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EDITORIAL

Capacity for Heart Health = Infrastructure Will to Action:
The Singapore Declaration

CVD Prevention welcomes the opportunity to publish here *The Singapore Declaration: Forging the Will for Heart Health in the Next Millennium.* This report from the Third International Heart Health Conference Singapore is a unique and compelling call to all persons concerned with reversal, containment, and prevention of cardiovascular disease (CVD) epidemics, anywhere in the world. It brings forcefully to the attention of those who would step forward and take leadership that, notwithstanding the wide diversity of health issues internationally and nationally, "virtually every region of the world now shares a single disorder as its major cause of death and disability—CVD."

This report is the third chapter in an unfolding series of challenges that began with *The Victoria Declaration* (1992) and was followed by *The Catalonia Declaration* (1996) and its sequel, *Worldwide Efforts to Improve Heart Health* (1997). *The Singapore Declaration* extends discussion of the requirements for CVD prevention by calling on all relevant agencies, organizations, and constituencies "to join forces to . . . eliminate this modern epidemic."

As indicated in its preface, "This document provides guidance on how to build capacity by:

- developing a heart health infrastructure at the international, national, and local levels;
- identifying leadership, policy, economic, scientific, technical, and physical aspects of this infrastructure at each level; and
- creating individual, organizational, and political will to carry out the implementation of an appropriate infrastructure for heart health."

The Singapore Declaration presents much more than a formula for effective action. It informs all who will read and study it of the rich background of theory, knowledge, and experience that justifies, and at the same time demands, a positive and optimistic view of what can be achieved in CVD prevention, where the infrastructure and will to action exist or can be forged. It seeks to dispel three myths which have deterred international and national agencies from taking needed action: "(1) CVD is limited to the elderly, to men, and to the rich; (2) CVD may cause high rates of mortality but it is not an important cause of disability; and (3) The CVD epidemic is impossible to control. These myths are disproved by recent studies." Further, it expresses the theme of this journal in each context across the spectrum from global to regional, national, state, and local community levels, including attention to high risk individuals.

The report closes with a call to leadership on the part of individuals who can serve to promote heart health, and with 24 recommendations, both general and specific to the preceding chapters: leadership and policy-making, expanding the knowledge base, infrastructure and organizational, financial and economic, and forging the political will.

We echo the acknowledgments of the authors—the Advisory Board of the Third International Heart Health Conference Singapore—in expressing appreciation to the Singapore National Heart Association and Mr. Yeo Cheow Tong, Minister for Health and Minister for the Environment, Republic of Singapore, and his staff, in bringing about the Conference and this major product of its discussions.

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SPECIAL REPORT

The Singapore Declaration:
Forging the Will for Heart Health in the Next Millennium

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Declaration

Recognizing that cardiovascular disease (CVD) 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 is largely preventable through a public health approach to CVD, but the resources and will to act have been lacking, 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; and, finally, employers and their organizations to join forces to develop a cohesive policy-making, economic scientific, technical, and physical infrastructure and to marshal the long-term will to eliminate this modern epidemic.

From the University of Rochester School of Medicine (US); Centers for Disease Control and Prevention (US); British Columbia Ministry of Health (Canada); Ministry of Health (Singapore); Stanford Medical School (US); Singapore National Heart Association (Singapore); Heart and Stroke Foundation of B.C. & Yukon (Canada); Dalhousie University (Canada); North Shore Health Region (Canada); Department of Health and Social Security, Autonomous Government of Catalonia (Spain); and Health Canada (Canada).

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Preface

Previous estimates of the burden of CVD as a cause of mortality, disability, and health care costs painted an ominous picture of an epidemic of heart disease and stroke in developed countries and an imminent threat of the same fate for developing countries. More recent calculations suggest that these estimates were conservative: the latest data and anecdotal reports reveal that the CVD epidemic is rampant in most developing countries, as well as in Europe, Australia, and North America. In 1990, CVD was the most common cause of death globally, taking more than 14 million lives—two-thirds of which were in developing countries.[1]

Given the unrelenting expansion of the CVD epidemic, it is fitting that the Third International Heart Health Conference was convened in Singapore, on August 30, 1998, to address this problem. The conference entitled: "Heart Health into the Next Millennium" highlighted the danger and the opportunity of the CVD crisis facing Southeast Asia and the rest of the world. The conference dealt with a broad spectrum of issues, including: scientific discoveries; public health policies; programs in work sites, schools, and whole countries; and strategies for control of established and newly identified risk factors.

This document, *The Singapore Declaration,* summarizes the conference and outlines the need to build the capacity to create heart health. The public health approach to CVD prevention is known to be effective. However, the capacity to successfully

implement heart health initiatives requires both a new or expanded infrastructure at the international, national, and local levels, and a sustained will to address heart health within institutions, governments, agencies, and organizations with responsibility for health.

The Singapore Declaration builds on two previous declarations, *The Victoria Declaration*[2] of 1992, and *The Catalonia Declaration*[3] of 1996. The first declaration, *The Victoria Declaration on Heart Health,*[2] was published by the Advisory Board in 13 languages and distributed worldwide. It was the culmination of the First International Heart Health Conference, convened in Victoria, British Columbia, in 1992, which followed the theme of "Bridging the Gap: Science and Policy in Action." *The Victoria Declaration*[2] called upon governments, the private sector, and interested bodies to: educate the public and build consumer demand for such education; apply the science base in a timely manner; create the political will to promote public health; build partnerships to marshal the required resources; and to provide a new way of working by coordinating the efforts of groups within countries and around the world.

The Catalonia Declaration[3] was the summation of the Second International Heart Health Conference, convened in Barcelona, Catalonia, Spain, on June 1, 1995. This conference took up the theme of investing in heart health and its attendant humanitarian benefits. *The Catalonia Declaration*[3] was published by the Advisory Board to describe worldwide examples of successful investments in heart health, which reduced the occurrence of CVD and provided economic benefits. *The Catalonia Declaration*[3] discusses: the resources and assets available and how best to utilize them; the barriers faced and the techniques needed to overcome them; and 41 examples of successes, along with a step-by-step action plan to assist countries in identifying problems, and planning, implementing, and evaluating programs. These examples were supplemented by 81 case studies in a companion document of *The Catalonia Declaration* entitled, Worldwide Efforts to Improve Heart Health.[10]

The Singapore Declaration continues this natural progression of thought toward establishment of heart health programs around the world, by focusing on "Forging the Will for Heart Health in the Next Millennium." The Third International Heart Health Conference in Singapore examines how to build capacity at an international, national, and local level to implement what we already know to be effective promoters of heart health. The main concept of *The Singapore Declaration* is that capacity is a combination of both infrastructure and the will to take action. This document provides guidance on how to build capacity by: developing a heart health infrastructure at the international, national, and local levels; identifying leadership, policy, economic, scientific, technical, and physical aspects of this infrastructure at each level; and creating individual, organizational, and political will to carry out the implementation of an appropriate infrastructure for heart health.

The document recognizes the diversity of international, national, and local health issues facing organizations that commit themselves to heart health promotion and disease prevention. It also states that virtually every region in the world now shares a single disorder as its major cause of death and disability—CVD.

Chapter 1: Heart Health as an Urgent Global Health Need

The call for heart health has increased in urgency since the publication of The Victoria Declaration[2] and *The Catalonia Declaration*[3] as better estimates of the worldwide burden of CVD have become available. It has been accepted for the last half century that heart disease and stroke were leading causes of death in North America and Western Europe. Recently, studies have shown that the epidemic has spread to Eastern Europe, which currently has the highest CVD mortality rates in the world[4] and into the developing world.[5]

These important studies portray a disease with many and varied faces. First, despite significant declines in developed countries since 1970, CVD remains the leading cause of death (over 5 million deaths in 1990). Second, CVD exceeds infectious and parasitic diseases as the leading cause of death on the planet as a whole (an estimate of 14 million vs 9 million in 1990). Third, as of 1990, CVD mortality rates in developing countries—where 80% of the world's population resides—are estimated to be roughly equal to those of infectious and parasitic diseases.[1] Even conservative estimates predict that, after 1995, CVD exceeded infectious and parasitic diseases as the leading cause of death in the developing world for the first time in history.[6] Unfortunately, the rapidity, magnitude, and breadth of the CVD epidemic's spread to all parts of the world has exceeded most projections from world health authorities.

Although CVD mortality has risen, the perception of the magnitude of this disease has lagged

TABLE 1. Deaths (in 000s) Due to Cardiovascular Disease (CVD) and to Infections and Parasitic Diseases (IPD) in 30–69 Year Olds by Sex and Region in 1990*

	Men		Women	
Region	**CVD**	**IPD**	**CVD**	**IPD**
Established Market Economies	483	42	227	12
Formerly Socialist Economies	263	20	163	6
India	611	429	481	240
China	576	158	439	89
Other Asia and Island	289	147	226	140
Sub-Saharan Africa	183	215	211	228
Latin America and Caribbean	186	62	147	48
Middle Eastern Crescent	285	83	215	85
World	3,028	1,128	2,201	798

* Derived from Murray and Lopez, 1996.

behind, inhibiting programs that could reduce its burden. International health agencies, foundations, and ministries of health from a number of countries continue to focus on reducing the burden of infectious, parasitic, nutritional, and perinatal diseases, where enormous challenges continue to be faced. The lack of attention these organizations have directed at CVD has been compounded by myths that: (1) CVD is limited to the elderly, to men, and to the rich; (2) CVD may cause high rates of mortality but it is not an important cause of disability; and (3) the CVD epidemic is impossible to curtail. These myths are disproved by recent studies.

The Global Burden of Disease[5] demonstrated that CVD does not discriminate by age, gender, or income. By analyzing the major burden of disease in men and women in the economically and socially productive ages between 30–69 years, it is possible to assess the impact of CVD excluding the elderly. Table 1[5] clearly shows that within the 30–69 year age group, CVD deaths still outpace those for infectious and parasitic diseases in all populations except those in Sub-Saharan Africa, where the two numbers are almost equal. The death toll is not limited to men. While CVD mortality rates are lower in women 30–69 years of age, they still exceed the mortality rates of every other cause of death. Nor is CVD a disease of the rich. While the affluent may be the first to adopt deleterious lifestyles and suffer initially higher rates of CVD than in developing countries, in later phases of the CVD epidemic, rates are especially high in the poorest and least educated populations.[7,8] Overall, few can ignore the serious nature of the CVD epidemic regardless of age, gender, or income level.

Another disturbing truth about CVD is that, typically, many years of disability precede death. As a result, it is a major cause of disability-adjusted life years on a global scale, ranking behind infectious and parasitic diseases, unintentional injuries, and neuropsychiatric illnesses.[1] Projections to the year 2020 are even bleaker, estimating that heart disease will be the third leading cause of disability and death, and stroke to be the fifth leading cause of disability and death. Heart disease and stroke will easily be the leading causes of disability-adjusted life years by the year 2020. These estimates also hint at continuing increases in the direct and indirect health care costs associated with CVD. This implies that CVD will be a leading cause of health care expenditures and lost economic potential. For example, studies in China show that the medical and health costs of smoking are greater than tobacco tax revenue, and other developing countries have shown that tobacco-related morbidity and mortality are already a substantial drain on their economy. Therefore, heart health makes sense economically as a way to protect health care resources and to improve workforce productivity.

The myth that the CVD epidemic in developing countries cannot be prevented can be refuted. The substantial reductions in heart disease and stroke mortality in Western Europe and North America since 1970, anecdotal reports of aborted CVD epidemics in countries such as Costa Rica, and large and rapid reductions in CVD mortality following population-wide changes in diet, as recently documented in Poland,[9] all indicate that it can be prevented. *The Victoria Declaration,*[2] *The Catalonia Declaration*)[3] and *Worldwide Efforts to Improve*

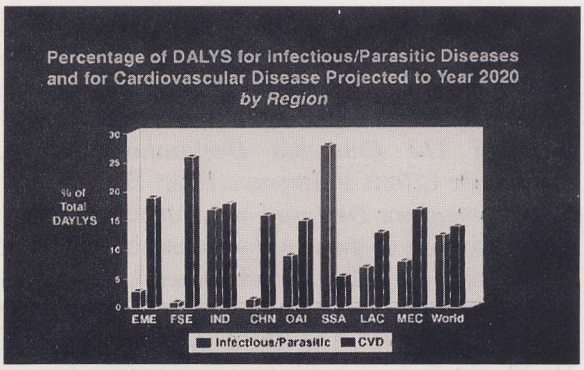

FIGURE 1. Percentage of DALYS for infectious/parasitic diseases and for cardiovascular disease projected to year 2020 by region. Used with permission from Murray CJL, Lopez AD. Lancet 349:1498, 1997.

Heart Health: A Follow-up to the Catalonia Declaration[10] catalogue many of the successful CVD prevention programs implemented in diverse settings around the world.

The projection of disease burdens to the year 2020 add to the urgent need to initiate CVD control efforts. As noted in Figure 1, every part of the world, with the exception of Sub-Saharan Africa (the tragic AIDS epidemic explains some of this projection) will have CVD predominate as a source of disability and death by the year 2020. Moreover, there is a concern that, for some parts of the world, these projections might be underestimates. The projections by Murray and Lopez[11] are largely based on increases in life expectancy, the expansion of the population at CVD-prone ages, income, education, and the level of smoking. However, the potential exists for even higher rates of CVD. The extent to which tobacco use, diets high in saturated fat and cholesterol, and sedentarism become established will determine the magnitude of the epidemic. Moreover, interactions between the deleterious risk behaviors and environments and different genetic predispositions may result in substantially higher risks and will necessitate even stronger interventions.

Finally, as the projections of heart disease and stroke are manifested and the demand for related health care increases, the health systems of both developed and developing countries may find themselves with limited manpower and resources. The acceleration of the CVD epidemic will have especially disastrous consequences on the public health of developing countries. In addition to the added demands on the health system, the economic consequences of premature death and prolonged disability among middle-aged, productive persons from the work force will be felt. The high technology approach to acute management of coronary syndromes, as espoused by developed countries, if adopted, will rapidly consume the limited resources of developing countries, as is already occurring in some countries. If the CVD epidemic goes unchecked, the technology intensive clinical care of large numbers of patients with CVD will lead to the diversion of resources from other areas of health care, including the "unfinished agenda" of infectious and nutritional diseases. Poor patients will be marginalized and their increasing number as the epidemic matures will lead to huge inequalities in developing countries' health care. Current guidelines for secondary prevention do not advocate expensive interventions.[12] "State-of-the-art" care needs to incorporate cost-effective preventive interventions to use the assets wisely. As emphasized in *The Catalonia Declaration,*[3] a variety of programs and approaches for both primary and secondary prevention can be initiated with relatively low cost and good levels of benefit.

In conclusion, there has been no evidence collected since the publication of *The Victoria Declaration*[2] or *The Catalonia Declaration*[3] to suggest that the need for heart health programs is any less urgent. On the contrary, recent evidence identifies a more rapid transition of the CVD epidemic to *developing countries* than expected, and identifies an even larger problem looming in the next century. This *declaration's* recommendations reflect this growing sense of urgency.

Chapter 2: Elements of a System for Promoting a Heart Healthy Population

Although the CVD epidemic is largely preventable, the elements of a system for preventing heart disease and promoting a heart-healthy population are both fundamental and complex. Many existing resources need to be woven together and supplemented with missing elements if a strong cohesive strategy is to emerge that can affect the health status of a large portion of the population at risk for preventable CVD control. Few public health challenges require a greater breadth and depth of partnerships across organizations and disciplines than does CVD. These disciplines include communications and marketing, organizational development, medical science, health education and behavioral science, epidemiology, evaluation, economics, trade, and legislation. Successful models of this type of collaboration are readily available[10] and the consequences of inattention are well understood. Despite the challenges, molding a successful system is an achievable goal, providing infrastructure and will are in place to build the capacity for success.

The CVD epidemic is: (1) driven by the need to reduce preventable risk factors which are present in a large portion of the population—including tobacco use, unhealthy diet, lack of physical activity, psychosocial factors, obesity, diabetes, psychosocial factors, and uncontrolled hypertension and hyperlipidemia; and (2) influenced by individual awareness and knowledge, broad social and environmental factors including the media and multinational businesses, changing dietary patterns worldwide, and reduced physical activity in the community and at work.

CVDs are characterized by behaviors adopted early in life and sustained for many years without health consequences. The increasing prevalence of these deleterious behaviors in today's adolescents and young adults supports the prediction of expansion of the cardiovascular epidemic in tomorrow's middle-aged and older adults. CVD is difficult to reverse once the onset of symptoms occurs. The consequences are partially controllable with aggressive therapy but at increased expense and reduced quality of life.[13]

The confluence of factors causing the CVD epidemic requires a strategy that targets a vast portion of the population in many settings and through multiple modes of communication and environmental support working with numerous and varied organizations and partnerships to promote environmental changes (Fig. 2).

This type of broad strategy needs to be supplemented by targeted interventions directed at high risk populations, which are carefully linked to clinical services that can prevent secondary events and to support primary prevention efforts. All elements must be guided by sound scientific capacity to both define and monitor the epidemic and to implement and evaluate interventions. Dynamic leadership is essential and the entire process must be supported by policies and laws which facilitate progress. A sound system for promoting a heart-healthy population can be initiated using the existing strengths and building on existing capacities. Successful programs include all of the following major elements:

1. Policy and environmental interventions.
2. Educational and media programs.
3. Targeted outreach and clinical services.
4. Scientific, technical, and organizational capacity for heart health programming.

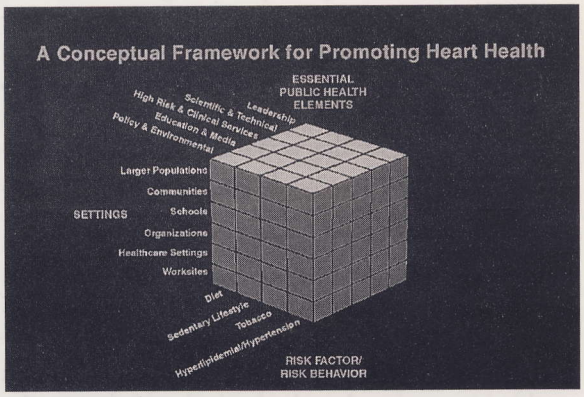

FIGURE 2. A conceptual framework for promoting heart health.

5. Leadership to mobilize and organize resources.

Together, these form the five core elements needed to successfully navigate the challenges of implementing successful heart health strategies. Each element is described in more detail below.

Policy and Environmental Interventions

Risk factors that can result in CVD are widespread and becoming more prevalent in the world. Since individual behavior change is difficult and expensive to affect without broad social and environmental supports, the cornerstone of contemporary heart health programs is now based upon actions that result in policy and environmental changes. For example, policies that restrict smoking in public places, restrict youth access to tobacco products, or increase the price of cigarettes are fundamental aspects of tobacco prevention and control. Similarly, policies that specify a healthy mix of foods in work sites, schools, and public assistance programs can influence the food choices of large segments of the population. Finally, environmental changes or protections that encourage physical activity through safe passage for bicycles and pedestrians, safe and accessible parks, workplace policies that promote public transportation or daily physical activity, and city planning that places an emphasis on healthy lifestyles all constitute heart-healthy interventions. The most appropriate policy initiatives depend on the circumstances and current situation of the country or community in question.

An inventory of policy and environmental issues that promote or adversely affect heart health at the national and local levels that is routinely updated and widely disseminated can both document progress and be an instrument that stimulates action. Attention to the policies and environmental issues most vital to the needs of high risk populations should not be overlooked.

Educational and Media Programs

The need for social and environmental change will not be translated into action unless gatekeepers and policy-makers have a full understanding of the consequences of inaction. Further, it is unlikely that the public will support or demand these actions unless they too have the knowledge to understand the implications. For individual citizens to adopt healthy lifestyles or change their individual practices, knowledge is a necessary but frequently in-

sufficient ingredient. Nevertheless, public information and skills building are essential for both individual action and to create a political will to intervene.

Effective health communication is based on careful message selection, sound behavioral theory, rigorous testing of messages, and careful attention to specific channels and sites. Specifically targeted health messages can be communicated in concert with major media channels if there is nationwide commitment to dedicate the resources or adequate incentives to ensure wide message delivery. Partnerships involving public health, voluntary health organizations, business and industry, schools, religious organizations, health care providers, and other governmental agencies can be mobilized to maximize educational reach and environmental change. Such a broad constituency should be targeted for messages that recognize that most of the population is at moderate risk through exposure to a variety of deleterious behavior, and that promotion of healthy lifestyle rather than treating individual risk factors will be needed to eventually reduce the burden of CVD.

Targeted Outreach and the Role of Clinical Services

In addition to population-based approaches to CVD prevention, an important element of the health system to achieve a heart-healthy population is specific targeting of groups at highest risk for disease within the population. These highest risk subgroups can often be defined either sociodemographically (e.g., gender, race/ethnicity, social class) or geographically. Often the most effective approach to reaching these groups is to complement the population-based strategies mentioned earlier with carefully developed messages and direct health services. Messages aimed at conditions including elevated blood cholesterol, elevated blood pressure, glucose intolerance, tobacco use, sedentary lifestyle, and overweight are important components of a comprehensive education and media program.

A subgroup that cuts across sociodemographic and geographic boundaries includes persons with known CVD. These persons constitute a heterogeneous subgroup that can realize benefits by preventing premature disability and loss of functional independence.

A successful strategy to reach this population is to integrate primary and secondary prevention efforts into the existing health care system. The role of health agencies in this instance is to assure the provision of these clinical services, and monitor the quality and use of these services. These efforts can be supported through effective environmental and policy interventions that provide a reinforcing milieu for appropriate health behavior and health care seeking choices. Interventions in the health care system should include integration of pharmacy services, cardiac procedures, and counseling. Evaluation measures should include quality of life and disability measures as well as standard morbidity measures to ensure a complete assessment of benefits of prevention efforts.

Scientific and Technical Ability for Heart Health Programming

For programs to achieve their goals, they should include a well-defined assessment of the disease burden, tracking of relevant environmental conditions and public policies, evidence-based interventions that are evaluated appropriately, and the ability to monitor community, clinical, and laboratory services. Science is an essential tool for policymaking.

Assessment of disease burden can capitalize on the use of existing data systems, or may require investments to measure prevalence and trends for mortality, morbidity, and behavioral and medical risk factors. They are also used to identify and specify the location of disproportionately affected populations, to assess disability, and quantify the medical and social costs. Without ongoing measures of these basic factors, it will be difficult to develop a plan matched to unique characteristics, measure success, or even mount the political will to secure resources to respond.

Contemporary heart health programs depend heavily on cost-effective population-based strategies that influence large portions of the population by changing the social and physical environment to enhance the likelihood for individuals to avoid tobacco use, maintain a healthy diet, and engage in routine physical activity. Tools to monitor the current and changing social and physical environment are not widely available. Even where they are available, they're often not used with adequate frequency. Some examples of existing tools include methods from the MONICA project[14] and others catalogued by the World Health Organization.[15] Nevertheless, many existing sources of information can be used to assess these factors. Current prices of tobacco products and associated taxes, sales of various foodstuffs, including fruits and vegetables, cooking oil, salt, and availability of safe and acces-

sible public recreation venues can provide useful and reliable information.

Since most interventions are heavily dependent on successfully changing individual behaviors, scientific capability must go beyond the traditional medical and laboratory disciplines to emphasize a multidisciplinary approach including behavioral and social science, health education, and political science. These disciplines will be needed to successfully design, implement, and evaluate interventions. Finally, the support and cooperation of the medical and laboratory communities are essential for a fully developed and comprehensive heart health program. Without credible expertise and attention to services that maximize the existing health care system, opportunities for prevention will not be maximized.

Leadership to Mobilize and Organize Resources

Fundamental to a successful, sustainable system for promoting a heart healthy population is leadership at international, national, regional, and local levels. Effective leadership can be developed, strengthened, and shared through partnership across sectors, among social and economic development agencies, voluntary organizations, academia, community organizations and schools, the media, elected officials, and the public.

Effective leadership in successful heart health programs is necessarily different from models of leadership that grow from programs that can be achieved from the work of a single unit or organization. Because of the many elements of social fabric required to work collaboratively, no single entity can take sole responsibility, or have complete authority. Program partners should be identified, consulted, and appropriately involved with the program. Activities that demonstrate coordination and avoid duplication of effort will enhance the credibility of the program with other partners. Within the official health agency, program coordination should include collaboration with other related and specific efforts such as tobacco control, diabetes control, and the disciplines of health education and laboratory services, as well as with experts in vital statistics and surveillance. Without careful attention to managing these partnerships, energy will be dissipated and frustration will undermine individual efforts. A written plan that offers a complete description of the health problem, articulates specific objectives for future reductions in disease and related risk factors, and outlines specific strategies for achieving objectives can galvanize partners and focus attention on the epidemic.

Actions needed at the community level depend on the readiness of the community to respond. Identifying communities with adequate social capital to initiate and sustain viable programs will improve the likelihood of success in the early years of a program. However, if only populations that enjoy the many benefits of being part of communities that are already cohesive and organized are included in heart healthy initiatives, the health status gaps that already exist will only become wider. Certainly, important work in measuring and developing social capital must be completed if health goals for all people are to be reached.

Conclusion

As described in *The Catalonia Declaration,*[3] these five system elements needed for promoting heart health are often present but not often coordinated. To implement a coordinated strategy for heart health, individuals and their organizations are well served by taking the time to coordinate policy and environmental interventions, education and media programs, targeted outreach services, scientific and technical capacities, leadership, and the knowledge base needed for implementing strategies. The basic capacities in these areas are not, however, available in all countries and communities. The next two chapters focus on developing the capacity to implement effective heart health strategies by building infrastructure and creating the will to act.

Chapter 3: Building the Infrastructure for Heart Health

The magnitude and burden posed by the CVD epidemic was brought into clear view in the first chapter of this *declaration*. Chapter 2 outlined program components, which are generally agreed upon as essential for successful improvement in heart health. Unfortunately, this knowledge is necessary, but not sufficient to assure the implementation of population-based interventions. In addition, there is a need to develop capacity, which can be defined as the process of improving an organization's or population's ability to plan, organize, implement, and sustain comprehensive interventions.

This chapter and Chapter 4 illustrate that two pieces are required for capacity development in heart health (Fig. 3): an appropriate infrastructure, and the will to take action. First, an infrastructure must be operational and sustainable to develop and

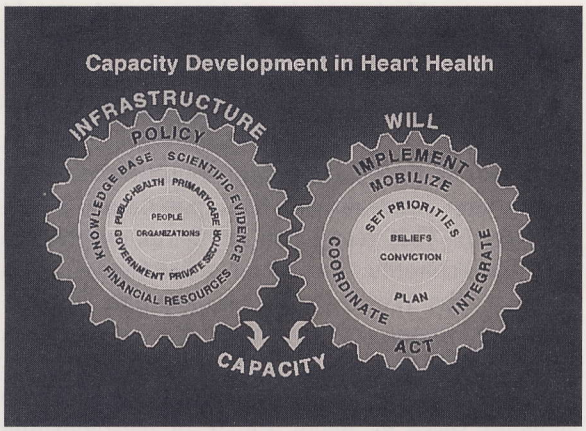

FIGURE 3. Capacity development in heart health.

implement a strategy that accords with the elements outlined in Chapter 2. This infrastructure needs to have multiple dimensions, including policies, scientific and technical knowledge, physical and organizational capabilities, and economic or financial resources. Second, the international, national, and local organizations need the will to develop, use, and sustain the infrastructure. This latter concept also has several dimensions, including developing *conviction* of the need to act, set priorities, plan, begin community mobilization, and coordinate with partner organizations. Leadership in these areas is needed to implement any intervention strategy. The linkage of these dimensions of infrastructure and will results in the CAPACITY to act on CVD prevention.

An infrastructure functions most effectively if it has multiple dimensions, including international, national, and community/regional components, all of which communicate with and provide support for each other. This chapter identifies some of the unique infrastructures needed at the international, national, and community levels.

Building International Infrastructures

The fast pace of globalization in finance, trade, and communication means that unhealthy life styles and environments can be as communicable as infectious agents. As a result, there is a need for global policies for CVD prevention and control. A global policy for heart health is more than just a collection or the sum total of national policies. Successful CVD control efforts in the 21st century will depend on the establishment of a sustainable international infrastructure through which action on heart health can be mounted on a global scale.

Policy-Making

The hallmark of CVD is its multifactorial etiology. At its roots lie a complex web of biological, behavioral, psychosocial, and environmental factors that are deeply ingrained into the activities of daily living. The implication is that prevention and control policies must be intersectional and multifaceted to comprehensively address the risk factors and their determinants. Consensual policy development and leadership is required as an important infrastructure component.

Currently, there are few, if any, global policies addressing heart health issues which reflects the lack of policy-making capability on a global basis. International agencies, such as the WHO, can assist in developing and implementing a global policy through their direct links with governmental bodies in member states. The concerned heart health constituency may help matters by striving to place heart health in the agendas of existing international organizations such as the various UN agencies, the World Bank, the World Trade Organization, the Food and Agriculture Organization, the International Labor Office, and in the health agendas of political unions of nation states such as the European Union, the Organization of American States, the Organization of African Unity, and the Association of Southeast Asian Nations.

In addition to developing international policies, there is a need to foster international collaboration in the application of national policies affecting heart health (see *The Victoria Declaration,* policy recommendations, nos. 20, 21, and 25).[2] For example, different levels of taxation between neighboring countries can frustrate the deterrent effects of taxation as a tobacco control policy. This was the case in 1995, at the time when Canada lowered tobacco taxes to stem the flow of contraband cigarettes from the United States.

Intellectual and Scientific Infrastructure

It is essential to know the nature and extent of the CVD epidemic. Therefore, access to information on mortality, morbidity, and risk factors is needed. Having the ability to know what works and what does not is essential to conserve resources and further the CVD prevention agenda. International agencies such as the WHO and the World Bank can support nation states in identifying and adopting the best preventive practices using the best available expertise. Examples of this are the Institute of Medicine's report on Research, Development, and

Institutional Strengthening for Control of Cardiovascular Disease in Developing Countries,[16] and the World Heart Federation/WHO/UNESCO Task Force on Risk Factors in Developing Countries.

The advent of new information technologies opens the potential, not yet fully appreciated, to exploit a new media, the Internet, as a vehicle for training, disseminating knowledge, and stimulating interest in heart health at national and local levels.

Physical and Organizational Infrastructure

International networks and partnerships are key components in the infrastructure for heart health. They can be used to enlist political support for issues, mobilize resources, and provide a vehicle for collaboration. The WHO has developed a number of international networks such as CINDI, CARMEN, INTERHEALTH, and MONICA, which have mobilized support in many countries for integrated, comprehensive approaches to CVD prevention. They serve as vehicles for training, practical research, development of databases, and dissemination of implementation knowledge. The European, Francophone, South Asian, Inter-American, Asia-Pacific, and Chinese heart health networks have been developed with similar goals and offer enormous potential for curbing the CVD epidemic on a regional basis.

The magnitude of the global epidemic of CVD is beyond the means of any single organization to control. Participants with nongovernmental organizations (NGOs) and with the private sector offer technical and financial capacities unavailable to the public sector. However, inadequate use has been made of both NGOs and the private sector in the implementation of heart health policies such as educational programs and the provision of heart healthy products.

Professional health organizations such as the World Organization of Family Doctors (WONCA) and the World Heart Federation provide training in preventive cardiology at an international level, and are very influential in advocating policies with governments. They give credibility to efforts within the public. Effective partnerships offer the health system the capacity to marshal the resources to deliver the necessary preventive dose for the appropriate duration.

Economic and Financial Infrastructure

Strengthening the resource base of agencies such as WHO and federations of health professionals concerned with international heart health would measurably enhance the international capacity for CVD prevention. The private sector is a good source of support for conferences, meetings, and development of guidelines. However, support is scarce for sustained international collaborative activities and interventions (i.e., population health initiatives). This reluctance continues despite the fact that economic and social development agencies (i.e., the World Bank), humanitarian foundations (i.e., Soros), or programs (i.e., TACIS in the European Community), often provide ample resources for health system development. These agencies serve as major forces in reestablishing some equity in services and programs between countries. The interested heart health constituency can help these agencies wisely invest their resources in cardiovascular prevention and in related areas, thereby increasing their ability to influence priorities and agendas and to contribute appropriately to coordination of donor inputs.

Building National Infrastructures

National infrastructures play a critical role in the potential for heart health programs to develop. As most health decisions occur at a country level, the national infrastructure shoulders a significant responsibility. It must work collaboratively at an international level, support regional and community level activities, and provide the national infrastructures as needed to ensure success at all three levels.

Policy-Making

Because of the changing pattern of illness and disease burden worldwide, many nations are struggling to balance their longstanding responsibilities for infectious disease control and medical care with the need to mount resources to prevent the consequences of the CVD epidemic. Thus, virtually every nation must create policies that acknowledge the extent and preventability of the CVD epidemic.

A key national function is to link together international policy-making bodies and sister nations in order to learn and share lessons, and to stimulate action and creativity, while keeping strategies that are appropriate to that nation's own culture. Support provided by international organizations is powerful in accelerating national commitment to action. Conversely, national organizations can be effective in pressing international bodies to step forward.

Finally, national bodies (official health agencies, voluntary organizations, and scientific bodies) have a unique role to convene partners, seek input from all, reach consensus, and set the health policy agenda.

Intellectual and Scientific Infrastructure

National initiatives are needed to assess the status of the public health system, design and evaluate programs to meet the challenges, and to develop human resources through training and education. All these activities help build the scientific and intellectual infrastructure.

Particular challenges for heart health include the need for national and regional/local risk factor surveillance information that includes the morbidity and disability indices, as well as mortality data.

Also, the intellectual and scientific infrastructure needs of all countries now go well beyond those required for traditional medical care. There is now an urgent need for manpower with skills on how to motivate, change behavior, market social change, communicate health messages, and conduct all aspects of prevention research. These are challenges that will require infrastructure building at the national level.

Physical and Organizational Infrastructure

Many nations have sophisticated networks of systems to care for ill people that include highly trained staff, physical facilities and equipment, data systems and sophisticated technology, and basic biomedical research. Unfortunately, few examples now exist in any country where there are sufficient dedicated physical and organizational resources to be successful in preventing CVD. Nevertheless, an informal but workable organizational structure can be created that harnesses the infrastructure of schools, the private sector, community organizations, the media, and the official health agencies in the nations that have moderate to excellent resources in these institutions.

The most challenging problem will emerge in those nations that have major gaps in these resources. When there is no system for national and local public health, in which the public communication networks are largely controlled by multinational organizations that profit from tobacco, or where the environment is chaotic following political upheaval, promoting heart health may be pushed aside for emergent issues. However, the reported success recently in some of the most challenging environments (i.e., Poland) is an excellent reminder that CVD rates may be reduced in a reasonably short period of time.[9]

Financial and Economic Infrastructure

Responsibility at the national level for building financial resources for programs to promote heart health cannot be avoided by any country. The rational for investing in heart health has been persuasively made in *The Catalonia Declaration.*[3] Since then, new successes have been realized in some key areas such as the settlements reached by some states in the United States with the tobacco companies to compensate for medical care resulting from tobacco use. In addition, these settlements could eventually drive up the price of cigarettes, resulting in reduced overall consumption. The dual benefit of raising needed revenues while affecting the unhealthy behavior is a stimulating idea for other models, or wider application of the tobacco model in other countries.

Regardless of the vehicle for securing revenue, it is not likely that the CVD epidemic will be curtailed until nations dedicate the resources to apply what is known to be successful. Moreover, only national programs can strive for equity in availability of programs and services between various subpopulations within a country.

Building Community and Local Infrastructure

Local community infrastructure can complement and interact with the national and international infrastructures discussed above. One challenge in delivering heart health programs at the community level is translating and adapting appropriate knowledge and skills to local conditions. Considerable empirical data and training strategies are available for community organizing and coalition building. Use of these tested methods can result in remarkable progress in community-based CVD prevention.[2,3,10]

Policy-Making

Policy development is an important, but long-term aspect of community change, which can be greatly aided by health education to change public opinion.[17]

When public opinion supports it, local governments and leaders of community organizations can have great influence on policies pertaining to heart health. Municipal governments, for example, can

have broad powers over transportation, recreation, and new housing developments. School principals may have significant influence over the lifestyles of their students. For community heart health advocates, these decision makers can open the door to many important community-level changes. To effectively influence change at this level, advocates need strong relationships with decision-makers, as well as access to solid, evidence-based policy options.

Intellectual and Scientific Infrastructure

Intellectual and scientific infrastructure is also needed at a community level and may be achieved through successful collaboration with agencies or organizations equipped to provide education and technical support.[17,18] The development of accurate surveillance systems and analysis of the data belong appropriately at a national and international level, but data collection that is relevant and accessible is also needed at a community level. Local health promotion and disease prevention resource systems are needed to provide on-site training and evaluation support, and to ensure that there is an effective transfer of resources from the international and national to the local level.[3] Additionally, at a local level, practical and affordable monitoring of program implementation is needed for strategic and operational planning.

Physical and Organizational Infrastructure

Communities that adopt health promotion and disease prevention systems need physical and organizational structures to implement them. An organizational structure with human and financial resources to support it underpins successful heart health initiatives through the formation of coalitions or organizations with an interest in health.[19,20] Such coalitions include trained professionals who understand heart health issues and have the ability to act as a resource for other community members. Other essential aspects of successful community coalitions are their abilities to coordinate the resources of different groups in the community, to provide training to the health promoters and advocates they mobilize, and to sustain the programs and policies initiated. Media relations are also important. Ongoing media relations give health professionals an opportunity to reposition health issues in the media and develop ongoing strategies to keep heart health issues in the news.[17]

Economic and Financial Infrastructure

The fifth and final infrastructure needed at a community level is financial resources. As health responsibilities are decentralized (as is happening in many countries), the resources to meet these demands must also be decentralized. Adequate resources for planning, project management, training, and operational support are essential to efficient and effective heart health operations. Poverty will remain as a factor limiting personal and community options in heart health, as well as serving as a potent causative factor for poor health. The public sector has the responsibility for an equitable distribution of programs and services on a local basis. The public sector bears the main burden of responsibility for financing heart health initiatives, but the private sector should not be forgotten as a partner. At a community level, heart health is everybody's issue, and the private sector can be a valuable partner in developing and implementing initiatives. Accessing financial resources from both the public and the private sectors positions communities to develop sustainable programs.

Communities are essential players in heart health. While there are national and international responsibilities for heart health, these will not succeed without a strong infrastructure at the community, state or province, and regional levels.

Synergies Between International, National, and Community Infrastructure

All levels can interact with mutual benefit. Communities are the natural site for education and mobilization of local resources, whereas laws and regulations favorable to health are more likely to occur at the state, provincial, national, or international levels. Such interacting relationships are depicted in Figure 4.

An essential aspect of creating capacity is developing an infrastructure in the areas of policy, intellectual and scientific knowledge, physical and organizational systems, and financial resources. When these infrastructures converge, visionary leaders operate in effective organizations with the resources and the scientific knowledge they need to mobilize communities. When combined with the will to act, these infrastructures maximize a community's opportunity of improving its heart health.

Chapter 4: Forging the Will

Infrastructures (see Chapter 3) without the will to use them are like stranded whales, perhaps mag-

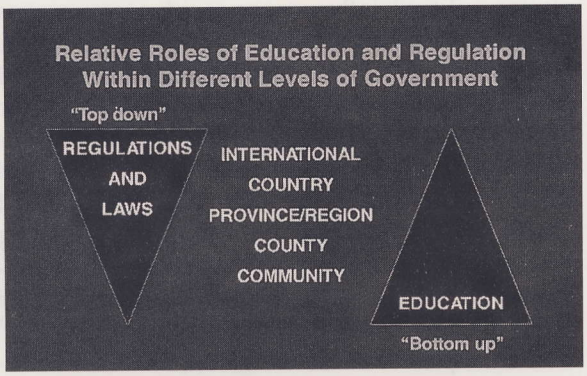

FIGURE 4. Relative roles of education and regulation within different levels of government. Used with permission form The Catalonia Declaration: Investing in Heart Health, 1995.

nificent in appearance, but unable to function. A desire, inclination, or will to act is needed to take any steps toward *action.* In *The Singapore Declaration,* "will"* is taken to imply the following sequence:

1. Acquire core beliefs.
2. Gain conviction, confidence, and values.
3. Set priorities.
4. Plan.
5. Mobilize.
6. Coordinate.
7. Integrate.
8. Implement (with leadership).

This sequence is depicted graphically in the lower portion of Figure 3 (see Chapter 2) and is described in more detail in this chapter.

Combining Infrastructures and the Will to Use Them Leads to the Capacity to Achieve Heart Health

The will to act, individually or collectively, implies a willingness to lead. The infrastructure described in Chapter 3 represents the resources (intellectual, financial, etc.). The will of a leader to use them represents the combination needed for the ultimate product or capacity. Capacity is what is required to achieve and maintain change in an individual or in a system (see Figure 3).

Capacity can be seen as the value added to a system so that it can *sustain* any particular health promotion and disease prevention program, and so that it is *trained, empowered,* and *willing* to initiate additional health promotion and disease prevention programs.[21] Capacity includes abilities to solve new problems based on skills developed in health promotion.[22] Effective leadership is essential and willingness to accept and use technical assistance from others has been defined as a part of this leadership.[23]

Belief, Conviction, Confidence, and Values Are at the Core of Will

Beliefs, derived from knowledge gained through formal and informal sources, are reinforced by modeling or example. They are then brought to a state of heightened awareness or conviction by exposure to models of success, personal experience, exposure to advocacy, or a triggering event that breaks through passivity. This assertion appears in *The Victoria Declaration*[2]: "Cardiovascular disease is largely preventable. We have the scientific knowledge to create a world in which most heart disease and stroke could be eliminated" (p. 3).

Given this scientific knowledge which includes the teachable and transferable methods of prevention (see *The Catalonia Declaration,* chs. 2–6)[3], it is clear that many policy-makers have "passive" beliefs on CVD's preventability that need reinforcement to reach a stage of conviction. Bandura's well researched and widely accepted social cognitive theory provides convincing evidence for the need for self-efficacy (or collective efficacy for groups, organizations, or communities) as the condition of *confidence* that must precede action.[24] Efficacy implies a *confidence* and a *conviction* that a goal can be achieved through action. This self-confidence, or "collective confidence," can be described as a belief that is strong enough to lead to a willingness to act. At this point, the person or group holds these beliefs as values. For some, the word "values" carries the meaning we invest in conviction or in beliefs that is strong enough to induce a willingness to act.

The lesson for all scientists, educators, and health and social service professionals who are committed to the cause of CVD prevention is that more effective education is needed. This education must impart the CVD knowledge base in a more vigorous, persuasive, and far-reaching manner. The portion of the CVD prevention community that is convinced and committed is responsible for this campaign to educate to the point of conviction. The success of advocacy serves to remind us to use this method much more liberally.[25–27] Also, informa-

* Will is defined by the Merriam Webster Dictionary to be "wish or desire often combined with determination . . . a disposition to act according to principles or ends."

tion technologies, such as the Internet, give increased potential for a broad reach at lower expense. A "bottom-up" approach of creating a constituency of an informed public is a strategy that was responsible for passage of the California Tobacco Tax Initiative.[28,29] CVD advocates can also expect great dividends by reaching policy-makers, thus achieving synergism by combining "top-down" efforts with public education, such as was demonstrated so well in North Karelia[18] (see Fig. 4).

Advocacy directed at policy-makers, education of the public, and creation of partnerships between NGOs with common interests are mutually reinforcing ways of instilling the will of politicians to act. For example, independent polls carried out by NGOs identifying public opinions supportive of heart health policies are a powerful way to influence policy-makers. Such methods of coordinated advocacy are, unfortunately, not taught in professional schools for health, education, and social science professionals. Given the obvious lag between the science of CVD prevention and its application,[2] these methods must be learned from those with such experience, and taught and adopted more widely.

An example of advocacy with widespread applicability derives from the role played by the Heart and Stroke Foundation of B.C. & Yukon, Canadian Cancer Society, B.C. and Yukon Division, and B.C. Lung Association. This coalition, in partnership with the Medical Health Officers in the Greater Vancouver Regional District, carried out widespread public information campaigns and advocacy directed at 12 separate municipal governments. The coalition's goal was to achieve uniform local regulations banning smoking in indoor public places.[30]

After Achieving Conviction and Confidence: Setting or Revising Priorities Leads to Planning

Individuals, groups, organizations, and large political units must follow their new convictions with setting or revising priorities. Allocation of resources to CVD prevention makes sense to a group after the facts are digested. A Minister of Health may be encouraged by his or her government to move resources into CVD prevention. The impetus for changes in priorities could come ideally from an objective review of new evidence for the cost-effectiveness of CVD prevention, but often results from pressure from below as an informed public creates political influence or as advocacy groups frame the evidence in a more compelling manner.

If a leader of a group or organization has gained personal confidence in the value of setting a higher priority for heart health, his or her responsibility is to teach, persuade, model, demonstrate, and lead the group toward a consensus on the value and wisdom of setting new priorities. The planning process and management of subsequent implementation and evaluation steps is described in greater detail in Chapter 5 of *The Catalonia Declaration,*[3] with examples of successes given, as well. Analogous planning methods are given in the well-known and widely used "precede-proceed" model of Green and Kreuter.[31]

Setting a higher priority for heart health requires a group or organization to both identify the problem (the priority is too low) and gain the commitment of the group to a planning process, as seen in Figure 5.

The planning process requires a time line, a first guess as to resources available, and continued use of social marketing methods. For example, a prototype implementation plan would be presented to a focus group of opinion leaders for their views on feasibility. Further assessment of needs can occur during this planning phase, and a second level of resource inventory may lead to creation or refinement of intervention methods, as depicted in Figure 5.

Mobilization of Resources Follows Planning

Mobilization takes many forms, dependent upon the different characteristics of society in various regions of the world and dependent upon the level of government in question.

Resources may be present, or latent before retraining, within existing infrastructures, (see Chapter 3), or they may be created by the planning group. For example, prototype pilot projects may produce methods of value to the future implemen-

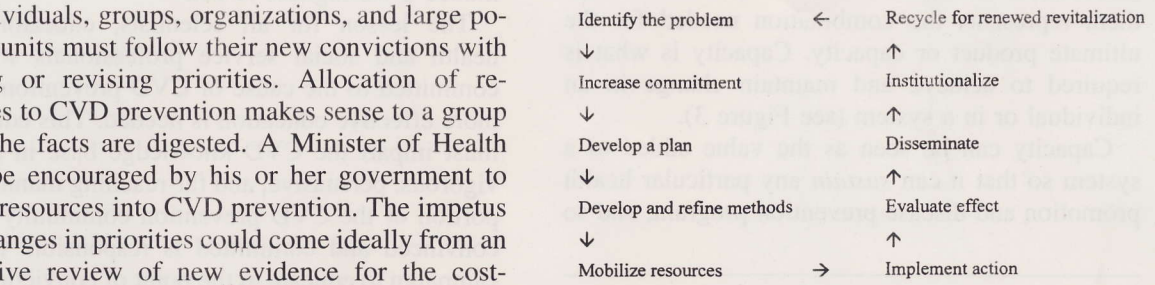

FIGURE 5. A planning and managerial sequence for effective investing in heart health.

tation period; these methods are new intellectual resources which include the creation of staff now trained to implement those methods. Such pilot projects, identified as "formative research" were of great utility in guiding the community-based prevention programs of the Stanford group.[17,32]

Mobilization of existing resources within a system (community, country, region, or international) requires coalition building and partnership formation, a process described more fully in Chapters 2 and 4 of *The Catalonia Declaration.*[3] At all government levels, an asset of increasing importance is partnership with the private sector. Our emerging "global marketplace" provides opportunities for the food, recreation and sport, transportation, media, entertainment, and telecommunication industries to be recruited into coalitions for heart health. Mobilizing the private sector to a common cause occurs most readily when incentives for cooperation exist, as they do so readily in businesses that deal with sports, recreation, and some segments of agriculture and the food industry. Many mass media organizations, notably radio, television, newspapers, and magazines, now respond to public demand for health news and tips. Some popular television programs directed at families have voluntarily incorporated health promoting messages into comedy or drama (e.g., characters fastening their seat belts when they drive).

Beyond voluntary cooperation with CVD prevention coalitions, there is a place and urgent need for regulations that move the people's health into higher priority within the advertising, transportation, mass media, and entertainment industries. The need for tobacco product advertising bans, as advocated globally by *The Victoria Declaration,*[2] typifies the need for laws and regulations. A less obvious and potentially well-hidden example stems from the evidence published recently by Stockwell and Glantz that shows an increased appearance in the past 8 years of cigarette use by main movie characters.[33] This modeling of smoking as the norm has potential worldwide impact, and pressure to change must come from an activated, politically aware CVD prevention coalition. *The Singapore Declaration* can play a role in forging the will to act, informally or formally, to form coalitions in seeking such change.

Coordination Follows Mobilization

The planning process continues with enlisting the resources, now mobilized, into a coordinated and coherent plan that includes partnership development. An excellent example from Singapore is the partnership between the Ministry of Health and the Singapore Heart Foundation to develop food labeling regulations, in which the Heart Foundation took responsibility for public education on the health benefits of the regulation. The action plan that results now includes a budget for direct costs, or may entirely represent the so-called "in kind" services donated by members of a coalition. When a Department or Ministry of Health successfully implants a well-researched, but novel school health curriculum into a school system, the budgets used are largely in-kind donations of existing resources, now redirected toward increasing effectiveness.[3]

Coordination requires leadership. Each group or member must identify leaders, plus a selected (or elected) leader of any joint action among coalition members. However, coalition members must retain a measure of autonomy. This need must be respected and true trust in shared tasks can come only after initial success in pilot projects, such as shared sponsorship of community events (at the local level) or shared roles on advocacy campaigns at local or higher government levels.

The British Columbia coalition that promoted passage of laws banning smoking in indoor public places was an excellent example: each of the Medical Health Officers and voluntary health agencies exerted leadership by retaining autonomy.

Integration Occurs With and Follows Coordination

Integration has a special place in this pre-implementation planning phase. Balancing agendas and defining coalition members' resource allocations and implementation roles are the main functions of the integration phase. The first integration role is for planning leaders to match agendas, priorities, and resources of the disparate groups that may be mobilized. For example, at the state or provincial level, one may find the following coalition members:

- Public health organizations
- Educational institutions
- Nongovernmental organizations, such as Heart Foundations and Associations
- Private sector members, such as media, retail food organizations, sport and recreation organizations, etc.
- Hospitals
- Health professional organizations
- Publicly based advocacy groups

Two of the members most commonly ignored and in most need of incorporation are the private

sector members and educational institutions. The former are often excluded because of inexperience and dissonance in their agendas, and the latter because health-oriented groups often do not include traditional school and adult education institutions as equal partners.

The integration process during planning requires, above all, the ability to negotiate and compromise—the mark of leadership. Given the frequency of coalition failure due to poor leadership, a planning phase should consider the need for training in leadership skills.[34,35]

Implementation and Capacity Building

As Figure 3 indicates, the planning process leads to the "giant step" of implementation of an action plan, with the final phase of *forging the will* combined with the infrastructure to result in the goal of achieving the *capacity for heart health.*

As discussed, leadership is a key ingredient. The key property is as follows: the leader has the will to lead (a strongly held *belief* in need for action, a *conviction* and *confidence* in the *value* and benefits of action). Managerial skill is, of course, a requirement and these skills, although they may require training, are necessary ingredients for the leader to have this confidence present when the will is truly forged.

Implementation steps are complex and varied, depending on the goals and objectives within the system. The 41 case studies of The Catalonia Declaration[3] and the 81 case studies of Worldwide Efforts to Achieve Heart Health[10] contain many of the practical guidelines that organizations will find useful.

Certain principles of continued and progressive action include:

- Continued planning using process measures obtained during early phases of field operations;[31]
- Social marketing becomes the implementation phase's mainstay, with particular attention to message design, use of learning theories, and use of the inherently more cost-effective educational channels, such as mass media[32,36];
- Increasing cooperation with the private sector, nongovernmental organizations, and educational institutions as progress occurs and coalition building continues;
- Major attempts to institutionalize programs, based on successful adoption of demonstration project[23]; and
- Dissemination of any successes throughout broader systems.[3,37–40]

Conclusions

The key message for clinicians, researchers, and all others who wish to advance the cause of CVD prevention is that they must accept personal responsibility to take a leadership role. This leadership often requires a new set of knowledge and skills: those that prepare them to carry out social marketing and advocacy and those that equip them to build partnerships and coalitions.

Chapter 5: Conclusions

The Singapore Declaration has dealt with creating capacity for improvement in heart health. This, in turn, requires international, national, and community infrastructures to implement heart health programs, and the will to act. The one quality common to discussion of infrastructure and will is leadership. Thus, *The Singapore Declaration* calls on individuals, as well as local, national, and international public and private sector health service organizations to recognize the expanding epidemic of CVD and to step forward as leaders in promoting heart health. Without such leadership, neither an infrastructure nor the will to use it will be possible. Without this capacity, the cardiovascular epidemic will continue unabated.

Chapter 6: Recommendations

It is recommended that:

1. The international community recognize the need for global policies to counter a cardiovascular epidemic of truly global proportions and causes.
2. International, national, and local organizations that deal with health place CVD high on their agendas.
3. Countries and communities more developed in their heart health capacity share their policy-making, intellectual and scientific, physical and organizational, and economic capacities with countries and communities who are developing their heart health program.
4. Countries and communities developing heart health programs use comprehensive approaches, which should endeavor to include interventions in several settings on all or most of the major risk factors, using several channels, to effect population-wide change.
5. Those concerned with heart health take decisive action outside their traditional professional focus as scientists, clinicians, and experts to accept responsibility and leadership of heart health.

Leadership and Policy-Making

It is recommended that:

6. International, national, regional, and local organizations show leadership in promoting heart health to prevent expansion of the epidemic, given the global growth of morbidity and mortality from CVD.

7. International, national, and local organizations raise public awareness and prompt action on government policies that benefit or adversely affect heart health.

8. Community leaders organize whatever "social capital" is available around the issue of heart health.

9. International and national agencies collaborate in the establishment of a Global Heart Health Observatory as a worldwide resource for effective policies and programs to document and promote "best practices" in heart health. This heart health network database could include morbidity and risk factor survey instruments and protocols, model policies and laws, intervention methods, etc. These might be used widely by countries developing heart health programs.

Expanding the Knowledge Base

It is recommended that:

10. International and national agencies identify the magnitude of the CVD epidemic and the burden of CVD on the population.

11. Ministries of Health and international agencies with an interest in health and social development, within the context of the technical and financial resources available, conduct surveys on morbidity and mortality surveys, and also estimate risk factor prevalence, the use of medical services, the identification of high risk target groups, and the social costs of the disease.

12. Ministries of Health and international agencies with an interest in health and social development carry out studies of the burden of CVD to project the long-term impact of the CVD epidemic into the 21st century.

13. In formulating the CVD health policies, policy-makers seek the advice from clinicians and scientists in the traditional medical and laboratory disciplines, as well as from experts in public health, behavioral sciences, health education, law, economics, and political and social sciences.

Infrastructure and Organizational

It is recommended that:

14. Governments and health agencies develop intersectional policies targeted to the population at large to address the determinants of cardiovascular health.

15. Governments, professional societies, and health care systems join to develop policies for the identification of persons at high risk of CVD, and for their cost-effective treatment.

16. Health agencies organize heart health-related programs which integrate action on tobacco, hypertension, diabetes, nutrition, physical activity, and overweight.

17. Health care systems integrate and evaluate behavioral, pharmacological, and technological approaches to CVD treatment.

Financial and Economic

It is recommended that:

18. Governments, non-governmental organizations, and international health and social development agencies increase their economic investment in CVD prevention and control to reflect the increasing burden due to this disease.

19. Nongovernmental organizations commit increasing amounts of their research funds to support research in dissemination and implementation of programs and policies for heart health.

20. National and international health agencies concerned with heart health establish partnerships with the private sector to assist with the implementation of surveillance, public education programs, and provision of heart healthy products to consumers.

Forging the Political Will

It is recommended that:

21. The media itself be informed and responsible for disseminating accurate information about heart health, given their influence on daily habits of people and the world. Legislation, regulations, or incentives may be required to ensure that this responsibility is carried out.

22. Heart health organizations develop effective health communications aimed at the major risk behaviors and risk factors.

23. Organizations involved in heart health develop educational and media programs identifying CVD as a major health problem to influence gov-

ernments to recognize the cardiovascular epidemic, and to realign resources and infrastructure to make heart health a priority.

24. All concerned with heart health at international, national, and local levels accept responsibility and assume leadership to act now at the policy-making, scientific, organization building, and economic levels to develop heart health programs to curtail this global epidemic in the 21st century.

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