

# Disheartening developments on the world stage

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**R**educing inequalities was a major focus in 1997 for preventing cardiovascular disease (CVD). New evidence, presented at the fourth International Conference on Preventive Cardiology (ICPC), held in Montreal in June 1997, documented widespread inequalities in the geographic distribution of CVD, in disease burden by socioeconomic status and in access to preventive health care.<sup>1</sup> Although age-adjusted rates of death from CVD have declined sharply in most developed countries over the past several decades, the opposite is occurring in eastern and central Europe. At the ICPC, Dr. Hugh Tunstall-Pedoe, from Ninewells Hospital in Scotland, presented data from the World Health Organization (WHO) MONICA Project (multinational *monitoring of trends and determinants of cardiovascular diseases*), in which 26 centres in 19 countries participated. He reported that the highest age-adjusted rate of death from ischemic heart disease ever documented was in Russia in 1994 (828 per 100 000, compared with 655 per 100 000 at the height of the epidemic in the US, in 1968).

Several developing countries are experiencing increases in the incidence of CVD events and in the prevalence of risk factors, and at an even faster pace people in these countries are adopting lifestyles associated with mass occurrence of CVD. For example, Drs. Richard Peto, from Oxford University, and Derek Yach, from WHO in Geneva, reported at the ICPC that the number of smokers in these countries is expected to rise from the current 800 million to 1.4 billion by 2025 (the total number of smokers worldwide, currently estimated at 1.1 billion, will rise to 1.64 billion by 2025). The number of smoking-related deaths is expected to rise from 1 million per year in 1990 to 7 million per year in 2025 in developing countries; the corresponding figures worldwide are 3 million and 10 million. The

expected rise in CVD and other chronic diseases will further strain the meagre health care resources of these countries, which have yet to control infectious diseases and malnutrition.

All countries that have studied socioeconomic factors have shown that social class is a strong predictor of the incidence of CVD and of the prevalence of risk factors and behaviours. It appears that relative poverty (one's position within a society) may be as important a predictor of ill health as absolute poverty (the level at which one cannot live) and that the effect of socioeconomic status on CVD and all-cause mortality may be cumulative over generations. In addition, in a study from Finland involving men followed up for 4 years, lower education and clustering of psychosocial factors (e.g., social isolation, hopelessness and cynical hostility) predicted thickening of the carotid artery walls (ref. 1: p. 156B).

Data from the WHO MONICA Project suggest that important variations in the use of many proven preventive treatments contribute significantly to observed CVD inequalities (ref. 1: p. 157B). For example, Dr. David

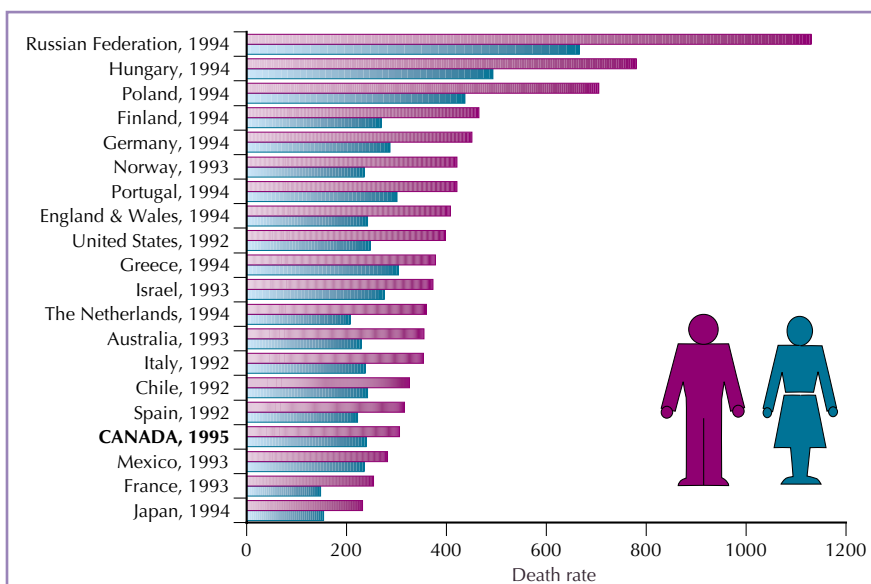


Fig. 1: Age-standardized rates of death from cardiovascular disease in several countries in the mid-1990s. (Source: 1995 World Health Statistics Annual, World Health Organization. In: *Heart Disease and Stroke in Canada*. Ottawa: Heart and Stroke Foundation of Canada; 1997. p. 8.)

Wood, principal investigator of the EuroASPIRE study, reported at the ICPC that effective management of risk factors was not started within 6 months after hospital admission among almost half of the patients with ischemic heart disease in 10 European countries participating in the study.

The main findings from the landmark Global Burden of Disease Study, published this year,<sup>2</sup> provide the first comprehensive view of the current and projected health status of the world's population. Ischemic heart disease and CVD were the most common causes of death worldwide in 1990, responsible for 6.3 and 4.4 million deaths respectively; by 2020 they are expected to retain equal rank. In addition, the number of disability-adjusted life-years (DALYs) lost (the sum of life-years lost owing to premature death and years lived with disability adjusted for severity) because of ischemic heart disease is expected to increase from 46.7 million in 1990 (fifth place) to 82.3 million in 2020 (first place) worldwide. CVD and neuropsychiatric disorders are expected to account for the most DALYs worldwide in 2020 (14.7% each). The greatest increase in CVD-related DALYs, from 8.3% in 1990 to 13.8% in 2020, is expected to occur in developing countries; the corresponding increase in developed countries will be 20.4% to 22.0%.

Our understanding of effective prevention increased in 1997. Results from a randomized controlled trial showed that a diet rich in fruits, vegetables and low-fat dairy products and low in saturated and total fat could markedly reduce systolic and diastolic blood pressure in people with either mild or no hypertension. Further evidence, from a long-term follow-up study, showed that eating fish substantially reduces the rate of death from ischemic heart disease.

Major strides were taken in the identification of CVD risk factors and our understanding of them over the past year. Four well-designed case-control studies published this year confirm the role of small, dense low-density lipoprotein particles, of lipoprotein(a), of homocysteine and of inflammation in the occurrence of CVD. The ARIC (Atherosclerosis Risk in Communities) cohort study showed that although multiple hemostatic factors, including fibrinogen, white blood cell counts, factor VIII and von Willebrand factor, were risk factors for ischemic heart disease, they added little beyond the "traditional" risk factors to the prediction of ischemic heart disease.<sup>3</sup> Finally, the report from a long-term follow-up of a co-

hort of children increased our understanding of obesity. In this cohort, the risk of being obese at age 21–29 years increased markedly among children who were obese after the age of 3, regardless of whether their parents were obese. However, having obese parents tripled the risk of future obesity among children who were not obese at age 1 or 2.<sup>4</sup>

From a policy perspective, major gains were achieved in the public health battle against tobacco. In Canada, bill C-71, adopted in April 1997, should drastically restrict tobacco advertising, impose limits on sponsorship of sport and cultural events and enable the government to

regulate nicotine levels in cigarettes. However, physicians and other health professionals will need to remain proactive because the tobacco industry is undertaking several actions to decrease the impact of the law, including a court challenge. In the US, the settlement

between 40 state attorneys-general and the tobacco industry would require the latter to pay US\$368.5 billion to the respective states for the cost of treating tobacco-related diseases, would limit advertising and would submit cigarette manufacturing to government control. Although the breadth of the tentative agreement has been hailed as a major public health victory by some, it raises major concerns domestically over its potential for effecting substantial decreases in smoking and, internationally, over the likelihood that the tobacco industry will shift even more of its marketing dollars to the less-regulated Third World.

## References

1. Abstracts from the 4th International Conference on Preventive Cardiology. *Can J Cardiol* 1997;13(suppl B):1B-399B.
2. Murray CJL, Lopez AD. Mortality by cause for eight regions of the world: Global Burden of Disease Study. *Lancet* 1997;349:1269-76. [See other reports from the study in *Lancet* 1997;349:1347-52, 1436-42 and 1498-1504.]
3. Folsom AR, Wu KK, Rosamond WD, Sharrett AR, Chambless LE. Prospective study of hemostatic factors and incidence of coronary heart disease. The Atherosclerosis Risk in Communities (ARIC) Study. *Circulation* 1997;96:1102-8.
4. Whitaker RC, Wright JA, Pepe MS, Seidel KD, Dietz WH. Predicting obesity in young adulthood from childhood and parental obesity. *N Engl J Med* 1997;337:869-73.

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## New evidence documents widespread inequalities in access to preventive health care.

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