

Executive Summary (English)

This study estimates morbidity and mortality due to physical inactivity as well as the related direct medical costs and indirect costs in Switzerland in 2011. Results are compared to those of a preceding Swiss study conducted in 2001 and to the international literature.

In this study, a person is considered as physically inactive, if she does not meet the following recommendations for health enhancing physical activity: at least 2.5 hours of physical activity with moderate intensity per week or 1.25 hours of sports with high intensity per week. Prevalence of physical inactivity is estimated based on the Swiss Health Survey. Risk ratios of diseases, which represent the risk of developing a disease being physically inactive relative to the risk of developing the same disease being physically active, are extracted from literature. Population attributable fractions (PAFs) are calculated based on these risk ratios and the estimated prevalence of physical inactivity. PAFs are then applied to the number of cases of disease, number of deaths and disease costs in the total population in order to estimate morbidity, mortality, direct medical costs and indirect costs due to physical inactivity. Information on costs of diseases stem from a recent study on the costs of non-communicable diseases in Switzerland.

The main results can be summarized as follows: based on the Swiss Health Survey 27.5% of the population is physically inactive. In 2011, 326'310 cases of disease and 1'153 deaths were caused by physical inactivity. The related direct medical costs are estimated at CHF 1.165 billion or at 1.8% of total health care expenditures. 29% of these direct medical costs come from cardiovascular diseases (ischemic heart disease, stroke and hypertension), 28% from low back pain, 26% from depression and the remaining 16% from osteoporosis, diabetes type 2, obesity, colon cancer and breast cancer. Indirect costs are estimated at CHF 1.368 billion and are mainly caused by back pain (47%), depression (28%) and cardiovascular diseases (14%).

In the preceding Swiss study, direct medical costs of physical inactivity were estimated at CHF 1.579 billion and indirect costs at CHF 0.805 billion. Consequently, direct medical costs were lower and indirect costs higher in 2011 compared to 2001. Between 2001 and 2011 direct medical costs of diseases related to physical inactivity mainly increased. Despite this increase, direct medical costs due to inactivity decreased. The main reason are the reduced PAFs. PAFs are considerably lower, as the prevalence of physical inactivity decreased by 10 percent points between 2001 and 2011. The average physical activity behavior has therefore substantially improved during this period. In addition, we gained further insights into the link between physical inactivity and its sequelae. Thus, recent cohort studies show lower risk ratios compared to earlier findings. Despite the reduced PAFs, the indirect costs of physical

inactivity increased. Recent cost-of-illness studies indeed present additional information on indirect costs of the diseases in the total population.

According to the international literature, direct medical costs of physical inactivity account for 1.0% to 3.8% of total health care expenditures. Thus, the share in Switzerland (1.8%) lies in the lower half of this range. Furthermore, indirect costs of physical inactivity account for 54% of total costs in Switzerland. This is comparable to findings from other countries (49% to 64%).

The present study shows the heavy impact of physical inactivity on morbidity and mortality as well as the related direct medical costs and indirect costs in Switzerland. Beside cardiovascular diseases, low back pain and depression, two diseases often not included in cost studies related to physical inactivity, significantly contribute to direct medical costs and indirect costs. Consequently, interventions to reduce physical inactivity are indicated. Future research should investigate the effectiveness and the cost-effectiveness of such interventions.