



WORLD HEALTH ORGANIZATION

Assessment of National Capacity
For Noncommunicable Disease
Prevention and Control

The Report
of A Global
Survey

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FOREWORD

Noncommunicable diseases (NCDs) are the leading causes of death and disability and appear to have been so for at least the last two decades of the 20th century. Disease rates from these conditions are accelerating globally, advancing across regions and social classes. The high current burdens of NCDs are highlighted by the estimates provided by the World Health Report 2000, which indicate that these disorders together contributed to almost 60% of global mortality (31.7 million deaths) and 43% of the global burden of disease in 1999.

The World Health Organization has recognized the global threat posed by these diseases and has declared the prevention and control of NCDs a priority in its programme of work. A global strategy for the prevention and control of NCDs was developed in 1999 and endorsed by the World Health Assembly in May 2000. As part of the implementation of the global strategy, an assessment of national capacity for NCD prevention and control was carried out by the Management of Noncommunicable Diseases (MNC) Department at WHO headquarters in close collaboration with other departments in the Noncommunicable Diseases and Mental Health (NMH) Cluster and the six WHO regional offices. The project was initiated in October 2000 and has been co-ordinated by Dr Ala' din Alwan who until October 2001 was the Director of MNC. Dr Alwan was assisted by Dr A. Mandil and Dr D. Maclean. A questionnaire was developed and mailed to all 191 WHO Member States. The information obtained from completed questionnaires was augmented by a series of key informant interviews carried out with a sub-sample of senior officials of Health Ministries. The purpose of this report is to present the findings and conclusions of this survey.

It is hoped that the information presented in this report will stimulate discussion concerning the policy options and priorities for appropriate technical

support for NCD prevention and control on the part of the international community, particularly for low and middle-income countries given the rapidly developing epidemic of NCDs in these countries and the limited resources and infrastructure available to deal with these problems.

I would like to take this opportunity to express my appreciation to the survey respondents from Member States, and our colleagues at Headquarters, Regional Offices and WHO Representatives who freely gave of their time and assistance to this survey. I would also like to thank the international non-governmental organizations who were involved in reviewing the draft of the report and provided valuable input. The World Heart Federation (WHF) has been particularly active in this area; WHF's work on assessing capacity in cardiovascular disease prevention was a very useful reference to us during the planning phase of this survey.

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ABBREVIATIONS

AFR	African Region
AMR	American Region
CHW	community health worker
CVD	cardiovascular diseases
EMR	Eastern Mediterranean Region
EUR	European Region
GNI	gross national income
IMR	infant mortality rate
IOM	Institute of Medicine
MNC	Management of Noncommunicable Diseases
MOH	Ministry of Health
NCDs	noncommunicable diseases
NCDPC	noncommunicable disease prevention & control
NGO	non-governmental organization
PHC	primary health care
SEAR	South East Asia Region
WHO	World Health Organization
WHR	World Health Report
WPR	Western Pacific Region



EXECUTIVE SUMMARY

The rapid rise of noncommunicable diseases (NCDs) represents one of the major challenges to global development in the new century. This growing challenge threatens economic and social development as well as the lives and health of millions of people.

To respond to the NCD challenge, a global strategy for the prevention and control of NCDs was developed in 1999 and endorsed by the World Health Assembly in May 2000 (WHA resolution 53.18). As part of the implementation of the strategy, an assessment of national capacity for NCD prevention and control was carried out by WHO during 2001. The survey had four objectives: to assess the current situation in relation to existing capacity for NCD prevention and control in Member States; to identify constraints and needs; to set priorities for technical support to Member States; and to assist planning, implementation and evaluation of NCD prevention and control programmes. The outcome of the survey provides a general assessment of the current capacity of Member States in NCD prevention and control with respect to health policy, programmes and infrastructure.

The data was gathered by a questionnaire mailed out to all 191 WHO Member States. Such data was augmented by information obtained from a series of key informant interviews carried out with a sub-sample of senior representatives from Health Ministries. The quantitative questionnaire included eleven sections, namely: health indicators; policies and operational plans; legislation; information systems and statistics; structure and financing of prevention and treatment activities; availability of national guidelines; nature of available services; human resources; role of NGOs; capacity for monitoring and evaluation; and drugs. The method used to conduct the qualitative interviews was "convergent interviewing", a technique that combines some of the key advantages of both unstructured and structured interviews (Dick 1998).

As far as the quantitative survey results are concerned, questionnaires from 167 countries were completed with an overall response rate of 87.4%. Less than half the states (43%) reported having NCD policies. Only one-third to one-half of responding states reported having CVD, tobacco, diabetes, and cancer control plans. About one-third of countries reported having no tobacco or food and nutrition legislation. Information obtained from the key informant interviews with regard to these issues suggested there was a wide variation in interpretation of these terms.

Most respondent states (83%) reported having information on NCDs included in their Annual Health Reporting System. However, inclusion of risk factor data was reported as being universally low at 28%. A large proportion of responding states (57%) have no surveillance systems for the major NCDs. Most respondents (78%) reported having cause-specific death certification. Cancer registries, on the other hand, were reported as available in 73% of countries, ranging from 53% in AFR to 92% in EUR. These issues were explored during the qualitative interviews which disclosed that not all surveillance systems reported were population based.

As for surveys for NCD risk factors, the most frequently reported were: smoking prevalence, tobacco consumption, dietary surveys, and anthropometric measurements. Physical activity was reported to be least surveyed (40%). Less than two-thirds of countries seem to have an NCD unit in their Ministries of Health, while only 39% reported having a specific NCD budget line.

Prevention guidelines for the major NCDs were generally reported to be more available than treatment guidelines. More than two-thirds of nations reported having NCD prevention and control activities integrated into their PHC systems but information from the qualitative interviews suggested that the term "integrated" was not interpreted in a uniform manner. It was most commonly used to denote care of individuals with NCDs provided by the primary care system. The ability to determine if the minimally acceptable standards of health care were being met was not always possible.

Nurses were the most frequently reported health professionals available for NCD control, ranging from 98 - 685 per 100,000. While PHC physicians are more available in EUR, EMR and AMR, it was reported that Community Health Workers (CHWs) are more available in AFR and SEAR. Only two-thirds of health professionals were reported to receive training in the management of hypertension. Similar patterns were also observed in diabetes and bronchial asthma management training programmes.

A considerable proportion of countries reported that essential medicines like insulin, oral hypoglycaemic agents, anti-hypertensive drugs and anti-neoplastic medications are not always available or affordable in primary care settings.

Among the strengths of this survey were: the high response rate for the mailed questionnaire that provides good external validity for its results; the

collaborative nature of the questionnaire development process; the simplicity of its questions; provision of a guide for clarification of the terms used; and the respondents being senior MOH officials. Finally, a major strength was the combination of qualitative and quantitative methods used for data collection. This allowed for comprehensiveness in the information collected while at the same time provided insight into the context of the quantitative data.

Nevertheless, the survey still had a number of limitations, which need to be taken into account in the interpretation of the data. They include: lack of face-to-face contact between the investigators and the respondents from the different Member States; regional analyses do not provide the sensitivity of country-specific analysis; no mechanism was used for ascertaining or validating the data received from independent sources and it was not possible to ascertain that plans/guidelines mentioned as being present were actually implemented. It is also important to mention that the choice of participants in the qualitative part of the study does not allow generalizability across regions.

Despite the limitations that are inherent in the design of a survey of this type, there are several key areas for action that emerge as priorities for WHO technical support to Member States with regard to NCD prevention and control. These include: advocacy and marketing for NCD prevention; provision of expertise in practical policy development; supporting countries in initiating standardized data collection and strengthening mortality statistics; identifying minimally acceptable standards for the diagnosis and treatment of people with the major NCDs; developing an effective strategy for improving access to essential NCD drugs in low and middle-income countries; and looking for innovative ways of strengthening human resource capacity and providing training courses in technical and managerial aspects of policy formulation, programme development, implementation, and evaluation in the field of NCD prevention and control. In addition, WHO and its partners should develop a focused and targeted research agenda which is supportive of the Organization's priorities, leading to development of practical and innovative methods for surveillance and surveys of major risk factors for NCDs and cause-specific mortality particularly in low and middle-income countries. Strengthening partnerships at the global, regional and national level is one of the major strategic directions of the global strategy for NCD prevention and control. The contribution of non-governmental organizations and other partners is crucial, particularly in relation to advocacy and marketing, strengthening human resources through training and continuing education, and building capacity in research and resource mobilization.



INTRODUCTION

The purpose of this report is to present the findings of a project carried out by the Noncommunicable Disease and Mental Health Cluster in 2001 on the assessment of national capacity for noncommunicable disease (NCD) prevention and control. The information was gathered by a questionnaire mailed to all 191 WHO countries and augmented by a series of key informant interviews carried out with a sub-sample of senior representatives from Health Ministries.

Among the many NCDs that contribute importantly to the global burden of disease, disability and death, cardiovascular disease (CVD), cancer, diabetes and chronic respiratory disease are four of the most prominent. These four conditions are linked by common lifestyle determinants such as diet, physical activity and tobacco consumption. These four disorders together account for 50% of global mortality (IOM).

The World Health Report 1999 also makes it clear that much of this large burden of NCDs arises from the low and middle-income countries. Globally, of the total NCDs deaths in 1998, 77% accrued from these countries. Similarly, 85% of the global disability contributed by NCDs that year was borne by the low and middle-income countries. The high burden of NCDs in these countries is attributable both to increased incidence of these disorders as well as the relatively early age at which they manifest. For example, almost half of the deaths attributable to CVD in the developing countries in 1990 occurred below the age of 70 years, in contrast to 22.8% of such deaths below that age in the high-income industrial countries (WHO 1999).

The world is clearly witnessing a growing man-made epidemic of NCDs that is being greatly aggravated by a rapidly ageing global population. NCDs are expected to account for an increasing share of disease burden, rising globally

from 43% in 1998 to 73% by 2020. The expected increase is likely to be particularly rapid in developing countries. In India, deaths from NCDs are projected to almost double from about 4.5 million in 1998 to about 8 million a year in 2020 (WHO 1999). The burden will continue to be high in mid-life, with CVD alone expected to contribute 6.4 million deaths in the age group of 30-69 years in the developing countries in 2020. The anticipated rise in the number of people with diabetes in the world from 135 million in 1995 to 300 million in 2025 illustrates the alarming rise in the global burden imposed by NCDs, especially in the developing regions of the world.

The World Health Organization has recognized the global threat posed by NCDs and has declared the prevention and control of NCDs a priority in its programme of work. Within the Organization measures have been initiated to strengthen the human resources and financial support provided for NCD prevention and control. These measures are in keeping with WHA51.18 passed during the Fifty-first World Health Assembly in May 1998. Having noted that NCDs represent a significant and a growing burden on the public health services of Member States, the Assembly requested the Director General to develop a global strategy for the prevention and control of NCDs.

The Global Strategy was developed in 1999 and approved by the 53rd World Health Assembly in May 2000. The strategy has three broad objectives:

- To map the emerging NCD epidemic and to analyse the social, economic, behavioural and political determinants of NCD with particular reference to poor and disadvantaged populations to provide guidance for policy, legislative and fiscal measures related to the development of an environment supportive of NCD control
- To reduce the exposure of individuals and populations to the major preventable common risk factors, namely tobacco consumption, unhealthy diet and physical inactivity
- To strengthen health care for people with NCDs by supporting health sector reform processes and cost-effective interventions with emphasis on primary health care

One of the primary responsibilities of WHO under the Global Strategy is to support Member States in the planning, implementation, and evaluation of their national health programmes with respect to the prevention and control of NCDs. Having approved the Global Strategy, the World Health assembly passed a resolution (WHA53.17) which requested the Director General of WHO to provide technical support and appropriate guidance to Member States in assessing their needs, developing effective programmes, and adapting their health systems to the growing epidemic of NCDs. Based on this resolution, the assessment of national capacity survey was carried out to assist WHO with the implementation of the Global Strategy and to assist Member States to take effective action against the NCD pandemic.

The survey had four objectives:

- * To assess the current situation in relation to existing capacity for NCD prevention and control in Member States
- * To identify constraints and needs
- * To set priorities for technical support to Member States
- * To assist Member States in planning, implementation and evaluation of NCD prevention and control programmes

The outcome of the survey provides a global assessment of the current national capacity of Member States for NCD prevention and control with respect to health policy, programmes and infrastructure.

METHODOLOGY AND SURVEY OPERATIONS

The survey employed a 'mixed methods' approach to data collection. A quantitative questionnaire, along with its guidelines, was developed at WHO headquarters (Department of Management of Noncommunicable Diseases) and distributed electronically and/or by mail, to the Health Ministries and/or WHO Representatives (WRs) of the 191 WHO Member States either directly or through WHO Regional Offices (Annex 1). In addition, a short qualitative questionnaire was developed to be administered through face-to-face or telephone interviews with a sub-sample of senior health officials of a number of Member States (Annex 2).

Development of the quantitative questionnaire (Annex 3) along with its relevant guidelines (Annex 4), which include the survey's objectives, operational terms and definitions, took place during the period from October - December 2000. During the process of its development, comments and suggestions were obtained through consultations with the various Departments of the Noncommunicable Diseases and Mental Health Cluster and Regional Offices. In addition, the finalisation of the questionnaire was discussed in a meeting with NCD Regional Directors and Advisers held in December 2000. Discussions about the logistics of the survey's implementation were instrumental in the steps which followed. In addition, important feedback from the Regional Offices was used in further development of the tools.

Once the final versions were agreed upon, translation into French, German, Russian and Spanish took place at WHO/HQ, in order to meet the local needs at different WHO Regional Offices. Mailing of the questionnaire and its guidelines (in English and appropriate other-language versions) then followed during January 2001 to all WHO Member States. During the period from February - July 2001, intensive efforts of follow-up took place by telephone and electronic messages to Regional Offices as well as Member States, in order to ensure their timely responses.

The questionnaire contains eleven multiple question sections that provided information from eleven separate domains, with indicators with respect to different aspects of NCD prevention and control at the national level. The domains are as follows:

- Health indicators
- Policies and operational plans
- Legislation
- Information systems and statistics
- Structure and financing of prevention and treatment activities
- Availability of national guidelines
- Nature of available services
- Human resources
- Role of NGOs
- Capacity for monitoring and evaluation
- Drug availability

The information obtained from each domain provides an assessment of the current status of NCD prevention and control and a baseline for monitoring change. The criteria used for selecting the type of information included were that they be relevant and readily available. It was also important that the information be such that it could be collected regularly to allow for tracking into the future. Over time, as data collection systems at the national level become more developed, additional information can be provided to obtain a clearer picture for planning and decision making.

Data-entry took place once the information was received from Member States, using Microsoft Excel 2000 (Microsoft Office 2000). Ten percent double-checking was carried out in order to ensure the accuracy and completeness of the entered data. Relevant tables were prepared. The data with respect to the basic health indicators included with this report was obtained from the World Health Reports 2000, World Bank (World Bank), and the United Nations (United Nations).

The qualitative data was designed to provide contextual information to augment that collected from the quantitative questionnaire. Key informants were selected from the list of Member States who had responded to the mailed-out questionnaire. A small sample of 30 countries was selected, mainly from low and middle-income countries in five regions (AFR, AMR, EMR, SEAR and WPR). This was an attempt to obtain additional information from some Member States that had identified the prevention and control of NCDs as a priority. The individual states selected were chosen to provide maximum diversity within the regions and where information available concerning national capacity was judged to be most deficient. The list of Member States included in the qualitative survey is included as Annex 2.

The method used to conduct the interviews was "convergent interviewing", a technique that combines some of the key advantages of both unstructured and structured interviews (Dick 1998). Convergent interviewing leaves a great deal of the content of the interview unstructured, such that those being interviewed largely determine it. The process, however, is tightly structured in that the information is analysed systematically after each interview to guide interpretation.

A number of broad questions were asked, and respondents were encouraged to speak as long as they wanted in response (Annex 5). Specific questions were asked only after respondents had nothing more to say in response to the initial question. These more specific questions were designed to probe for the views of the respondents on issues important to NCD and to seek explanations for themes and issues that emerged from the quantitative questionnaire. Brief, hand-written notes were taken during each interview. Immediately after each interview these notes were augmented, transcribed, and analysed by the interviewer. The process resulted in 30 completed face-to-face or telephone interviews that ranged in length from 20 to 45 minutes.

RESULTS

The results section has three components:

- health indicators data,
- quantitative analysis results, and
- qualitative analysis results from key informant interviews.

Health Indicators

Information on health indicators was obtained from the World Health Report 2000 and other data sources like the World Bank, and the United Nations Department of Economic and Social Affairs (Population Division). For most indicators, information was available per Member State, and not by region. Hence, it was necessary to classify countries by WHO region, and then calculate regional means and standard deviations for each indicator, according to the list of responding nations to the survey.

Life Expectancy at Birth

Mean Life Expectancy at Birth (in years), by Sex and WHO Region, World Health Report (WHR) 2000

Region	Males				Males			
	Min	Max	Mean	+ SD	Min	Max	Mean	+ SD
AFR	33	68	48	8	35	74	50	10
AMR	51	76	69	5	55	82	74	5
EMR	45	75	65	8	47	79	67	8
EUR	59	77	70	5	70	84	78	4
SEAR	57	67	61	4	58	73	63	6
WPR	52	78	65	7	55	84	96	7

Information on the mean life expectancy at birth has been obtained from the World Health Report 2000. It clearly shows that at a time when the mean life expectancy for males in most WHO regions ranges from 61 - 70 years, the African Region lags behind at a mean of only 48 years. Similarly for females, other regions' means range is from 63 - 78 years, while the African region mean is only 50 years. It is also noted that the highest mean for both sexes is reported from EUR, i.e. 70 and 78 for males and females respectively.

Infant Mortality Rate

Mean Infant Mortality Rate (IMR), by WHO Region, United Nations Department of Economic and Social Affairs (Population Division) Data, 1995 - 2000

Region	Minimum	Maximum	Mean	+ SD
AFR	19	165	98	30
AMR	6	68	29	17
EMR	8	165	50	43
EUR	4	57	14	13
SEAR	23	92	54	24
WPR	4	97	34	29

Information on the infant mortality rate (IMR) has been obtained from the Population Division, Department of Economic and Social Affairs, of the United Nations Population Information Network (POPIN). It shows that the lowest mean IMR has been reported from EUR (14) while the highest is still reported from AFR with an IMR of 98. The issue of very wide standard deviations reflects the wide range of quality and efficiency of health care delivery among Member States within regions.

Gross National Income (GNI) Per Capita

Mean Gross National Income (GNI) per Capita (in US \$), by WHO Region, World Bank Data, 1999

<i>Region</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>+ SD</i>
AFR	100	6500	804	1250
AMR	410	31910	5102	6417
EMR	470	11950	4143	4188
EUR	410	38380	11561	12756
SEAR	210	8490	1540	2496
WPR	370	32030	5651	9160

The information on the mean income per capita was not available from the World Health Report 2000, so it was obtained from the World Bank Data (Atlas Method). The term GNI (Gross National Income) has replaced the older term of GNP (Gross National Product) used before. The outstanding aspect about this table is the very high standard deviations per region. However, this is to be expected when most regions have great economic discrepancies among their Member States, from the very rich to the very poor, which definitely reflects on the GNI per capita. EUR appears to have the highest income per capita among all WHO regions with a mean GNI of \$11,561. It is also obvious that both AFR and SEAR lag far behind other regions with a mean GNI per capita of \$804 and \$1,540 respectively.

Total Expenditure on Health

Mean Total Expenditure on Health (as % GDP) and Public Expenditure per Capita (in international dollars), by WHO Region, World Health Report (WHR) 2000

<i>Region</i>	<i>The Health Expenditure</i>				<i>Per Cer Capita Public Expenditure</i>			
	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>+ SD</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>+ SD</i>
AFR	2	8	4	1	1	358	46	64
AMR	4	14	7	2	18	3724	368	680
EMR	3	9	4	1	9	635	171	190
EUR	3	11	7	2	8	1833	660	610
SEAR	2	8	5	2	10	159	46	49
WPR	3	10	6	2	7	1410	271	372

Information on the total expenditure on health and public expenditure per capita has been obtained from the World Health Report 2000. It clearly shows that at a time when the mean health expenditure in most WHO regions ranges

from 4 - 6%, AMR and EUR dedicate about 7% of their GDP to health. Similarly, while the mean per capita public expenditure ranges from \$46 - 271, AMR and EUR spend much more, ranging from \$368 - 660.

Burden of Major Noncommunicable Diseases

Mean Morbidity Burden of Major Noncommunicable Diseases (in Disability Adjusted Life Years [DALYs] percent) in Relation to Total Disease Burden, by WHO Region, WHR 2000

<i>Region</i>	<i>Malignant Neoplasms%</i>	<i>Diabetes Mellitus %</i>	<i>Cardiovascular Diseases %</i>	<i>Chronic Respiratory Diseases %</i>
AFR	11	1	19	11
AMR	13	6	18	7
EMR	8	2	31	6
EUR	16	3	33	7
SEAR	14	3	27	12
WPR	19	2	20	13

Information on the burden of major noncommunicable disease has been obtained from the World Health Report 2000. The table reflects that cardiovascular diseases impose the highest morbidity burden among all other NCDs, ranging from 18% in AMR to 33% in EUR. Malignant neoplasms are next with a range of 8% in EMR to 19% in WPR; while chronic respiratory diseases are similar, but with a range from 7% in EUR to 13% in WPR.

Quantitative Survey Results

This section provides a descriptive analysis of the quantitative survey data. For each region, the numbers in the cells represent the proportion of positive responses to each question received from the responding states from within the region. The response rate is given at the bottom of each table and presented as a range. This reflects the fact that the tables are made up of responses from a number of questions each with different response rates.

Response Rate

Table 1

The response rate overall and by region is given in Table 1 below. The overall response rate is 87.4% (167 / 191). On a regional basis, the rate varies from 77.3% in EUR to 100% in SEAR and WPR.

Table (1)
Response Rates to NCD National Capacity Assessment Survey, by WHO Region, 2001

<i>Region</i>	<i>Respondent States</i>	<i>Non-Respondent States</i>	<i>Total**</i>	<i>Response Rate (%)</i>
AFR	39	7	46	84.8
AMR	33	2	35	94.5
EMR	17	5	22	77.3
EUR	41	10	15	80.4
SEAR	10	0	10	100.0
WPR	27	0	27	100.0
Total	167	24	191	87.4

** According to WHR 2000, pages 204 - 205.

Policies, Operational Plans and Relevant Legislation

Table 2

This table reports upon the existence of national policies, plans and legislation for NCD prevention and control by WHO Region. A national policy for NCD prevention and control refers to a written document endorsed by the country's Ministry of Health (MOH), which includes a set of statements and decisions defining goals, priorities and main directions for attaining the goals. For the purpose of this survey, the policy document may also include a strategy containing the main lines of action adopted to give effect to the policy. An operational plan is a scheme, prepared according to policy and strategic directions, defining activities to generate the products/targets set to achieve the desired goals.

Findings

77% of countries reported having national public health policies with the difference across regions ranging from 65% in WPR to 89% in SEAR. However, less than half of the countries (43%) reported having NCD policies. One-third (35%) to one-half (50%) of responding states reported having CVD, tobacco, diabetes, and cancer plans with considerable variation between regions. Most countries (85%) reported having a national list of essential drugs ranging from 100% in AFR and WPR to 62% in EUR.

Table (2)
**Percentage of Countries Reporting the Existence of National Policies and Plans for
 NCD Prevention and Control, by WHO Region, 2001**

	<i>AFR</i>	<i>AMR</i>	<i>EMR</i>	<i>EUR</i>	<i>SEAR</i>	<i>WPR</i>	<i>All</i>
Public Health Policy	82	82	65	80	89	65	77
NCD Policy	13	37	59	59	44	58	43
NCD Plan	21	40	56	51	38	52	41
CVD Plan	8	30	53	50	50	40	35
Tobacco Control Plan	13	27	50	43	75	68	39
Diabetes Control Plan	13	41	50	54	56	64	43
Cancer Control Plan	15	50	56	62	78	64	48
Essential Drugs list	100	76	94	62	100	96	85

Response rate: 93 - 98%

Table 3

Table 3 reflects on relevant legislation for NCD prevention and control. About two-thirds of countries reported having some form of tobacco or food and nutrition legislation. Information obtained from the key informant interviews with regard to these issues suggested there was a wide variation in interpretation of these terms. In some instances the reported existing tobacco legislation was in draft form or under development but not actually law at the time of the interview. Nutrition legislation in most cases was concerned with food safety issues and sanitation as opposed to legislation specifically targeted to NCD prevention and control (e.g., food labelling for fat content).

Table (3)
**Percentage of Countries Reporting Availability of Tobacco,
 Food and Nutrition Legislation, by WHO Region, 2001**

	<i>AFR</i>	<i>AMR</i>	<i>EMR</i>	<i>EUR</i>	<i>SEAR</i>	<i>WPR</i>	<i>All</i>
Tobacco Legislation	22	50	75	80	70	69	58
Food & Nutrition Legislation	43	66	73	84	89	77	69

Response rate: 92 - 95%

Information Systems

Table 4

This table reports upon the inclusion of information about NCD in the annual national health reporting system (AHRS) by WHO Region. This includes the annual health reports of the Ministry of Health containing data on national capacity, human resources, morbidity and mortality. Morbidity information may include incidence or prevalence data from disease registries, hospital admissions or discharge data.

Findings

The inclusion of risk factor data was reported as being universally low at 28%, ranging from none in AFR to 48% in WPR. Cause-specific mortality and morbidity data, however, were reported to be included at a much higher rate with considerable inter-regional variation.

Table (4)
Percentage of Countries Including Data on NCD in the Annual Health Reporting System

<i>Region</i>	<i>Included in AHRS</i>	<i>Risk Factors</i>	<i>Cause-specific Mortality</i>	<i>Morbidity</i>
AFR	74	0	58	70
AMR	76	23	92	78
EMR	67	44	75	89
EUR	97	44	97	89
SEAR	100	13	63	75
WPR	88	48	90	95
Total	83	28	81	82

AHRS = Annual Health Reporting System, Response rate: 75 - 95%

Capacity for Monitoring and Evaluation

Member States were asked about the availability of surveillance systems for the major NCDs. A surveillance system was defined in the survey guide as the continuous analysis, interpretation and feed-back of systematically collected data on NCDs and their determinants, in order to provide guidance for policy, and for monitoring progress of interventions. Almost half of the responding states reported they have no surveillance systems for the major NCDs.

Table 5

This table reports upon the availability of cause-specific death certification and cancer registries by WHO Region. In general death certificate information refers to a nation-wide comprehensive certification of deaths by cause, including deaths occurring outside hospitals. Cancer registries were classified as either being population-based or hospital-based.

Findings

More than three-quarters of respondents (79%) reported having cause-specific death certification, with a wide range of 55% in AFR to 95% in EUR. Cancer registries, on the other hand, were reported as available in 73% of countries, but again varying in availability. These high rates were explored during the qualitative interviews which disclosed that very few surveillance systems reported were population-based. Most were, in reality, facility-based and seldom reached the whole population.

Table (5)
Percentage of Countries Reporting Availability of Death Certification by Cause and Cancer Registries, by WHO Region, 2001

<i>Region</i>	<i>Death Certification</i>	<i>Cancer Registries</i>	<i>Population-based</i>	<i>Hospital-based</i>
AFR	55	53	12	73
AMR	90	64	59	67
EMR	76	76	73	50
EUR	95	92	70	54
SEAR	67	89	25	88
WPR	81	73	58	78
Total	79	73	51	66

Response rate: 67 - 96%; for columns 3 and 4 (population versus hospital-based registries) the categories are not mutually exclusive.

Table 6

This table reports upon the prevalence of national surveys on major risk factors for NCDs by WHO Region carried out over the past five years (prior to the survey).

Findings

A considerable proportion of countries, in all regions, have not conducted national surveys on NCD risk factors. The most frequently reported NCD indicator surveyed was anthropometric measurements at 66%. Tobacco consumption was surveyed with a very similar frequency at 53% but ranging from 80% in EUR to a low of 17% in AFR. Dietary surveys, smoking prevalence, diabetes surveys, hypertension prevalence, and mortality trends were surveyed at 63%, 61%, 54%, 50%, and 44% respectively. Physical activity was surveyed the least at 40%.

Overall, in the past five years surveys were relatively uncommon in all regions of WHO.

Table (6)
Percentage of Countries Reporting National Surveys on Major
Risk Factors of NCDs, by WHO Region, 2001

	<i>AFR</i>	<i>AMR</i>	<i>EMR</i>	<i>EUR</i>	<i>SEAR</i>	<i>WPR</i>	<i>All</i>
Tobacco Consumption	17	50	53	80	63	62	53
Smoking Prevalence	25	48	76	88	88	67	61
Anthropometric Measurements	56	79	73	68	75	62	66
Dietary Surveys	56	61	53	68	75	67	63
Physical Activit	9	39	39	72	43	46	42
Hypertension Prevalence	24	48	63	68	63	52	50
Diabetes Prevalence	26	48	56	80	63	63	54
Mortality Trends	9	50	25	78	43	48	44

Response rate: 89 - 95%

Structure and Financing of Prevention and Treatment Activities

Table 7

This table reports upon the availability of national reference centres for major NCDs by WHO Region. This refers to specialized tertiary care centres which provide leadership in clinical management, training and research for common NCDs (e.g. diabetes, cancer and chronic respiratory diseases including bronchial asthma).

Findings

National reference centres for cancer were reported to be the most common, being present in 63% of countries over all, but with a wide regional variability. Respondents report that more than half the nations have national diabetes reference centres. National reference centres for chronic respiratory diseases were reported to be the most infrequent.

Table (7)
Percentage of Countries Reporting Availability of National Reference Centres for Major NCDs by WHO Region

	<i>Diabetes</i>	<i>Cancer</i>	<i>Chronic Respiratory Diseases</i>
AFR	45	43	45
AMR	53	70	43
EMR	81	88	56
EUR	66	71	65
SEAR	50	88	38
WPR	58	50	39
Total	58	63	49

Response rate: 90 - 92%

Table 8

This table reports on the availability of a dedicated unit for NCD prevention and control, as well as a budget line within the public health expenditure. About two-thirds (62%) of respondents reported having an NCD unit but less than 40% of countries reported having a special budget line specifically allocated for NCD prevention and control.

Table (8)
Percentage of Countries Reporting the Existence of a NCDPC Unit and Budget Line

	<i>NCD Unit</i>	<i>Budget Line Present</i>
AFR	49	25
AMR	60	31
EMR	69	47
EUR	63	46
SEAR	44	75
WPR	81	42
Total	62	39

Response rate: 84 - 94%

Availability of National Guidelines

Table 9

This table reports upon the existence of national guidelines for the prevention and management (diagnosis and/or treatment) of NCDs.

Findings

From a regional perspective, prevention guidelines for the major NCDs are generally reported more available than treatment guidelines. They are most available in EUR and least available in AFR. Guidelines for the prevention of common cancers, hypertension, diabetes, and bronchial asthma do not exist in one-third to over one-half of countries. From a regional perspective, treatment guidelines are generally available in about half of the countries and more available for diabetes and hypertension than common cancer and bronchial asthma. In contrast to prevention guidelines, there is no pattern discernible for the availability of treatment guidelines among the regions.

Table (9)
Percentage of Countries Reporting Availability of National Guidelines
for Prevention and Management of Major NCDs, by WHO Region

Region	Hypertension		Diabetes		Bronchial Asthma		Common Cancers	
	P	M	P	M	P	M	P	M
AFR	35	53	44	53	28	41	29	43
AMR	65	45	70	50	52	40	83	48
EMR	70	64	89	50	33	22	60	33
EUR	82	53	82	64	69	45	84	59
SEAR	50	67	67	67	17	33	43	43
WPR	53	76	58	76	35	63	65	47
Total	63	59	69	61	47	44	67	48

P = prevention guidelines; M = management guidelines. Response rate: 57 - 65%

Nature of Services Available

Table 10

This table reports upon the integration of components of NCD prevention and control in Primary Health Care (PHC) systems on a regional basis. PHC was defined as the provision of basic preventive, curative, and rehabilitative health care at the first point of entry into the health system. For several NCDs, it usually reflects the provision of basic health care and follow up for non-complicated cases, leaving more complicated management to higher levels of the health care system.

Findings

About a third of responding nations reported that NCD prevention and control initiatives are not integrated into their PHC systems. Of those reporting integration, 87% had integrated health promotion into PHC; 71% had integrated the management of NCDs into primary care; 53% had integrated surveillance; but only 33 % had home-based care integrated into PHC. Again here, there was no discernible pattern among the regions with the exception that AFR was the lowest in most categories. The findings of this question should be interpreted with caution. Information from the qualitative interviews suggested that the term "integrated" was not interpreted in a uniform manner. It was most commonly used to denote care of individuals with NCDs being provided by the primary care system. The ability to determine if the minimal standards of health care were being met was not possible.

Table (10)
Percentage of Countries Reporting Integration of Components of NCDPC
Programmes in PHC, by WHO Region, 2001

<i>Region</i>	<i>Integrated in PHC</i>	<i>Health Promotion</i>	<i>Surveillance</i>	<i>Management</i>	<i>Home-Based Care</i>
AFR	39	73	33	52	14
AMR	65	77	62	91	43
EMR	76	92	46	92	8
EUR	94	94	55	70	43
SEAR	88	100	43	58	43
WPR	88	91	68	61	45
Total	71	87	53	71	33

Response rate: 69 - 94%

Table 11

This table reports upon efforts made to link different levels of the health care system to facilitate the care of individuals suffering from NCDs. It is an attempt to gain insight into the mechanisms by which Member States try to obtain a measure of integration of care within their health systems.

Findings

About 30% of countries reported that there are no efforts to link NCD care to different levels of the health care system. When such efforts exist, the mechanisms used were policy (64%), specific guidelines (62%), or information systems (64%). There was no discernible pattern among the regions.

Table (11)
Percentage of Countries Reporting Linkage of Levels of NCD Care and its Mechanisms

<i>Region</i>	<i>Linkage</i>	<i>Policy</i>	<i>Specific Guidelines</i>	<i>Information System</i>
AFR	60	63	39	56
AMR	67	67	83	62
EMR	81	70	78	56
EUR	86	71	75	76
SEAR	63	40	60	80
WPR	72	56	50	61
Total	72	64	62	64

Response rate: 62 - 91%

Table 12

This table reports upon the availability of essential equipment for the diagnosis and monitoring of the major NCDs. Essential equipment refers to the basic minimum equipment necessary for diagnosis and monitoring of the indicated NCDs under PHC settings. Because of the variation that exists between countries in what is considered as basic or minimum, such equipment was not specifically defined for most NCDs in the questionnaire and the survey guide.

Findings

Even basic equipment is not universally available in some regions. As with most indices examined by this survey, equipment was generally least available (but not for all conditions) in AFR. From the qualitative interviews it was evident there was no consistent definition of essential equipment used by survey respondents.

Table (12)
Percentage of Countries Reporting Availability of
Basic Equipment at the PHC Level for Diagnosis and Monitoring of Major NCDs

<i>Region</i>	<i>Hypertension</i>	<i>Diabetes</i>	<i>Chronic Respiratory Disease</i>	<i>Lung Cancer</i>	<i>Cervical Cancer</i>	<i>Breast Cancer</i>
AFR	81	55	40	3	13	13
AMR	96	86	48	22	89	46
EMR	93	80	21	14	13	0
EUR	97	94	77	61	78	67
SEAR	88	75	38	13	13	13
WPR	96	74	39	36	48	23
Total	92	78	49	28	50	32

Response rate: 77 - 84%

Human Resources

Table 13

This table reports upon the number of health care professionals, including general and specialist physicians; nurses; and physiotherapists and community health workers per 100,000 population in Member States. Physicians were defined in this study to include the total work-force of physicians, including general practitioners, and various specialists at different levels of the health care

system. Nurses were also referred to as the total work-force of nurses, including general and specialist nurses (e.g. critical care nurses, respiratory therapy nurses, diabetes nurses, community nurses, etc.) at different levels of the health care system.

Findings

The number of health care professionals working in NCD control was reported to vary quite considerably by region. Nurses are generally the most frequently reported health professional available ranging from a mean of 685 per 100,000 in EUR to a mean of 98 per 100,000 among AFR nations. In addition, EUR has by far the largest number of physicians working in NCD control of any region, while AFR has the lowest mean at 21 per 100,000 population. Similarly, EUR and AMR have the highest mean number of specialist physicians, particularly internal medicine specialists, cardiologists, oncologists and radiologists. While PHC physicians are more common in EUR, EMR and AMR, it was reported that Community Health Workers (CHWs) are more common in AFR and SEAR. Overall, from a regional perspective AFR reported the least number of health care professionals working in NCD control, with the exception of the availability of CHWs.

The competence and skills of health professionals in NCD prevention and control are questions that have not been adequately addressed by the survey.

Table (13)
Reported Average Numbers of Medical Professionals Working in NCD Control per 100,000 Population in Member States, by WHO Region, 2001

	<i>AFR</i>	<i>AMR</i>	<i>EMR</i>	<i>EUR</i>	<i>SEAR</i>	<i>WPR</i>
Physicians	21	134	112	279	61	93
Nurses	98	247	191	685	114	471
GPs / PHC Physicians	13	56	65	81	37	43
Public Health	7	114	52	221	22	59
Community Health Workers	146	45	17	18	205	54
Internal Medicine	1	17	11	37	7	9
Cardiologists	0.4	7	3	6	0.3	2
Radiologists	0.4	2	3	8	1	3
Oncologists	0.1	1	2	3	0.4	1
Physiotheraists	3	7	8	39	1	14
Med Physicists	0.3	4	0.3	3	2	8

Response rate: 74 - 90%

Table 14

This table reports upon the frequency of training of health professionals in the management of NCDs, by WHO Region.

Findings

As evident from Table 14, about half of the countries in some regions report that health care professionals receive no training in the management of the major NCDs. Health professionals are more likely to receive training in the management of major NCDs in EUR than in any other WHO Region.

Table (14)
Percentage of Countries Reporting Training of Professionals on Management of Major NCDs, by WHO Region, 2001

	<i>Hypertension</i>	<i>Diabetes</i>	<i>Bronchial Asthma</i>
AFR	53	55	54
AMR	56	58	50
EMR	59	67	55
EUR	91	94	94
SEAR	63	56	56
WPR	52	57	48
Total	65	61	62

Response rate: 72 - 83%

Role of Non-governmental Organizations (NGOs)

Table 15

This table reports upon the involvement of NGOs in NCD prevention and control. NGOs were defined in this study to include voluntary organizations, charitable groups, and professional associations that are involved in various NCD-related activities, including (but not restricted to) advocacy, health promotion, health education, health care, supporting treatment for the needy, social and home care, etc.

Findings

NGOs are reported to have some involvement in NCD prevention and control activities in many areas in all regions of WHO. The main reported activities are raising public awareness (89%), preventive activities (85%), education (85%), and patient management (79%). Some NGOs are involved with policy development (50%) and technical support (49%), and they are not represented in national NCD control committees in a large number of countries. NGO involvement with NCD prevention and control activities is generally similar among WHO Regions. However, the degree of such involvement and the level of contribution to NCD prevention and control initiatives in Member States are not clearly identified by the quantitative part of the survey.

Table (15)
Proportion of Countries Reporting Involvement of NGOs by WHO Region

<i>Region</i>	<i>Preventive Activities</i>	<i>Rep. On National Committee</i>	<i>Raising Public Awareness</i>	<i>Policy Develop.</i>	<i>Patient Mgmt</i>	<i>Educational</i>	<i>Tech Support</i>
AFR	66	28	72	27	71	65	40
AMR	94	72	96	54	88	96	41
EMR	87	57	100	55	92	92	58
EUR	98	84	89	62	86	94	57
SEAR	89	50	100	38	75	88	25
WPR	83	71	95	60	59	76	62
Total	85	63	89	50	79	85	44

NGOs = non-governmental, non-profit and charity organizations; Develop. = development; Rep. = representation; Mgmt = management; Tech. = technical

Response rate: 76 - 95%

Availability and Cost of Drugs

This section (Tables 16 - 20) is designed to provide information regarding the cost and availability of essential drugs for the management of major NCDs. Available applies if the drug is routinely dispensed through the PHC system; affordable applies if it is accessible and affordable for low-income groups; and locally manufactured applies if the drug is produced by local manufacturers within the country.

Table 16

This table reports upon the availability, affordability and local manufacture of insulin for the management of diabetes mellitus in PHC by WHO Region.

Table (16)
Percentage of Countries Reporting PHC Availability, Affordability, and Local Manufacture of Insulin, by WHO Region, 2001

	<i>Availability</i>	<i>Affordability</i>	<i>Locally manufactured</i>
AFR	56	57	0
AMR	79	60	14
EMR	79	58	0
EUR	95	94	17
SEAR	43	33	17
WPR	100	84	20
Total	79	65	11

Response rate 72 - 83%

Findings

Insulin is not available in the primary health care system in more than 20% of countries. Respondents reported that it is not affordable in more than one-third of countries. The local manufacture of insulin is reported to occur in 11% of responding countries ranging from 20% in WPR to no local manufacturing in the responding countries of two regions - AFR and EMR.

Table 17

This table reports upon the availability, affordability and local manufacture of oral hypoglycaemic drugs for the management of diabetes mellitus in PHC by WHO Region.

Table (17)
Proportion of Countries Reporting PHC Availability and Affordability of Oral Hypoglycaemic Drugs and their Local Manufacture, by WHO Region, 2001

<i>Region</i>	<i>Availability</i>	<i>Affordability</i>	<i>Locally manufactured</i>
AFR	68	52	3
AMR	83	86	38
EMR	86	82	70
EUR	97	97	50
SEAR	57	100	67
WPR	59	84	25
Total	84	81	33

Response rate: 70 - 80%

Findings

Despite the relatively low cost of generic preparations, there are still countries (about one-fifth of responding countries) in which oral hypoglycaemic agents are not available or affordable. In one region almost 50% of countries reported that these drugs are not affordable. Two-thirds of countries are not manufacturing these essential drugs locally.

Table 18

This table reports upon the availability, affordability and local manufacture of aspirin for the management of cardiovascular disease in PHC by WHO Region. Virtually all regions reported that aspirin was both available and affordable. The local manufacture of aspirin was reported to occur in 51% of responding countries with a range from 71% in SEAR to 30% in WPR.

Table (18)
Reported PHC Availability, Affordability and Local Manufacture of Aspirin, by WHO Region, 2001

<i>Region</i>	<i>Availability</i>	<i>Affordability</i>	<i>Locally manufactured</i>
AFR	94	88	42
AMR	100	95	48
EMR	100	100	67
EUR	97	94	67
SEAR	100	100	71
WPR	95	100	30
Total	97	94	51

Response rate: 72 - 80%

Table 19

This table reports upon the availability, affordability and local manufacture of the basic anti-hypertensive drugs for the management of high blood pressure in PHC by WHO Region.

Findings

Respondents from 12% of countries reported that basic drugs required for the treatment of high blood pressure are not available in primary care. They are not affordable in one-fourth of countries. Affordability ranged from 91% for SEAR nations to less than half (46%) for AFR. Similarly, while only 38% globally reported the local manufacture of anti-hypertensive drugs, this was true in about two-thirds of SEAR nations (67%), but only 7% of AFR nations.

Table (19)
Proportion of Countries Reporting PHC Availability, Affordability and Local Manufacture of Anti-hypertensive Drugs, by WHO Region, 2001

<i>Region</i>	<i>Availability</i>	<i>Affordability</i>	<i>Locally manufactured</i>
AFR	70	46	7
AMR	88	74	48
EMR	92	64	45
EUR	100	91	57
SEAR	71	83	67
WPR	96	89	30
Total	88	75	38

Response rate: 71 - 83%

Table 20

This table reports upon the availability, affordability and local manufacture of anti-neoplastic drugs for the management of cancer by WHO Region. About 60% of responding states reported the availability of anti-neoplastic drugs to treat cancer but with a wide range from about 91% in EUR to just 22% in AFR. Less than half the countries (46%) reported that anti-neoplastic drugs are affordable, with a wide range from most EUR nations (90%), to only a small minority of AFR countries (11%). The local manufacture of anti-neoplastic drugs was reported to occur in 15% of responding countries, on a global scale.

Table (20)
Proportion of Countries Reporting Availability, Affordability and Manufacture
of Anti-neoplastic Drugs, by WHO Region, 2001

<i>Region</i>	<i>Availability</i>	<i>Affordability</i>	<i>Locally manufactured</i>
AFR	22	11	0
AMR	57	30	15
EMR	77	36	44
EUR	91	90	27
SEAR	43	17	14
WPR	74	64	11
Total	60	46	16

Response rate: 65 - 77%

Results from the Analysis of the Qualitative Survey Data

Interview Participants

The participants who responded to the key informant interviews were almost exclusively senior officials in their national Ministry of Health. They came from a number of backgrounds that included health and general administration, and health professionals, particularly physicians, in administrative or advisory positions. Virtually all were involved at the policy level in their Ministries on at least a part-time basis.

NCD Prevention and Control as a Priority

There was almost universal recognition of NCD prevention and control as a significant health priority for national Ministries of Health. The implications of this designation seemed to be that NCD was receiving greater attention by national governments than in the past and that there was a general recognition among senior policy makers that NCDs were a major cause of disease and disability in their countries. However, in most cases a high priority designation did not translate into comprehensive policy development and did not result in more fiscal or human resources being dedicated to the issue.

The recognition of NCDs as health problems that deserve a high priority was accompanied by the view that, in general, the capacity and performance of national health care systems were inadequate to deal with the nature and scope of the NCD problem. In specific terms, comments were received suggesting that:

- in many cases the approach to policy development and management of NCDs was fragmented and uncoordinated;

- management of NCDs was taking place within health systems with grossly inadequate infrastructure to deal with NCDs;
- in many cases health professionals, particularly the medical profession, were not committed to prevention, being more concerned and familiar with treatment issues;
- there was a lack of value and funding for preventive health practices both at the professional and administrative levels; and
- there was a great deficiency in the availability and training of health professionals in general, and in particular with respect to best practice standards for effective treatment of NCDs.

There was a general view that in many instances countries lacked the leadership, both from within and from without the public service, with the capacity and skills necessary for effective advocacy and marketing with regard to the need to take action on NCDs.

Priorities for Technical Assistance from WHO

Three areas emerged as clear priorities for technical assistance to Member States.

1. The provision of expertise and assistance in practical national policy development and implementation for NCD prevention and control

WHO was universally viewed by the informants as the major source of expertise and technical assistance to deal with NCDs at the national level. There was a strong consensus that countries needed assistance from experts and consultants who have had practical experience in dealing with NCD prevention and control. The view expressed was that assistance also needs to be feasible, consistent with the level of development and within the capacity of the fiscal and human resources of the individual Member States.

Within this context, what to do and how to do it emerged as the major issue for policy development and implementation. This issue was usually expressed as the need for a "national policy framework" for NCD prevention and control, or the need to develop a "national policy or plan" for NCDs. This was viewed as a necessary step that would serve as a major vehicle for increasing health system capacity to tackle NCDs. The policy framework is also important for ensuring a higher priority given to NCD prevention in the national health plan. Without such a policy initiative, efforts at advocacy and marketing of the NCD issue to policy makers and the public would likely remain as it is now, being rather ad hoc and unlinked to any national health and/or development policy initiatives. As such it was felt that such efforts would not be effective in increasing resource allocation for NCD prevention and control.

International collaboration and networking in conjunction with initiatives such as the development of pilot projects or demonstration programmes emerged

as potentially very useful and practical components of a national NCD policy development and implementation process.

2. Assistance with the development of more and better quality surveillance systems particularly with regard to acquisition of mortality and risk factor data in support of programme development and monitoring

A key barrier to taking action on NCDs identified by most respondents was the lack of reliable data on which to base health policy and programme decisions. In many cases there was very limited availability of population-based cause-specific mortality data, or data with respect to the major risk factors for NCDs. Information available was often rudimentary at best, usually facility-based and only available as the result of cross-sectional surveys of one type or another carried out some time in the past. The data available most frequently in this form were those related to the prevalence of high blood pressure, diabetes and some cancers. There was little evidence of policy or programme driven systematic collection of health information of any type. Consequently, the infrastructure and capacity for data collection, management and analysis in many of the interviewed countries was judged by respondents to be woefully inadequate.

Despite the lack of availability of the capacity and infrastructure necessary for the development of effective surveillance systems, most respondents recognized the critical need for these systems and were looking to the WHO and others in the international community to assist them with their development. It was emphasized that the development of the surveillance system needs to be tailored to the local situation and stage of development for these efforts to be sustainable, but all agreed that the core components of such a system should include reliable mortality statistics and systematic collection of data on the major risk factors.

3. Assistance with capacity building and the development as well as dissemination of practice guidelines and standards for the work of health professionals and administrators particularly relevant to local conditions and primary care.

Enhancing the quality and access to health care and preventive health services was identified by just about all respondents as key areas in need of development for effective action on NCDs to occur in their country. The key sectors for development in this regard were primary health care and public health. There was a general view from the interviewed countries that the numbers of health care workers in these sectors with adequate and up-to-date skills to deal with NCDs was inadequate. This was judged to be the case particularly in primary care. Clinical and preventive protocols for best practices were virtually non-existent. In those instances where protocols were available they were often modeled after, and with significant content from, highly technologically developed jurisdictions such that their applicability and utility to the local situation in many countries was severely limited.

Many of the interviewees suggested there were efforts being made to integrate NCD prevention and control into primary health care in their countries but these efforts were being compromised by inadequate knowledge and by a lack of the requisite skills and tools.

In addition, the capacity and skills in administration of health systems was likewise judged by many to be inadequate and in need of enhancement if the systems were to function effectively making the best use of resources however limited. In many of the interviewed countries the health administrative skills necessary for effective leadership and decision making with regard to policy and programme development, financial management, and evaluation for NCDs were lacking.

A number of broadly based training issues were identified by the respondents ranging from health system management issues targeted to senior health managers and health authorities, to technical health care issues targeted to health service providers and managers. It was stressed that to be useful and contribute to sustainable health development, training needed to be practical and feasible in local situations, and appropriate to their levels of health and economic development.

SURVEY STRENGTHS AND LIMITATIONS

Strengths

This survey had a number of strengths:

- * The very high response rate for a mailed questionnaire that provides very good external validity to the results and allows for generalisation of the findings to the population of WHO Member States.
- * The extensive and collaborative nature of the questionnaire development process particularly with WHO Regional Offices.
- * The simplicity of the questions themselves gave strength to the results. Most of the questions were straight forward with a yes or no answer. A guide was provided to respondents along with the questionnaire to clarify terms used.
- * The questionnaire respondents were in the main senior officials of Ministries of Health who were generally focal points for NCDs in their respective governments and as such had adequate knowledge of the NCD issues in their jurisdictions.
- * Finally, a major strength was the combination of qualitative and quantitative methods used for data collection. High ranking officials and policy makers in Ministries of Health were interviewed during the qualitative part. This allowed for comprehensiveness in the information collected while at the same time provided insight into the context and nuance of the quantitative data.

Limitations

The survey had a number of limitations that need to be taken into account in the interpretation of the data:

- * Most communication happened through email. No face-to-face contact took place in the quantitative part between the investigators and the respondents from the different Member States.
- * Language problems may not have been completely solved by translation, particularly in relation to the use of certain technical terms that are not universally similar in their interpretation.
- * Regional analyses do not provide the sensitivity of country-specific analysis, and should be considered as rather "crude". There are considerable differences between Member States in each WHO region, which may be completely concealed by regional analysis. This is why the results should generally be taken with caution, avoiding extrapolating or generalising within regions.
- * Only about one-third of responding Member States provided the necessary support documents for the questions on plans, policies, and guidelines which were mentioned as being available. It was therefore difficult to validate some of these responses. In addition, even when they were present, it was not possible to ascertain that such plans or guidelines were actually implemented.
- * The response rates for some questions indicate that there is considerable missing data. Examples are:
 - Question 4.4 (types of cancer registries, i.e. hospital versus community-based)
 - Questions 5.4 and 5.5 (finance of treatment and preventive services)
 - Question 8.1 (numbers of health care professionals, apart from total physicians and nurses)
- * The variable nature/experience of respondents may have affected the quality of data received.
- * No mechanism was used for ascertaining or validating the data received from independent sources. Such a process would have been difficult logistically given the magnitude of the surveyed material, number of responding states, and limited resources available.
- * The choice of participants in the qualitative part of the study does not allow generalizability across regions. It was intended to expand on the results of the quantitative analysis and provide more in-depth information, particularly in relation to needs and priorities.

DISCUSSION AND CONCLUSIONS

NCDs as a Priority

This survey has had an excellent response rate from all WHO Regions particularly for the mailed-out questionnaire. This high response indicates the significant interest on the part of Member States from all regions for the NCD issue.

Although a high percentage of countries report having national health policies in general, less than half have specific policies for NCD or for the major diseases and their risk factor related determinants. Also, only 39% had a specific budget allocated for NCD prevention and control, and only 63% had an NCD Unit. Clearly a lack of specific policies and plans for NCD prevention and control calls into question the commitment and ability of Member States to deal with the NCD burden in their country. Health systems in many developing countries have traditionally focused on the prevention and management of communicable diseases and acute childhood illnesses. The continued absence in the Ministries of Health of a special coordinating unit or department focusing on the surveillance, prevention and health care issues related to NCDs may be viewed as an impediment to effective policy development.

Policy Development for NCDs

The information obtained from the key informant interviews indicates that respondents generally supported the notion that NCD was a high priority but suggested their health systems lacked the knowledge and capacity to take effective action. It was perceived by many that there was a lack of clear strategies and appropriate approaches to health care delivery for NCD in the context of limited resources. This situation is exacerbated in many countries by weak health systems and limited infrastructure, making NCD prevention and control programmes difficult to implement and sustain, particularly at the primary care level.

There was a clear identification from the interviews of the need for expertise and assistance in practical policy development and implementation of policies and programmes for NCDs, with the emphasis on practical assistance given local situations and capacity. There was a general view that the approach to NCDs was largely clinical in nature, with the provision of care often being fragmented and uncoordinated. There was also the view that the medical profession was not generally committed to prevention and that this prevailing attitude was being reinforced by a lack of funding to support preventive health practice.

There was a consistent view that although a logical argument can be made that prevention should be given a priority, the provision of health care services remains a central issue. Where to make the investment of scarce resources and how to establish the right balance between treatment services and prevention

were recognized as difficult issues. There was a general consensus that, resource availability notwithstanding; the provision of health care services is essential.

Surveillance Systems for NCDs

Member States report a surprisingly high rate of cause-specific mortality data being available. This is in contrast to the low number of countries that report monitoring of mortality trends (Table 6). The interview data suggests that in many cases the range of mortality data available is restricted to a limited number of diseases, mostly communicable, and is often confined to deaths occurring in institutions. As such, what is available is more often than not facility-based. The availability of risk factor information is low in all regions. Thus, the core components of a NCD surveillance system are not available in many countries.

The African Region appears to have the least available information with regard to NCDs. This latter point is a recurring finding of the survey and raises the question of the accuracy of the present NCD statistics published for the region. Available data may be under-estimating the true burden of NCD in AFR such that the epidemiological transition could be much further advanced in the region than heretofore realized.

The results of the survey underscore the global lack of availability of surveillance data for NCDs ranging from population-based mortality data to the major NCD risk factors. Only about half of the countries at best have access to these kinds of data. For example, only approximately half of the responding countries report having some data on tobacco consumption and smoking prevalence. This is a major inadequacy considering that tobacco use is the leading cause of preventable death in the world. In addition, half or less had some information on hypertension prevalence or physical activity. Over the past five years risk factor and risk behaviour surveys have been conducted infrequently in all WHO Regions.

Risk factor prevalence is one of the main determinants of the population burden of NCDs. Obtaining reliable data on the major risk factors (smoking, dietary patterns, obesity, and physical inactivity) needs emphasis because it serves as the basis on which to establish national policies, priorities and action plans. From an intervention perspective it is risk factors that need to be targeted. Monitoring risk factor trends is a critical input to programme evaluation.

The survey results suggest that national policy development for NCDs and their concomitant risk factors is an urgent global need. World wide, surveillance is generally inadequate and a major barrier to advocacy and marketing for NCD control, evidence-based policy development, priority setting and programme development, and evaluation. Clearly, better and more reliable data systems would allow for better advocacy and marketing of NCDs as a major global health burden that needs to be addressed.

NCD Resources and Services

The resources available and those being applied to NCD by Member States in the main are not adequate to deal with the existing world wide burden. Only about one-third of countries have a clearly defined budget allocation for NCD prevention and control. About one half have national reference centres available for the major NCDs and only about one half or less have treatment guidelines available for these conditions. Guidelines for prevention were somewhat more common but in general their availability was not adequate either. The data demonstrates that the resources available to countries of the African Region are the least adequate.

This lack of the basic health system infrastructure to deal with NCDs, extending from the lack of policies and surveillance systems, to the scarcity of reference centres of excellence has significant implications for the capacity of health systems to respond to the NCD challenge and for the quality of care that is being provided. The data suggests that countries are making efforts to deal with NCDs in an integrated manner but this effort is inadequate, particularly from the perspective of putting integration into practice. Although the ability to interpret this information is limited because integration was not defined for respondents, efforts at the integration of surveillance, management and home-based care in PHC appear to be quite rudimentary, particularly efforts to link policy, guidelines, and health information systems.

In many cases and in a number of WHO Regions, the prospects for early diagnosis offers the only realistic possibility for successful intervention for NCDs given the complex technology capacity required and high costs associated with the provision of advanced tertiary and palliative care. Although a precise definition of essential equipment was not provided to respondents, the availability of the basic equipment necessary for the diagnosis and management of NCDs appears to be woefully inadequate. These deficiencies pose significant problems for the early diagnosis and management of conditions such as cancer where the outcomes in many cases can be positively influenced if the condition is discovered early on in its development. For some conditions like cervical cancer, screening can prevent the disease in its entirety.

As indicated in Table 1, the large majority of countries have a national list of essential drugs. However, as demonstrated in Tables 16 to 19, the availability and affordability of many of the essential drugs for NCD management is quite variable and inadequate in many WHO Regions. This is particularly noteworthy in the case of insulin (which is after all a life saving drug) and for cancer drugs. In general drugs are least available in the African Region.

Human Resources and Training

There is no precise number or mix of health professionals best suited to the prevention and management of NCDs. Community norms and conditions, the nature of the health system along with resources available often determine the human resources mix and capacity present in any jurisdiction to deal with major health problems.

There are major variations with respect to the numbers and mix of health professionals working in NCD prevention and control among the WHO Regions. The European Region stands out for the sheer number of physicians and nurses available. This may be a reflection of the human resource policies of the past in the countries of Central and Eastern Europe. For the countries of the African, South East Asian and Western Pacific Regions the physician and nurse populations are most likely inadequate to deal with the growing NCD epidemic in those regions.

Generalists and primary health care physicians are by far the largest group of health professionals available for NCD as compared to cardiologists, radiologists and internal medicine specialists. This situation is appropriate for those countries that wish to rely upon the provision of primary health care services as their major strategy for dealing with the management of NCDs. The African and South East Asia Regions are noteworthy for their relatively high mean number of community health workers who likewise could be potentially valuable human resource assets for the prevention and control of NCDs.

Generally, in all WHO Regions the training received by health professionals with respect to the management of NCDs is inadequate. This is particularly the case in some regions where, for example, only about a half or less receive training in the management of hypertension, diabetes and bronchial asthma.

Adequate training of health professionals in the prevention and management of NCDs is an important challenge and a priority for the reduction of premature mortality and the reduction of morbidity. It needs to be linked to the development of national guidelines and standards with the institution of best practices into clinical care in a manner that is relevant to local situations, particularly to PHC in many jurisdictions.

The Role of NGOs

Integrated efforts for the prevention and control of NCDs are critical to the success of many programme activities, particularly for those that are community based. To deal effectively with the broad range of NCD risk factors and their social determinants requires the involvement of many individuals and sectors with an array of expertise and skills. Employing a partnership approach to policy and programme development serves to gain consensus from and the support of other sectors of society that are known to have an impact on the health and lifestyle behaviours of the population. It also provides a vehicle to lever and

co-ordinate resources in support of prevention and control activities. NGOs are an important sector in this context.

The survey results suggest that NGOs appear to be involved in NCD prevention and control activities in many areas in all WHO Regions. The major areas of activity include raising public awareness (89%), prevention activities (85%), educational programmes (85%), and patient management (79%). The survey does not, however, provide information on the effectiveness and extent of NGO's involvement in these areas. Expanding the role of NGOs and professional associations in NCD prevention and control presents an opportunity to WHO and Member States to build partnerships which will augment their activities and help fill a number of the gaps identified in this report. In particular NGOs can play a major role in advocacy efforts and in marketing NCD as an important public health issue. They can play an important role in the education and training of health professionals particularly in raising the value of preventive health practice and the development of evidence-based guidelines for best practices.

IMPLICATIONS FOR ACTION

Despite the limitations that are inherent in the design of a survey of this type, there are several key areas for action that emerge as priorities for technical support to Member States with regard to NCD prevention and control:

- * The finding that a substantial proportion of countries have no policies or plans to combat NCDs is a reflection of the fact that NCD prevention and control is still given low priority. Advocacy and marketing for NCD prevention should therefore be a key area of work for WHO and its national and regional partners. This area of work should also include the mobilization of economic resources from appropriate donor agencies and the private sector to assist developing countries in NCD prevention and control activities.
- * The lack of concrete action on NCDs appears to be at least partly due to a lack of national capacity in policy development. The provision of expertise and assistance in practical policy development, and implementation and evaluation of programmes should receive a higher priority in WHO. The capacity of WHO headquarters and Regional Offices in these areas should be expanded to ensure more effective support to countries. The Global Strategy for NCD Prevention and Control, its background documentation, and the resolution passed by the World Health Assembly in May 2000 should be disseminated widely in Member States.
- * The general lack of effective surveillance systems and the scarcity of reliable data on the major risk factors and cause-specific mortality in many countries represent a major impediment to advocacy and to programme planning and evaluation. Obtaining more and better quality information with regard to mortality and the prevalence of major modifiable risk factors with regard to NCDs is essential for the support of priority setting, policy and programme development, and evaluation. In addition to the work on surveillance initiated by the NMH Cluster, there is a pressing need to support countries in strengthening mortality statistics and in initiating standardized data collection. Collaboration with Regional Office in this area should be an integral part of NMH's work plans for the next biennium.
- * The inadequate availability of essential standards of health care including basic medicines for the control of major NCDs, particularly in primary health care, calls for action to identify the minimally acceptable standards for the diagnosis and treatment of people with the major NCDs and for developing guidelines on how these can be integrated into health systems. WHO should also develop an effective strategy for improving access to essential NCD drugs in low and middle-income countries and should intensify dialogue with the pharmaceutical industry to reduce the cost of essential and life-saving drugs.
- * The lack of adequate information on health care services available for the management of the major NCDs should be addressed. Surveys need to be

conducted in different populations on the available therapies of proven cost-effectiveness, proportion of people requiring such therapies, and those who actually have access to them.

- * The outcome of the survey points to the need for WHO to assist Member States in the development of evidence-based guidelines on prevention and management of the major NCDs which are appropriate to local capacity and resources with special reference to primary care. Work on assessing the cost-effectiveness of the various interventions should be intensified.
- * The major gaps that exist in relation to the availability of expertise in NCD prevention and control at the country level require an intensive response from WHO. Innovative ways of strengthening human resource capacity in this area should be developed and provided. Training courses in technical and managerial aspects of policy formulation, programme development, implementation, and evaluation should be a priority.
- * The need for more investment in research should be addressed. WHO should review current research plans and develop a more focused and targeted research agenda, leading to development of practical and innovative methods for surveillance, prevention and management of NCDs, particularly in low and middle-income countries.

REFERENCES

Dick B. Convergent interviewing: A technique for qualitative data collection. 1998 [On-line]. [Http://www.scu.edu.au/schools/gcm/ar/arp/iview.html](http://www.scu.edu.au/schools/gcm/ar/arp/iview.html)

IOM (Institute of Medicine) Board on International Health. Control of Cardiovascular Diseases in Developing Countries. Washington D.C: National Academy Press 1998

Microsoft Office 2000. Microsoft Excel 2000: Microsoft Corporation, One Microsoft Way, Redmond, WA 98052-6399.

Murray CJL and Lopez AD. The Global Burden of Disease: A Comprehensive Assessment of Mortality and Disability from Diseases, Injuries and Risk Factors in 1990 and Projected to 2020. Boston: Harvard University Press 1996

United Nations: United Nations Population Information Network (POPIN). Population Division, Department of Economic and Social Affairs. United Nations. New York. USA

WHA51.18. A Global Strategy for the Prevention and Control of Noncommunicable Diseases. Resolution of the 51st World Health Assembly. Geneva. May 20 1998.

WHA53.17. Prevention and Control of Noncommunicable Diseases. Report of the Director General. 53rd World Health Assembly. Geneva. May 2000

World Bank: [On-line]. [Http://www.worldbank.org](http://www.worldbank.org). Gross National Income (GNI) per capita. 1999. Atlas method.

World Health Organization. World Health Report 2000: Health Systems: Improving Performance. Geneva: World Health Organization 2000.

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ANNEX 1

LIST OF WHO MEMBER STATES

Afghanistan	Central African Republic
Albania	Chad
Algeria	Chile
Andorra	China
Angola	Colombia
Antigua and Barbuda	Comoros
Argentina	Congo
Armenia	Cook Islands
Australia	Costa Rica
Austria	Cte d'Ivoire
Azerbaijan	Croatia
Bahamas	Cuba
Bahrain	Cyprus
Bangladesh	Czech Republic
Barbados	Democratic People's Republic of Korea
Belarus	Democratic Republic of the Congo
Belgium	Denmark
Belize	Djibouti
Benin	Dominica
Bhutan	Dominican Republic
Bolivia	Ecuador
Bosnia and Herzegovina	Egypt
Botswana	El Salvador
Brazil	Equatorial Guinea
Brunei Darussalam	Eritrea
Bulgaria	Estonia
Burkina Faso	Ethiopia
Burundi	Fiji
Cambodia	Finland
Cameroon	France
Canada	Gabon
Cape Verde	Gambia

Georgia	Madagascar
Germany	Malawi
Ghana	Malaysia
Greece	Maldives
Grenada	Mali
Guatemala	Malta
Guinea	Marshall Islands
Guinea-Bissau	Mauritania
Guyana	Mauritius
Haiti	Mexico
Honduras	Micronesia (Federated States of)
Hungary	Monaco
Iceland	Mongolia
India	Morocco
Indonesia	Mozambique
Iran (Islamic Republic of)	Myanmar
Iraq	Namibia
Ireland	Nauru
Israel	Nepal
Italy	Netherlands
Jamaica	New Zealand
Japan	Nicaragua
Jordan	Niger
Kazakhstan	Nigeria
Kenya	Niue
Kiribati	Norway
Kuwait	Oman
Kyrgyzstan	Pakistan
Lao People's Democratic Republic	Palau
Latvia	Panama
Lebanon	Papua New Guinea
Lesotho	Paraguay
Liberia	Peru
Libyan Arab Jamahiriya	Philippines
Lithuania	Poland
Luxembourg	Portugal

Qatar	Trinidad and Tobago
Republic of Korea	Tunisia
Republic of Moldova	Turkey
Romania	Turkmenistan
Russian Federation	Tuvalu
Rwanda	Uganda
Saint Kitts and Nevis	Ukraine
Saint Lucia	United Arab Emirates
Saint Vincent and the Grenadines	United Kingdom of Great Britain and Northern Ireland
Samoa	United Republic of Tanzania
San Marino	United States of America
Sao Tome and Principe	Uruguay
Saudi Arabia	Uzbekistan
Senegal	Vanuatu
Seychelles	Venezuela
Sierra Leone	Viet Nam
Singapore	Yemen
Slovakia	Yugoslavia
Slovenia	Zambia
Solomon Islands	Zimbabwe
Somalia	
South Africa	
Spain	
Sri Lanka	<i>Associate Members</i>
Sudan	Puerto Rico
Suriname	Tokelau
Swaziland	
Sweden	
Switzerland	
Syrian Arab Republic	
Tajikistan	
Thailand	
The former Yugoslav Republic of Macedonia	
Togo	
Tonga	



ANNEX 2

**PARTICIPANT COUNTRIES FOR KEY
INFORMANT INTERVIEWS**

Algeria
Argentina
Bahrain
Brazil
Cameroon
Chad
Chile
China
Costa Rica
Cote d'Ivoire
Cyprus
Iran
Jamaica
Malaysia
Mauritius
Niger
Oman
Pakistan
Saudi Arabia
Seychelles
Sudan
Tonga
Uganda
Yemen
Zimbabwe

ANNEX 3

**ASSESSMENT OF NATIONAL CAPACITY FOR
NONCOMMUNICABLE DISEASES
PREVENTION & CONTROL**

Country Name:

Respondent:

Email address:

Facsimile No.:

Date:

1. General Information

Demographic data and basic health indicators (including health expenditure) will be obtained from the World Health Report 2000, and other relevant databases.

2. Noncommunicable Disease Prevention & Control (NCDPC) Policies & Plans

- 2.1 a. Does the country have an official public health policy ?
Yes () No ()
b. If yes, please attach a copy, indicating the year of its formulation
- 2.2 a. Does the country have an official policy in the area of NCDs ?
Yes () No ()
b. If yes, please attach a copy, indicating the year of its formulation
- 2.3 a. Does the country have a national NCDPC plan ?
Yes () No ()
If yes, please attach a copy, and indicate:
b. Year of its formulation.
c. Year of its implementation.
- 2.4 a. Does the country have a specific plan for cardiovascular diseases control ?
Yes () No ()

If yes, please attach a copy, and indicate:

b. Year of its formulation.

c. Year of its implementation.

d. Please rank the following in order of priority in the plan (1 = highest, 5 = lowest):

Hypertension () Stroke () Coronary Heart Disease ()
Rheumatic Heart Disease () Other, specify

- 2.5 a. Does the country have a specific plan for tobacco control ?
Yes () No ()

If yes, please attach a copy, and indicate:

b. Year of its formulation.

c. Year of its implementation.

- 2.6 a. Does the country have a specific plan for diabetes control ?
Yes () No ()

If yes, please attach a copy, and indicate:

b. Year of its formulation.

c. Year of its implementation.

- 2.7 a. Does the country have a specific plan for cancer control ?
Yes () No ()

If yes, please attach a copy, and indicate:

b. Year of its formulation.

c. Year of its implementation.

d. On which of the following cancer(s) does the plan focus on?

Lung Cancer

Cervical Cancer

Breast Cancer

Other, specify

- 2.8 a. Does the country have a national list of essential drugs ?
Yes () No ()

If yes, please indicate the year when it was last updated:

3. NCDPC Legislation

- 3.1 a. Does the country have legislation on tobacco control ?
Yes () No ()

b. If yes, please attach a copy, indicating the year of its formulation

- 3.2 Does the country have legislation on food and nutrition ?
Yes () No ()

b. If yes, please attach a copy, indicating the year of its formulation

 4. NCDPC Information & Statistics

- 4.1 a. Are NCDs included in the annual health reporting system?
 Yes () No ()
 b. If yes, please specify the data included:
 Risk factors Cause-specific mortality Morbidity
- 4.2 a. Is there a surveillance system for NCDs ?
 Yes () No ()
 b. If yes, please specify disease(s):
 Hypertension Diabetes Lung Cancer
 Cervical Cancer Breast Cancer Other, specify
- 4.3 Does the country have a population-based system for death certification, by cause ?
 Yes () No ()
- 4.4 Does the country have an established cancer-registry ?
 Yes () No ()
 If yes, is it:
 Population-based Hospital-based
- 4.5 During the past 5 years (1996 - 2000), were representative national / provincial studies / surveys carried out on:
- Tobacco consumption trends Yes () No ()
 - Smoking prevalence Yes () No ()
 - Anthropometric measurements Yes () No ()
 - Dietary surveys Yes () No ()
 - Physical activity Yes () No ()
 - Hypertension prevalence Yes () No ()
 - Diabetes prevalence Yes () No ()
 - Mortality trends for major NCDs Yes () No ()

Kindly attach citations for published articles for studies you mark "yes" for,

5. NCDPC Structure & Finance

- 5.1 a. Is there a unit (or department) for NCDPC in the ministry of health ?
 Yes () No () , If yes:
 b. What is the total no. of staff:
- 5.2 Is there a budget line for NCDPC in the ministry of health's budget document?
 Yes () No ()
- 5.3 Are there national reference centres for (please mark as appropriate) ?
- Diabetes Yes () No ()
 If yes, is it involved in primary prevention services: Yes () No ()
 - Cancer Yes () No ()
 If yes, is it involved in primary prevention services: Yes () No ()
 - Chronic respiratory diseases (inc. bronchial asthma) Yes () No ()
 If yes, is it involved in primary prevention services: Yes () No ()
- 5.4 How are NCD treatment services financed? Please indicate the percentage pertaining to the contribution of each of the following sources next to it:
- | | |
|---------------------------|-------------------|
| Government funds | Private insurance |
| Out-of-pocket payments | Social insurance |
| Any other (specify) | |
- 5.5 How are NCD preventive services financed? Please indicate the percentage pertaining to the contribution of each of the following sources next to it:
- | | |
|---------------------------|-------------------|
| Government funds | Private insurance |
| Out-of-pocket payments | Social insurance |
| Any other (specify) | |

6. NCDPC National Guidelines

Please mark, as appropriate, or leave blank, if not applicable

Prevention Management

- 6.1 Does the country have guidelines for hypertension ? Yes () Yes ()
- 6.2 Does the country have guidelines for diabetes ? Yes () Yes ()
- 6.1 Does the country have guidelines for bronchial asthma? Yes () Yes ()
- 6.3 Does the country have guidelines for common cancers ? Yes () Yes ()
- If yes, please specify type(s) of cancer: Lung Cancer Cervical Cancer
 Breast Cancer Other, specify

 7. *NCDPC Services*

- 7.1 a. Are there NCDPC programmes integrated within the primary health care system ?
 Yes () No () *If yes,*
 b. What is the major component(s) of the programmes ? Please mark, as appropriate:
 Health Promotion & Primary Prevention
 Surveillance Management Home-based Care
- 7.2 a. Have there been efforts to link the different levels of health care delivery structures to facilitate care for chronic patients (integrated care) ?
 Yes () No () *If yes,*
 b. What mechanisms or tools were used to render such links possible ?
 Please mark, as appropriate:
 Policy for integrated care Specific Guidelines / pathways
 Information systems Other, specify
- 7.3 Are essential equipment and facilities available in PHC centres for diagnosis / monitoring of:
 Hypertension Diabetes mellitus
 Chronic respiratory disease Lung cancer
 Cervical cancer Breast Cancer
- 7.4 a. Is there a system for providing community based care (home health care) for advanced NCD victims (e.g. advanced cancer, stroke sequelae, and disabilities) ?
 Yes () No ()

 8. *Human Resources*

- 8.1 How many of the following professionals are there in your country (both in the public and private sectors)?
- All Physicians
 All nurses
 General practitioners & PHC physicians
 Public health professionals
 Community health workers
 Internal Medicine Specialists
 Cardiologists Radiologists
 Oncologists (including radio-therapists)
 Physiotherapists Medical physicists

8.2 Are PHC professionals in your country adequately trained in the following areas ?

Management of Hypertension	Yes ()	No ()
Management of Diabetes mellitus	Yes ()	No ()
Management of Bronchial Asthma	Yes ()	No ()

9. *Non-Governmental Organizations (NGOs)*

9.1 Are NGOs involved in NCD prevention activities in the country?

Yes () No ()

9.2 Are members of NGOs represented on national committees or programmes for NCD control and prevention ?

Yes () No ()

9.3 Which activities are they involved in? (mark all that apply)

Raising public awareness

Policy development

Support for patient management

Education (public, health professionals)

Providing technical support to health authorities

10. *Monitoring & Evaluation*

10.1 If your country does have an NCDPC programme, does it include a monitoring and evaluation component ?

Yes () No ()

10.2. If yes, are the indicators used:

Process indicators

Outcome Indictors

Both

11. Drugs

11.1 Kindly provide relevant information on the following medicines, taking into account:

- a. Marking a drug as "**available**", if routinely dispensed through the PHC system
- b. Marking a drug as "**affordable**", if accessible and affordable for low-income groups (please refer to 11.2)
- c. Providing the **cost of 100 units / tablets** of each of the drugs in your country giving the retail cost (in local currency) of the most commonly used and least expensive formulation or product. Please mention **name of drug**, where appropriate.
- d. Indicating as "**locally manufactured**", if the drug is produced by local manufacturers within the country.

Drug name	Availability	Affordable for Low-income groups	Cost/100 of drug units/tablets	Locally manufactured
Insulin	Yes () No ()	Yes () No ( )	.....	Yes () No ()
Aspirin	Yes () No ()	Yes () No ( )	.....	Yes () No ()
Oral hypoglycemic	Yes () No ()	Yes () No ( )	.....	Yes () No ()
Anti-hypertensive	Yes () No ()	Yes () No ( )	.....	Yes () No ()
Anti-neoplastic	Yes () No ()	Yes () No ( )	.....	Yes () No ()

11.2 What is the lowest monthly salary of a government employee in your country (in local currency)?

Comments

Please attach any useful information you wish to add, concerning the "National Capacity of NCD Prevention and Control" in your respective Member State, which was not covered by the questions above.

ANNEX 4

ASSESSMENT OF NATIONAL CAPACITY FOR NONCOMMUNICABLE DISEASES PREVENTION & CONTROL

OBJECTIVES, TERMS & DEFINITIONS

This study aims at assessment of the current national capacity in health policy, programmes and infrastructure, in order to:

- (1) Identify constraints and needs
- (2) Set priorities for technical support to Member States, and
- (3) Assist planning, implementation and evaluation of NCD prevention and control programmes.

It is essential for the respondent to review the following terms and definitions, before attempting to complete the questionnaire, in order to assure standardization in responding to its questions.

Noncommunicable Diseases (NCDs)

This questionnaire primarily focuses on the four most prominent NCDs, given the highest priority by the WHO Global Strategy for NCD prevention and control, namely: cardiovascular diseases, cancer, diabetes and chronic respiratory diseases.

Section 1: information on demographic data, basic health indicators and health expenditure for each country will be obtained from the World Health Report 2000 and relevant documents, as needed.

Section 2: NCD Prevention and Control (NCDPC)

For the purposes of this questionnaire, NCDPC will include all activities related to primordial, primary, secondary and tertiary prevention of the major NCDs mentioned above. Copies of policies or plans to be attached, could be in local languages. Year of formulation refers to year of enactment, while year of implementation refers to year of commencement (beginning) of implementation of the plan in question.

NCDPC Policy

A national policy for NCD prevention and control refers to a written document endorsed by the country's Ministry of Health (MOH), which includes a set of statements and decisions defining goals, priorities and main directions for attaining the goals. The policy document may also include a strategy containing the main lines of action adopted to give effect to the policy.

NCDPC Plan

A plan of action is a scheme, prepared according to the policy and strategic directions, defining activities to generate the products/targets set to achieve the desired goals.

The plan should identify who does what (types of activities and people responsible for implementation), when (time frame), how and for how much (resources). It should ideally have an inherent mechanism for monitoring and evaluation.

The same definition applies to questions on plans for: cardiovascular disease control, tobacco control, diabetes control, and cancer control.

NCD-specific Control Plans

Some Member States use an integrated approach to NCD prevention and control activities, and may thus not have separate plans for priority conditions, as CVDs, diabetes or cancer. If this is the case with your country, please indicate so in your report (or on the questionnaire itself).

Section 3: NCDPC Legislation*Tobacco Legislation*

Tobacco legislation deals with legal provisions for tobacco control, including information on health hazards from different tobacco products, passive smoking, protection of children, and different laws for tobacco prevention, cessation, taxation, distribution of tax revenues, and the like.

Food and Nutrition Legislation

Food and nutrition legislation deals with legal provisions for food and nutrition, including manufacture, labelling, quality assurance standards, food protection regulations, etc.

Section 4: NCDPC information and statistics*Annual Health Reporting System*

This includes the annual health reports of the MOH, containing data on national capacity, human resources, morbidity and mortality. Morbidity information may include incidence or prevalence data from disease registries; hospital admissions or discharge data.

NCD Surveillance

Refers to continuous analysis, interpretation and feed-back of systematically-collected data on NCDs and their determinants, in order to provide guidance for policy, and for monitoring progress of interventions.

Population-based system for death certification

Refers to a nationwide comprehensive certification of deaths by cause, including deaths occurring outside hospitals.

Section 5: NCDPC structure and finance*National Reference Centres*

Refers to specialised tertiary care centres, which provide leadership in clinical management, training and research for common NCDs (e.g. diabetes, cancer and chronic respiratory diseases including bronchial asthma).

Treatment Services

Refers to all treatment or management services or modalities, dealing with an already-existing NCD condition, aiming to cure, control the condition, prevent complications, improve outcomes and quality of life of patients.

Preventive Services

Refers to all health promotion and primary prevention activities.

Private Insurance

Refers to a system where the health care consumer voluntarily pays a premium (fixed amount of payment) to a private insurance company. In return, the latter covers part or all of the consumer's usage of health services, if needed.

Out-of-pocket Payments

Refers to payments directly made by the consumer (his/her family) for receiving a health service.

Social Insurance (including employment-related)

Refers to a system where all persons pay a fixed percentage of their income to a public (governmentally) - administered health insurance fund. In return, the government is responsible to pay for part or all of consumers' usage of health services, if needed.

Section 6: National guidelines

Refers to existing nationally-approved guidelines for prevention, diagnosis and/or treatment of the NCDs included in this section of the questionnaire.

Section 7: NCDPC Services*Primary Health Care*

Refers to the provision of basic preventive, curative and rehabilitative health care at the first point of entry into the health system. For several NCDs, it usually reflects provision of basic health care and follow up for non-complicated cases, leaving the more complicated or terminal for management at higher levels of health care system.

Community-based Care

Any type of health care provided for NCD patients, outside the health care system, by trained health / social workers, based in the community (usually at school, work or home).

Essential Equipment

This includes the basic minimum equipment necessary for diagnosis and monitoring of the indicated NCDs under PHC settings. Examples for diabetes include: sphygmomanometer, tuning fork, ophthalmoscope, urine strips for sugar, proteins, and ketones.

Section 8: Human resources*All physicians:*

Refers to the total work-force of physicians, including general practitioners, various specialities at different levels of health care system.

All nurses:

Refers to the total work-force of nurses, including general and specialized nurses (e.g. critical care nurses, respiratory therapy nurses, diabetes nurses, community nurses, etc.) at different levels of health care system.

Section 9: Non-governmental organizations (NGOs)

Non-governmental organizations include voluntary organizations, charitable groups, and professional associations that are involved in various NCD-related activities, including (but not restricted to) advocacy, health promotion, health education, health care, supporting treatment for the needy, social and home care, etc.

Section 10: Monitoring & Evaluation

Process indicators include those indicators used for monitoring the activities outlined in the action plan during its implementation phase. Examples include: formulating detailed plans of NCD prevention and control activities; implementing training programmes for NCD diagnosis and management; fulfilling screening programmes (e.g. for hypertension and diabetes); conducting health education programmes, etc.

Outcome indicators refer more to such indicators used to assess the achievement of objectives/targets set at the planning phase. Examples include: decreased mortality then morbidity attributed to targeted NCDs in the community.

Section 11: Drugs:

Please follow instructions included under this section.

ANNEX 5

INTERVIEW QUESTIONS REGARDING NCDs
FOR KEY INFORMANTS

Date:

Member State:

Key Informant:

- 1: How would you rank NCD prevention and control as a priority for action given the present health status of the your country's population and the capacity of your health system.

low

medium

high

Interviewer comments:

- 2: What do you think are the major constraints or barriers (top 3) to the development and implementation of policies and programmes for NCD prevention and control in your country. (rank order all the apply)
- a) Fiscal Resources
 - b) Human Resources
 - c) Information Systems
 - d) Health Care Infrastructure
 - e) Essential Drugs & Equipment
 - e) Knowledge/Skills/Tools
 - f) Other -

Interviewer comments:

- 3: What do you think should be the major priority areas for WHO technical support for NCD prevention and control for your country. (rank order all that apply)
- a) Human resource training
 - b) Establishing demonstration programmes
 - c) Health policy development for NCD

- d) Assistance with NCD surveillance
- e) Assistance with risk factor monitoring
- f) International collaboration & networking
- g) Other -

Interviewer comments:

- 4: In the survey conducted earlier this year by WHO HQ entitled "assessment of national capacity for non-communicable diseases prevention & control", your country indicated that it had an official policy or plan in the area of NCDs. In a few words would you describe the nature and extent of this policy.

Interviewer comments:

- 5: In the survey mentioned above your country indicated there was legislation in place regarding tobacco control and food & nutrition. In a few words could you describe nature and extent of this legislation.

Tobacco:

Food & Nutrition:

Interviewer comments:

- 6: In the survey mentioned above your country indicated that there was a surveillance system for NCDs. In a few words could you indicate the nature and extent of this system.

Interviewer comments:

- Population based -
- Institutional based -

- 7: In the survey mentioned above your country indicated that there was a surveillance system that included surveillance for some of the NCD risk factors namely hypertension and diabetes. In a few words please indicate the nature and extent of these systems.

Interviewer comments:

Hypertension: (population or institutionally based)

Diabetes: (population or institutionally based)

- 8: In the survey mentioned above your country indicated that there were NCDPC programmes integrated with the primary health care system. In a few words could you describe the nature of these programmes and what does the term "integrated" mean in this context.

Interviewer comments:

