



WORLD HEALTH ORGANIZATION

LONG-TERM PROGRAMME FOR THE PREVENTION AND CONTROL
OF CARDIOVASCULAR DISEASES*

Summary

The long-term programme for the prevention and control of cardiovascular diseases (CVD) was prepared in 1976 during the first meeting of the steering committee. It was presented to and approved by the 1978 session of the Executive Board and then to the World Health Assembly in 1978. No substantial changes in the long-term strategy of this programme are required. Its concept complies with the WHO goal of "Health for All by the Year 2000". Its objective is to prevent and control major cardiovascular diseases in the population.

This document briefly summarizes WHO activities in the field of cardiovascular diseases carried out during the first three years of the Organization's CVD medium-term programme thus covering the period 1978 to 1981. Further it presents proposals for continuation of the CVD programme during the period of the WHO 7th General Programme of Work (1984-1989), and includes detailed proposals for cardiovascular disease activities to be carried out by WHO during 1984 and 1985. On the basis of the discussions during the CVD Steering Committee meeting on 15 to 17 March 1982, the final version of the CVD Medium-Term Programme for 1984 to 1989 will be prepared by the Secretariat at HQ as well as in the Regional Offices. This document will then be presented to the World Health Assembly (WHA) in 1983.

*The document was prepared by Cardiovascular Diseases Unit, WHO Headquarters. It was reviewed by the CVD Steering Committee (see Annex 1) at a meeting held in Geneva, 15-17 March 1982. The Committee's comments are included in the text in indented paragraphs in the relevant sections.

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1 INTRODUCTION

Since 1976 when the global long-term plan was prepared in WHO for the prevention and control of cardiovascular diseases, critical events occurred and important decisions were taken by WHO governing bodies.

In 1977 the World Health Assembly, by Resolution WHO30.43, decided that the main social target of governments and WHO in the coming decades should be "the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life."

In 1978 the International Conference on Primary Health Care (PHC) was held in Alma Ata (USSR). The Declaration adopted during this Conference identified eight components to be included in primary health care.

In 1979, by adopting Resolution WHA32.30, the World Health Assembly launched a global strategy for "Health for All by the Year 2000" (HFA/2000), which was adopted in May 1981 by the Thirty-fourth World Health Assembly by Resolution WHA34.36.

The new developments were taken into account when preparing the MTP programme proposals for 1978 to 1983 as for 1984 to 1989. However, it was not necessary to introduce any substantial changes in the programme's concept and strategy for implementation as they were formulated in the documents prepared in 1976*.

The objective of the programme is to prevent and control major cardiovascular diseases in the population.

"There was agreement that no substantial changes in the long-term plan were required".

The role and place of CVD prevention and control should be clearly defined in the context of HFA/2000. It is well known that today health priorities for most of the developing countries are nutrition, communicable diseases and environmental hygiene. However, economic and social changes are modifying demographic and health conditions, and bring about changes in age distribution patterns, life expectancy and consequently new public health priorities. Such trends have been recognized in many developing countries.

Among the eight components of PHC identified at Alma Ata, five will contribute directly and immediately to the prevention and control of CVD.

- Education concerning prevailing health problems and the methods of their prevention and control
- Maternal and child health care
- Prevention and control of locally endemic diseases
- Appropriate treatment of common diseases
- Provision of essential drugs.

In industrialized countries, in connexion with prevention and control of CVD, action on these five elements is required immediately. It is however not too late to start selected programmes in other countries against emerging diseases, especially when known preventive measures would limit the extent of expected problems.

*WHO CVD Medium-Term Programme for 1978/83,
and
Report of the Steering Committee in 1976.

2. ACTIVITIES FROM 1978 TO 1981

Summarizing the general experiences gained during 1978-1981, it is possible to state that the formulation of the WHO long-term programme in the field of CVD and preparation of the MTP involving Headquarters as well as all the Regional Offices had a positive effect on the development and coordination of WHO activities in prevention and control of cardiovascular Diseases. It has improved the understanding, communication and exchange of information, including documentation, outside as well as within WHO. In most of the Regions it has been possible to identify institutions and experts in the field and assess their areas of interest in the WHO programmes. With several of them in each Region, new projects and activities have been initiated.

The advantage of Regional programmes with global links has proved to be beneficial from a managerial point of view due to differences in economic developments in different Regions. While in certain Regions emphasis had to be put on collection of the basic epidemiological information on the extent of the problem of cardiovascular diseases, in other Regions, e.g. EURO, concepts of integration of CVD prevention and control activities with programmes for prevention and control of other noncommunicable diseases (NCD) has already been considered.

On the other hand, the active approach to promotion of the activities in this area identified the lack of resources in different countries, both as far as manpower and finances are concerned. The lack of epidemiological skills was specifically evident in AFRO, EMRO and to some extent in SEARO. Courses in epidemiology and prevention of cardiovascular diseases and other noncommunicable diseases are being planned therefore along the lines of those already initiated in EURO and WPRO. The readiness of the national public health authorities to acknowledge the need for developing CVD prevention and control activities was in indirect relation to the magnitude of the problems related to the incidence and control of communicable diseases in their countries. Nevertheless, even in these countries the awareness of the public health authorities about the emerging problems of cardiovascular diseases is increasing. However, due to lack of resources, they have had to postpone any action in relation to chronic diseases, including CVD.

A review of the progress of individual projects and areas of the programme during 1978-81 is included in the respective sections of Section 4.

In discussing these areas, a number of general comments were made which related to the problems of achieving the 1976 recommendations. There was an awareness that the 1976 document had not been officially adopted and disseminated until 1978 and that a relatively short space of time had elapsed since then.

The concept of centres of excellence discussed in 1976 was supported but concern was expressed that the proper balance of activities should be sought. Most centres of CVD interest were primarily concerned with curative medicine/surgery and such functions needed to be maintained. However, the epidemiology/ community aspects of CVD were deficient and the balance needed to be redressed.

However, the Steering Committee felt that the key objectives relating to Research and Training Centres had not been achieved and that consideration should be given to modified/alternative strategies for attaining these objectives.

Training and research centre development should be reviewed with the possible consideration of different formats/structure but maintaining the same concern about content. The involvement of young clinicians in major programmes ("on-the-job" training as in North Karelia) was one way

of approaching the problem. The use of non-institutionalized concepts was discussed ("centres without walls") and it was agreed that the catalytic effect of seminars and short training courses for those not intending careers in epidemiology/community medicine were of considerable importance. However, the basic need for trained, career epidemiologists on a national and regional level was confirmed. A proposal to explore the possibilities in the context of WHO HMD activities was made.

3. CVD LONG-TERM PROGRAMMES IN THE CONTEXT OF "HEALTH FOR ALL BY THE YEAR 2000"

3.1 General considerations

"Health for All by the Year 2000" is the main social health target of governments and WHO for the coming decades. It is referred to as a level of health that will permit people to live socially and economically productive lives.

Cardiovascular diseases are the leading cause of mortality, as well as a leading health problem in the industrialized countries of the American, European and Western Pacific Regions. They are also emerging as an important public health problem in many developing countries. In some of them, e.g. Singapore (Table 1 and Figure 1), Malaysia, Sri Lanka and Mauritius, by the seventies they became the leading cause of death.

On the contrary, in most industrialized countries during the 1970s a decrease was noted in the mortality for all cardiovascular diseases and in some of them even the mortality rates for coronary heart disease showed a decrease [27] (Table 2). The decline in mortality for all CVD in these countries might be interpreted as a reflection of improvements in social and economic conditions and better control of hypertension.

Apart from some cardiomyopathies, measures exist for the prevention and control of different cardiovascular diseases. This, with the decreasing trends in mortality for all CVD in industrialized countries, and in some of them even for CHD mortality, shows that epidemics of heart diseases are not the unavoidable consequence of socio-economic development, they can and should be avoided by appropriate and timely preventive action that will enhance rather than hinder economic and technological advances and thus make a definite contribution to the goal of "Health for All by the Year 2000".

Consequently, the goal of the WHO programme is to prevent in entire populations where prevailing social, cultural and economic conditions make it possible, the development of habits, such as smoking or faulty eating, that increase the risk of CVD. This approach to primary prevention - which addresses entire populations and their younger age groups specifically and as applied in developing countries with low levels of risk factors, is being called "primordial" prevention - requires the mobilization of community resources that go beyond the limits of medicine.

Keeping in mind the limitations of the role of WHO and the specific aspects of its work as an international governmental organization, it is felt that the WHO CVD programme can make its best contribution to the overall concept of HFA/2000 through national and international actions in improving methods and strategies for preventing cardiovascular diseases by reducing the prevalence of risk factors in entire populations, or, where the risk factor levels are low, by preventing their increase by the adoption and preservation of healthy life styles. Such a programme should be carried out in close collaboration with leading research centres and scientists in all countries, as well as with responsible public health authorities.

Table 1.1(1)

Principal Causes of Death, 1948 and 1979

1948	1979
1 Tuberculosis (14)	*Heart Diseases (22)
2 Pneumonia (10)	Cancer (20)
3 Gastroenteritis (8)	Cerebrovascular Disease (11)
4 Infection of New Born (7)	Pneumonia (9)
5 Heart Diseases (4)	Accidents (4)
6 Cancer (3)	Diabetes Mellitus (3)
7 Accidents (3)	Tuberculosis (3)
8 Bronchitis, Emphysema & Asthma (2)	Nephritis and Nephrosis (2)
9 Malaria (1)	Bronchitis, Emphysema & Asthma (2)
10 Cerebrovascular Disease (1)	Congenital Anomalies (1)

Figures in brackets refer to percent of total deaths.

*Includes Hypertensive diseases

Table 1.2

Standardised Death Rates of Major Cardiovascular Diseases 1957, 1967 and 1978

per 100,000 population

Cause of Death	1957	1967	1978
Ischaemic Heart Disease	22	30	48
Hypertensive Diseases	11	12	6
Symptomatic, Pulmonary and other heart diseases	25	20	12
Cerebrovascular Disease	31	37	35
Rheumatic Heart Disease	8	3	3
All Cardiovascular Diseases	97	102	104

Adjusted by direct method using 1957 Singapore population.

(1) Chen, A.J.: Mortality and Morbidity of Cardiovascular Diseases. Annals of the Academy of Medicine of Singapore, Volume 9, No.4, October 1980

Figure 1

Mortality Trends 1968-1977, IHD (410-414), Men 40-69 years

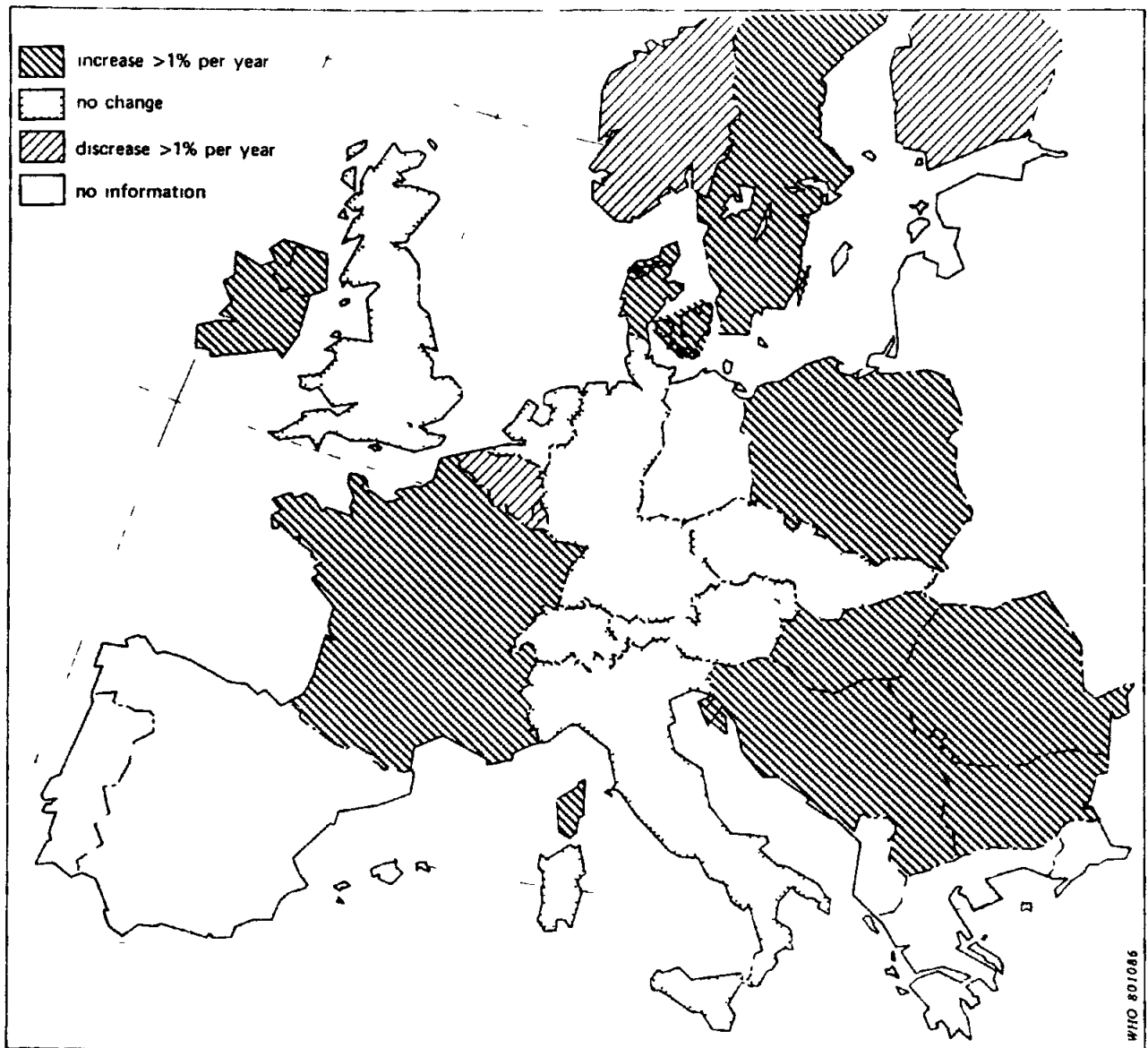


Table 2

Mortality trends in 1968-1977 (8th rev. of ICD) slope of 1st-order regression line (% per year) average of 5-year age groups between 40-69 years⁽²⁾

Countries	All causes		CVD		CVD-Cer D		Cer D		IHD	
	M	F	M	F	M	F	M	F	M	F
1 Canada	-0.4	-0.9	-1.5	-1.8	-1.5	-1.7	-1.9	-2.2	-1.6	-0.9
2 USA	-2.2	-2.2	-3.0	-3.7	-2.8	-3.5	-4.5	-4.2	-3.0	-3.6
3 Japan	-2.9	-4.0	-3.5	-4.9	-1.5	-4.1	-4.8	-5.2	-2.6	-4.7
4 Austria	-1.2	-2.1	-0.8	-2.5	-0.6	-2.3	-1.3	-3.0	+0.6	+0.3
5 Belgium	-1.6	-1.4	-2.2	-2.4	-2.2	-2.6	-2.2	-2.3	-1.7	-1.1
6 Bulgaria	-1.7	-0.4	+3.7	-0.1	+4.0	-0.3	+3.3	+0.5	+5.6	+2.5
7 Czechoslovakia	+0.4	-0.7	+0.6	-0.4	-0.8	-1.8	+3.9	+3.0	+0.6	0.0
8 Denmark	0.0	-0.8	+1.0	-0.5	+1.1	-1.1	+0.6	+1.5	-1.7	+0.7
9 Finland	-2.1	-3.3	-2.3	-4.9	-2.1	-4.1	-3.3	-6.1	-1.8	-1.6
10 France	-0.7	-1.9	-1.1	-2.9	-0.5	-2.7	-2.8	-3.2	+1.1	-1.4
11 Fed. Rep. Germany	-0.8	-1.8	-1.1	-2.5	-0.9	-2.6	-2.2	-2.1	+0.4	+0.5
12 Hungary	+1.4	+0.8	-1.4	0.0	+1.0	-0.5	+3.6	+1.4	+2.6	+2.0
13 Ireland	-0.2	-1.5	+0.7	-2.8	+1.1	-3.2	-1.3	-2.2	+2.6	-0.4
14 Italy	-1.5	-2.6	-2.0	-4.3	-2.1	-5.0	-2.2	-2.2	-0.1	-2.0
15 Netherlands	-0.1	-1.9	-1.3	-1.7	-1.3	-1.7	-1.3	-1.8	-0.9	+0.8
16 Norway	-1.0	-1.6	-1.3	-2.6	-1.0	-1.9	-3.3	-5.1	-1.1	-0.3
17 Poland	+1.6	-1.3	+3.4	-0.4	+1.9	-1.5	+6.0	+4.2	+6.4	+5.2
18 Romania	0.0	-1.1	+1.0	-1.0	+1.4	-0.8	0.0	-1.3	+4.3	+3.8
19 Sweden	+0.5	-1.4	+0.5	-1.7	+0.6	-2.4	-0.2	-0.4	+2.0	+1.8
20 Switzerland	-1.9	-3.3	-0.4	-3.6	-0.2	-3.9	-1.8	-2.7	+0.2	-3.5
21 UK England & Wales	-1.2	-0.9	-0.6	-1.5	-0.3	-1.1	-2.3	-2.6	+0.3	+1.1
22 UK Northern Ireland	+0.4	-0.7	+0.7	-1.3	+0.7	-1.0	+0.5	-2.3	+1.3	-0.2
23 UK Scotland	-0.6	-0.6	-0.5	-1.1	-0.4	-1.1	-1.0	-1.1	+0.1	+0.5
24 Yugoslavia	-0.7	-1.8	+1.8	-0.2	+2.0	-0.6	+1.2	+0.8	+6.0	+4.1
25 Australia	-1.4	-1.7	-2.3	-2.3	-2.3	-2.2	-2.4	-2.7	-2.1	-1.0
26 New Zealand	-0.7	-0.9	-1.5	-2.1	-1.6	-2.6	-1.4	-0.6	-1.2	-1.6

CVD

Items 390-458

CVD-Cer D

Items 390-429 and 440-458

Cer D

Items 430-438

IHD

Items 410-414

M - males; F - females

3.2 Considerations for the CVD MTP 1984-9

According to WHO planning procedures, the medium-term programme covering the period 1984-89 is now being formulated. It should give the broader perspective and outline of the direction of different programmes to fit in the strategy of the WHO goal HFA/2000. The detailed programme and budget then has to be worked out for activities to be implemented in the biennium 1984-85.

To achieve this, activities are being promoted on a global as well as a regional scale, in the five areas.

- epidemiology
- prevention and control
- research
- exchange of information and coordination, and
- training of health personnel.

Special attention is being paid to the needs of developing countries where the resources are lacking. However, the possibility of influencing the emergence of cardiovascular diseases is challenging.

3.3 Considerations for the CVD programme in P/B 1984/85

Specific activities to be continued or started in 1984-89, and specifically in 1984/85 will cover:

- assessment of the extent of the problem of CVD as a means of providing an objective basis for planning future prevention and control activities at the community level,
- development and testing of methods that will enable each Member State to introduce a programme of prevention and patient care for CVD adapted to its specific health care system, including improvements in systems for data collection,
- promotion of prevention activities wherever feasible in collaboration with national programmes in PHC and NCD comprehensive control projects,
- initiation and promotion of research as an integral part of the implementation of prevention and control programmes at the community level, and establishment of research facilities at the national level with a view to enhancing the self-reliance of countries,
- setting up of a network of collaborating centres in different parts of the world with contrasting patterns of frequency of different CVD to provide an opportunity for new approaches in research,
- improvement of communication between WHO and Member States and national institutes interested in the prevention and control of CVD at the community level,
- continuation of work on the standardization of criteria, methods and nomenclature in CVD in collaboration with international and national nongovernmental organizations,
- promotion of training of all categories of health personnel in skills needed for the prevention and control of CVD at the community level. Emphasis is being placed on the development of training facilities in different regions and countries so that staff can be trained in their own countries or in countries with similar conditions, thus building up a national manpower capability for control programmes in cardiovascular and other noncommunicable diseases.

3.4 Constraints

The implementation of these activities is limited by the constraints which have already started to be evident during the first three years of the implementation of this long-term programme. The limited financial resources in general, and their utilization on diagnostic and therapeutic procedures, is persistent. As stated, the necessity of dealing with prevention and control of communicable diseases in many developing countries as the first public health priority is lasting and the emerging problems of cardiovascular disease do not seem so imminent. Many developing countries lack manpower as well as funds and are faced with the public health problems of NCD and CVD, while still trying to solve the problems of controlling communicable diseases. Some preventive approaches, e.g. secondary prevention of rheumatic fever and rheumatic heart disease (approximate cost \$15 per year per patient) and control of hypertension are still costly for some countries considering the extent of the problems and their budgeting facilities. Research in appropriate methodology of preventive activities and appropriate technology to be used in prevention and control activities in the field of CVD is essential.

The Steering Committee (SC) emphasized the need to integrate CVD activities into the general health service framework of respective countries, with particular reference to the primary health care systems. This had considerable implications for the HFA/2000 objectives. There was also a need to demonstrate benefits to the countries in which CVD activities were taking place and again this might be possible in a setting of primary health care. The other aspect related to this was community involvement or participation, which would possibly be best at the primary health care level.

The SC stressed the need to influence government policy in relation to noncommunicable diseases (NCD) in general and CVD in particular. This need was of importance not only in relation to research, control or prevention but to the concept of primordial prevention.

Overall, there was considerable feeling that programmes should be flexible and capable of modification to suit regional/national needs or situations. This meant that alternative strategies and tactics should constantly be considered and explored.

4 PROJECT AREAS

This chapter reviews those aspects of WHO CVD prevention and control activities which are relevant to the development of the WHO programme in 1984-89. This limited approach is considered appropriate since - as previously stated - it is not necessary to introduce at the present time any changes in the strategy of the WHO CVD long-term programme as it was formulated in 1976.

4.1 Arterial hypertension

Arterial hypertension is a worldwide problem of paramount importance both in developing and developed countries. The WHO cooperative international hypertension community control project was terminated and its final evaluation is under way. It has shown that the community control of hypertension is feasible in the form of single disease control programmes when applied and adopted to different health care systems.

Based on the experiences from this project as well as on the 1978 Expert Committee report [4] and the hypertension care manual, which is being prepared, national health authorities will be stimulated to update the control of hypertension on the national level especially within the context of the activities in primary health care. For the American Region, this may be enforced by the forthcoming termination and evaluation of the cooperative hypertension community control project carried out in Latin American countries.

Hypertension control should become the spearhead in building up comprehensive chronic disease control programmes. In view of its specificities, admittedly, it needs particular approaches and methods. The input into overall comprehensive chronic disease control might take the form of complementary operations. It is necessary to define and elaborate appropriate approaches and policies to be implemented in a wide variety of health care situations, ranging from PHC programmes in developing countries through community-based and regionalized health-care organizations up to nationwide national health care projects in industrialized countries. Besides the differentiation in approach to health care systems, the input into the integrated NCD control programme will have to deal with various forms of hypertension, such as mild hypertension, high blood pressure in children, adolescents, and of the elderly, as well as with specific approaches such as primary prevention of hypertension, population-wide and high risk approaches, biochemical markers of propensity to hypertension and other anthropological and epidemiological characteristics and variables. This, of course, could and should be done with the full involvement of the Regional Offices.

Consequently, as regards future research in hypertension, WHO will stimulate

- (a) research in etiology, pathogenesis, prevention and control, in particular in the European Region as set out at the Copenhagen meeting [30], the imbalance in the topics hitherto studied needs to be corrected, with increasing emphasis on health services research from a management point of view, the costs and benefits of care, causal and risk factors and, most of all, primary prevention of arterial hypertension,
- (b) studies on the determinants and primary prevention of essential hypertension as will be defined and recommended by the Scientific Group on Primary Prevention of Hypertension, which will meet in September 1982,
- (c) study of blood pressure levels in childhood and adolescents, as part of the study on atherosclerosis precursors going on in various populations and also according to the recommendations of the study group on blood pressure studies in children to be held in 1983,
- (d) operational research into hypertension control and health services (the tasks incurring to WHO in this domain will be defined on the basis of the recommendations of a meeting on this subject planned for 1983).

Hypertension control will increasingly be approached in the framework of comprehensive community disease control programmes, both comprehensive cardiovascular or comprehensive chronic disease control programmes. Pilot programmes of this nature may, to a great extent, take hypertension control as one of the models for chronic disease control in entire populations. On the other hand, hypertension control can also be integrated into primary health care systems, even if there is no immediate prospect for the development of a comprehensive control programme.

The SC endorsed the present system but considered that even more emphasis should be laid on non-pharmacological intervention possibilities in hypertension, e.g. obesity, salt intake, alcohol, meditation/behavioural factors. These areas should also be stressed in research in etiology.

Operational research into detection of hypertension should be concerned with strategies related to primary health care.

Setting of goals in the control and management of hypertension in a community was regarded as valuable, in that it indicates targets against which achievement should be measured.

4.2 Coronary (Ischaemic) Heart Disease

Coronary heart disease is the leading cause of death among cardiovascular diseases in industrialized countries.

The recent analysis carried out in WHO [27] has shown during 1968-77 different trends in the mortality for this disease in 26 industrialized countries (Table 2). While in industrialized countries outside Europe the decreasing trends were uniform, in Europe the situation was much diversified (Figure 1). Further, in countries with increasing trends, it was noted that younger and middle-aged groups of men were specifically affected (Table 3). In some countries with decreasing trends favourable changes in living style are also recorded. However, as in the past, the increased mortality rates cannot be unequivocally explained, so neither can the causal factors leading to the present decline be unequivocally identified as yet.

The difficulties and limitations in retrospectively interpreting reasons for changes in mortality rates in different countries in coronary heart disease clearly identified the need for more effective monitoring systems for the incidence of cardiovascular disease events in the population.

The project on "Monitoring the Incidence and Determinants of Cardiovascular Diseases in the Population" (MONICA Project) was initiated in 1979. A protocol has now been prepared and is being finalized [31].

The SC was in strong agreement with the concept that effective monitoring systems for morbidity in CHD should be introduced.

Table 3

Average Percentage Annual Increase or Decrease in Mortality
from IHD, 1968 - 1977
Countries with increasing mortality

Country Pays	Age groups Groupes d'age						Average Moyenne %
	40-44	45-49	50-54	55-59	60-64	65-69	
BULGARIA BULGARIE	+56	+80	+59	+53	+49	+39	+56
DENMARK DANEMARK	+40	+15	+25	+20	+06	-03	+17
M FRANCE	+02	+15	+33	+09	+03	+03	+11
A HUNGARY HONGRIE	+39	+54	+38	+16	+13	-02	+26
L IRELAND IRLANDE	+25	+41	+38	+16	+16	+23	+26
E POLAND POLOGNE	+70	+84	+79	+56	+48	+45	+64
S ROMANIA ROUMANIE	+45	+59	+46	+47	+27	+35	+43
SWEDEN SUÈDE	+32	+11	+30	+19	+18	+11	+20
UK N IRELAND RU IRLANDE DU NORD	+07	+17	+25	+10	+11	+10	+13
YUGOSLAVIA YUGOSLAVIE	+55	+72	+68	+59	+54	+51	+60



Age groups with an increase higher than the average for the whole 40-69 years age group
Groupes d'age ayant une augmentation supérieure à la moyenne du groupe d'âge de 40 à 69 ans

9618 OHM

The size of the problem of prevalence and incidence of coronary heart disease among the population, the insidious development of atherosclerosis, whose clinical manifestations appear when underlying arterial disease is far advanced, and when injury to the heart muscle is common, and last but not least the inability to prevent sudden death as many patients die before medical care can reach them, fully justify the emphasis on prevention as a main activity area in the WHO programme.

The clofibrate trial, aimed at testing the prevention of coronary heart disease and its complications by administration of a blood cholesterol lowering drug, finished in 1978, and was published in 1978 [1] and 1980 [2]. This project showed that through a decrease in blood cholesterol levels, incidence of non-fatal myocardial infarction can be lowered. However, because of its side effects, the main lesson was that the primary prevention of a disease through administration of drugs should be very carefully analysed in any situation where it might be utilized. The outcome of the project itself has influenced the thinking of the scientific community worldwide in this direction. Follow-up of the project is continuing in all the collaborating centres.

The Clofibrate trial was regarded as being of considerable importance and the continued follow-up proceeding in all centres was critical to the full evaluation of the clofibrate story. The SC did not regard further trials of this nature as indicated.

The Expert Committee on Prevention of Coronary Heart Disease, which was held in December 1981, stressed that a comprehensive plan for prevention of CHD should have three components. In the first place, it is the "population strategy" for altering the mass characteristics of life-style and environment and their social and economic determinants which are underlying causes of mass coronary heart disease. This approach stresses the need to shift the average level of the underlying factors in the direction of "biological normality". It implies an approach at the whole community level. Thus, it involves in all age groups, including children, the need to acquire favourable behaviour patterns, including healthy eating habits and avoidance of smoking, early in life before atherosclerosis develops

In this group can also be included the "primordial prevention" approach. This is specifically applicable in many countries, including even a few developed countries, where life styles have not yet changed to the pattern associated with the high incidence of disease (see page 18).

The second approach in prevention of coronary heart disease is "high-risk strategy". This is concerned with the identification and correction of individuals' susceptibility. By simple tests, such as blood pressure measurement and serum cholesterol determination, individuals at special risk can be identified. A prediction can be considerably strengthened by considering simultaneously the presence of several risk factors. Such individuals are in special need of preventive care and their identification and treatment could make an important contribution to prevention. The "high-risk strategy" as applied along has, however, a serious shortcoming in that it excludes all those outside the chosen contact points of the risk indicators. It has, however, been applied for many years and many reports by different scientific groups have been prepared and published.

The third approach is "secondary prevention", aimed against recurrences and progression of the disease in those already afflicted. Here also there are several reports, including the results of the WHO study on "Rehabilitation and Secondary Prevention in Patients After Myocardial Infarction" coordinated by EURO and to be published in 1982 [32].

The SC supported the three main strategies put forward by the Expert Committee on the Prevention of Coronary Heart Disease (December 1981).

It was suggested that the control groups from the secondary prevention studies could be used to provide information on the natural history of CHD. Reservations were expressed on the selection factors which would differ from study to study and which would militate against the pooling of such data.

The WHO programme and its objectives stress the need for development of methods to enable public health authorities to prevent and control CVD integrated with their health care systems. From this point of view, the population strategy is the most appropriate and is being promoted as a priority in the WHO programme.

This preventive approach is being developed and applied mainly through the project "Comprehensive CVD Control Programmes in the Community" (CCCP) (see page 19). It is also planned to implement these programmes in conjunction with "Primordial Prevention of Cardiovascular Diseases in Developing Countries" (see page 18).

To provide information for the establishment of effective prevention and control programmes, complementary research projects have also been carried out. Studies on precursors of atherosclerosis have been promoted and coordination of a project being carried out in different centres is being initiated. Recently, a protocol has been prepared for use in an international study of the morphology of atherosclerosis in children and youth. Missing data on early changes in coronary arteries in children and young adults in populations with contrasting incidence of the disease will be studied.

The role of coronary thrombosis in many cases of myocardial infarction is established. Identification of tests to detect a tendency to thrombogenesis might have a predictive value in prevention and control activities on a population level. Feasibility studies have started in three centres to assess the suitability of different tests for epidemiological studies. At this stage differences in haemostatic variables are studied within the same population groups by comparing high risk versus low risk subjects (e.g. smokers vs. nonsmokers, hypertensives vs. normotensives, etc.) as well as between various population groups. The study should be expanded to the network of centres collaborating in the MONICA project as well as in the CCCCP programme.

Studies in thrombogenesis aimed at identification of methods which could be used in epidemiological studies were supported in the search for haemostatic variables which might have independent effects in relation to atherosclerosis/CHD. It was emphasized that such studies should be able to separate the confounding effects of recognized CVD risk factors.

Physical activity and physical fitness are prerequisites of development and maintenance of good health. In spite of no substantial funds, activities are being promoted to establish baseline values of cardiovascular parameters and physical fitness parameters in children and follow-up variations in cardiovascular parameters at a later age.

Physical activity and physical fitness were regarded as important areas for continued WHO involvement.

The field on immunity and atherosclerosis was recently reviewed to provide an assessment of the present progress and identify its possible contribution to promotion of research in this area with the aims of contributing to the prevention of atherosclerosis.

It is well established that approximately 40% of heart attack victims die suddenly. The identification of the persons at risk and the prevention of ventricular fibrillation, which is the most common of these deaths, are still unknown. Sudden death rates among men in Europe, if they appeared in mortality statistics, would be among the five leading causes of all deaths in the countries which provide statistics for WHO. Because of the extent of the problem, the impossibility of dealing with it in the available health care systems, and the inconsistency in the information on the partially positive effect of beta-blockers in influencing the incidence of arrhythmias and consequently sudden death in patients after myocardial infarction, this problem is being considered as most important for further analysis and consultations and a scientific group are being planned.

The SC supported the projects proposed in this area.

4.3 Cerebrovascular disease

No special activities were carried out by WHO in this area during 1978-81.

The prevention of stroke and improved care for stroke patients is considered an essential part of comprehensive projects for the control of cardiovascular diseases and, in a wider sense, of chronic diseases in general. It is therefore envisaged to approach the question of stroke control through the comprehensive disease control programmes, which include early detection and treatment of hypertension, prevention of coronary heart disease, antismoking action, diabetes detection and control.

It was agreed that independent studies of stroke were not indicated but that the problem would form an integral part of CVD control programmes.

Mortality and morbidity due to stroke will be an important component of the data base of the long-term cardiovascular monitoring programme (MONICA), since cerebrovascular disease is one of the most important sequelae and complications of atherosclerotic disease.

Further research on the prevention of various forms of cerebrovascular disease, as well as transient ischaemic attacks, is planned to be done in cooperation with the Neurosciences Research Programme, as an interdisciplinary undertaking between CVD and MNH.

The SC expressed a need for controlled trials in the management of transient cerebrovascular accidents (TIAs) and in symptomless carotid artery lesions.

The SC also expressed a desire for more work in the field of management and rehabilitation of stroke patients.

4.4 Rheumatic Fever and Rheumatic Heart Disease

Rheumatic heart disease is one of the few readily preventable chronic diseases. If considered on a global level, it is the most common form of heart disease in children and adults because of its high prevalence in many populations in developing countries in Africa, Asia and South America.

The Cooperative International WHO Rheumatic Fever Community Control Project was terminated, evaluated and its analysis discussed at the 1979 New Delhi meeting [6]; the final publication appeared in the WHO Bulletin in 1981 [8]. This project has shown that prevention and control of rheumatic heart disease is feasible and cost effective.

It is also expected that the cooperative project in Latin-American countries will be finished and evaluated in the near future.

Based on the experience from these two studies, future WHO activities are conceived as stimulation of national health authorities to build up national programmes for the control of rheumatic fever and to promote such programmes by available expertise in WHO. This activity should emanate specifically from WHO regional offices as an interdisciplinary undertaking, amalgamating in particular the efforts of regional CVD or CHR, MCH and LAB advisers or responsible officers and should be intimately coordinated with PHC activities in the respective countries. Further and intensive efforts will be needed, at the regional and country levels, to establish cooperation with other agencies, in particular UNICEF, with special regard to funding national programmes. Other, nongovernmental voluntary health agencies should also be contacted and cooperation sought.

The present goal is still achievement of systematic prevention of rheumatic fever recurrences in the population, but with the improvement of school health services in developing countries the achievement of primary prevention will be aimed at as well

Central input from WHO will be the elaboration of a manual for the community control of rheumatic fever, based on the manual produced by PAHO, adapted for general use and translated, whenever necessary, into local languages.

There was strong feeling in the SC that WHO should maintain a major and obvious concern for the RF/RHD problem which still constitutes a major CVD problem in young people in most developing countries. The promise of a successful streptococcal vaccine still hung before us - but had done so for a long time, and should not be used as a form of reassurance

Even when preventive activities are carried out by regional offices, there was still considerable research potential in this field, particularly in relation to immunology and to the role of host factors in determining susceptibility. Collaborative work between experts in developed countries and workers in the RF/RHD stricken countries should be fostered by WHO.

4.5 Cardiomyopathies

Cardiomyopathies have been defined as "heart muscle diseases of unknown cause"[18]. When with certain specific heart muscle diseases, for example Chagas' heart disease, the group together comprises 15-40% of all causes of heart disease in some tropical countries. They occur also in temperate climates but do not create a major public health problem in these countries. Cardiomyopathies therefore have wide general interest and are especially important in many developing countries.

Earlier WHO cooperative studies on cardiomyopathies focussed attention on defining the anatomical features and clinical picture of the disease. In 1965, clinical criteria were prepared for the recognition of cases of endomyocardial fibrosis (EMF), idiopathic cardiomegaly and Chagas' disease. A WHO field research team first established in Kampala, Uganda, carried out studies on endomyocardial fibrosis. The team was later transferred to Accra, Ghana, with the aim of continuing work on EMF and idiopathic cardiomegaly.

More recently, a standardized nomenclature for the definition and classification of cardiomyopathies was prepared by a WHO/ISFC Task Force. The report of this task force has been published [18] and widely publicized. Collaboration with the ISFC Council on Cardiomyopathies continues and work is in progress for a multicentre research project on congestive cardiomyopathy, and an Expert Committee on Cardiomyopathies is being planned for 1983 to review present knowledge and make recommendations to guide future action

Efforts to identify investigators and centres working on cardiomyopathies, especially developing countries, will be continued with a view to establishing collaborative links to promote basic laboratory research and to coordinating efforts to develop a methodology of field surveys of cardiomyopathy in communities.

In the field of Chagas' disease the Special Programme for Research and Training in Tropical Diseases (TDR) has prepared a strategy of research which is also relevant to the epidemiology, immunopathogenesis and prevention and control of Chagas' heart disease. CVD's efforts in this field will therefore be developed in relation to the activities of the Chagas' disease scientific working group of TDR. A similar approach will be used, whenever possible, to study the role of certain tropical diseases in the pathogenesis of other endemic cardiomyopathies, e.g. endomyocardial fibrosis.

It was agreed that this remained an area of importance and it was noted that an Expert Committee on Cardiomyopathies is due to meet in 1983. Basic problems relating to prevalence studies in the community had not yet been solved and it would be appropriate to convene a working group to consider these problems. Studies related to the etiology of cardiomyopathies and the possible role of certain tropical diseases in their causation should also be promoted, since such studies could suggest possibilities for effective prevention and control measures. The WHO programme in this area was specifically endorsed.

4.6 Monitoring of trends and determinants in cardiovascular diseases (MONICA Project)

This project was initiated in 1979 when a group of consultants formulated a proposal for a project to monitor the trends and determinants in CVD. The protocol [31] has recently been finalized and 30 centres from 23 countries have indicated that they will take part in this WHO-coordinated project.

The objective of the study is to measure the trends in cardiovascular mortality and coronary heart disease and cerebrovascular disease morbidity and to assess the extent to which these trends are related to changes in known risk factors, daily living habits, health care, or major socioeconomic features measured at the same time in defined communities in different countries.

Although CVD accounts for approximately half of all deaths in developed countries the mortality rates for different cardiovascular diseases show wide variation from one country to another. In the past considerable research has been expended, with rich results, on investigating national, regional, ethnic and individual differences in cardiovascular risk considered as a static attribute. Yet, as stated, mortality rates are changing. Stroke mortality is declining in most industrialized countries but the trends vary considerably. In most cases these trends in mortality rates are isolated observations unsupported by any validation of death certificates, or by data on trends in non-fatal cardiovascular disease (or incidence), or by systematic observations on cardiovascular risk factor levels, or socio-cultural behaviour such as diet and exercise. It is not possible therefore to attribute changes in mortality with confidence either to a change in disease incidence or to a change in its natural history, yet such information is fundamental to the development and monitoring of strategies for prevention and control.

The purpose of the project is to complement the older cross-sectional studies of differences in disease rates by longitudinal investigation of the dynamics of change. It is to initiate the simultaneous monitoring of cardiovascular mortality, morbidity, risk-factor levels and social and behavioural trends within defined communities over a period of years so that these variables may be interrelated. By replicating the same core of observations in many contrasting communities, both internationally and in some cases in different centres within one country, and by thus monitoring multiple similar and dissimilar trends, there is a potential for the investigation and following of the determinants of cardiovascular disease which would be beyond the scope of any single research unit or even nation, acting alone

This project might also be a model for monitoring morbidity trends for other diseases and should lead to development of a permanent system for collection of data on chronic disease morbidity.

This project was not considered in detail by the SC but the two major objectives were discussed. Firstly, there was the need to establish satisfactory monitoring systems for CVD morbidity in addition to mortality and there was unanimous agreement that strategies towards this end should be developed. It was not certain, to the minds of the Steering Committee, whether alternative strategies, other than MONICA, had been sufficiently explored.

The second component was an attempt to explain changes in incidence which might occur by measuring certain CVD risk factors in defined communities on three occasions over a ten-year period. The SC felt much less satisfied that this aspect of the Monica project as presently planned was capable of producing a result commensurate with the commitment in time, personnel and money over what was likely to be a 15-year period.

The SC recommended that a Long-term Policy Advisory Board be set up, comprised of a small group (perhaps 3-5 members) of epidemiologists who would critically examine the Monica Project protocol as an initial step and would thereafter act in an advisory capacity

The SC considered that the major support for each separate Monica study should come from the national resources of the country involved. The role of WHO in coordinating the MONICA Project was essential and should be strengthened.

4.7 Primordial Prevention in Developing Countries

The term primordial prevention is now being increasingly used to express the need to take appropriate action at an early stage aiming to prevent the emergence or entrenchment of those behavioural patterns that have been shown to contribute to the high incidence of the diseases of "developed" industrial populations.

Although primordial prevention in its broadest sense embodies the whole field of health and disease, initial efforts will be focussed on cardiovascular diseases. These can serve as a model, since much relevant knowledge and experience already exist. The aim is to promote activities related to the following.

- Long-term national policies on nutrition, agriculture and the food industry, aiming at a defined optimal diet for modern living;
- smoking control, and related national strategies, e.g. in agriculture and tobacco import policies;
- policies against sedentary life and promoting exercise,
- weight regulation and, of course,
- prevention, as far as possible, and control of hypertension and the rise of blood pressure with age.

The experience gained from preliminary approaches has confirmed the view that, in spite of the fact that there is a need for primordial prevention in all developing countries, in practice the scope of activities will be influenced by the incidence and trends of cardiovascular disease and by the prevailing national health priorities. In the majority of developing countries realistic priorities for the primordial prevention of cardiovascular diseases will at best be restricted to smoking and hypertension control. In other developing countries where the recorded trends reveal cardiovascular diseases emerging as an important health problem and where major risk factors are beginning to be established in the community at large and not merely in middle and high income groups, the challenge of a broad-based approach to the primordial prevention of cardiovascular diseases is more likely to be accepted. These countries are also the middle income developing countries in which the level of socioeconomic development is usually associated with a GPN per capita greater than \$1000 per annum.

Approaches are now being made to this latter group of countries in efforts to develop long-term objectives and strategies for primordial prevention of cardiovascular diseases in developing countries. Appropriate strategies will be tested in collaboration with selected countries as part of the strategy for Primary Health Care and "Health for All by the Year 2000".

The SC expressed strong support for the concept of primordial prevention in full awareness of the major problems confronting those who wished to attract the attention and involvement of governments to this endeavour.

While there was agreement that arguments could be raised against a primordial prevention programme specifically directed towards CVD, it was considered that there was much in favour of a specific CVD-oriented programme. This was particularly true at the political and leadership level in the developing countries, where awareness of the realities of CHD was already manifest.

At the health administrator's level, it was agreed that a general approach embodying the whole area of NCD might be more acceptable and more appropriate. In practice, CVD would remain the critical aspect under development and the wider impact of a primordial prevention campaign involving CVD risk factors would be made abundantly clear. The SC agreed that CVD could well be used as a spearhead in the whole concept of primordial prevention, as there were end-points that could be measured both in terms of CVD risk factors, as well as morbidity and mortality.

4.8 Comprehensive CVD Control Programmes in the Community (CCCCP)

The concept of this project and its objectives and components were first described at a WHO meeting in November 1975. The development of the project at that stage involved 23 countries around the world - 12 in Europe and 11 in developing countries. The feasibility of these projects has been demonstrated and comprehensive cardiovascular disease control programmes have become an important activity in the medium-term programme of all WHO regions, as well as HQ.

Review meetings of investigators from both developed and developing countries were held in Edmonton (1978) [10] and in Prague (1980) [12]. A third meeting took place in Nairobi (1981) [13] to provide a forum for investigators from developing countries to review and discuss problems and approaches of common interest.

The direction and thrust of future activities will be influenced by local circumstances and constraints. In general European centres will continue to devote attention to the problems of evaluation of comprehensive community control programmes based on the measurement of life style and its determinants, assessment of risk factor changes and the monitoring of morbidity and mortality from CVD in the community. The critical question "Are the changes in the health status of the community causally related to the intervention programme?" is also a crucial one which will have to be addressed and may be answerable where a reference community can be included in the design of the project.

In many developing countries projects have been hampered by lack of resources, lack of public awareness of the problem of CVD and indifferent support from local health administrators. Nevertheless, progress has been made and future activities are likely to be concentrated on local efforts to establish appropriate national mechanisms for stimulating and maintaining public interest and support for CVD programmes and for keeping health administrators informed and convinced of the emerging problems of CVD. WHO will collaborate in the planning and implementation of pilot CVD control projects integrated into primary health care and in providing relevant training in support of CVD epidemiological studies to define and monitor CVD in the community.

In every project area experience has been gained in the managerial aspects of community disease control programmes. This experience will be tapped in efforts to develop an integrated approach to the prevention and control of noncommunicable diseases as a group and to incorporate this approach into PHC activities.

4.9 Standardization

The work of WHO in this area includes an increasing number of activities.

The reference laboratories for blood lipid determination in Atlanta, Georgia, USA, and in Prague, Czechoslovakia, contribute significantly to the adoption of standardized procedures and criteria throughout the world. These laboratories are directly involved in the preparation of the total cholesterol and HDL cholesterol analysis methods and their standardization in the MONICA project. A WHO Collaborating Centre for reference on ECG coding has been established at the National Institute of Cardiology in Budapest, Hungary.

In close collaboration with the International Society and Federation of Cardiology, joint task forces have been established to facilitate the standardization of nomenclature, diagnostic criteria and methods of examination. Task Forces on Nomenclature and Classification of Arrhythmias, Nomenclature of Ischaemic Heart Disease, and Classification of

Cardiomyopathies, have finished and published their reports [15, 16, 17, 18]. The ISFC/WHO Task Force on Nomenclature in Haemodynamic Examinations is finalizing its report. New task forces have been established in Nomenclature in M-Mode Echocardiography, Coding of ECGs, and Nuclear Cardiology.

In collaboration with CIOMS, an international nomenclature for cardiovascular diseases is being planned.

The new approach in formulating the different task forces in collaboration with the ISFC, namely the participation of representatives of different national cardiological societies representing the different languages and schools of thought, facilitates the dissemination of the reports and their translation into different languages.

4.10 Training

The objective of the training programme is to promote preventive and control activities and prepare health personnel at all levels to be able to support the development of the national programmes integrated with existing health services.

While the need for training health personnel on all levels and specifically non-medical health manpower is generally acknowledged, training activities still concentrated during 1978-1981 on personnel with medical degrees.

To achieve the objective of developing national prevention and control programmes, courses in epidemiology and preventive medicine were held in 1978 and 1980 in WPRO, and the European office supported existing courses in Europe in epidemiology and medical statistics, which also included elements relevant to the epidemiology of cardiovascular diseases.

A revised edition of Cardiovascular Survey Methods [28] which, after its publication in 1968, had a significant impact on the development of skills in methodology for epidemiological studies throughout the world, has been prepared and is in press.

A manual on control of hypertension has been prepared by experts who attended the 1978 Expert Committee on Arterial Hypertension, and is now being finalized.

A manual for training of health personnel - specifically health assistants working in developing countries in CVD prevention and control programmes - has been initiated. It appears that the specificity of the role of health assistants working on the peripheral level of health services in developing countries is very much subjected to the local situation.

Collaboration with the ISFC in promoting teaching in epidemiology and prevention of CVD through the annual 10-day seminars is continuing. In 1982 an advanced training seminar will be held for those who have participated in earlier courses.

Efforts to establish regional courses in prevention of cardiovascular diseases and other noncommunicable diseases have started in Africa and are being planned on a national level in EMRO. The ISFC, specifically its Scientific Council on Epidemiology and Prevention of CVD (which is responsible for organization of the 10-day seminars), has expressed its interest and willingness to support and become involved in the planning and execution of these courses in collaboration with WHO. Thus, the experiences already acquired through running fifteen 10-day seminars can be used for the benefit of WHO's efforts in this area.

The need to train personnel in conditions as close as possible to the situation in their own country is thus being widely recognized. Attempts to establish regional training centres in epidemiology and prevention of cardiovascular diseases, however, have met with difficulties, especially lack of local resources. While the standards of cooperating centres have increased significantly, none has, however, achieved a sufficiently high position to be recognized by other countries of the Region as a leading centre and thus develop its authority as a regional training centre. The nearest to this goal is the Philippine Heart Center for Asia in its programme in epidemiology and prevention of CVD, specifically rheumatic fever and hypertension. In the African region, Accra University in collaboration with the WHO/CVD Research Team, might be considered to assume the role of a regional training centre in the future.

The identification of institutes as potential CVD research and training centres in each region will continue. This might be facilitated by the already established lists of experts and centres interested in such work in all Regions and the work of Regional Advisory Committees on Medical Research.

These regional/local training centres would organize activities such as.

- courses in epidemiology and prevention of CVD and other noncommunicable diseases, and medical statistics,
- refresher courses for general practitioners, district medical officers, community physicians;
- courses for other medical and auxiliary personnel,
- community education programmes for nonmedical persons, including school teachers and others involved with large groups of children, and
- planning coordination of health educational activities directed at the population.

The SC reaffirmed the basic concepts of the 1976 recommendations.

The need for outside expertise and resources in the field of study design was expressed, to operate in the period which must elapse before regional and national mechanisms and resources are available. It was discussed and clarified that such mechanisms were already in existence at a regional and central office level and should be made known and used more fully by those involved in CVD studies and programmes.

The many difficulties confronting those in the developing countries who wished to make a career in epidemiology were discussed. It was agreed that there a further review of the situation and that WHO should make comprehensive proposals for the training of NCD epidemiologists (in the terms of the 1976 recommendations), probably through a study group of the Health Manpower Development division.

There was agreement that training at all levels remained the most central issue in the cardiovascular field and that WHO should examine various ad hoc strategies for the different regions and countries in order to encourage and facilitate CVD research and control.

4.11 Education of the Public

Health information and education of the public is a complex task, it is also a necessary undertaking for the promotion and preservation of health. Cardiovascular health education is an essential part of community control programmes and of the primordial prevention of CVD. Activities must be adapted to conditions prevailing in a nation, region, ethnic group or community if they are to be meaningful and effective. Health education materials appropriate to the circumstances for which they are intended must be prepared and tested preferably locally, the content of the message and the manner and means of its communication must also be appropriate, and the effectiveness of a health education programme must be evaluated. In most countries there is a need to train personnel able to carry out these activities at various levels.

Health education is not solely a health sector activity and liaison is needed with other public sectors, such as education. This entails coordination at the national level between various ministries and at the international level between a number of UN and other agencies. In future activities in the field of cardiovascular health education in developing countries, WHO will promote the training aspects of health education programmes related to PHC, liaise with other UN agencies, e.g. UNESCO, in developing appropriate programmes for schoolchildren, and collaborate with interested national investigators to develop, test and evaluate health education action in pilot studies involving defined groups or communities.

These activities will be developed and promoted ad hoc in the context of the relevant project in collaboration and under the responsibility of local investigators

4.12 Appropriate Technology

During the past few decades extremely important developments of the most sophisticated nature have taken place in cardiological technology. On the other hand, little attention has been paid to the development of simple technology, applicable under health care conditions in many developing countries, however, this is the sort of instrumentation needed for a wider implementation of cardiovascular control measures, either on the level of primary health care or at the level of peripheral health centres or hospitals. The terms of reference of this programme are: (a) to identify the needs for the development of specific instruments which would satisfy the requirements of developing countries as regards climatic, maintenance and financial conditions; (b) to stimulate the development of such technological material, following recommendations based on an analysis of the above needs, (c) to stimulate implementation of such material, either directly or by stimulating appropriate demand.

Possible examples are the development of simple, low-cost and sturdy blood pressure measuring devices, electrocardiographs, echocardiographs, low cost prosthetic material for cardiac surgery, and development of technologies of producing such devices within the developing countries in order to circumvent currency constraints.

The SC expressed strong support for the area and was aware that the budget allocation of \$8,000 for the 1984-85 biennium was not intended to reflect an order of concern or priority.

4.13 WHO Programme on Smoking and Health

The programme started in 1974 but was officially recognized as such with World Health Assembly resolution WHA33.35 of 23 May 1980. The objectives of the programme are.

- Collection of information on smoking and health programmes carried out in Member States,
- Coordination of the international aspects of the above programmes;
- Responding to requests for collaboration and advice, particularly from developing countries, including organization of conferences and workshops, provision of consultants, provision of partial financial support for national activities, publication of relevant material.

The programme encompasses the following activities.

4.13.1 WHO International Clearinghouse on Smoking and Health Information was established in 1981 with the support of the Office on Smoking and Health, USDHHS with the following objectives.

- (a) to collect, analyze and disseminate information on smoking and health issues and related activities in Member States.
- (b) to collaborate with Member States in developing, if needed, capability to produce such information if not available.
- (c) to collaborate with Member States in strengthening their national capability in developing and evaluating smoking control action.
- (d) to collaborate with international, governmental and nongovernmental organizations in producing information.

The main activities of the Clearinghouse concentrate on.

- (a) collection of information on prevalence in selected countries, especially on cigarette smoking
- (b) collection of mortality and morbidity statistics from smoking-related diseases
- (c) Preparation and testing of data collection instruments to investigate national efforts on controlling the smoking habit

- (d) Review of standardized classification and procedures in data collection
- (e) Identifying needs for information support action in developing countries
- (f) Collection of information on adverse economic effects of tobacco production, trade and consumption
- (g) Collection of information on national legislation and educational action relevant to smoking
- (h) Dissemination of information through special reports and newsletter for the WHO Clearinghouse [29].

4.13.2 Legislation. A review entitled "Legislative Action to Combat the World Smoking Epidemic", prepared by Professor R. Roemer, was published by WHO in 1982[34].

4.13.3 Analysis of Tar, Nicotine and Carbon Monoxide Content of Cigarettes Sold in Developing Countries. Representative samples of cigarettes are collected in selected developing countries according to a standardization WHO protocol (available on request). The cigarettes are analyzed for dry tar, nicotine, and CO at WHO collaborating centres in Toronto and London.

Analysts from developing countries can be trained at WHO collaborating centres under WHO sponsorship, but no financial assistance is available.

4.13.4 Workshops on Smoking Control Strategies in Developing Countries. Two WHO international workshops have been organized. (a) Colombo, Sri Lanka, 18-20 October 1981[35], with participants from Bangladesh, India, Nepal, Pakistan, Philippines, Sri Lanka and Thailand, (b) Mbabane, Swaziland, 26-29 April 1982, with participants from 26 countries in the African continent.[36]

Other workshops will be organized if funds become available.

4.13.5 Education. This is a planned activity if funds become available. It would include collaboration with developing centres in preparing audiovisual antismoking education material, posters, translation of relevant WHO publications into local languages, etc.

5. Collaboration with other organizations

The implementation of the cardiovascular diseases programme requires a multidisciplinary approach and collaboration with other UN agencies, as well as NGOs. Further, cooperation with the national cardiological and other medical societies is required when developing specific preventive and control programmes and research activities in different countries.

Among the UN agencies, the joint planning of activities and cooperation with FAO has been the most advanced. This has developed specifically in the smoking control programme.

Among the nongovernmental organizations in official relations with WHO, collaboration with the International Society and Federation of Cardiology, and the continental cardiological societies, has been most fruitful. Joint programmes and projects have been formulated and implemented with the ISFC at the HQ level, and with the European Society of Cardiology at the Regional level. AFRO is assisting the newly established Pan-African Society of Cardiology.

Collaboration with the ISFC has been successful mainly in the standardization area, where joint WHO/ISFC task forces have been created and their reports widely distributed through different international as well as national journals. Further collaboration in the field of manpower development, both by selection of fellows for the 10-day seminars organized by the ISFC, as well as assistance in planning curricula for WHO courses in epidemiology and prevention, has proved fully satisfactory

Attendance of a representative of CVD unit at meetings of the ISFC Executive Board and Scientific Councils, as well as the representation of the ISFC at all major WHO meetings in the field of CVD is now an established procedure.

The ISFC is also helping the WHO CVD programme to raise funds from sources outside the Organization. Joint activities are thus covered mainly by ISFC contributions, while WHO provides "seed" money.

WHO is also collaborating with the Swedish National Association Against Heart and Chest Diseases in the selection of fellows for cardiology scholarships (two offered annually).

WHO recognizes physical activity as an integral part of healthy life style, this is amply stated in a 300-page publication on Physical Exercise and Health, the second volume of a recent WHO-sponsored Encyclopedia of Health [33]. The International Federation of Sports Medicine (FIMS) is also collaborating with WHO, helping with the selection of consultants and experts, eventually with reviews of the literature. A long-term project on "Physical activity as a part of life style" is being planned in close collaboration with FIMS.

6. Summary and Conclusions

The long-term programme for the prevention and control of cardiovascular diseases forms an integral part of WHO's global programme and fully complies with the guiding principles of Health for All by the Year 2000 as defined by the Organization's governing Bodies. In the general context of the World Health Situation industrialized countries are still characterized by cardiovascular problems of paramount importance, while developing countries - encompassing the great majority of the World's population - show a clear emergence of cardiovascular diseases as a future public health problem of major importance.

The approaches outlined in the present long-term programme are directed both at the single disease components and the composite approaches of achieving cardiovascular diseases control. The single disease approaches, covering arterial hypertension, coronary (ischaemic) heart disease, cerebrovascular disease, rheumatic fever and rheumatic heart disease, and the group of cardiomyopathies include balanced amalgames of epidemiological investigations, health care related research and concrete public health promotional activities.

The composite approaches are addressing to crucial issues. the comprehensive control of cardiovascular diseases in the community as a paradigm of comprehensive chronic disease control, and the primordial prevention of cardiovascular diseases in developing countries, a long-term activity par excellence aimed at remote but non of the less very concrete and highly important goals. Both the single component and composite approaches are strengthened by supportive activities such as standardization, training of health manpower, education of the public, the development of appropriate technology, and collaboration with other international, governmental and non-governmental organizations.

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