

Patient and care-giver productivity loss and indirect costs associated with cardiovascular events in Europe: A wake-up call for primary prevention

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A small but well-designed cross-sectional study estimated the loss of productivity of both patients and care-givers during the first year after an acute cardiovascular event in seven European countries (Belgium, France, Poland, Portugal, Spain, Switzerland and the UK).¹ The study also considered the indirect costs. A total of 196 patients after acute coronary syndrome (ACS) and 198 patients after stroke (99% ischaemic stroke; low disability rates at discharge) were included. Three large hospitals in each country participated as recruitment centres and the patients included in the study were in regular employment and were receiving lipid-modifying therapy.

Most of the patients were men with a mean age of 53 years. On average, the patients with ACS and their care-givers lost 59 and 11 work days, respectively. Similarly, stroke patients lost 56 work days and their care-givers lost 12 days. The total mean expenses per patient and year were estimated to be 13,953 euros for the patients with ACS and 13,773 euros for the patients surviving a stroke.

In an effort to mirror real life, the study made precise distinctions between the annual work days lost by the index hospitalization plus the initial sick leave (ACS, 36 days; stroke, 34 days), the patient's absenteeism after return to work (ACS, 17 days; stroke, 13 days), the patient's presenteeism (defined as reduced performance at work; ACS, six days; stroke, nine days) and their care-giver's loss of work days (ACS, 11 days; stroke, 12 days). Importantly, the study included neither patients who died during the acute event nor patients who did not return to work.

The remarkable level of indirect costs found in this study needs to be discussed in the light of the actual statistics for cardiovascular disease (CVD) ('diseases of the circulatory system'). Within the European Union, >1.9 million deaths from diseases of the circulatory system were reported in 2015, accounting for 36.7% of all deaths in this time period. This number considerably exceeds the death rate for malignant neoplasms,

which accounted for 25.4% of deaths in the same year.² The consistently high number of deaths from CVD is striking because within the period 1995–2015 a significant reduction in mortality six months after ACS of about two-thirds has been reported by the French registry (FAST-MI).³

Similarly, despite considerable improvements in the primary prevention and treatment of acute disease, more than one million Europeans have a stroke every year (about 80% ischaemic).⁴ The absolute number of strokes is expected to rise significantly in future years due to the ageing population, leading to the well-known consequences during the follow-up period, such as recurrent neurological events, re-hospitalization and long-term disability.⁴

ACS and ischaemic stroke are serious and often fatal complications of chronic disease, with atherosclerosis having the predominant pathogenetic role. Unfortunately, we still are not able to cure atherosclerosis once it is established. For this reason, it needs to be emphasized that better survival of CVD and its acute complications (our undebated primary aim) inevitably results in an increase in the chronic disease burden with all its needs and consequences, not only with respect to the direct health care costs, but also with respect to the loss of productivity and social strain. More than 11 million patients with CVD were discharged from hospitals within the European Union in 2016. Although the discharge rates per 100,000 residents varies considerably between the European countries, this remarkable number of in-hospital treatments for CVD emphasizes the large and steady burden weighing on European communities with respect to CVD.²

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The burden of CVD and the socioeconomic consequences of increasing CVD survival rates have been discussed previously,^{4–18} but the study of Kotseva et al.¹ should be taken as a serious wake-up call. There is an urgent need to critically re-evaluate not only our efficiency, but also our baseline willingness to promote, establish and continuously improve the prevention of CVD and patient rehabilitation.^{19–27} Cardiovascular risk assessment needs to be extended by not only predicting the individual risk of acute events in the future, but also by addressing their socioeconomic consequences and burden.^{1,28} The realization of a socioeconomically effective prevention of CVD not only requires information and effort at the individual level, but strong support from governments, institutions and employers. Primary prevention must include education within families, pre-schools, schools, universities, institutions and workplaces. Primary prevention represents a first-class obligation of legislation in supporting individuals, institutions and society to successfully reduce the high burden of CVD.

The European Heart Health Charter was launched in June 2007 to support the primary prevention of CVD. It addressed government officials, health organizations and associations across Europe with the aim of raising awareness and helping to reduce the burden of CVD by focussing on lifestyle-oriented interventions.²⁹ These very effective interventions are simple, scientifically proved and have been well known for decades. They include strict abstinence from tobacco, daily physical activity, healthy food, the maintenance of a healthy weight, and monitoring and treating high blood pressure and cholesterol if necessary.^{19,23–25,27}

Unlike other countries in the European Union, a complete ban of advertisements for tobacco use is still under debate in Germany. The use of evidence-based and officially controlled food labelling is also controversial in this country. However, the time has come for effective action to achieve a turnaround in the prevention of CVD in Europe. This turnaround is needed to save lives, prevent long-term disability and the social strains from chronic CVD and to save the considerable amounts of money needed for continuing progress in medicine and other community areas.

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