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Report of the

WHO GLOBAL SCIENTIFIC ADVISORY GROUP  
MEETING FOR THE INTEGRATED PROGRAMME  
FOR COMMUNITY HEALTH IN NONCOMMUNICABLE  
DISEASES (INTERHEALTH PROGRAMME)

12-14 September 1988, Geneva



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## 1. Introduction

The participants were welcomed by Dr Hu Ching-Li, Assistant Director-General, on behalf of the Director-General, Dr H. Nakajima. Dr Hu noted, with the increasing burden of deaths and disabilities caused by chronic disease in both the developed and developing worlds, that it was most important for WHO to consider how best to prevent these conditions from occurring.

Infectious disease prevention usually implied the development of a single agent effective in providing protection from infection. However, with chronic disease, the causes were usually multifactorial and therefore prevention was more complex. Although it appears far more difficult to prevent chronic conditions from occurring, it was most important to remember that they are largely caused by a number of common agents.

The development of an integrated approach to prevention may be more efficient and cost-effective, since the programme would be aimed at reducing the risk factors for a large number of conditions, or redirecting existing programmes to a wider range of conditions. It is important that this form of health promotion strategy be incorporated into existing health and social services, and everyday patient contact, in all countries.

This is, however, an extremely difficult and complex activity and it must be stressed that integrated programmes such as these should be properly evaluated in order to accurately assess which interventions are most effective, how they can best be applied, and their effects on risk factors for disease.

Thus the Interhealth Research Programme aims to provide guidance to Member States on the most appropriate ways in which a variety of preventive and health promotion activities can be delivered together to whole communities, rather than merely to suggest that programmes be introduced without proper evaluation and experimentation.

Since the adoption by the World Health Assembly of resolution WHA38.30 in 1985, entitled "Prevention and control of chronic noncommunicable diseases", the Interhealth Programme has received substantial support at the global, regional and country levels. A number of important WHO activities have stimulated further programme development and implementation.

At present the Interhealth Programme includes four major interrelated areas of activities in the field:

- development of Demonstration Projects in a core group of countries;
- modelling and forecasting;
- education and training;
- research.

Dr Hu noted that the general objectives of this meeting of the Global Scientific Advisory Group were to review the Programme's current activities, to make recommendations for its organizational structure and management, as well as for future WHO activities at the global, regional and national levels, and to help WHO to intensify and coordinate efforts in translating potentially preventive measures into practical, acceptable and effective action.

## 2. Election of Chairman and Rapporteur

Dr Walter Holland was elected Chairman and Dr Paul Zimmet was elected Rapporteur, unanimously.

## 3. Adoption of agenda

The agenda was accepted without alteration.

## 4. Review of current activities in the Interhealth Programme

Dr Chigan, Director of NCD, introduced the review of current activities. He noted that taking into account that all participants of the WHO Global Scientific Advisory Group Meeting

took part in the development of the Interhealth Programme methodology, he would only briefly emphasize a number of points:

1. The methodology of Interhealth is based on many epidemiological studies and the practical application of this epidemiological knowledge in such projects like those in North Karelia, Stanford, etc.
2. Several important concepts form a methodological basis of Interhealth:
  - prevention and control of common risk factors for a group of noncommunicable diseases;
  - total community involvement;
  - integration of different health promotion intervention activities (population strategy, high-risk strategy, screening for early detection, intersectoral and interdisciplinary cooperation);
  - integration of different types of intervention, i.e. change of life-style, health care and other sectoral activities;
  - implementation of prevention and control activities through existing primary health care systems and other health and community structures.
3. The methodology of Interhealth is flexible and provides opportunities to adapt the programme to WHO regions, countries and districts, their environment, life-style, etc. It means that there are several regional modifications of Interhealth such as CINDI (Europe), MORE (Latin America), etc. Moreover there could be some district modifications in the same countries especially such as in USA, China, India, USSR and others.

It means also that recommendations of the WHO headquarters should be common, acceptable and used.
4. After several WHO meetings, the decision was made to limit the following core diseases for Interhealth - heart diseases, stroke, cancer, diabetes, chronic respiratory diseases, and to orient to common risk factors such as tobacco, alcohol, diet, etc.
5. It was recommended by the 1985 World Health Assembly to develop Interhealth using first of all experience of the cardiovascular disease programme and collaborating centres like MONICA, intensified CVD programme etc.
6. Interhealth has been developed as a programme of all units and programmes of the NCD Division. All factor-oriented, disease oriented and target group oriented programmes have made their own contribution in the development of Interhealth.
7. The Interhealth Programme is being developed as a dynamic system consisting of four major activities:
  - experimental testing (demonstration projects);
  - modelling and forecasting;
  - education and training;
  - research.

Following Dr Chigan's comments, other aspects of current activities were discussed including the development of guidelines for protocol development and the status of projects in a number of countries.

## 5. Demonstration project development

Thirteen demonstration projects were in preparation at the time of the Stanford Meeting (23-24 July 1987). The countries involved were Chile, China, Cuba, Czechoslovakia, DDR, Finland, Malta, Mauritius, Sri Lanka, Tanzania, Thailand, USA (Florida, Texas), USSR.

The intervention targets-components included aspects of smoking, diet, other life-style related factors including alcohol, physical activity, cholesterol, weight modification, stress, drug usage, and social isolation. Regarding heart disease programme, blood pressure control programme, diabetes control programme and school health programmes were also included. Other areas for consideration included suicide, asthma, cancer, accidents, AIDS, secondary prevention of noncommunicable diseases and oral health.

### 5.1 Review of Status of Demonstration Projects in Different Regions and Countries

The report on the status of current programmes as of June 1988 is outlined below:

	Baseline survey report	Intervention	Collaboration with other countries
AFRO - Tanzania - Mauritius	1987(1988) 1987(1988)	1987 --> 1988 -->	UK, Finland Australia, Finland, UK
AMRO - Chile - Cuba - USA - Stanford ) - California) - Texas ) - Florida )	1987-88  Yes		USA, Finland Finland  Chile, Cuba, Finland, China
EMRO - Cyprus			GDR
EURO - Finland	1982(1983--)	1982-->	Malta, China, Tanzania, USA, USSR, GDR, Mauritius, (Sri Lanka)
- Malta - USSR - Moscow, - Kaunas - GDR - Czechoslovakia	1983(1988)  1986 1984	1983-->  1987--> 1985-->	Finland, GDR Finland
SEARO - Thailand - Sri Lanka	(1987)(1988)	1988-->	Australia Finland
WPRO - China - Fiji - ? W. Samoa - Australia - Victoria			USA, Finland Australia Australia Australia

Individual reports were then given on the status of a number of programmes:

AFRO - Tanzania

The report on the baseline study in Tanzania was noted. Professor Tuomilehto indicated that a member of the Tanzanian team had spent time in Finland preparing the data analysis in cooperation with the National Institute of Public Health in Finland. The group noted the important role of Dr Alberti and his team from Newcastle in the development of the methodology, the survey work, as well as provision of resources for this project. This was in fact one of the first major epidemiological surveys done in Africa with correct and appropriate methodology and technology.

Dr Holland felt that the Tanzanian report raised a number of major methodological questions, i.e. that intervention and control areas do have major differences in both the age structure and other population characteristics and that the baseline epidemiological data also varies. He felt that the Global Scientific Advisory Group needed to decide how to handle such problems. It was noted that previous experience in Finland was of particular relevance to this. Dr Farquhar noted that the issue of baseline differences will recur over and over again and the challenges to find methods of analysis to compensate for this although ideally there should be very close similarities at baseline in the reference and intervention groups. Dr Puska noted that comparisons also needed to take into account the time aspects, i.e. differences in time between the control and the intervention areas.

AFRO - Mauritius

Details of the Mauritius baseline survey and the Executive Summary as well as the recommendations of the International Advisory Committee were also provided. The International Advisory Committee (Drs Zimmet, Alberti and Tuomilehto) met in Mauritius in January 1988 with officials from the Ministry of Health to discuss the future development of the programme. WHO was represented by the WHO Programme Coordinator, Dr D.S. Fareed, Dr M.E. Chuwa (RA/NCD, AFRO) and Dr Hilary King (WHO Short-Term Consultant, Geneva).

Dr Tuomilehto noted that there was a high commitment on the part of the Mauritius Minister of Health to proceed with Interhealth activities but there were no funds to implement such a programme. It was suggested that Mauritius Interhealth project should be watched very carefully as a new initiative as this developing country may not be able to implement it without outside help.

AMRO - USA

Dr Farquhar discussed several aspects of the USA activities:

- USA and Interhealth ;
- Health Promotion Resource Centre and its possible role in the Interhealth Programme;
- The development of the guidelines for protocol development.

National activities in the USA - Interhealth

CDC has been extensively involved through the establishment of the PATCH Programme and have attempted to stimulate its activities throughout the USA. This is a community based city programme similar to Interhealth.

There has been a National Cholesterol Education Programme developed and the Kaiser Foundation has had a national campaign to reduce dietary fat content from 40% to below 30%. Many other similar public and professional activities have been occurring in this area.

Health Promotion Resource Centre

A Health Promotion Resource Centre (Stanford Centre for Research and Disease Prevention in cooperation with the Henry J. Kaiser Family Foundation) has been developed and services

include personal consultation, consultation by phone or mail, a network function introducing community representatives to others with experience in a similar complimentary field, presentations on health promotion at workshops and conferences in the Western region, and catalogues of print and electronic media products at low cost.

The Stanford Centre offered to play a role in the distribution of such materials noting, of course, that cultural issues had to be taken into consideration in adapting USA materials for local usage in other countries and cultures.

#### EURO - Finland

Dr Puska commented on the ongoing activities of the North Karelia project. He noted that the project had already been well described in many scientific reports. While the programme was initially developed predominantly for cardiovascular disease, in view of the Interhealth philosophy, it has now been expanded into an integrated programme for community health for other noncommunicable diseases and risk factors with additional emphasis on smoking, exercise, nutrition and other diseases such as cancer and diabetes. The programme has also been extended to other areas of Finland. He noted that as a WHO Collaborating Centre and the International Data Centre for MONICA, Finland was very involved in the Interhealth Programme generally and some of the country demonstration projects.

#### EURO - USSR

Dr Chazova presented information regarding the integrated programme activities in Moscow and some other centres of the USSR. The Integrated Programme (INTERHEALTH) in Moscow and Kaunas is being developed on the basis of many years of experience gained during the implementation of the USSR Cooperative Study on Multifactorial Prevention of Coronary Heart Disease. In addition to existing INTERHEALTH centres, plans have been made to include another two centres - one in Armenia, another in Tashkent, Uzbek SSR. The main aim of the programme in Moscow is to improve the health of the entire population by reducing NCD morbidity and mortality rates (for CHD, stroke, respiratory cancer, chronic bronchitis, diabetes) involving existing health care and nonmedical establishments of the district, including chiefly prevention and control of the major risk factors and also action in early detection and treatment of patients with these diseases.

Details were provided on aspects of evaluation (mortality, morbidity, disability, risk factor levels and population awareness, and baseline epidemiological data on NCD risk factors disability, health and life-style perceptions, etc.).

#### SEARO - Thailand

Dr Sriwongse Havanondh reported on the development of the Interhealth activities in Thailand. It was noted that Dr Mitrofanov and Dr Zimmet had visited Thailand in July 1988 to advise on the development of NCD activities, in particular Interhealth programme, in that country. Dr Hatai Chitanondh had already prepared a comprehensive report on the NCD problems.

He noted that Thailand was not a homogeneous country and that this needs to be taken into consideration in the development of Interhealth as there were major differences in needs between rural and urban populations. Dr Sriwongse stressed the urgent need to get the programme underway because of rapid urbanization in his country. It was felt that a consultant would be necessary for Thailand for a period of at least 6 months to get an overview of the situation and needs for NCD in that country.

Thailand has not yet made NCD a major priority in its 5 year health plan but that a very good infrastructure exists for the development of Interhealth and some isolated projects already exist. Dr Holland noted that there were already other projects in Thailand which relate to environmental aspects which may in fact have implications for the Interhealth Programme.

It was noted that a study of the effects of palm oil on lipid and glucose metabolism may be carried out in Thailand as a collaboration between the Mahidol Research Foundation (Dr Vichai Tanphaichitr) and the WHO Collaborating Centre in Melbourne.

#### WPRO - People's Republic of China

Dr Chen provided information on NCD activity in China. Since 1985, an NCD prevention project had been operating in Tianjin municipality (8 million population). Thirteen communities covering 400,000 people were selected amongst 12 districts/counties as pilots. The communities were chosen by different cultural background, exposure to occupation and environmental conditions, and agricultural production (vegetables, rice, etc.).

The infrastructure has been set up at all levels as has a coordinating centre for NCD prevention and control, with the participation of politicians, health professionals and people from other related sectors. For the implementation of the project, the existing health service system, including the Health and Disease Prevention Centres at municipal and county level and the primary health care centres at the community level as well as hospitals are responsible for data collection, and the primary health care centres are carrying out the interventions in collaboration with the food industry, food distributors, and radio/TV stations when necessary.

The diseases included in the project are stroke, hypertension, coronary heart disease and cancer (lung, cervical, breast). Based on the local conditions and the current knowledge the interventions being taken are reduction of salt intake, avoidance of overweight, cessation of smoking and control of blood pressure.

Dr Khaltaev noted the low levels of risk factors in China and pointed out that intervention strategies in China needed to take this into account. It was also noted that risk factors for the various NCD may be different in developing countries.

#### WPRO - Fiji

Owing to the current political situation in Fiji, it has not been possible to progress further with the Interhealth Project. However, continuing dialogue is occurring between the WHO Collaborating Centre in Melbourne and the Fiji Ministry of Health regarding the protocol for an intervention programme once the timing is appropriate.

#### WPRO - Australia

The Victorian Health Promotion Foundation in Victoria has embarked on a Healthy Locality project. This will involve a number of municipalities in the development of their own local community intervention programmes, both planned and implemented by the community. This project has been accepted as one of the demonstration projects for the Western Pacific Region of WHO.

It was also noted that the Australian International Development Assistance Bureau (AIDAB) has recently sponsored a Multicountry Conference on Diabetes Prevention and Control Programmes in the South Pacific. This was coordinated by the Melbourne WHO Collaborating Centre and 16 countries were represented by intersectoral participants. A number of country programmes are expected to arise following this meeting with the potential of them being funded through (AIDAB). Amongst these will be an intervention programme in Western Samoa and planning between the Health Department and the WHO Collaborating Centre in Melbourne is at present underway for this.

#### 5.2 Generalized guidelines for protocol development

Dr Farquhar outlined the history of the guidelines and it was noted that the concern to develop an integrated and systematic attack on NCD as a whole started in 1978 with a Dublin consultation on the links between cardiovascular diseases and other chronic diseases. (Unpublished document ICP-CVD 020.) Since that time a number of meetings at global and regional levels had taken place to discuss various aspects of the problem and these included, in chronological order:

- Geneva June 1980
- Zurich October 1980
- Kaunas November 1981
- Copenhagen October 1982
- Geneva October 1982
- Copenhagen June 1983
- Malta December 1983
- Brioni September 1984
- Kaunas/Moscow June-July 1985
- Geneva December 1985
- Reykjavik June 1986

As a result of these meetings the emphasis has been placed on the practical steps to be taken to develop model programmes in individual centres or countries participating in Interhealth. The development of the guidelines for protocol development has been a major part of this effort.

The document tabled for the present meeting contained the guidelines and a number of annexes which are complimentary to the guidelines.

Considerable discussion then occurred regarding the guidelines and the annexes. The basis of the discussion was to what extent Interhealth should be involved in doing standardized epidemiological studies into the etiology of disease or, as Dr Holland noted, that Interhealth was meant to be attacking the incidence of NCD by modification of risk factors. Too many baselines studies might be a considerable drain on both money and resources.

The guidelines in their present form might in fact be based on the assumption that highly trained people already exist to implement the programme and this may not be the case. There may be a need to concentrate on developing the skills of the people who haven't had the training for implementation but they might well be the people who have a greater impact on the health patterns and behavioural changes of the populations than the medical doctors who have been developing the guidelines and annexes. It was noted that apart from the guidelines and the annexes, it might be necessary to develop manuals for use by primary health care workers who would be implementing the Interhealth activities.

Dr Chigan noted that WHO headquarters would develop a bank of different intervention programme modules and the countries could decide and accept what model they would wish to use.

Dr Holland noted that there were conflicting messages even within the protocol annexes, e.g. the smoking strategy was aimed at a certain occupational group rather than at a community. He suggested that the guidelines for protocol development be renamed to "Guidelines for Protocols for Local Demonstration Projects in Defined Communities".

Dr Holland pointed out that with respect to the Interhealth Programme, while epidemiologists desired standardization in their projects, this wasn't feasible within the Interhealth Programme. There may be countries with different disease priorities despite similar risk factors operating. For example, with respect to alcohol consumption, while the major problem from this might be cirrhosis of the liver in one country, in another it might be motor car accidents. Thus, Interhealth is the demonstration that the reduction of certain risk factors, e.g. smoking, alcohol consumption, nutrition, reduction of blood pressure, has an effect not only on one condition but on several conditions and that the overall concern is to reduce premature mortality from certain noncommunicable diseases.

The strategies will be influenced by cultural, social and demographic factors. The commonality of standardization should be primarily process measures, i.e. change in behaviours, and then reduction in disease incidence.

There was a general feeling that the guidelines were very useful but that they may be too sophisticated for certain groups. A number of the participants indicated that examples of questionnaires, as part of the annexes, would be useful.

It was decided that there should be an introduction to the annex section indicating that these are just examples and if they are not appropriate for certain countries or local situations, they can be adapted or discarded.

6. Modelling and forecasting of efficacy and effectiveness of intervention programmes

This section was introduced by Mr E. Dowd (Short-Term Professional (Scientist), NCD). He outlined the history of the Interhealth modelling activities and the present status.

There had been a consultation in December 1987 (NCD/IP/88.1) which had made a number of Recommendations including:

1. That WHO should establish a focal point for modelling activities within the Division of NCD. This had subsequently been accomplished by the appointment of a half-time scientist position.
2. To identify appropriate models to analyse available national data for interim measures of potential health programme impact.
3. Continue efforts in archiving various types of morbidity, mortality and risk factor data and extend the scope of these data to include national health survey data.
4. The Division of NCD be instructed in developing a series of menus which systematically organize options for each model component of an overall integrated model.
5. Create WHO Collaborating Centres to provide technical assistance in transferring relevant forecasting modelling capabilities to appropriate groups in each country.
6. Extend life table based utilization models to produce programme efficacy and impact measures.
7. Continue the activities at the WHO Collaborating Centre at Duke University necessary to develop a range of health forecasting and simulation models.
8. Develop forecasting and simulation models for modelling effects of noncommunicable diseases intervention at different points in the morbidity process.
9. Create WHO Collaborating Centres for implementing local "user friendly" access to modelling results.
10. In order to facilitate the formulation of integrated community health programmes, review existing literature and current programmes in progress which are involved in health interventions and their evaluation.

Active discussion took place regarding both the limitations and the benefits of modelling activities. Such issues were clearly of importance in relation to the amount of resources which might be deployed towards this part of Interhealth activity.

The Global Scientific Advisory Group accepted that the technology that presently existed was satisfactory, but that as far as Interhealth was concerned, this needed to be put into a practical context. It was suggested that modelling could be added to one of the existing demonstration projects to see whether it would be a useful procedure for ongoing planning of such projects. It was suggested that the Mauritius Interhealth Project could be used.

It was noted that there was already some modelling activity collaboration with the CINDI Project for Iceland. The question was also raised whether modelling would be useful in small countries such as Mauritius where it was very difficult to have a reference area for Interhealth. Mr Dowd and Dr Manton felt that modelling would be particularly useful in these situations.

The Group felt in the position to advise WHO of a general satisfaction with the steps taken so far in developing the modelling activities at headquarters. It was agreed to recommend to WHO to continue along these lines as part of the Interhealth Project and to support the recommendations made by the earlier consultation. It was also recommended that future work in the modelling should have a particular emphasis on practical collaboration with some of the demonstration projects to look at the applicability and utility of the data with respect to the modelling activities.

#### 7. Education and training activities

Dr Chigan introduced a position paper on the education and training activities for Interhealth. Dr Chigan's paper explained what WHO was presently doing regarding the Interhealth Programme and what they intended to do.

Dr Chigan indicated that in addition to health education, which is a very important component of all Interhealth intervention programmes, training activities for undergraduates as well as post-graduates are playing an important role in the development of the integrated approach to NCD prevention and control.

#### Undergraduate training

The integrated approach to noncommunicable diseases could be included as a part of the following disciplines:

- epidemiology;
- therapy;
- social medicine;
- public health;
- health care management;
- community medicine, etc.

It could be a special part of programmes on diabetes, cardiovascular diseases, cancer, chronic bronchitis, etc.

The importance of the integrated approach to the development of noncommunicable disease programmes could be described within the process of teaching in the field of primary health care, health promotion, etc.

If the undergraduate training curricula includes systems analysis, the integrated approach to noncommunicable diseases would be an excellent example for demonstrating systems thinking and modelling, integration of research, education and practical application, etc.

However, in spite of the differences among existing health care and educational systems in countries, a place should be found for training in this very important field.

The integrated approach to noncommunicable diseases is being taught in some medical schools and universities in the USA, UK, Australia, Finland, China, Japan, USSR, and various other countries.

#### Post-graduate training

Depending on the structure of the participants, there are two types of post-graduate training: monodisciplinary and multidisciplinary.

When speaking about the integrated approach to noncommunicable diseases, monodisciplinary courses, workshops and seminars could be oriented to the education of a monodisciplinary group of participants such as epidemiologists, statisticians, organizers, etc. In its turn monodisciplinary training could be basic and problem oriented.

In 1988 a basic training course in the USSR - "Statistical, Epidemiological and Operational methods in Programmes for the Prevention of Non-communicable Diseases" - was initiated by the WHO Regional Office for Europe (EURO).

The curriculum of this course includes basic training at the Central Institute for Advanced Medical Studies (CIAMS) and at the All-Union Centre of Preventive Medicine (R. Oganov) in Moscow and a field visit to Kaunas (V. Grabauskas, A. Baubiniene). This course will be conducted every year jointly by EURO and HQ.

There are many national courses in the field of epidemiology of noncommunicable diseases in various countries, which could be used by WHO Regional Offices as WHO training courses.

In 1986 a special training problem oriented course for Interhealth programme managers was conducted in Finland - Polvijärvi.

It is necessary to emphasize the importance of the North Karelia International Visitor's Programme regularly conducted by the National Institute of Public Health (Helsinki) and the North Karelia local health care authority (P. Puska, J. Tuomilehto).

A very important role in training belongs to another of the most experienced WHO Collaborating Centres in the field of the development of the integrated approach to noncommunicable diseases - Stanford Centre for Health Promotion (J. Farquhar).

Taking into account that the development and application of any noncommunicable diseases programme needs the close cooperation of different specialists it is planned to conduct a multidisciplinary training course in 1989. The technology of such a course has been developed by the Central Institute for Advanced Medical Studies in Moscow (CIAMS) and bases on systems analysis methodology.

It was suggested that diabetes mellitus could be used as a model for developing multidisciplinary team training. The preparatory work has already been started by the Institute for Diabetes, Endocrinology and Metabolic Diseases, "Vuk Vrhovac", in Zagreb (Z. Skrabalo).

The Ministry of Health of Mauritius has also expressed the wish to conduct a multidisciplinary training course for national teams responsible for programme development.

In discussing this position paper, Dr Chigan noted the need to develop a new training course for the national teams for the Interhealth programme. Possible sites for this had been discussed including Yugoslavia and Mauritius. The Minister of Health in Mauritius and the WHO Programme Coordinator, Dr Fareed, have indicated their desire to have this course in their country. It was generally felt that the training activities should basically involve countries with Interhealth demonstration projects because they need the stimulus from such a course.

The Global Scientific Advisory Group felt that it was logical to have the training course in a country where the Interhealth project was already in operation and a strong plea was made for Mauritius as the site on the grounds that the training course could be held in association with a meeting of the International Advisory Committee, it would provide an opportunity for the strengthening of the Mauritius project and some training of the national team could take place at the same time.

#### 8. Research activities

The Research Needs (Interhealth) for Community Health in Noncommunicable Diseases were introduced in a position paper by Dr Holland.

The major research needs for the integrated programme of community health can be grouped under the following headings:

1. Primary prevention or health promotion.
2. Secondary prevention or early detection.
3. Treatment and rehabilitation.

#### 8.1 Primary prevention or health promotion

It is essential to evaluate which preventive programmes are most effective in reducing both risk factors (for example, smoking and diet) and incidence of disease and disability.

Many types of preventive programmes can be used. For example, advice can be given by the general practitioner or other primary health worker in the workplace. Other examples include education programmes in schools and elsewhere, and publicity and the use of television and the media.

The effectiveness of primary prevention programmes varies according to the recipient and situation. Research is vital in this area in order that interventions are chosen which are most effective and appropriate.

It is also important that research is done into the way in which programmes interact so that combinations can be used to greatest effect, since the causes of chronic disease are complex and the reduction of one risk factor may influence the progression of a different condition. Thus, research into good integration of prevention is vital for cost effectiveness.

The control of smoking, which is a major risk factor for cancer of the lung, chronic bronchitis and coronary heart disease is a good example of the various approaches available for primary prevention.

There are 3 main approaches:

- (a) prevent people from starting smoking;
- (b) persuade people to stop smoking;
- (c) investigate the production of less hazardous products for those who are unable to give up smoking.

In each of these areas, research is required to enable a decision as to the most cost effective way to provide preventive programmes for smoking.

Similar research is needed for influencing dietary patterns since obesity is a risk factor for cardiovascular disease, and other dietary factors may influence the incidence of other conditions such as non-insulin dependent diabetes. It is also necessary to determine whether the combination of education and advice on "healthy living", for example smoking and diet, is more effective than treating each problem separately.

When is a health message likely to be most effective? When and how such programmes are effective requires research in order that resources are used most efficiently. For example, to prevent school children from smoking, it is likely that interventions are required before 14 years of age since the largest increases in the incidence of smoking among children is between the ages 14 and 15 years. Research has shown that interventions are likely to have greatest effect in the 11-12 year age group.

#### 8.2 Secondary prevention or early detection

In the field of secondary prevention research is required into which programmes of screening are most effective, and which can be integrated to best effect.

For example, the addition of mammography to routine cervical screening could have beneficial effects. However the groups that are currently recommended to have regular

cervical screening include a large number of younger women who are not in the age group currently recommended to have routine mammography. There is likely to be some overlap in age and therefore an opportunity for screening for both conditions. The value of mammography is still in some doubt, particularly in younger women and research is required into both the benefits and the costs of this form of screening. Can we by combining these two make the situation more effective?

In order that this type of research be effective appropriate measures of outcome must be developed within the local situation. Economical methods of measuring mortality and morbidity must be developed in addition to appropriate measures of function among individuals.

### 8.3 Treatment and rehabilitation

As new treatments for chronic disease are developed, ongoing evaluation is required. Research is needed into how best to organize health services in order to provide preventive as well as curative services.

The areas discussed above only outline the research needs in this vital area of public health concern. There are, of course other areas, such as pathology and molecular biology, where research is also necessary.

For example, pathological examination in areas where post mortems are common may provide a more accurate method of measurement of outcome than is provided from death certification.

It must be emphasized that appropriate economic analyses are needed, which will determine the costs, effectiveness and efficiency of different procedures and which will show their effects on the quality of life.

Field demonstration projects are important and are being pursued but it is not necessary to wait for results of the research before anything can be done.

Thus, it is evident that a great deal of research is required if a properly evaluated system of integrated, noncommunicable disease prevention is to become available.

The Global Scientific Advisory Group agreed that Dr Holland's position paper was excellent but some additional needs were:

- what personnel and resources needed to be developed to implement the Interhealth programmes nationally and locally;
- assessment of role of exercise;
- evaluation of demonstration projects;
- whether education techniques using the whole family unit might be more effective;
- the role of new technology such as microcomputers in education;
- studies on cost effectiveness of health interventions;
- children and adolescent behaviour and relationship to risk factors.

Evaluation of Interhealth projects: these are quasi-experimental and should be evaluated as such. Standardized statistical techniques used in evaluating controlled randomized trials may be neither appropriate nor adequate to evaluate these studies. In certain instances, the main question will be whether there are differences in trends between the reference and intervention groups, and to what extent the different trends can be associated with the intervention, rather than with inherent differences in the two groups.

Other areas highlighted by the Global Advisory Steering Group were the need to test hypotheses on:

- possible new risk factors for NCD in various populations;
- genetic susceptibility to different environmental risk factors. There appears to be heterogeneity of risk factors between different populations and new information on this might influence the intervention strategy for the same risk factor in different countries/communities.

Considerable discussion took place as to whether basic and etiological research were to be part of the Group's recommendations. It was emphasized that this type of research was of considerable importance as it would/could provide information on:

- groups of high genetic/susceptibility risk of certain NCD;
- information on relevant risk factors in different communities as a basis for the interventions.

A good example of this cited need was Mauritius where there was inadequate knowledge on what to base a major intervention programme on to tackle diabetes and CVD, e.g. was it palm oil or something else? Thus, there still appeared to be a role for longitudinal etiological studies.

The Global Advisory Steering Group recognized that there are already mechanisms and resources to undertake this type of etiological research. Thus, the approach outlined in the position paper was accepted as the prevailing philosophy for Interhealth. This does not exclude the other research needed for developing knowledge towards the nature of interventions, but for Interhealth, the emphasis should be on disease prevention research.

Major research for Interhealth should be on the evaluation of intervention on known risk factors and how best to intervene.

## 9. Organization and management

### 9.1 General organizational structure of the programme

WHO Collaborating Centres NGOs	WHO/HQ	Global Scientific Advisory Group Steering Committee
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WHO Collaborating Centres Regional NGOs	WHO/Regions AFRO AMRO EMRO EURO SEARO WPRO
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National Research Institutions National Centres National Medical Societies	Countries (Demonstration Projects)
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### 9.2 Linkage in HQ

- Office of Research Promotion and Development;
- Division of Environmental Health;
- Division of Global Epidemiological Surveillance and Health Situation Assessment;
- Division of Information Support;
- Division of Family Health;

- Division of Mental Health;
- Division of Public Information and Education for Health;
- Division of Health Manpower Development.

### 9.3 WHO Collaborating Centres in the Interhealth Programme

WHO Collaborating Centre for Research, Training and Control of Noncommunicable Diseases - St Thomas's Hospital Medical School, London, UK - Head - Professor W.W. Holland.

WHO Collaborating Centre for NCD Prevention and Control - Novi Sad Medical Faculty and City Health Centre, Novi Sad, Yugoslavia - Head - Professor D. Jakovljevic.

WHO Collaborating Centre for Research in Chronic Disease Prevention, Stanford University, California, USA - Head - Professor J.W. Farquhar.

WHO Collaborating Centre for Research and Training in the Methods of Assessing Risk and Forecasting Health Status Trends as related to Multiple Disease Outcomes, Center for Demographic Studies, Duke University, Durham, USA - Head - Professor K. Manton.

WHO Collaborating Centre for Health Promotion, Research and Development, Center for Health Promotion, Research and Development, The University of Texas, Houston, Texas, USA - Head - Professor L.W. Green (Professor T. James).

WHO Collaborating Centre for the Development of Integrated Primary Care Programme for Community Practice, Division of Diabetes Control, Center for Preventive Services, CDC, Atlanta, Georgia, USA - Head - Dr A. Ring.

WHO Collaborating Centre for Integration of Comprehensive NCD Prevention and Control Activities, State Health Office of the Department of Health and Rehabilitative Services, Tallahassee, Florida, USA - Head - Dr L.C. Deeb.

WHO Collaborating Centre for Community Programmes in Chronic Disease Prevention and Health Promotion, National Public Health Institute, Helsinki, Finland - Head - Professor P. Puska.

WHO Collaborating Centre for Research and Training in the Prevention and Control of Cardiovascular and Other Noncommunicable Diseases, Kaunas Medical Institute, Kaunas, Lithuanian SSR, USSR - Head - Dr V. Grabauskas.

WHO Collaborating Centre for Research and Training in the Prevention and Control of Cardiovascular and Other Noncommunicable Diseases, Institute of Preventive Cardiology, Moscow, USSR - Head - Professor R.G. Oganov.

WHO Collaborating Centre for Epidemiology of Diabetes Mellitus and Health Promotion of Noncommunicable Diseases, Lions International Diabetes Institute, Royal Southern Memorial Hospital, Melbourne, Australia - Head - Professor P. Zimmet.

WHO Collaborating Centre for Training and Research in Self Care, Maastricht, the Netherlands - Head - Professor M. Bremer Schulte.

### Proposed WHO Collaborating Centres

WHO Collaborating Centre for the Development of an Integrated Programme for Community Health in Noncommunicable Diseases within the Regional Public Health Systems, 2nd Department of Medicine, Kobe University Hospital, Kobe, Japan - Head - Professor S. Baba.

WHO Collaborating Centre for the Integration of NCD Prevention and Control Programmes into the Existing Public Health System, Riga Medical Institute, Riga, Latvian SSR, USSR - Head - Professor W.W. Kanep.

WHO Collaborating Centre for Design and Application Models for NCD Morbidity and Mortality, International Institute for Applied Systems Analysis, Laxenburg, Austria - Head - Dr S. Scherbov.

WHO Collaborating Centre for Preventive Medicine and Health Services Organization, Department of Epidemiology and Medical Informatics Institute of Advanced Biomedical Technologies, Milano, Italy.

#### 9.4 Coordinating Centres

- Demonstration project activity - National Institute of Public Health, Helsinki, Finland, WHO CCs Newcastle, Melbourne, Texas, Kobe.
- Research activity - Department of Community Medicine, St Thomas's Hospital, London, UK.
- Training activity - The Central Institute for Advanced Medical Studies - CIAMS, Moscow, USSR.
- Modelling activity - The Center for Demographic Studies, Duke University, North Carolina, USA.

#### 9.5 Linkage with NGOs

- International Epidemiological Association;
- International Diabetes Federation;
- International Union Against Tuberculosis and Lung Disease;
- International Society for System Science in Health Care;
- International League Against Rheumatism;
- European Foundation for Osteoporosis and Bone Disease.

#### 9.6 Financial support

##### 1986-1987

Regular budget - US \$ 36,000  
DGP funds - US \$300,000  
NGOs -

##### 1988-1989

Regular budget - US \$ 37,000  
DGP funds - US \$100,000  
NGOs -

##### 1990-1991

Regular budget - US \$ 46,800  
DGP funds -  
NGOs -

#### 10. Recommendations

1. The Global Scientific Advisory Group recommended that the definition of the Integrated Programme for Community Health in Noncommunicable Diseases (Interhealth Programme) should be that formulated by the WHO Steering Group of Geneva (NCD/IP/86.1, 1985), i.e.  
"An Integrated Programme for the prevention and control of noncommunicable diseases combines, in an operationally feasible manner, resources and approaches currently being devoted to the prevention and control of selected noncommunicable diseases and related conditions, and it permits the managerial unification of a set of preventive and other control activities that should lead to the prevention and control of major noncommunicable diseases and to promotion of health in entire communities."

In line with the proposals of the Stanford Meeting (July 1987) the Steering Group agreed:

- i. that the Interhealth Programme be viewed as a global activity both in a philosophical and practical sense;
  - ii. that the demonstration projects be set up as a separate WHO Interhealth demonstration project group consisting of 2 projects from each WHO region;
  - iii. that there be at least 2 demonstration projects in each region;
  - iv. that countries in each region be encouraged to undertake separate Interhealth activities but not necessarily under the demonstration project banner.
2. There was general consensus that, if possible, data analysis for Interhealth projects should be done at the national country level in order to develop local expertise for both the design of the projects and the analysis of data. There appeared to be at least 3 centres who could provide technical assistance to countries including Finland, USSR, and the USA (Stanford). It was noted that the countries involved in the demonstration projects have expressed their desire to have a coordinating centre.

On the basis that the Moscow Centre in the USSR is already heavily involved in the CINDI data coordination, it was recommended that the National Public Health Institute, Finland, should be the coordinating centre for the development of methodology and coordination of data analysis although there was no reason why some of the other centres would not be involved in certain other aspects or more local data coordination.

3. The Global Scientific Advisory Group requested that the World Health Organization find the resources required in order to promote the Interhealth Programme globally and for its various components notably:
  - demonstration projects;
  - modelling and forecasting activities;
  - education and training;
  - research.
4. The Global Scientific Advisory Group requested that WHO headquarters should explore directly with the National Public Health Institute, Finland, its agreement to coordinate the data analysis activities for the demonstration projects and to explore the possibility of funds for these activities.
5. The Global Scientific Advisory Group strongly recommended to the World Health Organization that because the major noncommunicable diseases and their risk factors are now a global problem, WHO should embark on a major promotional campaign to bring attention to the Interhealth Programme as the major noncommunicable disease component of the "Health for all by the year 2000" strategies. This should involve widespread publicity through public relations efforts, media, television, radio, etc.
6. The World Health Organization should develop and maintain a central register of the Interhealth activities which would include the demonstration projects, modelling activities, education and training programmes, and research activities, globally.
7. That the Global Scientific Advisory Group for the Integrated Programme for Community Health in Noncommunicable Diseases (Interhealth Programme) should meet again in twelve months, prior to the next biennium budget planning activities, and then at least once every two years. The Global Scientific Advisory Committee should have a formal reporting structure and there should be adequate representation from developing countries.

8. That there be regular meetings, at least every twelve months, of the demonstration project group and that the project demonstration group meetings should rotate between countries.
9. That the Interhealth Programme is not just a WHO headquarters activity and that all regions of WHO should be encouraged to pay greater attention to the integrated approach to NCD and its risk factors through community health. It was noted that this would facilitate the role of WHO Collaborating Centres as it is necessary for them to report to their regional office and that inadequate information and commitment to the programme at the regional level could hamper the roles of the WHO Collaborating Centre in their activities to enhance the Interhealth Programme.

It was also recommended that the Regional Office NCD Advisors should be asked to attend meetings of the Global Scientific Advisory Group for the Integrated Programme.

10. Regarding the modelling and forecasting activities, the Global Scientific Advisory Group noted general satisfaction with the steps already taken in developing the modelling activities at headquarters.

The Global Scientific Advisory Group recommended that in the future modelling activities, particular emphasis should be put on functional collaboration with the various Interhealth centres and countries involved in demonstration projects to look at their data and the applicability and utility of the models. It was suggested that the Mauritius project might be one such example.

The Group recommended that WHO continues along these lines as part of the Integrated Programme and were encouraged by the appointment of a resource person at headquarters to strengthen these activities. The Group also supported the role of Duke University as a focal point and coordinating centre for the modelling activities.

11. Regarding education and training activities - The Global Scientific Advisory Group recommended that:

- There were three established places at present where countries could send representatives to see how an Interhealth demonstration project might work, e.g. Finland, USSR, USA (Stanford).
- There was a need for training programmes for project coordinators and leaders. There was a need for ongoing training and managerial plan to define the needs and activities of Interhealth.
- There is an unmet need for the training of the national and local teams and the health professionals required at the ground level in the local country Interhealth activities.
- There is a need for illustrative training programmes for the demonstration of specific risk factor and disease situations.

The Global Scientific Group felt that in general, the training programmes for local demonstration projects should be more risk factor oriented at local levels rather than national and felt that the Interhealth programme should not concentrate on individual disease programmes.

12. The Global Scientific Advisory Group recommended that WHO report annually to the World Health Assembly on the progress of the above recommendations.



WHO GLOBAL SCIENTIFIC ADVISORY GROUP  
MEETING FOR THE INTEGRATED PROGRAMME  
FOR COMMUNITY HEALTH IN NONCOMMUNICABLE  
DISEASES (INTERHEALTH PROGRAMME)

12-14 September 1988, Geneva

LIST OF PARTICIPANTS

- Professor J.H. ABRAMSON, Department of Social Medicine, The School of Public Health and Community Medicine, The Faculty of Medicine of the Hebrew University and Hadassah, Jerusalem, Israel
- Professor J.S. BAJAJ, President, International Diabetes Federation, All-India Institute of Medical Sciences, Ansari Nagar, New Delhi, India\*
- Professor L.V. CHAZOVA, Chief, Department of Integrated Prevention of Noncommunicable Diseases, All Union Centre of Preventive Medicine, Moscow, USSR
- Professor CHEN Chunming, President, Chinese Academy of Preventive Medicine, Beijing, People's Republic of China
- Dr H. CHITANONDH, Deputy Director-General, Department of Medical Services, Ministry of Public Health, Bangkok, Thailand\*
- (Alternate: Dr Narong SADUDI, Director-General, Department of Medical Services, Ministry of Public Health, Bangkok, Thailand\*)
- (Alternate: Dr Sriwongse HAVANONDA, Chief Medical Officer, Department of Medical Services, Ministry of Health, Bangkok, Thailand)
- Professor J.W. FARQUHAR, Director, Stanford Center for Research in Disease Prevention, Stanford University School of Medicine, Palo Alto, CA, USA
- Professor W.W. HOLLAND, President, International Epidemiological Association, Department of Community Medicine, United Medical and Dental Schools, St Thomas's Campus, London, UK
- Professor K. MANTON, Assistant Director, Center for Demographic Studies, Duke University, Durham, North Carolina, USA
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- Professor P. PUSKA, Director, Department of Epidemiology, National Public Health Institute, Helsinki, Finland
- Professor I. SHIGEMATSU, Chairman, Radiation Effects Research Foundation, Hiroshima, Japan
- Professor O.D. WILLIAMS, Director, Center for Health Promotion and Disease Prevention, The University of North Carolina at Chapel Hill, Chapel Hill, NC, USA\*
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