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COMMENTARY
The Health Economics of Physical Inactivity in Canada

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Introduction

The health consequences of physical inactivity are well documented. Indeed, the recently released Physical Activity Guidelines for Canadians are based on a foundation of solid scientific evidence (Tremblay et al., 2011; Warburton et al., 2010). Despite the knowledge regarding the benefits of a physically active lifestyle, a large fraction of the Canadian population remains inactive (Colley et al., 2011). Given the linkages between physical inactivity and an increased risk of several chronic diseases, the excessive prevalence of physical inactivity is undoubtedly taking a toll on the health care system.

In establishing a "balance sheet" with respect to the economics of physical inactivity, there are two main categories that should be considered. On one hand, the economic burden that physical inactivity places on personal and national health care must be considered.

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The basic premise in estimating the economic toll of physical inactivity is that since it is a major risk factor for several chronic conditions, a portion of the health care costs associated with these chronic conditions is attributable to physical inactivity.

On the other side of the balance sheet, an increase in physical activity is often accompanied by an "investment" of fiscal resources by society as well as an individual's time and money, which may be taken away from other less active work or leisure pursuits.

Several years ago Dr. Norman Gledhill and I collaborated with Dr. Roy Shephard on a project to estimate the economic burden of physical inactivity in the Canadian population (Katzmarzyk et al., 2000). By computing the fraction of costs of treating ischemic heart disease, stroke, hypertension, colon cancer, breast cancer, type 2 diabetes and osteoporosis which were attributable to physical inactivity, we estimated that the cost associated with physical inactivity was $2.1 billion annually. This amounted to approximately 2.5% of Canada's health care expenditures in 1999. Further, we estimated that a 10% reduction in the prevalence of physical inactivity would result in a savings of $150 million annually.

Subsequent studies from around the world have estimated that between 1.2% and 2.5% of total annual health care expenditures in industrialized countries is attributable to physical inactivity.

Our work on estimating the economic burden of physical inactivity for the Canadian population was preceded by several decades of research by Dr. Shephard on the economics of physical activity and fitness. His landmark publication "Economic Benefits of Enhanced Fitness" in 1986 bridged the gap between the fields of economics and exercise science (Shephard, 1986). In this book, not only were the economic benefits of physical activity described, but the other side of the balance sheet, i.e. the "costs of enhanced fitness", were explored in detail. These costs include direct expenses such as the building and maintenance of exercise facilities, personal costs (shoes, equipment, etc.), medical supervision, as well as indirect costs associated with personal injuries and promotional programs (Shephard, 1986).

According to the wisdom of Dr. Shephard, a full model of the economics of physical inactivity should carefully consider both sides of the balance sheet. This concept is even more relevant in today's environment of fiscal responsibility than it was 25 years ago.

For those of us working passionately in the field of health promotion, it is easy to forget the right of people to choose to live an unhealthy lifestyle. Who are we to force someone to live a life without smoking, excessive alcohol consumption or unlimited sedentary behavior? "Authority of choice" is sometimes a blurred concept when expressing human health behaviors in strictly economic terms. We may be able to seek some council in the words of Dr. Shephard: "Perhaps people are entitled to remain unfit *only if* they are prepared to meet the additional health costs incurred by the exploitation of this right (p. 160)" (Shephard, 1986).

Qualifications

The author's qualifications are as follows: Peter Katzmarzyk Ph.D., FACSM

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