

## Assessing the social benefits from investment in sports in relation to the costs

- summary of the report -

### Key facts

- 39% of Poles are physically active in their leisure time to the extent recommended by the WHO
- 41% of households spend on sport, on average 1,017 zł per year
- public expenditures on sports amount to 4.6 bln zł, most from local government budgets
- if half of inactive Poles would start doing physical exercises, it would give the following social benefits:
  - the number of heart attacks would drop by nearly 11,000
  - the number of cases of colon cancer would decrease by 2,200 and the number of cases of breast cancer by 1,500
  - the number of deaths would decrease by 25 thousand per year
  - costs of health care system would fall by 440 million zł
  - the 6% decrease in employee absenteeism that would cut absenteeism costs by 3 bln zł
- monetary costs that can be attributed to physical inactivity amount to 7 bln zł per year

### Why being physically active is important?

Regular physical activity is important for health. Active people live longer and fall ill less often. The rich medical literature confirms that regular exercises increase physical fitness and reduces the risk of many diseases. Studies agree that physical activity lowers the risk of cardiovascular diseases, which are the leading cause of death in Poland. Taking physical exercises can substantially reduce the risk of heart attack and stroke by about one third. Moreover, physical activity significantly decreases chances of developing type 2 diabetes, which can lead to serious complications or even disability. Moreover physically active people are less likely to suffer from certain cancers: colon cancer, breast cancer and endometrial cancer. Regular exercise reduces the chance of osteoporosis. Studies show also that physical activity can prevent the decline in cognitive skills in old age.

A growing number of research from economics and social sciences show that physical activity has a positive impact on aspects of our lives besides health. People who were physically active as young individuals tend to



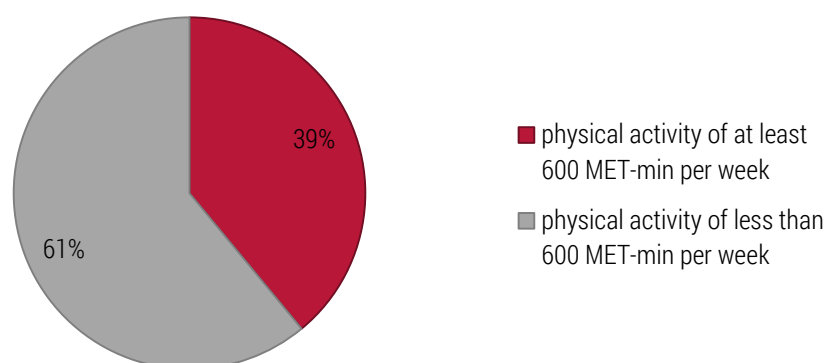
experience better education outcomes and more favourable labour market situation in their adult life. The mechanism of this effect is still open to discussion. It is possible that either biological, through better oxygenation of body promoting mental abilities, or psychological, by building self-discipline and time management skills, or social explanation, through better socialization through sport activities, play a role. Besides which mechanism behind the effect is true, researchers agree that physical activity has a positive impact on our social situation.

### What do we know about physical activity of Poles?

World Health Organization (WHO) recommends people aged 18-64 to take physical exercise or do sports of total energy expenditure of at least 600 MET-minutes per week. MET is a metabolic equivalent which measures the intensity of physical activity. Sports with higher intensity are given higher values of MET. In order to achieve 600 MET-minutes one should do sports of moderate intensity, such as cycling at normal pace, for at least 150 minute per week, or do sports of high intensity, e.g. fast running, for at least 75 minute per week.

When the WHO recommendations are applied to physical activity of the Poles in their spare time, it is revealed that the level of physical activity in the Polish society is low. According to the results of Polish Survey of Physical Activity 2016, commissioned by the Ministry of Sports and Tourism, only 39% of Poles are physically active in their spare time to the extent recommended by the World Health Organization. Moreover, 50% of Poles do not take any moderate or intensity physical activity in their spare time.

#### Physically active individuals in their spare time



The data show that young people are more physically active than older ones. Activity levels decrease with age, become less frequent and their intensity is reduced. For instance, in the age group 15-24 years, the share of people who are physically active is 63%, compared to 29% for people aged 55-64. Besides age, education is another person's characteristic significantly differentiating levels of physical activity. The share of the physically active among people with higher education is 53%, which is much more than the share in the general population. Gender does not differentiate activity levels: the shares of the physically active as recommended by the World Health Organization are the same among men and women.

Uneven patterns of taking up physical activity are reflected in inequalities of private expenditures on sports. Only 41% of households in Poland spend money on sports. Among them, the average expenditure is 1,017 zł per year. More than half of private expenditures is spent on participation in sports. Other expenditure positions are sportswear and training equipment. Public expenditures on sport constitute about 0.7% of public sector expenditure (4.6 bln zł in 2015), with the majority of spending coming from local governments (over 90%).

#### How can society benefit from higher physical activity rates?

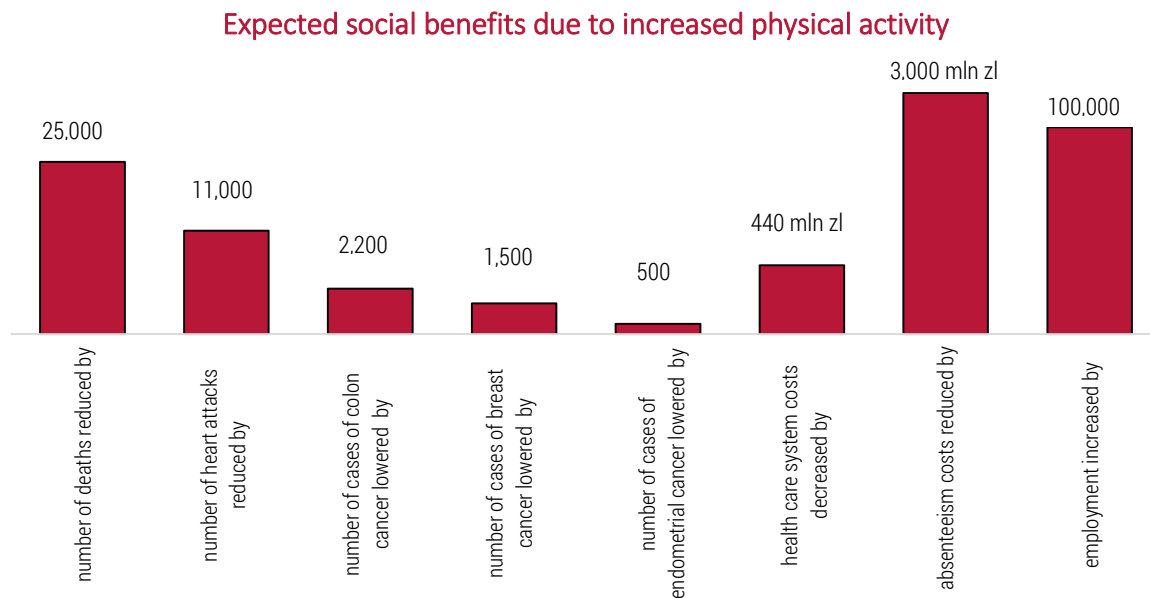
One can estimate the impact of increased physical activity on public health and the labour market using the application created by the Institute for Structural Research. Let consider the scenario that half of physically inactive Poles start doing physical exercise or sports. It would mean that the share of physically active people would rise to 70%, which equals physical activity rates in the most active EU countries. How would that improvement affect the Polish society?

First of all, it would translate into a significant decrease in costs of employee absenteeism. According to simulation results a decrease in the average number of absenteeism days would be 6%, which would translate into 3 bln zł of savings. Moreover, the increased physical activity rate would also increase employment by about 100 thousand, that is by 0.7% in relative terms.

Social health would be improved as well. The number of obese and overweight individuals would decrease by 1.1%, which means that the number of obese individuals would be lowered by 64 thousand and overweight individuals by 190 thousand. A sizeable improvement would be observed in cardiovascular disease. The expected reduction in hospitalizations due to cardiovascular disease would be about 14%. Applying this estimate to the number of all heart attacks in Poland, we get that annual number of heart attacks could fall by almost 11,000. Moreover the society would benefit from a significant decrease in the number of hospitalizations due to colon cancer by 13%, and 9% for breast and endometrial cancers. It would mean



a decrease in the number of new cases by 2,200 for colon cancer, 1,500 for breast cancer, and 500 for endometrial cancer. Furthermore, simulation results also suggest a strong reduction in the number of hospitalizations due to type 2 diabetes by 14%.



Reduced incidence of certain cancers and cardiovascular diseases, which constitute the main cause of deaths in Poland, would reduce the mortality rate by 6%. Such decrease in the mortality rate would mean that the number of deaths could be lower by 25 thousand a year. Lower rates of cancer, diabetes and cardiovascular diseases would be reflected also in reduced spending for the public health care system. If half of inactivate individuals are successfully encouraged to start doing sports, savings of health care system could amount to about 440 mln zł per year. This is about as much as an annual budget of a medium-sized city in Poland.

Last but not least, the report presents also a simulation of 'maximum scenario', which considers a hypothetical situation, that all persons so far physically inactive start some kind of physical activity. The results of this simulation can be interpreted as an estimate of the social costs associated with whole physical inactivity. They suggest that the annual cost of employee absenteeism due to not doing physical activity is about 6 bln zł, whilst the cost for the health care system is almost 900 mln zł. It means that the total money cost that can be attributed to the physical inactivity is almost 7 bln zł per year.

