



# THE OSAKA DECLARATION

HEALTH, ECONOMICS AND POLITICAL  
ACTION: STEMMING THE GLOBAL TIDE  
OF CARDIOVASCULAR DISEASE

DECLARATION OF THE FOURTH INTERNATIONAL HEART HEALTH CONFERENCE, OSAKA (JAPAN) ~ MAY 2001



Health Canada  
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*"Life extinguished  
but his flame burns on,  
filling the emptiness  
with the light of his leadership*

*This gift he gave us,  
showing the way,  
cloaked in humility,  
but graceful, wise and gentle*

*We fill this hollow space  
inspired to our mission  
with all that he gave us*

*Never to be forgotten, always remembered  
Andrés, our dearest friend, esteemed colleague, away but not absent"*

This document is dedicated to Andrés Petrasovits who passed away on July 24, 2001. Within these pages can be found the wisdom of this truly wonderful man. He was the inspiration, the conscience, the energy, the quiet leader ~ the father of an international movement to promote heart health. Such praise he would not have tolerated in life but it is simply the truth. We owe him a great debt. Our tribute will be to ensure the fulfillment of his vision.



## FOREWORD

The 4th International Heart Health Conference (IHHC) continues the process that began with the 1st IHHC in Victoria, Canada in June of 1992. This meeting produced the Victoria Declaration on Heart Health. This unique document outlined the scale of the global burden of heart disease and stroke and presented, for the first time, an international scientific consensus that heart disease was preventable and that enough was known about these conditions for comprehensive action to be taken.

Barcelona was the site of the 2nd IHHC in 1995 when the global heart health community was again gathered. This meeting produced the Catalonia Declaration that outlined in some detail, examples of how heart and stroke disease could be successfully prevented and managed. This was quickly followed by a companion piece to the declaration, produced by the Centers for Disease Control in Atlanta, USA, which gave additional global experience in this regard.

Singapore 1998 was the host of the 3rd IHHC. The Singapore Declaration was the product of this meeting and was titled "Forging the Will for Heart Health". With this document the International Advisory Board outlined the nature and scope of the capacity needed if heart disease and stroke were to become relics of the 20th century. This declaration emphasized the need for leadership at all levels in society and particularly the need for political will to undertake action if this great task is to become a reality. In May of 2000 the International Conference on Women, Heart Disease and Stroke produced the Victoria Declaration on Women, Heart Disease and Stroke. This document identified heart disease and stroke as a leading cause of death and disability in women the world over and presented the significant gender dimensions of the issue.

Clearly, much needs to be done if the vision and goals articulated by the previous heart health declarations are to be realized. The Osaka Declaration is intended to aid this process by providing a review of the factors that originate primarily from outside the health sector that are contributing to the lack of progress with regard to cardiovascular disease prevention and promotion around the world. These factors help shape the policies, environments, behaviors and priorities of health systems that bear on the development and implementation, or lack thereof, of heart health prevention and promotion policies at all levels. It is hoped that this document will aid those in leadership positions to shape strategies for creating health through strengthening the capacity of health systems to deliver prevention, and by establishing the appropriate links with social, economic and political constituencies.

David R. MacLean, M.D.  
Chair, Advisory Board  
Fourth International Heart Health Conference

Kazunori Kodama, M.D. & Thomas A. Pearson, M.D.  
Vice-Chairs, Advisory Board  
Fourth International Heart Health Conference



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## WORDS OF GREETING

Osaka was honoured to host the 4th International Heart Health Conference in conjunction with the 5th International Conference of Preventive Cardiology.

As with the previous International Heart Health conferences, the Osaka meeting provided an important backdrop for the release of a significant international health policy document. The Osaka declaration titled "Health, Economics and Political Action: Stemming the Global Tide of Cardiovascular Disease," examines the health, economic and political factors that impinge on heart health. It goes beyond the health system and examines global forces that condition the awareness, understanding and commitment to take global action on cardiovascular disease prevention, and reflects on the causes for the lack of global action on the important and preventable cause of death and disability. It concludes with a series of recommendations that the International Advisory Board hopes will serve as a catalyst for the public health action needed at all levels if this modern epidemic is to be brought under control.

We would like to express our sincere gratitude to the many health and related agencies that have given their support to make the conference in Osaka a success.

Yutaka Takasugi, M.D.  
Director General  
The Department of Public Health and Welfare  
Osaka Prefectural Government

## DECLARATION

Recognizing that cardiovascular disease has reached epidemic proportions and has rapidly expanded in severity and breadth to become the leading cause of death, disability and rising health care costs throughout the world, and that it would be largely preventable through a public health approach to cardiovascular disease, given the resources and the will to act, the Advisory Board of the International Conference on Heart Health calls upon:

- ~ health, media, education and social science professionals, and their associations
- ~ the scientific research community
- ~ government agencies, especially those concerned with health, education, trade, finance, culture and recreation, commerce, and agriculture
- ~ the private sector
- ~ international organizations and agencies concerned with health and economic development
- ~ community health coalitions
- ~ voluntary health organizations
- ~ employers and their organizations

to join forces in eliminating this modern epidemic by taking the necessary action on the social, economic and political factors that contribute to this epidemic.

### ADVISORY BOARD

*Fourth International Heart Health Conference*

*Osaka*

*May 27, 2001*

## PREFACE

It is 2001. Consider that there are five identified cases of polio in a North American city with three million inhabitants. The response is swift; the clinical resources are mobilized to treat the cases and emergency vaccination clinics are set up by the public health system. Any additional help is immediately offered by the regional and national government. This polio outbreak is “front page” news in all media outlets. The public is alarmed and frightened and is anxious that the response of the health system is appropriate and sufficient to deal with the outbreak. Polio is preventable; people are not supposed to get polio.

In the same city, on the same day, over 100,000 individuals will be suffering from a heart condition or from the aftermath of a stroke; about two million will have risk factors for heart disease and stroke; and in the course of this year there will be 30,000 deaths from cardiovascular disease (CVD). CVD is preventable; people need not get cardiovascular disease.

The perception and response of the population, health professionals and governments are totally in opposition in these two scenarios. There is complacency, a sense of inevitability and acceptability of cardiovascular disease; whereas it is not acceptable that there be any polio in a community.

The Osaka Declaration calls for action on those factors that act beyond the medical paradigm and are situated

in the political, social, and economic realm and that account for polio being unacceptable and cardiovascular disease being regarded as acceptable.

Actions on social, political and economic factors go beyond the mandate of health professionals. In fact, the ability to act on these factors rests with individuals

and agencies charged with these broader agendas. The Declaration argues for a crucial role for health professionals and their organizations in advocacy and political action in influencing the governance of the health system and mitigating systemic barriers to achieving health.

The Osaka Declaration, the fourth in a series, is a natural progression of the thinking that started in Victoria, Canada, in 1992. We have

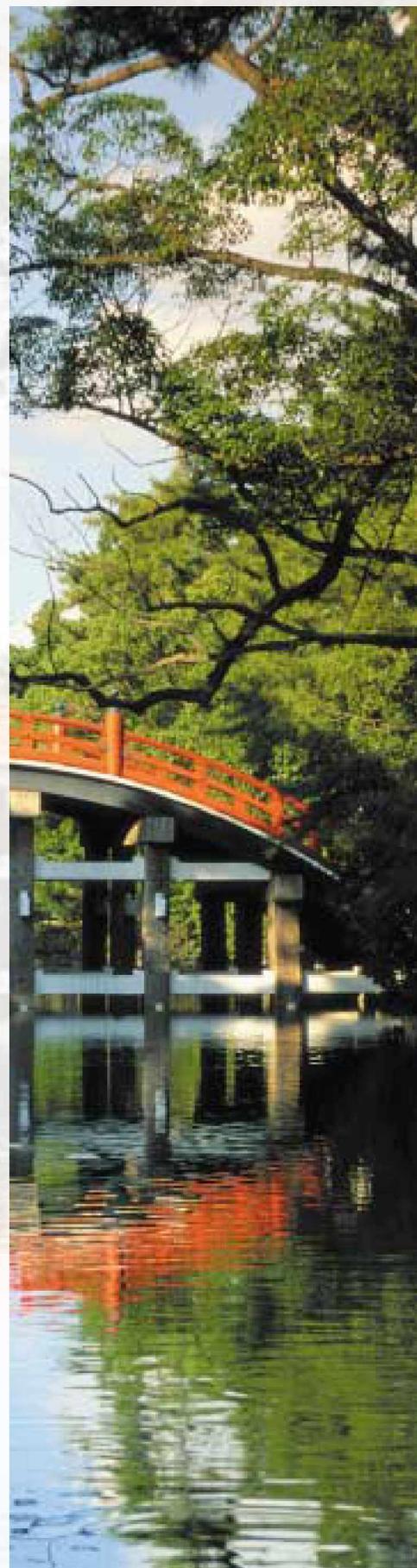
enough knowledge to prevent cardiovascular disease and we know that doing so is cost effective (The Catalonia Declaration, 1996). The Singapore Declaration (1998) examined the required health systems capacity and drew attention to the political will that should accompany capacity if it is to be of value. The Osaka Declaration goes beyond the health system and examines global forces that condition the awareness, understanding and commitment to take global action on cardiovascular disease prevention. The lessons drawn apply to issues of health promotion and disease prevention in general.

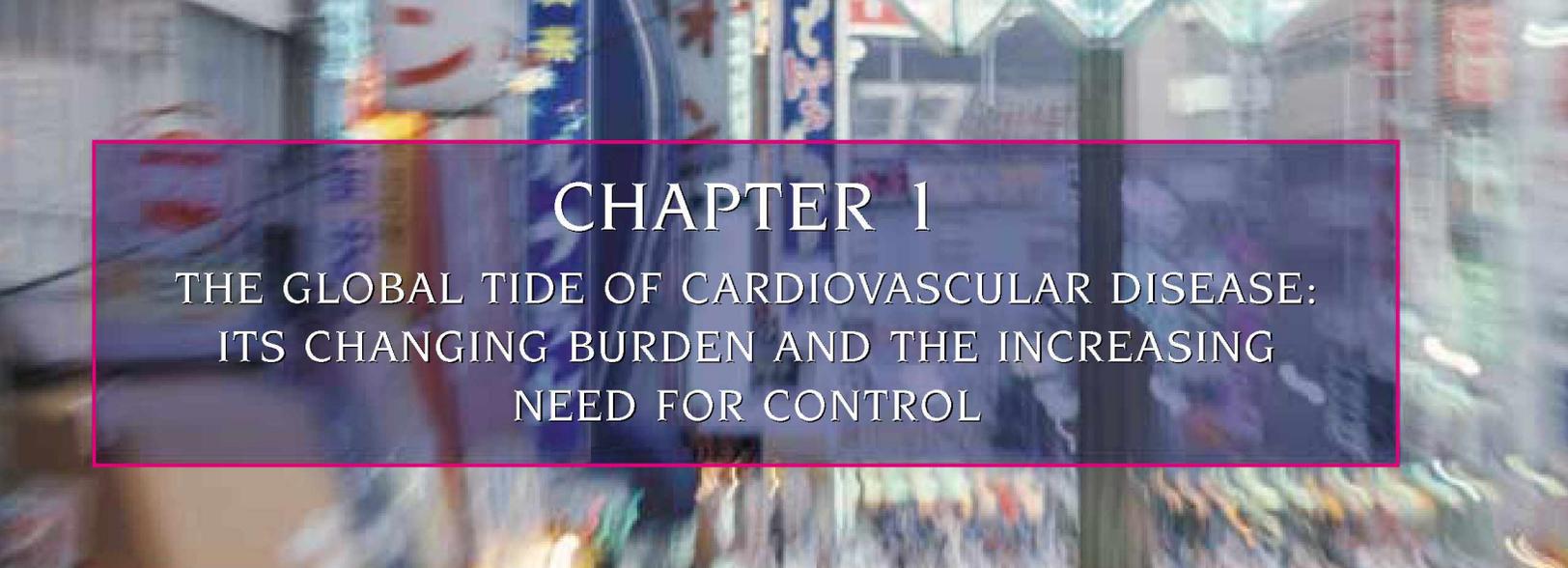
*Those concerned with CVD prevention are in a position of advantage to make a major contribution to the global health agenda since we have the science and evidence base, the tools, platforms and networks that can be scaled up to attain major improvements in health.*

Previous declarations spoke to the opportunity, value, successes and preconditions for implementing CVD preventive policies and strategies. While recognizing the progress that has occurred in some countries, the current document reflects on the causes for the global lack of action on the most important and most preventable cause of death and morbidity.

Clearly, the potential for prevention needs to be defined in terms relative to the current health status and existing infrastructure found in the respective countries and regions of the world. Those concerned with CVD prevention are in a position of advantage to make a major contribution to the global health agenda since we have the science and evidence base, the tools, platforms and networks that can be scaled up to attain major improvements in health.

This Declaration argues that health professionals need to examine their contribution to the broader political, economic and social agendas. However, the audience for the Declaration goes beyond health professionals. Indeed, in preparing this Declaration, the Advisory Board intends to gain recognition and capture the attention of policy makers concerned with political, social and economic agendas of the contribution that CVD prevention can make to sustainable health development.





# CHAPTER 1

## THE GLOBAL TIDE OF CARDIOVASCULAR DISEASE: ITS CHANGING BURDEN AND THE INCREASING NEED FOR CONTROL

### A GLOBAL VIEW OF CARDIOVASCULAR DISEASE

A frequently cited prediction is that cardiovascular disease (CVD) will become the leading cause of death sometime in 21st Century. A closer examination of global estimates of deaths by cause reveals that this estimate is late by at least two decades. By 1990, according to the Global Burden of Disease Study (Murray and Lopez, 1996), ischemic heart disease was the leading cause of death in developed countries and second leading cause of death in developing countries (Table 1). Stroke ranked second and third in developed and developing countries, respectively. By 1990, there were estimated to be 14.3 million deaths from CVD in the world, versus 9.3 million deaths from infectious and parasitic diseases (Murray and Lopez, 1997). Thus, CVD has probably been the world's leading cause of death for at least the last two decades of the 20th Century. A more accurate prediction was made by Murray and Lopez (1996): "It is likely that CVD became the developing world's leading cause of death for the first time in the 1990s."

To understand global trends in CVD, it is helpful to subcategorize parts of the world according to predominant disease patterns. Cardiovascular diseases have been cited as the disease typifying the evolution from an infectious disease-dominant to chronic disease-dominant pattern, a phenomenon known as the epidemiologic transition. The epidemiologic transition is thought to have four phases, each of which has a different pattern of cardiovascular disease

(Table 2) (Omram, 1971; Olshansky and Ault, 1986; Pearson et al., 1993). The first stage, the age of pestilence and famine, now likely persists only in pockets of underdeveloped, often rural areas of Africa, Asia, and Latin America. The second stage is characterized by residual rheumatic fever plus an increase in hypertension-related diseases, as are prominent in China and in urban Africa. The stage of degenerative and man-made diseases is the "epidemic form" of CVD, in which ischemic heart disease and stroke become the predominant causes of death, especially in the socially and economically productive age groups, 45-65 years. This stage has become established in urban areas of Asia, Africa and Latin America, and persists in the former socialist countries of Eastern Europe. The final stage of the epidemiologic transition has been thought to be one in which vascular heart disease and stroke remain dominant causes of death, but only at older ages. These patterns characterize Western Europe, North America, Japan, and Australia/New Zealand. These regions have, in general, been characterized by declining CVD mortality rates since the 1970s and 1980s.

The world then is a patchwork of countries and regions at different stages in the evolution of their cardiovascular epidemic. A recent examination of country specific, age-adjusted rates (to the European standard population) show considerable heterogeneity in mortality from CVD, ranging almost five-fold between Japan and the Russian Federation (Figure 1) (American Heart Association, 1999).



**TABLE 1: TEN LEADING CAUSES OF DEATH FOR 1990**

RANK	DEVELOPED REGIONS	TOTAL DEATHS (THOUSANDS)	DEVELOPING REGIONS	TOTAL DEATHS (THOUSANDS)
1	Ischemic heart disease	2,695	Lower respiratory infections	3,915
2	Cerebrovascular disease	1,427	Ischemic heart failure	3,565
3	Trachea, bronchus, and lung cancer	523	Cerebrovascular disease	2,954
4	Lower respiratory infections	385	Diarrheal diseases	2,940
5	Chronic obstructive pulmonary disease	324	Conditions arising during the perinatal period	2,361
6	Colon and rectum cancers	277	Tuberculosis	1,922
7	Stomach cancer	241	Chronic obstructive pulmonary diseases	1,877
8	Road traffic accidents	222	Measles	1,058
9	Self-inflicted injuries	193	Malaria	856
10	Diabetes mellitus	176	Road traffic accidents	777
<b>Total Deaths</b>		<b>10,912</b>		<b>39,554</b>

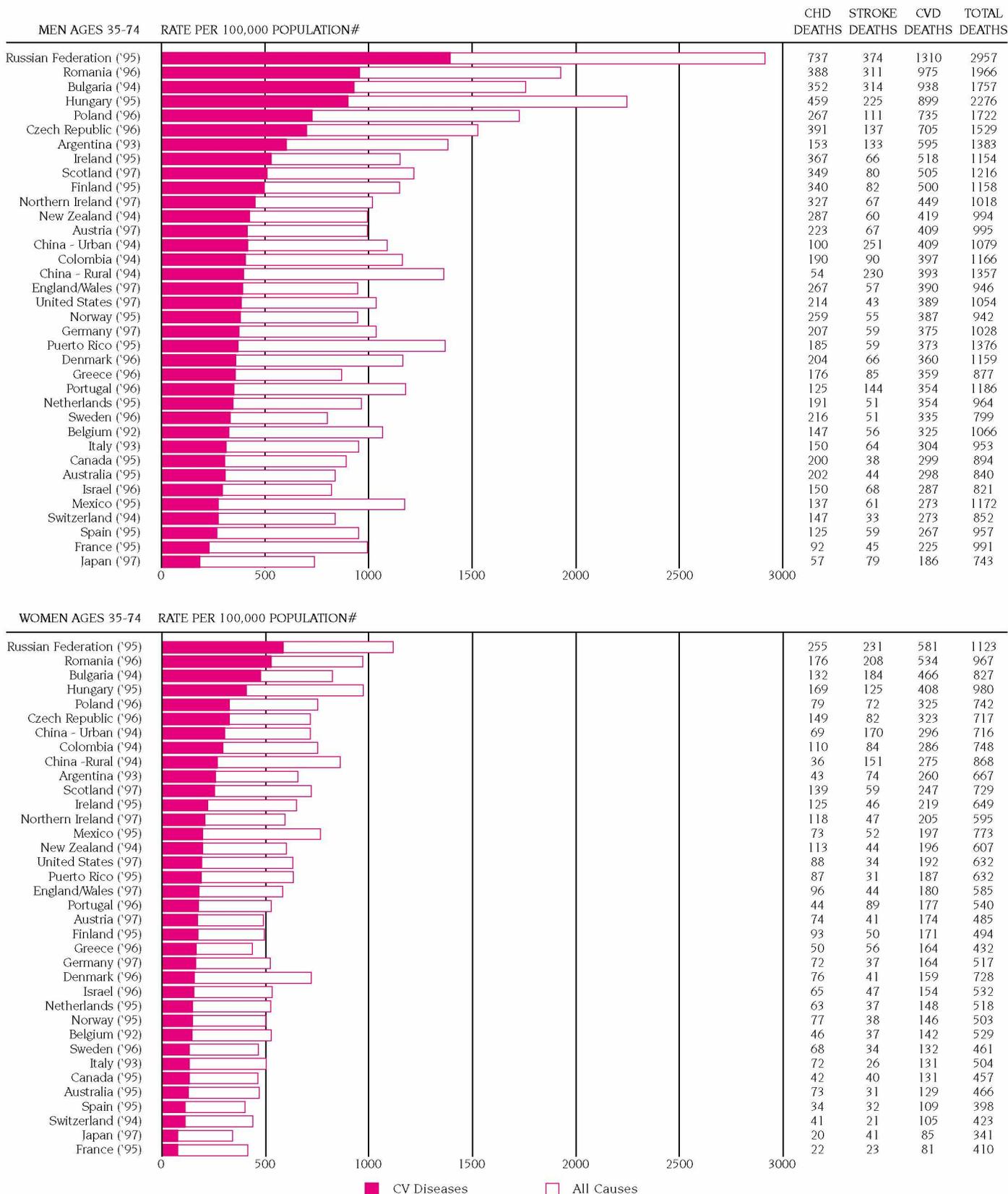
Source: Murray and Lopez, 1996

**TABLE 2: DEATHS CAUSED BY CARDIOVASCULAR DISEASE AT FOUR DIFFERENT STAGES OF THE EPIDEMIOLOGIC TRANSITION**

STAGE OF DEVELOPMENT	DEATHS FROM CVD (% OF TOTAL)	PREDOMINANT CVDS	REGIONAL EXAMPLES
Age of pestilence and famine	5 - 10	Rheumatic heart disease, infections, and nutritional cardiomyopathies	Rural areas of sub-Saharan Africa, India and South America
Age of receding pandemics	10 - 35	As above, plus hypertensive heart disease and hemorrhagic stroke	China, and urban Africa
Age of degenerative and man-made diseases	35 - 55	All forms of stroke: ischemic heart disease at relatively young ages	Urban Asia, Latin America, and Eastern Europe
Age of delayed degenerative diseases	< 50	Stroke and ischemic heart disease at older ages	Western Europe, North America, Australia, New Zealand, and Japan

Source: Pearson et al., 1993; Howson et al., 1998





**FIGURE 1: AGE-RELATED MORTALITY RATES FOR CORONARY HEART DISEASE, STROKE, TOTAL CARDIOVASCULAR DISEASES AND ALL CAUSES IN SELECTED COUNTRIES. Rates Adjusted to the European Standard population.**

#ICD/9 390-459 for cardiovascular disease; 410-414 for coronary heart disease; and 430-438 for stroke. Exceptions include the Czech Republic, Japan and Denmark, which are ICD/10, and Switzerland, which is ICD/8. Codes for ICD/10 are 100-199 for cardiovascular disease; 120-125 for coronary heart disease; and 160-169 for stroke. Codes for ICD/8 are 390-458 for cardiovascular disease; 410-414 for coronary heart disease; and 430-438 for stroke.

Source: American Heart Association, 1999

## RECENT LESSONS LEARNED ABOUT CARDIOVASCULAR DISEASE FROM DIFFERENT REGIONS OF THE WORLD

### *Actualization of the CVD Epidemic in Low and Middle Income Countries*

An epidemic of cardiovascular disease in the developing world has been predicted for at least ten years, based on reductions in infectious disease mortality, resultant increases in life expectancy to the years in which CVD becomes manifest, and adoption of CVD risk behaviors in these countries (Pearson et al., 1993; Whelton et al., 1995; Reddy and Yusuf, 1998; Howson et al., 1998; World Heart Federation, 1999). However, the magnitude and rapidity of this epidemic could not be foreseen until recently. The first lesson from developing countries is that they are capable of CVD epidemics similar in magnitude to those of former socialist countries and western economies. Review of Figure 1 identifies, as of the mid 1990s, three of the highest rates of CVD belonged to countries considered “developing,” namely Argentina, China, and Columbia (American Heart Association, 1999). The rates for Argentina, for example, exceed those of most Western European and North American countries. These countries could now be considered to have reached the third stage of the epidemiologic transition, with a rapid transition apparently starting over the last decade or so.

A second lesson from developing countries is that there appears to be considerable heterogeneity in trends, in that several middle-income countries appeared to have not entered this phase, and may actually have declining rates. Chile and Cuba are cited as countries with declining CVD mortality rates. Mauritius, for example, has been able to document declines in serum cholesterol, blood pressure, and

smoking from 1987 to 1992 (Dowse et al., 1995). Therefore, it appears that a CVD epidemic, especially one of great magnitude, is not obligatory.

### *Former Socialist Economies of Europe: Countries With the World's Highest CVD Burden*

As shown in Figure 1, former socialist countries of Eastern Europe remain entrenched with the highest CVD mortality rates in the world. An important lesson learned from the Russian Federation is that CVD can be a major determinant of life expectancy (Bobadilla et al., 1997; Notzon et al., 1998). It is often suggested that, since most CVD deaths are at older ages, reduction of CVD will not expand life expectancy. Between 1990 and 1994, life expectancy in Russia declined five

years. While social, behavioral, and economic factors have been identified as contributors to this decline, vital statistics identify heart disease and stroke to account for 36 percent of the decline ~ by far the largest proportion of the life expectancy attributed to a single disease.

A final lesson from Eastern European countries is that progress is being made to slow or even reverse the epidemic in these parts of the world. Considerable variability has been observed in other former socialist countries (Chenet et al., 1996). For example, ischemic heart disease mortality in Poland, which declined 25 percent over a three-year period from 1991 to 1993, has been attributed to a change in national nutrition priorities and free markets for healthy foods (Zatonski et al., 1998). The rapid decline suggests that effective public health interventions can act rapidly to halt the progression of CVD mortality rates. Nonetheless, CVD mortality continues to be a major challenge in former socialist economies.

*Ischemic heart disease mortality in Poland which declined 25 percent over a three-year period from 1991 to 1993, has been attributed to a change in national nutrition priorities and free markets for healthy foods. The rapid decline suggests that effective public health interventions can act rapidly to halt the progression of CVD mortality rates.*

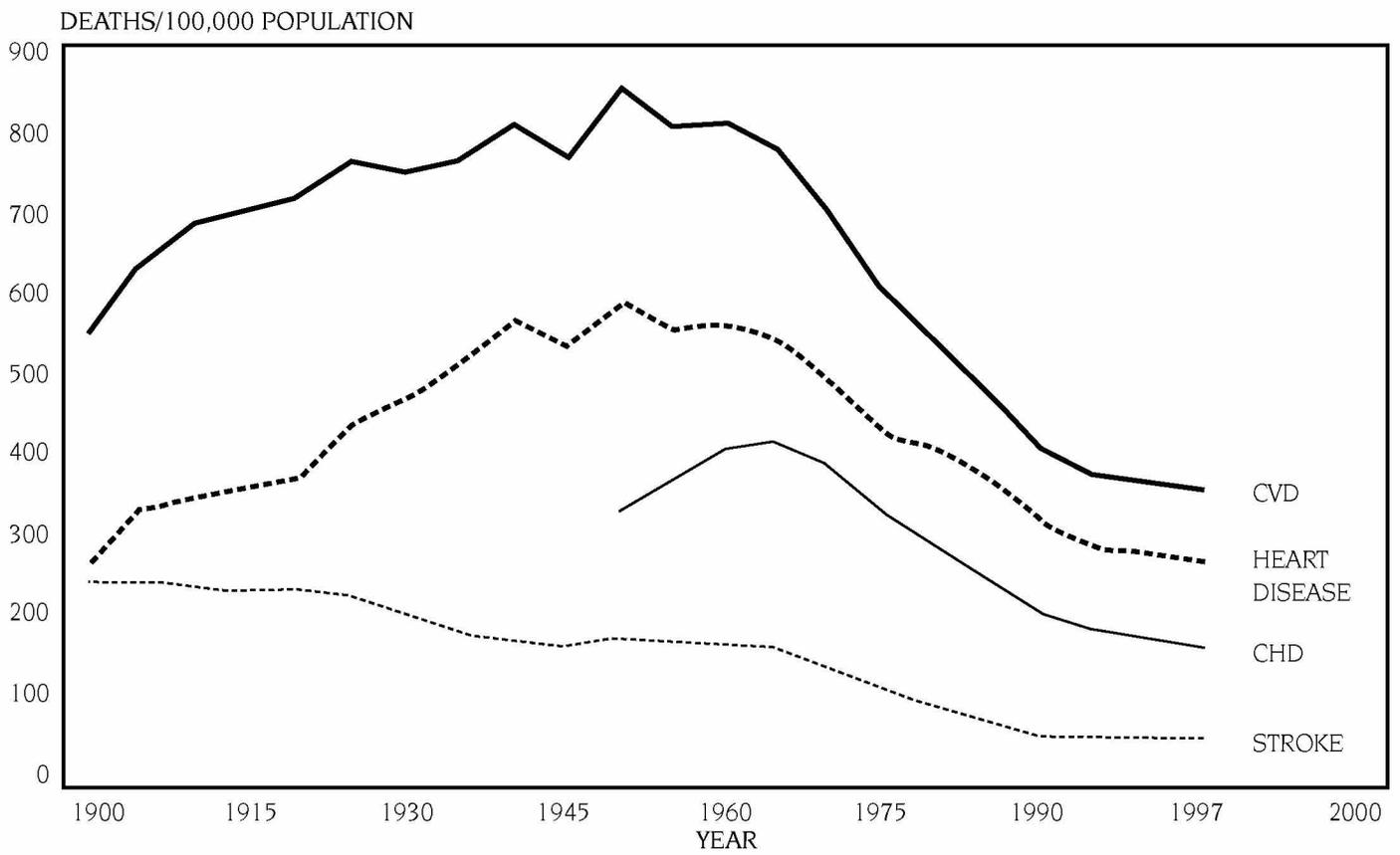


### ***Established Market Economies: Is All the News Good?***

The decline in CVD mortality in Western Europe, North America, and Australia/New Zealand has been well documented since 1970 or so, with some variation in the years in which the declines began (Thom, 1989). Much has been written about the cause of the declines, with most balanced reviews suggesting a combination of public health measures (tobacco policies, health education, nutrition programs) (Epstein, 1989) and improvements in care (Goldman and Cook, 1984; Pearson, 1989). These trends have been correctly cited as evidence of the preventability of CVD at the population level.

Recent data from some of the developing countries have been more pessimistic, suggesting a slowing of the decline in CVD mortality, or even a reversal. A review of CVD trends in the United States, for example, suggests a flattening of the decline in CVD mortality since 1990, and a well-documented absence of a decline in stroke mortality since 1990. (Figure 2) (Cooper et al., 2000). This is coupled with an increase in mortality from congestive heart failure, and a

progressive year-to-year increase in the number of hospital discharges for CVD. Considerable heterogeneity in declines was also observed in the U.S. for race and ethnic groups, socioeconomic strata, and geographic regions within the U.S. Studies of two states (Massachusetts and Minnesota) show little decline in incidence of ischemic heart disease and stroke since 1990, suggesting that any further decline may be solely due to reduction in case fatality rates after the onset of CVD (McGovern et al., 1996; Goldberg et al 1999). This may explain the increasing prevalence of CVD in the U.S., now estimated to be 12 percent of men and eight percent of women, in adults aged 45 years and older. The lack of reduction of incidence is consistent with other data showing little change in tobacco consumption, dietary fat, physical activity, or blood pressure control since 1990 (Cooper et al., 2000). More ominous are data suggesting increased caloric intake followed by an epidemic of obesity and diabetes (Cooper et al., 2000). These data would suggest that the pattern of decline of CVD in at least one developing country, the United States, may be at an end.



**FIGURE 2: AGE-ADJUSTED (TO 2000 STANDARD) MORTALITY RATES FOR MAJOR CARDIOVASCULAR DISEASES IN THE UNITED STATES FROM 1900 TO 1997**

Source: Cooper et al., 2000





# CHAPTER 2

## POLITICAL, SOCIAL AND ECONOMIC FORCES INFLUENCING GLOBAL HEART HEALTH

This chapter uses a political economy perspective for the analysis of the interplay of political, economic and social aspects of CVD prevention that originate primarily from outside the health sector. It discusses aspects of the development and implementation, or lack thereof, of prevention and promotion policies at the macro level, including health systems development, governance, financing, economics, and global trends.

Factors from outside and beyond the control of the health sector shape environments, behaviors and health systems around the world. Globalization trends, systemic barriers, professional issues, ethics and rights, biotechnology and genetics, financing and research, are issues that require consideration in shaping strategies for creating health through strengthening the capacity of health systems to deliver prevention, and by establishing the appropriate links with social, economic and political constituencies.

### GLOBALIZATION

Globalization has been defined for the purposes of this document as a process of increasing global interdependence and integration of such things as economics and trade, travel, information and related technology, and cultural values on one hand and with increasing divergence and dislocation on the other. All of these have important implications for governance generally and health and health policy specifically. To some extent, and for some people, certain aspects of globalization are positive, offering unprecedented opportunity for economic growth, cultural exchange

and transfer of knowledge. Yet, for many others, the effects of globalization are damaging or even potentially devastating (Wyplosz, 1999).

While there has been an overall surge in economic growth associated with global restructuring of production, deregulated financial markets and increased international trade, the gains from economic growth have been unevenly shared among and within societies. Of particular concern are the constraints imposed by globalization on national governments' traditional responsibility for moderating wealth distribution in society, thereby influencing the relationship between socioeconomic status and health.

### Health Reform

Globalization has been accompanied by significant health system reform that is being carried out in many countries of the world. Reform is characterized in many cases by a drive to redefine the role of national and local governments with respect to health, putting more focus on the development of systems with greater community and citizen participation. The aim of much of this change is to ensure equitable access to health services for all, and particularly for disadvantaged groups (European Health Care Reform, 1997).

To varying degrees, health reform in many countries is being driven by the process of privatization with the aim of reducing public sector spending on health care. The process is often being carried out under the guise of rationalization of public and private sector involvement in health care delivery with the aim of greater emphasis on efficiency and cost-effective programs and services.



Critics argue that this change is being driven, in part, (and in some areas) by the attempt to download responsibility for health to lower administrative levels. A problem exists in that these levels do not often have adequate material or human capacity to carry out these reforms. This impacts the capacity of health systems to initiate and maintain heart health programs at all levels.

### ***The Need for Global Action***

An important consideration for health reform is that, in a globalizing world, unhealthy lifestyles and environments that are at the root of the CVD global epidemic can be as communicable as infectious agents. This situation often results from individuals and communities adopting unhealthy socio-cultural practices and habits that may be new to the society, the adoption of which is influenced by the advertising of new products. This process is likely to be more prevalent with respect to youth in many societies; a phenomenon that has been described as the “global teenager” (Schwartz, 1996).

Such examples reflect the globalization of health problems that call for global solutions. Reliance exclusively on a collection of national health policies and legislation is not likely to be adequate or feasible in this era of great global change. Therefore, there is a need for global policies on health and CVD. For the international community with an interest in health it is necessary not only to think globally but also to act globally.

The global marketing and uptake of tobacco products is a specific case in point. In this context, the



International Framework Convention on Tobacco Control being put forward by the World Health Organization (WHO) is an important example of the kind of leadership and initiative required if appropriate global strategies are to be developed to deal with the major threats to health posed by NCDs such as CVD.

The tobacco treaty will provide the international framework to develop national health policies and to control the global reach of transnational tobacco companies. It sets standards that countries can adopt to control advertising, prevent smuggling and facilitate the global exchange of knowledge regarding the tobacco use epidemic. This initiative underscores that when the international community comes together in support of health they are also demonstrating concrete support for justice, equity and solidarity.

Yet, positive as these initiatives are, there is concern that the forces of globalization, particularly with regard to economics and trade, have the potential to make it harder for governments to intervene within their own borders.

### ***Technology, Information and Marketing***

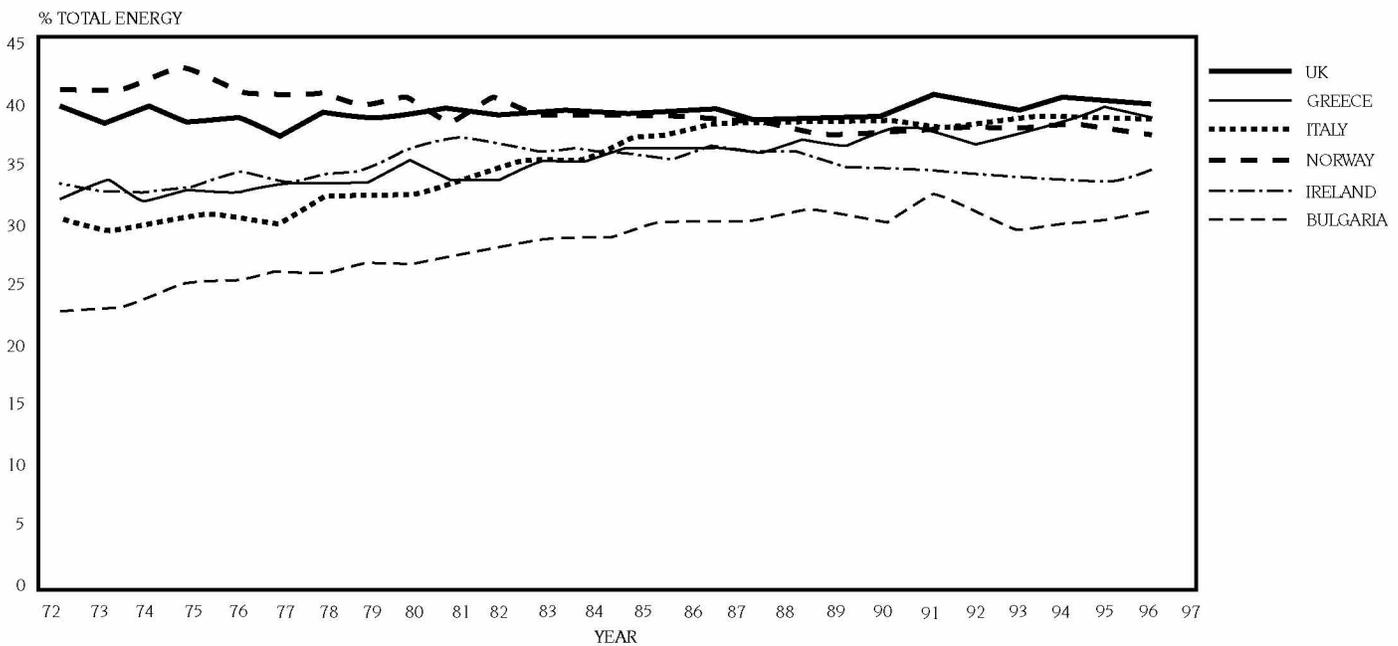
The information technology revolution as a part of globalization holds out the potential for a better-educated world with greater access to prevention and promotion information. However, information technology can overwhelm traditional cultures furthering trends towards a single universal culture and lifestyle that for the most part is not particularly supportive of health.



This, combined with the fact that political, social and economic policies are increasingly beyond the control of national jurisdictions, limits the capacity of health systems to counter the spread of CVD risk factors such as unhealthy diets and consumption of tobacco products.

Probably one of the most obvious examples of the double-edged nature of globalization is the convergence that is occurring with respect to the global diet (European Cardiovascular Disease

Statistics, 2000). In Europe, for example, the country-to-country variability in dietary fat consumption appears to be declining (Figure 3). Countries, such as the United Kingdom, have moderately reduced their consumption of saturated fat (as a percentage of calories) from 1972 to the present (European Cardiovascular Disease Statistics, 2000). Over the same period, countries with low saturated fat consumption, such as Bulgaria, have increased the consumption of these fats. This has led to a convergence of eating patterns over the last thirty years.



**FIGURE 3: PERCENTAGE OF TOTAL DIETARY ENERGY FROM FAT IN SELECTED COUNTRIES, 1972 - 1997**

Source: European Cardiovascular Disease Statistics, 2000

On the other hand, in Poland the lifting of restrictions on the importation of low saturated fat margarine, fruits and vegetables has contributed to recent reductions in coronary artery disease in that country (Zatonski et al., 1998). The liberalization of food marketing and trade is a growing force. The challenge is to enlist these market forces for the promotion of more desirable food consumption patterns and habits.

Globalization of public education and information has the potential for significant positive impact on health. However, the opposite is occurring with global messaging that does not respect cultures. It is usually driven by economic motives e.g. the marketing of fast

foods, drugs and tobacco. These efforts are usually well financed and highly professionally marketed with profit as the only motive. Global strategies to counteract the above do not generally exist. Education messages tend to be local and their delivery is most often poorly financed and without professional marketing. Under such circumstances, it is almost impossible for these educational efforts to be applied on a large enough scale or for long enough to affect significant change and deliver a "preventive dose".

In addition, the enhanced ability for global communications has created significant opportunities for direct-to-consumer advertising on the part of such industries as international pharmaceutical companies.



The ability of drug companies to use communication technology on a global scale to cross borders to sell directly to the consumers has created, in some countries, economic incentives for the use of drugs. In contrast, although there are increased opportunities for global marketing of pharmacological agents, there is not a parallel force to globalize hygienic heart health measures.

### **Medical Technology**

Another global influence is the medical profession and the pharmaceutical and medical instrument companies. Medical education, medical information, and high technologies such as pharmaceuticals and devices are increasingly marketed on a global basis. Many opinion leaders in medicine have trained in several different countries. Most pharmaceutical and medical device companies are transnational, with the highest technologies promoted as the best technologies, often with attention to efficacy given priority over that of cost-effectiveness. Continuing medical education, increasingly available over the Internet, shapes the attitudes and practice behaviours of the professionals receiving it regardless of whether the education fits their practice environments.

However, globalization has the potential to diminish the capacity of national governments to develop broadly based policies for health promotion and disease prevention. Policies generated by transnational, corporate and other interests can reduce the capacity of state governments to control circumstances within their own borders. The global industrial sector with a direct financial interest in health and illness tends to skew the national health policy agenda towards curative issues and to the investment in expensive technology (Morgan et al., 2000).

Investments in technology constitute an opportunity cost that not only places limits on the ability of health systems to finance health promotion and disease prevention but also limits their capacity to invest in other important sectors of society that have a bearing on health, such as education. Clearly the concept of opportunity costs has to be considered, keeping in mind the different context of the infrastructure and stage of development, etc. that exists in developing and developed countries. However, it is a valuable

concept that can be employed in deciding upon policy options.

### **Changing Epidemiology and the Future**

Finally, the privatization or individualization of risk has increasingly replaced population approaches to CVD control - privatization of risk suggests that the individual is responsible for his or her own risk of CVD and preventive measures increasingly have focused on individual risk assessment and the treatment of the highest risk individuals (Rockhill, 2001). This shift from population-wide interventions has been considered evidence for the failure of public health to offer solutions to contemporary health problems, including CVD (Beaglehole et al., 1997; Schwartz et al., 1999). The CVD mortality reduction in developed countries since 1970 appears attributable at least in part to population-based strategies in tobacco, nutrition, and physical activity. At least in the U.S. and Finland, the cessation of reduction in tobacco, dietary fat, and sedentarism appears to correlate well with the cessation of CVD incidence reduction. The continued (but lessening) decline in CVD mortality correlates with applications of increasingly high technology to high-risk groups. The privatization of risk appears to have favored those with higher education and in higher income strata, with large gradients in CVD mortality resulting in the highest CVD mortality rates in those least likely to comprehend and reduce their own risks.

What is the final stage of the CVD epidemic? The current model (Table 1) suggests that CVD will continue to decline, affecting older and older individuals, with fewer persons in socially and economically productive ages affected. Recent changes in CVD in developed countries like the U.S. suggest another scenario, in which a steady state is reached that is dependent on the country's capacity and will to institute population-wide changes. This stage, termed the stage of globalization and privatization of risk, suggests CVD will become ubiquitous around the globe, with rates of heart disease and stroke determined not by country of residence but by an individual's receipt of a global array of products, information, and education. Thus CVD rates will vary more by education and income than by country, and CVD will be endemic and pandemic.



The rapidity by which CVD has become established in developing countries, the magnitude of the CVD epidemic in Eastern Europe, and the possible leveling of the decline in CVD in the U.S. and possibly other Western Countries can be speculated as having a common theme: that CVD, as a global pandemic, now has causative factors acting on a worldwide basis. The same factors may initiate, enhance, or sustain the epidemic, depending on the local conditions. These factors are not necessarily new ones, as smoking, high blood pressure, high blood cholesterol and diabetes are common to CVD patients worldwide. The end result is the globalization of the CVD epidemic as the leading cause of death for humankind, regardless of the location on earth.

## THE CLINICAL MEDICAL PARADIGM

In the area of promotion and prevention there is no private sector or industrial base with a direct commercial interest in the primary prevention of CVD. In contrast, there is a substantial industrial base behind the health care sector that is influential in creating demand, shaping policy and determining the resource allocations of health systems, all with a natural bias towards curative care. Government policies for primary prevention need to ensure that a more appropriate balance is struck in the provision of resources directed to promotion and prevention vis-à-vis curative services. Ultimately, support for the prevention agenda must come from the public sector, as it is unlikely that others, notably industry, will do it in the absence of a profit motive.

The implementation of promotion and prevention initiatives is challenged by the inappropriate application of the clinical paradigm that targets individuals instead

of policies and strategies that target populations and communities as a whole. For the latter, critical issues are the capacity to intervene when, of course, sufficient evidence for effectiveness exists. Community interventions must first of all have enough capacity

to deliver a sufficient intervention dose, namely: the appropriate intervention, in the right amount with sufficient population reach.

In many countries research resource allocation is influenced disproportionately by clinical and biomedical researchers. Often, proposals for community level prevention and promotion research is impeded by excessive adherence to the randomized controlled trial, which is not applicable to community and population approaches. The research and implementation of promotion and prevention programs continues to be hindered

by constraints imposed by the clinical research evaluation paradigm. The heart health community should recognize other well-established methods for judging effectiveness of health promotion and prevention interventions. As a proactive step it will be important to develop alternative, and agreed to, criteria for evaluating health promotion and prevention interventions.

Other differences between these two approaches are illustrated in Table 3. Whereas in clinical interventions the client is the individual patient, in the promotion and prevention paradigm the client is the community or a population. Similarly, the intervention outcome in a clinical context is obtaining individual level change, whereas in promotion and prevention the outcome is to change the social and environmental norms and values that lead to changes in the entire population.

*The rapidity by which CVD has become established in developing countries, the magnitude of the CVD epidemic in Eastern Europe, and the possible leveling of the decline in CVD in the U.S. and possibly other Western Countries can be speculated as having a common theme: that CVD, as a global pandemic, now has causative factors acting on a worldwide basis.*



**TABLE 3: COMPARISON OF THE INDIVIDUAL AND COMMUNITY APPROACHES FOR CVD PREVENTION**

INDIVIDUAL - CLINICAL PRACTICE	COMMUNITY - POPULATION APPROACHES AND HEALTH PROMOTION
<p>The standards are randomized controlled trials</p> <p>Patients are individuals</p> <p>Less than therapeutic dose is unacceptable</p> <p>Easier to treat an individual</p> <p>Outcomes of interventions are individual change</p> <p>Interventions can focus on most factors relevant to the outcome</p>	<p>Standards are outcome and process evaluations; use quantitative and qualitative methods</p> <p>The client is the community</p> <p>Preventative dose rarely applied</p> <p>Difficult to scale up health promotion programs that reach the whole population</p> <p>Outcomes are to change the social norms, environments and behaviour of entire populations</p> <p>Interventions rarely take on social determinants external to the community</p>

There are examples of promotion and prevention initiatives that have successfully implemented comprehensive population health programs. Well known studies in the U.S. and Finland have demonstrated the potential of community interventions to improve cardiovascular and other health outcomes (Schooler et al., 1997, Puska et al 1995). The results from these studies have shown that preventive approaches need to be comprehensive and use multiple intervention channels, emphasize linkage to the local health systems, and focus on bringing about environmental and policy changes. These lessons have been embodied in the recently launched U.S. CDC Cardiovascular Health Initiative that gives priority funding to policy and environmental change measures.

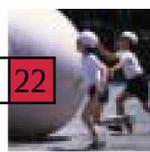
Other examples of successful application of promotion and prevention approaches are the U.S. initiative on High Blood Pressure Detection and Education (National High Blood Pressure Detection and Education Program, 1980) and the National Cholesterol Education Program (1985). There is evidence that the drop in cholesterol levels was successful because it combined education and behavioral change strategies with an environmental change in which the industry provided foods to the public that were lower in fat.

Stomach cancer and stroke are two notable examples of the power that an environmental change can have on the incidence of major diseases. Mortality from these causes has declined significantly since the

1950s. The decline was coincident ~ and most likely due to ~ the advent and widespread use of refrigeration that reduced requirements for salting and curing of food staples for preservation purposes. Salting and curing of foods has been implicated as a cause of both stomach cancer and hypertension and stroke.

### THE BIOTECHNOLOGY AND GENETIC INDUSTRY

Biotechnology and genetics have become a major area for health system investment and for the allocation of research dollars. There has been significant “irrational exuberance” with respect to the potential of these areas of research to provide real health gains. An example is the optimism on behalf of the Nobel prize-winning scientists Drs. Brown and Goldstein (1996) who wrote that CVD would be a non-issue for prevention in the first decade of the 21st century due to application of gene therapy. Clearly this optimism has not been justified. Because CVD is multi-factorial, it remains very unlikely that there will be one single gene to target. Epidemiological research would suggest that the present level of optimism for a single gene solution is overstated and that the gene/environment interaction is the key determinant to disease expression in a population. More than ever there is now a need for the heart health constituency to advocate for a balance between biotechnology and genetics research and more general population health approaches to obtain improvements in the population health status.





## ETHICS AND THE RIGHT TO HEALTH

Societies, governments and health systems recognize the need and desirability for their citizens to access treatment and other health services - to the extent that societal resources permit. Indeed, some countries have codified health as a basic human right that is directly tied to issues of equity, solidarity, patients' rights and quality of care. This perspective is increasingly acceptable to the international community, and is actively promoted by WHO policy, and by a number of countries and international organizations and networks. At the practical level, this recognition and acceptance of the "right to health" applies mainly to diagnostic and treatment health care services, and generally ignores the ethical right to health promotion and disease prevention.

The above highlights a number of ethical issues with respect to decision-making on the part of health professionals and by those charged with the governance of health systems. Because CVD is an

area where significant health gains can be realized, the ethical issues of promotion and prevention ought to be of special concern to the CVD constituency.

Health professionals, particularly clinical specialists such as cardiologists and cardiovascular surgeons, are influential in the determination of health policy. As a group they have not only the capacity but also the ethical responsibility to advocate for support not only of treatment-oriented policy, but also for preventive policies, programs, and services. This responsibility to advocate should be of paramount importance to health practitioners and specialists in situations in which resource constraints make it unlikely that major health gains can be made through provision of illness care services.

But not all the onus should be placed on the health professionals alone. The capacity of the health system to provide for prevention and promotion depends upon the policy choices made by those who are responsible for the governance of the health system. Governance includes the political and senior management levels of government and their policy decisions, which should also be guided by ethical considerations. This impacts on issues of prevention and promotion as many jurisdictions, at best, do not assign the resources for these services that would seem to be justified by the state-of-the-art science, and, at worst, they may not assign any resources at all.

Ethics has become widely accepted in clinical aspects of health care. Patients' rights were highlighted in the Lubljana Charter (World Health Organization, 1996) and are being codified in the practice of health systems and in the legal frameworks of many countries. Patients' rights cover a wide range of issues such as the right to confidentiality, informed consent, full disclosure and the right to receive the health care appropriate to one's health needs. They focus mostly on the clinical care encounter. Recent worldwide attention to health care reform provides an opportunity, either to expand these rights or to create a parallel set of rights for entitlement and access by citizens to health, health promotion and disease prevention. Patients' rights should therefore be placed in the context of quality prevention and promotion services and people's right to health and not just health care.

The practices of health professionals, especially physicians, are universally governed by a code of ethics that binds them to provide the best possible care for their patients. Given the advances in the prevention of CVD that have occurred over the last fifty years and the plethora of interventions that are known to be effective, the provision of prevention and promotion services by health professionals ought to be seen as integral and equal to the rights for treatment in the ethical code of patient care.

However, politicians and policy makers need to also recognize that their decisions related to apportionment of resources among prevention, health promotion and clinical care have a significant ethical basis. The resources and the policies that govern the health system, in turn condition and mold the behavior and the capacity of health professionals in the discharge of their ethical responsibilities to carry out best medical practice including the provision of prevention and promotion services. From a practical perspective this means that health insurance legislation needs to provide financing for the provision of preventive health services and for the basic infrastructure for primary health care. This includes provisions for the reimbursement of health professionals to practice prevention and the appropriate training programs to enable them to acquire the capacity to do it.

A major ethical dimension with respect to promotion and prevention concerns the implementation of policies and interventions that affect communities and entire population groups. Current practice allows almost any group of professionals or non-professionals and almost any organization regardless of credentials, to initiate prevention and promotion programs that affect lifestyles and awareness levels of individuals. This often occurs in the absence of any ethical or scientific review and without regard for issues of equity or whether the dose of intervention is adequate so as to justify an expectation of health gain to the people or communities concerned.

Community interventions need to be examined from an ethical perspective. In many cases interventions are implemented with the support of short term funding policies that effectively see communities as laboratories or experimental groups in which the interventions are carried out for a limited time frame and when services or programs are terminated, the communities are left to pick up the pieces. Governments and other organizations that support community interventions are bound to review proposals to be funded with these ethical considerations in mind.

### FINANCING OF HEART HEALTH

The argument that “prevention pays” often does not result in increased health system allocations. The responsibility for the fact that prevention loses in the competition with clinical care lies more with reasons of political economy than effectiveness. The issue of financing is a problem at all levels - local, national and international.

In managed care health systems that are common in the U.S., there is an emphasis on “return on the dollar”. Clearly prevention and promotion, where benefits often accrue in the longer term and are measured by the absence of clinical events (e.g., heart attacks and strokes), presents difficulties for those operating in an investment paradigm. Also it is more difficult to convince the private sector to finance long-term behaviour change strategies than to finance technology. In the U.S. some health promotion and disease prevention is financed and delivered by the private sector (e.g., work site programs etc.). However, as the insured populations covered under these programs are getting older and consuming more health care dollars, there are fewer funds available for prevention and promotion efforts, particularly for the all-important task of dissemination (Farquhar, 1996).



There are some financing models, such as dedicated taxes as utilized in the California tobacco control program that are effective options for financing of heart health and have shown an impact on health outcomes. (Sly et al., 2001; Pierce et al., 1994)

There is a striking absence of policies for financing international infrastructure and capacity building for heart health. Issues of financing may be positioned in economic terms as a global public good<sup>1</sup>. The control of communicable disease has been considered a global public good since the Athenian plague in 430 BC. This perspective is supported in modern times by international organizations such as the WHO. The shift in balance from the consideration of chronic diseases as mainly issues of national concern to that of a global public good is being driven by the forces of globalization outlined earlier in this chapter.

Those concerned with heart health promotion at the international level, should advocate for mechanisms to advance the concept that chronic disease prevention is a public health good. They may ask for the creation of the infrastructure needed to set priorities for research and implementation, to prepare proposals, and to administer funds that might be provided by governments and health, social and economic development agencies.

The epidemic of CVD is based on the uptake of unhealthy lifestyle choices and behaviours, which in turn are being spread by the globalization of communications, marketing and trade. Given the determinants of this global epidemic, stemming it is beyond the ability of any nation or group of nations. This poses a challenge to existing international bodies such as the WHO, the World Bank and international NGOs to provide leadership, financing, policy and organizational frameworks that will provide the mechanisms to finance health as an international public good.

## AN UNBALANCED RESEARCH AGENDA

Most research funding goes to the support of new understandings of disease processes, new treatment modalities and the development of new technology. Very little supports implementation research for heart health programs through health promotion and disease prevention approaches (Farquhar, 1996). There is only very limited money available for research in CVD for developing countries, and for CVD research with an international scope. The Global Forum for Health Research (2000) has documented that 90 percent of the research dollars are spent on the ten percent of the population in developed countries. It is sobering to realize that the epidemiology of diseases such as CVD is based on studies that have been carried out only on approximately 20 percent of the world's population and these studies have been confined almost exclusively to the western world.

Community research is expensive, takes time and often requires a combination of qualitative and quantitative methods involving a different evaluation paradigm than that used in most experimental research. The lack of research funding extends to priorities such as dissemination, translation of science into practice, implementation research as well as to methods for training researchers and building the human resource capacity to implement heart health policies and multidisciplinary programs (The Catalonia Declaration, 1996).

Research should also focus on issues of the political economy of heart health, including monitoring of the impact of globalization on health and CVD. This could be aided by the establishment of vehicles such as the Global Observatory on CVD Prevention and Control that was recommended by *The Singapore Declaration for Heart Health* (1998).

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<sup>1</sup>For the purpose of this Declaration a public good is defined as a good that has properties of non-rivalry in consumption and non-excludability. A "global" public health good is defined as a public good with benefits that are strongly universal in terms of countries, people and generations (Global Public Goods, 1999).





The success of the U.S. in controlling tobacco use and in getting support for broad policies of dietary change is due in part to the existence in that country of scientific establishments (National Institutes of Health and Centers for Disease Control and Prevention) to counter the market forces of the private sector. This has been aided significantly by the existence of consumer groups that have been very active in educating the American public concerning a wide range of health issues. The National Public Health Institute in Finland is another example of an institution with high public and scientific credibility providing unbiased information to assist decision-making on the part of the public and politicians.

In summary, the global need to control chronic diseases such as CVD presents enormous governance and institutional challenges because of the evolving

global context and the radical changes in international structures and forms governing commerce. Globalization of finance and trade has led to the adoption of systems of rules, such as those of the World Trade Organization and multilateral trading regimes that have the potential to impact the health of populations as well as the organization and delivery of health services. New institutional systems that are able to counter these disruptions are needed. These include the potential of an increased role for international governmental organizations (e.g., WHO) as institutions of global governance. A much more important hope for the future would be the development of mixed coalitions forming around such issues as tobacco control, HIV/AIDS, and small weapons control that involve NGOs, social movements, academics, IGOs, national governments, and, increasingly, business.



# CHAPTER 3

## SYSTEMIC BARRIERS FOR HEART HEALTH

### SYSTEMIC BARRIERS

*The Catalonia Declaration* (1996) discussed barriers to effective (heart health) action that “reside ultimately on the thoughts, actions, and behaviour of individuals at all levels of society and of the organization and systems to which they belong”. These include: aversion or resistance to change, gaps between scientific knowledge and its application, conflicting commercial and marketing interests, and lack of collaboration.

Despite clear evidence for the value of prevention, there remain considerable systemic barriers to heart health. These barriers are not unique to heart health, but indeed apply to most areas of health promotion and disease prevention in general. This Chapter focuses on those barriers that are inherent in health systems worldwide.

### A LACK OF PRIORITY FOR HEALTH PROMOTION AND CVD PREVENTION

The potential health as well as the economic gains from investment in prevention are poorly understood by governments and societies (*The Catalonia Declaration*, 1996). There is not an exact formula to arrive at an appropriate balance in resource allocations for the curative and preventive components of the health system. However, the potential gains from prevention of CVD in terms of quality of life, years free of disability, increased productivity and control of health care costs, suggest that the imbalance needs to be addressed.

Funding for heart health is scarce. The reasons for this include a lack of belief that prevention works and the competing priorities faced by health systems to attend to curative care and communicable disease control. Other reasons are: the benefits from prevention of

NCD are usually observable only after many years, beyond the time horizon of political decisions; and the difficulties in obtaining funding for sustainable programming from the private sector. The latter is due to the limited potential for economic gain that industry can realize from promotion and prevention.

These realities reflect basic perceptions about the value of promotion and prevention. Governments tend to equate “health care” policy with “health” policy. Prevention and promotion are often considered to be the responsibility of individuals because of their association with lifestyles and the belief that these result only from personal choices without recognition for the complexity of the determinants of human behaviour. For example, environmental influences on lifestyle are often not recognized and hence are not addressed by health policy.

The above barriers are compounded by the fact that in many health systems there is a lack of collaboration between those who practice health promotion and those who work in disease prevention. Some formulations of health promotion policy do not value disease prevention issues and activities. In practical terms this has resulted in difficulties in recruiting health promotion resources in support of disease prevention strategies.

Another reason for the lack of priority for promotion and prevention is that the concept of continuity of health - which brings together health promotion, disease prevention, cure, rehabilitation and care is not well understood by health systems and consequently there are no strategies or funds in place to bring it about.



In contrast, at the level of the individual patient the need for continuity of care is well accepted. In practice, health care services, public health, and health promotion are often seen as disparate components of the health system with different orientations, resource allocation principles and management. All too frequently, these components have little interaction, and even behave as antagonists, competing for status, influence and resources.

*Health21*, the key policy document of the European Office of the WHO, “focuses attention on the final health outcomes and sees health promotion/disease prevention/diagnosis/treatment/rehabilitation/care, not as separate entities, but as one continuous link of actions to improve health gain”. According to *Health21*: “the management system (should) ensure that the different elements in the system are resourced according to their relative value, that they operate so as to optimize their individual and combined actions, and that they are monitored/evaluated on the basis of their impact on agreed health outcome indicators” (World Health Organization, 1999).

### **LACK OF POLICIES TO ADDRESS THE BROAD DETERMINANTS OF HEALTH**

The development of government policies to deal with the determinants of health has not matched the rhetoric. Health departments have tried to tackle the determinants of health agenda (e.g. issues of income, unemployment, equity in health) with marginal success since they do not possess the policy instruments necessary to deal with this issue. The determinants of health are an agenda for a government and all of its ministries and departments, not just for the health department. Sweden has recently enacted national goals that address the determinants of health.



The goals were prepared through an intersectoral process that included scientists, representatives of government departments and members of parliament. This may serve as a model for others and a basis for constructing a global strategy for health (Equity in Health, 1999).

In the context of heart health, determinants of health policies should aim to prevent the emergence of risk factors in the first place. The concept of “primordial prevention” coined by Strasser (1978) aims to create, or rather recreate, “risk-factor-free societies” and preserve “the root social conditions in which risk factors do not arise” (Labarthe, 1999). In practical terms this means those individuals concerned with heart health need to “get out of the professional box” and use their influence to advocate to governments for social, economic and environmental policies that support the broader determinants of health, which in turn have an impact on risk factors for CVD (The Victoria Declaration, 1992; The Catalonia Declaration, 1996, The Singapore Declaration, 1998).

Similarly, social and economic development agencies have an opportunity to demonstrate that their actions and policies can have an immense impact on health and on the economics of disease. “The alternative is to continue indefinitely to rely upon the late and incompletely effective strategies, with their recognized costs for detecting and treating already established risk factors that have been causing progression of atherosclerosis since childhood” (Labarthe, 1999).

### **LACK OF INSTITUTIONAL CAPACITY FOR PROMOTION AND PREVENTION IN THE GOVERNANCE AND ADMINISTRATION OF THE HEALTH SYSTEM**

Most public health and primary health care systems are ill-equipped and under funded to implement comprehensive NCD and CVD prevention policies (Global Forum for Health Research, 1999; Primary Health Care: Everybody’s Business, 2000). In developed countries, the health service infrastructure is present, however the will (and policies) to apply it to prevention is often lacking (The Singapore Declaration, 1998). In contrast, in developing countries the health system

infrastructure is often lacking, thus they cannot undertake prevention programs on a scale large enough to make a significant population impact on the disease.

Improvements in institutional capacity requires the following: policy and consensus development; the development and implementation of strategies; intersectoral approaches; effective collaboration among all health system components; efficiency and quality management of human and other resources. Other requirements are: health system management accountability for health outcomes, (not just for running good administrative processes); and an appropriate balance between management expertise and content knowledge. Those committed to heart health can share experiences and adopt interdisciplinary approaches, advocate, develop leadership, and establish champions for CVD prevention.

WHO is positioning itself to help Member States increase their NCD prevention capacity. The 1999 *World Assembly Resolution on Noncommunicable Disease Prevention* (1999) has recognized NCD prevention as a priority and has called for the development of a global strategy. WHO is now taking an international leadership role and increasing its capacity to control the emerging NCD epidemic. This is evidence of the priority that NCD and CVD are being accorded.

### **LACK OF SUSTAINABLE FINANCING FOR HEART HEALTH**

Resource allocations to public health, primary health care, and specific NCD prevention programs are woefully inadequate when compared to those available for curative services. In developed countries, it is estimated that between three and five percent of total health care expenditures is allocated to public health and health promotion programs (World Health Report, 1997). It appears that these distorted allocations are due to unlimited demand for curative services, including new medical technologies. An additional reason is the prevalent attitude that attaches a higher value to the benefits from acute care and deeply discounts the benefits from prevention that occur decades into the future.



Securing sustainable financing for heart health presents a difficult challenge. Much promotion and prevention funding is for small-scale interventions such as demonstration programs with distinct termination timeframes. Funding agencies often follow a “seed money” approach and a research orientation rather than an implementation focus. This contrasts with the financing of the health care systems where, within the measure of resources available, health institutions are typically funded for the long term. A case in point: there are no “demonstration hospitals”!

There is limited financing in support of large-scale interventions of NCD and CVD prevention, particularly at the community level. There is a need to advocate for policies and strategic plans that include provisions for adequate financing so that the appropriate interventions might reach the right number of people, with sufficient intensity and duration. Just as important as financing, is the political commitment of health departments to use the existing resources of the health system (e.g. primary care, public health) to scale-up heart health interventions.

### **THERE IS A GAP BETWEEN KNOWLEDGE AND PRACTICE**

Studies show that the application of new knowledge can be a major determinant of the health of populations (World Health Report, 1997). In the context of applying what we know about CVD prevention, there are two basic challenges. One is that the knowledge gained from fifty years of prevention and promotion research has not been fully implemented or disseminated to the degree necessary to make an observable impact at the population level, particularly in arresting the impending epidemic in the developing world. Responsibility for this state of affairs must be borne in part by the scientists and health professionals, who as the repositories of knowledge of prevention, have failed to translate science into policy options and to communicate effectively to governments, decision makers and the public on the potential for CVD prevention (The Victoria Declaration, 1992; The Catalonia Declaration, 1996; The Singapore Declaration, 1998). In addition, governments and health agencies are often remiss in

not involving scientists and professionals in key policy, programmatic and resource allocation decisions that facilitate the translation of the scientific knowledge into practice.

A second challenge is to redress the dearth of resources dedicated to dissemination and implementation research (Farquhar, 1996). Research resources are overwhelmingly concentrated in the biomedical and clinical areas. This imbalance may be attributed in part to the fact that research into community health promotion and prevention approaches has for the most part been funded for time limited and geographically limited demonstrations. Dissemination and the challenges of full-scale implementation have yet to be placed on the health policy agendas and the necessary research priorities and methodologies for these strategies are still in their infancy. This type of research is complex because it involves working with various levels of the health system as well as communities, and requires the development of new systems and information for monitoring implementation (e.g. cost data). Nevertheless this type of research, though costly, needs to be undertaken in order to realize the potential of promotion and prevention.

There are many heart health interventions being implemented in the world from which much can be learned (The Catalonia Declaration, 1996; Schooler et al, 1997; Grabowsky et al., 1997). At the international level, technical committees of WHO have developed and disseminated many landmark technical reports and guidelines on CVD prevention and control. However, the lessons learned, often from the investment of considerable resources, have not been adequately disseminated or applied.



# CHAPTER 4

## IMPLICATIONS FOR ACTION

In the face of this burgeoning global epidemic, there is an immediate requirement for bold, decisive action on the part of committed decision-makers. There is a clear need to place the prevention of CVD and the promotion of heart health as a pillar of the health system in developed and developing countries alike. Previous sections have illustrated that the formal health systems have neglected, for a variety of reasons, the prevention of chronic disease - and all countries, now, or in the future, will suffer the consequences of that neglect. Globalization presents challenges and opportunities for CVD prevention. It is timely to act.

### GOVERNANCE AND POLICY

The social, economic and political forces that drive the issues of CVD prevention call for a global policy response. Traditionally, health agendas have been within the purview of national governments and ministries of health. The widespread influence of globalization imposes constraints on the ability of governments to guide the social and health agendas. National governments, departments of health, health professionals, scientists, and their professional organizations need to be more proactive in responding to the challenges of globalization.

At an international level in particular, it is the WHO that can take an assertive role in advancing heart health. As CVD respects no national boundaries, the WHO can convene and facilitate this dialogue on a global scale and take it forward to action.

The Framework Convention on Tobacco Control, already discussed, is an example of international collaboration and a mechanism to strengthen the national capacity to achieve their health objectives. The fact that the Convention will result in binding agreements and a treaty for tobacco control holds the promise for a development of global health policy in other areas, such as nutrition. Successful implementation of the Convention will require supportive infrastructure and consideration of new models of global governance to manage health agendas (Jamison DT et al., 1998).

### *Recommendation:*

*That the WHO continue to strengthen the capacity for heart health promotion in all WHO Regions and Member States.*

Other international social and economic development agencies such as the World Bank and the International Monetary Fund, international NGOs, as well as the private sector, have expertise and resources and should play a significant role in adding health to their development agenda and supporting global action in areas such as equity in health and human development.

### *Recommendation:*

*That departments of health and members of civil society make governments aware that the determinants of health agenda is an agenda for governments and all of their departments, not just an agenda of the health department.*

There is an increasing role emerging for international government organizations (e.g. WHO), international NGOs and, more importantly, for coalitions that are horizontally linked and issue-driven (e.g. tobacco control, AIDS) as institutions for global governance.

At the global and regional levels of the WHO there are substantial opportunities to create forums and partnerships of senior representatives of Member States and donors with an understanding, commitment and willingness to act globally. In addition to the policy and political networks, there is a need for technical networks to exchange experience and build capacity in CVD and NCD prevention. At present two important WHO Regional networks are the Countrywide Integrated Noncommunicable Disease Intervention Program (CINDI) in the European Region and the Conjunto de Acciones para la Reducción Multifactorial de Enfermedades no Transmisibles (CARMEN) in the Region of the Americas. These two networks are already operating as mechanisms for exchanging best practices, and building skills in NCD prevention policy and practice. Clearly, these networks that are developing policy, evidence and tools for prevention may be extended to other regions and be linked to stimulate global action and governance.

***Recommendation:***

*That WHO and Member States establish regional networks to implement and disseminate integrated approaches for NCD prevention building on the experience and knowledge*

*from the WHO Country-wide Integrated Noncommunicable Disease Intervention Program (CINDI) in the European Region and the Conjunto de Acciones para la Reducción Multifactorial de Enfermedades no Transmisibles (CARMEN) programs.*

There are many examples of coalitions and partnerships that have been set up as instruments for strategy and program development in NCD and CVD prevention (The Catalonia Declaration, 1996). There have been successes and positive aspects to these partnerships, but they fall short of realizing their true potential (Kreuter, 2000). However, the difficulty of creating and successfully managing partnerships and coalitions should not be underestimated. Learning from experiences in coalition building is a worthwhile investment of effort, as partnerships and coalitions are important mechanisms for governance at various levels to deal with the broad array of stakeholders, and challenges created by health reform and decentralization.

Health professionals and groups and organizations interested in heart health should make special efforts to expand the partnerships beyond the health care sector and include those representatives from the broader social and economic development arenas. It is important to forge strong networks and coalitions that become more than vehicles for the exchange of scientific and program information.

These coalitions need to generate a practical task-oriented “corporate” agenda that results in “political” type action consisting of public releases of information, public responses to critical issues, lobbying, advocacy and the cultivation of relationships, alliances and partnerships with influential individuals, politicians and others who have the opportunity to influence public policy.

**Recommendation:**

*That Ministers of Health, voluntary agencies, and professional organizations concerned with heart health expand partnerships and coalitions to include partners from other sectors who are able to influence social, economic and political factors that impact heart health.*

**A POLITICAL ECONOMY PERSPECTIVE FOR POLICY DEVELOPMENT IN HEART HEALTH**

Heart health constituencies have much to learn from a political economy analysis and follow through in global tobacco control experience. Many countries have successful components of tobacco control strategies. The international tobacco control experience demonstrates that an emphasis on legislation, policies and the creation of population awareness is not only an effective strategy, but also inexpensive in terms of financial and human resources, as compared with behavioural change programming targeted to individuals or to small groups.

That the successful experience in tobacco control in certain countries has not been applied on a global scale is a political economy question. Tobacco continues to be a prosperous growth industry worldwide with increasing smoking rates in most low and middle income countries and increasing smoking rates among youth. There is a need for research and for case studies that use a political economy framework to analyze the forces - major actors, agencies and policies - that impact, both positively and negatively on tobacco control. Successful approaches used in tobacco control can be applied to environmental aspects and determinants of other CVD factors such as nutrition and unhealthy diets, sedentary lifestyles, obesity, hypertension and diabetes.

The outcomes from these studies should serve to inform policy and policy makers to develop practical strategies for heart health. The capacity and the political opportunity to carry out and follow through on these types of studies will vary considerably among countries. International health and social development agencies have an opportunity to advocate for and support these studies and research, particularly in the developing world.

**Recommendation:**

*That WHO, ministries of health, social and economic development agencies and international NGOs promote and fund studies to examine the political economy of heart health and the implication for prevention action.*

**TOWARDS A BALANCED AND INTEGRATED HEALTH SYSTEM**

For heart health strategies to be sustainable and continually improved they need to be grounded in a balanced and integrated health system and research infrastructure which values prevention to the same degree that it values care and rehabilitation. Heart health programs that are not integrated into the formal health system are not likely to be sustainable. A balanced and integrated health system based on primary health care should respond to the populations’ needs in a continuum that spans health promotion, disease prevention, and health care services (Primary Health Care 21 “Everybody’s Business”, 2000). Governments need to fund an integrated and balanced health system to a level suitable to their economic and developmental circumstances.

For developing countries, preventive strategies are the only realistic option to stem the tide of NCD in their populations. There is an urgent requirement to recognize and acknowledge CVD prevention as a part of the primary health care package. It is necessary to broaden the historical focus of primary health care that has been communicable disease, and perinatal and reproductive health. This focus has been institutionalized in the policies of many international organizations that provide funds and support to developing countries.

In principle, the development of this comprehensive primary health care approach ought to be fully implemented prior to the establishment of a heavily resourced, very costly, high tech system of care and rehabilitation (World Development Report, 1993).

**Recommendation:**

*That governments fund balanced, integrated health systems that provide sufficient programmatic and research resources for health promotion and disease prevention interventions that have an impact on the health status of their populations*

**Recommendation:**

*That WHO, ministries of health, social and economic development agencies, international NGOs, health professionals and scientists assist developing countries in the development of capacity for the implementation of heart health interventions and in conducting research on the political economy of NCD*

**Recommendation:**

*That governments, national and international research granting agencies, and NGOs that fund research commit to a more balanced research agenda by increasing funds allocated to research in dissemination and deployment of heart health policies and interventions.*

## **POLITICAL ACTION AND ADVOCACY**

The political economy framework posits a direct and strong causal link between economic forces such as the tobacco and other industries and CVD. These industries use their considerable economic power to lobby and influence legislation that promotes use of their product. Health professionals and scientists are preoccupied with their task of health care and scientific research. They assume that good professional practices and a search for truth in science will suffice to overcome barriers to cardiovascular health. These professionals are untrained in advocacy and marketing skills and are naïve in understanding “realpolitik”. They are however a potential counterforce to the ill-health industries’ pressures, but only if mobilized for political action.

Such political action must rest primarily on public education and advocacy designed to inform the public on both the science behind good health and the realities of the disinformation campaigns launched by commercial forces. Thus, each scientist and health professional, and the leadership of their professional organizations have a clear and compelling obligation to engage in innovative and persistent campaigns of public information, advocacy and lobbying. This will require: conviction that these steps are vitally important; training in methods of social marketing; and commitment from each individual health professional and scientist to carry out these activities.

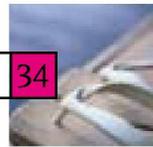
**Recommendation:**

*That scientists, health professionals and others concerned with heart health lead or contribute to campaigns of public information, marketing the heart health agenda, advocacy and lobbying.*

## **LEADERS AND CHAMPIONS**

The movement towards the preferred vision of a balanced and integrated health system that values prevention is predicated first and foremost on the existence of system leadership within institutions charged with the management of health, as well as with committed individuals and advocates. When the society values prevention there will be a demand and pressures placed at the political level for an appropriate priority for prevention.

If scientists, health professionals and members of civil society are to play a role in political action and advocacy they need skills, not traditionally associated with training in the health professions. Such skills include: lobbying, advocacy, development of consensus and policy, institutional and inter-personal relationship building, and creation of partnerships with donors and organizations in the public, NGO and private sectors having a broad health and social development agenda.



Leaders need also to ensure that there is a process in place to develop the capacity for leadership in others and in other sectors, through mentoring, skill and knowledge development and advocacy. This development of “champions” should not be seen as a haphazard process, but rather as a systematic effort with dedicated resources.

**Recommendation:**

*That schools for health professionals and continuing health professional education programs provide training in methods for community organizing, social marketing, and advocacy.*

Systems leadership requires decision-makers at various levels to act as a convener and facilitator. The formal health system needs to welcome to the discussion table, representation from public health, primary care, clinicians, researchers, NGOs, other departments and levels of government, and the private sector. At the international level the World Health Organization is a natural lead agency for CVD prevention.

The small size of the heart health community makes political action on an individual basis a challenge. This community must forge strong national and international networks and coalitions. These networks and coalitions should be in a position to develop the appropriate capacities to undertake political action.

In summary, leadership at decision-making levels, is critical for “without such leadership, neither an infrastructure nor the will to use it will be possible and, without this capacity, the cardiovascular epidemic will continue unabated” (The Singapore Declaration, 1998).

**Recommendation:**

*That international health and social development agencies, NGOs and governments resource training programs to develop political leadership in disease prevention and health promotion, with a focus on heart health.*

## RESOURCE MOBILIZATION

The heart health community must advocate, not only for adequate resourcing of prevention strategies, but also for innovative strategies for financing. Most programs in health promotion and NCD prevention have limited time horizons and cease at the conclusion of a demonstration phase. Policy-makers must be sensitized to the necessity of long term investment in promotion and prevention and accept that adequate funding implies resources sufficient to deliver the “preventive dose”, i.e., a sustained, proven program with a reach and intensity adequate enough to make an observable impact on health outcomes.

Creative financing strategies may include the adoption of dedicated taxation, that is, taxing the behaviour (tobacco) in order to direct dedicated funding towards prevention and cessation programs. This example has been demonstrated as effective in the States of California (Pierce et al., 1994; Fichtenberg and Glantz, 2000; Morbidity and Mortality Weekly Report, 2000) and Florida (Sly et al., 2001). Other possible models would include the delivery of health promotion strategies and programs by the private sector, although funding may remain the primary responsibility of the public sector. International health, social and economic development agencies have a key role to play in providing funds and/or convening donors, and establishing systems of accountability for utilization of resources.

**Recommendation:**

*That departments of health, NGOs and professional organizations develop plans based on the best available evidence to make the case at the political level for heart health resources.*

**Recommendation:**

*That international health, social and economic development agencies support the implementation of heart health in developing countries by providing funds, convening donors, and establishing systems of accountability for utilization of resources.*

## ASSESSING THE PROGRESS: THE REPORT CARD

It is important that Heart Health and CVD prevention programs be built on an evidence base. Many of the community Heart Health programs (Finland, U.S.A.) have researched and validated proven prevention approaches (Puska P. et al., 1995; Farquhar et al., 1990; Schooler et al., 1997). There is an extensive literature that can guide programming directions in countries that undertake CVD prevention (The Catalonia Declaration, 1996; Grabowsky et al., 1997). The G7-G8 Global Database on Best Practices website provides additional support ([www.med.mun.ca/g8hearthealth](http://www.med.mun.ca/g8hearthealth)).

The heart health constituency can advocate for the development of a scorecard that can be used to assess the performance of national health systems, on their progress on CVD prevention. This would require agreement on a variety of outcome and process indicators that would span health promotion, disease prevention, health system utilization, and population health outcomes. The creation of a Global Observatory for CVD prevention and control,

as recommended by The Singapore Declaration (1998), can be a vehicle for the development of instrumentation and systems, gathering and analysis of information and for the preparation of periodic report cards. This system will create awareness of the need for preventive action at the political, professional and citizen level and serve as a platform for implementation research.

### **Recommendation:**

*That health professionals and scientists use CVD surveillance data to make policy makers, heart health stakeholders, practitioners and the public aware of the burden of CVD.*

### **Recommendation:**

*That the WHO, Member States and the World Bank establish, fund and sustain a Global Observatory for Heart Health to monitor trends in CVDs and their determinants, indicators of policy development, capacity building and impact on health outcomes.*

### **Recommendation:**

*That a report card be developed and issued on the performance of health systems with respect to CVD prevention on behalf of the WHO, Member States and the World Bank.*



# RECOMMENDATIONS

1. That the WHO continue to strengthen the capacity for heart health promotion in all WHO Regions and Member States.
2. That departments of health and members of civil society make governments aware that the determinants of health agenda is an agenda for governments and all of their departments, not just an agenda of the health department.
3. That WHO and Member States establish regional networks to implement and disseminate integrated approaches for NCD prevention building on the experience and knowledge from the WHO Countrywide Integrated Noncommunicable Disease Intervention Program (CINDI) in the European Region and the Conjunto de Acciones para la Reducción Multifactorial de Enfermedades no Transmisibles (CARMEN) programs.
4. That Ministers of Health, voluntary agencies, and professional organizations concerned with heart health expand partnerships and coalitions to include partners from other sectors who are able to influence social, economic and political factors that impact heart health.
5. That WHO, ministries of health, social and economic development agencies and international NGOs promote and fund studies to examine the political economy of heart health and the implication for prevention action.
6. That governments fund balanced, integrated health systems that provide sufficient resources for health promotion and disease prevention interventions that have an impact on the health status of their populations.
7. That WHO, ministries of health, social and economic development agencies, international NGOs, health professionals and scientists assist developing countries in the development of capacity for the implementation of heart health interventions and in conducting research on the political economy of NCD.



8. That governments, national and international research granting agencies, and NGOs that fund research commit to a more balanced research agenda by increasing funds allocated to research in dissemination and deployment of heart health policies and interventions.
9. That scientists, health professionals and others concerned with heart health lead or contribute to campaigns of public information, marketing the heart health agenda, advocacy and lobbying.
10. That schools for health professionals and continuing health professional education programs provide training in methods for community organizing, social marketing, and advocacy.
11. That international health and social development agencies, NGOs and governments resource training programs to develop political leadership in disease prevention and health promotion, with a focus on heart health.
12. That departments of health, NGOs and professional organizations develop plans based on the best available evidence to make the case at the political level for heart health resources.
13. That international health, social and economic development agencies support the implementation of heart health in developing countries by providing funds, convening donors, and establishing systems of accountability for utilization of resources.
14. That health professionals and scientists use CVD surveillance data to make policy makers, heart health stakeholders, practitioners and the public aware of the burden of CVD.
15. That the WHO, Member States and the World Bank establish, fund and sustain a Global Observatory for Heart Health to monitor trends in CVDs and their determinants, indicators of policy development, capacity building and impact on health outcomes.
16. That a report card be developed and issued on the performance of health systems with respect to CVD prevention on behalf of the WHO, Member States and the World Bank.





# REFERENCES

American Heart Association. (1999). 2000 Heart and Stroke Statistical Update. Dallas, TX: American Heart Association.

Beaglehole R, Bonita R. (1997). Public health at the crossroads: Achievements and prospects. Cambridge, UK: Cambridge University Press.

Bobadilla JL, Costello CA, Mitchell F, (Eds.) (1997). Premature death in the new independent States. Washington, D.C. National Academy Press.

Brown MS, Goldstein JL, (1996). Heart Attacks: Gone with the Century. Editorial. Science, May 3; 272: 629-0.

Chenet L, McKee M, Fulop N, et al. (1996). Changing life expectancy in central Europe: Is there a single reason? J Public Health Med.18: 329-336.

Cooper, Cutler J, Desvigne-Nickens P, et al. (2000). Trends and disparities in coronary heart disease in the United States. Findings of the National Conference on Cardiovascular Disease Prevention. Circulation; 102: 3137-3147.

Dowse GK, Gareeboo W, Alberti KG, et al. (1995). Changes in population cholesterol concentrations and other cardiovascular risk factor levels after five years of the non-communicable disease intervention programme in Mauritius. Brit Med J. 1995; 311: 125-1259.

Epstein FH. (1989). The relationship of lifestyle to international trends in CHD. Int J Epidemiology, 18(Supp. 1): S203-S209.

Equity in health – The second step towards National Health targets. (1999). Stockholm, National Public Health Commissions, (SOU 1999:137).

European Cardiovascular Disease Statistics. (2000). London: British Heart Foundation, p. 60.

European Health Care Reform: Analysis of Current Strategies. (1997) WHO Regional Office for Europe, Copenhagen.

Farquhar JW, Fortmann SP, Flora HA, Taylor CV, Haskell WL, Williams PT, Maccoby N, Wood PD. (1990). Effects of community wide education on cardiovascular disease risk factors. The Stanford Five-City Project. JAMA, 264:359-365.

Farquhar JW. (1996). The case for dissemination research in health promotion and disease prevention. Can J of Public Health, 87:S44-S49.

Fichtenberg CM, Glantz SA. (2000). Association of the California Tobacco Control Program with declines in cigarette consumption and mortality from heart disease. N Engl J Med, 343:1772-7.

Global Forum for Health Research. (2000). The 10/90 Report on health research 2000: World Health Organization, Geneva, Switzerland.



"Global Public Goods: International Cooperation in the 21st Century". (1999). Kaul I, Grunberg I, Stern MA, (Eds). The United Nations Development Programme (UNDP) New York.

Goldberg RJ, Yarzebski J, Lessard D, Gore JM. (1999). A two-decade (1975-1995) long experience in the incidence, in-hospital and long-term case fatality, rates of acute myocardial infarction: A community wide perspective. *J Amer Col Cardiol*, 33: 1533-9.

Goldman L, Cook F. (1984). Reduction in ischemic heart disease mortality rates. *Ann Int Med*, 101: 825-36.

Grabowsky TA, Farquhar JW, Sunnarborg KR, Bales VS (Eds). (1997). Worldwide efforts to improve heart health. A follow-up to the Catalonia Declaration 6 selected program descriptions. Atlanta (Georgia): Center for Disease Control and Prevention, USDHHS.

Howson CP, Reddy KS, Ryan TJ, Bale JR (Eds.). (1998). Control of cardiovascular disease in developing countries. Research, development, and institutional strengthening. Washington, D.C.: National Academy Press.

Jamison DT, Frenk J, Knaul F. (1998). International collective action in health: Objectives, functions, and rationale. *Lancet*, 351(9101): 514-17.

Kreuter MW, Lezin NA, Young LA. (2000). Evaluating community-based collaborative mechanisms: Implications for practitioners. *Health Promotion Practice*, 1: 49-65.

Labarthe DR. Prevention of cardiovascular risk factors in the first place. (1999). *Preventive Medicine*, 29: S72-S79.

Landers ES, Schork NJ. Genetic dissection of complex traits. (1994). *Science*, 265:2037-48.

Landers ES. The new genomics: global views of biology. (1996). *Science*, 274:536-39.

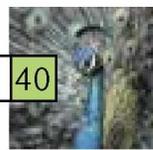
McGovern PG, Pankow JS, Shahar E, et al. (1996). Recent trends in acute myocardial infarction: mortality, morbidity, medical care, and risk factors. The Minnesota Heart Survey investigators. *N Engl J Med*, 334: 884-90.

Morbidity and Mortality Weekly Report. (2000). Declines in lung cancer rates - California, 1988 - 1997. *MMWR*, 49:1066-1070.

Morgan S, Barer M, Evans R, (2000). Health economists meet the fourth temper: Drug dependency and scientific discourse. *Health Economics*. 9:(8);659-667. Guest editorial.

Murray CJL, Lopez AD. (1996). The Global burden of disease: A comprehensive assessment of mortality and disability from disease, injuries and risk factors in 1990 and projected to 2020. Boston: Harvard University Press.

Murray CJL, Lopez AD. (1997). Alternate projections of mortality and disability by cause, 1990-2020: Global Burden of Disease Study. *Lancet*, 349: 1498-1504.



National Cholesterol Education Program. (1985). National Heart, Lung and Blood Institute, National Institutes of Health, Bethesda, Maryland, USA.

National High Blood Pressure Detection and Education Program. (1980). National Heart, Lung and Blood Institute, National Institutes of Health, Bethesda, Maryland, USA.

Notzon FC, Komarov YM, Ermakov SP, et al. (1998). Causes of declining life expectancy in Russia. *JAMA*, 279: 793-800.

Olshansky SJ, Ault AB. (1986). The fourth stage of the epidemiology transition: The age of delayed degenerative diseases. *Millbank Memorial Fund Quarterly*, 64: 355-391.

Omram AR. (1971). The epidemiological transition: A theory of the epidemiology of population change. *Millbank Memorial Fund Quarterly*, 49: 509-538.

Pearson TA. (1989). Influences on CHD incidence and case fatality: Medical management of risk factors. *Int J Epidemiology*, 18(Supp. 1): S217-S222.

Pearson TA, Jamison DT, Trejo-Gutierrez J. (1993). Cardiovascular disease. In *disease control priorities in developing countries*. New York: Oxford University Press, 577-594.

Pierce JP, Evans N, Farkas AJ, et al. (1994). Tobacco use in California: An evaluation of the tobacco control program 1989-1993. La Jolla (California): University of California, San Diego.

Primary Health Care 21 "Everybody's Business". (2000). An International Meeting To Celebrate 20 Years after Alma-Ata. Jointly organized by WHO Headquarters, Geneva, and the WHO Regional Office for Europe, Copenhagen. World Health Organization.

Puska P. et al., Ed. (1995). *The North Karelia Project: 20 Years of Results and Experiences*. Helsinki, National Public Health Institute.

Reddy KS, Yusuf S. (1998). The emerging epidemic of cardiovascular disease in developing countries. *Circulation*, 97: 596-601.

Rockhill B. (2001). The privatization of risk. *Amer J Public Health*, 91: 365-368.

Schoeller C, Farquhar JW, Fortmann SP, Flora JA. (1997). Synthesis of findings and issues from community prevention trials. *Ann Epidemiol*, S7: S54-S68.

Schwartz P. (1996). *The Art of the Long View. Planning for the Future in an Uncertain World*. Business Development Network. New York, USA.

Schwartz S, Susser E, Susser M. (1999). A future for epidemiology? *Annu Rev Public Health*, 20: 15-33.

Sly DF, Hopkins RS, Trapido E, Ray S. (2001). Influence of a counteradvertising media campaign on initiation of smoking: The Florida "truth" campaign. *Am J Public Health*, 91(2): 233-238.

Strasser T. (1978). Reflections on cardiovascular diseases. *Interdisc Sci Rev* 3:225-230.

The Catalonia Declaration, Investing in heart health. (1996). Autonomous Government of Catalonia, Barcelona.

The Singapore Declaration, Forging the will for heart health in the next millennium. (1998). Singapore National Heart Association.



The Victoria Declaration on Heart Health. (1992). Health and Welfare Canada, Ottawa, Canada.

Thom TJ. (1989). International mortality from heart disease: Rates and trends. *Int J Epidemiology*, 18(Supp. 1): S20-S28.

Whelton PK, Brancoti FC, Appel LJ, Klag MJ. (1995). The challenge of hypertension and atherosclerotic cardiovascular disease in economically developing countries. *High Blood Pressure*, 4: 36-45.

World Development Report (1993). Investing in health. Oxford University Press.

World Health Organization (1996). Proceedings of the WHO Conference on European Health Care Reforms, Ljubljana, Slovenia, June 1996. Geneva: World Health Organization Regional Office for Europe, p 4.

World Health Organization. (1999). Health21 – health for all in the 21st century. Copenhagen: WHO Regional Office for Europe.

World Health Report. (1997). Conquering suffering, enriching humanity. World Health Organization. Geneva, Switzerland.

World Heart Federation. (1999). Impending global pandemic of cardiovascular diseases. World Health Organization. Geneva, Switzerland.

Wyplosz C. (1999). International Financial Instability, in "Global Public Goods: International Cooperation in the 21st Century". Kaul I, Grunberg I, Stern MA, (Eds). The United Nations Development Programme (UNDP) New York.

Zatonski WA, McMichael J, Powles J. (1998). Ecological study of reasons for sharp decline in mortality from ischemic heart disease in Poland since 1991. *BMJ*, 316: 1047-1051.







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