

MEASURING SUSTAINABLE DEVELOPMENT

APPLICATION OF THE GENUINE PROGRESS INDEX TO NOVA SCOTIA

THE COST OF CHRONIC DISEASE IN
NOVA SCOTIA
EXECUTIVE SUMMARY

Prepared by:

Ronald Colman, Ph.D, **GPI Atlantic**

With research assistance from Karen Hayward, Anne Monette, Colin Dodds, and
Laura Landon

for

Unit for Chronic Disease Prevention and Population Health,
Department of Community Health and Epidemiology,
Faculty of Medicine, Dalhousie University

and

Health Canada, Population and Public Health Branch, Atlantic Region

October, 2002

EXECUTIVE SUMMARY

Four types of chronic disease kill an estimated 5,800 Nova Scotians every year, account for nearly three-quarters of all deaths in the province, and are the major causes of premature death and hospitalization. The biggest killer is cardiovascular disease (heart disease, stroke, and atherosclerosis) which claims the lives of 2,800 Nova Scotians each year, and accounts for 36% of all deaths in the province. Cancer kills an estimated 2,400 Nova Scotians every year, accounting for 30% of all deaths in the province.¹

Other chronic conditions disable many more Nova Scotians. Arthritis and rheumatism afflict 20% of Nova Scotians; 16% suffer from high blood pressure; 14% have chronic back problems; 9% suffer from migraine headaches; and 6% have asthma.² One-quarter of all Nova Scotians have a long-term limitation or handicap that interferes with their activity at home, school, or work – the highest rate of activity limitation in the country.³ Not surprisingly, Nova Scotians also have the country's highest reported use of disability days.⁴ Chronic conditions are becoming increasingly common.⁵

Compared to other Canadians, Nova Scotians have particularly high rates of chronic illness. Nova Scotia has the country's highest rate of deaths from cancer and from respiratory disease; and the highest rate of arthritis and rheumatism in Canada. The province has the second highest rate of circulatory deaths and of diabetes in the country, and the second highest psychiatric hospitalization rate.⁶

Medical care costs for people with chronic diseases account for 60% of total medical care expenditures, or \$1.2 billion a year in Nova Scotia.⁷ Because of the debilitating nature of these illnesses, and because cancer and heart disease kill so many at an early age, the indirect costs of chronic illness due to productivity losses are particularly high. Premature death due to cancer alone costs the Nova Scotia economy \$427 million each year, while musculoskeletal disorders like arthritis and osteoporosis cost the economy \$307 million due to disability. Circulatory

¹ Federal, Provincial and Territorial Advisory Committee on Population Health, *Statistical Report on the Health of Canadians*, Health Canada and Statistics Canada, Ottawa, 1999, pages 291, 318, and 287 (hereafter referenced as Health Canada, *Statistical Report*); Nova Scotia Department of Finance, Statistics Division, *Nova Scotia Statistical Review 1999*, Halifax, December, 1999, page 10; Government of Nova Scotia, Vital Statistics, available at: <http://www.gov.ns.ca/snsmr/vstat/annualreports/1999/table9.stm>, Heart and Stroke Foundation of Canada, *The Changing Face of Heart Disease and Stroke in Canada 2000*, Ottawa, October, 1999, page 76; National Cancer Institute of Canada, *Canadian Cancer Statistics 2001*, Toronto, April 2001, page 24; Statistics Canada, *Canada at a Glance*, 2nd edition, page 7, at: http://collection.nlc-bnc.ca/100/201/301/statcan/can_at_glance/12-581-XIE.pdf.

² Health Canada, *Statistical Report*, page 270.

³ *Ibid.*, page 237.

⁴ *Ibid.*, page 234.

⁵ *Ibid.*, page 268.

⁶ Smith, Bob, "Why Change the Way We Look at Health?" from the President and CEO, Capital District Health Authority, Halifax, NS.

⁷ Sixty percent estimate is from the U.S. Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, "Chronic Diseases and Their Risk Factors: The Nation's Leading Causes of Death," Atlanta, 1999.

diseases cost Nova Scotia more than half a billion dollars a year in productivity losses (all costs in 2001\$).⁸

Combining direct medical costs (\$1.24 billion) and indirect productivity losses (\$1.79 billion), the total economic burden of seven types of chronic illness (cardiovascular diseases, cancer, respiratory ailments, diabetes, musculoskeletal disorders, diseases of the nervous system and sense organs, and mental illness), exceeds \$3.0 billion a year.

These seven chronic diseases account for 78% of productivity losses due to premature death, 76% of productivity losses due to disability, and nearly two-thirds of the total economic burden of illness in Nova Scotia, including both direct and indirect costs. They cost the province the equivalent of 13% of provincial GDP annually. All categories of chronic disease combined are estimated to account for 70% of the total economic burden of illness in Nova Scotia.

Cardiovascular diseases alone cost Nova Scotia nearly \$960 million a year in direct and indirect costs, cancer costs another \$580 million, and arthritis and osteoporosis add another \$460 million in costs.

It is estimated that 40% of chronic illness can be prevented. Epidemiological studies indicate that 25% of all medical costs (or nearly half a billion dollars a year in Nova Scotia) are attributable to a small number of excess risk factors like smoking, obesity, physical inactivity, and poor nutrition.⁹

Socioeconomic causes of chronic illness, such as poverty, inequality, and poor education, and environmental causes such as exposure to toxic pollutants, are also modifiable. Low-income women under the age of 40 are 62% more likely to be hospitalized than higher income women; over the age of 40, they are 92% more likely to be hospitalized. In Nova Scotia, those without a high school diploma use 49% more physician services than those with a BA, while low income groups use 43% more physician services than higher income groups. Excess physician use due to educational inequality costs the NS health care system \$42.2 million a year; excess physician use due to income inequality costs \$27.5 million a year.

Low income groups have higher rates of smoking, obesity, physical inactivity, and cardiovascular risk. Nova Scotia could avoid an estimated 200 deaths and save \$214 million per year if all Nova Scotians were as heart healthy as higher income groups

This report indicates that Nova Scotia's high rates of chronic illness can be reduced through concerted health promotion initiatives that reduce risk behaviours and conditions. The evidence demonstrates that the province's escalating health care costs can be significantly lowered by improving the health of the population and thereby reducing the need and demand for medical care.

⁸ Productivity cost estimates are from Health Canada, *The Economic Burden of Illness 1998*, Ottawa, 2002 (scheduled for release soon.)

⁹ Goetzel, Ron, (ed.), "The Financial Impact of Health Promotion," *American Journal of Health Promotion* 15 (5), May/June, 2001.