



The Research File

Information for professionals from the Canadian Fitness and Lifestyle Research Institute

Physical Activity Pays Big Dividends

Dr. George Sheehan had it right when he said: "If you could bottle everything you get from physical activity and sell it at the pharmacy, it would go for a hefty price."

Some have gone so far as to call physical activity a "magic bullet," given its proven benefits in preventing disease and improving health. Chronic conditions related to *physical inactivity* include coronary heart disease (CHD), hypertension, type 2 diabetes, colon cancer, osteoporotic hip fractures, obesity, and anxiety and depression.

Two recent reports show that the case for physical activity—as a way to help control health care costs—just keeps getting stronger.

Short-Term Savings

Nicolaas Pronk and colleagues examined the health care costs of more than 5,000 adults aged 40 and older enrolled in a Minnesota health plan. Results of a questionnaire on physical activity and smoking habits and reported body weight—all modifiable risks—were compared to health care charges to the plan over an 18-month period.

To focus on these three risks, the study controlled for age, race, sex, and chronic conditions. The mean annual per-patient charge in the total study population was \$3,570. The median charge was \$600, with 15% of subjects having no charge during the study period.

Increased physical activity correlated to lower health care charges at the rate of 4.7% per active day per week. Thus, even moderate activity three days a week would result in a nearly 15% reduction in health care costs for each active individual.

Similar benefits were evident with respect to body weight and smoking status. Not surprisingly, the cumulative effects were significant: Never-smokers with a BMI of 25 kg/m² who participated in physical activity three days a week had mean annual health care charges 49% lower than physically inactive smokers with a BMI of 27.5.

"Our results suggest that adverse, modifiable health risks contribute substantially to health care charges."

—N.P. Pronk et al., *Journal of the American Medical Association*

The Big Picture

Dr. Graham Colditz at Harvard Medical School recently searched the MEDLINE database for studies reporting the economic costs of obesity or inactivity, or cost of illness.

Colditz determined the population-attributable risk percent—the maximum proportion of disease attributable to lack of physical activity—for a range of chronic disease conditions. He estimated that 22% of CHD, 22% of colon cancer, 22% of osteoporotic fractures, 12% of diabetes and hypertension, and about 5% of breast cancer are attributable to lack of physical activity.

**Eat healthy
Play often
Repeat regularly**



Regular physical activity and healthy eating reduces the risks associated with being overweight.



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Using the upper bound of state-level reports of no physical activity (48% of the population), he estimated the cost of inactivity in the United States at \$37.2 billion annually or 3.7% of direct health care costs.

Work on the Home Front

These data have important implications for health promotion efforts in Canada, given that 64% of Canadians are still not active enough to gain targeted health benefits from their participation. Prevention of chronic diseases through regular physical activity can improve individual quality of life *and* help control rapidly rising health care costs.

Health Canada and the provinces and territories have made a commitment to reducing sedentary living in Canada by 10% between 1998 and 2003. Effective public education, adequate opportunities for physical activity, and quality programs in communities across the country will help achieve this most worthy goal.

For More Info ...

Pronk, N.P., Goodman M.J., O'Connor, P.J., & Martinson, B.C. (1999). Relationship between modifiable health risks and short-term health care charges. *Journal of the American Medical Association*, 282(23), 2235–2239.

Colditz, G.A. (1999). Economic costs of obesity and inactivity. *Medicine & Science in Sports & Exercise*, 31(11), S663–S667.

Contributing to the Cause

Health professionals play an important role in helping people to adopt a more active lifestyle. Here are some ways to do it:

- **Sell the benefits.** Promote the health benefits of physical activity when encouraging people to become active. Individuals suffering from chronic conditions should respond to benefits such as increased energy and pain reduction.
- **Target your efforts.** Encourage activities that will have big payoffs—weight-bearing or strengthening exercises for individuals susceptible to osteoporosis, remedial exercises for back pain sufferers, gentle aerobic activity for those with heart conditions, etc.
- **Strive for quality programs.** Programs are only effective if participants stick with them over the long term. Keep programs interesting and evaluate them regularly.

