



# The Research File

Information for professionals from the Canadian Fitness and Lifestyle Research Institute

## Economic Costs of Physical Inactivity

The short- and long-term benefits of physical activity are now well known. They're touted by those promoting physical activity and much appreciated by people who are committed to an active way of life.

In the short term, active people look and feel healthier and are more energetic, maintain a healthy weight more easily, manage stress more comfortably, have stronger muscles and bones and better posture and balance.

Long-term benefits include a reduced risk of a range of degenerative conditions—from coronary artery disease and stroke to diabetes and cancer. These conditions can have a real impact on the individual's quality of life and even result in an early death. They also have a significant impact on health care costs in Canada.

Drs. Peter Katzmarzyk and Norm Gledhill, of York University, and Dr. Roy Shephard, from University of Toronto, have examined the economic costs of physical inactivity and reported their findings in a recent issue of the *Canadian Medical Association Journal*.

### Long Way to Go

Great strides have been made over the past decade to encourage Canadians to be more physically active, but we still have a long way to go. A survey conducted by the Canadian Fitness and Lifestyle Research Institute in 1999 shows that fully 64% of Canadians are still not active enough to reap the health benefits of a physically active lifestyle.

Federal, provincial, and territorial governments have committed to a 10% reduction in the level of physical inactivity in Canada by 2003. There are clear fiscal benefits in doing this.

### Complex Calculations

To this point, there have been only limited attempts to quantify the costs of physical inactivity in Canada. The study documented here helps to rectify this situation.

It considered the impact of physical inactivity on seven serious and prevalent conditions: coronary artery disease, stroke, colon cancer, breast cancer, type 2 diabetes, osteoporosis, and hypertension. The researchers' first step was to calculate summary relative risk (RR) estimates for each condition from previously published analyses and large prospective longitudinal studies. Results ranged from an RR of 1.2 for breast cancer (i.e., approximately 20% increase in risk due to inactivity) to 1.9 for coronary artery disease (i.e., nearly double the risk).

To determine the portion of ill health and premature death from these conditions that could be attributed to physical inactivity, population-attributable fractions (PAF) were calculated. This was done using a formula that considered both the prevalence of physical inactivity in the population and the RR for the disease in an inactive person.

PAF values obtained indicate that 11 to 36% of cases of the various disease conditions might be eliminated if those who are sedentary became physically active.

### Economic Impact

The next step was to estimate the direct health care costs of treating the conditions and the fraction of the costs attributable to inactivity. The Canadian Health Expenditures Database (1999) provided figures for total costs; the *Economic Burden of Illness in Canada* (1993) report was used to extract the costs of treating specific conditions, with extrapolations to estimate costs in 1999.

Results show that \$2.1 billion, or about 2.5% of the total direct health care costs, can

*“Physical inactivity represents an important public health burden in Canada. Even modest reductions in inactivity levels could result in substantial cost savings.”*

— *Canadian Medical Association Journal*

be attributed to physical inactivity. This mirrors results recently reported for the United States.

Estimates from the current study suggest a savings of \$150 million annually if the prevalence of physical inactivity were reduced by 10%—the national target for 2003.

### Physical Activity Payoffs

The health care costs attributable to inactivity—and the potential savings through increased participation rates—determined by this study are conservative.

Indirect costs such as lost productivity due to illness or premature death were not included. Nor were a range of other conditions or costs affected by physical inactivity, including dyslipidemia, anxiety, depression, poorer quality of life, and early admission to an institution or need for geriatric care.

Several things are clear: Health care costs in Canada are high and rising. Regular physical activity is an antidote to many serious and costly disease conditions. Investing in efforts to reduce physical inactivity will have a significant payoff—for individuals and for our health budget's bottom line.

### For More Info ...

Katzmarzyk, P.T., Gledhill, N., & Shephard, R.J. (2000). The economic burden of physical inactivity in Canada. *Canadian Medical Association Journal*, 163 (11), 1435–1440.

### Get the Guide

- Every Canadian should have a copy of *Canada's Physical Activity Guide to Healthy Active Living*. For more information on the Guide—and copies for distribution—call toll-free 1-888-334-9769 or check the Web at [www.paguide.com](http://www.paguide.com)

