

EXECUTIVE SUMMARY

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This book is a unique and up-to-date summary of the most relevant research on physical activity and its benefits at both medical and economic levels and it outlines, based on this evidence some recommendations for possible future actions.

The links throughout this book are the highlights for possible ways the health and fitness sector can help in combatting the enormous crisis in physical inactivity. These are for future actions and developments and hence the title The Future of Health & Fitness - A Plan for getting Europe Active by 2025.

The idea for this project arose from the publication of an article in The Lancet of July 18, 2012 (one of the most respected medical scientific journals in the world), Quite rightly this received a lot of attention in worldwide media:

Physical inactivity is just as dangerous as smoking

A new study has claimed that sedentary lifestyles and a lack of physical exercise are responsible for 5.3 million deaths - just as many as smoking - throughout the world. Among the conclusions of the report is that the problem has deteriorated to such an extent that it should be treated as a pandemic, with physical inactivity said to be the "fourth leading cause of death worldwide".

The report states: Although evidence for the benefits of physical activity for health has been available since the 1950s, promotion to improve the health of populations has lagged in relation to the available evidence.

And another renowned organisation, the World Health Organisation – HEPA Europe, has also stated that:

"Worldwide, physical inactivity is estimated to be the primary cause of approximately 21-25% of breast and colon cancers, 27% of diabetes and approximately 30% of ischaemic heart disease. There is an abundance of evidence that increased levels of physical activity can have an important positive effect on the health of people."

The European Union's population of over 500 million people continue to be more sedentary and less physically active. Across all nations people both young and old are spending more time sitting and are often in front of a television or computer/tablet screen etc. The number of school hours dedicated to physical education have been reduced and fewer people walk, cycle or physically move from one location to the next. Instead they use their car or a motorbike.



In 2010 half of the population in the EU was considered overweight or obese.



Overweight and obesity

The previously presented high levels of physical inactivity can lead to several chronic diseases. Medical scientists and health professionals have identified overweight and obesity as one of the leading risk factors for chronic diseases and long-term morbidity (Bull et al., 2004; Müller-Riemenschneider et al., 2008; Sjöström et al., 2006; Stein & Colditz, 2004). A review of literature estimating the economic burden of obesity undertaken by Müller-Riemenschneider et al. (2008) states that the costs linked directly or indirectly to obesity can be estimated between 0.09 and 0.61% of national GDP in Western European countries. The OECD predicts even higher values. 1.0 to 3.0% of total health expenditure is estimated to be directly linked to obesity (OECD, 2012). These costs can be expected to rise further since obesity-related diseases have long-term effects on the population's health status and have not yet fully affected national accounts. Müller-Riemenschneider et al. (2008) furthermore conclude that in order to be successful, preventive strategies need to be targeted especially at children and adolescents. If the health and fitness industry attempts to improve public health this is an important conclusion and should be considered carefully by policy makers and fitness operators.

Country	% of total population
United Kingdom	62.8
Spain	53.6
EU(27)	52.7
Poland	52.2
Germany	51.4
Netherlands	48.2
Sweden	46.9
Denmark	46.7
Italy	46.0
France	42.9

Table 3 Share of Overweight and Obese Persons (Aged 15 and Above) in Total Population in 2010 (OECD, 2013b)

Table 3 shows the percentage of the population of nine European countries and the EU total, considered overweight or obese. The WHO defines persons with a Body mass index (BMI) greater than 25 but smaller than 30 as overweight and persons with a BMI greater than 30 as obese (WHO, 2012). Table 3 illustrates, that in 2010 more than half (52.7%) of the population in the EU was considered overweight or obese. Amongst the countries in focus, Sweden (46.9%), Denmark (46.7%), Italy (46.0%) and France (42.9%) have a notably smaller share of overweight or obese persons in their population, whereas the United Kingdom (62.8%) exceeds the EU average by far. Spain exceeds EU average slightly with 53.6% of the Spanish population being considered overweight or obese. The Netherlands (48.2%), Poland (52.2%), and Germany (51.4%) lie just slightly below the EU average.

According to available trend data these numbers are expected to increase further for most EU countries in the coming years (OECD, 2013d). Therefore, "the prevention and treatment of excess weight is critical for the health of both individuals and our society. Health care providers can play an important role in monitoring patients' weight and assisting with diet and physical activity counseling" (Stein & Colditz, 2004, p. 2524).

Cardiovascular disease

The major health concern related to physical inactivity and overweight is cardiovascular diseases (CVD). Diseases falling in this category are responsible for the lion share of deaths per year in the EU and are the main cause of morbidity (Leal et al., 2006).

Figure 1 illustrates that across all nine countries CVDs were main reasons for mortality. Denmark, the Netherlands and France show however, a lower share of deaths related to CVDs compared to the other countries. In turn their share of deaths caused by cancer is respectively higher.

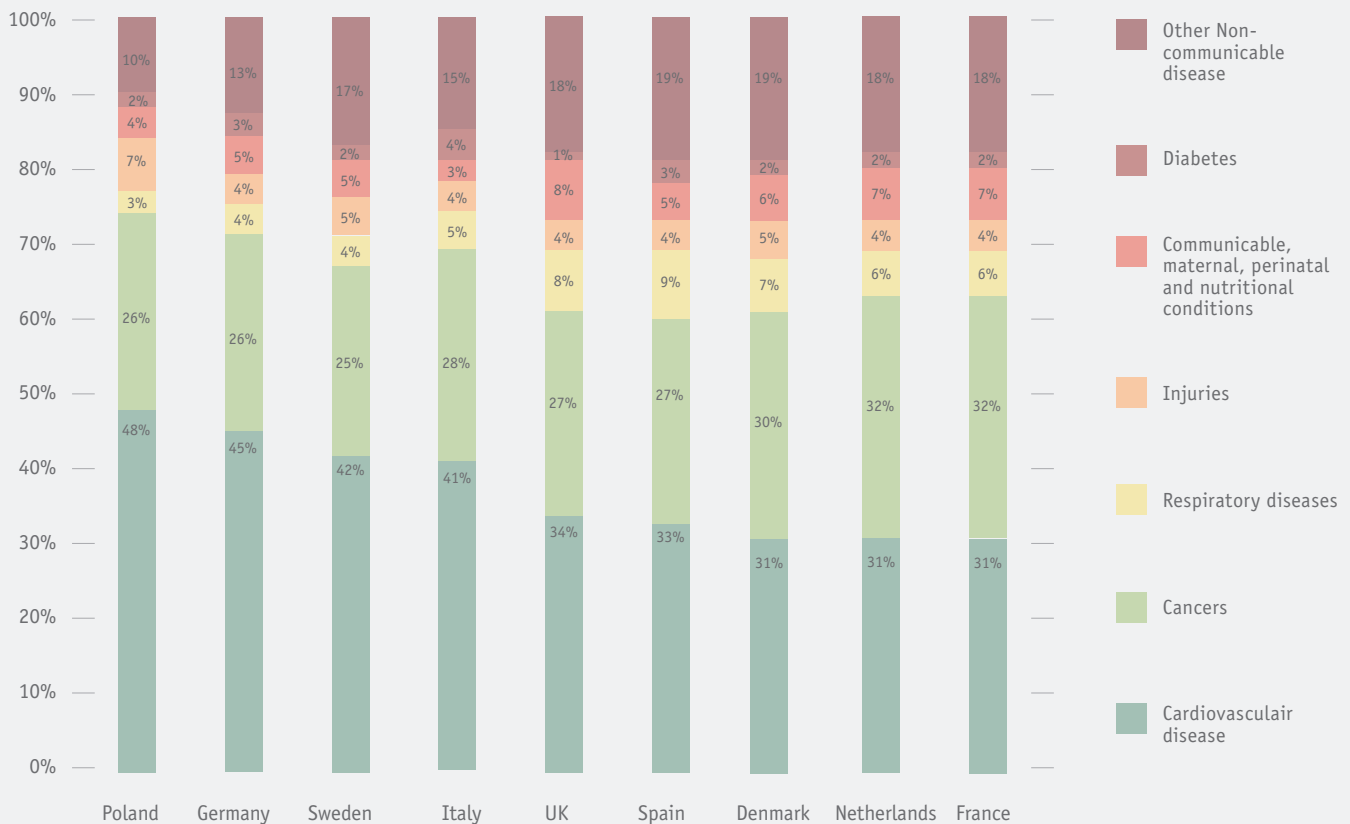


Figure 1 Proportional mortality in percent of total deaths per country in 2010 (WHO, 2011a)

Expenditures on health

The previously presented challenges go hand in hand with significant increases in health expenditures. Leal et al. (2006) estimated that CVD related costs alone accounted for € 169 billion in 2003 on EU level. This number equals roughly 12% of total health expenditure. Over the last decade health expenditures were increasing in all nine discussed economies. The Netherlands do not only have the highest relative expenditures on health (8.3% of GDP) but also experienced the highest growth in the period 2001 to 2010 total health expenditures increased by 3.69 percentage points to almost 12% of GDP.



People that are obese and inactive have a 7.2 years lower life expectancy than people with normal weight that are physically active

European population with men commonly being more active than women (European Commission, 2010; WHO, 2011).

In this section, health risks of physical inactivity will be discussed. The most important recent reviews regarding physical inactivity and mortality are summarised, as well as the burden of disease and influence of physical inactivity on non-communicable diseases (NCD).

Major health threats of physical inactivity

As explored below, several studies and reviews have been published on the association between physical activity and all-cause mortality and life expectancy. In these reviews, individual studies regarding a specific research question are accumulated in one paper. Additionally, a meta-analysis may be performed in which the effect sizes found in the individual studies are combined. Since systematic reviews and meta-analyses combine all previously published studies meeting certain inclusion criteria, these types of papers are considered a higher level of evidence than the separate individual studies.



Physical inactivity and mortality

Moore et al. (2012) determined whether leisure time physical activity of moderate to vigorous intensity was associated with mortality risk and life expectancy. Furthermore the authors have examined whether this relationship differed according to body mass index (BMI) groups. In this review, five prospective studies comprising a cohort of over 650,000 subjects were included. The median age of participants of all studies combined was 61 years, and the median level of physical activity was 8 MET-h/wk. The authors found that higher levels of moderate to vigorous leisure time physical activity was associated with a lower risk of mortality during follow-up and a longer life expectancy after age 40. Compared to no leisure time physical activity (0 MET-h/wk), even low levels of physical activity (0.1-3.74 MET-h/wk) lowered mortality risk and increased life expectancy by 1.8 years. Levels at or just above the minimum level recommended by WHO (2010) and US federal (Physical Activity Guidelines Advisory Committee, 2008) guidelines (7.5-14.9 MET-h/wk) were associated with even lower risks of mortality and higher life expectancies (3.4 years). Moreover, low physical activity was associated with lower life expectancy and greater risk of death in each BMI group. Also, the authors observed that compared to people who were obese but active, people with normal weight but who were inactive had a 3.1 years lower life expectancy. At the extremes, people who were obese and inactive had a 7.2 years lower life expectancy compared to people who had a normal weight and were physically active. This review concludes that adding even low amounts of leisure time physical activity to one's daily routine may increase longevity.



Woodcock, Franco, Orsini, and Roberts (2011) published a systematic review and meta-analysis quantifying the dose-response relationship of non-vigorous physical activity and all-cause mortality. The authors included 22 prospective studies with more than 10,000 participants at the start of the study, resulting in an inclusion of nearly one million participants in the review. Eight studies were conducted in Europe,