 | 92 | 1,524 | 92 | 585 | 35 | 530 | 32 | 222 | 13 | 667 | 40 | 132 | 8 | -- | -- | 103 | 6 | 139 | 8 |
| 65-74 years | 1.028 |  | 992 | 97 | 948 | 92 | 941 | 92 | 360 | 35 | 400 | 39 | 111 | 11 | 405 | 39 | 84 | 8 | -- | - | 63 | 6 | 87 | 8 |
| $75+$ years | 636 | 100 | 606 | 95 | 585 | 92 | 583 | 92 | 225 | 35 | 130 | 20 | 111 | 17 | 262 | 41 | 47 | 7 | -- | -- | 40 | 6 | 52 | 8 |

General Social Survey, 1991
(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

TABLE 7-2
Type of health care professional contacted in 12 months preceding survey, by sex and province, age 15+, Canada, 1991

| Sex and province | Health care prolessional contacted(1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Any contact |  | MD |  | GP |  | Specialist |  | Dentst |  | Nurse |  | Oplometrist |  | Chiropractor |  | Psychologist |  | Physiotherapist |  | Oiner |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | $\%$ | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 20,981 | 100 | 19,640 | 94 | 17.639 | 84 | 17.196 | 82 | 5,873 | 28 | 11,532 | 55 | 2,345 | 11 | 6,140 | 29 | 1,990 | 9 | 819 | 4 | 1,157 | 6 | 1,195 | 6 |
| Atlantic | 1,806 | 100 | 1,662 | 92 | 1,508 | 83 | 1,476 | 8.2 | 507 | 28 | 850 | 47 | 198 | 11 | 454 | 25 | 39 | 2 | 83 | 5 | 79 | 4 | 549 | 30 |
| Newtoundiand | 438 | 100 | 399 | 91 | 369 | 84 | 366 | 84 | 91 | 21 | 160 | 37 | 43 | 10 | 100 | 23 | - | -- | 11 | 3 | - | -- | 116 | 26 |
| P.E.I. | 98 | 100 | 93 | 94 | 86 | 87 | 84 | 86 | 24 | 25 | 54 | 55 | 12 | 13 | 22 | 23 | -- | -- | -- | -- | 5 | 5 | 26 | 26 |
| Nova Scotia | 704 | 100 | 660 | 94 | 596 | 85 | 580 | 82 | 229 | 33 | 360 | 51 | 77 | 11 | 190 | 27 | -- | -- | 44 | 6 | 32 | 5 | 236 | 33 |
| New Brunswlck | 566 | 100 | 510 | 90 | 457 | 81 | 445 | 79 | 163 | 29 | 277 | 49 | 65 | 12 | 143 | 25 | 18 | 3 | 25 | 4 | 33 | 6 | 172 | 30 |
| Quebec | 5,384 | 100 | 4,973 | 92 | 4,402 | 62 | 4,180 | 78 | 1.739 | 32 | 2,549 | 47 | 925 | 17 | 1.690 | 31 | 403 | 7 | 165 | 3 | 164 | 3 | 93 | 2 |
| Ontario | 7.778 | 100 | 7,351 | 95 | 6,630 | 85 | 6,545 | 84 | 2,079 | 27 | 4.871 | 63 | 585 | 8 | 2.387 | 31 | 715 | 9 | 265 | 3 | 445 | 6 | 270 | 3 |
| Prairies | 3,482 | 100 | 3.236 | 93 | 2,904 | 63 | 2,834 | 81 | 813 | 23 | 1.760 | 51 | 332 | 10 | 1,064 | 31 | 494 | 14 | 179 | 5 | 207 | 6 | 41 | 1 |
| Maniroba | 839 | 100 | 778 | 93 | 703 | 84 | 665 | 82 | 182 | 22 | 444 | 53 | 80 | 10 | 243 | 29 | 133 | 16 | 39 | 5 | 42 | 5 | -- | - |
| Saskatchowan | 742 | 100 | 685 | 92 | 602 | 81 | 591 | 80 | 168 | 23 | 316 | 43 | 61 | 8 | 231 | 31 | 137 | 18 | 35 | 5 | 42 | 6 | - | - |
| Alberta | 1,901 | 100 | 1,774 | 93 | 1,599 | 84 | 1,558 | 82 | 463 | 24 | 1,000 | 53 | 191 | 10 | 591 | 31 | 224 | 12 | 105 | 6 | 122 | 6 | -- | -- |
| British Columbla | 2,532 | 100 | 2,418 | 96 | 2,196 | 87 | 2,161 | 85 | 735 | 29 | 1,502 | 59 | 305 | 12 | 545 | 22 | 339 | 13 | 127 | 5 | 263 | 10 | 242 | 10 |
| Mate |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 10,266 | 100 | 9,349 | 91 | 8,058 | 78 | 7.865 | 77 | 2,463 | 24 | 5.446 | 53 | 1,126 | 11 | 2.645 | 26 | 969 | 9 | 345 | 3 | 516 | 5 | 513 | 5 |
| Atiantic | 885 | 100 | 795 | 90 | 680 | 77 | 666 | 75 | 218 | 25 | 409 | 46 | 103 | 12 | 197 | 22 | 17 | 2 | 45 | 5 | 37 | 4 | 233 | 26 |
| Newloundland | 217 | 100 | 191 | 88 | 169 | 78 | 168 | 77 | 42 | 19 | 75 | 35 | 24 | 11 | 41 | 19 | -- | -- | -- | -- | - | -- | 49 | 22 |
| P.E.I. | 48 | 100 | 45 | 93 | 39 | 82 | 38 | 80 | 12 | 26 | 26 | 54 | 7 | 15 | 11 | 24 | -- | -- | -- | -- | -- | -- | 11 | 23 |
| Nova Scota | 343 | 100 | 318 | 93 | 273 | 80 | 267 | 78 | 100 | 29 | 175 | 51 | 41 | 12 | 86 | 25 | - | -- | -- | -- | 20 | 6 | 95 | 28 |
| Now Brunswick | 277 | 100 | 241 | 87 | 199 | 72 | 193 | 70 | 64 | 23 | 133 | 48 | 30 | 11 | 59 | 21 | - | - | 16 | 6 | 13 | 5 | 78 | 28 |
| Quebec | 2.617 | 100 | 2,333 | 89 | 1.978 | 76 | 1.877 | 72 | 719 | 27 | 1.213 | 46 | 451 | 17 | 742 | 28 | 188 | 7 | 63 | 2 | 57 | 2 | 34 | 1 |
| Ontarlo | 3,796 | 100 | 3.497 | 92 | 3,044 | 80 | 3,020 | 80 | 886 | 23 | 2,338 | 62 | 286 | 8 | 1,001 | 26 | 365 | 10 | 115 | 3 | 213 | 6 | 134 | 4 |
| Prairies | 1,725 | 100 | 1,569 | 91 | 1,342 | 78 | 1,311 | 76 | 317 | 18 | 824 | 48 | 153 | 9 | 465 | 27 | 242 | 14 | 73 | 4 | 97 | 6 | -- | -- |
| Manitoba | 411 | 100 | 374 | 91 | 325 | 79 | 318 | 78 | 68 | 17 | 208 | 51 | 44 | 11 | 104 | 25 | 63 | 15 | 22 | 5 | 21 | 5 | -- | -- |
| Saskatchewan | 367 | 100 | 329 | 90 | 268 | 73 | 264 | 72 | 65 | 18 | 147 | 40 | 23 | 6 | 100 | 27 | 62 | 17 | -- | -- | 21 | 6 | -- | -- |
| Alberta | 948 | 100 | 866 | 91 | 748 | 79 | 729 | 77 | 184 | 19 | 468 | 49 | 86 | 9 | 261 | 28 | 117 | 12 | 39 | 4 | 55 | 6 | -- | -- |
| British Columbla | 1,243 | 100 | 1,155 | 93 | 1,014 | 82 | 991 | 80 | 323 | 26 | 663 | 53 | 133 | 11 | 240 | 19 | 159 | 13 | 50 | 4 | 112 | 9 | 104 | 8 |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 10,715 | 100 | 10,292 | 96 | 9,581 | 89 | 9,331 | 87 | 3,411 | 32 | 6,085 | 57 | 1,218 | 11 | 3,496 | 33 | 1,021 | 10 | 474 | 4 | 641 | 6 | 683 | 6 |
| Atlantic | 921 | 100 | 866 | 94 | 827 | 90 | 811 | 88 | 289 | 31 | 441 | 48 | 95 | 10 | 257 | 28 | 22 | 2 | 38 | 4 | 42 | 5 | 317 | 34 |
| Nowtoundland | 229 | 100 | 208 | 94 | 201 | 91 | 199 | 90 | 50 | 22 | 85 | 38 | 18 | 8 | 60 | 27 | -- | -- | -- | -- | -- | -- | 67 | 30 |
| P.E.I. | 50 | 100 | 48 | 96 | 46 | 92 | 46 | 91 | 12 | 24 | 28 | 56 | 5 | 10 | 11 | 22 | -- | -- | -- | -- | -- | -- | 15 | 30 |
| Nova Scotia | 361 | 100 | 342 | 95 | 323 | 90 | 314 | 87 | 129 | 36 | 185 | 51 | 36 | 10 | 104 | 29 | -- | - | 23 | 6 | -- | -- | 140 | 39 |
| Now Erunswick | 289 | 100 | 269 | 93 | 257 | 89 | 253 | 87 | 99 | 34 | 144 | 50 | 35 | 12 | 83 | 29 | -- | - | -- | -- | 20 | 7 | 94 | 33 |
| Quebec | 2.767 | 100 | 2,640 | 95 | 2.424 | 88 | 2,303 | 83 | 1.020 | 37 | 1,336 | 48 | 474 | 17 | 948 | 34 | 216 | 8 | 102 | 4 | 107 | 4 | 63 | 2 |
| Ontario | 3,982 | 100 | 3,854 | 97 | 3,586 | 90 | 3.525 | 89 | 1.194 | 30 | 2.533 | 64 | 299 | 8 | 1,386 | 35 | 350 | 9 | 150 | 4 | 232 | 6 | 136 | 3 |
| Pralites | 1,756 | 100 | 1,668 | 95 | 1,562 | 89 | 1.523 | 87 | 496 | 28 | 936 | 53 | 179 | 10 | 600 | 34 | 252 | 14 | 106 | 6 | 110 | 6 | 29 | 2 |
| Manitaba | 428 | 100 | 404 | 94 | 378 | B8 | 367 | 86 | 114 | 27 | 235 | 55 | 36 | 8 | 139 | 32 | 71 | 17 | 17 | 4 | 21 | 5 | -- | -- |
| Saskatchewan | 375 | 100 | 356 | 95 | 334 | 89 | 327 | 87 | 103 | 27 | 168 | 45 | 38 | 10 | 131 | 35 | 75 | 20 | 23 | 6 | 21 | 6 | - | - |
| Albera | 953 | 100 | 908 | 95 | 851 | 89 | 829 | 87 | 279 | 29 | 532 | 56 | 104 | 11 | 330 | 35 | 107 | 11 | 67 | 7 | 67 | 7 | - | - |
| British Columbia | 1.288 | 100 | 1.264 | 98 | 1.182 | 92 | 1,170 | 91 | 411 | 32 | 839 | 65 | 171 | 13 | 305 | 24 | 181 | 14 | 78 | 6 | 150 | 12 | 138 | 11 |

(1) Number and proportion do not add to totals as these are separate variables. Only number and propertion of alfirmative responses shown.

TABLE 7-3
Type of health care professional contacted In 12 months preceding survey by sex and income adequacy, age 15t, Canada, 1991

| Sex and income adequacy | Health care professional contacted(1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population 15+ |  | Any contact |  | MD |  | GP |  | Specialist |  | Dentist |  | Nurse |  | Optometrist |  | Chiropractor |  | Psychologist |  | Physiotherapist |  | Other |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 20,981 | 100 | 19,640 | 94 | 17,639 | 84 | 17.196 | 82 | 5,873 | 28 | 11,532 | 55 | 2,345 | 11 | 6,140 | 29 | 1,990 | 9 | 819 | 4 | 1.157 | 6 | 1,195 | 6 |
| Lowest | 799 | 100 | 738 | 92 | 705 | 88 | 690 | 86 | 260 | 33 | 266 | 33 | 138 | 17 | 243 | 30 | 63 | 8 | 89 | 11 | 46 | 6 | 71 | 9 |
| Lower middle | 1.633 | 100 | 1,526 | 93 | 1,414 | 87 | 1,381 | 85 | 525 | 32 | 593 | 36 | 214 | 13 | 457 | 28 | 103 | 6 | 70 | 4 | 85 | 5 | 126 | 8 |
| Middie | 4.766 | 100 | 4,390 | 92 | 4,006 | 84 | 3,923 | 82 | 1,409 | 30 | 2,220 | 47 | 605 | 13 | 1.315 | 28 | 478 | 10 | 177 | 4 | 256 | 5 | 320 | 7 |
| Upper middle | 5.743 | 100 | 5,414 | 94 | 4.796 | 84 | 4.665 | 81 | 1,526 | 27 | 3.528 | 61 | 633 | 11 | 1,653 | 29 | 644 | 11 | 222 | 4 | 362 | 6 | 314 | 5 |
| Highest | 2.171 | 100 | 2.109 | 97 | 1,858 | 86 | 1.792 | 83 | 655 | 30 | 1,657 | 76 | 222 | 10 | 704 | 32 | 228 | 10 | 56 | 3 | 135 | 6 | 97 | 4 |
| Not stated | 5.869 | 100 | 5,462 | 93 | 4.861 | 83 | 4.746 | 81 | 1.499 | 26 | 3.268 | 56 | 532 | 9 | 1.768 | 30 | 475 | 8 | 205 | 3 | 272 | 5 | 268 | 5 |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 10.266 |  | 9,349 | 91 | 8.058 | 78 | 7.865 | 77 | 2,463 | 24 | 5.446 | 53 | 1,126 | 11 | 2.645 | 26 | 969 | 9 | 345 | 3 | 516 | 5 | 513 | 5 |
| Lowest | 261 |  | 231 | 89 | 217 | 83 | 206 | 79 | 79 | 30 | 86 | 33 | 31 | 12 | 54 | 21 | - - | -- | 27 | 11 | - - | -- | - - | - |
| Lower middle | 686 | 100 | 613 | 89 | 558 | 81 | 542 | 79 | 211 | 31 | 235 | 34 | 91 | 13 | 171 | 25 | 32 | 5 | 39 | 6 | 43 | 6 | 53 | 8 |
| Middle | 2,264 | 100 | 2,006 | 89 | 1.776 | 78 | 1,731 | 76 | 605 | 27 | 938 | 41 | 308 | 14 | 541 | 24 | 247 | 11 | 62 | 3 | 116 | 5 | 136 | 6 |
| Upper middle | 3.067 | 100 | 2,825 | 92 | 2,394 | 78 | 2,343 | 76 | 644 | 21 | 1.777 | 58 | 319 | 10 | 818 | 27 | 353 | 12 | 72 | 2 | 183 | 6 | 145 | 5 |
| Highest | 1,340 |  | 1,288 | 96 | 1.083 | 81 | 1,046 | 78 | 366 | 27 | 989 | 74 | 135 | 10 | 379 | 28 | 140 | 10 | 30 | 2 | 72 | 5 | 61 | 5 |
| Not stated | 2,648 |  | 2,385 | 90 | 2,030 | 77 | 1,998 | 75 | 558 | 21 | 1.422 | 54 | 243 | 9 | 681 | 26 | 187 | 7 | 115 | 4 | 91 | 3 | 98 | 4 |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 10.715 | 100 | 10,292 | 96 | 9.581 | 89 | 9,331 | 87 | 3,411 | 32 | 6.085 | 57 | 1,218 | 11 | 3.496 | 33 | 1,021 | 10 | 474 | 4 | 641 | 6 | 683 | 6 |
| Lowest | 538 | 100 | 507 | 94 | 488 | 91 | 484 | 90 | 181 | 34 | 181 | 34 | 107 | 20 | 188 | 35 | 52 | 10 | 62 | 12 | 35 | 7 | 50 | 9 |
| Lower middle | 947 |  | 913 | 96 | 856 | 90 | 839 | 89 | 314 | 33 | 358 | 38 | 124 | 13 | 286 | 30 | 71 | 8 | 30 | 3 | 42 | 4 | 73 | 8 |
| Middle | 2,503 |  | 2,384 | 95 | 2,230 | 89 | 2.192 | 88 | 804 | 32 | 1,282 | 51 | 297 | 12 | 774 | 31 | 231 | 9 | 115 | 5 | 140 | 6 | 184 | 7 |
| Upper middle | 2,676 |  | 2,589 | 97 | 2.402 | 90 | 2,322 | 87 | 882 | 33 | 1,750 | 65 | 314 | 12 | 835 | 31 | 291 | 11 | 151 | 6 | 180 | 7 | 169 | 6 |
| Highest | 831 |  | 821 | 99 | 774 | 93 | 746 | 90 | 289 | 35 | 668 | 80 | 87 | 10 | 324 | 39 | 88 | 11 | 25 | 3 | 63 | 8 | 36 | 4 |
| Not stated | 3.221 | 100 | 3,077 | 96 | 2,832 | 88 | 2,748 | 85 | 941 | 29 | 1,846 | 57 | 289 | 9 | 1.088 | 34 | 288 | 9 | 90 | 3 | 181 | 6 | 170 | 5 |

General Social Survey, 199
(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

TABLE 7-4
Number of contacts with medical doctor In 12 months preceding survey by sex and age group, age 15+, Canada, 1991

| Sex and age group | Number of contacts with medical doctor |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population 15+ |  | None |  | Total with contact |  | 1-2 |  | 3.9 |  | $10+$ |  | Not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |

Both sexes

| Population 15+ | 20,981 | 100 | 3,214 | 15 | 17,639 | 84 | 8,908 | 42 | 6,398 | 30 | 2,333 | 11 | 128 | 1 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $15-24$ years | 3,793 | 100 | 616 | 16 | 3,164 | 83 | 1,720 | 45 | 1,185 | 31 | 258 | 7 | -- | -- |
| $25-44$ years | 9,005 | 100 | 1,616 | 18 | 7,345 | 82 | 4,243 | 47 | 2,276 | 25 | 826 | 9 | 44 | -- |
| $45-64$ years | 5,275 | 100 | 762 | 14 | 4,486 | 85 | 2,207 | 42 | 1,677 | 32 | 603 | 11 | 27 | 1 |
| $65+$ years | 2,908 | 100 | 220 | 8 | 2,644 | 91 | 738 | 25 | 1,260 | 43 | 646 | 22 | 44 | 2 |
| $65-74$ years | 1,824 | 100 | 154 | 8 | 1,645 | 90 | 507 | 28 | 785 | 43 | 353 | 19 | -- | -- |
| $75+$ years | 1,084 | 100 | 65 | 6 | 999 | 92 | 232 | 21 | 475 | 44 | 293 | 27 | -- | -- |

## Male

| Population $15+$ | 10,266 | 100 | 2,132 | 21 | 8,058 | 78 | 4,578 | 45 | 2,718 | 26 | 762 | 7 | 77 | 1 |
| :--- | ---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $15-24$ years | 1,935 | 100 | 417 | 22 | 1,508 | 78 | 930 | 48 | 528 | 27 | 50 | 3 | -- | -- |
| $25-44$ years | 4,476 | 100 | 1,136 | 25 | 3,307 | 74 | 2,183 | 49 | 875 | 20 | 249 | 6 | -- | -- |
| $45-64$ years | 2,611 | 100 | 463 | 18 | 2,132 | 82 | 1,132 | 43 | 777 | 30 | 223 | 9 | -- | -- |
| $65+$ years | 1,245 | 100 | 115 | 9 | 1,110 | 89 | 333 | 27 | 538 | 43 | 239 | 19 | -- | -- |
| $65-74$ years | 796 | 100 | 85 | 11 | 696 | 87 | 230 | 29 | 333 | 42 | 134 | 17 | -- | -- |
| $75+$ years | 448 | 100 | 30 | 7 | 414 | 92 | 104 | 23 | 205 | 46 | 105 | 23 | -- | -- |

## Female

| Population 15+ | 10,715 | 100 | 1,082 | 10 | 9,581 | 89 | 4,330 | 40 | 3,680 | 34 | 1,572 | 15 | 51 | -- |
| :--- | ---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $15-24$ years | 1,857 | 100 | 198 | 11 | 1,656 | 89 | 790 | 43 | 657 | 35 | 208 | 11 | -- | -- |
| $25-44$ years | 4,530 | 100 | 480 | 11 | 4,038 | 89 | 2,060 | 45 | 1,401 | 31 | 577 | 13 | -- | -- |
| $45-64$ years | 2,664 | 100 | 299 | 11 | 2,354 | 88 | 1,075 | 40 | 900 | 34 | 379 | 14 | -- | -- |
| $65+$ years | 1,664 | 100 | 105 | 6 | 1,534 | 92 | 405 | 24 | 722 | 43 | 407 | 24 | 25 | 2 |
| $65-74$ years | 1,028 | 100 | 69 | 7 | 948 | 92 | 277 | 27 | 452 | 44 | 220 | 21 | -- | -- |
| $75+$ years | 636 | 100 | 36 | 6 | 585 | 92 | 128 | 20 | 270 | 42 | 187 | 29 | -- | -- |

TABLE 7-5
Number of institutionalized nights in 12 months preceding survey by sex and age group, age 15+, Canada, 1991

| Sex and age group | Number of institutionalized nights |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | No nights |  | Total with nights |  | $\begin{gathered} 1 \cdot 2 \\ \text { nights } \end{gathered}$ |  | $3+$ nights |  | Number n.s. |  | Not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |

Both sexes

| Population 15+ | 20,981 | 100 | 18.678 | 89 | 2,290 | 11 | 614 | 3 | 1,617 | 8 | 58 | -- | -- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15-24 years | 3.793 | 100 | 3.399 | 90 | 392 | 10 | 148 | 4 | 229 | 6 | -- | -- | -- |
| 25.44 years | 9.005 | 100 | 8.059 | 89 | 946 | 11 | 276 | 3 | 648 | 7 | -- | -- | -- |
| $45-64$ years | 5,275 | 100 | 4,817 | 91 | 452 | 9 | 102 | 2 | 342 | 6 | -- | -- | -- |
| $65+$ years | 2,908 | 100 | 2.403 | 83 | 499 | 17 | 89 | 3 | 399 | 14 | -- | -- | -- |
| 65.74 years | 1,824 | 100 | 1,555 | 85 | 264 | 14 | 51 | 3 | 208 | 11 | -- | -- | -- |
| $75+$ years | 1,084 | 100 | 847 | 78 | 235 | 22 | 38 | 4 | 191 | 18 | -- | -- | -- |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10,266 | 100 | 9,363 | 91 | 899 | 9 | 294 | 3 | 599 | 6 | -- | -- | -- |
| $15-24$ years | 1,935 | 100 | 1.784 | 92 | 152 | 8 | 83 | 4 | 68 | 4 | -- | -- | -- |
| $25-44$ years | 4,476 | 100 | 4,199 | 94 | 276 | 6 | 103 | 2 | 171 | 4 | -- | -- | -- |
| 45-64 years | 2,611 | 100 | 2,379 | 91 | 230 | 9 | 59 | 2 | 171 | 7 | -- | -- | - |
| $65+$ years | 1,245 | 100 | 1.001 | 80 | 241 | 19 | 49 | 4 | 189 | 15 | -- | -- | - |
| 65-74 years | 796 | 100 | 658 | 83 | 136 | 17 | 30 | 4 | 105 | 13 | -- | -- | -- |
| $75+$ years | 448 | 100 | 343 | 76 | 105 | 23 | - | -- | 84 | 19 | -- | -- | -- |

## Female

| Population $15+$ | 10,715 | 100 | 9,315 | 87 | 1,391 | 13 | 321 | 3 | 1,018 | 9 | 53 | -- | - - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15-24 years | 1,857 | 100 | 1,615 | 87 | 241 | 13 | 65 | 3 | 161 | 9 | -- | -- | -- |
| 25-44 years | 4,530 | 100 | 3.860 | 85 | 670 | 15 | 173 | 4 | 477 | 11 | - | - - | - - |
| 45-64 years | 2,664 | 100 | 2,438 | 92 | 223 | 8 | 43 | 2 | 171 | 6 | -- | -- | -- |
| $65+$ years | 1,664 | 100 | 1.401 | 84 | 258 | 15 | 39 | 2 | 210 | 13 | -- | -- | -- |
| 65.74 years | 1,028 | 100 | 897 | 87 | 128 | 12 | - | - | 103 | 10 | -- | -- | - - |
| $75+$ years | 636 | 100 | 505 | 79 | 130 | 20 | - | - - | 107 | 17 | -- | -- | -- |

General Social Survey, 1991

TABLE 7-6
Delays in obtaining health care in 12 months preceding survey by type of service sought, sex and age group, age 15+, Canada, 1991

| Sex and age group | Delays in obtaining care |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population 15+ |  | No delays |  | Total with delays |  | Hospital emergency |  | Medical appt. w/GP |  |  |  | Hospital admission |  | Other |  | Not stated |  | Delays n.s |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 20,981 | 100 | 19,558 | 93 | 1,392 | 7 | 247 | 1 | 273 | 1 | 409 | 2 | 235 | 1 | 215 | 1 |  | - |  | -- |
| 15-24 years | 3.793 | 100 | 3.602 | 95 | 188 | 5 | 57 | 2 | 31 | 1 | 41 | 1 | -- | -- | 33 | 1 |  |  |  | - - |
| 25-44 years | 9,005 | 100 | 8,359 | 93 | 642 | 7 | 107 | 1 | 159 | 2 | 188 | 2 | 91 | 1 | 87 | 1 |  |  |  | -- |
| $45-64$ years | 5.275 | 100 | 4.882 | 93 | 380 | 7 | 56 | 1 | 49 | 1 | 128 | 2 | 74 | 1 | 71 | 1 |  | - |  | -- |
| $65+$ years | 2.908 | 100 | 2,715 | 93 | 183 | 6 | 26 | 1 | 34 | 1 | 51 | 2 | 47 | 2 | -- | - |  | - | - | - |
| 65-74 years | 1.824 | 100 | 1.702 | 93 | 119 | 7 | -- | -- | -- | - - | 33 | 2 | 32 | 2 | -- | -- |  |  |  | - - |
| $75+$ years | 1.084 | 100 | 1,013 | 93 | 63 | 6 | - | -- | -- | -- | -- | -- | - | -- | -- | - |  | - |  | -- |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10,266 | 100 | 9,709 | 95 | 546 | 5 | 119 | 1 | 92 | 1 | 155 | 2 | 93 | 1 | 79 | 1 |  | - |  | -- |
| $15-24$ years | 1,935 | 100 | 1,853 | 96 | 83 | 4 | 32 | 2 | -- | -- | -- | -- | - | -- | - | -- |  |  |  | -- |
| 25-44 years | 4.476 | 100 | 4,236 | 95 | 239 | 5 | 59 | 1 | 50 | 1 | 74 | 2 | - | -- | 29 | 1 |  | - |  | - |
| 45-64 years | 2,611 | 100 | 2,452 | 94 | 153 | 6 | -- | -- | - - | -- | 47 | 2 | -- | -- | -- | - - |  |  |  | - - |
| $65+$ years | 1.245 | 100 | 1,169 | 94 | 72 | 6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |  | - |  | -- |
| 65-74 years | 796 | 100 | 744 | 93 | 51 | 6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |  | - |  | -- |
| $75+$ years | 448 | 100 | 425 | 95 | -- | - | -- | -- | -- | -- | -- | -- | -- | -- | - - | - - |  | - |  | -- |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10.715 | 100 | 9.849 | 92 | 846 | 8 | 127 | 1 | 181 | 2 | 254 | 2 | 141 | 1 | 137 | 1 |  | - |  | -- |
| 15-24 years | 1.857 | 100 | 1,750 | 94 | 106 | 6 | -- | -- | 25 | , | 28 | 2 | -- | -- | - | -- |  | - |  | -- |
| 25-44 years | 4,530 | 100 | 4.123 | 91 | 403 | 9 | 49 | 1 | 110 | 2 | 114 | 3 | 67 | 1 | 58 | 1 |  |  |  | -- |
| $45-64$ years | 2,664 | 100 | 2.430 | 91 | 227 | 9 | - | -- | 28 | 1 | 81 | 3 | 34 | 1 | 51 | 2 |  | - |  | -- |
| $65+$ years | 1,664 | 100 | 1,546 | 93 | 111 | 7 | -- | - | -- | -- | 30 | 2 | -- | -- | -- | - |  | - |  | -- |
| 65.74 years | 1,028 | 100 | 958 | 93 | 68 | 7 | -- | -- | -- | - - | -- | -- | -- | -- | -- | - - |  | - |  | -- |
| $75+$ years | 636 | 100 | 588 | 93 | 43 | 7 | -- | -- | -- | -- | -- | -- | - | -- | -- | - - |  | - |  |  |

TABLE 7.7
Flu shots recommended then flu shots received in fall or winter 1990-91 by sex and age group, age 15+, Canada, 1991

| Sex and age group | Flu shots recommended (1) |  |  |  |  |  |  |  | Flu shots received (1) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{r} \text { To } \\ \text { popu } \end{array}$ |  |  |  |  |  | Not |  |  |  |  |  |  |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
| (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Both sexes

| Population 15+ | 20,981 | 100 | 2,879 | 14 | 18,067 | 86 | 35 | -- | 2,896 | 14 | 17,820 | 85 | 265 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15-24 years | 3,793 | 100 | 154 | 4 | 3,629 | 96 | -- | -- | 257 | 7 | 3.459 | 91 | 77 |
| 25.44 years | 9,005 | 100 | 481 | 5 | 8,519 | 95 | - | -- | 610 | 7 | 8,317 | 92 | 78 |
| 45-64 years | 5,275 | 100 | 771 | 15 | 4.497 | 85 | - | -- | 725 | 14 | 4,485 | 85 | 65 |
| $65+$ years | 2,908 | 100 | 1.473 | 51 | 1,422 | 49 | -- | - | 1,303 | 45 | 1.560 | 54 | 45 |
| 65-74 years | 1,824 | 100 | 883 | 48 | 933 | 51 | -- | -- | 789 | 43 | 1.012 | 55 | -- |
| $75+$ years | 1,084 | 100 | 589 | 54 | 489 | 45 | -- | -- | 514 | 47 | 547 | 50 | -- |

## Male

| Population 15+ | 10,266 | 100 | 1,180 | 11 | 9,065 | 88 | -- | -- | 1,331 | 13 | 8,761 | 85 | 173 | 2 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $15-24$ years | 1,935 | 100 | 83 | 4 | 1,844 | 95 | -- | -- | 142 | 7 | 1,730 | 89 | -- | -- |
| $25-44$ years | 4,476 | 100 | 210 | 5 | 4,264 | 95 | -- | -- | 294 | 7 | 4,124 | 92 | -- | -- |
| $45-64$ years | 2,611 | 100 | 295 | 11 | 2,311 | 89 | -- | -- | 332 | 13 | 2,246 | 86 | -- | -- |
| $65+$ years | 1,245 | 100 | 592 | 48 | 646 | 52 | -- | -- | 563 | 45 | 661 | 53 | -- | -- |
| $65-74$ years | 796 | 100 | 345 | 43 | 448 | 56 | -- | -- | 334 | 42 | 447 | 56 | -- | -- |
| $75+$ years | 448 | 100 | 247 | 55 | 198 | 44 | -- | -- | 229 | 51 | 214 | 48 | -- | -- |

Female

| Population 15+ | 10,715 | 100 | 1,699 | 16 | 9,002 | 84 | - - | - - | 1,564 | 15 | 9,059 | 85 | 91 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15.24 years | 1,857 | 100 | 71 | 4 | 1,786 | 96 | -- | -- | 115 | 6 | 1.728 | 93 | - - |
| 25-44 years | 4.530 | 100 | 272 | 6 | 4,255 | 94 | -- | -- | 316 | 7 | 4,194 | 93 | -- |
| 45-64 years | 2,664 | 100 | 475 | 18 | 2,185 | 82 | -- | -- | 393 | 15 | 2,239 | 84 | - - |
| $65+$ years | 1,664 | 100 | 881 | 53 | 776 | 47 | -- | -- | 740 | 44 | 898 | 54 | 25 |
| 65-74 years | 1,028 | 100 | 539 | 52 | 485 | 47 | - - | - | 455 | 44 | 565 | 55 | - |
| $75+$ years | 636 | 100 | 342 | 54 | 291 | 46 | -- | - | 285 | 45 | 333 | 52 | - - |

[^5]TABLE 7-8
Reasons for not receiving flu shots in fall or winter 1990-91 by sex and income adequacy, population aged $15+$ who did not receive flu shots, Canada, 1991

| Sex and income adequacy | Reasons for not receiving flu shots(1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total not receiving flu shots |  | Doctor did not mention |  | Doctor <br> did not think necessary |  | Never thought about it |  | Flu not serious |  | Have not heard about it |  | Too busy |  | Hardly ever get the flu |  | Fear of side effects |  | Flu shot does not work |  | Costs 100 much |  | Other |  | Do not know |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 17,820 | 100 | 2.161 | 12 | 550 | 3 | 3,970 | 22 | 688 | 4 | 1,319 |  | 506 | 3 | 7.060 | 40 | 1.015 | 6 | 771 | 4 | 40 | - | 1,648 | 9 | 376 | 2 |
| Lowes: | 685 | 100 | 95 | 14 | -- | - | 143 | 22 | -- | - | 48 | $?$ | -- | - | 217 | 33 | 72 | 11 | 27 | 4 | -- |  | 71 | 11 | -- |  |
| Lower middle | 1,287 | 100 | 171 | 13 | 39 | 3 | 231 | 18 | 47 | 4 | 108 | 8 | 29 | 2 | 483 | 38 | 92 | 7 | 42 | 3 | -- | -- | 166 | 13 | -- | -- |
| Middle | 4,066 | 100 | 481 | 12 | 122 | 3 | 833 | 20 | 236 | 6 | 304 | 7 | 100 | 2 | 1,648 | 41 | 260 | 6 | 182 | 4 | -- |  | 401 | 10 | 66 | 2 |
| Upper middle | 5,179 | 100 | 576 | 11 | 138 | 3 | 1,207 | 23 | 210 | 4 | 328 | 6 | 138 | 3 | 2,245 | 43 | 248 | 5 | 247 | 5 | -- |  | 520 | 10 | 100 | 2 |
| Highest | 1.961 | 100 | 225 | 11 | 55 | 3 | 407 | 21 | 85 | 4 | 96 | 5 | 86 | 4 | 837 | 43 | 69 | 4 | 96 | 5 |  |  | 195 | 10 | -- |  |
| Not stated | 4.652 | 100 | 614 | 13 | 175 | 4 | 1,150 | 25 | 94 | 2 | 435 | 9 | 135 | 3 | 1,630 | 35 | 275 | 6 | 176 | 4 | -- | -- | 295 | 6 | 139 | 3 |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 8.761 | 100 | 1,053 | 12 | 185 | 2 | 2,141 | 24 | 328 | 4 | 770 | 9 | 252 | 3 | 3,620 | 41 | 333 | 4 | 339 | 4 | -- |  | 631 | 7 | 215 | 2 |
| Lowest | 226 | 100 | -- | -- | -- | -- | 63 | 28 | - - | -- | 30 | 13 | -- | -- | 75 | 33 | -- | -- | -- | - | -- |  | -- | -- | -- | -- |
| Lower midale | 527 | 100 | 52 | 10 | -- | - | 110 | 21 | - | - | 61 | 11 | -- | - | 212 | 40 | -- | - | -- | - | -- |  | 62 | 12 | -- | -- |
| Middle | 1,899 | 100 | 234 | 12 | 41 | 2 | 402 | 21 | 96 | 5 | 177 | 9 | 4.4 | 2 | 832 | 44 | 92 | 5 | 66 | 3 | -- |  | 129 | 7 | 33 | 2 |
| Upper middle | 2,781 | 100 | 325 | 12 | 44 | 2 | 685 | 25 | 118 | 4 | 218 | 8 | 72 | 3 | 1,206 | 43 | 93 | 3 | 128 | 5 | -- |  | 220 | 8 | 60 | 2 |
| Highest | 1,227 | 100 | 149 | 12 | -- | -- | 279 | 23 | 48 | 4 | 71 | 6 | 57 | 5 | 526 | 43 | 31 | 3 | 62 | 5 | -- |  | 106 | 9 | -- |  |
| Not stated | 2,102 | 100 | 270 | 13 | 47 | 2 | 601 | 29 | 40 | 2 | 214 | 10 | 54 | 3 | 769 | 37 | 84 | 4 | 54 | 3 | -- |  | 101 | 5 | 88 | 4 |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 9,059 | 100 | 1.108 | 12 | 364 | 4 | 1,830 | 20 | 359 | 4 | 548 | 6 | 254 | 3 | 3,440 | 38 | 682 | ${ }^{8}$ | 440 | 5 | 35 |  | 1,017 59 | 11 | 161 | 2 |
| Lowest | 438 | 100 | 71 | 16 | -- | -- | 80 | 18 | -- | -- | -- | -- | -- | -- | 142 | 32 | 59 | 13 | -- | - | -- |  | 59 | 13 | -- |  |
| Lower middle | 760 | 100 | 119 | 16 | - | - | 121 | 16 | 26 | 3 | 47 | 6 | -- | -- | 271 | 36 | 71 | 9 | 31 | 4 | -- |  | 104 | 14 | -- |  |
| Middle | 2,168 | 100 | 247 | 11 | 80 | 4 | 431 | 20 | 140 | 6 | 127 | 6 | 56 | 3 | 815 | 38 | 168 | 8 | 116 | 5 | -- |  | 271 | 13 | 33 | 2 |
| Upper middle | 2,399 | 100 | 251 | 10 | 94 | 4 | 522 | 22 | 92 | 4 | 109 | 5 | 66 | 3 | 1.039 | 43 | 154 | 6 | 120 | 5 | -- |  | 300 | 12 | 40 | 2 |
| Highest | 734 | 100 | 76 | 10 | -- | -- | 128 | 17 | 36 | 5 | -- | -- | -- | - | 311 | 42 | 38 | 5 | 1 | -- | -- |  | 90 | 12 | - |  |
| Nor stated | 2.560 | 100 | 344 | 13 | 128 | 5 | 549 | 21 | 54 | 2 | 222 | 9 | 81 | 3 | 861 | 34 | 191 | 7 | 123 | 5 | -- | -- | 194 | 8 | 51 | 2 |

General Social Survey, 1991
(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of aftirmative responses shown.

## CHAPTER 8

## ALCOHOL USE

### 8.1 HIGHLIGHTS

- Approximately 11.6 million persons, representing $55 \%$ of adult Canadians, are current drinkersi.e., they report consuming alcoholic beverages at least once a month. This is a decrease from $63 \%$ in 1985.
- Men are more likely than women to be current drinkers and to consume more alcohol per week. Two-thirds of men are current drinkers ( $67 \%$ ), compared to $44 \%$ of women. Fifteen percent of male current drinkers consume 14 or more drinks per week, compared to $4 \%$ of female current drinkers.
- At all ages, for current drinkers, the volume of alcohol consumed by males is greater than the volume consumed by females. On average, males consume 6.7 drinks per week compared to 3.2 by females.
- A higher proportion of younger Canadians drink. Peak current drinker prevalence rates occur in the 20 to 24 age group for both men ( $80 \%$ ) and women ( $58 \%$ ).
- The prevalence of current drinkers is highest in British Columbia ( $61 \%$ ) and Quebec ( $60 \%$ ) and lowest in New Brunswick ( $47 \%$ ).
- The prevalence of current drinking is directly associated with level of education. About $42 \%$ of persons who have not completed high school are current drinkers, compared to $67 \%$ of persons with a postsecondary school degree or diploma.


### 8.2 METHODS

In the 1991 GSS, frequency and volume of alcohol consumption were determined from the responses to Questions K1 to K6 (see Appendix II). A drink was defined for the respondent as consisting of one beer, one small glass of wine, or $11 / 2$ ounces of liquor.

The 1985 GSS format was modified for the 1991 GSS to enable comparisons with the 1985 Health Promotion Survey' and other recent surveys on drinking behaviour. ${ }^{2}$ The introduction was changed to a more conversational style, and consumption over the seven days preceding the survey was described with the "drink wheel" format (Ques, K6). The classifications of current drinkers and weekly volume are comparable to those used in the report of the Canada Health Survey ${ }^{3}$ and the 1990 Health Promotion Survey. ${ }^{4}$

For the purposes of this report, current drinkers are considered to be those persons who reported
drinking an alcoholic beverage at least once a month. Other types of drinkers are:

\author{

- lifetime abstainers <br> - former drinkers <br> - occasional drinkers <br> not even one drink in their life <br> at least one drink in their life but none in the 12 months preceding the survey drink less than one drink per month
}

Current drinkers are further classified according to the volume of alcohol consumed in the seven days prior to the survey. This weekly volume is reported in categories of $0,1-6,7-13$, and $14+$ drinks. As the 1991 GSS data collection continued throughout the majority of the year (see Chapter 1), there is little chance of seasonal bias in these reports based on the previous week. It is therefore reasonable to refer to this quantity, in the aggregate, as weekly volume.

Non-response to the questions on alcohol consumption was comparable to that in other sections of the questionnaire, that is, less than $2 \%$ overall.

### 8.3 RESULTS

### 8.3.1 Prevalence and Volume of Drinking

## Age and sex

In 1991. 11.6 million Canadians aged 15 and over reportedly consumed alcoholic beverages at least once a month. This represents $55 \%$ of the population (Table 8-1). There are wide variations in the prevalence of current drinking for different age and sex groups. The prevalence of current drinkers is highest in the 20 to 24 age group and then declines with advancing age. This pattern is apparent for both men and women (Figure 8-A), but, in all age groups, current drinking rates are higher for men than for women.

Overall, men are 1.5 times as likely to drink as women, but this ratio changes dramatically with age. Among 15 to 19 -year-olds, there is near equality in the percentage of current drinkers: teenage men are 1.2 times more likely than women of the same age to be current drinkers. There is a steadily increasing gender gap in drinking with increasing age, until age 75 and over, when men are 2.3 times as likely as women to be current drinkers. A similar pattern was noted in the 1978-79 Canada Heaith Survey. ${ }^{3}$

About $6 \%$ of Canadian adults reported that they drank 14 or more drinks in the week prior to the survey; this is about $10 \%$ of current drinkers. Not only are men more likely to be current drinkers, they are also more likely to consume more than women. This pattern is true for all age groups. One in 10 Canadian men(10\%) drink 14 or more drinks a week, compared to $2 \%$ of women (Table 8-1).

The implications of alcohol consumption for health and behaviour are associated with the timing of drinking behaviour and the total amount consumed on drinking occasions. The volume of alcohol consumed on a daily basis rises each day from Monday to Saturday among both males and females. On average, males consume 0.7 drinks on Monday compared to 2.7 drinks on Saturday. Corresponding means for females are 0.4 and 1.6 drinks.

If the number of drinks per week is compared for current drinkers rather than for the total population, $15 \%$ of male current drinkers consume over 14 drinks a week, compared to $4 \%$ of female current drinkers. Among both male and female current drinkers, the peak weekly consumption occurs among persons aged 20 to 24 . About $19 \%$ of male current drinkers aged 20 to 24 drink over 14 drinks a week, compared to $5 \%$ of female current drinkers.

## Province

As with many other aspects of health, there are strong interprovincial differences in current drinking. The highest prevalence rates occur in British Columbia $(61 \%)$ and Quebec $(60 \%)$, while the lowest is in New Brunswick ( $47 \%$ ) (Table 8-2).

Among men, current drinking prevalence rates range from $72 \%$ in British Columbia and Quebec to $58 \%$ in New Brunswick. Among women, the highest rates occur in British Columbia ( $51 \%$ ) and the lowest in Newfoundland ( $34 \%$ ). In the total population, the proportion of adults who drink 14 or more drinks per week is highest in British Columbia ( $8 \%$ ), Quebec ( $7 \%$ ), and Nova Scotia ( $7 \%$ ). The smallest proportion of current drinkers at this level of consumption is in New Brunswick (4\%).

## Education

The prevalence of current drinking increases with education. Overall, about $42 \%$ of persons with less than a high school certificate are current drinkers,

FIGURE 8-A
Current drinkers by age group and sex, age 15+, Canada, 1991


## Age group

General Social Survey, 1991
compared to $67 \%$ of persons with a pustsecondary school degree or diploma. The rates for Canadians with a high school cerlificate or some postsecondary school education are intermedjate between these two extremes (Table 8-3). Although both the prevalence of current drinking and education tend to be associated with age, this relationship of drinking with education holds trie even within age groups. For example, in the important age group of 15 to 19. When drinking patterns become established, it is clear that the prevalence of drinking increases steeply with amount of eduation. This is less true for ages 20 to 24 (Figure 8-B). The proportion of current Urinkers who consume 14 drinks or more a week in the total population is about the same in each educational category. Overall, about $6 \%$ of current drinkers consume 14 drinks or more per week. However, among persons aged 20-24, $14 \%$ of current drinkers with secondary graduation have 14 drinks or more per week. This level of consumption is twice that of persons aged 20 24 who have a postsecondary degree or diploma.

### 8.3.2 Drinking and Smoking

Overall, $55 \%$ of Canadian adults are current drinkers. but the prevalence of drinking varies with the prevalence of smoking (see Chapter 9). About $63 \%$ of regular smokers are current drinkers. compared to $61 \%$ of former smokers and $47 \%$ of persons who never smoked daily (Table 8-4).

In the total population, about 3.4 million adults are current drinkers and daily cigarette smokers. The prevalence of both current drinking and smoking increases with age and reaches a peak of $20 \%$ in the 25 to 44 age group. then declines to reach its lowest level ( $6 \%$ ) in the 65 and over age group. Men are more likely to engage in both behaviours (20\%) than women (13\%) (data not shown).

### 8.3.3 Drinking and Chronic Health Problems

Table 8-5 compares the prevalence of selected health problems according to type of drinker. Compared to

FIGURE 8-B
Current drinkers by education and age group, ages 15-24, Canada, 1991


## Education

General Social Survey, 1991
former drinkers or lifetime abstainers, female current drinkers have a lower prevalence of hypertension, heart trouble, diabetes, arthritis and rheumatism, emphysema/bronchitis, digestive problems other than stomach ulcers, recurring migraines, and emotional disorders. For men, current drinkers have a similar advantage over former drinkers for these problems, but in the case of liferime abstainers it is only generally true as there are a few exceptions - hypertension, arthritis, rheumatism, and migraines - where there is no advantage or even a disadvantage when rates are compared with current drinkers (data not shown).

Because of the relationship of age to both alcohol consumption and the prevalence of chronic problems (see Chapter 2), it is important to control for age when examining the relationship between drinking status and health. Indeed, the lower prevalence of selected health problems among current drinkers compared to former drinkers or lifetime abstaners is observed for ages 451064 (Figure 8-C) and 65 and over.

## 8. 4 DISCUSSION

### 8.4.1 Change in Drinking Patterns Over Time

In 1985. $63 \%$ of the population were current drinkers ${ }^{5}$ compared to $55 \%$ in 1991 . The prevalence of current drinking declined over all age groups (Figure 8-D). This decline in drinking was evident in all regions of Canada, but was most evident in Ontario ( $66 \%$ in 1985 versus $51 \%$ in 1991) and least evident in Quebec ( $61 \%$ in 1985 versus $60 \%$ in 1991) (data not shown).

When the definition of drinker is broadened to anyone who drank within the year preceding the survey in order to make comparisons with other surveys, it appears that there has been little change since 1978. However, closer inspection suggests that Canadians are drinking more moderately in recent years (Text Table 8-A). Although the proportion of Canadians who reported that they were lifetime abstainers declined from $12 \%$ in 1978 to $9 \%$ in 1991. the

FIGURE 8 -C
Prevalence (\%) of health problems by type of drinker, ages 45-64, Canada, 1991


## Health problem

General Social Survey, 1991
(1) Estimate for "Abstainers" 100 small to release

TEXT TABLE 8-A
Type of drinking behaviour, selected national surveys, age 15+, Canada, 1978-79 to 1991 ${ }^{\text {(1) }}$


[^6]FIGURE 8-D
Current drinkers by age group, age 15+, Canada, 1985 and 1991


General Social Survey, 1985 and 1991
proportion who stated that they were former drinkers increased from $4 \%$ in 1978-79 to $13 \%$ in 1991. Among those persons who drank within the year preceding the survey, a higher proportion were drinking less than once a month in 1991 ( $22 \%$ ) than in 1978-79 (16\%).

The volume of alcohol consumed by current drinkers also declined between 1978-79 and 1991 (Figure 8-E). The proportion of drinkers who reported that they consumed less than one drink per week increased from $13 \%$ in $1978-79$ to $30 \%$ in 1991. There was also a noteworthy decline in the proportion of current drinkers who consumed 14 or more drinks per week, from $20 \%$ in $1978-79$ to $11 \%$ in 1991.

### 8.4.2 Methodological Issues

Several methodological issues affect the interpretation of data relating to alcohol consumption.

Because the survey is conducted by telephone, it excludes persons who do not have a telephone or who are transients: also excluded are residents
of institutions and residents of Northern communities. These persons may differ from the population surveyed in terms of the prevalence of current drinking and in overall consumption levels. An additional consideration is that, even in the surveyed population, the accuracy of self-reported alcohol consumption may differ from more objective measurements of drinking behaviour. ${ }^{6}$ Differences between self-reported behaviour and objective behaviour may vary by sex, socio-economic group, and age.

The validity of self-reported alcohol consumption is a complex methodological issue that has been the focus of much research by survey researchers and clinicians. Some researchers have tended to argue that, although self-reported consumption may underestimate actual consumption, at least persons may be classified in relative order in terms of their overall level of consumption. ${ }^{7}$ An assumption of this argument is that the inclination to underreport consumption levels is about the same over all social groups, by age, sex, and time. Even if this were true, the mere ordering

FIGURE 8-E
Current drinkers by volume of alcohol consumed(1) in the week preceding the survey, age 15+, Canada, 1978-79, 1985 and 1991


Canada Health Survey 1978-79
General Social Survey, 1985 and 1991
(1) Proportions have been recalculated to exclude the unknown category from the total.
of persons into drinking categories may be inadequate to establish levels of consumption at which the risk of selected health problems increases.

The method of obtaining information relating to prevalence and the level of alcohol consumed in the 1991 GSS is based on a recall of the number of drinks consumed on each day during the preceding week. Some studies report higher drinking estimates when the respondent recalls drinking behaviour over the past month than within the past week. However, as noted earlier, the year-round nature of GSS data collection at least avoids problems of seasonality that arise if alcohol consumption is surveyed only during the summer or festive seasons.

These measurement problems, and others, complicate the assessment of changes in drinking status over time. Small nuances in the wording of questions relating to alcohol consumption may produce biases
in estimates. Finally, responses to surveys may be influenced by historical events that occur around the time of the survey and by the social desirability of certain responses. For example, $4.4 \%$ of the Canada Health Survey sample refused to answer the questions about alcohol consumption in 1978-79; by 1991, this proportion was reduced to $1.3 \%$.

Despite these difficulties, the declines in alcohol consumption documented by these surveys are supported by sales statistics. The most recent series relate to the fiscal year ended March 31, 1991. Data on the sales of alcoholic beverages in litres of absolute alcohol per capita for those 15 years and older show a decline in the number of litres of absolute alcohol, from 9.4 litres in $1986-87$ to 8.5 litres in 1990-91. The decline in the number of absolute litres tends to be lower in Quebec and the Atlantic provinces and higher in Ontario and the western provinces. ${ }^{8}$

### 8.4.3 Substantive Issues

The findings in the 1991 GSS regarding the generally decreasing prevalence of alcohol consumption with advancing age are consistent with data from other reports. ${ }^{14.5 .9}$

Interprovincial differences in alcohol consumption may reflect differences in the availability of alcolool, the social context of drinking, and other societal and population differences. For example, the social context in which alcohol is used in Quebec is different from that in other regions of Canada. Quebec differs from other regions in terms of the greater availability of alcohol through comer stores, more liberal conventions regarding the consumption of one's own wine or beer in restaurants, and norms that rend to associate drinking behaviour with eating behaviour.

A consistent pattern in the present survey is the overall rendency of former drinkers and lifetime abstainers to have a greater prevalence of self-reported health problems than current drinkers. This pattem has also been noted in surveys in other countries. ${ }^{10.11}$ Former drinkers may have changed their drinking behaviour because of health problems that were induced by drinking or that may be exacerbated by drinking.

Females are less likely to be current drinkers and tend 10 consume less alcohol during a week. However, the effect of alcohol on physiological and metabolic processes differs by sex. Researchers have drawn attention to the fact that sex differences in body weight and composition affect blood alcohol levels. Although females consume less alcohol than men, they require smaller amounts of alcohol to achieve the sume blood alcohol levels. ${ }^{12}$ There is a need for further research on the unique behavioural and health implications of alcohol consumption among women. Further analysis of the General Social Survey data base could yield more detail on differences in drinking behaviour among males and females.

The per capita decline in alcohol consumption appears to be a phenomenon that has occurred in a number of industrialized countries. Factors responsible for the decline may be related to shifts in the age structure of industrialized countries towards an older population (younger drinkers tend to consume more alcohol) and an increased awareness of lifestyle and health issues within the general population. ${ }^{13}$ The trend in alcohol consumption in Canada is important since relatively small changes in overall consumption may lead to substantial declines in alcohol-related problems. ${ }^{14}$

## REFERENCES

1. Andrews F. In: Heath and Welfare Canada. Routman I, Warren R. Stephens T, Peters L, eds. Canada's Health Promotion Survey: technical report. Ottawa: Minister of Supply and Services Canada, 1988. Catalogue No. H39-119/1988E.
2. Health and Welfare Canada. Alcohol and other drug use by Canadians: a National Alcohol and Other Drugs Survey (1989) technical report. Otawa: Minister of Supply and Services Canada. 1992. Catalogue No. H39-251/1992E.
3. Health and Welfare Canada and Statistics Cunada. The Health of Canadians. Report of the Canada Health Survey. Ottawa: Minister of Supply and Services Canada, 1981. Catalogue No. 82-538E.
4. Adlaf E. Alcohol and other drug use. In: Health and Welfare Canada, Stephens T, Fowler Graham D. eds. Canada's Health Promotion Survey 1990: technical report. Ottawa: Minister of Supply and Services Canada. 1993. Catalogue No. H39-263/2-1990E.
5. Adams O. Alcohol use. In: Statistics Canada, Health and social suppori. 1985. General Social Survey Analysis Series. Ottawa: Minister of Supply and Services Canada. 1987: 41-57. Catalogue No. 11-612E. No. 1.
6. Popham R, Schmidt W. Words and deeds: the validity of self-report data on alcohol consumption. Journal of Srudies on Alcohol 1981: 42:355-8.
7. Midanik L. The validity of self-reported alcohol consumption and alcohol problems: a literature review. British Journal of Addiction 1982; 77:357-82.
8. Statistics Canada. The control and sale of alcoholic beverages in Canuda 1990-91. Ottawa: Minister of Supply and Services Canada, 1992:38-39. Catalogue No. 63-202. Annual.
9. Knupfer G. Room R. Age, sex and social class factors in the amount of drinking in a metropolitan community. Social Problems 1964: 12:224-240.
10. Blaxter M. Alcohol consumption. In: The Health and Lifestyle Survey. Preliminary report of a nationwide survey of the physical and mental health, altitudes. and lifestryle of a random sample of 9.00 .3 British adults. London: Health Promotion Research Trust, 1987: 109-19.
11. Berkman LF, Breslow N. Health and ways of living. New York: Oxford University Press, 1983.
12. Ferrance. R. Prevention of alcohol problems in women. In: Wilsack. S.C., Beckman, L.J. Alcohol Problems in Women. The Guildford Press. New York, 1984: 413-442.
13. Smar RG. Is the postwar drinking binge ending? Cross-national trends in per capita alcohol consumption. British Journal of Addicrion 1989; 84:743-8.
14. Smart RG. Mann RE. Large decreases in alcohol-related problems following a slight reduction in alcohol consumption in Ontario 1975-83. British Journal of Addiction 1987; 82:285-91.

TABLE 8-1
Type of drinker and volume of alcohol consumed lin the week preceding the survey by sex and age group, age $15+$, Canada, 1991

| Sex and age group | Type of drinker |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population 15+ |  | Lifetime abstainer |  | Former drinker |  | Occasional drinker |  | Current drinker and weekly volume consumed |  |  |  |  |  |  |  |  |  |  |  | Type of drinker n.s. |  |
|  |  |  |  |  |  |  |  |  | Current drinker |  | Less than 1 drink |  | $\begin{gathered} 1.6 \\ \text { drinks } \end{gathered}$ |  | $\begin{aligned} & 7.13 \\ & \text { drinks } \end{aligned}$ |  | $14+$ drinks |  | No. drinks n.s. |  |  |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 20.981 | 100 | 1,820 | 9 | 2,609 | 12 | 4.656 | 22 | 11608 | 55 | 3.440 | 16 | 4.852 | 23 | 1.982 | 9 | 1,211 | 6 | 124 | 1 | 287 | 1 |
| 15.24 years | 3,793 | 100 | 470 | 12 | 307 | 8 | 872 | 23 | 2.137 | 56 | 828 | 22 | 729 | 19 | 301 | 8 | 259 | 7 | - - | - | -- | -- |
| 15.19 years | 1,825 | 100 | 365 | 20 | 173 | 9 | 505 | 28 | 783 | 43 | 383 | 21 | 254 | 14 | 63 | 3 | 81 | 4 | - |  | -- | - |
| 20.24 years | 1,967 | 100 | 106 | 5 | 134 | 7 | 366 | 19 | 1,355 | 69 | 445 | 23 | 475 | 24 | 238 | 12 | 179 | 9 | - |  | -- | -- |
| 25.44 years | 9.005 | 100 | 515 | 6 | 769 | 9 | 1,968 | 22 | 5.661 | 63 | 1.667 | 19 | 2.493 | 28 | 929 | 10 | 533 | 6 | 40 | -- | 92 | 1 |
| 45.64 years | 5.275 | 100 | 409 | 8 | 846 | 16 | 1,169 | 22 | 2,755 | 52 | 647 | 12 | 1.219 | 23 | 548 | 10 | 304 | 6 | 38 | 1 | 97 | 2 |
| $65+$ years | 2,908 | 100 | 426 | 15 | 687 | 24 | 648 | 22 | 1.055 | 36 | 298 | 10 | 411 | 14 | 203 | 7 | 115 | 4 | 26 | 1 | 92 | 3 |
| 65-74 years | 1,824 | 100 | 229 | 13 | 365 | 20 | 425 | 23 | 757 | 42 | 204 | 11 | 301 | 16 | 140 | 8 | 95 | 5 | -- | -- | 48 | 3 |
| $75+$ years | 1.084 | 100 | 197 | 18 | 323 | 30 | 223 | 21 | 297 | 27 | 94 | 9 | 111 | 10 | 63 | 6 | - | -- | -- |  | 44 | 4 |
| Mate |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10,266 | 100 | 574 | 6 | 1,051 | 10 | 1.574 | 15 | 6.929 | 67 | 1,771 | 17 | 2,652 | 26 | 1,389 | 14 | 1.024 | 10 | 94 | 1 | 138 | 1 |
| 15.24 years | 1.935 | 100 | 214 | 11 | 143 | 7 | 338 | 17 | 1.238 | 64 | 442 | 23 | 367 | 19 | 210 | 11 | 207 | 11 | -- |  | -- | -- |
| 15.19 years | 936 | 100 | 185 | 20 | 90 | 10 | 220 | 23 | 441 | 47 | 201 | 21 | 139 | 15 | 41 | 4 | 58 | 6 | - - |  | -- | - |
| 20-24 years | 1,000 | 100 | -- | - | 53 | 5 | 119 | 12 | 797 | 80 | 241 | 24 | 227 | 23 | 169 | 17 | 149 | 15 | -- | -- | -- | -- |
| 25.44 years | 4,476 | 100 | 160 | 4 | 267 | 6 | 624 | 14 | 3,381 | 76 | 877 | 20 | 1.366 | 31 | 645 | 14 | 463 | 10 | 30 | 1 | 44 | 1 |
| 45-64 years | 2,611 | 100 | 102 | 4 | 372 | 14 | 375 | 14 | 1,702 | 65 | 313 | 12 | 700 | 27 | 406 | 16 | 255 | 10 | -- | - - | 59 | 2 |
| $65+$ years | 1.245 | 100 | 98 | 8 | 269 | 22 | 237 | 19 | 608 | 49 | 140 | 11 | 220 | 18 | 128 | 10 | 100 | 8 | -- | -- | 33 | 3 |
| $65-74$ years | 796 | 100 | 62 | 8 | 151 | 19 | 148 | 19 | 425 | 53 | 87 | 11 | 160 | 20 | 81 | 10 | 82 | 10 | -- | -- | -- | -- |
| $75+$ years | 448 | 100 | 36 | 8 | 118 | 26 | 89 | 20 | 183 | 41 | 53 | 12 | 59 | 13 | 47 | 10 | -- | - | -- | -- | -- | -- |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10.715 | 100 | 1,246 | 12 | 1.558 | 15 | 3,082 | 29 | 4.679 | 44 | 1.669 | 16 | 2,200 | 21 | 592 | 6 | 187 | 2 | 31 |  | 150 | 1 |
| 15-24 years | 1,857 | 100 | 256 | 14 | 163 | 9 | 533 | 29 | 899 | 48 | 386 | 21 | 362 | 19 | 91 | 5 | 53 | 3 | -- | - - | -- | - - |
| 15-19 years | 890 | 100 | 180 | 20 | 82 | 9 | 286 | 32 | 342 | 38 | 182 | 20 | 114 | 13 | -- | -- | -- | - | -- | -- | - | -- |
| 20-24 years | 968 | 100 | 77 | 8 | 81 | 8 | 247 | 26 | 557 | 58 | 204 | 21 | 248 | 26 | 68 | 7 | 30 | 3 | -- | -- | - | -- |
| 25-44 years | 4,530 | 100 | 355 | 8 | 502 | 11 | 1,344 | 30 | 2.281 | 50 | 790 | 17 | 1,127 | 25 | 284 | 6 | 70 | 2 | - |  | 47 | 1 |
| 45-64 years | 2,664 | 100 | 307 | 12 | 474 | 18 | 794 | 30 | 1.053 | 40 | 334 | 13 | 519 | 19 | 142 | 5 | 49 | 2 | -- |  | 38 | 1 |
| $65+$ years | 1,664 |  | 328 | 20 | 418 | 25 | 411 | 25 | 446 | 27 | 158 | 10 | 192 | 12 | 76 | 5 | -- | -- | -- | -- | 60 | 4 |
| 65-74 years | 1.028 | 100 | 167 | 16 | 214 | 21 | 277 | 27 | 332 | 32 | 116 | 11 | 140 | 14 | 59 | 6 | -- | -- | -- | -- | 38 | 4 |
| $75+$ years | 636 | 100 | 160 | 25 | 205 | 32 | 134 | 21 | 114 | 18 | 42 | 7 | 51 | 8 | - - | - - | -- | -- | -- | -- | -- |  |

TABLE 8-2
Type of drinker and volume of alcohol consumed in the week preceding the survey by sex and province, age 15t, Canada, 1991

| Sex and province | Type of drinker |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population 15 + |  | Lifetime abstainar |  | Former drinker |  | Occasional drinker |  | Current drinker and waekty voluma consumed |  |  |  |  |  |  |  |  |  |  |  | Type of drinker n.s. |  |
|  |  |  |  |  |  |  |  |  | Current drinker |  | $\begin{gathered} \text { Less than } 1 \\ \text { drink } \end{gathered}$ |  | 1.6 drinks |  | 7-13 drinks |  | 14 + drinks |  | No. drinks n.s. |  |  |  |
|  | No. | $\%$ | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 20,981 | 100 | 1,820 | 9 | 2,609 |  | 4.656 |  | 11,608 | 55 | 3,440 | 16 | 4,852 | 23 | 1.982 | 9 | 1,211 | 6 | 124 | 1 | 287 | 1 |
| Atlantic | 1,806 | 100 | 191 | 11 | 289 | 16 | 411 | $23$ | 899 | 50 | 268 | 15 | 364 | 20 | 136 | 8 | 113 | 6 | 18 | 1 | 16 | 1 |
| Newfoundland | 438 | 100 | 53 | 12 | 56 | $13$ | 100 | $23$ | 225 | 51 | 69 | 16 | 80 | 18 | 34 | 8 | 36 | 8 | -- | - | -- | - - |
| Prince Edward Island | 98 | 100 | 9 | 9 | 16 | 16 | 20 | 20 | 54 | 54 | 16 | 16 | 25 | 26 | 6 | 6 | -- | -- | -- | -- | - | -- |
| Nova Scotia | 704 | 100 | 82 | 12 | 88 | 13 | 170 | 24 | 357 | 51 | 107 | 15 | 139 | 20 | 55 | 8 | 50 | 7 | -- | -- | - | -- |
| Now Brunswick | 566 | 100 | 48 | 8 | 129 | 23 | 120 | 21 | 264 | 47 | 76 | 13 | 121 | 21 | 41 | 7 | 22 | 4 | -- | -- |  | -- |
| Quebec | 5,384 | 100 | 524 | 10 | 524 | 10 | 1.088 | 20 | 3,228 | 60 | 820 | 15 | 1.573 | 29 | 469 | 9 | 357 | 7 | -- | -- | -- | -- |
| Ontario | 7.778 | 100 | 651 | 8 | 1,061 | 14 | 1.889 | 24 | 4,001 | 51 | 1.334 | 17 | 1.508 | 19 | 756 | 10 | 354 | 5 | 49 | 1 | 176 | 2 |
| Pralries | 3,482 | 100 | 283 | 8 | 447 | 13 | 763 | 22 | 1,933 | 56 | 592 | 17 | 774 | 22 | 340 | 10 | 186 | 5 | 41 | 1 | 55 | 2 |
| Manitoba | 839 | 100 | 66 | 8 | 107 | $13$ | 190 | 23 | 459 | 55 | 143 | 17 | 180 | 21 | 76 | 9 | 54 | 6 | -- | , | $16$ | 2 |
| Saskatchewan | 742 | 100 | 67 | 9 | 103 | 14 | 171 | 23 | 389 | 52 | 124 | 17 | 164 | 22 | 51 | , | 44 | 6 | -- | -- | 11 | 2 |
| Alberra | 1,901 | 100 | 150 | 8 | 236 | 12 | 402 | 21 | 1,085 | 57 | 325 | 17 | 431 | 23 | 213 | 11 | 88 | 5 | 28 | 1 | 28 | 1 |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 10.266 | 100 | 574 | 6 | 1,051 | 10 | 1.574 | 15 | 6,929 | 67 | 1,771 | 17 | 2.652 | 26 | 1.389 | 14 | 1.024 | 10 | 94 | 1 | 138 | 1 |
| Allantic | 885 | 100 | 66 | 7 | 137 | 15 | 120 | 14 | 553 | 62 | 133 | 15 | 196 | 22 | 108 | 12 | 101 | 19 | -- | - | 9 | 9 |
| Nowfoundland | 217 | 100 | 17 | 8 | 24. | 11 | 23 | 10 | 151 | 69 | 37 | 17 | 47 | 22 | 27 | 12 | 33 | 15 | -- | -- | -- |  |
| Prince Edward Island | 48 | 100 | -- | -- | 9 | 18 | 8 | 17 | 29 | 60 | 8 | 16 | 12 | 24 | -- | -- | -- | -- | - | - | -- | -- |
| Nova Scotia | 343 | 100 | 28 | 8 | 49 | 14 | 50 | 15 | 213 | 52 | 48 | 14 | 71 | 21 | 42 | 12 | 46 | 14 | -- | - | -- | -- |
| New Brunswick | 277 | 100 | 19 | 7 | 55 | 20 | 39 | 14 | 161 | 58 | 39 | 14 | 67 | 24 | 35 | 13 | 17 | 6 | -- | - | -- | -- |
| Quabec | 2,617 | 100 | 127 | 5 | 220 | 8 | 386 | 15 | 1,876 | 72 | 384 | 15 | 854 | 33 | 330 | 13 | 302 | 12 | - | -- | -- | -- |
| Ontario | 3.796 | 100 | 218 | 6 | 374 | 10 | 684 | 18 | 2.435 | 64 | 707 | 19 | 865 | 23 | 529 | 14 | 292 | 8 | -- | -- | 86 | 2 |
| Prairles | 1.725 | 100 | 107 | 6 | 190 | 11 | 226 | 13 | 1.173 | 68 | 330 | 19 | 404 | 23 | 248 | 14 | 163 | 9 | 28 | 2 | 29 | 2 |
| Manitoba | 411 | 100 | 16 | 4 | 52 | 13 | 67 | 16 | 264 | 64 | 78 | 19 | 83 | 20 | 56 | 14 | 45 | 11 | -- | - | -- | -- |
| Saskatchowan | 367 | 100 | 27 | 7 | 43 | 12 | 52 | 14 | 241 | 66 | 68 | 19 | 94 | 26 | 35 | 9 | 38 | 10 | - | - | -- | -- |
| Alberta | 948 | 100 | 63 | 7 | 95 | 10 | 107 | 11 | 668 | 70 | 184 | 19 | 227 | 24 | 158 | 17 | 80 | 8 | -- |  | - | -- |
| Fernale |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ailantic | 921 | 100 | 125 | 14 | 152 | 17 | 290 | 32 | +346 | 38 | $\begin{array}{r}1,685 \\ \hline\end{array}$ | 15 | -168 | 18 | 592 28 | 3 | 187 | - | -- | -- | 150 | 1 |
| Newtoundland | 221 | 100 | 36 | 16 | 32 | 14 | 78 | 35 | 74 | 34 | 31 | 14 | 33 | 15 | -- | - - | -- | -- | -- | -- | -- | - |
| Prince Edward Island | 50 | 100 | 7 | 14 | 7 | 14 | 12 | 23 | 25 | 49 | 8 | 16 | 13 | 27 | - | - - | - - | -- | -- | -- | -- | - |
| Nova Scotia | 361 | 100 | 53 | 15 | 40 | 11 | 120 | 33 | 144 | 40 | 59 | 16 | 68 | 19 | - | -- | - | -- | -- | -- | -- | - |
| Naw Brunswick | 289 | 100 | 29 | 10 | 74 | 26 | 81 | 28 | 103 | 36 | 36 | 13 | 54 | 19 | -- | -- | -- | -- | -- | -- | - | - |
| Quebec | 2,767 | 100 | 397 | 14 | 304 | 11 | 702 | 25 | 1,351 | 49 | 436 | 16 | 722 | 26 | 138 | 5 | 55 | 2 | -- | -- | -- | - |
| Ontario | 3.982 | 100 | 433 | 11 | 687 | 17 | 1,206 | 30 | 1,566 | 39 | 627 | 16 | 644 | 16 | 226 | 6 | 61 | 2 | -- | =- | 90 | 2 |
| Prairies | 1,756 | 100 | 177 | 10 | 257 | 15 | 537 | 31 | 760 | 43 | 262 | 15 | 370 | 21 | 92 | 5 | 22 | 1 | - | -- | 26 | 2 |
| Maniloba | 428 | 100 | 50 | 12 | 55 | 13 | 123 | 29 | 195 | 46 | 65 | 15 | 97 | 23 | 21 | 5 | -- | -- | - | -- | -- | -- |
| Saskalchewan | 375 | 100 | 40 | 11 | 60 | 16 | 119 | 32 | 148 | 39 | 56 | 15 | 70 | 19 | 16 | 4 | -- | - | - | -- | -- | - |
| Alberta | 953 | 100 | 87 | 9 | 149 | 15 | 295 | 31 | 416 | 44 | 141 | 15 | 203 | 21 | 55 | 6 | -- | -- | - | - | -- | -- |
| British Columbla | 1,288 | 100 | 115 | 9 | 158 | 12 | 347 | 27 | 656 | 51 | 208 | 16 | 296 | 23 | 108 | 8 | 37 | 3 | -- | -- | -- | -- |

TABLE 8-3
Type of drinker and volume of alcohol consumed in the week preceding the survey by age group and education, age 15+, Canada, 1991

| Age group and education | Type of drinker |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Lifetime abstainer |  | Former drinker |  | Occasional drinker |  | Current drinker and weekly volume consumed |  |  |  |  |  |  |  |  |  |  |  | Type of drinker n.s |  |
|  |  |  |  |  |  |  |  |  | Current drinker |  | Less than 1 drink |  | 1-6 drinks |  | 7.13 drinks |  | 14 + drinks |  | No. drinks n.s. |  |  |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in Mhousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Some Sec or less | 7.190 | 100 | 1,057 | 15 | 1,330 | 18 | 1.753 | 24 | 3,022 | 42 | 1,031 | 14 | 1.090 | 15 | 520 | 7 | 332 | 5 | 49 | 1 | 28 |  |
| Sec graduation | 3,399 | 100 | 232 | 7 | 341 | 10 | 801 | 24 | 2,013 | 59 | 606 | 18 | 817 | 24 | 333 | 10 | 245 | 7 | - |  | -- |  |
| Some postsec | 3,401 | 100 | 177 | 5 | 345 | 10 | 800 | 24 | 2.071 | 61 | 577 | 17 | 873 | 26 | 348 | 10 | 247 | 7 | 27 | 1 | -- |  |
| Postsec deg/dip | 6.601 | 100 | 311 | 5 | 566 | 9 | 1,276 | 19 | 4.432 | 67 | 1,198 | 18 | 2.055 | 31 | 768 | 12 | 378 | 6 | 34 | 1 | 223 |  |
| Not stated | 390 | 100 | 42 | 11 | 28 | 7 | 26 | 7 | 70 | 18 | -- | -- | -- | -- | -- | -- | -- |  | -- |  | 223 | 57 |
| 15-24 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All levels | 3,793 | 100 | 470 | 12 | 307 | 8 | 872 | 23 | 2,137 | 56 | 828 | 22 | 729 | 19 | 301 | 8 | 259 | 7 |  |  |  |  |
| Some Sec or less | 1,472 | 100 | 326 | 22 | 162 | 11 | 397 | 27 | 587 | 40 | 302 | 21 | 174 | 12 | 55 | 4 | 53 | 4 | -- |  |  |  |
| Sec graduation | 629 | 100 | -- | -- | 44 | 7 | 150 | 24 | 380 | 60 | 141 | 22 | 109 | 17 | 59 | 9 | 72 | 11 | -- |  |  |  |
| Some postsec | 1,023 | 100 | 58 | 6 | 70 | 7 | 215 | 21 | 679 | 66 | 201 | 20 | 263 | 26 | 108 | 11 | 92 | 9 | -- |  |  |  |
| Posisec deg/dip | 650 | 100 | -- | -- | 31 | 5 | 109 | 17 | 478 | 74 | 175 | 27 | 180 | 28 | 80 | 12 | 43 | 7 | -- |  | -- |  |
| Not stated | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |  |  |  |  |  |
| 15.19 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All levels | 1,825 | 100 | 365 | 20 | 173 | 9 | 505 | 28 | 783 | 43 | 383 | 21 | 254 | 14 | 63 | 3 | 81 | 4 |  |  |  |  |
| Some Sec or less | 1.199 | 100 | 307 | 26 | 137 | 11 | 350 | 29 | 405 | 34 | 222 | 18 | 125 | 10 | 31 | 3 | -- | -- | -- |  |  |  |
| Sec graduation | 252 | 100 | -- | -- | -- | -- | 79 | 31 | 132 | 52 | 60 | 24 | 35 | 14 | -- | -- | -- | -- |  |  |  |  |
| Some postsec | 312 | 100 | -- | -- | -- | -- | 66 | 21 | 200 | 64 | 73 | 24 | 79 | 25 | -- | -- | -- | -- | -- | -- |  |  |
| Posisec deg/dip | 52 | 100 | - - | -- | -- | -- | -- | -- | 35 | 67 | -- | -- | -- | -- | -- | - | -- | -- |  |  |  |  |
| Not stated | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |  | -- | -- |  |  |  |  |
| 20-24 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All levels | 1.967 | 100 | 106 | 5 | 134 | 7 | 366 | 19 | 1.355 | 69 | 445 | 23 | 475 | 24 | 238 | 12 | 179 | 10 | -- |  |  |  |
| Some Sec or less | 274 | 100 | -- | -- | -- | - | 47 | 17 | 182 | 66 | 80 | 29 | 50 | 18 | - | -- | 27 | 10 | -- |  |  |  |
| Sac graduation | 377 | 100 | -- | -- | 32 | 8 | 71 | 19 | 248 | 66 | 80 | 21 | 74 | 20 | 42 | 11 | 52 | 14 | -- |  |  |  |
| Some postsec | 711 | 100 | -- | -- | 46 | 6 | 149 | 21 | 479 | 67 | 128 | 18 | 184 | 26 | 93 | 13 | 59 | 8 | -- |  |  |  |
| Posisec deg/dip | 598 | 100 | - | -- | 31 | 5 | 99 | 17 | 443 | 74 | 156 | 26 | 167 | 28 | 79 | 13 | 41 | 7 | -- |  |  |  |
| Not stated |  | -- | -- | -- | -- | -- | -- | -- | -- | -- |  |  |  | -- | -- | -- | -- | -- | -- |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All levels | 9,005 | 100 | 515 | 6 | 769 | 9 | 1,968 | 22 | 5,661 | 63 | 1,667 360 | 19 | 2,493 325 | 18 | 929 | 10 | 122 | 7 | 40 |  | 92 | - |
| Some Sec ar less | 1.849 | 100 | 189 | 10 | 218 | 12 | 431 | 23 | 996 | 54 | 360 | 20 | 325 | 18 | 178 | 10 | 122 | 6 | -- |  |  |  |
| Sec graduation | 1.697 | 100 | 114 | 7 | 138 | 8 | 410 | 24 | 1,030 | 61 | 298 | 18 | 431 | 25 | 191 | 11 | 105 | 6 | -- |  |  |  |
| Some postsec | 1,509 | 100 | 53 | 4 | 158 | 10 | 378 | 25 | 918 | 61 | 265 | 18 | 412 | 27 | 138 | 9 | 92 | 6 | -- | -- |  |  |
| Postsec deg/dip | 3,835 | 100 | 149 | 4 | 247 | 6 | 737 | 19 | 2,690 | 70 | 737 | 19 | 1,314 | 34 | 420 | 11 | 206 | 5 |  |  | 67 |  |
| Not stated | 124 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |  |  |  | -- |  |  |  |  | 67 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All levels | 5.275 | 100 | 409 | 8 | 846 | 16 | 1.169 546 | 22 | 2.755 | 52 42 | 647 214 | 12 | 1,219 384 | 17 | 196 | 10 9 | 112 | 5 | 3 | 1 | 97 |  |
| Some Sec or less | 2.210 | 100 | 244 | 11 | 489 | 22 | 546 | 25 | 919 | 42 | 214 | 16 | 324 | 29 | 61 |  |  | 7 | -- |  |  |  |
| Sec graduation | 767 | 100 | 40 | 5 | 92 | 12 | 165 | 22 | 467 | 61 | 124 | 16 | 224 | 29 | 61 | 8 | 53 | 7 | -- |  |  |  |
| Some postsec | 566 | 100 | 28 | 5 | 61 | 11 | 128 | 23 | 346 | 61 | 79 | 14 | 141 | 25 | 79 | 14 | 47 | 8 | -- |  |  |  |
| Postsec deg/dip | 1.614 | 100 | 83 | 5 | 198 | 12 | 323 | 20 | 1.008 | 62 | 220 | 14 | 468 | 29 | 209 | 13 | 91 | 6 |  | -- | -- |  |
| Not stated | 117 | 100 | -- | -- | --- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |  |  | 7 |  |
| $65+$ years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All levels | 2,908 | 100 | 426 | 15 | 687 | 24 | 648 | 22 | 1.055 | 36 | 298 | 10 | 411 | 14 | 203 | 5 | 115 | 4 | 26 | 1 | 92 | 3 |
| Some Sec or less | 1.667 | 100 | 297 | 18 | 461 | 28 | 379 | 23 | 519 | 31 | 155 | 9 | 207 | 12 | 91 | 5 | 45 | 3 | -- |  | -- |  |
| Sec graduation | 305 | 100 | - | -- | 66 | 22 | 75 | 25 | 137 | 45 | 43 | 14 | 54 | 18 | -- |  | -- | -- | -- |  |  |  |
| Some posisec | 303 | 100 | 38 | 12 | 57 | 19 | 78 | 26 | 128 | 42 | 31 |  | 56 |  | -- |  | - | - |  |  |  |  |
| Postsec deg/dip | 502 | 100 | 48 | 10 | 89 | 18 | 106 | 21 | 256 | 51 | 65 | 13 | 93 | 19 | 59 | 12 | 38 | 8 |  |  | -- |  |
| Not stated | 130 | 100 | - - | -- | -- |  | -- |  | -- |  | -- |  | -- |  | -- |  | -- |  |  |  | 3 |  |

General Social Survey. 1991

TABLE 8-4
Type of drinker by age group and type of smoker, age 15+, Canada, 1991

| Age group and type of smoker | Type of drinker |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Current drinker |  | Occasional drinker |  | Former drinker |  | Never drank |  | Type of drinker n.s. |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |
| Population 15* |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 20,981 | 100 | 11.608 | 55 | 4,656 | 22 | 2,609 | 12 | 1,820 | 9 | 287 | 1 |
| Current smoker | 6,469 | 100 | 4,143 | 64 | 1,339 | 21 | 693 | 11 | 265 | 4 | 29 | - |
| Regular smoker | 5,434 | 100 | 3,419 | 63 | 1,138 | 21 | 627 | 12 | 229 | 4 | -- | -- |
| Occasional smoker | 1,035 | 100 | 724 | 70 | 202 | 19 | 66 | 6 | 35 | 3 | -- | - |
| Never daily smoker | 9,422 | 100 | 4,467 | 47 | 2,267 | 24 | 1,266 | 13 | 1,384 | 15 | 38 | -- |
| Former smoker | 4,891 | 100 | 2.994 | 61 | 1,047 | 21 | 650 | 13 | 171 | 3 | 28 | 1 |
| Not stated | 199 | 100 | -- | -- | -- | -- | - | - | -- | -- | 192 | 96 |
| 15-24 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 3,793 | 100 | 2,137 | 56 | 872 | 23 | 307 | 8 | 470 | 12 | -- | - |
| Current smoker | 1,192 | 100 | 859 | 72 | 233 | 20 | 66 | 6 | 35 | 3 | - - | - |
| Regular smoker | 840 | 100 | 577 | 69 | 180 | 21 | 54 | 6 | -- | -- | - | -- |
| Occasional smoker | 352 | 100 | 282 | 80 | 53 | 15 | - | - - | -- | - | -- | - |
| Never daily smoker | 2,273 | 100 | 1,060 | 47 | 562 | 25 | 219 | 10 | 433 | 19 | - | -- |
| Former smoker | 318 | 100 | 219 | 69 | 74 | 23 | -- | -- | -- | -- | -- | -- |
| Not stated | - | - | --- | -- | -- | -- | -- | -- | -- | - | -- | -- |
| 15-19 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 1,825 | 100 | 783 | 43 | 505 | 28 | 173 | 9 | 365 | 20 | - | -- |
| Current smoker | 412 | 100 | 241 | 59 | 124 | 30 | -- | -- | - - | - | - - | - - |
| Regular smoker | 296 | 100 | 169 | 57 | 93 | 31 | -- | -- | -- | -- | -- | - - |
| Occasional smoker | 116 | 100 | 72 | 62 | -- | -- | -- |  | -- | -- | - - | - |
| Never daily smoker | 1,306 | 100 | 473 | 36 | 346 | 27 | 138 | 11 | 349 | 27 | -- | - |
| Former smoker | 108 | 100 | 69 | 64 | - | -- | -- | -- | -- | - | - | -- |
| 20-24 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 1.967 | 100 | 1.355 | 69 | 366 | 19 | 134 | 7 | 106 | 5 | -- | - |
| Current smoker | 781 | 100 | 618 | 79 | 109 | 14 | 34 | 4 | - | -- | - - | - - |
| Regular smoker | 544 | 100 | 408 | 75 | 87 | 16 | 32 | 6 | -- | -- | - - | - |
| Occasional smoker | 237 | 100 | 209 | 89 | -- | -- | -- | -- | -- | - | -- | - |
| Never daily smoker | 967 | 100 | 587 | 61 | 216 | 22 | 81 | 8 | 84 | 9 | -- | -- |
| Former smaker | 210 | 100 | 150 | 72 | 38 | 18 | -- | -- | - | -- | -- | -- |
| Not stated | -- | - | -- | -- | -- | -- | -- | - | -- | -- | -- | -- |
| 25-44 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 9.005 | 100 | 5,661 | 63 | 1.968 | 22 | 769 | 9 | 515 | 6 | 92 | 1 |
| Current smoker | 3.225 | 100 | 2,121 | 66 | 709 | 22 | 267 | 8 | 118 | 4 | -- | - - |
| Regular smoker | 2,823 | 100 | 1.833 | 65 | 634 | 22 | 250 | 9 | 104 | 4 | -- | - |
| Occasional smoker | 401 | 100 | 288 | 72 | 75 | 19 | -- | -- | -- | -- | -- | -- |
| Never daily smoker | 3,816 | 100 | 2,222 | 58 | 847 | 22 | 360 | 9 | 369 | 10 | -- | - |
| Former smoker | 1,911 | 100 | 1,318 | 69 | 413 | 22 | 143 | 7 | 29 | 1 | -- | -- |
| Not stated | 54 | 100 |  | - | - | -- | -- | -- | - | - | 54 | 100 |
| 45-64 years |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 5,275 | 100 | 2,755 | 52 | 1,169 | 22 | 846 | 16 | 409 | 8 | 97 | 2 |
| Current smoker | 1,587 | 100 | 936 | 59 | 312 | 20 | 254 | 16 | 69 | 4 | - | -- |
| Regular smoker | 1.385 | 100 | 823 | 59 | 263 | 19 | 225 | 16 | 60 | 4 | - - | - |
| Occasional smoker | 202 | 100 | 114 | 56 | 50 | 25 | 29 | 15 | -- | - | -- | -- |
| Never daily smoker | 2.054 | 100 | 870 | 42 | 549 | 27 | 348 | 17 | 277 | 14 | -- | -- |
| Former smoker | 1.563 | 100 | 946 | 61 | 308 | 20 | 243 | 16 | 62 | 4 | -- | -- |
| Not stated | 71 | 100 | - | -- | - | -- | -- | -- | - - | -- | 68 | 96 |
| 65+ years |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 2,908 | 100 | 1,055 | 36 | 648 | 22 | 687 | 24 | 426 | 15 | 92 | 3 |
| Current smoker | 465 | 100 | 226 | 49 | 85 | 18 | 106 | 23 | 43 | 9 | -- | -- |
| Regular smoker | 386 | 100 | 186 | 48 | 62 | 16 | 97 | 25 | 37 | 9 | - - | - - |
| Occasional smoker | 79 | 100 | 40 | 51 | -- | -- | -- | -- | -- | -- | -- | - |
| Never daily smoker | 1.279 | 100 | 316 | 25 | 309 | 24 | 339 | 27 | 305 | 24 | - | -- |
| Former smoker | 1.099 | 100 | 511 | 47 | 253 | 23 | 242 | 22 | 77 | 7 | -- | -- |
| Not stated | 65 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | 63 | 97 |

General Social Survey, 1991

TABLE 8-5
Prevalence of selected health problems by age group and type of drinker, age 15+, Canada, 1991

| Age group and type of drinker | Health problem(1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  |  |  | Hypertension |  | Heart trouble |  | Diabetes |  | Arthritis/ meumatism |  | Asthma |  | Emphysema, etc. |  | Hay fever |  |  |  | Stomach ulcer |  | Other digestive problems |  | Recurring migraines |  | High blood cholesterol |  | Any emotiona! disorders |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | $\%$ | No. | \% | No. | \% | No | \% |
|  | (Na. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 20,989 | 100 | 13,168 | 63 | 3,319 | 16 | 1.437 | 7 | 740 | 4 | 4,335 | 21 | 9,238 | 6 | 1.671 | 8 | 2,528 | 12 | 4,340 | 21 | 969 | 5 | 1,634 | 8 | 1,950 | 9 | 1,759 | 8 | 1,114 | 5 |
| Cur. drinker | 11.608 | 100 | 6,885 | 59 | 1.829 | 14 | 560 | 5 | 257 | 2 | 1,901 | 16 | 631 | 5 | 732 | 6 | 1,492 | 13 | 2,287 | 20 | 477 | 4 | 723 | 6 | 874 | 8 | 907 | 8 | 414 | 4 |
| Occ. drinker | 4.656 | 100 | 3,009 | 65 | 709 | 15 | 307 | 7 | 146 | 3 | 1,103 | 24 | 280 | 6 | 413 | 9 | 571 | 12 | 1,134 | 24 | 231 | 5 | 436 | 9 | 587 | 13 | 370 | 8 | 266 | 6 |
| Former dirinker | 2.609 |  | 1,942 | 74 | 587 | 23 | 372 | 14 | 208 | 8 | 826 | 32 | 190 | 7 | 322 | 12 | 272 | 10 | 574 | 22 | 174 | 7 | 298 | 11 | 292 | 11 | 302 | 12 | 234 | 9 |
| Never drank | 1.820 | 100 | 1,174 | 65 | 321 | 18 | 176 | 10 | 115 | 6 | 417 | 23 | 124 | 7 | 178 | 10 | 181 | 10 | 329 | 18 | 76 | 4 | 163 | 9 | 184 | 10 | 161 | 9 | 186 | 10 |
| Drinker type, n.s. | 287 | 100 | 158 | 55 | 64 | 22 | -- | - | -- | - | 89 | 31 |  | - | 27 | 9 | -- | -- |  | -- | -- | -- | - | -- |  | -- | - | - | - | - |
| 15-44 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 12,798 |  | 6,810 | 53 | 979 | 8 | 320 | 2 | 159 | 1 | 1.096 | 9 |  | 6 |  | 6 |  |  | 2,865 |  | 522 | 4 | 690 | 5 | 1,246 | 10 |  | 4 | 464 | 4 |
| Cur. drinker | 7,799 |  | 4,052 | 52 | 840 | 8 | 187 | 2 | 73 | 1 | 595 | 8 | 455 | 6 | 364 | 5 | 1,111 | 14 | 1,667 | 21 | 315 | 4 | 370 | 5 | 607 | 8 | 355 | 5 | 207 | 3 |
| Occ. drinker | 2,839 | 100 | 1.580 | 56 | 202 | 7 | 57 | 2 | 42 | 1 | 312 | 11 | 187 | 7 | 202 | 7 | 390 | 14 | 723 | 25 | 110 | 4 | 194 | 7 | 393 | 14 | 87 | 3 | 116 | 4 |
| Former drinker | 1.076 | 100 | 650 | 60 | 81 | 8 | 47 | 4 | -- | -- | 128 | 12 | 82 | 8 | 75 | 7 | 143 | 13 | 273 | 25 | 62 | 6 | 71 | 7 | 144 | 13 | 62 | 6 | 76 | 7 |
| Never drank | 985 |  | 507 | 51 | 47 | 5 | -- | -- | - | -- | 56 | 6 | 59 | 6 | 62 | 6 | 123 | 12 | 201 | 20 | -- | -- | 55 | 6 | 101 | 10 | -- |  | 65 | 7 |
| Drinker type, n.s. | 98 | 100 | -- | -- | -- | - | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | - |
| 45-64 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 5,275 | 100 | 3.866 | 73 | 1.271 | 24 | 411 | 8 | 289 | 5 | 1.685 | 32 | 252 | 5 | 440 | 8 | 523 | 10 | 947 | 18 | 255 | 5 | 538 | 10 | 524 | 10 | 834 | 16 | 388 | 7 |
| Cur. orinker | 2,755 | 100 | 1.949 | 71 | 638 | 23 | 149 | 5 | 97 | 4 | 768 | 28 | 128 | 5 | 199 | 7 | 289 | 11 | 441 | 16 | 98 | 4 | 235 | 9 | 224 | 8 | 416 | 15 | 142 | 5 |
| Occ. drinker | 1,169 | 100 | 878 | 75 | 247 | 21 | 106 | 9 | 47 | 4 | 435 | 37 | 54 | 5 | 96 | 8 | 132 | 11 | 282 | 24 | 87 | 7 | 133 | 11 | 151 | 13 | 197 | 17 | 92 | 8 |
| Former drinker | 846 | 100 | 682 | 81 | 233 | 28 | 123 | 14 | 110 | 13 | 315 | 37 | 40 | 5 | 108 | 13 | 74 | 9 | 170 | 20 | 45 | 5 | 121 | 14 | 93 | 11 | 147 | 17 | 85 | 10 |
| Never drank | 409 | 100 | 303 | 74 | 131 | 32 | 33 | 8 | -- | -- | 137 | 34 | -- | -- | 28 | 7 | -- | -- | 47 | 12 | -- | -- | 42 | 10 | 50 | 12 | 66 | 16 | 61 | 15 |
| Drinker type, n.s. | 97 | 100 | 54 | 56 | 1 | -- | -- | -- | -- | -- | 30 | 31 | -- | -- | -- | -- | -- | -- |  | - | -- | -- | -- | -- | -- | -- | -- | - | -- | -- |
| 654 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 2.908 | 100 | 2,491 | 86 | 1,061 | 36 | 705 | 24 | 293 | 10 | 1.554 | 53 | 201 | 7 | 527 | 18 | 234 | 8 | 528 | 18 | 192 | 7 | 406 | 14 | 180 | 6 | 387 | 13 | 262 | 9 |
| Cur. drinker | 1,055 | 100 | 884 | 84 | 351 | 33 | 225 | 21 | 86 | 8 | 539 | 51 | 48 | 5 | 169 | 16 | 92 | 9 | 178 | 17 | 64 | 6 | 118 | 11 | 44 | 4 | 136 | 13 | 64 | 5 |
| Occ. drinker | 648 | 100 | 559 | 85 | 261 | 40 | 144 | 22 | 58 | 9 | 356 | 55 | 39 | 6 | 115 | 18 | 48 | 7 | 129 | 20 | 34 | 5 | 109 | 17 | 43 | 7 | 86 | 13 | 58 | 9 |
| Former drinker |  |  | 609 | 89 | 273 | 40 | 203 | 29 | 82 | 12 | 383 | 56 | 67 | 10 | 138 | 20 | 55 | 8 | 131 | 19 | 68 | 10 | 107 | 16 | 54 | 8 | 93 | 14 | 73 | 11 |
| Never drank | 426 | 100 | 364 | 86 | 144 | 34 | 114 | 27 | 57 | 14 | 224 | 53 | 43 | 10 | 88 | 21 | 32 | 8 | 81 | 18 | 25 | 6 | 66 | 15 | 33 | 8 | 63 | 15 | 60 | 14 |
| Drinker type, n.s. |  | 100 | 83 | 90 | 31 | 34 | -- | -- | -- | -- | 53 | 57 | -- | -- | -- |  | -- | -- | -- |  | -- | - | -- | -- | - | -- | -- | - | -- | - |

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of atlirmative responses shown.

## CHAPTER 9

## SMOKING

### 9.1 HIGHLIGHTS

- For the first time since statistics on smoking began to becollected in Canada, the prevalence of daily smoking is the same ( $26 \%$ ) for men and women.
- A higher proportion of male daily smokers smoke over 25 cigarettes per day; $13 \%$ of male daily smokers smoke over 25 cigarettes per day. compared $107 \%$ of female daily smokers.
- The prevalence of smoking is higher among young women (ages 15 to 19) than among young men. About $20 \%$ of young women smoke daily, compared to $12 \%$ of young men. Among young women. $26 \%$ are current smokers (daily plus occasional smokers), compared to $20 \%$ of young men.
- The prevalence of smoking declined in all age groups between 1985 and 1991. The trend to lower smoking rates is apparent in all regions.
- Only $37 \%$ of daily smokers aged 15 and over report being 18 or older when they started to smoke daily. A large proportion of smokers were thus less than the legal age for smoking when they began smoking daily. One-quarter of daily smokers ( $24 \%$ ) aged 15 and older began to smoke daily at age 14 or younger.
- The probability that a person is a smoker increases directly with the number of other smokers in the household.
- Among middle-aged Canadians (ages 45 to 64 ), hypertension, diabetes, emphysema, arthritis and rheumatism, skin or other allergies, stomach ulcers, other digestive disorders, recurring migraine headaches an emotional disorders are most likely to be reported by regular smokers.


### 9.2 METHODS

The seven questions deating with smoking on the 1991 GSS are contained in Section J of the questionnaire (see Appendix II). Two questions are used to classify type of smoker and one to determine daily amount: these questions are consistent with the earlier Labour Force Survey supplements on the smoking behaviour of Canadians ${ }^{1}$ and the questions in the 1978-79 Canada Health Survey ${ }^{2}$ and the 1985 GSS. ${ }^{3}$ Other questions in this section describe the age at which the respondent began to smoke daily, the age at which the respondent last smoked daily, and the number of daily smokers in the respondent's household. Unlike the 1985 GSS, questions were strictly about cigarelte smoking. Pipe and cigarillo use was not determined.

As explained in Chapter 1, proxy reporting was accepted in the 1991 GSS in situations where language difficulty or illness prevented the respondent from answering questions on his or her own behalf. Overall, this amounted to $4 \%$ of the total sample, while missing data on these items are $1 \%$ of the total or less.

The following classification is used to describe smoking behaviour:

1. Regular (daily) smokers are those who reported smoking at least one cigarette daily.
2. Occasional smokers are those who reported smoking cigarettes on an occasional basis (not every day).
3. Current smokers are regular and occasional smokers, combined.
4. Former smokers are those who reported that they do not now smoke cigarettes, but who used to smoke cigarettes daily.
5. Never smoked daily are those who have never smoked cigarettes daily (but might have formerly been occasional smokers).

These definitions are the same as in the 1985 GSS and, with the exception of the never smoked daily smokers, are the same as other historical and recent surveys on smoking. Most other Canadian surveys define "never smoked" as excluding all past smoking, whether occasional or daily. The definition adopted will affect estimates of both "never smoked" and former smokers, and will compromise comparisons with other surveys for these variables. Comparisons of current and daily smokers are unaffected.

### 9.3 RESULTS

### 9.3.1 Smoking Prevalence

In 1991, about 6.5 million Canadians aged 15 years and over smoked cigarettes ( $31 \%$ ), and 5.4 million of these smoked daily ( $26 \%$ overall). Almost onequarter of all adults ( $23 \%$ ) were former smokers, and $45 \%$ were classified as persons who never smoked cigarettes daily (Table 9-1).

## Age and sex

Daily smoking rates tend to vary by age in a curvilinear manner. Rates are low in the 15 to 19 year
age group ( $16 \%$ ), increase with advancing age to peak in the 25 to 44 year age group ( $31 \%$ ), and then decline to the lowest level in the 75 years and over age group (9\%) (Table 9-1).

Overall. $32 \%$ of men and $30 \%$ of women aged 15 and over can be classified as current smokers. The two sexes are equal in terms of the proportion who smoke daily ( $26 \%$ ). The prevalence of smoking among women exceeds that among men in the 15 to 19 year age group for both current and daily smokers ( $26 \%$ vs. $20 \%$, current smoking; $20 \%$ vs. $12 \%$, daily smoking).

## Provincial differences

The highest rates of daily smoking are found in Newfoundiand and Nova Scotia ( $31 \%$ ), while the lowest are in British Columbia ( $21 \%$ ) (Table 9-2). For men, the highest rates are also in Newfoundland (36\%) and Nova Scotia ( $35 \%$ ), but the lowest rates are in Manitoba (20\%). Among women, the highest rate is in Quebec (29\%), while the lowest is in British Columbia ( $21 \%$ ). In Newfoundland and Nova Scotia, there is a substantially higher proportion of men than women who smoke daily, whereas in Manitoba there are more women than men who smoke daily. In the other provinces, the rates for men and women are within a few percentage points of each other.

Table 9-2 illustrates variations within the Atlantic and Prairie regions, showing that there is sometimes great variation for different provinces within the same region. For example, New Brunswick's rate of $25 \%$ is four percentage points below the Allantic regional average. while Alberta is four percentage points ligher than Manitoba. These within-region variations are especially pronounced for men.

## Educational differences

Table 9-3 indicates that in the total population, smoking decreases as educational level increases. About $30 \%$ of persons with less than a high school certificate smoke daily, compared to $28 \%$ of persons with a secondary school diploma, $27 \%$ of those with some postsecondary school education, and $21 \%$ of persons with a postsecondary school degree or diploma.

The relationship of smoking behaviour with educational level in the total population is confounded - in fact, weakened - when analyzed by age groups. The gradient in smoking rates by educational level is strongly apparent in the 20 to 24 and 251044 year age group (Figure 9-A). For example, in the 20 to 24
year age group, daily smoking rates range from $50 \%$ among persons with some secondary school education or less (e.g., high school dropouts) to $18 \%$ among persons with a postsecondary school degree or diploma. Among persons aged 25 to 44 , the daily smoking rate of persons with some secondary school education or less is more than lwice the rate of persons with a postsecondary school degree or diploma ( $48 \%$ vs. $23 \%$ ).

After age 65. there is tittle difference in smoking rates by education. This association is attributable to the interplay between educational status, sex, smoking and age. Sex differences, particularly in the older age groups may reduce smoking prevalence because older women are less likely to have ever smoked. In addition, the prevalence of smoking is diminished in the older age groups because of two factors. Older persons are more tikely to quit smoking because of smoking associated health probtems and the mortality of smokers is higher than the mortality of non-smokers.

### 9.3.2 Amount Smoked Daily

The number of cigarettes smoked per day by regular smokers is dependent upon the age and sex of the smoker. In general, among smokers, men are almost iwice as likely to smoke more than 25 cigarettes per day than women ( $13 \% \mathrm{vs} .7 \%$ ). In contrast, the proportion of smokers who are light smokers (1 to 10 cigarettes per day) is higher among women than among men $(25 \%$ vs. $19 \%)$. The tendency of a higher proportion of women smokers to be light smokers is consistent in all age groups except the youngest. Among smokers aged 15 to $19.47 \%$ of young men smoke 1 to 10 cigarettes per day, compared to $33 \%$ of young women (Table 9-1).

### 9.3.3 Age Smoking Began

Only a little more than one-third of daily smokers aged 15 and older ( $37 \%$ ) reports being 18 or more years

FIGURE 9-A
Daily smokers by education and age group, age 20+, Canada, 1991


Education

General Social Survey, 1991
old when they started to smoke daily. A large proportion of smokers were thus less than the legal age for smoking when they began smoking daily. Onequarter of daily smokers aged 15 and older ( $25 \%$ ) began to smoke daily at age 14 or younger (Table 9-4).

Overall, there is little difference between male and female smokers in their age of starting to smoke dauly. Most teens who smoked daily at the lime of the survey reported starting by age 14 , regardless of their sex. In the next oldest cohort (ages 20 to 24), however, female smokers were more likely than male smokers to start smoking daily before the age of 18 . This is a reversal of the pattern for smokers aged 45 and older, where the women were much more likely than the men to start smoking daily at age 18 or later.

### 9.3.4 Household Smoking Patterns

The prevalence of smoking is directly associated with the number of other smokers in the household, and this is true of each age group. In households in which there were no other smokers at the time of the survey, $18 \%$ of Canadians aged 15 and older were regular smokers. If there were one or two other adult smokers, about $45 \%$ smoked daily, and where there were three or more other adult smokers, $56 \%$ smoked daily (Table 9-5).

### 9.3.5 Smoking and Health Problems

In the population aged 15 and over, daily smokers are most likely to report emphysema and stomach ulcers, while former smokers are most likely to repori hypertension, heart trouble, diabetes, arthritis and rheumatism, digestive problems other than ulcers and high cholesterol (Table 9-6). Skin or other allergies is the only health problem more commonly reported by persons who never smoked cigarettes daily compared to current or former smokers. Among middle aged Canadians (ages 45-64), hypertension, diabetes, emphysema, arthritis and rheumatism, skin or other allergies, stomach ulcers, other digestive disorders, recurring migraine headaches and emotional disorders are more likely to be reported by regular smokers,

### 9.4 DISCUSSION

### 9.4.1 Trends in Smoking Prevalence

Figure 9-B compares smoking rates by age and sex in the 1985 GSS and the 1991 GSS. Among both men and women, smoking rates have declined over all age groups.

In $1966,54 \%$ of men smoked regularly, ${ }^{4}$ compared with $26 \%$ in 1991. In contrast, the rates for women were $29 \%$ in 1966 and $26 \%$ in 1991 (Figure 9-C).

Thus, the decline has been much more pronounced among men than among wornen. As a consequence, rates of smoking by men and women have converged, and there is an indication that, at least in the younger age groups, the prevalence of female smokers may soon exceed that of male smokers.

In all regions, there has been a decline in smoking rates. Figure $9-\mathrm{C}$ shows age-adjusted smoking rates by region and sex in $1966^{4}$ and 1991. The decline in smoking rates among men is most apparent in Quebec and in British Columbia. In Quebec, $64 \%$ of men smoked in 1966, compared to $28 \%$ in 1991. This is the largest decline of any region. In British Columbia. smoking rates among men declined from $49 \%$ in 1966 to $22 \%$ in 1991.

Among women. smoking rates have declined in all regions, but the decreases are not as pronounced as among men. British Columbia shows the largest decrease in smoking rates for women between 1966 and 1991. In $1966,37 \%$ of women were regular cigarette smokers, compared to $21 \%$ in 1991. In 1966, British Columbia women had the highest smoking rate; by 1991, their smoking rate was the lowest in Canada.

At all educational levels, the prevalence of smoking either declined or remained stable between 1985 and 1991 (Figure 9-D).

The decline in smoking rates between 1985 and 1991 reported in this chapter is consistent with evidence from sales statistics and from other recent surveys. ${ }^{5}$ During the period 1980-1990, there was a $35 \%$ decline in tobacco consumption as measured by the estimated number of cigarenes smoked per day by persons aged 15 and over. ${ }^{6}$ The sharp drop in cigarette consumption has been attributed to Canadian public health efforts, particularly in the area of taxation policy.?

There was an increase in smoking among women during and after the Second World War, and, since the latency period for the development of some smokingrelated diseases may be as long as 15 to 20 years, a dramatic increase in lung cancer rates is bow starting to be seen among women. Between 1981 and 1988. the average annual increase in the incidence of lung cancer among women was $5.0 \%$ per year, compared to $0.6 \%$ per year among men. Mortality rates for lung cancer among women have increased by $4.8 \%$

FIGURE 9-B
Daily smokers by age group and sex, age 15+, Canada, 1985 and 1991


General Social Survey, 1985 and 1991
per year, compared $100.7 \%$ for men. ${ }^{8}$ Among women, lung cancer ranked as the eighth most common type of cancer in 1971. About 1 in 100 women at that time could expect to develop lung cancer in their lifetime. However, by 1988 , the ranking of lung cancer lad increased to third place where about 1 in 25 women could expect to develop lung cancer. In summary women in 1988 were four times more likely to develop hang cancer than women in 1971. This major change is almost entirely due to changes in smoking behaviour among women after the Second World War. A recent report suggests that lung cancer will exceed breast cancer as a cause of cancer death among women in the provinces of Prince Edward Island. Nova Scotia, New Brunswick. Manitoba and British Columbia by 1993.

### 9.4.2 Methodological Issues

Canada has a time series on smoking behaviour that dates back to 1966. Consequently, it is possible to assess long-term trends in smoking hehaviour. However. it is necessary to exercise caution when comparing rates
over time, because surveys differ in terms of their use of proxy response. Proxy reporting may result in under estimation of smoking prevalence. particularly among younger age groups. ${ }^{9}$ The validity of telephone surveys in assessing cigarette smoking in young adults has been questioned. Luepker et al. followed up on telephone respondents with a home interview and found that the rates of smoking are higher in home interviews. They concluded that telephone survey methods underestimat smoking rates and overestimate non-smoking rates. ${ }^{10}$

Monitoring trends in key health indicators is one of the objectives of the General Social Survey. However. the survey does not survey residents of the Northwest Territories and the Yukon. In 1985, within the Northwest Territories, among youth aged 15 to 19. $71 \%$ of Inuit. $63 \%$ of Native Indian/Metis. and $43 \%$ of non-native youth were current smokers. Among Inuit girls aged 15 to $19.77 \%$ were current smokers. ${ }^{11}$ The lack of current information about the prevalence of smoking in the aboriginal population will be remedied in the 1991 Ahoriginal People's Survey.

FIGURE 9-C
Age-adjusted daily smoking rates, by region and sex, age 15+, Canada, 1966 and 1991


Labour Force Survey, 1966
General Social Survey, 1991

### 9.4.3 Substantive Issues

The relationship between individual and household smoking is consistent with data from the 1985 GSS $^{3}$ and the 1990 Health Promotion Survey. ${ }^{5}$ Within households, the probability that a young person smokes, the type of cigarette he or she smokes, and the frequency of smoking are all closely associated with the smoking behaviour of older adults in the household. ${ }^{12}$ Moreover, the importance of the role model of older adults with respect to the smoking behaviour of teenagers and young adults appears to be consistent across all socio-economic levels. The present analysis reinforces the fact that household smoking patterns not only contribute to the likelihood of smoking by household members, but also increase the overall exposure of family members to the heath hazards of tobacco smoke and may modify the impact of preventive and smoking cessation programs.

While the data from the 1991 GSS are consistent with the results of many previous surveys as totemporal trends and demographic patterns, the 1991 GSS is unusual in reporting such a high proportion of occasional smokers. At $5 \%$ overall and $12 \%$ of those aged 20 to 24 (Table $9-1$ ), these data are far higher than data from other recent surveys. The 1990 Health Promotion Surveys was typical of recent surveys in reporting that only $1 \%$ of adults were occasional smokers. There is no apparent reason in the GSS methods to explain this anomaly, but, if it is the start of a new trend, it will be an important one that deserves further monitoring. In Ontario, for example, the proportion of 20 to 24 year old men who smoke occasionally is only one percentage point different than the proportion who smoke daily ( $22 \%$ versus $23 \%$, data not shown). The fact that Ontario has one of the most comprehensive anti-smoking environments in the

FIGURE 9-D
Age-adjusted daily smoking rates, by education and sex, age 15+, Canada, 1985 and 1991


General Social Survey, 1985 and 1991
country may be significant, hut it is too early to draw conclusions about this finding, except to note its porential importance.

It is also possible that the increase in the percentage of the population who report they are occasional smokers may be a response bias. Over the last three decades, social norms regarding smoking have changed. In an interview, the admission of being an 'occasional smoker' may be perceived by respondents as a more socially acceptable response. This potenlial bias could decrease the prevalence of regular smoking and increase the prevalence of occasional smoking.

## REFERENCES

1. Millar WJ, The smoking behaviour of Canadians: 1986. Ottawa: Minister of Supply and Services Canada, 1988. Catalogue No. H39-66/1988E.
2. Health and Welfare Canada and Statistics Canada. The Health of Canadians: report of the Canada Heallh Survey. Ottawa: Minister of Supply and Services Canada, 1981. Calalogue No. 82-538.
3. Praught E. Smoking. In: Health and social support 1985. General Social Survey Analysis Series. Ottawa: Minister of Supply and Services Canada, 1987. Catalugue 11-612E, No. 1.
4. Taylor L. Stephens T. Smoking in Canada - Down but not out. Chronic Diseases in Canada. 1991;12(4);63-64.
5. Pederson L. Smuking. In: Health and Welfare Canada, Stephens T. Fowler Graham D. eds.. Canada's Heatch Promotion Survey 1990: technical report. Otawa: Minister of Supply and Services. 1993. Catalogue No. H39-263/2-1990E.
6. Kaiserman MJ, Collishaw NE. Trends in Canadian tobacco consumption, 1980-1990. Chronic Diseases in Canada. 1991:12(4):50-52.
7. Pipe A. Tobacco control in Canada: the signs of success. Chronic Diseases in Canada. 1991; 12(4):4445.
8. National Cancer Institute of Canada. Canadian cancer statistics, 1993. Toronto: National Cancer Institute of Canada, 1993.
9. Millar WJ. Smoking prevalence among Canadian adolescents. A comparison of survey estimates. Canadian Journal of Public Health 1985:76:33-37.
10. Luepker R, Pallonen UE, Murray DM, Pirie PL. Validity of telephone surveys in assessing cigarette smoking in young adults. American Journal of Public Health 1989;79(2):202-204.
11. Millar WJ. Smoking prevalence in the Canadian Arctic. Arctic Medical Research 1990;49 (Supplement.2):23-28.
12. Millar WJ, Hunter L. Household context and youth smoking behaviour: prevalence, frequency and tar yield. Canadian Journal of Public Healih. 1991:82(2):83-85.

TABLE 9-1
Type of smoker and for regular smokers, the number of cigarettes smoked daily by sex and age group, age 15t, Canada, 1991

| Sex and age group | Type of smoker |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Current smoker |  | Regular smoker Cigarettes smoked daily |  |  |  |  |  |  |  | Occasional smoker |  |  |  | Never daily smoker |  | Former smoker |  | Not stated |  |
|  |  |  |  |  | Regular smoker |  | 1-10 |  | 11-25 |  | $26+$ |  | Noi staied |  |  |  |  |  |  |  |  |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 20,981 |  | 6,469 | 31 | 5,434 | 26 | 1,216 | 6 | 3,657 | 17 | 538 | 3 |  |  | 1.035 | 5 | 9,422 | 45 | 4.891 | 23 | 199 | 1 |
| 15-24 years | $3,793$ | $100$ | $1.192$ | 31 | 840 | $22$ | 260 | 7 | 542 | 14 | 37 | 1 |  |  | 352 | 9 | 2,273 | 60 | 318 | 8 | - - | -- |
| 15-19 years | 1,825 | 100 | 412 | 23 | 296 | 16 | 114 | 6 | 173 | 9 | -- |  | -- | - - | 116 | 6 | 1.306 | 72 | 108 | 6 | - - | - |
| 20.24 years | 1,967 | 100 | 781 | 40 | 544 | 28 | 146 | 7 | 368 | 19 | -- | - | -- |  | 237 | 12 | 967 | 49 | 210 | 11 | -- | - |
| 25.44 years | 9,005 | 100 | 3,225 | 36 | 2,823 | 31 | 589 | 7 | 1.975 | 22 | 256 | 3 | -- | - | 401 | 4 | 3,816 | 42 | 1,911 | 21 | 54 | 1 |
| 45-64 years | 5,275 | 100 | 1.587 | 30 | 1,385 | 26 | 243 | 5 | 931 | 18 | 204 | 4 | -- |  | 202 | 4 | 2.054 | 39 | 1,563 | 30 | 71 | 1 |
| $65+$ years | 2,908 | 100 | 465 | 16 | 386 | 13 | 125 | 4 | 209 | 7 | 40 | 1 | -- |  | 79 | 3 | 1,279 | 44 | 1,099 | 38 | 65 | 2 |
| 65-74 years | 1.824 | 100 | 345 | 19 | 287 | 16 | 89 | 5 | 158 | 9 | 33 | 2 | -- | -- | 58 | 3 | 728 | 40 | 718 | 39 | 32 | 2 |
| $75+$ years | 1,084 | 100 | 120 | 11 | 99 | 9 | 36 | 3 | 51 | 5 | -- |  | - - | - - |  | -- | 551 | 51 | 381 | 35 | 32 | 3 |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10,266 | 100 | 3,282 | 32 | 2.692 | 26 | 522 | 5 | 1.817 | 18 | 344 | 3 | -- | - | 590 | 6 | 4,063 | 40 | 2,829 | 28 | 91 | 1 |
| 15-24 years | 1.935 | 100 | 623 | 32 | 396 | 20 | 111 | 6 | 266 | 14 | -- | -- | -- | - - | 227 | 12 | 1.201 | 62 | 110 | 6 | -- | 1 |
| 15.19 years | 936 | 100 | 185 | 20 | 116 | 12 | 55 | 6 | 56 | 6 | -- | - - | - - | - | 69 | 7 | 706 | 75 | 46 | 5 | -- | -- |
| 20.24 years | 1,000 | 100 | 438 | 44 | 280 | 28 | 57 | 6 | 209 | 21 | -- | - | -- | - | 158 | 16 | 495 | 50 | 65 | 6 | - | -- |
| 25.44 years | 4,476 | 100 | 1.672 | 37 | 1,466 | 33 | 268 | 6 | 1.027 | 23 | 167 | 4 | - - | -- | 206 | 5 | 1,806 | 40 | 976 | 22 | -- | -- |
| 45.64 years | 2,611 | 100 | 767 | 29 | 642 | 25 | 94 | 4 | 420 | 16 | 127 | 5 |  | -- | 125 | 5 | 770 | 29 | 1,028 | 39 | 46 | 2 |
| $65+$ years | 1.245 | 100 | 220 | 18 | 188 | 15 | 48 | 4 | 104 | 8 | 32 | 3 | - - | -- | 32 | 3 | 287 | 23 | 716 | 58 | -- | - |
| $65-74 \text { years }$ | 796 | 100 | 170 | 21 | 146 | 18 | 31 | 4 | 85 | 11 | 28 | 4 | - - | -- | , |  | 164 | 21 | 457 | 57 | -- | - |
| $75+$ years | 448 | 100 | 50 | 11 | 42 | 9 | -- | -- | - | - - | - - | -- | - - | -- | - - | - | 123 | 28 | 259 | 58 | - - | -- |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10.715 | 100 | 3.187 | 30 | 2.742 | 26 | 694 | 6 | 1.840 | 17 | 194 | 2 | - - | -- | 445 | 4 | 5,359 | 50 | 2,061 | 19 | 108 | 1 |
| 15-24 years | 1.857 | 100 | 570 | 31 | 444 | 24 | 148 | 8 | 276 | 15 | -- | -- | - | -- | 126 | 7 | 1.073 | 58 | 207 | 11 | - | -- |
| 15.19 years | 890 | 100 | 227 | 26 | 181 | 20 | 59 | 7 | 117 | 13 | - | - - | - - |  | 47 | 5 | 600 | 67 | 62 | 7 | -- | -- |
| 20.24 years | 968 | 100 | 342 | 35 | 263 | 27 | 89 | 9 | 159 | 16 | -- | -- | - | -- | 79 | 8 | 472 | 49 | 145 | 15 | -- | -- |
| 25.44 years | 4,530 | 100 | 1,552 | 34 | 1,357 | 30 | 321 | 7 | 948 | 21 | 89 | 2 | -- | -- | 195 | 4 | 2,010 | 44 | 935 | 21 | 32 | 1 |
| $45-64$ years | 2,664 | 100 | 820 | 31 | 743 | 28 | 148 | 6 | 511 | 19 | 77 | 3 | -- | -- | 77 | 3 | 1,284 | 48 | 535 | 20 | -- | -- |
| $65+$ years | 1,664 | 100 | 245 | 15 | 198 | 12 | 77 | 5 | 105 | 6 | - | -- | -- | -- | 47 | 3 | 992 | 60 | 383 | 23 | 43 | 3 |
| $65-74$ years | 1,028 |  | 175 | 17 | 141 | 14 | 59 | 6 | 74 | 7 | -- | -- | - | -- | 34 | 3 | 565 | 55 | 261 | 25 | 27 | 3 |
| $75+$ years | 636 | 100 | 70 | 11 | 57 | 9 | -- | -- | 31 | 5 | -- | -- | -- | -- | -- | -- | 428 | 67 | 123 | 19 | -- |  |

TABLE 9-2
Type of smoker by sex and province, age 15+, Canada, 1991

| Sex and province | Type of smoker |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Current smoker |  | Regular smoker |  | Occasional smoker |  | Never daily smoker |  | Former smoker |  | $\begin{aligned} & \text { Not } \\ & \text { stated } \end{aligned}$ |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 20,981 | 100 | 6,469 | 31 | 5,434 | 26 | 1,035 | 5 | 9,422 | 45 | 4,891 | 23 | 199 | 1 |
| Atlantic | 1,806 | 100 | 582 | 32 | 525 | 29 | 57 | 3 | 766 | 42 | 454 | 25 | -- | -- |
| Newfoundland | 438 | 100 | 152 | 35 | 136 | 31 | 16 | 4 | 190 | 43 | 95 | 22 | -- | - |
| PE.I. | 98 | 100 | 29 | 29 | 26 | 26 | -- | -- | 43 | 44 | 26 | 27 | -- | -- |
| Nova Scotia | 704 | 100 | 249 | 35 | 220 | 31 | 29 | 4 | 278 | 40 | 174 | 25 | - - | - |
| New Brunswick | 566 | 100 | 152 | 27 | 143 | 25 | - - | -- | 255 | 45 | 158 | 28 | -- | - |
| Quebec | 5,384 | 100 | 1,780 | 33 | 1,536 | 29 | 244 | 5 | 2,188 | 41 | 1,399 | 26 | 13 | -- |
| Ontario | 7,778 | 100 | 2.272 | 29 | 1,939 | 25 | 334 | 4 | 3,823 | 49 | 1.550 | 20 | 132 | 2 |
| Prairies | 3,482 | 100 | 1,103 | 32 | 893 | 26 | 210 | 6 | 1,582 | 45 | 760 | 22 | 37 | 1 |
| Manitoba | 839 | 100 | 235 | 28 | 197 | 23 | 38 | 5 | 386 | 46 | 207 | 25 | -- | -- |
| Saskatchewan | 742 | 100 | 217 | 29 | 180 | 24 | 37 | 5 | 356 | 48 | 163 | 22 | -- | - |
| Alberta | 1.901 | 100 | 651 | 34 | 516 | 27 | 135 | 7 | 839 | 44 | 390 | 21 | 22 | 1 |
| British Columbia | 2,532 | 100 | 732 | 29 | 541 | 21 | 190 | 8 | 1,063 | 42 | 728 | 29 | -- | -- |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 10.266 | 100 | 3,282 | 32 | 2,692 | 26 | 590 | 6 | 4,063 | 40 | 2,829 | 28 | 91 | 1 |
| Atlantic | 885 | 100 | 324 | 37 | 287 | 32 | 37 | 4 | 304 | 34 | 256 | 29 | -- | -- |
| Newfoundland | 217 | 100 | 88 | 40 | 78 | 36 | - - | -- | 71 | 33 | 58 | 27 | -- | -- |
| P.E.I. | 48 | 100 | 17 | 36 | 16 | 33 | -- | -- | 16 | 33 | 14 | 30 | -- | -- |
| Nova Scotia | 343 | 100 | 142 | 41 | 120 | 35 | -- | -- | 107 | 31 | 94 | 27 | -- | -- |
| New Brunswick | 277 | 100 | 78 | 28 | 73 | 26 | - | - | 110 | 40 | 90 | 32 | -- | - |
| Quebec | 2,617 | 100 | 855 | 33 | 729 | 28 | 126 | 5 | 957 | 37 | 796 | 30 | -- | - |
| Ontario | 3,796 | 100 | 1,172 | 31 | 961 | 25 | 211 | 6 | 1.637 | 43 | 923 | 24 | 64 | 2 |
| Prairies | 1.725 | 100 | 547 | 32 | 438 | 25 | 109 | 6 | 718 | 42 | 442 | 26 | 18 | 1 |
| Manitoba | 411 | 100 | 102 | 25 | 81 | 20 | 21 | 5 | 178 | 43 | 125 | 30 | -- | -- |
| Saskatchewan | 367 | 100 | 108 | 29 | 93 | 25 | -- | -- | 159 | 43 | 98 | 27 | -- | -- |
| Alberta | 948 | 100 | 337 | 36 | 264 | 28 | 73 | 8 | 381 | 40 | 219 | 23 | -- | - |
| British Columbia | 1,243 | 100 | 383 | 31 | 277 | 22 | 106 | 9 | 447 | 36 | 413 | 33 | -- | - |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Canada | 10,715 | 100 | 3,187 | 30 | 2,742 | 26 | 445 | 4 | 5,359 | 50 | 2,061 | 19 | 108 | 1 |
| Atlantic | 921 | 100 | 258 | 28 | 238 | 26 | 20 | 2 | 462 | 50 | 198 | 22 | - | - |
| Newfoundland | 221 | 100 | 64 | 29 | 58 | 26 19 | - | -- | 119 | 54 | 37 | 17 | - | - - |
| P.E.I. | 50 361 | 100 100 | 12 107 | 23 30 | 10 100 | 19 28 | -- | -- | 27 171 | 53 47 | 12 81 | 24 22 | - | - |
| New Brunswick | 289 | 100 | 75 | 26 | 70 | 24 | -- | - | 146 | 50 | 68 | 24 | -- | -- |
| Quebec | 2,767 | 100 | 925 | 33 | 807 | 29 | 118 | 4 | 1.230 | 44 | 603 | 22 | - | -- |
| Ontario | 3,982 | 100 | 1.100 | 28 | 978 | 25 | 122 | 3 | 2,187 | 55 | 627 | 16 | 69 | 2 |
| Prairies | 1,756 | 100 | 556 | 32 | 455 | 26 | 101 | 6 | 863 | 49 | 318 | 18 | 19 | 1 |
| Manitoba | 428 | 100 | 133 | 31 | 116 | 27 | 17 | 4 | 209 | 49 | 83 | 19 | -- | -- |
| Saskatchewan | 375 | 100 | 109 | 29 | 87 | 23 | 22 | 6 | 197 | 53 | 65 | 17 | - - | -- |
| Alberta | 953 | 100 | 314 | 33 | 252 | 26 | 61 | 6 | 457 | 48 | 170 | 18 | -- | - |
| British Columbia | 1,288 | 100 | 348 | 27 | 265 | 21 | 84 | 6 | 616 | 48 | 315 | 24 | - | -- |

TABLE 9-3
Type of smoker by age group and education, age 15+, Canada, 1991

| Age group and education | Type of smoker |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Current smoker |  | Regular smoker |  | Occasional smoker |  |  |  | Former smoker |  | Not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population $15+$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All education levels | 20,981 | 100 | 6,469 | 31 | 5,434 | 26 | 1.035 | 5 | 9,422 | 45 | 4,891 | 23 | 199 | 1 |
| Some secondary or less | 7,190 | 100 | 2.452 | 34 | 2,139 | 30 | 313 | 4 | 3.060 | 43 | 1.673 | 23 | - | - - |
| Secondary graduation | 3,399 | 100 | 1.094 | 32 | 936 | 28 | 159 | 5 | 1,547 | 46 | 751 | 22 | -- | -- |
| Some postsecondary | 3,401 | 100 | 1,156 | 34 | 934 | 27 | 223 | 7 | 1.508 | 44 | 733 | 22 | -- | - |
| Postsec. degree or diploma | 6,601 | 100 | 1.715 | 26 | 1,384 | 21 | 331 | 5 | 3.186 | 48 | 1.698 | 26 | -- | - |
| Not stated | 390 | 100 | 51 | 13 | 42 | 11 | -- | - | 121 | 31 | 35 | 9 | 183 | 47 |
| 15-24 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All education levels | 3,793 | 100 | 1,192 | 31 | 840 | 22 | 352 | 9 | 2,273 | 60 | 318 | 8 | -- | - |
| Some secondary or less | 1.472 | 100 | 433 | 29 | 307 | 21 | 125 | 9 | 940 | 64 | 100 | 7 | -- | - |
| Secondary graduation | 629 | 100 | 221 | 35 | 174 | 28 | 48 | 8 | 344 | 55 | 60 | 10 | -- | -- |
| Some posisecondary | 1,023 | 100 | 353 | 34 | 233 | 23 | 119 | 12 | 579 | 57 | 91 | 9 | - | - |
| Postsec. degree or diploma | 650 | 100 | 181 | 28 | 122 | 19 | 60 | 9 | 402 | 62 | 66 | 10 | -- | - |
| Not stated | - - | - - | - - | - - | - | - | - | - .- | -- | - | -- | -- | -- | -- |
| 15-19 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All education levels | 1,825 | 100 | 412 | 23 | 296 | 16 | 116 | 6 | 1,306 | 72 | 108 | 6 | -- |  |
| Some secondary or less | 1.199 | 100 | 250 | 21 | 170 | 14 | 80 | 7 | 871 | 73 | 78 | 7 | -- | - |
| Secondary graduation | 252 | 100 | 70 | 28 | 57 | 23 | -- | -- | 169 | 67 | -- | -- | -- | - |
| Some postsecondary | 312 | 100 | 78 | 25 | -- | -- | - | -- | 220 | 71 | -- | - | -- | -- |
| Postsec degree or diploma | 52 | 100 | - - | - - | -- | -- | -- | -- | -- | -- | -- | -- | -- | - |
| Not stated | -- | -- | -- | -- | -- | - | -- | -- | -- | -- | -- | -- | -- | - |
| 20-24 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All education levels | 1,967 | 100 | 781 | 40 | 544 | 28 | 237 | 12 | 967 | 49 | 210 | 11 | -- | - |
| Some secondary or less | 274 | 100 | 183 | 67 | 138 | 50 | 46 | 17 | 69 | 25 | -- | -- | -- | - |
| Secondary graduation | 377 | 100 | 152 | 40 | 117 | 31 | 35 | 9 | 174 | 46 | 48 | 13 | - | - |
| Some postsecondary | 711 | 100 | 275 | 39 | 178 | 25 | 96 | 14 | 358 | 50 | 77 | 11 | -- | - |
| Postsec. degree or diploma | 598 | 100 | 169 | 28 | 109 | 18 | 60 | 10 | 365 | 61 | 64 | 11 | -- | - |
| Not stated | -- | -- | -- | -- | -- | - | -- | -- | - - | -- | -- | --. | -- | - |
| 25-44 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All education levels | 9,005 | 100 | 3,225 | 36 | 2,823 | 31 | 401 | 4 | 3,816 | 42 | 1,911 | 21 | 54 | 1 |
| Some secondary or less | 1.841 | 100 | 958 | 52 | 892 | 48 | 66 | 4 | 542 | 29 | 338 | 18 | -- | - |
| Secondary graduation | 1.697 | 100 | 611 | 36 | 551 | 32 | 60 | 4 | 746 | 44 | 341 | 20 | -- | - |
| Some postsecondary | 1,509 | 100 | 558 | 37 | 476 | 32 | 82 | 5 | 601 | 40 | 348 | 23 | -- | -- |
| Postsec. degree or diploma | 3,835 | 100 | 1,072 | 28 | 887 | 23 | 186 | 5 | 1.889 | 49 | 873 | 23 | -- | - |
| Not stated | 124 | 100 | -- | -- | - | -- | -- | - | 38 | 31 | 87 | -- | 50 | 40 |
| 45-64 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All education levels | 5,275 | 100 | 1.587 | 30 | 1.385 | 26 | 202 | 4 | 2.054 | 39 | 1.563 | 30 | 71 | 1 |
| Some secondary or less | 2,210 | 100 | 784 | 35 | 718 | 33 | 65 | 3 | 804 | 36 | 622 | 28 | -- | - - |
| Secondary graduation | 767 | 100 | 203 | 26 | 162 | 21 | -- | -- | 327 | 43 | 234 | 31 | -- | -- |
| Some posisecondary | 566 | 100 | 203 | 36 | 185 | 33 | -- | -- | 195 | 34 | 167 | 30 | -- | -- |
| Postsec. degree or diploma | 1.614 | 100 | 388 | 24 | 311 | 19 | 77 | 5 | 694 | 43 | 532 | 33 | -- | -- |
| Not stated | 117 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 68 | 58 |
| $65+$ years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All education levels | 2.908 | 100 | 465 | 16 | 386 | 13 | 79 | 3 | 1,279 | 44 | 1,099 | 38 | 65 | 2 |
| Some secondary or less | 1,667 | 100 | 278 | 17 | 222 | 13 | 56 | 3 | 774 | 46 | 613 | 37 | -- | - |
| Secondary graduation | 305 | 100 | 59 | 19 | 49 | 16 | -- | - | 130 | 43 | 116 | 38 | - | -- |
| Some postsecondary | 303 | 100 | 43 | 14 | 39 | 13 | -- | -- | 133 | 44 | 127 | 42 | -- | -- |
| Postsec degree or diploma | 502 | 100 | 73 | 14 | 64 | 13 | -- | -- | 202 | 40 | 227 | 45 | -- | -- |
| Not stated | 130 | 100 | -- | -- | -- | -- | -- | -- | 41 | 31 | -- | -- | 59 | 46 |

TABLE 9-4
Age started smoking daily by sex and age group, population aged $15+$ who smoke cigarettes dally, Canada, 1991

| Sex and | Age started smoking daily |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Population $15+$ |  | $\begin{aligned} & <13 \\ & \text { years } \end{aligned}$ |  | $\begin{gathered} 13 \\ \text { years } \end{gathered}$ |  | $\begin{aligned} & 14 \\ & \text { years } \end{aligned}$ |  | $\begin{gathered} 15 \\ \text { years } \end{gathered}$ |  | $\begin{gathered} 16 \\ \text { years } \end{gathered}$ |  | $\begin{gathered} 17 \\ \text { years } \end{gathered}$ |  | $18+$years |  | Not |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 5,434 | 100 | 456 | 8 | 333 | 6 | 554 | 10 | 686 | 13 | 884 | 16 | 473 | 9 | 2,006 | 37 | 42 | 1 |
| 15-24 years | 840 |  | 108 | 13 | 105 | 13 | 175 | 21 | 137 | 16 | 114 | 14 | 88 | 10 | 114 | 14 | - | -- |
| 15.19 years | 296 | 100 | 46 | 15 | 56 | 19 | 95 | 32 | 52 | 18 | -- | -- | -- | -- | -- | -- | - | - |
| 20.24 years | 544 | 100 | 62 | 11 | 50 | 9 | 80 | 15 | 85 | 16 | 92 | 17 | 63 | 12 | 113 | 21 | -- | -- |
| 25.44 years | 2,823 | 100 | 209 | 7 | 186 | 7 | 260 | 9 | 368 | 13 | 509 | 18 | 267 | 9 | 1.012 | 36 | -- | -- |
| $45-64$ years | 1,385 | 100 | 106 | 8 | 32 | 2 | 95 | 7 | 150 | 11 | 217 | 16 | 95 | 7 | 679 | 49 | -- | -- |
| $65+$ years | 386 | 100 | 33 | 9 | -- | -- | -- | -- | 31 | 8 | 45 | 12 | -- | -- | 201 | 52 | -- | -- |
| 65-74 years | 287 | 100 | -- | -- | -- | -- | -- | -- | 26 | 9 | 34 | 12 | -- | -- | 152 | 53 | -- | -- |
| $75+$ years | 99 | 100 | -- | -- | -- | -- | -- | -- | --- | -- | -- | -- | -- | -- | 48 | 49 | -- | -- |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 2,692 | 100 | 273 | 10 | 151 | 6 | 291 | 11 | 354 | 13 | 458 | 17 | 222 | 8 | 919 | 34 |  | -- |
| 15-24 years | 396 | 100 | 47 | 12 | 42 | 10 | 87 | 22 | 56 | 14 | 57 | 14 | 35 | 9 | 73 | 18 | -- | -- |
| 15.19 years |  |  | -- | -- | -- | -- | 45 | 39 | -- | -- | -- | -- | - | -- | -- | -- | - | -- |
| 20.24 years |  |  | -- | -- | -- | -- | 43 | 15 | 34 | 12 | 47 | 17 | 32 | 11 | 73 | 26 | -- | -- |
| 25.44 years | 1,466 | 100 | 119 | 8 | 87 | 6 | 126 | 9 | 175 | 12 | 280 | 19 | 133 | 9 | 538 | 37 | -- | -- |
| 45.64 years | 642 | 100 | 83 | 13 | -- | -- | 61 | 9 | 101 | 16 | 91 | 14 | 42 | 6 | 244 | 38 | -- | -- |
| $65+$ years | 188 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | 30 | 16 | -- | -- | 64 | 34 | -- | -- |
| $65-74$ years | 146 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 55 | 38 | -- | -- |
| $75+$ years | 42 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 2.742 | 100 | 183 | 7 | 182 | 7 | 263 | 10 | 332 | 12 | 427 | 16 | 251 | 9 | 1.087 | 40 | -- | -- |
| 15-24 years | 444 | 100 | 61 | 14 | 64 | 14 | 88 | 20 | 81 | 18 | 57 | 13 | 53 | 12 | 41 | 9 | - | -- |
| 15-19 years | 181 | 100 | - | -- | -- | -- | 50 | 28 | - | -- | - | -- | -- | -- | -- | -- | - | -- |
| 20-24 years | 263 | 100 | 32 | 12 | - | -- | 38 | 14 | 50 | 19 | 45 | 17 | 31 | 12 | 40 | 15 | - | -- |
| 25.44 years | 1,357 |  | 90 | 7 | 98 | 7 | 134 | 10 | 193 | 14 | 229 | 17 | 134 | 10 | 475 | 35 | - | -- |
| 45.64 years | 743 |  | -- | -- | -- | -- | 35 | 5 | 49 | 7 | 126 | 17 | 54 | 7 | 435 | 59 | -- | -- |
| $65+$ years | 198 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 137 | 69 | -- | -- |
| 65.74 years | 141 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 97 | 69 | -- | -- |
| $75+$ years |  | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 40 | 70 | -- | -- |

TABLE 9-5
Type of smoker by age group and number of smokers in household (interviewed person excluded), age 15+, Canada, 1991

| Age group and number of smokers in household excluding interviewed person | Type of smoker |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Current smoker |  | Regular smoker |  | Occasional smoker |  | Never daily smoker |  | Former smoker |  | Not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Population $15+$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 20,981 | 100 | 6,469 | 31 | 5,434 | 26 | 1,035 | 5 | 9,422 | 45 | 4,891 | 23 | 199 | 1 |
| No smokers | 14.581 | 100 | 3,306 | 23 | 2,623 | 18 | 683 | 5 | 7,464 | 51 | 3,805 | 26 |  | , |
| One smoker | 5.001 | 100 | 2,532 | 51 | 2,278 | 46 | 253 | 5 | 1,556 | 31 | 908 | 18 | - - | - - |
| Two smokers | 886 | 100 | 439 | 50 | 382 | 43 | 57 | 6 | 309 | 35 | 137 | 16 | -- | - |
| Three or more smokers | 261 | 100 | 178 | 68 | 147 | 56 | -- | - - | 64 | 24 | -- | -- | -- | - |
| Not stated | 252 | 100 | -- | - - | --- | - - | - | -- | 29 | 12 | -- | -- | 188 | 75 |
| 15-24 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 3.793 | 100 | 1,192 | 31 | 840 | 22 | 352 | 9 | 2,273 | 60 | 318 | 8 | -- | -- |
| No smokers | 2.263 | 100 | 499 | 22 | 284 | 13 | 215 | 10 | 1,600 | 71 | 164 | 7 | - | -- |
| One smoker | 993 | 100 | 451 | 45 | 366 | 37 | 85 | 9 | 427 | 43 | 113 | 11 | -- | -- |
| Two smokers | 407 | 100 | 168 | 41 | 134 | 33 | -- | - | 206 | 51 | -- | -- | --- | - |
| Three or more smokers | 110 | 100 | 75 | 68 | 56 | 51 | -- | -- | - - | - - | -- | -- | -- | - - |
| Not stated | - - | -- | -- | - - | - | -- | - | -- | -- - | -- | -- | -- | - - | - |
| 15-19 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 1.825 | 100 | 412 | 23 | 296 | 16 | 116 | 6 | 1,306 | 72 | 108 | 6 | -- | - |
| No smokers | 1,107 | 100 | 150 | 14 | 91 | 8 | 58 | 5 | 915 | 83 | 42 | 4 | -- | - |
| One smoker | 395 | 100 | 130 | 33 | 104 | 26 | -- | -- | 220 | 56 | 45 | 12 | -- | - |
| Two smokers | 256 | 100 | 96 | 38 | 75 | 29 | -- | -- | 146 | 57 | -- | - | -- | - |
| Three or more smokers | 57 | 100 | -- | -- | - | - | -- | - | - | - | -- | -- | -- | - - |
| Not stated | - | -- | - | - | - | - | - | - | - | - | -- | -- | - - | - |
| 20-24 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 1,967 | 100 | 781 | 40 | 544 | 28 | 237 | 12 | 967 | 49 | 210 | 11 | -- | - |
| No smokers | 1,156 | 100 | 349 | 30 | 193 | 17 | 157 | 14 | 685 | 59 | 122 | 11 | -- | - |
| One smoker | 599 | 100 | 321 | 54 | 263 | 44 | 59 | 10 | 207 | 35 | 67 | 11 | -- | - |
| Two smokers | 151 | 100 | 71 | 47 | 59 | 39 | -- | -- | 61 | 40 | -- | -- | -- | - |
| Three or more smokers | 53 | 100 | -- | - | - | - | - | - | - | - | -- | - | -- | -- |
| Not stated |  | -- | - - | -- | -- | - | - | - | - | - - | - - | -- | - | -- |
| 25-44 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 9,005 | 100 | 3,225 | 36 | 2.823 | 31 | 401 | 4 | 3.816 | 42 | 1.911 | 21 | 54 | 1 |
| No smokers | 6,232 | 100 | 1,657 | 27 | 1,384 | 22 | 273 | 4 | 3.119 | 50 | 1,456 | 23 | - - | -- |
| One smoker | 2,384 | 100 | 1,330 | 56 | 1,232 | 52 | 97 | 4 | 635 | 27 | 419 | 18 | -- | - |
| Two smokers | 218 | 100 | 144 | 66 | 124 | 57 | -- | - - | 49 | 22 | -- | -- | -- | -- |
| Three or more smokers | 95 | 100 | 83 | 87 | 79 | 83 | - | -- | -- | -- | -- | - | - | -- |
| Not slated | 76 | 100 | - - | -- | - | -- | -- | - | -- | -- | -- | -- | 54 | 71 |
| 45-64 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 5,275 | 100 | 1.587 | 30 | 1,385 | 26 | 202 | 4 | 2.054 | 39 | 1.563 | 30 | 71 | 1 |
| No smokers | 3,664 | 100 | 815 | 22 | 690 | 19 | 125 | 3 | 1.634 | 45 | 1,214 | 33 | -- | -- |
| One smoker | 1,254 | 100 | 633 | 50 | 569 | 45 | 64 | 5 | 359 | 29 | 260 | 21 | -- | - |
| Two smokers | 223 | 100 | 117 | 53 | 115 | 51 | -- | - | -- | -- | 71 | 32 | -- | - - |
| Three or more smokers | 53 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | - | -- | -- | -- |
| Not stated | 80 | 100 | - | - | -- | -- | -- | - | -- | -- | - | -- | 67 | 84 |
| 65+ years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 2,908 | 100 | 465 | 16 | 386 | 13 | 79 | 3 | 1.279 | 44 | 1.099 | 38 | 65 | 2 |
| No smokers | 2.422 | 100 | 335 | 14 | 265 | 11 | 70 | 3 | 1.111 | 46 | 972 | 40 | -- | - |
| One smoker | 370 | 100 | 118 | 32 | 111 | 30 | -- | - | 136 | 37 | 116 | 31 | -- | - - |
| Two smokers | 37 | 100 | -- | -- | - - | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Three or more smokers | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | - | --- | -- | -- |
| Not stated | 76 | 100 | - | -- | -- | -- | -- | -- | -- | -- | -- | -- | 60 | 79 |

TABLE 9-6
Prevalence of selected health problems by age group and type of smoker, age 15+, Canada, 1991

| Age group and type of smoker | Health problem ${ }^{(1)}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ | $\begin{gathered} \text { Any } \\ \text { heall } \\ \text { proble } \end{gathered}$ |  | Hyp tens |  | $\begin{gathered} \text { Hea } \\ \text { trou } \end{gathered}$ |  | Anthri-tis/rheuma-tism |  |  |  | Asthma |  | Emphysema. atc. |  | Hay fover |  | Skin or ather allergies |  | Stomach ulcer |  | Other digestive problems |  | Recurring migraines |  | High blood cholesterol |  | Any emotional disorders |  |
|  | No. \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No | \% | No. | \% | No | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |


| Population 154 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total smokers | 20,981 | 100 | 13.168 | 63 | 3.311 | 16 | 1.437 | 7 | 740 | 4 | 4.335 | 21 | 1,238 | 6 | 1,671 | 8 | 2.528 | 12 | 4.340 | 21 | 969 | 5 | 1.634 | 8 | 1,950 | 9 | 1.759 | 8 | 1.114 | 5 |
| Current | 6.469 | 100 | 3,995 | 62 | 894 | 14 | 361 | 6 | 206 | 3 | 1.224 | 19 | 355 | 5 | 687 | 11 | 701 | 11 | 1,311 | 20 | 404 | 6 | 467 | 7 | 724 | 11 | 496 | 8 | 388 | 6 |
| Regulas | 5.434 | 100 | 3.384 | 62 | 775 | 14 | 309 | 6 | 182 | 3 | 1.067 | 20 | 315 | 6 | 626 | 12 | 558 | 10 | 1.101 | 20 | 355 | 7 | 404 | 7 | 614 | 11 | 426 | 8 | 345 | 6 |
| Occasional | 1.035 | 100 | 611 | 59 | 118 | 11 | 51 | 5 | -- | - | 157 | 15 | 40 | 4 | 61 | 6 | 143 | 14 | 210 | 20 | 49 | 5 | 63 | 6 | 111 | 11 | 70 | 7 | 43 | 4 |
| Never daily | 9.422 | 100 | 5.692 | 60 | 1.417 | 15 | 532 | 6 | 272 | 3 | 1.677 | 18 | 584 | 6 | 530 | 6 | 1,226 | 13 | 2.068 | 22 | 293 | 3 | 704 | 7 | 815 | 9 | 703 | 7 | 443 | 5 |
| Former | 4.891 | 100 | 3.371 | 69 | 952 | 19 | 529 | 11 | 256 | 5 | 1,368 | 28 | 288 | 6 | 436 | 9 | 600 | 12 | 952 | 19 | 266 | 5 | 454 | 9 | 403 | 8 | 545 | 11 | 275 | 6 |
| Not stared | 199 | 100 | 110 | 55 | 49 | 24 | -- | -- | -- | -- | 67 | 34 | -- | - | -- | -- | - | -- | -- | -- | -- | - |  | - |  | - | -- | - |  |  |
| $15-44$ years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total smokers | 12.798 | 100 | 6,810 | 53 | 979 | 8 | 320 | 2 | 159 | 1 | 1,096 | 9 | 784 | 6 | 705 | 6 | 1.771 | 14 | 2.865 | 22 | 522 | 4 | 690 | 5 | 1.246 | 10 | 537 | 4 | 464 | 4 |
| Current | 4.417 | 100 | 2.416 | 55 | 355 | 8 | 146 | 3 | 58 | 1 | 463 | 10 | 244 | 6 | 377 | 9 | 546 | 12 | 906 | 21 | 245 | 6 | 230 | 5 | 530 | 12 | 184 | 4 | 200 | 5 |
| Regulas | 3.663 | 100 | 2.020 | 55 | 319 | 9 | 130 | 4 | 46 | 1 | 410 | 11 | 214 | 6 | 348 | 9 | 428 | 12 | 738 | 20 | 214 | 6 | 199 | 5 | 443 | 12 | 172 | 5 | 180 | 5 |
| Occasional | 754 | 100 | 396 | 53 | 35 | 5 | -- | -- | -- | -- | 53 | 7 | -- | -- | 29 | 4 | 118 | 16 | 168 | 22 | -- | -- | 31 | 4 | 87 | 12 | - | -- | -- | - |
| Never daily | 6,089 | 100 | 3.108 | 51 | 392 | 6 | 109 | 2 | 65 | 1 | 363 | 6 | 425 | 7 | 238 | 4 | 863 | 14 | 1.449 | 24 | 161 | 3 | 296 | 5 | 520 | 9 | 216 | 4 | 167 | 3 |
| Former | 2.228 | 100 | 1.270 | 57 | 222 | 10 | 64 | 3 | 35 | 2 | 264 | 12 | 115 | 5 | 89 | 4 | 363 | 16 | 510 | 23 | 115 | 5 | 163 | 7 | 195 | 9 | 136 | 6 | 98 | 4 |
| Not slated | 64 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | - - | -- | - |
| 45-64 years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total smokers | 5.275 | 100 | 3.866 | 73 | 1.279 | 24 | 411 | 8 | 289 | 5 | 1.685 | 32 | 252 | 5 | 440 | 8 | 523 | 10 | 947 | 18 | 255 | 5 | 538 | 10 | 524 | 10 | 834 | 16 | 388 | 7 |
| Current | 1.587 | 100 | 1.207 | 76 | 406 | 26 | 136 | 9 | 116 | 7 | 532 | 34 | 82 | 5 | 202 | 13 | 120 | 8 | 330 | 21 | 115 | 7 | 179 | 11 | 171 | 11 | 261 | 16 | 140 | 9 |
| Regular | 1.385 | 100 | 1.063 | 77 | 359 | 26 | 125 | 9 | 191 | 8 | 467 | 34 | 75 | 5 | 186 | 13 | 100 | 7 | 300 | 22 | 104 | 7 | 156 | 11 | 151 | 11 | 216 | 16 | 125 | 9 |
| Oocasional | 202 | 100 | 144 | 71 | 47 | 23 | -- | - | -- | -- | 65 | 32 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 44 | 22 | -- |  |
| Never daily | 2,054 | 100 | 1.486 | 72 | 507 | 25 | 113 | 5 | 83 | 4 | 632 | 31 | 85 | 4 | 114 | 6 | 263 | 13 | 382 | 19 | 63 | 3 | 213 | 10 | 204 | 10 | 315 | 15 | 152 | 7 |
| Former | 9.563 | 100 | 1,139 | 73 | 341 | 22 | 162 | 10 | 90 | 6 | 500 | 32 | 78 | 5 | 199 | - | 140 | 9 | 232 | 15 | 71 | 5 | 142 | 9 | 144 | 9 | 251 | 16 | 94 | 6 |
| Not staied | 71 | 100 | -- | -- | -- | -- | -- | -- | -- | -- |  | -- | -- | - |  | -- |  | - | -- | -- | -- | -- | - | - | -- | - |  | -- |  |  |
| $65+$ years |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total smokers | 2.908 | 100 | 2.491 | 86 | 1.061 | 36 | 705 | 24 | 293 | 10 | 1.554 | 53 | 201 | 7 | 527 | 18 | 234 | 8 | 528 | 18 | 192 | 7 | 406 | 14 | 180 | 6 | 387 | 13 | 262 | 9 |
| Current | 465 | 100 | 372 | 80 | 133 | 28 | 78 | 17 | 33 | 7 | 229 | 49 | 30 | 6 | 108 | 23 | 35 | B | 75 | 16 | 44 | 9 | 58 | 12 | -- | -- | 51 | 11 | 48 | 10 |
| Regular | 386 | 100 | 301 | 78 | 97 | 25 | 55 | 14 | -- | -- | 190 | 49 | 26 | $?$ | 92 | 24 | 30 | 8 | 63 | 16 | 38 | 10 | 49 | 13 | -- | -- | 38 | 10 | 40 | 0 |
| Occasional | 79 | 100 | 71 | 89 | 36 | 45 | -- | -- | -- | -- | 39 | 50 | - | - | -- | $\cdots$ | -- | -- | -- | -- | - | -- | - | - | -- | - | 17 | - | 12 | - |
| Never daily | 1.279 | 100 | 1,097 | 86 | 518 | 40 | 310 | 24 | 123 | 10 | 681 | 53 | 73 | 6 | 178 | 14 | 100 | 8 | 238 | 19 | 69 | 5 | 195 | 15 | 90 | 7 | 172 | 13 | 124 | 10 |
| Former | 1.099 | 100 | 962 | 87 | 388 | 35 | 303 | 28 | 131 | 12 | 604 | 55 | 95 | 9 | 228 | 21 | 97 | 9 | 210 | 19 | 80 | 7 | 148 | 13 | 64 | 6 | 158 | 14 | 84 | 8 |
| Not stated | 65 | 100 | 60 | 93 | -- | -- |  | -- | -- | -- | 40 | 62 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |  |  |

(1) Number and proportion of not add to totals as these are separate variables. Only number and proportion of aftirmative responses shown.

## CHAPTER 10

## LEISURE-TIME PHYSICAL ACTIVITY

### 10.1 HIGHLIGHTS

- Approximately 6.7 million Canadian adults are physically active in their leisure time. This represents about $32 \%$ of the adult population.
- Levels of leisure-time physical activity are associated with gender, and province. In general, men tend to be more physically activethan women, and residents of Ontario and Quebec are less active than Canadians in other regions of the country.
- Approximately one in five Canadian adults ( $22 \%$ ) leads a sedentary lifestyle. Women are more likely to be sedentary than men $(25 \%$ vs. $19 \%$ ).
- Level of physical activity is associated with level of education. Persons with higher educational status are more likely to be physically active during their leisure hours than persons with lower levels of education.
- Regular smokers and former smokers are less likely to be physically active during leisure time than persons who have never smoked daily.
- Compared to adults who are physically active. sedentary adults are more likely to report health conditions such as high blood pressure, heart trouble, emphysema, arthritis and rheumatism, and high blood cholesterol.


### 10.2 METHODS

Information relating to physical activity was obtained from questions in Section $G$ of the 1991 GSS questionnaire (see Appendix II). Some of these questions were modified from the 1985 GSS questionnaire. ${ }^{1}$ Questions G5-G6 were incorporated into the 1991 survey to provide better comparability between GSS data and earlier national fitness surveys ${ }^{2,3}$ and to obtain more information on moderate and light physical activity.

Level of leisure-time physical activity, as reported in this chapter, is based on an index of energy expenditure values. These were developed from a series of questions about the usual total time per week spent on activities described to the respondent as light. moderate. or vigorous. Energy expenditure values were assigned according to the demands of the type of activity: 5 kilocalories/minute ( $\mathrm{kcal} / \mathrm{min}$ ) for light physical activity, $7.5 \mathrm{kcal} / \mathrm{min}$ for moderate activity, and $10 \mathrm{kcal} / \mathrm{min}$ for vigorous activity. A summary measure of energy expenditure in kilocalorics/ week ( $\mathrm{kcal} / \mathrm{wk}$ ) was then calculated for all types of leisure activities. On the basis of this continuous variable, respondents were classified as sedentary ( $<500 \mathrm{kcal} / \mathrm{wk}$ ), moderately active ( 500 to $<2000 \mathrm{kcal} / \mathrm{wk}$ ), or active (a minimum of $2000 \mathrm{kcal} / \mathrm{wk}$ ). These values for classifying level of energy expenditure approximate those used by Paffenbarger el $a l^{4}$ Similar classifications were used in the 1985 GSS, ${ }^{1}$ although the underlying questions were somewhat different, as discussed further on.

The level of non-response for the main variables in Hhis chapter is $4 \%$, as reported in the tables. However, this level increases to $9 \%$ for those aged 75 and older.

### 10.3 RESULTS

### 10.3.1 Age and Sex

About one out of three Canadian adults (32\%) aged 15 and over ( 6.7 million persons) report being physically active in their leisure time (Table 10-1). This proportion declines with increasing age (Figure 10-A), from $58 \%$ of the youngest age group to only $5 \%$ of those aged 75 and over (Table 10-1).

Men are more physically active than women at every age, but sex differences diminish with age. The largest sex difference occurs in the 15 to 24 age group ( $65 \%$ of men vs. $44 \%$ of women); this compares to a difference of three percentage points ( $13 \%$ of men vs. $10 \%$ of women) in the 65 and over age group.

In the total adult population, $22 \%$ of Canadians are sedentary. The prevalence of being sedentary is a mirror image of the prevalence of being physically active (Figure10-B): it increases with age, and women are more likely to be sedentary than men at all ages. Overall, $19 \%$ of men are sedentary, compared to $25 \%$ of women. The greatest sex difference occurs among persons aged 75 and over. In that age group, $37 \%$ of men are sedentary. compared to $54 \%$ of women.

### 10.3.2 Provincial Differences

There are substantial inter-provincial differences in physical activity levels (Figure 10-C and Table 10-2), with the prevalence of active adulis ranging from $24 \%$ in Quebec to $45 \%$ in Prince Edward Island. Adults in Quebec and Ontario tend to have lower physical activity levels than those in the other provinces. In contrast, persons in the Atlantic and Prairie provinces and in British Columbia have higher physical activity levels than the national average.

FIGURE 10-A
"Active" leisure-time physical activity by age group and sex, age 15+, Canada, 1991


General Social Survey, 1991

FIGURE 10-B
"Sedentary" leisure-time physical activity by age group and sex, age 15+, Canada, 1991


General Social Survey, 1991

Among men, the proportion who report that they are physically active is higher than the national average of $39 \%$ in Atlantic Canada (except New Brunswick), the Prairie provinces, and British Columbia.

About $26 \%$ of women are physically active. In Quebec and Ontario, women are less likely to be active than in the rest of the country.

The proportion of the population that is sedentary also varies by province, from $29 \%$ of Quebec residents to $15 \%$ of residents in British Columbia and Nova Scotia. In all provinces except British Columbia, the proportion of women who are sedentary exceeds that of men (Table 10-2).

### 10.3.3 Education

The proportion of the population that is physically active increases with education (Table 10-3). About $38 \%$ of adults who have a postsecondary degree or diploma are physically active, compared to $24 \%$ of persons who have some secondary education or less. The transition from some secondary education or
less ( $24 \%$ ) to secondary level graduation ( $33 \%$ ) appears to be an important factor in determining overall level of physical activity. In contrast to this nine percentage point difference in the proportion of the population that is physically active, there are only small differences between higher levels of education.

### 10.3.4 Physical Activity and Smoking Behaviour

Regular smokers and former smokers are less likely to be physically active during leisure time than persons who have never smoked cigarettes daily (Text Table 10-A). In the total population, $28 \%$ of regular smokers and $31 \%$ of former smokers are physically active, compared to $35 \%$ of adults who have never smoked.

Among men, $33 \%$ of regular smokers and former smokers are physically active, compared to $47 \%$ of adult men who have never smoked. Among women, $30 \%$ of former smokers are physically active. compared to $23 \%$ of regular smokers and $25 \%$ of women who have never smoked (data not shown).

FIGURE 10-C
"Active" leisure-time physical activity by region and sex, age 15+, Canada, 1991


General Social Survey, 1991

### 10.3.5 Physical Activity and Health Problems

The prevalence of self-reported health problems is higher in the sedentary population than in the physically active population (Table 10-4). Compared to physically active adults, sedentary adults report a higher prevalence of hypertension. heart trouble, diabetes, emphysema, arthritis and rheumatism, migraines, high blood cholesterol, and emotional disorders. This pattern is evident for both men and women and is true for all age groups (data not shown). Indeed, the relationship is most evident for older age groups (Figure 10-D).

### 10.4 DISCUSSION

### 10.4.1 Changes Since 1985

Between 1985 and 1991, the proportion of the adult Canadian population defined as "active" appeared to increase modestly in all age groups (Text Table 10-B). About $27 \%$ of adults were classified as physically active in 1985, compared to
$32 \%$ in 1991. The overall increase was greater among men (eight percentage points) than among women (three percentage points). The higher leisure-time physical activity score of males compared to females, generally stems from the fact that males engage in more vigorous activities than females.

### 10.4.2 Methodological Considerations

One of the difficulties in interpreting changes over time in the physical activity levels of Canadians is the lack of consistency in the survey measurement instruments. As noted above, the focus in the 1985 GSS was on vigorous activities, and that survey determined the frequency and average duration of the two most frequent of these activities for each respondent. In 1991, respondents reported the usual number of hours per week spent on each of light, moderate, and vigorous activity. As most active Canadian adults choose moderate over vigorous activities, ${ }^{5}$ and as moderate activities were probed only in 1991, there is the distinct possibility of a

FIGURE 10-D
Prevalence (\%) of health problems by level of leisure-time physical activity, ages 45-64, Canada, 1991


Level of leisure-time physical activity

General Social Survey, 1991
spurious increase in activity due to the different approach in questioning. This possibility, along with the finding of the 1990 Health Promotion Survey ${ }^{6}$ that the highly active population declined between 1985 and 1990, suggests that the 1991 GSS results of a more active population in 1991 should be treated cautiously until further substantiating evidence is found.

The General Social Survey is a cross-sectional survey. Consequently, observed differences by age and sex may reflect age-related changes at a particular point in time, or they may reflect differences in different birth cohorts over time. Moreover, there is no possibility of identifying cause-and-effect relationships. Nevertheless, it is instructive that the relationships between physical activity and health status are independent of age, biologically plausible, and consistent with evidence from longitudinal studies and clinical trials. ${ }^{7}$ Notwithstanding this, the association between level of physical activity and self-reported
health problems is complex. The state of people's health may influence their level of physical activity, and, in tum, their level of physical activity may influence their health. While there is consensus that an active lifestyle is generally beneficial for health, physical activity does lead to the possibility of injuries. ${ }^{8}$

In addition, participation in leisure-time physical activity may itself he an indirect measure of a constellation of health-promoting behaviours. Persons who engage in leisure-time physical activities may also be persons who have never smoked, who drink moderately, and who exercise control over their weight through proper nutrition. Consequently, associations between level of physical activity and self-reported health problems may be due in part to the association of other risk factors with physical activity and with health problems.

TEXT TABLE 10-A
Physical activity level by selected smoking status, age 15+, Canada, 1991
\(\begin{array}{llll}\hline \& \& Physicalactivitylevel <br>

\)\cline { 2 - 4 } Type of smoker \& Sedentary \& Moderately \& active\end{array}$]$ Active | (Percent) |
| :--- |
| Population 15+ |
| Regular smoker |
| Former smoker |
| Never daily smoker |

General Social Survey, 1991

TEXT TABLE 10-B
Physically active population, by age group and sex, age 15+, Canada, 1985 and 1991

|  | Age group |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  | Pear and sex | Population $15+$ | $15-24$ | $25-44$ |

(Percent)

| 1985 | 27 | 48 | 29 | 12 |
| :--- | :---: | :---: | :---: | :---: |
| Both sexes | 31 | 55 | 33 | 12 |

The association between physical activity levels and smoking behaviour may reflect the interplay of other variables. Observed differences in leisure-time physical activity may also reflect antecedent variables such as socio-economic status and age that are related to both smoking and physical activity. The fact that occasional smokers may be more physically active may reflect the fact that occasional smokers tend to have a younger age distribution than regular smokers and younger adults tend to be more physically active.

### 10.4.3 Other Considerations

The observation that Prince Edward Island has the highest prevalence of physical activity is inconsistent with the results of other recent studies, ${ }^{23,6}$ which have consistently shown that the prevalence of physical activity is below the national average in the Atlantic provinces (with the exception of men in Nova Scotia). The aboveaverage activity levels in British Columbia are consistent with other surveys, however. Future surveys will bear watching to see if the 1991 GSS finding of high levels of activity in Atlantic Canada is replicated.

As provincial differences in the prevalence of physical activity are not explained by wide differences in the age distribution of the regions, questions are raised regarding reasons for the differences. Do they reflect a climate that is more hospitable to ondoor activities? Are there differences at the community level in Prince Edward Istand that facilitate physical activity in all age groups? Perhaps the differences reflect a more generalized attitude towards lifestyle and the role of physical activity. Are there differences within social institutions, such as schools and workplaces. that may facilitate physical activity more in Prince Edward Island than in the rest of Canada? A complex mix of individual, psychological. social. and environmental factors determines participation in physical activity; ${ }^{9}$ some of these can be explored further through multivariate analysis of the 1991 GSS results.

## REFERENCES

1. Statistics Canada. Health and social supporr. 1985. General Social Survey Analysis Series. Ottawa: Minister of Supply and Services Canada. 1987. Catalogue No. 11-612E, No. 1.
2. Canada Fitness Survey. Fitness and lifestyle in Canada. Ottawa: Canadian Fitness and Lifestyle Research Instifute, 1983.
3. Stephens T, Craig CL. The well-being of Canadians: Highlights of the 1988 Campbell's Survey on Well-Being in Canada. Ottawa: Canadian Fitness and Lifestyle Research Instifute, 1990.
4. Paffenbarger RS, Sallis JF, Haskell JF, et al. Physical activity assessment methodology in the Five City Project. American Journal of Epidemiology 1985:121:91-106.
5. Stephens T. Caspersen CJ. The demograply of physical activity. In: Bouchard C. Shephard RJ, Stephens T, eds. Physical activity, fitmess and health. Champaign: Human Kinetics Press, 1993 (in press).
6. Stephens T. Leisure-time physical activity. In: Health and Welfare Canada, Stephens T. Fowler Graham D. eds. Canada's Health Promotion Survey 1990: Technical report. Ottawa: Minister of Supply and Services Canada, 1993. Catalogue No. H39-263/2-1990E.
7. Bouchard C, Shephard RJ, Stephens T. Physical activity, fitmess and health: consensus statement. Champaign: Human Kinetics Press, 1992.
8. Millar WJ, Adams O. Accidenes in Canada. General Sucial Survey Analysis Series. Ottawa: Minister of Supply and Services Canada, 1991. Statistics Canada Catalogue No, 11-612E, No. 3.
9. Dishman RK. Determinants of participation in physical activity. In: Bouchard C. Shephard RJ, Stephens T, eds. Physical acrivity, fotmess and health. Champaign: Human Kinetics Press, 1993 (in press).

TABLE 10-1
Leisure-time physical activity level by sex and age group, age 15+, Canada, 1991

| Sex and age group | Leisure-time physical activity level |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Sedentary |  | Moderately active |  | Active |  | Not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 20.981 | 100 | 4,686 | 22 | 8,763 | 42 | 6,744 | 32 | 789 | 4 |
| 15-24 years | 3,793 | 100 | 363 | 10 | $1.255$ | 33 | $2,082$ | 55 | 92 | 2 |
| $15 \cdot 19$ years | 1.825 | 100 | 116 | 6 | 601 | 33 | 1.062 | 58 | -- | - |
| 20.24 years | 1,967 | 100 | 247 | 13 | 654 | 33 | 1,020 | 52 | 46 | 2 |
| 25.44 years | 9,005 | 100 | 1,928 | 21 | 3,602 | 40 | 3,212 | 36 | 263 | 3 |
| $45-64$ years | 5,275 | 100 | 1.348 | 26 | 2,598 | 49 | 1,110 | 21 | 219 | 4 |
| $65+$ years | 2,908 | 100 | 1,046 | 36 | 1.308 | 45 | 339 | 12 | 214 | 7 |
| 65.74 years | 1.824 | 100 | 539 | 30 | 882 | 48 | 281 | 15 | 122 | 7 |
| $75+$ y oars | 1.084 | 100 | 507 | 47 | 426 | 39 | 59 | 5 | 92 | 9 |
|  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10,266 | 100 | 1,980 | 19 | 3.881 | 38 | 4,008 | 39 | 398 | 4 |
| 15-24 years | 1,935 | 100 | 108 | 6 | 531 | 27 | 1,258 | 65 | -- | -- |
| 15-19 years | 936 | 100 | - | - | 257 | 27 | 621 | 66 | -- | -- |
| 20.24 years | 1,000 | 100 | 79 | 8 | 275 | 27 | 637 | 64 | -- | -- |
| 25.44 years | 4,476 | 100 | 898 | 20 | 1,537 | 34 | 1,925 | 43 | 117 | 3 |
| 45.64 years | 2.611 | 100 | 620 | 24 | 1,189 | 46 | 660 | 25 | 141 | 5 |
| $65+$ years | 1.245 | 100 | 354 | 28 | 624 | 50 | 165 | 13 | 102 | 8 |
| 65-74 years | 796 | 100 | 189 | 24 | 420 | 53 | 133 | 17 | 54 | 7 |
| $75+$ years | 448 | 100 | 165 | 37 | 204 | 45 | 31 | 7 | 48 | 11 |
|  |  |  |  |  |  |  |  |  |  |  |
| Population 15+ | 10,715 | 100 | 2.705 | 25 | 4,882 | 46 | 2,736 | 26 | 391 | 4 |
| 15-24 years | 1,857 | 100 | 255 | 14 | 724 | 39 | 824 | 44 | 55 | 3 |
| 15-19 years | 890 | 100 | 87 | 10 | 345 | 39 | 441 | 50 | -- | - |
| 20.24 years | 968 | 100 | 168 | 17 | 379 | 39 | 383 | 40 | 37 | 4 |
| 25.44 years | 4,530 | 100 | 1.031 | 23 | 2.065 | 46 | 1,288 | 28 | 146 79 | 3 |
| $45-64$ years | 2,664 | 100 | 727 | 27 | 1,409 | 53 | 450 | 17 | 79 112 | 3 |
| $65+$ years | 1,664 | 100 | 693 | 42 | 685 | 41 | 175 | 10 | 112 | 7 |
| 65.74 years | 1,028 | 100 | 350 | 34 | 462 | 45 35 | 147 | 14 4 | 68 44 | 7 |
| $75+$ years | 636 | 100 | 342 | 54 | 222 | 35 | 27 | 4 | 44 | 7 |

TABLE 10-2
Leisure-time physical activity level by sex and province, age 15+, Canada, 1991

| Sex and province | Leisure-time physical activity level |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Sedentary |  | Moderately active |  | Active |  | Not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |
| Canada | 20,981 | 100 | 4,686 | 22 | 8,763 | 42 | 6.744 | 32 | 789 | 4 |
| Atlantic | 1.806 | 100 | 328 | 18 | 738 | 41 | 687 | 38 | 52 | 3 |
| Newfoundland | 438 | 100 | 81 | 18 | 162 | 37 | 185 | 42 | 10 | 2 |
| Prince Edward Island | 98 | 100 | 15 | 15 | 36 | 37 | 44 | 45 | -- | -- |
| Nova Scotia | 704 | 100 | 108 | 15 | 29.4 | 42 | 279 | 40 | 23 | 3 |
| New Brunswick | 566 | 100 | 125 | 22 | 246 | 43 | 179 | 32 | 16 | 3 |
| Quebec | 5,384 | 100 | 1,544 | 29 | 2,504 | 47 | 1,294 | 24 | 41 | 1 |
| Ontario | 7,778 | 100 | 1,778 | 23 | 3.198 | 41 | 2,383 | 31 | 418 | 5 |
| Prairies | 3.482 | 100 | 648 | 19 | 1.280 | 37 | 1,309 | 38 | 244 | 7 |
| Manitoba | 839 | 100 | 186 | 22 | 300 | 36 | 285 | 34 | 67 | 8 |
| Saskatchewan | 742 | 100 | 144 | 19 | 273 | 37 | 276 | 37 | 49 | 7 |
| Alberta | 1.901 | 100 | 318 | 17 | 707 | 37 | 748 | 39 | 128 | 7 |
| British Columbia | 2.532 | 100 | 386 | 15 | 1.042 | 41 | 1.071 | 42 | 33 | 1 |
| Male |  |  |  |  |  |  |  |  |  |  |
| Canada | 10,266 | 100 | 1.980 | 19 | 3,881 | 38 | 4,008 | 39 | 398 | 4 |
| Atlantic | 885 | 100 | 138 | 16 | 341 | 39 | 381 | 43 | 26 | 3 |
| Newfoundland | 217 | 100 | 29 | 13 | 79 | 37 | 106 | 49 | -- | - - |
| Prince Edward Island | 48 | 100 | 6 | 13 | 14 | 28 | 26 | 55 | -- | -- |
| Nova Scotia | 343 | 100 | 48 | 14 | 135 | 39 | 149 | 44 | -- | - |
| New Brunswick | 277 | 100 | 54 | 20 | 113 | 41 | 99 | 36 | 11 | 4 |
| Quebec | 2.617 | 100 | 705 | 27 | 1,112 | 43 | 782 | 30 | -- | -- |
| Ontario | 3.796 | 100 | 682 | 18 | 1,403 | 37 | 1,490 | 39 | 221 | 6 |
| Prairies | 1,725 | 100 | 255 | 15 | 598 | 35 | 752 | 44 | 120 | 7 |
| Manitoba | 411 | 100 | 61 | 15 | 145 | 35 | 171 | 42 | 33 | 8 |
| Saskatchewan | 367 | 100 | 67 | 18 | 116 | 32 | 159 | 43 | 24 | 7 |
| Alberta | 948 | 100 | 126 | 13 | 337 | 36 | 422 | 45 | 63 | 7 |
| British Columbia | 1.243 | 100 | 201 | 16 | 426 | 34 | 603 | 48 | -- | - |
| Female |  |  |  |  |  |  |  |  |  |  |
| Canada | 10.715 | 100 | 2,705 | 25 | 4,882 | 46 | 2,736 | 26 | 391 | 4 |
| Atlantic | 921 | 100 | 191 | 21 | 397 | 43 | 307 | 33 | 26 | 3 |
| Newtoundland | 221 | 100 | 52 | 24 | 83 | 37 | 79 | 36 | -- | -- |
| Prince Edward Island | 50 | 100 | 8 | 16 | 23 | 45 | 18 | 35 | -- | -- |
| Nova Scotia | 361 | 100 | 60 | 17 | 159 | 44 | 130 | 36 | 12 | 3 |
| New Brunswick | 289 | 100 | 71 | 25 | 133 | 46 | 80 | 28 | - | -- |
| Quebec | 2.767 | 100 | 840 | 30 | 1,392 | 50 | 512 | 18 | -- | -- |
| Ontario | 3.982 | 100 | 1.096 | 28 | 1.796 | 45 | 893 | 22 | 197 | 5 |
| Prairies | 1,756 | 100 | 393 | 22 | 682 | 39 | 557 | 32 | 124 | 7 |
| Manitoba | 428 | 100 | 125 | 29 | 155 | 36 | 114 | 27 | 34 | 8 |
| Saskatchewan | 375 | 100 | 77 | 20 | 157 | 42 | 116 | 31 | 25 | 7 |
| Alberta | 953 | 100 | 192 | 20 | 370 | 39 | 326 | 34 | 65 | 7 |
| British Columbia | 1.288 | 100 | 185 | 14 | 615 | 48 | 468 | 36 | 20 | 2 |

General Social Survey, 1991

TABLE 10-3
Leisure-time physical activity level by sex and education, age 15+, Canada, 1991

| Sex and education | Leisure-time physical activity level |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population 15+ |  | Sedentary |  | Moderately active |  | Active |  | Not stated |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| All education levels | 20,981 | 100 | 4,686 | 22 | 8,763 | 42 | 6,744 | 32 | 789 | 4 |
| Some secondary or less | 7,190 | 100 | 2,086 | 29 | 3,093 | 43 | 1.753 | 24 | 257 | 4 |
| Secondary graduation | 3,399 | 100 | 725 | 21 | 1,481 | 44 | 1.112 | 33 | 81 | 2 |
| Some post secondary | 3,401 | 100 | 562 | 17 | 1,371 | 40 | 1,332 | 39 | 135 | 4 |
| Post sec. degree or diploma | 6,601 | 100 | 1,244 | 19 | 2,758 | 42 | 2,506 | 38 | 93 | 1 |
| Not stated | 390 | 100 | 68 | 17 | 59 | 15 | $\rightarrow-$ | -- | 223 | 57 |
|  |  |  |  |  |  |  |  |  |  |  |
| All education levels | 10,266 | 100 | 1.980 | 19 | 3,881 | 38 | 4,008 | 39 | 398 | 4 |
| Some secondary or less | 3.469 | 100 | 867 | 25 | 1,402 | 40 | 1.072 | 31 | 129 | 4 |
| Secondary graduation | 1,510 | 100 | 252 | 17 | 553 | 37 | 664 | 44 | 41 | 3 |
| Some post secondary | 1,666 | 100 | 235 | 14 | 645 | 39 | 719 | 43 | 67 | 4 |
| Post sec. degree or diploma | 3,426 | 100 | 609 | 18 | 1,245 | 36 | 1.522 | 44 | 50 | 1 |
| Not stated | 195 | 100 | -- | -- | 36 | 18 | -- | - - | 112 | 57 |
|  |  |  |  |  |  |  |  |  |  |  |
| All education levels | 10,715 | 100 | 2,705 | 25 | 4,882 | 46 | 2.736 | 26 | 391 | 4 |
| Some secondary or less | 3,721 | 100 | 1.219 | 33 | 1,691 | 45 | 681 | 18 | 129 | 3 |
| Secondary graduation | 1.889 | 100 | 473 | 25 | 928 | 49 | 448 | 24 | 40 | 2 |
| Some post secondary | 1.735 | 100 | 327 | 19 | 726 +513 | 42 | 614 | 35 31 | 68 | 1 |
| Post sec. degree or diploma Not stated | 3.175 195 | 100 100 | 635 51 | 20 26 | $\begin{array}{r}1.513 \\ \hline\end{array}$ | 48 | 984 | 31 | 111 | 57 |

TABLE 10-4
Prevalence of selected health problems by sex and leisure-time physical activity level, age 15+, Canada, 1991

| Sex and leisure-time physical activity level | Health problems(1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total population $15+$ |  | Hypertension |  | Heart trouble |  | Diabetes |  | Arthritis and meumatism |  | Emphysema, etc. |  | Recurring migraines |  | High <br> blood cholesterol |  | Any emotional disorders |  |
|  | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% | No. | \% |
|  | (No. in thousands) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Both sexes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 20,981 | 100 | 3,311 | 16 | 1,437 | 7 | 740 |  | 4.335 | 21 | 1,671 | 8 | 1,950 | 9 | 1,759 | 8 | 1,114 | 5 |
| Sedentary | 4,686 | 100 | 985 | 21 | 527 | 11 | 217 | 5 | 1,446 | 31 | 651 | 14 | 546 | 12 | 448 | 10 | 388 | 8 |
| Mod. active | 8,763 | 100 | 1,494 | 17 | 600 | 7 | 343 | 4 | 1,919 | 22 | 633 | 7 | 837 | 10 | 883 | 10 | 498 | 6 |
| Active | 6,744 | 100 | 678 | 10 | 241 | 4 | 128 | 2 | 792 | 12 | 336 | 5 | 509 | 8 | 379 | 6 | 192 | 3 |
| Not stated | 789 | 100 | 153 | 19 | 69 | 9 | 52 | 7 | 178 | 23 | 53 | 7 | 58 | 7 | 49 | 6 | 36 | 5 |
| Male |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 10.266 | 100 | 1,605 | 16 | 683 | 7 | 365 | 4 | 1,684 | 16 | 737 | 7 | 517 | 5 | 879 | 9 | 395 | 4 |
| Sedentary | 1,980 | 100 | 383 | 19 | 209 | 11 | 94 | 5 | 497 | 25 | 266 | 13 | 104 | 5 | 184 | 9 | 107 | 5 |
| Mod. active | 3,881 | 100 | 723 | 19 | 304 | 8 | 169 | 4 | 739 | 19 | 271 | 7 | 226 | 6 | 420 | 11 | 192 | 5 |
| Active | 4,008 | 100 | 424 | 11 | 129 | 3 | 76 | 2 | 371 | 9 | 176 | 4 | 177 | 4 | 253 | 6 | 84 | 2 |
| Not stated | 398 | 100 | 76 | 19 | 41 | 10 | 26 | 6 | 78 | 20 | -- | -- | -- | -- | - - | - - | -- | -- |
| Female |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 10,715 | 100 | 1,705 | 16 | 754 | 7 | 375 | 4 | 2,651 | 25 | 934 | 9 | 1,433 | 13 | 880 | 8 | 719 | 7 |
| Sedentary | 2,705 | 100 | 602 | 22 | 318 | 12 | 123 | 5 | 949 | 35 | 385 | 14 | 442 | 16 | 264 | 10 | 281 | 10 |
| Mod. active | 4.882 | 100 | 772 | 16 | 296 | 6 | 174 | 4 | 1.180 | 24 | 361 | 7 | 612 | 13 | 464 | 10 | 306 | 6 |
| Active | 2,736 | 100 | 254 | 9 | 112 | 4 | 52 | 2 | 422 | 15 | 159 | 6 | 332 | 12 | 126 | 5 | 108 | 4 |
| Not stated | 391 | 100 | 78 | 20 | 28 | 7 | 26 | 7 | 100 | 26 | 29 | 7 | 47 | 12 | 26 | 7 | -- | -- |

(1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of affirmative responses shown.

## APPENDIX I SAMPLE DESIGN AND ESTIMATION PROCEDURES

## POPULATION

The target population of the 1991 General Social Survey (GSS) includes all persons aged 15 and over living in Cinada, with the following exceptions:

1. full-time residents of institutions;
2. residents of the Yukon and Northwest Temitories.

Since random digit dialling techniques were used to select households, households (thus personsliving inhouseholds) that did not have telephones at the time of the survey were excluded from the surveved population. These househoids account for less than $2 \%$ of the total population.

The survey estimates have been adjusted (weighted) to represent the entire target population. including persons without telephones and other exclusions.

## SAMPLE DESI(GN AND SELECTION METHODS

Data for Cycle 6 of the GSS were collected inonthly from January to December 1991. The sample was evenly distributed over the 12 months to counterbalance seasonal variation in the information gathered. Most of the sample was selectedusing the Elimination of Non-Working Banks (ENWB) technique of random digit dialling (RDD).

## Stratification

In order to carry out sampling, each of the 10 provinces was divided intostrata or geographic areas. Generally, for each province one stratum represented the Census Metropolitan Areas (CMAs) of the province and another represented the non-CMA areas. There were two exceptions to this general rule:

- Prince Edward Island has no CMA and so did not have a CMA stratum
- Montreal and Toronto were each separate strata.

The area code and prefix combinations that corresponded to the strata were determined and used to select the appropriate samples in each stratum. Since area codepretix boundaries did not always correspond exactly to the intended stratum boundaries, smatl biases may have been introduced at this stage.

The typical GSS sample size (without any oversampling) of approx inately 10,000 households was chosen as being large enough to allow extensive analysis at the national level and more limited analysis below this level. It was allocated to provinces in proportion to the square root of their populations and to the strata within provinces in proportion to their populations.

## Elimination of Non-Working Banks RDD Design

The ENWB sampling technique is an RDD method in which an attempt is made to identify all working banks" for an area (i.e., to identify all banks with at least one household). Thus, all telephone numbers within nonworking banks are eliminated from the sampling frame.

For each province, lists of telephone numbers in use were purchased from the relephone companies and lists of working banks were extracted. Each bank was assigned to a stratum within its province.

A special situation existed in Ontario and Quebec because some smatl areas are serviced by independent telephone companies rather than by Bell Canada. The area code prefixes for these areas were identified by matching the Bell file with a file of all area codes and prefixes. Area code prefixes from Ontario and Quebec and not on the Bell file were identified. All banks within these area code prefixes were generated and added to the sampling frame. Use of the Waksberg method' was not possible for these areas since it requires that in accurate population estimate be available for the survey area. Such an estimate was not available for the parts of Ontario and Quebec not covered by Bell.

A similar situation also existed for all of Prince Edward Island for the first eight months of the survey. During this period, the Waksberg method would have provided a more efficient generation of houschold telephone numbers. However, the Waksberg method would not have been as statistically efficient (due to clustering) and also would have introduced operational complexities. In September, telephone files from the phone company servicing Prince Edward Island became available. The non-working banks were then eliminated from the frame.

A random sumple of telephone numbers was generated in each survey month for each stratum (from the working banks). An attempt was made to generate the entire sample of telephone numbers on the first day of interviewing. Therefore, a prediction of the percentage of numbers dialled that would reach a houschold had to be made (this is known as the "hit rate"). The hit rate for January, the first survey month, was estimated using information from previous RDD surveys. Hit rates for subsequent months were revised as required based on January's experience.

[^7]For Cycle 6 of the GSS, $45.4 \%$ of the numbers dialled reached houscholds. An attempt was made to conduct a GSS interview with one randomly selected person from each household.

## Supplementary Sample of the Elderly

The Department of National Health and Welfare sponsored a supplementary sample of seniors (aged 65 and over), which roughly doubled the size of the sample for this group. This supplementary sample was a simple random sample selected from lists of households that had recently been part of the Labour Force Survey (LFS) sample and were known to have at least one senior living there.

## WEIGHTING AND ESTIMATION

## Weighting

A self-weighting sample design is one for which the weights of each unit in the sample are the same. The portion of the GSS sample selected using the ENWB sampling technique has such a design, each household within a stratum having an equal probability of selection.

This probability is equal to:
Number of telephone numbers sampled within the stratum
Total number of eligible numbers within the stratum
(The total number of eligible telephone numbers for a stratum is equal to the number of working banks for a stratum multiplied by 100. .)

The supplementary component of the survey was a simple random sample drawn from households recently in the LFS. Their individual probabilities of selection were thus proportional to the probatility of selection of the household in the LFS.

Where possible, each survey month was weighted independently. This was done in an attempt to ensure that each survey month contributed equally to estimates. If monthly sample sizes were not large enough, two or more survey months were combined in certain steps of the weighting.

The initial weight is adjusted for household non-response, for the number of telephone numbers a household has, and for the number of persons living in the household who are 15 years of age or over. The second adjustment corrects for the higher probability of households with more than one
telephone number being sampled and the third adjustment converts the household weight into a "person weight."

These person weights were then adjusted to external population totals using a raking ratio procedure. This procedure ensured that, based on the survey's total sample, estimates produced of the size of strata or of province-agesex groups would match external references. The age groupings used were:

| $15-19$ | $20-24$ | $25-29$ | $30-34$ | $35-39$ | $40-44$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $45-49$ | $50-54$ | $55-59$ | $60-64$ | $65-69$ | $70+$ |

## Estimation

When a probability sample is used, as was the case for the GSS, the principle behind estimation is that each person selected in the sample "represents" (in addition to himself/ herself) several other persons not in the sample. For example, in a simple random sample of $2 \%$ of the population, each person in the sample represents 50 persons in the population.

The estimate of the number of persons in the population having a given set of characteristics is determined by summing the weights of all sampled persons with that set of characteristics. The estimates of persons presented in the tables are rounded to the nearest thousand, which not only improves readability but álso provides data at an appropriate level of precision.

## APPROXIMATE STANDARD DEVIATIONS, CONFIDENCE INTERVALS, AND HYPOTHESIS TESTING

Using the following guidelines, users should be able to estimate standird deviations, calculate confidence intervals and perform hypothesis testing for qualitative estimates (i.e. estimates of the number or proportion of people
possessing certain characteristics) in this publication. These qualitative estimates include totals, percentages, differences between totals, and differences between percentages.

## Approximate Standard Deviations

The estimates contained in this publication are based on a sample of individuals. Somewhat different figures might have been obtained if a complete census had been taken using the same questionnaire, interviewers, supervisors. processing methods, efc. as those actually used. The difference between theestimates obtained from the sample and the results from a complete count taken under similar conditions is called the sampling error of the estimate.

Although the exact sampling error of the estimate, as defined above, cannot be measured from the sample results alone, it is possible to estimate astatistical measure of the sampling error, the standard deviation, from the sample data.

Using the information contained in Table 1 and the accompanying rules users can calculate approximate standard deviations for estimates of totals, percentages and for differences between estimates of totals or percentages.

Since estimates contained in this publication are based on a complex sample design, a factor called the design effect hats been introduced into the standard deviation formula. The design effect for an estimate is the actual variance (taking into account the design that was used) divided by the variance that would result if the estimate had been derived from a simple random sample of the same size as the actual sample. The design effects given in Table I have been determined by first calculating design effects for a wide range of characteristics and then choosing among these a conservative value which will not give a false impression of high precision.

Appendix Table 1: Sample Information used to Estimate Standard Deviations

| Geographic Area | Design Effect (B) | Sample Size (n) | Population Size (N) |
| :---: | :---: | :---: | :---: |
| Canada | 1.66 | 11,924 | $20,981,000$ |
| Atlantic Region | 1.41 | 2,363 | $1,806,000$ |
| Newfoundland | 1.29 | 629 | 438,000 |
| Prince Edward | 1.19 | 294 | 98,000 |
| Nova Scotia | 1.33 | 740 | 704,000 |
| New Brunswick | 1.32 | 700 | 566,000 |
| Quebec | 1.33 | 2,278 | $5,384,000$ |
| Ontario | 1.36 | 2,559 | $7,778,000$ |
| Prairie Region | 1.38 | 3,191 | $3,482,000$ |
| Manitoba | 1.34 | 883 | 839,000 |
| Saskatchewan | 1.31 | 874 | 742,000 |
| Alberta | 1.33 | 1,434 | $1,901,000$ |
| British Columbia | 1.32 | $2,532,000$ |  |

## Rule 1: Estimates of Totals Possessing a Characteristic (Aagreaates)

The estimated standard deviation of an estimated total $(X)$ is

$$
\text { standard deviation }(X)=\sqrt{\frac{B \times X \times(N-X)}{n}}
$$

where $n=$ sample size, from Table 1
$N=$ population size, from Table 1
$B=$ design effect, from Table 1
$X=$ estimated total

## Example 1:

In Canada an estimated 2,953,000 females aged 15 years and over have difficulty sleeping (see Text Table 2-B). What is the estimated standard deviation for this estimate?

The estimated total is 2,953,000. This is a Canada level estimate. From Table 1 we see that the design effect is 1.66 , the sample size is 11,924 , the population size is $20,981,000$. The estimated standard deviation of the estimated total 2,953,000 is

$$
\begin{aligned}
& \text { standard deviation }=\sqrt{\frac{1.66 \times 2,953,000 \times(20,981,000-2,953,000)}{11,924}} \\
& \text { standard deviation }=86,089.177
\end{aligned}
$$

## Rule 2: Estimates of Percentages Possessing a Characteristic

This rule applies to percentages or proportions (i.e. the numerator is a subset of the denominator). The estimated standard deviation of a percentage estimate $(P=X / Y)$ is

$$
\text { standard deviation }(P)=\sqrt{\frac{B \times N \times P \times(1-P)}{Y \times n}}
$$

where $n=$ sample size, from Table 1
$N=$ population size, from Table 1
$B=$ design effect, from Table 1
$\mathrm{Y}=$ estimated denominator on which percentage is based
$P=$ the estimated percentage

## Example 2:

In Canada 28\% of females aged 15 years and over report difficulty sleeping. This is the expression of the estimate obtained in Example 1 as a percentage of all females aged 15 years and over in Canada. The estimated standard deviation for this estimate is

$$
\begin{aligned}
& \text { standard deviation }=\sqrt{\frac{1.66 \times 20,981,000 \times 0.28 \times(1-0.28)}{10,715,000 \times 11,924}} \\
& \text { standard deviation }=0.007413193
\end{aligned}
$$

## Rule 3: Differences Between Totals or Percentages

The estimated standard deviation of a difference between two estimates is approximately equal to the square root of the sum of the squares of the estimated standard deviation of each estimate. That is, the estimated standard deviation of a difference $d=X-Y$ is
standard deviation $(d)=\sqrt{(\text { standard deviation }(X))^{2}+(\text { standard deviation }(Y))^{2}}$

This formula is accurate for the difference between uncorrelated characteristics and is approximate for the difference between characteristics which have small correlations.

## Example 3:

In Canada, among those 15 vears and over, an estimated $28 \%$ of females and an estimated $19 \%$ of males have difficulty sleeping. What is the estimated standard deviation for the difference of the estimates?

From Example 2, the estimated standard deviation for the female estimate is 0.007413193. The estimated standard deviation for the male estimate is 0.006617208 .

The difference between the male and female estimates is $9 \%$. Using Rule 3, the estimated standard deviation of the difference between the estimates is

$$
\begin{aligned}
& \text { standard deviation }=\sqrt{(0.007413193)^{2}+(0.006617208)^{2}} \\
& \text { standard deviation }=0.009936945
\end{aligned}
$$

## Confidence Intervals

A confidence interval constitutes a statement on the level of confidence that the true value for the population lies within a specified range of values. For example a $95 \%$ confidence interval can be described as follows:

If sampling of the population is repeated many times and for each sample a confidence interview is calculated for an estimate, then in $95 \%$ of the samples the interval will cover the true population value.

Assuming that an estimate has an approximately normal distribution (under repeated sampling and estimation), the chances are about 68 out of 100 that the true value lies within one standard deviation of the estimate, about 95 out of 100 that the true value lies within two standard deviations, and about 99 out of 100 that the true value lies within three standard deviations.

Confidence intervals for an estimate, $X$, are generally expressed as two numbers, one below the estimate and one above the estimate, as $[X-k, X+k]$ where $k$ is determined depending upon the level of confidence desired and the sampling error of the estimate.

A confidence interval for an estimate, $X$, is

$$
\text { Confidence Interval }(X)=\left[X-\left(t \times \sigma_{X}\right), \quad X+\left(t \times \sigma_{X}\right)\right]
$$

where $\sigma_{\mathrm{x}}$ is the estimated standard deviation of $X$
$\mathrm{t}=1$ if a $68 \%$ confidence interval is desired
$t=1.6$ if a $90 \%$ confidence interval is desired
$\mathrm{t}=2$ if a $95 \%$ confidence interval is desired
$t=3$ if a $99 \%$ confidence interval is desired

## Example 4:

An estimated 2,953,000 females have difficulty sleeping. This estimate has an estimated standard deviation of $86,089.177$. The $95 \%$ confidence interval for this estimate is

Confidence Interval $=[2,953,000-(2 \times 86,089.177), 2,953,000+(2 \times 86,658.388)]$
Confidence Interval $=[2,780,822,3,125,178]$

With 95\% confidence it can be said that the true estimate of females who have difficulty sleeping lies between 2,780,822 and 3,125,178.

## Example 5:

An estimated $28 \%$ of females aged 15 years and over have difficulty sleeping. From Example 2 this estimate has an estimated standard deviation of 0.007413193 . A 95\% confidence interval for this estimate (expressed as a proportion) is

Confidence Interval $=[0.28-(2 \times 0.007413193), 0.28+(2 \times 0.007413193)]$
Confidence Interval $=[0.2652,0.2948]$

With $95 \%$ confidence it can be said that between $26.5 \%$ and $29.5 \%$ of females aged 15 years and over in Canada have difficulty sleeping.

## Hypothesis Testing

Standard deviations may also be used to perform hypothesis testing, a procedure for distinguishing between population parameters using sample estimates. The sample estimates can be totals, percentages or differences of estimates. Tests may be performed at various levels of significance, where a level of significance is the probability of concluding that the characteristics are different when, in fact, they are identical.

Let $X_{1}$ and $X_{2}$ be sample estimates for 2 characteristics of interest. Let the estimated standard deviation of the difference $X_{1}-X_{2}$ be $\sigma_{d}$.

Consider the test statistic

$$
t=\frac{X_{1}-X_{2}}{\sigma_{d}}
$$

and the critical value c
where $c=1.6$, at the $10 \%$ level of significance
$c=2$, at the $5 \%$ level of significance
$\mathrm{c}=3$, at the $1 \%$ level of significance

If the test statistic $t$ is between $-c$ and $+c$ (i.e. $-c<=t<=+c$ ) then no conclusion about the difference between the characteristics is justified at that level of significance. If however, $t$ is smaller than $-c$ (i.e. $t\langle-c$ ) or larger than $+c$ (i.e. $t\rangle+c$ ), the observed difference is significant at the specified level of significance (i.e. $10 \%, 5 \%$ or $1 \%$ level).

## Example 6:

A user wishes to test at the $5 \%$ level of significance the hypothesis that at the Canada level there is no difference between percentage estimates of males and females who have sleeping difficulties. From Example 3 the estimate of the standard deviation of the difference between the estimates is 0.009936945 . The test statistic is

$$
\begin{aligned}
& t=\frac{0.28-0.19}{0.009936945} \\
& t=9.06
\end{aligned}
$$

Since $t=9.06$ is greater than 2, there is evidence to reject the hypothesis and conclude that the difference is significant at the $5 \%$ level.

## REFERENCES

1. Waksberg, J. Sampling methods for random digit dialling, Journal of the American Statistical Association. 1978;7340-46.

## APPENDIX II

## Cycle Six Questionnaires

## Content and Questionnaires

Three questionnaires were used to collect Cycle 6 information:

## Questionnaire Age group Title

GSS 6-I

GSS 6-1B
(not included)

All age groups
Ages 65 and over (LFS oversample only)

GSS 6-2

Ages 15 and over Health
Questionnaire

The GSS 6-1 was completed for each telephone number selected in the sample. It lists all household members, collecting basic demographic information, specifically age, sex, marital status, and relation to reference person.

A respondent aged 15 or over was then randomly selected and a GSS 6-2 was completed for this person. In cases where the selected respondent either was too ill or did not speak either official language, a proxy interview was conducted when possible. For the oversample of seniors. the GSS 6-1B was used to select a respondent from household members aged 65 and older.

The GSS 6-2 questionnaire collected the following types of information from persons aged 15 and over living in the 10 provinces: the respondent's health status, health status indicators, and activity limitations of the respondent; information on two-week disability, flu vaccinations, 12month health care contact and health care delays; information on emotional health and satisfaction measures, and occupational health. including job benefits and workplace health hazards; and information on risk factors, such as alcohol consumption, physical activity, smoking, sleeping patterns, and weight and height.

Enquête sociale générale
Formule de contrôle


Colleclect under the authorty of the
Statistics Act. Revised Statutes of Canada 1985. Chapter SI9

Rerisergnements recueilis en vertu de la Loi sur la statistique. Loıs révisees du Canada. 1985 Chapitre S19

$\begin{array}{lll}\text { B.4500-54: } 1990 \cdot 10-04 & \text { STC } / \text { HFS } \cdot 027 \cdot 04085 \\ & \text { SOC. SLF 027. 04085 }\end{array}$
21. Hello, l'm from Statistics Canada Canadians.

Bonjour. ici de Statistique Canada Nous vous appelons concernant une etude au sujet de la santé des Canadiens.
22. I'd like to make sure that l've dlaled the right number.

J'aimerais m'assurer que j'ai compose le bon

Is this Yes
 $\longrightarrow \begin{gathered}\text { Dial again. if still wrong } \\ \text { END }\end{gathered}$ numero. S'agit-il du no flire le numerol?
$\mathrm{Ot} \quad \mathrm{O}$Composez de nouveau. S'll s'aglt encore diun mauvize numero METTEZ FIN A L'INTERVIEW.
23. All information we collect in this voluntary survey will

Tous les renseignements que vous fournirez pour cette enquele volontaire resteront confidentiels Votre participation est essentielle afin que les
resultats soient precis.

S'agit-il du numero d'une entreprise, d'un etablissement ou dune maison privee?
$\left.\begin{array}{ll}\text { Maisun privee } & \bigcirc \\ \text { Entreprise et maison privee } & \mathrm{O}\end{array}\right\} \longrightarrow$ Passez à 27
$\begin{aligned} & \text { Entreprise elablissoment ou autre }\end{aligned}$ mmeuble non residential

Business. institution or other nan residence

Quelqu'un utilise-t-il ce numero de telephone comme numero personnel?
Our $O$
Non $\quad$ O Remercue: le repondani et METTEZ FIN A L INTERVIEW.
26. How many people live or stay al this address and use this number as a home phone number?

Less than $15 \quad 0$
15 or more $\bigcirc \rightarrow$ Make appoinlment

Combien de personnes vivent ou demeurent a
cette adresse et utilisent ce numero de telephone comme numero personnel?

Mons de $15 \bigcirc$
15 ou plus $\bigcirc \longrightarrow$ Fixez un render vous
27. I need to select one person from your household for an interview. What is the first name and age of each person living or staying there who has no usuat place of residence elsewhere? Please start with the oldest.
(Enter names and ages in tlems 23 and 25.)

Je dois choisir une personne de votre menage pour une interview. Quel est le prenom el l'age de chaque personne qui vit ou demeure a cet endroit et qu: n'a pas d'autre lleu habituel de residence. Veuillez commencer par la personne la plus agee du menage.
(hnsconver le nom el liage aux rubrntues 23 er 25.1

Complete tems 26 through 212 for
each person recorded in tem Z3.
Refer to interviewer Reference Card for instructions and codes. each perso
28. INTERVIEWER: Complete tems $Z 6$ through 212 for

Then go to them 29.

INTERVIEWEUR: Remplissex les rubriques Z6 a Z12 pour chaque personne inscrite a la rubrque 23 .
Pour les instructions el les codes. voir la fiche de relerence de lintervieweur.
Puls. passez a la rubrique 29

| Telephone Number Numero de telephone <br> selection grid label. étiouette grille de selection |  | Z1 <br> Page <br> Page | 22. <br> Line <br> Ligne | $Z 3$. <br> Names of Household Members <br> Noms des membres du menage | $\begin{aligned} & \mathrm{Z4} . \\ & \text { Sel. } \\ & \text { No. } \\ & \text { No } \\ & \text { de } \\ & \text { Sel } \end{aligned}$ | 25. <br> Age <br> Àge |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{A}=$Eligible <br> Household <br> Members Membres <br> admussibles <br> du menage <br> $\mathbf{B}=$Selection <br> Number Numero de <br> Sélection |  |  | 1 |  | 1 |  |
|  |  |  | 2 |  |  |  |
|  |  |  | 3 |  | 1 | \| |
|  |  |  | 4 |  | 1 | 1 |
|  |  |  | 5 |  | 1 | 1 |
|  |  |  | 6 |  | 1 | 1 |
|  |  |  | 7 |  | 1 | 1 |
|  |  |  | 8 |  |  | 1 |

29. INTERVIEWER: | Enter the Page-Line Number of |
| :--- |
| person giving the preceding |
| information |
30. Are there any people away from this household attending school, visiting, travelling or in the hospital who USUALLY live there?


No
20

Yes ......30— |  | Enter names and |
| ---: | :--- |
| complete 1tems $Z 5$ |  |
| through $Z 12$. |  |

No
.0
31. Does anyone else live there, such as other relatives, roomers, boarders or employees?
$Y$ a-t-il d'autres personnes qui sont absentes du menage parce qu'elles sont aux etudes, en visite, en voyage ou a l'hópital mais qui demeurent HABITUELLEMENT Ia?


Non ..... $=0$

Y a-t-il d'autres personnes qui demeurent la. par exemple des personnes apparentees, des chambreurs, des pensionnaires ou des employes?

Oul $\ldots . .3 \bigcirc \rightarrow \begin{gathered}\text { inscrivez leur nom et } \\ \text { remplissez les rubriques }\end{gathered}$ 25 a 212


INTERVIEWEUR: A la rubrique 24, attribuez un numero aux personnes ágees de 15 ans et plus de la plus agee à la plus pune. Inscrivez le nombre de personnes admissibles du menage.

81 $\qquad$ Nombre de personnes admissibles du menage

## INTERVIEWEUR:

Determunez le repondant selecfionné en utilisant lelrquette grille de selection. A la rubrique $\mathrm{Z4}$. encerclez le numero de selection du repondant selectionne et inscrivez le numero de page-ligne

91
$1 \quad 1$ Numero de page-ligne du repondant selectionne
34. The person if am to interview is ...... (read name). (is he/she there?)

| Yes | Go to form GSS 6.2 and begin intarview. |
| :---: | :---: |
| No | Set up appointment and enter detalls in item 16. |

La personne que je vais interviewer est ..... (hisez le nom). (Est-illelie la?)

 appel a la ligne 99 de la page 1.

Housing, Family and Social Statistics Division

## General Soclal Survey Health Questionnaire



8.4500 .551


[^8]
8.4500-55.1

| E6. | Can you see well enough to recognize a friend on the other alde of the street whith glasses or contact lenses? <br> Don't know (Don't wear glasses or contacts). | Getting Around |  |
| :---: | :---: | :---: | :---: |
|  |  | E15. INTERVIEWER: <br> If a respondent says "sometimes" to any of the follow. ing questions, E16-E20 and E22, please prompt whth "Is that usually?" If it is not, mark No. |  |
|  |  | E16 $\bullet w$ | Are you able to walk around the nelghbourhood without difliculty and whhout mechanical support such as braces, a cane or crutches? |
| Hearing |  | Yes ... ..... ${ }^{5} \bigcirc \rightarrow$ Goto E23 |  |
| E7. | Are you usually able to hoar what is sald in a group conversation with it least three other people without a hearing ald? |  | No <br> Refused $\rightarrow$ Go to E23 |
|  |  | E17. Can you walk at all? |  |
|  |  |  |  |
| E8. | Can you hear what is said in a group conversation with At least three other people with a hearing ald? |  |  |
|  | Yes | E18. Do you require mechanical support such as braces, cane or cruiches to walk around the nelghbourhood? |  |
|  | No . . . . . . . . . ..... ${ }^{5} \mathrm{O}$ | Yes ............... ${ }^{\text {'O }}$ |  |
|  | Don't know (Don't wear a hearing aid) | No ............... ${ }^{2} \mathrm{O}$ |  |
| E9. | Can you hear what is said in a conversation with one other person In a quite room without a hearing ald? | E19. Do you require the help of another person to walk? Yes $\square$ ${ }^{3} \mathrm{O}$ |  |
|  | Yes ............. ${ }^{7} \mathrm{O} \rightarrow$ Go 10 E11 | No ............ ${ }^{4} \mathrm{O}$ |  |
|  | No | E20. Do | Do you require a wheelchalr to get around? |
| E10. | Can you hear what is sald In a conversation with one other person in a quiet room with a hearing aid? | $\text { Yes } \ldots \ldots . . . . . . .{ }^{5} \mathrm{O}$ |  |
|  | Yes | No........... ${ }^{8} \mathrm{O} \rightarrow$ GO to E23 |  |
|  | No . . . . . . . . . . . . . ${ }^{2} \mathrm{O}$ | E21. How often do you use a whealchair... |  |
|  | Don't know (Don't wear a hearing aid) | Always? ........... ${ }^{1}$ |  |
| Speech |  | Otten? ............. ${ }^{2} 0$ |  |
| $\mathrm{E} \dagger 1 .$ | Are you usually able to be understood completely when speaking with strangers in your own language? | Sometimes? ....Never $\quad . . . . . . ~$ |  |
|  | No ${ }^{5} \mathrm{O}$ | E22. $\begin{array}{r}\text { in } \\ \\ Y\end{array}$ | Do you need the heip of another person to get around in the wheelchair? |
|  | Refused......... ${ }^{\circ} \mathrm{O} \rightarrow$ Go 10 E16 |  | Yes ............. ${ }^{5} \mathrm{O}$ |
| E12. | Are you able to be underatood partilly when speaking wth strangers? |  | No ........... ${ }^{\text {B }} \mathrm{O}$ |
|  | Yes | Hands and Fingers |  |
|  |  | E23. | Do you usually have the full use of two hands and ten fingers? |
| E13. | Are you able to be understood complotely when speaking wilh those who know you well? <br> Yes $\rightarrow$ Go to E16 <br> No |  | Yes ............ ${ }^{\text {º }} \mathrm{O} \rightarrow$ Go to E27 No $\ldots . . . .$. |
|  |  |  | Refused....... ${ }^{\circ} \mathrm{O} \rightarrow$ Goto E27 |
| E14. | Are you able to be understood partially when speaking with those who know you well? | E24. $\begin{array}{r}\text { O }\end{array}$ | Do you require the help of another person because of llmitations in the use of your hands and fingers? |
|  | Yes |  |  |
|  |  |  | $\qquad$ |



G5. I am now going to ask you questions about the amount of time you spend on physical activity at work or while doing your dally chores, but not ieisure time activity.
A. How many hours per day do you usually spend standing or walking but not carrylng or lifting things. Would that be...

| None? | ${ }^{01} 0$ |
| :---: | :---: |
| Less than 15 minutes? | 020 |
| 15 minutes to less than 2 h | ${ }^{03} \bigcirc$ |
| Two to lest than 4 hours? | ${ }^{0} 0$ |
| Four to less than 6 hours? | ${ }^{05} \mathrm{O}$ |
| SIx hours or more? | ${ }^{\infty} \mathrm{O}$ |
| Don't know | ${ }^{07} \mathrm{O}$ |

B. How many hours per day do you usually spend llfting or carrying light loads, cllmbing staits or hills? Would that be..
None? ..................... ${ }^{08} \mathrm{O}$

Less than 15 minutes? ............. ${ }^{09} \bigcirc$
15 minutes to less than 2 hours? $\ldots{ }^{10} \mathrm{O}$
Two to less than 4 hours? ......... ${ }^{11} \mathrm{O}$
Four to less than 6 hours? $\quad{ }^{12} 0$
Slx hours or more? . . . ........... ${ }^{13}$
Don't know .................. ${ }^{140}$
C. How many hours per day do you usually spend doling heavy wort. or carrying very heavy loads? Would that be...

| None? | ${ }^{15} 0$ |
| :---: | :---: |
| Less than 15 minutes? | 180 |
| 15 minutes to less than 2 hours? | 170 |
| Two to less than 4 hours? | 180 |
| Four to less than 6 hours? | ${ }^{19} 0$ |
| SIx hours or more? | 200 |
| Don't know | 10 |

G6. I am now golng to ask you questions about the amount of time you epent on lelsure time physical activity such as walking, sports, gardening or dancing durling the last month.
A. Thinking back over the past month, how many hours per week dld you spend on Ilght physical activty so that your breathing was only a Ilttie faster than normal? Would that be.

| None? | 220 |
| :---: | :---: |
| Less than one hour? | 230 |
| One hour to less than 2 hours? | ${ }^{24} \mathrm{O}$ |
| Two hours to less than 3 hours? | ${ }^{25} \mathrm{O}$ |
| Three hours or more? | ${ }^{26} \mathrm{O}$ |
| Don't know | ${ }^{27} \mathrm{O}$ |

B. Thinking back over the past month, how many hours per week dild you spend on moderate physical activity where your breathing was a lot faster than normal but talking was stlll passible? Would that be .

| None? | .$^{28} \mathrm{O}$ |
| :---: | :---: |
| Less than one hour? | ${ }^{29} 0$ |
| One hour to less than 2 hours? | ${ }^{30} \mathrm{O}$ |
| Two hours to less than 3 hours? | ${ }^{31} 0$ |
| Three hours or more? | ${ }^{32} \mathrm{O}$ |
| Don't know | ${ }^{3} \mathrm{O}$ |

C. Thinking back over the past month, how many hours per week did you spend on vigorous physicsl actlilty where your breathing was so fast that talking was very difficult or almost Impossibie? Would that be. . .

| None? | ${ }^{34} \mathrm{O}$ |
| :---: | :---: |
| Less than one hour? | ${ }^{36} 0$ |
| One hour to less than 2 hours? | ${ }^{36} \mathrm{O}$ |
| Two hours to less than 3 hours? | ${ }^{37} \mathrm{O}$ |
| Three hours or more? | ${ }^{38} \mathrm{O}$ |
| Don't know | 390 |

G7. Overall, do you consider the amount of physical activity you usually get to be. .
Too much? .................... ${ }^{7} \mathrm{O}$
Too littie? . . ..................... ${ }^{8} \mathrm{O}$
The right amount? ............... ${ }^{9} \mathrm{O}$

Section H: Sleep
H1. Comment: Recent studies have shown that the amount of sieep a person gets may be related to their health.

H2. How long do you usually spend sleeplng eseh night? (Do not inciude time spent resting.)


Don't know . ........ ${ }^{1998} \mathrm{O}$
H3. Do you regularly have trouble going to sleep or staying saleep?

Yes ............. ${ }^{1}$ O
No
H4. How often do you flind your sleep refreshing?
Most of the time? ....... ${ }^{3} \mathrm{O}$
Sometimes? ... ${ }^{4} \mathrm{O}$
Never? ................. ${ }^{5} \mathrm{O}$
H5. How otten do you find it difficult to stay awake when you want to?

Most of the time? ........ ${ }^{6} \mathrm{C}$
Sonfotimes? ............. ${ }^{7} \mathrm{O}$
Nover? ........ ${ }^{8} \mathrm{C}$

-9 -




M34-M39. Over the past 12 months, did your job ever expose you to. .


- 12 -


[^9]- 13 -



8-4500-55. 1

## Q26. Are you recelving . .

 funerate or bepllsme, how often did you attend services or meetings connected with your reiligion in the last 12 months? Was itAt least once a week? ...................
At lest once a month?

A few times year? ${ }^{3}$ ()



Q24. The ancestors of Canadians come Irom many ethnic and cultural groups such as inult, French, Scottish and Chinests. To which ethnic or culturl group(s) did your ancestors balong? (Accept multiple responses)

| English | ${ }^{01} \mathrm{O}$ |
| :---: | :---: |
| French | .$^{02} \mathrm{O}$ |
| German | .$^{03} \mathrm{O}$ |
| Scottish | ${ }^{06} 0$ |
| Italian | ${ }^{05} \mathrm{O}$ |
| irish | ${ }^{\infty} \mathrm{O}$ |
| Ukrsinian | ${ }^{07} \mathrm{O}$ |
| Chinese | .$^{08} \mathrm{O}$ |
| Dutch (Netherlands) | ${ }^{09} \mathrm{O}$ |
| Jewish | ${ }^{10} \mathrm{O}$ |
| Polish | 110 |
| Black | ${ }^{12} 0$ |
| North American Indian | $\cdot{ }^{13} \mathrm{O}$ |
| Métis | ${ }^{14} 0$ |
| Inuit/Eskimo | ${ }^{15} \mathrm{O}$ |
| Other | ${ }^{18} \mathrm{O}$ |

(Specify)

$\square$

Canadian (probe: Any othar group?)

Don't know .... ${ }^{18(0)}$

Q25. Are you currently receiving any income from retirement pension, old se security or survivor beneflis?
(Exclude lump sum payments)

| Yes | ${ }^{\circ} \mathrm{O}$ |  |
| :---: | :---: | :---: |
| No |  |  |
|  |  | Go to Q27 |
| Refused | $\bigcirc$ |  |

Yes No
a) Basic Old Age Security benefits paid by the Federal Government?
$010 \quad 020$

These benefits are paid monthly by the Federal Government to all Canadians and Landed Immigrants who are 65 years of age of older and meet the minimum residency requirements. This benefit in creases every 3 months in relation to the cost of living
b) Supplements to the Old Age Securily pension: the Guaranieed Income Supplement or the Spouse's Allowance? $\qquad$ ${ }^{04} \mathrm{O}$

The Guaranteed Income Supplement is paid by the Federal Government to Old Age Security Pensioners who have little or no income. The pensioner must reapply every year to receive it.

Spouse's Allowance is paid by the Federal Government if a person is between 60 and 65 years of age, has little or no income. and is widowed or is the spouse of a pensioner.

Both the Guaranteed Income Supplement and the Spouse's Allowance are increased every 3 months in relation to the cost of living.
c) A retirement pension from Canada Pension Plan or Quebec Pension Plen?

$$
{ }^{05} \bigcirc \quad 000
$$

This pension is paid by the Federal or Quebec government to individuals who have contributed to the plan. Benefits usually begin when the individual reaches 65 years of age but may be applied for as early as 60 years of age. This pension is increased in January of each year in relation to the cost of living.
d) A retirement pension from a former
employer?

This pension is paid by a former employer upon retirement. It may be a pension that was either cost shared with your employer or one provided entirely by your employer.
e) A survivor benefli pian from the Canada Pension Pian or Quebec Pension Plan?

This benefit is paid by the Federal or Quebec Government to surviving spouses of individuals who have contributed to the Canada or Quebec Pension Plan. An irıdividual must apply for these benefits. This pension is increased in January of each year in relation to the cost of living.
f) A survivor benoflit plan from some source other than the Cansda Penslon Plen or Quebec Penalon Plan?

$$
110 \quad 120
$$

This benefit is paid by a source other than the Federal or Quebec government to a surviving spouse.

Section R: Contacts for follow-up

Read the following section for each person intervlewed.
This survey is part of a longer-term project to Investigate the relationship between health and other social issues.
For this reason, we may need to contact your household in a year or more from now.
In case you move or change phone numbers, we would tike to obtaln your comptote name and address.
This information wili be kepl striclly confldential and will onfy be used to maintain contact with you.



| R4. | Would you piease glve me the name, address and telephone number of someone we could contact lf you move, such as a friend, relative or neighbour. (I want to emphasize that we will contact this person only if you move and then only to obtain your new address or telephone number.) <br> Refused to provide contact. <br> ${ }^{5} \mathrm{O} \rightarrow$ Go to R8 |
| :---: | :---: |
|  | Name of Contact |
|  |  |
|  | Surname $\qquad$ |
| R6. | Address of Contact |
|  | Street and Number/ Lot and Concession |
|  | City, Town, Village <br>  |
|  | $\begin{aligned} & \text { Province/ } \\ & \text { Territory } \end{aligned} \ldots . .\|+\|$ |
|  | Postal Code ..... $\square . \square$ |
| R7. | Home Telephone of Contact |
|  |  |
| R8. | Interviewer: |
|  | Thank the respondent and end interview. |
| $R 9$. | INTERVIEWER CHECK ITEM: |
|  | What is the sex of the respondent? |
|  | Male |
|  | Female . . . . . . . . . . . . . . . . . . . . . . . . . ${ }^{7} \mathrm{O}$ |


[^0]:    Note of Apprecialion
    Canada owes the success of its statistical system to a long. standing cooperation involving Statistics Canada, the critizens of Canada, its businesses and governments. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

[^1]:    * One reviewer suggested that English and French questions covering emotion and cognition (E27, E28 and E29) were not equivalent as the French translation of these questions omitted the concept of "usual" $/$ "usually". This omission may partially exptain some of the difference found between Quebec and the other provinces on these atributes and may have contributed to Quebec having the highest rite of reduced function amongst the provinces.

[^2]:    (1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of allirmative responses shown.

[^3]:    (1) Number and proportion do not add to totals as these are separate variables. Only number and proportion of attirmative responses shown.

[^4]:    (1) Activity loss days were not collected for those whose main activity was "revired", "looking for work" or "other".

[^5]:    (1) Number and proportion do not add to totals as these are separate variables.

[^6]:    (1) Not Stated's Averaged In

    CHS: Canada Health Survey, 1978-793
    GSS: General Social Survey, Cycle 1. 19855: Cycle 6. 1991
    HPS: Health Promotion Survey, 1985'; Health Promotion Survey, $1990^{4}$
    NADS: National Alcohol and Other Drugs Survey, $1989^{2}$

[^7]:    * A bank of telephone numbers is a sel of 100 numbers with the same first eight digits (i.e, the same Area Code-Prefix-Bank ID). Thus 613-951. 9180 and $613-951-9192$ are in the same bank, but 613-951-9280 is in a different bank.

[^8]:    8.4500-55. 1

[^9]:    8-4500-55. 1

