International Cooperation in World Cardiology: The Role of the World Heart Federation

A. Bayés de Luna, FESC, FACC, Past-President, World Heart Federation

Barcelona, Spain

FROM PAST TO FUTURE

The World Heart Federation is the new name of the International Society and Federation of Cardiology (ISFC), as approved by the General Assembly that met during the World Congress of Cardiology in Rio de Janeiro, Brazil in April 1998. The organization was formed in 1978 by a merger of the International Society of Cardiology (a professional organization founded in 1946 with a world-wide membership of national societies of cardiology), and the International Cardiology Federation (an association of heart foundations set up in 1970 to promote fundraising for research, professional and public education and community programs). The new World Heart Federation therefore has more than 50 years’ experience of fighting heart disease throughout the world. At present, it brings together national societies of cardiology and heart foundations from 81 countries, as well as “continental” members covering the Asia-Pacific region, Europe, the Americas and Africa.

In recent years, the World Heart Federation has worked in two ways: 1) through its scientific councils, which are engaged in many projects, some of them with the World Health Organization (WHO); 2) through its heart foundations, now grouped in continental associations, which are very active in public education relating to all aspects of heart health. The fight against tobacco use is one important aim of our organization. Very recently, the World Heart Federation has taken a firm position against any settlement proposed by the United States, that does not give equal treatment to citizens of the U.S. and citizens of other countries. Heart foundations provide a way for laypeople—many of them affected directly or indirectly by heart disease and stroke—to contribute to the fight against cardiovascular diseases, mainly by adapting the knowledge gained from research and medical practice into health education programs for the public.

We are convinced that we now have a firm base from which we may define the future role of the World Heart Federation in world cardiology. We must provide leadership and support other societies and organizations, especially our continental and national members, in their efforts to promote cardiology world-wide. To do this we must reach a consensus about our own aims avoiding duplication of activities. We hope to increase even further the collaboration between professional organizations and national heart foundations within the Federation, which would benefit both our fundraising and our scientific aims. We need to promote joint projects with special emphasis on preventive measures and to fight against cardiovascular (CV) diseases in developing countries.

HEART DISEASE IN DEVELOPING COUNTRIES: THE SECOND WAVE

According to the WHO (World Health Report 1997) (1), circulatory disease (such as heart attacks and stroke) is responsible for 30% of deaths throughout the world (more than 15 million deaths per year). Cardiovascular disease, including stroke, is the leading cause of mortality in the U.S., accounting for more than one in three deaths in 1995 (40% of all deaths) (2). In all Western countries, ischemic heart disease accounts for most deaths from heart disease.

This “epidemic” of heart disease is now on the decline in developed countries, although it is still the leading cause of death in men over 40 and women over 70 years of age. The U.S. National Heart, Lung and Blood Institute estimates that, in the U.S., the mortality rate from ischemic heart disease has declined by 57% from its 1963 peak of 230 per 100,000 person/years, (3,4) and the rate of decline could be accelerated further by means of effective education programs to reduce the associated risk factors. However, there is no room for complacency: For the first time since the 1960s, the decline in cardiovascular disease mortality in the U.S. has leveled off, and rates may actually begin to rise soon, even though mortality from all causes has declined by 33% (5).

Most developing countries and economies in transition are still affected by the “first wave” of heart disease—heart disease of infective origin, especially rheumatic fever and rheumatic heart disease and, in the Americas, Chagas’ disease. To give an example, Bangladesh has a population of 120 million, of whom 20 million are children between 5 and 15 years of age. The incidence of rheumatic fever is one case per 1,000 children per year, or 20,000 new cases every year, and probably more than 30% will need valvuloplasty or open heart surgery (6). On the other hand, the prevalence of Chagas’ disease in Latin America is approximately 20 million, and around 10% of these patients present with heart...
disease (7). In the Southern Cone countries (Argentina, Brazil, Chile, Uruguay), the incidence of Chagas’ disease has greatly decreased as a result of government programs to combat transmission of the vector (8). However, the incidence is still high in Andean and Central American countries, due—surprisingly—to transmission through blood transfusions. A clear increase in new cases has been detected in Europe, and especially in the U.S. (9).

These countries are now being overtaken by the second wave of ischemic heart disease, due to population aging and unhealthy eating habits and behavior, before the first wave has passed (10–12). This is the case in Eastern Europe and also in most countries in Africa, Asia and Latin America. The predictions of the 1970s have thus finally come true: Noncommunicable diseases, especially cardiovascular diseases because of the considerable increase in ischemic heart disease, have overtaken communicable diseases as the leading cause of death in every developing region of the world except in sub-Saharan Africa and India and in economies in transition. Even more alarming is the pessimistic prediction for the future: According to Murray and Lopez (13), the increase in the incidence of heart disease, especially ischemic heart disease, will continue until 2020, mainly due to the large increase in developing countries and economies in transition.

There are several factors that may explain the increase in ischaemic heart disease in developing countries. These include: 1) increasing average lifespan; 2) decreasing infant mortality; 3) reduced caloric intake in the early years of life; 4) an increase in gross national product and per capita income, leading to the adoption of the unhealthy eating habits and behaviour of western countries; 5) genetic factors (e.g., the “thrifty gene”) (14).

**THE ROLE OF THE WORLD HEART FEDERATION**

Health systems in all developing countries and economies in transition must address this growing global burden. However, they are confronted with a variety of difficulties caused not only by local economic factors, but also by a lack of infrastructure (both professionals and resources) for cardiology and ignorance of the best way in which to proceed and select priorities.

The WHO has been overtaken by urgent problems related to infectious diseases, both old (malaria, cholera, and so forth) and new (AIDS, Ebola, and so forth), and has not studied in-depth the problem of resources and priorities for heart disease in developing countries. We hope that, with the appointment of Dr Gro Harlem Brundtland as the new Director–General, positive changes will occur, although the initial decisions taken in his field have not been promising. With cardiovascular diseases not being included in the present list of priorities of WHO, it is even more important that the World Heart Federation, a truly world-wide organization, should intensify its work. It is therefore logical that the WHF acts as the umbrella organization for worldwide preventive cardiology efforts (15,16). To this end, our aim should be to increase our cooperation with developing countries, which need our help and support most. The countries concerned are most of those in Asia, Latin America and Africa, as well as those of Eastern Europe, although these are not developing countries in the strict sense. In the fight against heart disease, the World Heart Federation, as a world wide organization, must give particular support, at the turn of a century, to research and prevention.

Research is necessary in all areas—epidemiological, clinical and basic. It is important to gain a better understanding of the size of the problem, current knowledge about and future trends in risk factors, the pathophysiological mechanism of cardiovascular disease, especially coronary heart disease, and potential diagnostic and therapeutic strategies.

Activities aimed at cardiovascular disease prevention have been instrumental in reducing mortality. For example, the difference in the treatment of hypertension now, compared with 50 years ago, is enormous. Reducing risk factors may bring substantial benefits in the future. There is already scientific evidence showing the value of controlling the most important risk factors. A 10% decrease in blood cholesterol brings a decrease of approximately 30% in the risk of coronary heart disease. Using drugs to bring about a decrease of 6 mm Hg in diastolic blood pressure of >90 mm Hg in patients with moderate hypertension brings a 16% decrease in coronary heart disease and a 42% decrease in stroke. Last, giving up cigarette smoking brings a decrease of approximately 50% in the risk of coronary heart disease (5,17–19). The World Heart Federation therefore needs to support the efforts of its scientific councils in their research and prevention projects, as well as the public education and prevention campaigns organized by its national and continental members.

We also wish to stress the importance from a clinical point of view of nurturing the patient/physician relationship, which tends to be forgotten in this era of sophisticated “high-tech” cardiology. In our relationships with our patients, we must remember that we are dealing not only with a medical problem, but with a person whose views, feelings and fears must be taken into account.

Last, we must not forget a claim for solidarity. We have to acknowledge the great differences in resources and manpower in developed and developing countries (20). For instance, there is one cardiologist per one million inhabitants in sub-Saharan countries, and even then they do not devote all their time to cardiology, and there is approximately one cardiac surgery team for every 50 million inhabitants. Many small countries in this region do not even have an echocardiograph. Even within Europe, there are considerable differences between some developed countries and the economies in transition of Eastern Europe. For example, rates of coronary angioplasty and other heart surgery per one million inhabitants may vary between countries by a factor of more than 100. There may also be
very striking differences between urban and rural areas within a single country.

The aim of the World Heart Federation is to help developing countries and economies in transition to achieve heart health outcomes not too far removed from those achieved in more advanced developed countries, but at a lower cost. We must be realistic and acknowledge that it is not feasible in these countries to implement the “high-tech” approach that is now the norm in the U.S., most Western European countries and some parts of the Asia-Pacific region. Our task is to decide on measures and guidelines that can help these countries to achieve their aims. The success of these initiatives will depend on the support of governments. We also need to convince WHO that one of its priorities in the near future must be to support campaigns to combat noncommunicable diseases.

The World Heart Federation has implemented a number of projects devoted to the fight against heart disease particularly in developing countries, which are described briefly in the next section.

Task forces to combat heart diseases in developing countries: A Memorandum of Understanding has been signed between WHO, United Nations Educational Scientific and Cultural Organization (UNESCO) and the World Heart Federation, and task forces on rheumatic fever, Chagas’ disease and risk factors in developing countries have been established. Her Majesty the Queen of Spain has agreed to preside over the honorary committee for these campaigns.

A plan of action and budget have been drawn up by the task force on rheumatic fever. Its first action will be a primary prevention program in Bangladesh with funding of ECU 900,000 provided by the European Union. The task force on risk factors in developing countries has drawn up its plan of action and budget. Finally, various projects for the task force on Chagas’ disease are in preparation, combined with new plans for similar campaigns in other developing countries.

Twin centers of cardiology. The World Heart Federation has set up a project encouraging centers of cardiology in developed countries to give their support to centers in developing countries in Africa, some parts of Asia, Latin America and the economies in transition of Eastern Europe. The idea forms part of a global project of solidarity between countries. The first step in this exchange is to train cardiologists from developing countries. The World Heart Federation has already launched a four-year program of grants (four grants per year), which were presented during the 1998 World Congress of Cardiology in Rio de Janeiro, Brazil. In a second phase, we will consider the transfer of technology and equipment, taking into account the difficulty of maintaining equipment in such countries.

There are various potential sources of funding these projects. In Catalonia, Spain, grants have been obtained from the government through the funding program for developing countries.

White Book. The World Heart Federation will publish a White Book on cardiovascular health in developing countries and economies in transition. Similar initiatives have recently been launched by both the Institute of Medicine and the World Bank in the U.S. Although these projects cover a similar area, we have tried to focus our attention on the supply of human and other resources in the field of cardiology throughout the world and to propose specific measures and priorities. We hope that the White Book will clarify the present situation of cardiovascular health care in developing countries and economies in transition and show the way forward, making governments and institutions aware of the need to plan their strategies to combat heart disease. The White Book will be presented during the European Congress of Cardiology in Barcelona, Spain, in August 1999.

Publications. A peer review journal, CVD prevention (Editor-in-Chief, Darwin R. Labarthe), was launched during the World Congress and is being published quarterly by Futura Press. It is of value to everyone engaged in research, practice and policy development in areas relevant to cardiovascular disease prevention. The quarterly bulletin of the World Heart Federation, Heartbeat, is available in both English and Spanish and is distributed to members in bulk. It is also published on the Internet (http://www.WorldHeart.org). The World Heart Federation encourages Internet publications such as Timely Topics in Medicine, produced by Prous Science (www.prous.com/ttm).

Consensus on guidelines. The number of task forces working on cardiovascular disease risk factors worldwide is increasing rapidly. Their conclusions may vary, owing to socioeconomic and geographic factors, and it may be difficult to arrive at agreed guidelines to be applied throughout the world. Three of the groups involved (the World Heart Federation, continental societies of cardiology and continental societies dealing with hypertension and atherosclerosis) are working toward such a consensus. The White Book should provide the background information needed to establish consensus guidelines for the diagnosis and treatment of heart disease in different socioeconomic conditions, using a cost–benefit approach.

Educational programs in cardiology. These programs should be made available to as many countries as possible, using new technology. Although transmission via satellite is an attractive possibility, the easiest and least expensive medium for developing countries is the Internet. The World Heart Federation sponsors some of these programs in collaboration with a number of its national and continental members. The joint program prepared with the American College of Cardiology, which was presented at the World Congress of Cardiology in April 1998, has been especially important. Similar projects were carried out with
the European Society of Cardiology during their Vienna, Austria congress in August 1998, and with the American Heart Association during their Scientific Sessions in Dallas in November 1998. Future sessions could prove beneficial to spreading educational broadcast meetings via the Internet.

**Electronic information exchange.** The World Heart Federation is collaborating with the American Heart Association, the American College of Cardiology and its continental members on a World Wide Web homepage (the Global Cardiology Network at www.globalcardiology.org) with links to participating organizations. The discussion group set up by the American College of Cardiology to facilitate this work is now being administered by the European Society of Cardiology.

A computerized catalogue facility with information on nonresearch activities of heart foundations is held on a database in Geneva, Switzerland. The object is to provide a single source of information, which can be accessed via fax or e-mail by all heart foundations.

**Fundraising activities.** To fund the Federation’s projects it is necessary to work through a professional fundraising body and to approach a wide range of public and private institutions and organizations. An honorary fundraising committee has been established, presided over by Her Majesty the Queen of Spain.

**World Heart Day.** The World Heart Federation has decided to launch a yearly World Heart Day starting in the year 2000. Preparatory work for this project is being worked out. The theme of the day will be especially educational, concentrated on risk factors, to be adapted to local needs by World Heart Federation members.

**CONCLUSIONS**

The World Heart Federation is committed to the fight against heart disease throughout the world. It supports prevention and research projects organized by its councils and members, but also conducts its own campaigns to help developing countries appreciate the problem of cardiovascular disease and find strategies to combat it. This article aims to explain the role of World Heart Federation in this field and to make cardiologists and others involved in heart health aware of the problems.

**REFERENCES**


Reprint requests and correspondence: Dr. A. Bayés de Luna, World Heart Federation, PO Box 117, CH-1211 Geneva 12, Switzerland. E-mail: worldheart@compuserve.com.