How much does Europe invest in the treatment of cardiovascular diseases?

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Online publish-ahead-of-print 6 June 2006

This editorial refers to ‘Economic burden of cardiovascular diseases in the enlarged European Union’ by J. Leal et al., on page 1610

Cardiovascular diseases (CVD) remain the most important cause of premature death and morbidity in the European Union (EU). Although standardized mortality has steadily decreased over the last 15–20 years in most European countries, the absolute number of cardiovascular deaths remains relatively steady. Patients live longer, and experience more non-fatal events. With this epidemiological shift, the overall burden of CVD is likely to increase rather than decrease in the future.

Economical consequences of CVD are therefore enormous, and are still rising as the population ages. For example, the cost of heart diseases and stroke in the USA in 2005 is estimated at 393.5 billion dollars, as compared with 298.2 billion in the year 2000. These estimates include not only direct, but also indirect costs—incurred outside of health-care sector—such as loss of productivity and informal care provided by patients’ families.

In this context it is interesting to note that, so far, no systematic evaluation of the economic impact of CVD in Europe has been available. The paper by Leal et al. is the first one to provide comprehensive data on this important topic. The authors estimate that CVD cost the EU 169 billion Euros per year, with direct health-care costs accounting for 62% of costs, i.e. 105 billion Euros.

It comes without surprise that the study revealed major discrepancies between per capita investment in CVD in different European countries. Cost variations may reflect differences in the level of health-care access and delivery, and may be due to different CVD burden in different countries. In the study by Leal et al., however, investment in CVD was primarily driven by income. Incidence, prevalence and mortality of the disease were not significantly correlated with costs.

Differences in cost of treatment mostly depend on labor costs, use of technology, cost of medication and length of hospital stay, although relative weight of these factors may differ from country to country. In any case, the most significant proportion of direct costs (60%) is related to hospital care.

It has to be emphasized that there is no simple relationship between the level of investment in health-care and the outcome. For example, in-hospital cost of bypass surgery in the USA is twice as high as in Canada. This difference is not explained by demographic or clinical differences, and does not result in a better clinical outcome.

Within the EU, where both the burden of CVD and the economical potential differ among member countries, medical needs must be met in the environment of cost containment. The attempts aimed at optimization of investment in cardiovascular care should be addressed on both European and national level. We need to draw a full picture of CVD impact on the EU population, that would include comprehensive health statistics, data on therapy and prevention, clinical outcome and, finally, direct and indirect economic burdens of CVD. While reliable data on health statistics are now available, other components are only developing.

National CVD databases have been or are being developed in several European countries. National audit tools are complemented by a comprehensive Euro Heart Survey programme offered by the European Society of Cardiology. The ideal scenario for the future is to merge all available national databases, and fill the existing gaps by pan-European surveys. Adoption of the Cardiology Audit and Data Standards by all EU countries is a sine qua non for effective comparison of data coming from different countries.

It has been well proved that the best clinical outcome can be achieved if patients are treated according to guidelines. In some countries strict adherence to those guidelines requiring application of high technology in a large number of patients proves increasingly difficult, although to some extent technology cost may be compensated by low medical personnel fees. Each country then needs to decide what is the best individual investment strategy to meet medical needs. Obviously, these attempts should be focused not only on the treatment, but also on the prevention of CVD. In addition to studying the costs of medical care, it may be interesting to follow the relationship between the investment outside the health sector, such as...
those related to lifestyle changes, on subsequent benefits within this sector.

Learning from the experience of others could be of great help in the decision-making process on the national level. However, comparison of health-related expenditures between different countries proves to be a challenge, mostly because of the lack of comprehensive data.\textsuperscript{4} It is in the best interest of the EU citizens to have these data available as soon as possible.

The paper by Leal\textsuperscript{et al.}\textsuperscript{4} is important for several reasons. While it is the first comprehensive source of information on the economic burden of CVD in the EU, it also exposes all gaps and inadequacies in existing data collection systems, and calls for a concerted research effort to make better use of the existing financial resources to meet the challenges of CVD epidemics. This important study should be of interest to health-care providers and research funding organizations in Europe.

\textbf{Conflict of interest:} none declared.

\textbf{References}