

ECONOMIC COSTS OF PHYSICAL INACTIVITY

This fact sheet highlights the prevalence and health-consequences of physical inactivity and summarises some of the key facts and figures on the economic costs of physical inactivity.

Health Risks of Physical Inactivity

It is projected that 64 million people will die in 2015 and the cause of death for 41 million of these people will be chronic disease – unless urgent action is taken.¹ Physical activity is identified as positively contributing to the prevention and management of over 20 chronic diseases and conditions including coronary heart disease (CHD), diabetes, cancer, mental health and obesity.² The role of physical activity in the prevention of chronic disease must not be undervalued. The World Health Report (2002) estimates that around 3% of disease burden in developed countries is caused by physical inactivity and that over 20% of CHD and 10% of stroke in developed countries is due to physical inactivity*.³

- Physical inactivity is a primary risk factor for CHD. CHD by itself is the most common cause of premature death[¥] in the UK⁴ and estimates have shown that more CHD deaths can be attributed to physical inactivity (37%) than to smoking (19%) or high blood pressure (13%).⁵
- Individuals who are inactive are 1.9 times more likely to have a heart attack than their active contemporaries.⁶
- Lack of physical activity is a modifiable risk factor for both total stroke and stroke subtypes. Moderately intense physical activity is sufficient to achieve risk reduction.⁷
- Obesity levels in the UK are rising at an alarming rate and the current increases have been linked to the declining levels of physical activity.⁸

* i.e. less than 2.5 hours per week moderate intensity physical activity or 1 hour per week of vigorous intensity physical activity.

[¥] death before the age of 75

Evaluating the economic burdens of preventable disease and disability is becoming increasingly popular in the health sector.

Healthcare Costs of Diseases Associated with Physical Inactivity

Chronic disease is a burden to the NHS through both the cost of hospital care and the cost of drugs and the dispensing of these drugs.

Costs to the U.K health care system

- CHD is the single most common cause of death in the U.K and is a very costly disease. In 2003, CHD cost the U.K. health care system around £3,500 million.⁴
- Stroke care costs the NHS about 2.8 billion per year, £530 million of which is spent on inpatient care costs. For each individual who has a stroke in the U.K, the cost to the NHS is £15,000 over five years.⁹
- Obesity places an enormous financial burden on the Health Service; the direct costs of obesity in 2002 were estimated at £46-49 million per year and the costs of treating the consequences of obesity at approximately £945-£1,075 million per year.¹⁰
- There are currently around 2.1 million people in the U.K. diagnosed with diabetes. 90,000 of these people are blind or visually impaired due to diabetic retinopathy. The treatment of diabetes and its complications costs the NHS 5% of its budget; £3.5 billion per year/£9.6 million per day.¹¹

Economic Costs of Diseases Associated with Physical Inactivity

Looking only at the costs of chronic diseases to the health care system grossly underestimates their total cost. Production losses from death and illness in those of working age and from the informal care of people with disease contribute greatly to the overall financial burden.

Costs to the U.K. economy

- Overall, CHD is estimated to cost the UK economy just under £7.9 billion per year. Around 45% of this is due to direct health care costs, 40% to production losses and 16% to informal care.⁴

- Stroke results in costs to the U.K. economy of £7 billion per year. Total annual direct care accounts for 40% of this total; informal care for 35% and the indirect costs for approximately 25%.⁹
- The rising levels of obesity place an enormous financial burden on the economy. The cost of overweight and obesity in England may run to £6.6-7.4 billion per year according to recent estimates.²
- Back pain is one of the most common causes of lost working days, in 1998 it was estimated that back pain cost the economy £10,700 million from production losses and informal care.¹²
- The cost of physical inactivity in England – including direct costs of treatment for the major lifestyle related disease, and the indirect costs caused through sickness absence – has been estimated at £8.2 billion a year.¹³

Potential Savings

Studies in Canada, Australia, the United States, Northern Ireland and more recently Scotland have attempted to estimate the potential savings in human lives, health care costs and industry costs if physical inactivity was reduced.

- It is estimated that if the Northern Ireland Physical Activity Strategy meets its target of reducing the sedentary proportion of the population from 20% to 15% then:
 - at least 121 lives could be saved each year among those under 75 years;
 - the value of the associated economic benefit would be £131 million.¹⁴
- In Scotland it is estimated that £85.2 million could be saved if levels of inactivity were reduced by 1% each year for the next five years. These economic benefits are associated with the number of life years saved due to preventing 2,162 premature deaths from coronary heart disease, 128 deaths from strokes and 117 deaths from colon cancer.¹⁵

Limited data on the potential economic savings is available for the UK, however:

- **It is estimated that 9% of CHD could be avoided if all those who are sedentary and lightly active became more moderately active.**¹⁶

- **It is estimated that regular moderate physical activity has the potential to reduce half the incidence of hip fractures in over 45 year olds.¹⁷**

The global goal is to reduce death rates from all chronic diseases by 2% per year over and above existing trends between 2005 and 2015. This would result in the prevention of 36,000,000 chronic disease deaths by 2015. These averted deaths would translate into substantial gains in a country's economic growth. For example, achievement of the global goal would result in an accumulated economic growth of \$36 billion in China, \$15 billion in India and \$20 billion in the Russian Federation between 2005 and 2015.¹ Increasing worldwide physical activity levels could also:

- **Save the US \$500 billion through a 1% reduction in mortality from heart disease or cancer.¹⁸**
- **Reduce direct health care expenditures in Canada by C\$ 150 million per year through a 10% reduction in the prevalence of physical inactivity.¹**

Evidence to support the utilisation of physical activity for the prevention of chronic disease

Encouraging people to walk or take moderate intensity physical activity is likely to benefit health. Several studies have attempted to quantify the magnitude of health benefit by calculating the number of people needed to treat (NNT).

- Hakim (1998) found that the risk of death in men who walked less than 1 mile a day was 1.8 times that of men who walked more than 2 miles a day. A crude calculation of NNT indicated that for every five men who walk at least two miles a day, one fewer will die over 12 years compared with those who walked less than one mile a day.¹⁹

A landmark clinical trial called the 'Diabetes Prevention Programme' has shown that those at high risk of developing type II diabetes can delay and possibly prevent the disease by lifestyle modification.²⁰

- The Randomised Controlled Trial (RCT) showed that diet and exercise were significantly more effective than metformin in the prevention of diabetes in glucose intolerant patients (39%).²¹
- Lifestyle intervention group reduced incidence of diabetes by 58% as compared with the placebo, metformin reduced incidence by 31%.¹²

- Need to treat 6.9 persons for 3 years with lifestyle intervention to prevent 1 new case of diabetes as compared to 13.9 persons with metformin.²¹

Several studies have also shown that physical activity can prevent certain types of cancer.

- A large Norwegian study of 81, 516 men and women followed for 19 years reported a 25% reduction in lung cancer risk for men who walked and cycled for at least 4 hours per week, after controlling for smoking habits.²²
- According to Friedenrich and Orenstein, of 51 studies on colon or colorectal cancer, 43 demonstrated a reduction in risk in the most physically active men and women with an average reduction of 40-50%.²³
- A review by Thune²⁴ found that there is an overall risk reduction relationship between physical activity and all cancer deaths, with a dose-response relationship, but that this relationship is strongest for colon cancer and breast cancer.

However, it may be that total lifestyle modification is needed to reduce cancer risk, not simply modification of one aspect. Physical inactivity needs to be addressed along with smoking and a diet high in fat and refined sugar.²⁵

Summary

The total annual cost of all coronary heart disease related burdens to the U.K. economy is estimated to be over £7.9 billion a year, representing an overall cost per capita of £133. Cardiovascular disease (the main forms of which being CHD and stroke) costs the UK economy approximately £26 billion a year.⁴

Furthermore, it is estimated that if current trends in obesity are not reversed then diabetes health care costs are set to rocket. It is predicted that the prevalence of the diabetes will increase by 15% over the next 20 years as a consequence of rising obesity levels.

The statistics relating to diabetes are alarming and the disease threatens to consume a large amount of our limited health resources. It is a disease that is preventable to a large degree.

Developing public policy that creates a supportive environment for physical activity has the potential to save: human lives, health care resources and industry lost production costs.

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