

**BHF National Centre
for Physical Activity & Health**

Costs of Physical Inactivity Fact Sheet

February 2010

Introduction

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

This fact sheet summarises some of the key facts and figures on the disease burden of physical inactivity and the associated healthcare and economic costs.

Health Risks of Physical Inactivity

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.¹ The role of physical activity in the prevention of chronic disease should not be undervalued.

Physical activity positively contributes to the prevention and management of over 20 chronic diseases and conditions including coronary heart disease (CHD), diabetes, cancer, mental health and obesity.²

For further information on physical activity and its effects on the prevention and management of a range of medical conditions, please see the BHFNC 'Physical activity and health factsheet'.³

Costs to the U.K. Health Care System and Economy

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

The evidence that physical inactivity is linked to chronic disease development is well established.³ According to Allender et al (2007), the cost of physical inactivity to the NHS in 2002 was £1.06 billion. This figure takes into consideration the direct costs of physical inactivity to ischaemic heart disease, cerebrovascular disease, breast cancer, colon/rectum cancer and diabetes mellitus.⁴

The Department of Health (2009) commissioned the British Heart Foundation Health Promotion Research Group at Oxford University to prepare estimates of the primary and secondary care costs attributable to physical inactivity for PCTs and strategic health authorities across England. The research found that the average healthcare cost of physical inactivity for each PCT is £5 million per year.⁵

However, only looking 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.

The economic costs of sickness absence and worklessness associated with working age ill-health are over £100 billion per year - greater than the current annual budget for the entire NHS.⁶ The chronic diseases associated with physical inactivity contribute to sickness absence quite significantly: in 1998, there were over 18 million days of medically certified sickness absence attributable to obesity.⁷

The Costs of Coronary Heart Disease

CHD is the most common cause of premature death (death before age 75 years) in the UK.⁸

The cost of CHD to the UK healthcare system is around £3.2 billion per year. Hospital care accounts for over 70% of these costs.⁹

When the wider costs of CHD are taken into consideration, CHD is estimated to cost the UK economy just over £9 billion per year.⁸ Approximately 45% of the costs to the economy are due to direct health care costs, 40% to production losses and 16% to informal care.⁸

The Costs of Stroke

Approximately 110,000 strokes and a further 20,000 transient ischaemic attacks (TIAs) occur in England every year. There are at least 300,000 people in England living with moderate to severe disabilities as a result of stroke.¹⁰

Stroke care costs the NHS about £3 billion a year in direct care costs and costs the wider economy some £5 billion more in production losses due to mortality and morbidity and informal care costs (costs of home nursing and care borne by patients' families) This adds up to a total cost to the UK economy of approximately £8 billion per year.¹¹

For every individual who has a stroke in the U.K, the cost to the NHS is £15,000 over five years and when informal care costs are included, this increases to around £29,000.¹⁰

The Costs of Obesity

Obesity also places an enormous financial burden on the NHS. According to the Health Survey for England, currently 61% of adults are overweight and obese.¹²

In 2002, diseases with some relationship to overweight and obesity (type II diabetes, coronary heart disease, ischaemic stroke, hypertensive disease, breast cancer, colon/rectum cancer, corpus uteri cancer and osteoarthritis) were responsible for 38% of all mortality, 31% of years of life lost (YLLs), 12% of years lived with disability (YLDs) and 21% of disabled life adjusted years (DALYs) in countries in the WHO EUR-A region.¹³

The 2007 Foresight report states that 'In 2007, the total annual cost to the NHS of diseases for which elevated BMI is a risk factor is estimated at £17.4 billion, of

which overweight and obesity is estimated to account for £4.2 billion'.¹³ The Foresight report also uses a model to predict rates and costs of elevated BMI in 2050 and the results are: 'If the ratio of total costs of overweight and obesity to health service costs of obesity remains similar to 2001 (i.e. 7 to 1), by 2050, an overall total cost of overweight and obesity per annum of £49.9 billion at today's prices can be anticipated'.¹⁴

The Costs of Diabetes

There are currently around 2.5 million people in the U.K. diagnosed with diabetes and there are estimated to be more than half a million people with diabetes who are unaware they have it.¹⁵ When diabetes is not well managed, it is associated with serious complications including heart disease, stroke, blindness, kidney disease, nerve damage and amputations leading to disability and premature mortality. Diabetes is the single most common cause of end stage renal disease and the most common cause of lower limb amputations. It is currently estimated that 10% of the NHS budget is spent on diabetes. This works out at around £9 billion a year, or £1 million per hour.¹⁵

Potential Savings

Studies in Canada, Australia, the United States, Northern Ireland and 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 aged under 75 years;
- The direct cost saving to the Northern Ireland health services would be £620,000 annually
- The value of the associated economic benefit would be £131 million.¹⁶

The Physical Activity Task Force estimated that 2,447 people in Scotland die every year due to physical inactivity. If levels of inactivity were reduced by 1% per year for five years then the number of deaths due to inactivity would fall by 157. The economic benefit associated with the number of life years saved due to preventing these deaths is estimated at £85.2 million.¹⁷

Limited data on the potential economic savings is available for England, however, Dr William Bird (2004) estimates that in England, if a group of 120 healthy individuals aged over 60 years started to walk 2 miles per day, then over 10 years there would be approximately 20 less deaths, 7 less heart attacks, 3 less strokes, 2 less new diabetics, and 13 less people with some disability from osteoarthritis of the knee

when compared to an inactive group.¹⁸

Economic modelling commissioned by Cycling England has calculated that a 20% increase in cycling by 2015 would save £107 million in reducing premature deaths, £52 million in lowered NHS costs and £87 million by decreasing absences from work.¹⁹

Summary

The economic burden of current health-related behaviour and the potential savings of population shifts in behaviour can help policymakers justify health programme decisions.¹²

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.

Key facts

- ❖ The average healthcare cost of physical inactivity for each PCT is £5 million per year.⁵
- ❖ CHD is estimated to cost the UK economy just over £9 billion per year.⁸
- ❖ For each individual who has a stroke in the U.K, the cost to the NHS is £15,000 over five years and when informal care costs are included, this increases to around £29,000.¹⁰
- ❖ In 2007, the total annual cost to the NHS of diseases for which elevated BMI is a risk factor is estimated at £17.4 billion, of which overweight and obesity is estimated to account for £4.2 billion.¹³
- ❖ 10% of the NHS budget is spent on diabetes. This works out at around £9 billion a year, or £1 million per hour.¹⁵
- ❖ Physical activity positively contributes to the prevention and management of over 20 chronic diseases and conditions including coronary heart disease (CHD), diabetes, cancer, and obesity.²
- ❖ Economic modelling commissioned by Cycling England has calculated that a 20% increase in cycling by 2015 would save £107 million in reducing premature deaths, £52 million in lowered NHS costs and £87 million by decreasing absences from work.¹⁹

References

- 1) World Health Organisation (2002). The World Health Report 2002: Reducing risks to health, promoting healthy life. Geneva: WHO.
- 2) Department of Health (2005). Choosing activity: A physical activity action plan. London: DH.
- 3) BHFNC (2009). Physical activity and health fact sheet. Download at: <http://www.bhfactive.org.uk/downloads/PAandHealthfactsheet2010.pdf>
- 4) Allender, S., Foster, C., Scarborough, P. & Rayner, M. (2007). The burden of physical activity-related ill health in the UK. *Journal of Epidemiology and Community Health*, 61 (4):344 - 348
- 5) Department of Health (2009). *Be Active, Be Healthy: A Plan for getting the Nation Moving.* HM Government.
- 6) Dame Carol Black (2008). Dame Carol Black's review of the health of Britain's working age population: Working for a healthier tomorrow. London: TSO.
- 7) National Audit Office. 2001. *Tackling Obesity in England.* London: The Stationery Office. Cited in BHF Thinkfit! PowerPoint presentation (2009). Accessed at: http://www.bhf.org.uk/publications/view_publication.aspx?ps=1000933 on 18/02/2010.
- 8) British Heart Foundation (2006). 2006 Coronary heart disease statistics. London: BHF.
- 9) British Heart Foundation (2009). UK coronary heart disease statistics 2009-10. London: BHF.
- 10) Department of Health (2005). Reducing brain damage: Faster access to better stroke care. London: The Stationary office.
- 11) Allender S, Scarborough P, Peto V, Rayner M, Leal J, Luengo-Fernandez R and Gray A (2008) European cardiovascular disease statistics. European Heart Network: Brussels.. Cited in www.heartstats.org and accessed on 16/02/10
- 12) Department of Health (2009). Health Survey for England 2008: Focus on physical activity and fitness. Copy of adults trend tables.
- 13) Allender, S. & Rayner, M. (2007). The burden of overweight and obesity-related ill health in the UK. *Obesity reviews*, 8 (5): 467 - 473
- 14) Foresight (2007). Tackling obesity: Future choices.
- 15) Diabetes UK (2009). Diabetes in the UK 2009: Key statistics on diabetes. www.diabetes.org.uk
- 16) Caspar Swales, Department of Health, Social Services and Public Safety for the Northern Ireland Physical Activity Strategy Implementation Group (2001). A health economics model. The cost benefits of the physical activity strategy for Northern Ireland - a summary of key findings. Northern Ireland: Health Promotion Agency.
- 17) Scottish Executive (2003). Lets make Scotland more active: A strategy for Physical Activity. Edinburgh: The Stationary Office
- 18) Dr William Bird for the RSPB (2004). Natural fit: Can green space and biodiversity increase levels of physical activity?.
- 19) SQW (2007). Valuing the benefits of cycling: A report to Cycling England'. Cited in Department of Health (2009) 'Be Active, Be Healthy: A Plan for Getting the Nation Moving.' HM Government.

The background is a solid teal color with several large, overlapping, abstract shapes in a lighter shade of teal. These shapes are organic and fluid, resembling stylized human forms or movement. One large shape is in the upper left, another is in the center, and a third is in the lower right. The overall effect is modern and dynamic.

Published by:

The British Heart Foundation National Centre for Physical Activity and Health
Loughborough University
www.bhfactive.org.uk

Tel: 01509 223259 Fax: 01509 223972

© The British Heart Foundation National Centre for Physical Activity and Health (BHFNC)

Anyone wishing to reproduce any part of this document must apply to the BHFNC for permission.