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THE PUBLIC HEALTH RESPONSE TO CHRONIC DISEASES

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The 120th Session of the Executive Committee recognized the predominance of chronic noncommunicable diseases (NCDs) as the leading cause of morbidity and mortality in Latin America and the Caribbean. Priority areas identified were prevention and control of cardiovascular diseases, cancer, diabetes, and injuries, as well as related risk factors. The Pan American Health Organization (PAHO) developed the CARMEN initiative (*Conjunto de Acciones para la Reducción Multifactorial de las Enfermedades No Transmisibles*—Actions for the Multifactoral Reduction of Noncommunicable Diseases), which has been adopted by several Member States. This is also part of the Global Strategy for the Prevention and Control of Noncommunicable Diseases approved by the Fifty-third World Health Assembly in March 2000.

The economic burden of NCDs is of increasing concern among Member States, given the high costs to society, families, and individuals. Efficient interventions must consider the social context and the needs of different population groups. The current acute health care model has not proven effective, since persons with chronic diseases and risk factors require continuity of care and behavioral change. It is a matter not only of finding solutions to address determinants, but also of integrating both individual and population-based approaches into comprehensive programs. Strategies must bridge across three different approaches: policy building, community-based activities, and individual health care needs, by incorporating health promotion, prevention and control.

Proposed strategies include surveillance of risk factors and NCDs, organization of primary care services, incorporation of technology, community-based actions, and advocacy for policy change. The Subcommittee on Planning and Programming is asked to propose ways in which PAHO can support and strengthen a unified and integrated strategy for the prevention and control of NCDs and the promotion of healthy lifestyles, through the CARMEN initiative. The Subcommittee is further requested to examine the challenges that Member States face in confronting the heavy burden of chronic diseases.

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1. Introduction

There is a pressing need for public health to respond to NCDs, given the burden on developing countries and among the poor. Traditionally, two contrasting approaches have been discussed, one that is based mostly on health promotion addressing determinants of risk factors and disease, and the other based on clinical cost-effective interventions. A public health approach must bridge across these two and integrate prevention and control of NCDs in comprehensive programs.

The evidence base for a public health approach that gave way to the strategies adopted in the CARMEN initiative are discussed herein. Single risk factors may predict individual ill-health; however, the societal burden of NCDs results from high prevalence of multiple risk factors and disease. Therefore, it is now imperative to take other perspectives and learn from the best practices and evidence that have demonstrated that an integrated multi-level approach can be cost-effective and sustainable for developing countries.

2. The Social and Economic Burden of Chronic Diseases

There is wide recognition that chronic NCDs are the leading cause of mortality and disability in the vast majority of countries of the Americas. For those under the age of 70, NCDs account for 44.1% of deaths among males and 44.7% among females; injuries are responsible for 23.3% and 30.1% of deaths of males and females, respectively. The work force of most countries is affected by illnesses and risk factors that are highly preventable. Studies show that the incidence of hypertension ranges from 14% to 40% among those 35 to 64, and 9% to 18% of persons in the same age group suffer from diabetes.

Cardiovascular diseases are now the leading cause of premature mortality among women. Although more data of good quality are necessary, population-based surveys in several countries of the Region indicate that women have higher rates of obesity, physical inactivity, and elevated cholesterol than men. These risk factors are directly related to education and income levels. In urban areas of Bolivia, a country with a similar prevalence of diabetes as the United States (approximately 9%), rates of obesity and diabetes are higher among the least educated. In several countries, poor households consistently report lower consumption of fruits and vegetables.

The importance of risk factors for NCDs is growing, especially among youth. Comparable data are scarce, but the Global Youth Tobacco Survey sponsored by the World Health Organization (WHO) showed that smoking rates for 13- to 15-year-olds are around 7% in Costa Rica and 10% in Barbados. In Canada and the United States, obesity

has increased among children, a trend that is yet to be studied in the rest of the Region. Furthermore, it has been demonstrated that children of parents who smoke are three times more likely to become smokers than children of non-smokers. Eating habits and levels of physical activity are learned in the family.

The economic burden of chronic NCDs can be analyzed on two levels. First, the effects of macroeconomic policies on opportunities for prevention in different population groups, in particular the poor, are expressed in the relationship between disease and socioeconomic risk factors. There are high costs to society, families, and individuals when social and human capital are affected by long periods of disability, premature mortality, and expensive diagnosis and care. In a study in Jamaica, it was determined that 57% of persons with cancer and diabetes were medically indigent and 50% had to forego treatment due to inability to pay. Conversely, policies associated with prevention and control programs, such as taxation, food labeling, and access to drugs, have economic effects.

Second, the cost and overall efficiency of interventions must be evaluated in terms of effectiveness and health gains for the population at large. The information available has often focused on individual change, but when an intervention is implemented, it is modified by the social context. For example, screening for cervical cancer with Papanicolaou smears has been regarded as a successful program in industrialized countries, but a recent assessment in a rural area of Peru found that only 23% of women who screened positive received follow-up diagnosis and treatment. This situation leads to further screening and escalates costs by delaying treatment until the disease is in an advanced stage.

Incidence of disease and risk factors, as well as implementation of interventions, are affected by the societal context, which refers to the physical, social, and cultural environment (e.g., urban layout, safety factors, social support, social networks, cultural beliefs, language, gender roles, family composition, education, and income). The State and social groups play crucial roles in shaping the social context. Behavioral and social sciences have contributed to a better understanding of how these factors can influence health. It is clear that it is much more difficult for low-income individuals to change their behavior, and that ambient conditions can be as important as the effectiveness of interventions. For those living in a poor, unsafe neighborhood and working long hours, it can be very difficult to increase physical activity. Neighborhoods and communities in the same country or city can have varying availability of food, access to health services, and opportunities to benefit from health promotion initiatives. This can be demonstrated by the trend of decreasing cardiovascular disease in several countries of the Region, which has been more prevalent among persons of middle and upper socioeconomic status. In Chile, mortality from stroke is 2.5 times higher among men, and 3.5 times higher among women, of low educational attainment than those who have completed high school.

Along the same lines, the incidence of advanced cervical cancer in Ecuador is higher among women of low socioeconomic status, 50% of whom are diagnosed when the disease is no longer curable. Only 10% of women of high socioeconomic status are diagnosed at that stage. Technological advances are made available in developing countries, but if the social context is not conducive, few persons benefit from them.

The current acute health care model used in many countries has not proven effective in dealing with prevention and control of chronic conditions. Prevention and control of NCDs require long-term, non-pharmacological interventions as well as drug therapy, and many persons can improve their conditions through diet and exercise alone. This calls for continuous contact with primary health care services, as well as family and community support. To achieve an optimal outcome, emphasis must be placed on demand, enabling patients to make informed decisions and providing the bases for self-management. Guidelines and training of health professionals are not sufficient; organizational change and continuous quality improvement are necessary.

Comorbidity is an important problem overlooked in specific health care approaches. Most NCDs share some of the same strategies for prevention and management, such as adherence to treatment and the need for behavioral change. This calls for programs that address more than one disease. For example, in the United States, approximately 60% of those aged 65 and over have two or more chronic conditions, and 25% have four or more conditions. In Latin America and the Caribbean, among those with diabetes, nearly 30% also suffer from hypertension.

Given the complexity that the burden of chronic NCDs imposes in developing countries, the problem cannot be analyzed only in epidemiological terms. It requires a comprehensive systems perspective that examines the multilevel processes, starting with determinants of risk factors and continuing through the management of disease. One-dimensional solutions, dealing with risk factors or diseases independently, have too narrow a scope. This specific approach can be a useful tool to evaluate associations and some interventions. But macro-level determinants of health and the community context provide the basis for understanding the broad construct of disease and health. Powerful, effective interventions must be integrated into a comprehensive approach.

3. The Evolving Framework for Action

It has become clear that prevention efforts need to extend beyond the individual to the environment that affects behavior. Several community-based trials were initiated in the 1970s and 1980s with varying results. Some showed no effects resulting from interventions, but others demonstrated changes in the prevalence of risk factors and consequently a reduction in incidence of mortality from disease. In view of the conflicting

evidence, some have argued that public health interventions should focus on broad policies that have the potential for promoting health at a macro level. Others have favored a focus on prevention interventions that treat the individual, which through a large body of research have proven effective. This type of intervention can be very effective for some, especially those at high risk, but lacks the potential to achieve broad coverage. (Examples include counseling for dietary changes, and screening and treatment of hypertension and high cholesterolemia.) In contrast, broad, population-based approaches can reach a large number of persons but have had lower levels of effectiveness.

Recent studies have attempted to determine what is required to achieve successful changes that are both effective and reach all sectors of the population. In general, it has been found that actions at multiple levels are needed. Isolated interventions may render acceptable results but typically contribute very little to overall improvement in health. Sets of concurrent actions with common objectives are more likely to lead to change than are single interventions. This is directly linked to the concept of preventive dose, which emphasizes that interventions should attain a level of quantity and intensity and be sustained over an appropriate period of time to demonstrate effectiveness.

In summary, there are three synergistic levels of action: (a) policies, and regulation by institutions that implement those policies; (b) community-based activities that promote the participation of the population; and (c) health service-centered interventions for individuals. These levels are interrelated but occur in different scenarios with different stakeholders. The community, the neighborhood, the workplace, and such local institutions as churches and other social groups—provide the channels through which the three levels of action can be integrated. Approaches that bridge levels are generally more successful and efficient. This framework can be applied to the prevention of risk factors as well as to the prevention and control of diseases.

3.1 *Policy Building*

In industrialized countries, several policies, laws, and regulations have been adopted and have been successful in preventing disease and injury, such as tobacco taxation and use of seat belts and helmets. The challenge, however, is in the process in which the policy is developed and implemented. Comparative analyses have demonstrated that these processes differ from country to country. In some, government action may require the support of the technical and scientific establishments, which are strong opinion makers, whereas in others, particularly in countries with a federal system of government, the commitment of states, municipalities, and civil society is a prerequisite. In developing countries, international standards can exert influence with local policymakers. Three examples of processes can serve as illustrations.

3.1.1 *Information-driven Policy*

Injury and violence are the leading causes of death in young men in many countries, especially where there have been armed conflicts and where economic recovery has been slow. Traditionally, governments have dealt with this problem through judiciary and punitive actions, spending more on police and arms, thus creating a vicious circle. A public health approach to this problem is based on shifting the focus from control to prevention of violence. How can this be achieved? First, it is important to generate information about who is injured, by whom, where, and when, through epidemiologic surveillance systems. Second, information from these systems is used to propose actions, usually by forming coalitions with other stakeholders, which can engender policy changes such as drinking curfews, restrictions on gun ownership, and creation of employment and educational opportunities. Third, actions need to be evaluated so that those that work can be replicated. Thus, the contribution of public health in the formulation of policies that prevent violence lies in increasing the capacity to generate and disseminate information to partners so that appropriate action can be taken. Along these lines, a project is under way in San Pedro Sula, Honduras, which established a surveillance system in the main hospital of the city. Information from the hospital was shared with the municipality, which used it to develop a project proposal.

3.1.2 *Advocacy from Grassroots Organizations*

A community-based project was implemented in Valparaiso, Chile, where the local health service conducted a baseline survey of risk factors for NCDs which showed a high prevalence of obesity and physical inactivity. A municipal physical activity program was created, in collaboration with a local university and other institutions, encouraging people to walk and use stairs. In addition, at least one low-fat meal was included in cafeteria menus, particularly those that catered lunch for office workers. Women's groups put together menus using products available locally. It is still too soon to evaluate the project, but this is an example of broad community involvement in building local policy and action to educate the population and increase the demand for a supportive environment.

3.1.3 *Regulatory Role of the Government*

Palliative care and pain control are key services for terminally ill patients with chronic diseases. However, these services are often available only in hospitals and, according to the International Narcotics Control Board, most countries in Latin America do not have the necessary supply of opioids. Regulators do not request sufficient amounts because there are not enough palliative care programs to supervise administration of these drugs. In addition, legislation in many countries hampers efforts because only a limited supply of drugs can be prescribed at a time, and patients and their families must return,

sometimes as often as every three days, to fill prescriptions. PAHO and the Pain and Policy Collaborating Center of the University of Wisconsin worked with a number of Andean countries, bringing together health professionals responsible for cancer control programs and drug regulators, to discuss ways in which more palliative care programs could be established and opioid availability increased.

3.2 *Coalitions for Community-based Action*

The decentralization of health services has focused primarily on the provision of care, promoting efforts to transfer decision-making to the local level. However, in many instances, public health interventions remain highly centralized in national, state, or provincial ministries of health, either because public health has not been part of reform efforts or because capacity has not been developed at the local level. Local governments are increasingly addressing health issues that go beyond traditional basic sanitation activities. Thus, it is imperative that public health services provide technical support. Otherwise, there is a risk of spending resources on isolated activities, which have been demonstrated to be ineffective.

The CARMEN initiative, a network of community-based programs, calls for building coalitions with other governmental and nongovernmental institutions, as well with civil society and the private sector, to address NCDs. These coalitions have common objectives and draw on each other's strengths. In this way, resources that were previously used in small isolated projects are put to work for a common purpose. Although this strategy is not exclusive to NCDs and injuries, it is an area that is essential. Persons with risk factors or who may acquire risk factors need behavioral change and program development involving the incorporation of health promotion strategies. In order to build partnerships, local public health professionals must develop good negotiation skills.

International alliances can have a ripple effect and reach the community level. PAHO, the International Diabetes Federation, and the private sector (pharmaceutical companies that produce insulin) worked together to create the Declaration of the Americas on Diabetes (DOTA). Through this effort, pharmaceutical companies provide annual funding, and a joint committee awards grants to local coalitions for diabetes education efforts. Several programs have been developed in Argentina, Bolivia, El Salvador, and other countries. The alliance involves constituencies that ministries of health may not be able to reach easily. PAHO is currently working on similar projects with the Inter-American Heart Foundation and the International Union against Cancer.

Two examples of programs in the Region that have been successful in building coalitions are Agita São Paulo, in Brazil, which promotes physical activity, and the Nova Scotia Heart Health Program in Canada. Both programs have involved a number of partners and are currently expanding their activities.

Women's groups can be effective within communities to promote behavioral change, because women make decisions regarding food and nutrition, as well as other family activities. In North Karelia, Finland, one project enjoyed considerable success because of the participation of Martas, a women's organization that taught its members healthful cooking techniques, engaged in the development of products with low-fat content, and supported community activities.

A key feature of the CARMEN initiative is the evaluation of community activities, including both impact and process evaluation, which is particularly useful in scaling up to the national level. Models that have been formulated to assess multiple risk factors and evaluate overall community action contain the following components: (a) access to the population, particularly to disadvantage groups; (b) acceptance by, and participation of, the population; (c) effectiveness, which refers to implementation under existing conditions in the community; (d) assessment of costs; and (e) sustainability, that is, the adoption of strategies by existing organizations. Epidemiologic surveillance is the cornerstone of evaluation, because it provides the baseline data to develop and implement strategies, to identify clusters of risk factors in different population groups, and to monitor changes over time.

Capacity for epidemiologic surveillance should be increased in countries, as an important initial step in working toward comprehensive evaluations. One recent review showed that only 52% of risk factor surveys in Latin America and the Caribbean required that basic criteria for data be useful and reliable for surveillance purposes. In addition, efforts have been made to promote mortality analyses, and these should continue.

In order to increase knowledge of the situation of chronic NCDs—their risk factors as well as determinants—it is important that community-based projects join with academic institutions in order to assist ministries of health. Several CARMEN programs have begun to do so, and this trend must be encouraged and facilitated by PAHO.

3.3 *Responsive Health Services*

Community organization brings benefits through the prevention of risk factors and the promotion of behavioral change. It can also be a powerful tool for the treatment of chronic conditions and the reorientation of health services to address them. The acute care model is not effective for the continuity of care required for chronic diseases. It is necessary to revisit primary health care and promote organizational change that allows the integration of proactive teams with more participation of non-medical personnel. At the same time, patients need to be more informed regarding their diseases and treatment options, to improve adherence to treatment and receive support from their families and the community.

New technologies are becoming available for treatment and secondary prevention. The evaluation of these technologies has taken place primarily in industrialized countries. Evaluations of their implementation under "real life" conditions in middle- and low-income countries should now be carried out. This is closely related to the availability of drugs and therapeutic and diagnostic technology. PAHO has initiated trials for cervical cancer screening and management of hypertension and diabetes, using a quality improvement model that incorporates user satisfaction appraisal, as well as data on effectiveness, which in turn provides feedback to health care providers.

Another important factor is the financing of these services. Recommended practices may not be covered by health insurance, and patients may have to bear a large portion of the cost of diagnosis, treatment, and even prevention. Financing assistance and a supportive infrastructure must be present to assure sustainability and coverage of interventions that have proven effective.

Demonstration projects are an effective method of making policymakers aware of the need for certain services. For example, a random trial that evaluated cost-effectiveness of diabetes education and self-management in Chile led to funding by the social security system of self-glucose monitoring, which was found to be essential for diabetes control.

4. Action in the Context of Globalization

Globalization brings about changes in trade, information, and access to different goods and services, which in many instances can benefit developing countries. It also provides an avenue, however, to distribute products and share information on practices that negatively affect lifestyles and increase the risk of NCDs. And when accessibility is limited by economic and cultural constraints, it may also widen the technological divide, which is particularly important for health care. An example of this is the increasing complexity of drug manufacturing and the patents held by the developers of new drugs, which can impose restrictions in distribution and pricing.

In this context, transnational problems require transnational solutions, as well as the use of existing international mechanisms, such as subregional institutions and treaties. In addition to drug and technology supply, such policies as tobacco taxation, food labeling, and access to fruits and vegetables by overcoming trade barriers can be implemented at this level. The identification of international public health goods, that is, that cannot be executed by a government alone warrants further attention. Advocacy for health measures in international trade agreements; and the use of common norms and

standards, such as the revision of the International Health Regulations to include "public health risks", clearly opens new possibilities for prevention of NCDs.

PAHO is participating in the Global Forum for the Prevention and Control of Noncommunicable Diseases, which comprises six regional networks (CARMEN representing the Americas). The networks have common goals and objectives which are adapted to local conditions and environments. Major nongovernmental organizations (NGOs) that address NCDs are also participants. WHO Headquarters coordinates the Forum in close collaboration with Regional Offices. This arrangement facilitates global action, interregional collaboration, and full participation of Member States, as well as much-needed exchange of information and effective intervention models and tools.

In conclusion, a public health response to the prevention and control of chronic NCDs requires that:

- The problem is addressed from a broad but cohesive system perspective, based on epidemiologic evidence, and at the same time takes into account the social context and international environment;

- Actions, whether to promote policy changes, or to develop community-based programs or individual health service interventions, are evaluated in order to ascertain their effectiveness;

- Financing and a supportive infrastructure are present to assure sustainability and coverage; and

- The needs and perspectives of the population served are considered, so that they can be active participants in prevention and control programs.

5. The Response of the Pan American Health Organization

Document CE120/18, approved by the 120th Session of the Executive Committee, identified four priority areas for NCD prevention and control: cardiovascular diseases, diabetes, cancer, and injury. The regional program was structured to address cross-cutting issues in a comprehensive manner, since the risk factors and management have common approaches. It was also necessary, given resource constraints, to define and maintain the focus for action on potentially effective interventions. Because cardiovascular diseases are the leading cause of death in most countries of the Region, in September 2000, the Directing Council endorsed an integrated approach and recommended the strategies described below, as well as the implementation of the CARMEN initiative.

The Fifty-third World Health Assembly acknowledged the burden of NCDs in developing countries and approved a strategy that incorporates surveillance, prevention, and management. Most recently, at its 109th Session in January 2002, the WHO Executive Board adopted resolution EB109.R2 proposed by the Government of Brazil, which calls for addressing risk factors and prevention via an integrated approach and reporting on progress made by regional networks, such as CARMEN.

It should be noted that Member States are increasing their requests for technical cooperation and for incorporation of their views on NCDs in the public health agenda.

6. Regional Strategies

6.1 *Community-based Actions*

The CARMEN initiative contains a set of actions to reduce NCDs, including the establishment of a national intersectoral committee to conduct situation and policy analysis and the development of demonstration sites in which community-based and individual prevention strategies can be evaluated. The national committee oversees the demonstration sites and disseminates information on actions that have proven effective. Multi-level actions involving various partners are strongly recommended, both in the development phase and during implementation. This initiative focuses on prevention of both disease and common risk factors.

6.2 *Surveillance of Noncommunicable Diseases and Risk Factors*

The purpose of this strategy is to develop common standards and to build capacity in countries to incorporate surveillance in public health systems. In this way, countries can determine the distribution and trends of diseases and risk factors, and use this information for program development and policy formulation. Systems do not need to be national in scope, but rather should seek ways in which information can be collected in a cost-effective manner.

6.3 *Incorporation of Technology and Organization of Primary Care Services*

This strategy refers to supporting field tests and evaluation of the implementation of programs under "real life" conditions at the first level of care. Emphasis is placed on new approaches or adaptation of proven strategies. It considers the diversity of settings and the need to reach underserved populations. Currently, priority areas include the use of different technologies for cervical cancer screening, implementation of evidence-based guidelines for hypertension, and diabetes control. Expected outcomes are user satisfaction, improved quality of care, and reduction in incidence and complications from disease. For countries that are at a more advanced stage, the strategy focuses on taking programs to scale, based on the evaluation of successful local experiences.

6.4 *Advocacy for Policy Change*

This area is intrinsically linked to the situation analysis, as information is used for advocacy. Additionally, experiences and analyses stemming from the three strategies described above are incorporated. One key aspect is to promote international alliances with multiple organizations, public and private, to have a mirror effect at the country level and to build international consensus around major policies. Currently, PAHO is participating in four such alliances, each one representing a different model: (a) the Inter-American Coalition for the Prevention of Violence, with the Inter-American Development Bank, the World Bank, the United Nations Educational, Scientific and Cultural Organization, and the United States Centers for Disease Control and Prevention; (b) DOTA, with the International Diabetes Federation and the private sector; (c) the Alliance for Cervical Cancer Prevention, with the International Agency for Research on Cancer, the Program for Appropriate Technology in Health, Engender Health, and the Johns Hopkins Program for International Education in Gynecology and Obstetrics; and (d) the Pan American Hypertension Initiative (PAHI) in collaboration with the National Heart, Lung, and Blood Institute (the National Institutes of Health of the United States), the World Hypertension League, the Interamerican Heart Foundation, and other partners that continue to endorse this initiative.

7. Next Steps

7.1 *Internal Environment*

In order for PAHO to implement a unified, strategic approach, framed in a public health perspective, two spheres must come into play within the organization: regional activities and field offices.

7.1.1 *Regional Programs*

The PAHO Program on Noncommunicable Diseases in the Division of Disease Prevention and Control has the responsibility of coordinating the incorporation of NCD prevention and control in the public health agenda of Member States through a unified, strategic approach. This requires effective internal coordination, since other PAHO programs also have direct responsibility for major risk factors and organizational aspects in which strategies must operate. Levels of coordination differ, depending on the relevance to the overall strategy. With programs that have overlapping areas of responsibility, joint programming and supervision is proposed; a second level covering complementary programs would carry out joint activities; and a third level would facilitate exchange of information.

Since this is not an area that is high on the agenda for international development assistance, the regional program also has a resource mobilization component, which includes advocacy with donors and potential private partners. In this context, a strong partnership with WHO and international NGOs is warranted. Partnership with the private sector must be further explored, within the regulations of the Organization.

7.1.2 *Field Offices*

In the field, new staff positions were created in Chile and Costa Rica, and in the Caribbean Epidemiology Center. Posts in Brazil, Colombia, Jamaica, and Mexico, and in Caribbean Program Coordination incorporate activities pertaining to NCD prevention and control. National professional posts were created in Ecuador and Peru using extrabudgetary resources. Coordination and joint activities are under way with the Institute of Nutrition of Central America and Panama and the Caribbean Food and Nutrition Institute. Both institutes have given NCDs higher priority and have adopted the program strategies. Important gains have occurred by strengthening field activities, but there are still unmet needs, particularly in countries in which the burden of NCDs is very heavy.

Technical cooperation is at the root of efforts to develop a public health response to NCDs, for two main reasons. First, this has not been a particularly strong area in ministries of health and, in many instances, investment in developing a prevention infrastructure has not occurred. If this is the case, leadership is likely to come from the clinical sector, which proffers technological and individual solutions rather than a public health perspective. Second, disease prevention and control strategies require multisectoral actions that call for building alliances with different entities, such as NGOs and the private sector. PAHO can facilitate this, while at the same time reinforcing the leadership and stewardship function of ministries of health.

7.2 ***External Environment***

In order to assist Member States in implementing strategies, three areas must be given priority: access to knowledge, networking among countries, and incorporating the perspective of Member States.

The economic and social burden of chronic diseases thwarts development, as it affects the productivity of work forces and increases management costs. Prevention of NCDs is complex, because it requires a transdisciplinary approach and because it occurs at various levels: political, intergovernmental, and grassroots. Countries need to be empowered to be aware of current information and to share experiences. PAHO is in a privileged position to facilitate these efforts and to incorporate the views of Member

States into public health agendas. The Organization can also mobilize resources by engaging other international organizations in the prevention and control of chronic NCDs.

8. Actions Requested of the Subcommittee on Planning and Programming

- Propose ways in which PAHO strategies for prevention and control of NCDs can be strengthened through the CARMEN initiative, in order to provide an integrated and unified approach, which includes both NCDs and risk factors.
- Discuss ways to address the challenges that the increasing importance of chronic NCDs present to Member States.
- Propose that PAHO advocate and provide technical cooperation to increase the demand and infrastructure for prevention and control of NCDs and its risk factors.

References that support the statements in this paper are available upon request from the PAHO Program on Noncommunicable Diseases, Division of Disease Prevention and Control.