



CARMEN

Biannual Meeting of the CARMEN Network

(Santiago, Chile, 19–21 October 2005)



Government
of Canada

Gouvernement
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Meeting Summary

Chronic noncommunicable diseases (CNCDs) are the leading cause of death in the world. In 2002, 29 million deaths were attributable to chronic disease¹; estimates for 2005 indicate that chronic disease will account for 35 million of the 58 million deaths worldwide². Chronic noncommunicable diseases include cardiovascular disease (30% of projected total worldwide deaths in 2005), cancer (13%), chronic respiratory diseases (7%), and diabetes (2%)³. These diseases do not just burden rich nations. Four out of five CNCD deaths occur in low and middle income countries, presenting a major public health challenge.

The major risk factors for chronic disease: unhealthy diet, physical inactivity, and tobacco use, are modifiable. The World Health Organization predicts that if these risk factors were eliminated, at least 80% of all heart disease, stroke, and type 2 diabetes would be prevented and over 40% of cancer would be prevented⁴. However, data shows that the prevalence of these risk factors is increasing, even among children. For example, current estimates show that over 1.5 people worldwide will be overweight by 2015 if current trends continue; and currently about 22 million children aged under 5 years are overweight⁵.

Over the past 10 years, **the CARMEN network has worked to reduce the prevalence of risk factors associated with CNCDs.** CARMEN (Integrated Prevention of Noncommunicable Diseases in the Americas) was born in 1996 as a response to the growing burden of CNCDs in the Region. In the 10 years since its conception, CARMEN has been promoting an integrated approach to the prevention and control of CNCDs and their risk factors in the countries of Latin America and the Caribbean. CARMEN applies three strategies to achieve its objectives: integrated prevention and health promotion, demonstrative effect and the promotion of health equity. CARMEN has been rooted in three **lines of action**:

1. policy building and evaluation,
2. community-based actions, and
3. responsive health services.

The CARMEN network consists of over 20 Member countries, several Prospective Members, Collaborating Countries and Special Projects (e.g. USA-Mexico border).

From 19–21 October 2005, over **60 representatives from more than 20 countries** met in Santiago de Chile for the biannual strategic meeting of the CARMEN network. In light of the projected increase of deaths due to chronic disease (a 17% increase)⁶, the **objectives** of the meeting were

- (1) to present the Disease prevention and control/noncommunicable diseases (DPC/NC) unit at PAHO-WDC and its areas of technical cooperation;
- (2) review developments in CNCD prevention and control in CARMEN member countries; and
- (3) discuss the future of the CARMEN network.

The meeting was comprised of **five sessions, each with a distinct technical theme:**

- *First session:* Global Strategy on Diet, Physical Activity and Health
- *Second session:* Policies: Specific Issues
- *Third session:* Surveillance of CNCDs—An Essential Component
- *Fourth session:* Sustainable Development and Management of Risk Factors and Chronic Disease
- *Fifth session:* Capacity-Building on CNCD Prevention and Control

In addition, this occasion was used to present the recently-released **WHO report** *Preventing Chronic Diseases: a vital investment*⁷. Discussions followed each session and conclusions were presented at the close of the meeting.

CARMEN Member Countries will again meet in two years' time.

Opening Session

Dr. Juan Manuel Sotelo Figueiredo, PAHO/WHO Representative in Chile, convened the meeting by welcoming participants and recognized that this meeting will orient CARMEN member countries toward the next period of work. Dr. Sotelo highlighted PAHO's recent Directing Council's emphasis on country-focused technical cooperation and technical cooperation among countries (TCC), the process by which two or more countries work together to develop individual or collective capacity through cooperative exchanges of knowledge, skills, resources, and technologies⁸. Dr. Sotelo also spoke about the Regional Declaration on the New Orientations for Primary Health Care (CD46/13) that was presented at the 46th Directing Council in September 2005. Dr. Sotelo then congratulated Chile on its achievements in health under the plan AUGE (Universal Access with Explicit Guarantees) and underlined the importance of keeping in mind the social conditions in which our work is carried out.

Dr. Fernando Muñoz, from the Ministry of Health- Chile, began his remarks by speaking about the CARMEN initiative in Chile. Dr. Muñoz also emphasized that Chile is experiencing a special moment in the history of its health system: the process of health reform, which is focused on improving health care under the guarantees of access, quality, opportunity, and financial protection for all Chileans. Dr. Muñoz noted that the most difficult challenge is to reduce inequality. He also mentioned that the key will be to introduce and evaluate interventions that work in the Americas to be able to reach our goals of a healthier population.

Dr. Branka Legetic, Regional Adviser on Prevention and Control of Noncommunicable Diseases from PAHO- WDC, welcomed all the participants and noted the wide range of attendees: representatives from 20 countries that are members of the CARMEN network, 3 observer countries, several countries interested in joining the network, colleagues from the WHO in Geneva, Health Canada, CDC- Atlanta, and especially noted the contribution from PAHO Chile and the Chilean Ministry of Health.

Keynotes / Meeting Overview

Dr. Alberto Barceló, chief a.i. of the Noncommunicable Diseases Unit from PAHO-WDC, gave the opening presentation on the “*WHO- PAHO Work Plan on Integrated CNCD Prevention and Control.*” First, Dr. Barceló presented the profile of chronic diseases in Latin America and the Caribbean and highlighted the ageing population and the increase in obesity as underlying causes of the rise in CNCDS. Dr. Barceló also emphasized various PAHO surveys such as the *Survey of Aging, Health and Wellbeing in Latin America and the Caribbean (SABE)*, which took place in seven countries and investigated the prevalence of chronic diseases and risk factors in the population over 70 years old. Of note was that the rates of obesity, diabetes mellitus, and hypertension in Latin America and the Caribbean are similar to rates reported in the United States. In addition, the prevalence of overweight and obesity is high in Central America, according to the CAMDI (Central America Diabetes Initiative) study and in indigenous communities in the Chaco Region of Paraguay, according to a 2003 study.

Dr. Barceló also presented PAHO’s response to the epidemic of CNCDS in the Region. Currently the Unit of Noncommunicable Diseases is in a transition; the work of the NC unit is changing from a disease-specific approach to an approach based on four cross-cutting areas: Health Promotion, Policy Development, Surveillance, and Management of CNCDS and Risk Factors. CARMEN is a network which will serve as a vehicle for the delivery of technical cooperation. Dr. Barceló emphasized the advances that are being made in each of the four areas with both external and PAHO interprogrammatic partners.

Dr. Barceló suggested that all countries in the Region could become members of the CARMEN network in order to strengthen their actions directed toward CNCDS and that the network could be an effective vehicle for information sharing. He closed by offering PAHO’s technical cooperation in the four thematic areas and in enhancing regional communication.

Dr. Sylvie Stachenko, Deputy Chief Public Health Officer from the Public Health Agency Canada, gave a presentation on “*Public Health in the 21st Century: Moving the Prevention of Chronic Diseases from a Global Priority to a Global Reality.*” Dr. Stachenko discussed the history of public health and stressed that while looking at the future, we must also consider lessons from the past. She described the change in public health from its beginnings in protecting citizens against epidemics and plague and political action at the local level, to the 21st century, where public health is reaching national, regional, and international levels and addressing complex challenges. Dr. Stachenko recognized chronic disease as the dominant health problem in all parts of the world, with the exception of Africa, where it is a growing problem. Citing a report from the Earth Institute at Columbia University entitled *A Race Against Time: The Challenge of Cardiovascular Disease in Developing Economies*,⁹ Dr. Stachenko emphasized the global burden of cardiovascular disease and the lack of global investment in the field of cardiovascular and other chronic diseases.

Dr. Stachenko called attention to four key drivers for the health of the 21st century: aging, technology, urbanization, and globalization. She also suggested that public health interventions should be phrased as global issues and that international mechanisms should be harnessed to address chronic diseases.

Poverty and inequity are a major challenge to global health. To illustrate this point, Dr. Stachenko mentioned that the rates of chronic disease in some populations (e.g. certain indigenous populations) are up to four times higher than the rates in the mainstream population. In addition, countries are lacking the capacity and resources for prevention and control of CNCDs such as chronic disease policies, disease control plans, surveillance systems, and human resources skilled in changing policies.

Dr. Stachenko recognized good policies as being:

- rational, drawing on best available knowledge;
- feasible and tempered by socioeconomic context; and
- acceptable, reflecting shared goals and popular values.

There currently exists the opportunity for synergy and integrated approaches to policy and program development; for example, interventions can combine a population-based and individual-based approach, programs can be multi-level and multi-pronged, and multisectoral action (uniting health and other sectors: transport, housing, taxation, agriculture) can be a pathway to health. Dr. Stachenko then highlighted some of the important developments in chronic disease by WHO in the last decade. The role of networks such as CARMEN has been crucial in the sharing of knowledge. In addition, the policy observatory, which is under development, is an important platform for bringing CNCD prevention to the forefront of public policy dialogue. Dr. Stachenko also stressed the need for communicating to policy makers the urgency with which chronic disease can affect the economic and healthcare system and the need for addressing both communicable and noncommunicable diseases. Long-term and broad-based support from a variety of players and partners is needed to build sustainable practices and to translate ideas and evidence into action. In closing, Dr. Stachenko emphasized that we are at a crossroads and that we should not wait to change course.

Ms. Leanne Riley, from the unit of chronic diseases and health promotion at WHO-Geneva, presented the recent WHO report: Preventing Chronic Diseases: a vital investment. First, the purpose of the report is to make the case now for urgent national and global action to reduce chronic disease risk and burden. In addition, the report serves as a state-of-the-art guide to effective and feasible interventions and provides practical suggestions on how countries can implement these interventions to respond to the growing global epidemic. The report's key targets are Ministries of health, but also other government officials, civil society, international organizations, the private sector and other stakeholders who can influence multisectoral government action.

Nine countries are selected as tracer countries in the report based on the significance of the burden of chronic disease and the ability to learn from their lessons. Ms. Riley described the structure of the report and presented some key elements of the

report, such as data on chronic diseases worldwide. The report clarifies 10 widespread misunderstandings about chronic diseases, features a biographical series entitled “face to face with chronic disease,” discusses the economic impact of chronic diseases, and presents the newly set global goal of an annual 2% reduction in chronic disease death rates worldwide, per year, over the next ten years. If this goal is achieved, 36,000,000 lives can be saved, 90% of which are in low and middle income countries.

Ms. Riley stressed that regardless of the level of resources available to a country, it is possible to make efforts in the prevention and control of chronic diseases following a stepwise approach. Ms. Riley concluded her presentation by posing the following: we can maintain the status quo and 288 Million people will die in the next 10 years, or we can invest now in chronic disease prevention and control and save lives.

First Session: Global Strategy on Diet, Physical Activity and Health

The focus of the first session was the *Global Strategy on Diet, Physical Activity and Health*, or DPAS. DPAS was developed under a May 2002 request from WHO Member States and was endorsed by the May 2004 World Health Assembly.

This was an extensive session in which WHO presented DPAS, PAHO presented the DPAS Action Plan for the Americas, several countries presented their experiences in promoting healthy diet and physical activity, and the Physical Activity Network of the Americas (PANA/ RAFA) was featured. The presentations were followed by a discussion that focused on how the CARMEN and PANA can collaborate to jointly facilitate implementation of the Global Strategy on Diet, Physical Activity, and Health.

Background

Dr. Enrique Jacoby, Regional Adviser on Healthy Eating and Active Living from PAHO-WDC, presented the DPAS Action Plan for the Americas, which is a proposal for the implementation of DPAS and is currently being circulated among colleagues.

Dr. Jacoby began his presentation by demonstrating that noncommunicable diseases represent $\frac{3}{4}$ of the deaths in the Region. The risk factors for CNCDS are clear: hypertension, overweight, high cholesterol, low consumption of fruit and vegetables, alcohol, and physical inactivity. Many reports and guidelines on the prevention of CNCDS have been produced. In fact, 80% of cardiovascular disease, 90% of diabetes, and 30% of cancers are preventable through several means of healthy living (e.g. physical activity, high intake (400 g) of fruits and vegetables, and the consumption of poly- or mono-unsaturated fats instead of saturated fats).

The translation of these recommendations to practice is not universal; for example a study that looked at physical activity among women in three Latin American countries

showed that the levels of physical activity were greater among women with high incomes than in women with low incomes. Dr. Jacoby mentioned several factors that affect physical activity, such as the lack of safe spaces in which to practice physical activity, the lifestyle changes associated with urbanization, and the increase in automobile use. Dr. Jacoby also presented factors that affect healthy eating. For example, there is a difference between the availability of healthy food in markets in rich neighborhoods and poor neighborhoods.

One key theme underlies the Global Strategy on Diet, Physical Activity, and Health: *“Make healthy choices the easiest choices.”* Dr. Jacoby presented the DPAS action plan for the Americas, its objectives and actions. Some key objectives of the plan are:

- Raise awareness of the importance of CNCD prevention, healthy diet and active lifestyles for all;
- Develop and implement national plans of action based on existing experiences and coordinate existing efforts;
- Promote intersectoral collaboration and action, including civil society institutions and the private sector; and
- Assure active technical support and material to countries.

Dr. Jacoby then presented some suggested actions in physical activity and nutrition. Some of these actions, such as the creation of national agreements on physical activity and the institutionalization of physical education in schools, have already begun with a great effort in some countries. With regard to healthy eating, many countries have promoted the 5-a-day campaign and have demonstrated multisectoral coordination in their activities.

Dr. Jacoby’s presentation also included an explanation of the structure of the DPAS action plan and a definition of responsibilities. At the regional level, there will be a Steering Committee and two technical Regional Teams will provide in-depth technical work on healthy diet and nutrition and physical activity promotion. The Secretariat of DPAS will be PAHO CNCD Unit in collaboration with the Health Promotion Area of Work at WHO-HQ. An integrated team will exist at the national level to implement the Plan of Action.

The following results are expected to come out of implementation of DPAS:

- Increase visibility, public interest and national consensus for action;
- Give the first steps at the national level for action in both the public and private sector;
- Reach regional consensus among different parties on what can be done for physical activity and healthy eating; and
- At least 8 countries develop plans and begin implementation activities.

Ms. Leanne Riley, from the unit of chronic diseases and health promotion at WHO-Geneva, gave the history and present situation of the WHO Global Strategy on Diet,

Physical Activity, and Health. To give the historical perspective, Ms. Riley explained that there were four phases in developing the strategy: (Phase 1) preparation of expert report; (Phase 2) Consultation process involving UN Agencies, Member States, civil society and the private sector; (Phase 3) the negotiation and adoption of strategy; and (Phase 4) implementation of the strategy at the country level.

The DPAS is based on the prevention of CNCs and key risk factors that affect a number of diseases. It is not a disease-based approach but relies on multisectoral action and the coordination of efforts from experts in a number of domains. Ms. Riley highlighted some of the key policies in the strategy, both those aimed at the environment (e.g. dietary and physical activity guidelines, agriculture policies, or school policies) and those aimed at individual change (e.g. education and public awareness campaigns or accurate nutritional labeling).

DPAS will be implemented on two levels: the country level and the international level. At the country level, the WHO Regional Offices will coordinate activities to support DPAS implementation. At the level of WHO-HQ, DPAS will be implemented through several means, some of which are the establishment of international standardized diet and physical activity surveillance tools and methods, the implementation of DPAS via *Codex Alimentarius*, and the development of guidelines on public-private partnerships. WHO-HQ will also provide support to countries for implementation of the strategy.

Ms. Riley presented the activities that are occurring in each Region of WHO, and concluded by promising WHO's support in the development and dissemination of adequate tools in various areas. Ms. Riley also encouraged Member States to fully utilize the opportunity created by DPAS to strengthen their national capacities for action to prevent and control chronic diseases and their common risk factors.

Puerto Rico, who was presiding this session, noted that Ms. Riley demonstrated that globalization not only affects communicable diseases, but affects noncommunicable diseases as well.

Case Studies

Dr. Gabriel Tarducci, from PROPIA, the Program for the Prevention of myocardial infarction of the National University of La Plata, Argentina, presented the first case study in this session on two successful experiences. The first was a successful experience in reducing trans fatty acids in foods in Argentina and the second was a proposal of Research-Action for the implementation of this experience in other Latin American countries. Dr. Tarducci also recognized the DPAS as a critical demonstration of scientific and institutional backing for efforts in the prevention of chronic diseases.

The work in Argentina was inspired by the North Karelia Project in Finland and its policies concerning the environment, such as the modification of food to limit fat, the promotion of food products consistent with a healthy diet, the consideration of agriculture policies and their effect on national diets, school policies that improve health literacy, and the introduction of fiscal policies to influence food choices.

Dr. Tarducci explained how Argentina achieved the goal of reducing the consumption of trans fats over a ten-year timeframe. The first step was research; an analysis of the fat content of widely-consumed foods was undertaken. The research found that amazingly, 95% of cookies, crackers, and industrial bread had significant amounts of trans fatty acids. The second step in this process was to develop new seeds that would have the same nutritional qualities as olive oil, but for the price of sunflower seed oil.

The next step was to find a company that was capable of producing the oil and to get the commitment of companies to modify the fat in their products. To support this decision, *Propia* worked with the Congress to obtain a discount for companies that eliminated hydrogenated oils from their products. This is an example of how the interests of the health sector and the interests of the companies can work together and obtain healthy results.

Educating the public was the next step in this process; educational models were included in school programs and educational games were created as well as “trans free” labels on food packaging. Marketing was another crucial component in this experience; the new technology was featured in national newspapers and women-oriented magazines.

Other healthy foods, such as eggs, chickens, margarines, milk and bakery products, have been developed with trans fat removed and with healthy fats (like omega 3) added.

The *Propia* program for the prevention of infarct began a national demonstration project called DEMOBAL. The city of Balcarce, in the Province of Buenos Aires, was the first demonstration area. There are now five demonstration areas in the country. As a consequence of the application of DEMOBAL and working together with the Nutrition-Related Chronic Disease Working group, a Research-Action Proposal for Latin America was created. The two objectives of the proposal are

- (1) to improve the quality of fats and their relationship to chronic disease prevention in Latin America and
- (2) to improve energy expenditure through the change in physical activity levels and healthy lifestyles.

This proposal follows the same steps from research to intervention. The final version of the proposal is being prepared by the group of experts and will be finished by August, with the purpose of using it as the foundation for implementation in the rest of the Latin American countries. In November 2006, a meeting for the implementation of the project will take place in Florianopolis. More information on *Propia* can be found on: www.propia.org.ar.

Dr. Michael Pratt, from the WHO Collaborating Center for Physical Activity and Health Promotion at CDC spoke about the promotion of physical activity in the Americas and emphasized transforming science to practice with the evidence-based approach to promoting physical activity.

There are several key questions about physical activity:

- Why is physical inactivity important for public health?
- What are the benefits of regular physical activity?
- How great is the burden of physical inactivity?
- How much physical activity is recommended?
- What are the most important determinants?
- What strategies and interventions are effective?
- What are the components of a national physical activity policy?
- Do successful physical activity promotion programs exist?

Physical inactivity is a major problem around the globe, at the population level. The health benefits of physical activity are well known and any comprehensive public health program should consider physical activity.

Health and economic costs of physical inactivity (according to world health report 2002) are quite high, causing 2 Million deaths annually at the global level, 19 Million DALYs globally per year, and accounts for 2-6% of total health costs. In the USA, physical inactivity costs \$76 Billion per year.

The amount of physical activity required to get achieve health benefits is modest. From both the scientific standpoint and public health standpoint, the evidence shows that accumulating 30 minutes of moderate physical activity per day is recommended for general health, and 60 minutes to prevent weight gain.

Physical activity is a complex behavior with a variety of determinants, including social, cultural, environmental, and biological, among others. It requires a multisectoral approach.

The *Global Strategy on Diet, Physical Activity and Health* is not only a scientific document, but an advocacy tool to put diet and physical activity on the health agenda on governments around the world. The evidence-based approach to physical activity promotion consists of:

- Making the case
- Defining the problem
- Identifying solutions
- Implementing programs
- Evaluation (throughout the entire framework).

The case for physical activity includes health benefits, social benefits, economic costs of physical inactivity, costs of illness, links to chronic diseases, and physical activity recommendations.

Defining the problem includes looking at individual and community data and policies, understanding them, and then developing policies.

Solutions are not just scientifically based; there is a large body of literature on why physical activity is important to health. However there are programs that are less scientifically based (e.g. media campaigns) and we need to consider what is being implemented in reality when thinking about potential solutions.

There are several factors of successful programs that translate science into practice:

- Consultation and needs assessment, considering factors that are unique to the community.
- Written plan of action and objectives that can be presented to stakeholders
- Surveillance- good data is needed for good public health programs; data beyond individual behaviors and consider community indicators (e.g. transport system, park space, characteristics of work sites that favor/don't favor physical activity). IPAQ (international physical activity questionnaire) is the standard approach used with young and middle aged adults. Although there are some limitations with self report questionnaires. IPAQ has been used around the world and is an excellent tool.
- A program won't get far without a stable base of support: continued funding, political support, staff. There needs to be a balance of governmental and NGO support.
- Clear program identity and message, such as the clever development of logos and identities that capture cultural peculiarities.
- Partnerships and coalitions (e.g. *Agita São Paulo*).
- *Multiple intervention strategies*: There is a long history of evidence-based, community-based cardiovascular disease prevention programs (e.g. Argentina, USA). In the USA, the guide to community preventive services www.thecommunityguide.org contains evidence-based recommendations on interventions. 8 interventions have been identified as effective based on literature:
 - Modify physical education
 - Change individual behavior
 - Non-family social support: the evidence is not sufficient to identify family support, but it could be something to try in Latin America and the Caribbean because of the strength of the family.
 - Create or increase accessibility
 - Wide community education
 - *Point-of-decision prompts*: (e.g. signs at the elevator to promote increased stair use). These prompt a modest increase in physical activity, are cheap and easy to implement.
 - *Urban design*: outside health sector (e.g. transport and urban planning). 2 areas of urban design: neighborhood (e.g. wider sidewalks, no cracks) and community-wide (e.g. networks, bike and walking trails, parking policies). Bogota is a good example of community-wide urban design.

Almost all of the evidence is observational, therefore some research gaps exist. Intervention studies are needed to show the scale of improvement in physical activity

with some infrastructure changes. A small workshop will take place in Bogota in November on the topics of urbanization and globalization and how they affect physical activity.

Networks such as RAFA-PANA have been successful. RAFA-PANA is a network of national networks and facilitates information sharing among members. Networks can work with other networks in health promotion, healthy policies, and intersectoral work. The CDC has created a physical activity evaluation handbook to evaluate programs.

Physical activity can have a positive message, that people's lives can be more fun with physical activity. Dr. Pratt concluded his presentation by drawing attention to the international Congress on Physical activity and public health that will take place at CDC in April 2006.

Dr. Luis Fernando Gomez, from *Fundación FES Social* in Colombia, presented a case study on changes in urban planning and its effects on physical activity and quality of life in Bogotá. Dr. Gomez mentioned the growing interest in investigating the links between urban environments and health and pointed out that developing countries are experiencing both a demographic and epidemiologic transition, with a predominance of chronic, noncommunicable diseases. For example, urban populations are four times greater in developing countries than in developed countries, and along with this urbanization come many conditions that increase risk for chronic noncommunicable diseases. Dr. Gomez focused on the risk factors that WHO has identified: unhealthy eating habits and physical inactivity as risk factors that require interventions to face this global problem. Dr. Gomez emphasized that changes need to have a comprehensive approach, meaning that changes need to occur on various levels, not just in public health. Changes on the political level, the social level and in the built environment are important parts of this intervention. Dr. Gomez also highlighted some aspects of the built environment and their relation to movement and transport.

Dr. Gomez presented a general profile of the city of Bogotá, which is Colombia's capital and largest financial, political, and cultural center, but is also experiencing a high unemployment rate. Dr. Gomez then described some of the main urban changes in Bogotá in the context of the major political administrations since 1992. One of the first initiatives, called *Ciclovía* (cycle-way) was first created in 1974 under the local government of Bogotá. From 7:00 a.m. to 2:00 p.m. every Sunday and holiday, 120 kilometers of streets and main avenues are closed to traffic, and people engage in leisure activities such as walking, bicycling, jogging, and dancing. An average of 400,000 people aged 18 to 65 years old (10% of this population) from all social conditions and some with physical disabilities, participate in *Ciclovía*. *Recreovía* is another initiative of Bogotá's local government. The *Recreovía* program began in 1995 and provides the opportunity for people to engage in physical activity programs in various parks throughout the city.

Cicloruta (cycle routes) is a project that began under the development plan of the 1998-2001 administration, involving different district institutions. It is a network of 300 kilometers of bike paths, one of the most extensive in the world. Its primary goal was to reduce vehicular congestion but it had additional benefits such as saving time, improving the natural environment, improving the aesthetics of the city, and offering health benefits. In Bogota, 31.2% of men and 6.4% of women ages 18-29 use a bicycle as a means of transportation.

Cicloruta is complementary to another innovative project in Bogotá, the *Transmilenio* project. *Transmilenio*, Bogotá's rapid mass transport system, began in 2000 as a response to the serious transportation problems the city was facing. *Transmilenio* uses high-capacity buses to transport passengers and focuses on security, affordability, decreasing environmental pollution, and reducing travel time.

Dr. Gomez described another positive change in Bogotá: the network of parks throughout the city. From 2001-2003, Bogotá increased the amount of green space from 2.5 to 4.12 meters per inhabitant; the projection for 2013 is 8 meters per inhabitant.

Dr. Gomez then presented three other normative and educational strategies in Bogotá: the restriction of car use, car-free day, and the recovery of public spaces. First, during rush hour, each car is banned two days per week, based on the license plate number. As a result, the average commute time has dropped by 21 minutes and pollution has been reduced significantly. On the "car-free day," cars are not allowed to circulate in the entire urban area from 6:30 a.m. to 7:30 p.m. and an average of 6.5 million people move by using public transport, bicycles, rollerblades, taxis, and by foot. To recover public spaces, the following strategies have been used: keeping cars off the sidewalks, relocation of street vendors to special plazas, and restoration and recovery of public parks. This recovery has been supported by legislation.

Dr. Gomez then presented the connection of these strategies to physical activity. Surveys have shown that over 50% of citizens have a positive perception about the educational strategies on their quality of life. With regard to the urban planning strategies, more than 60% of citizens perceived them as favorable to their quality of life. An evaluation of *Ciclovía* found that adult women who participated frequently in *Ciclovías* were more likely to be regularly active in their leisure time; in addition, the *Ciclovía* program mobilizes people across all socioeconomic levels.

An exploratory analysis found that those who perceived the *Cicloruta* as close to their households had more possibilities to be regularly active. With regard to the network of public parks, a different study found a marginal positive association for women between the availability of public recreation facilities and physical activity in leisure time. The strategies of recovery of public spaces have also improved the mobilization of pedestrians.

Dr. Gomez also presented some current challenges. Some such challenges are the inadequate evaluation of all of the interventions carried out, the improvement of the

quality and design of the existing *Ciclorutas*, the improvement of security along some of the *Ciclorutas*, and making urban planners aware of the impact of their decisions.

Dr. Gomez concluded his presentation by discussing the study that PAHO and CDC are undertaking together to estimate the association between the built environment and physical activity and quality of life among adults in Bogotá and to explore the relationship between selected urban changes in Bogotá from 1992-2002 and their possible influence on the physical activity of its citizens.

Dr. Sandra Matsudo, Director General of CELAFISCS, presented the *Agita São Paulo* Program, the RAFA/PANA network and potential for increasing capacity for promotion of physical activity within public health through the CDC-IUHPE *Agita Mundo* training course. Dr. Matsudo began her presentation by demonstrating through pictures that the *Agita São Paulo* program aims to combat sedentary lifestyles.

Agita São Paulo's recommendations are based on scientific evidence: that at least 30 minutes of moderate physical activity 5 times per week is required to achieve health benefits. This activity can even be accumulated throughout the day, for example, 3 sessions of 10 minutes. To illustrate this point, Dr. Matsudo explained that women live on average 7 years longer than men; the difference may be due to calorie expenditure during household chores. Therefore, an evaluation of calorie expenditure per minute while doing housework was undertaken and found that household chores, indeed, are a physical activity, thus introducing new concepts to physical activity.

Dr. Matsudo explained that *Agita São Paulo*'s structure is based on central coordination and alliances with the scientific community, however there is no attachment to government or public institutions. *Agita São Paulo* adopted an ecological model of mobile management.

Agita São Paulo focuses on three groups of people: students, workers, and the elderly and uses many publicity materials to reach these populations such as the *Agita São Paulo* mascots: Meiorito and Meiahorina, who represent the recommended half-hour of physical activity that *Agita São Paulo* endorses. *Agita São Paulo* also holds several events throughout the year such as *Agita Galera* every August, which is an event that promotes physical activity in schools. In addition, *Agita São Paulo* holds events in conjunction with scientific societies such as the national cancer institute and the Brazilian Society of Cardiology.

To target workers, *Agita São Paulo* has worked with large companies such as GM and Petrobras to distribute educational materials; some pharmaceutical companies have even created walking lanes to stimulate physical activity. To target the elderly, *Agita São Paulo* has undertaken interventions in hospitals and medical centers, because those are places where health can be promoted. Some hospitals have organized physical activity such as walking groups in the parking lots along with physicians. Several other strategies have been launched to increase physical activity in São Paulo; walking and bicycle lanes

are becoming popular and physical activity programs similar to *muévate Bogotá* have begun.

In 2000, RAFA/PANA (Physical Activity Network of the Americas) was launched. RAFA PANA is a network of national networks and unites members of both public and private institutions to promote health and quality of life through physical activity. Now, most of the countries in Latin America have strategies to promote physical activity. Dr. Matsudo highlighted some of these and praised Colombia as one of the countries with the greatest number of programs to promote physical activity. Dr. Matsudo then explained the structure of RAFA/PANA, noting that is a joint initiative of PAHO, CDC, the International Union for Health Promotion and Education (IUHPE) and the American College of Sports Medicine.

The last thing that Dr. Matsudo presented was the international training course on physical activity and public health. The course is intended for professionals who are working on promoting physical activity. The course offers the opportunity for scientists to be updated on current topics; national and international experts form expert panels where participants can solve concerns, ask questions and work in groups. The first course took place in São Paulo in 2004 and several other courses have been carried out since then.

The *Agita São Paulo* model has had worldwide influence; several other countries have initiated similar programs. Notably, *Agita São Paulo* inspired the slogan for World Health Day 2002 and the Director-General for WHO chose to celebrate World Health Day 2002 in São Paulo.

Dr. Matsudo also presented some suggestions on how RAFA/PANA can help implement DPAS in the Region. One suggestion is to call upon national networks to promote physical activity. In addition, RAFA PANA is producing a publication on best practices of physical activity promotion in the Americas. Another suggestion is to create a manual for physical activity promotion for professionals involved in CARMEN.

Dr. Matsudo closed her presentation by mentioning upcoming events: World Day for Physical Activity April 6, 2006 with the theme “physical activity as social responsibility,” and “International Congress on Physical Activity and Public Health” in Atlanta, April 2006. For more information, please visit: www.rafapana.org and www.agitasp.org.br.

Ms. Margarita Claramunt from the Ministry of Health- Costa Rica, spoke about the training course in physical activity promotion. Ms. Claramunt presented a history of the national and international processes that Costa Rica has undergone in relation to promotion of physical activity. First, in 1999, Costa Rica became a member of the CARMEN network, followed by the 2000 creation of the RAFA/PANA network. By 2002, physical activity was receiving attention from lawmakers. In particular, The Sports and Recreation Institute became part of the Ministry of Health and national health

policies for 2002-2006 included specific chapters on physical activity, sports, and recreation. More recently, in 2005, the Costa Rican Network of Physical Activity and Health was launched and the III International Course in Physical Activity and Public Health was carried out with the support of the CDC.

The course in Costa Rica was coordinated by the Ministry of Health and ICODER (Costa Rican Institute of Sports and Recreation). The course was divided into 5 thematic areas:

1. Policies and strategic guidelines for the development of research, interventions, and evaluation in promotion of physical activity for health.
2. Development of evidence-based interventions
3. Strategies for the Implementation of programs/ projects of promotion of physical activity and health.
4. Epidemiology and determinants of physical activity.
5. Communication strategies for the promotion of physical activity.

The course leaders were 12 experts from CDC, RAFA, and national organizations. 75 people (60 nationals, 15 internationals from 4 countries) participated in the course. All the participants came with the backing of their respective institutions. The course work was carried out in groups in which participants worked on two fictitious projects for each level. In addition, workshops on Latin movement and dance were carried out.

In addition, Ms. Claramunt described how Costa Rica's national network of physical activity and health functions. There are two levels in Costa Rica's network: the national level and the cantonal level. 81 cantonal networks exist in Costa Rica and together they form the national network, which develops alliances with DPAS and RAFA, influences national policies, and participates in the policy observatory. The Costa Rican Network of Physical Activity and Health also participates in surveillance and evaluation, training, research, systematization and monitoring of cantonal networks, systematization and monitoring of projects, and communication.

Discussion: How can CARMEN and RAFA help facilitate the implementation of DPAS?

1. We are in the implementation phase of the DPAS and we have the opportunity to work together; CARMEN presents an opportunity by which we can find the mechanism to implement the strategy in the Region.
2. We are currently training physical activity from the countries that are members of the CARMEN network and we are also preparing an implementation manual. Physical activity can enter as a component of the already existing CARMEN school. Both of these can be offered as a line of cooperation between the two networks

3. One of the biggest advantages to this session is the ability to share information back and forth. The basic strategies are similar: building on scientific evidence and putting actions into public health practice in a feasible way at the community level. Training, surveillance, policy development are areas where CARMEN and RAFA can help in the implementation of DPAS. In addition, RAFA has largely been based outside of Ministries of Health, the advantage being the flexibility to create new programs. CARMEN has been placed through the Ministries of Health, the advantage being the ability to reach a broad population through institutions and taking advantage of the existing system.
4. It is a good thing that each network has its own identity. For collaboration, it is proposed that RAFA has a representative in the CARMEN network and that CARMEN has a representative in the RAFA network. The voice of each network can be brought into the other, and each network can be informed of what the other is doing. A suggestion is for each network to maintain their independence while having a representative with a voice in the other network.
5. Meetings of the networks should take place in the countries where the activities are taking place; the discussion should have the intense participation of all and this could become a first meeting where we exchange opinions, meet each other, and see what different networks are doing.
6. RAFA is a network much more specific than CARMEN; CARMEN covers a wider range of health problems. RAFA can be a very specific and valuable source for CARMEN on the topic of physical activity. RAFA can be a leader within the CARMEN network as an expert in physical activity. One important subject is to coordinate the actions of both networks. We have one year to prepare this for the PAHO Directing Council next year; PAHO will need the support of RAFA and the other participants that are here.
7. Collaboration of the two networks can be an opportunity to strengthen national capacity for promotion of physical activity as part of the prevention and control of CNCDs.
8. The lines of the two networks must cross. An agenda for collaboration is needed. Some ideas are to have a national contact person responsible for CARMEN and physical activity, to strengthen national leadership, or to work so that nutrition and physical activity complement each other. Within CARMEN's national agenda, we can train leaders and use physical activity to complement the CARMEN network.
9. It is easy to identify a wide range of things that make sense for us to work on, for example capacity building and training are practical and tangible. However, having 1-2 concrete things defined will allow us to make progress.
10. An area of strategic discussion is how CARMEN and RAFA have a shared interest in reorienting public health to address chronic diseases. We are not looking to eliminate

other strong health programs, but looking for opportunities to strategize and bring together a group with a wide range of perspectives.

11. Both networks can learn from each other; both talk about the necessity to affect the political environment; they can have common routes outside of the health sector. In addition, the experience of CARMEN can be useful for RAFA in such areas as community interventions. In the long run, we can strengthen the strategies that we already have.

Conclusions

To foster collaboration between the CARMEN and RAFA, the following was suggested:

1. The participation of representatives from the CARMEN network at RAFA meetings and the participation of representatives from RAFA at CARMEN meetings.
2. Country-level cooperation between RAFA coordinator, PAHO CNCD focal point in the PWR office, and the Ministry of Health focal point for CARMEN in order to exchange information and plan mutual activities for the promotion and implementation of DPAS.
3. The evidence-based public health course applied to physical activity can be promoted at part of the CARMEN school.
4. In addition, some countries expressed interested in training, for example Argentina.

Second Session: Policies—Specific Issues

This session focused on policy as a component of CARMEN. A comprehensive presentation on the CARMEN Policy Observatory was given, followed by case studies from Brazil and Costa Rica. During the discussion, such topics as participation in the Observatory, the methodology used, and analysis were mentioned.

Dr. Clarence Clotney, Scientific Director, WHO Collaborating Center on Noncommunicable Diseases Policy at the Public Health Agency of Canada presented the CARMEN Policy Observatory. The CARMEN policy observatory is a new concept and was initiated as a collaboration between the WHO Collaborating Center at the Public Health Agency of Canada and the Pan American Health Organization.

Dr. Clotney referred to the global chronic disease reality and posed population-level responses, particularly effective public policies across multiple sectors and disciplines, as the best response to act on chronic diseases. Given that many risk factors are influenced by social determinants, public policies can be good ways to reach the population. Unfortunately, less than 50% of WHO Member States have established

CNCD prevention policies; a lot of work needs to be done to build a national level of action and policies around chronic diseases.

Dr. Clotney presented the context of policy interventions, noting that “sound and explicit government-wide policies are key to effective prevention and control of chronic diseases.¹⁰” This includes complementary policies from non-health sectors. In addition, some countries are using integrated, whole-of-government approaches. It is also important to document, analyze, and learn from these experiences.

Dr. Clotney defined public policies from the perspective of how we’ve been using the term and showed how policies can be implemented in a variety of ways. One fundamental characteristic of effective public policy is commitment from governments; leadership and political will is critical, even when resources are limited. It is also important to build knowledge and evidence of what works and how a policy will address an issue. The CARMEN policy observatory takes these two characteristics into account.

Dr. Clotney also placed the CARMEN Policy Observatory into context. CARMEN and CINDI are knowledge networks and have been collecting experience and learning lessons. The potential challenge of these networks is to systematically analyze what works and translate it to effective public policy.

In 2003, at the CARMEN meeting in Rio de Janeiro, the case was made for the CARMEN CNCD Policy Observatory. Dr. Clotney then presented this case, as well as the strategic 10-year view for the CARMEN Policy Observatory. First, Dr. Clotney recognized that in all our countries there are efforts to categorize what is being learned in various contexts, but these studies are scattered and not always reliable. Therefore, since preventing chronic disease is global, building comparative analysis can be effective. Using an ongoing mechanism such and an “observatory” is also important because the epidemic of chronic diseases and risk factors keep increasing, thus the need for a continual process.

An international advisory committee recommended several things to be expected in the Region if a certain number of countries participate in the Observatory. Some key expectations are that evidence-based information will be available to policy makers and that multisectoral collaboration will be enhanced in the development of policies.

Dr. Clotney described the Policy Observatory as “a system for knowledge development and dissemination” in which countries in the network share common methods of analysis and engage in an ongoing systematic analysis of CNCD-related policies. The CARMEN Policy Observatory consists of two strategies:

- (1) evidence development and
- (2) support for policy making, knowledge dissemination and feedback.

Dr. Clotney then described the policy cycle: Formulation, Implementation, Evaluation, and Policy Knowledge Feedback. Dr. Clotney also presented the scientific framework for the Observatory. He explained that Brazil, Costa Rica, and Canada

worked together to develop the first portion of the process, the formulation of policies, and that as more countries join, they can learn from the experience and also help to develop the methodology for policy implementation, evaluation, and knowledge feedback.

Dr. Clottey presented the many benefits of the Policy Observatory. One key benefit is that it provides a neutral platform for bringing policy makers together with health system researchers and policy analysts to engage in dialogue about evidence for chronic disease prevention policy. Since the effort is done by a network of parties with interest in building knowledge and analysis, it's not driven by disputes or motives of political parties.

The Policy Observatory has had several accomplishments to date. The first participating countries have undertaken ongoing pilot case studies and the CINDI network is interested in engaging in the process. This experience has reinforced the need for a strong commitment by country Ministries of Health and a clear focal point of responsibility for coordinating the activities of the country Policy Observatory.

Dr. Clottey finished his presentation by explaining the next steps for the CARMEN Policy Observatory: invitation to other CARMEN countries, completion of the first round of Case Studies on nutrition-related policies, and further development of the analytic framework for policy implementation and evaluation.

Case Studies

Dr. Deborah Carvalho Malta, National Coordinator on Noncommunicable Diseases in the Ministry of Health, presented the first case study on Brazil. The Policy Observatory in Brazil has, as its purpose, the collection and analysis of data related to policies that support the prevention of CNCDs. The focus of the Observatory is to support the development of effective policies for the prevention and control of CNCDs, carry out systematic analysis of processes involving the formulation, adoption, and implementation of such policies, strengthen multisectoral collaboration in the adoption of policies in other sectors that can maximize CNCD prevention, and collaborate in the prevention of CNCDs, thus putting this group of illnesses in a position of importance on the agenda for those who are responsible for health management.

Dr. Carvalho Malta explained that in Brazil the process has involved many players: the Observatory Committee, the Ministry of Health, PAHO, the Public Health Agency of Canada, and academic institutions. Dr. Carvalho then explained the development of the Observatory in Brazil, beginning with the first meeting in July 2004 through the forecast for 2006, which includes the completion of the case study in Brazil.

Dr. Carvalho Malta also presented the structure of the Brazilian committee which is made up of several parts of the Ministry of Health, in addition to representatives from

PAHO in Brazil and Washington, as well as Health Canada. The principal investigator is Denise Bomtempo de Carvalho and she is supported by eight specialists of diverse backgrounds.

The objectives of the Brazilian case study were to:

- Analyze national strategies within the context of global strategy.
- Identify barriers or facilitators in the formulation and approval of policies.
- Support the formulation of an integrated policy of CNCD prevention and control in Brazil.
- Analyze the results of Brazil regarding the process of the formation of CNCD prevention and control policies in Costa Rica and Canada.

Brazil identified 5 areas of CNCDs that policies can focus on. The first is prevention of tobacco use, which has the most evidence due to it being a long standing policy. The other issues that need to be looked at are nutrition, diabetes and hypertension care, surveillance of NCDs, and promotion of physical activity.

The Brazilian case study looked at the national policy on food and nutrition (PNAN) with emphasis on CNCDs. The research questions were: How and when did CNCDs appear on the agenda of the Brazilian government? What were the proposed solutions by the various governmental parties on the federal level for the prevention and control of CNCDs? What were the options for actions and programs selected to confront the problem of CNCDs? Why were certain programs and actions given special importance?

Dr. Carvalho Malta then explained the process of data collection. Both primary and secondary data were collected, through interviews with key players and looking at reports, resolutions, and other written materials.

The results showed the following: that the PNAN program started in the 1980's and that it passed through three cycles which led to formulation of a national policy on food and nutrition. In 1996, the world summit on nutrition had a direct impact on the formulation of policy in 1998 the income transfer program was put into effect and by 2004, the importance of physical activity was clear through acceptance of the DPAS.

Dr. Carvalho Malta then presented lessons learned about the process of formulation of PNAN. The subject of food and nutrition has always been on the public agenda, just without a solution. The initial focus of the policy was malnutrition and food security. Also, the process of formulation and implementation of public policies are simultaneous actions. There is a possibility of coordinating the study of political institutions (*Polity*) with the study of political processes (*Politics*) with the study of policy content (*Policy*). In addition, the case study demonstrated the importance of expanding the discussion to civil society, the influence of NGOs and their agendas, and how experts used knowledge and evidence to take advantage of the crisis of the State to make strategic changes in the field of nutrition.

Lic. Edugives Sancho Jiménez, from the Ministry of Health of Costa Rica presented the second case study on the formulation of the policy of fortification of wheat flour with folic acid in Costa Rica. For the investigation, INCIENSA (Costa Rican Institute of Research and Training in Nutrition and Health), the specialized section of the Ministry of Health for nutrition research, took on the role of Coordinating and Research Team, under the Advisory team composed of PAHO and the University of Costa Rica.

The general objective of the study was to analyze the formulation, negotiation, and approval of the policy of fortification of wheat flour with folic acid in Costa Rica, with the goal of generating evidence for the formulation of health policies. The specific objectives of the study were to identify the process for the formulation, negotiation, and approval of the policy, explore the principal conditions and factors that influenced the formulation and approval of the policy, and recognize the lessons learned in the design, implementation, and the institutional and intersectoral approach in the formulation and approval of the policy. Three general questions were asked that addressed these issues.

Lic. Jiménez presented the methodology of the study. The sources of information used were documents related to the subject, key informants, and research diaries. The techniques used were the review and analysis of documents and in-depth interviews that complement the research diaries. The interviews were carried out by three teams of two interviewers each. Each interview lasted 1.5 hours and was taped and later transcribed. To select the key informants, a set of criteria was established, which led to the selection of 18 people. Lic. Jiménez then presented the timeline of the study, which consists of 11 activities that span three months and will result in a final report this December.

Discussion

1. *What has to be done to become part of the Observatory?*

The Ministry of Health contacts PAHO, Washington DC to arrange for a site visit where a team of people visit the country and discuss what the process entails. The team will get an idea of the priorities and commitment from the country and schedule a technical workshop. The country will undertake preparatory work and during the technical workshop, priorities will be selected, so will the case study, and a plan of action will be developed. The three countries that are currently members of the Observatory will form a consultative group which will confer with the team. Ministerial commitment is important because this is a long-term process. In addition, universities will be identified as affiliates of the Observatory due to the nature of the work as continuous.

2. *How long does the process take?*

It is recommended to begin with an evaluation of the formulation of a policy, and this could take roughly 1-1.5 years to complete. If the country's interest is in

- knowing how policies have been implemented and evaluated, the process will take longer due to the more complex methodology.
3. *How does the selection of a focus occur?*
The selection of a focus takes into account a variety of factors, and depends on what policies the country wants to focus on and whether the questions asked are narrow or broad.
 4. *How much of the Policy Observatory process is generalizable to CNCD prevention in general or how much is specific, for example to nutrition?*
The methodology is intended to be applied to any area of CNCD prevention. The research questions determine the scope and methodology. If we look at different risk factors for CNCDs that involve multiple stakeholders, we just need a more stringent methodological process. We are beginning small and we can work to expand and accelerate aspects of the methodology over time.
 5. *What was the role of the media in this process?*
Since the media has an influence and makes up part of the context in which these policies have developed, it needs to be part of the analysis.
 6. *Why was the subject of nutrition chosen in all three case studies?*
Choosing the same subject across these three first countries makes it possible to facilitate analysis between countries. After the first three countries present their results, the methodology can be made more precise and we can evaluate two aspects of policies: formulation and implementation.
 7. *Canada focused their pilot on nutrition labeling.* The objective of the policy in Canada is that nutrition labeling enables individuals in the country to assess the strength and nutritional value of the food they are eating; labeling offers individuals the empowerment to make choices that will reduce the risk of chronic diseases. Therefore, the main focus of the policy is the prevention of chronic disease.
 8. *The Policy Observatory is not only looking at risk factors, but at all aspects of chronic disease.* The focus can be broad, for example the impact of foreign trade. In Canada, bicycle manufacturers were going to impose a tax on imported bikes. This was not an isolated trade issue, but included issues facing health, such as the importance of bikes in reducing smog levels in Toronto and the rate of obesity, therefore this trade policy can have health implications.
 9. *The experience of Colombia's Cancer Institute in analyzing policies* has been a great experience that has brought forth many positive things.
 10. *The three selected countries have made some of the most advances in health systems and the topic of health is well-positioned,* unlike in some other countries. Maybe the results of the pilot would have been different if it had occurred in other

- countries. In addition, the type of policies chosen may have had an effect. Nutritional policies don't generate much controversy; on the other hand, tobacco is a completely different challenge.
11. *Will a comparative analysis be done between the three countries' analyses?*
Yes, two forms of analysis are being done. One is the analysis of each case study and the second is the cross-country analysis. Both will be in the first report.
 12. *Is it possible for one particular institute in a country to join the process?*
One principle is that the Observatory is meant to be long-term; it is an ongoing systematic process as a nation that uses strength from all lessons. If the institute has links with the Ministry of Health and can pull people from other centers, then with the blessing of the Ministry, the institute can be the coordinator in country. However, if it is an academic institute that stands alone and the other entities are not integrated, we are moving away from the multisectoral perspective. In addition, since we are focusing on the political level, the government must be involved.
 13. *The priority of the focus should be chosen by countries; policy needs should drive the areas that are investigated.* Canada started with labeling but needs are such that now Canada is looking at integrated disease prevention as policy priority. Therefore, the next set of case studies will apply methodologies as developed to that area. It is important to meet countries' needs
 14. *The methodology itself is not rigid; it was developed in consensus with the countries* and the result was the framework shown during the presentations. Every time a country joins, they become part of the process that will define the methodology for the next part.
 15. *Brazil is now in a position to form better policies* because the conditions in the country are in step with the assessment. The state, civil society, market and media are involved in setting the policy agenda.
 16. *The countries with the best political support were chosen to begin the process.* The strength and value of this exercise is to serve as a guide for other countries in what type of route to follow to have these kinds of policies. For this reason, we chose countries with a rich amount of policies so that we could learn from their experience.
 17. *One exercise that can be attempted with the countries is that they analyze the health situation and then suggest a policy based on the available data.* This exercise can be beneficial for the countries that have developed policies and the other that still have yet to develop them.

Conclusions

The next steps in the CARMEN policy observatory are as follows:

1. Invitation to other CARMEN countries
2. Completion of the first round of Case Studies on nutrition related policies.
3. Further development of the analytic framework for policy implementation and evaluation.
4. In addition, some countries expressed interest in taking part in the CARMEN policy observatory (Peru and Paraguay).

Third Session: Surveillance of Noncommunicable Diseases—An Essential Component

This session included presentations from WHO and PAHO on a framework for CNCD surveillance as well as presentations on CNCD surveillance as part of national health information systems and case studies from four countries. A discussion followed the presentations and touched on many topics within surveillance.

Ms. Leanne Riley, from the department of chronic diseases and health promotion at WHO-Geneva, presented “A framework for Chronic Disease Risk Factor Surveillance: The WHO STEPwise approach.” Ms. Riley highlighted identification of the major common risk factors for chronic disease as a key action in the prevention and control of CNCDS. If action is taken to control these risk factors, the current trend in chronic disease can be slowed down.

Ms. Riley presented WHO’s response to the growing chronic disease burden in low and middle-income countries. WHO recommends surveillance of the major risk factors known to predict CNCDS, because it is easier to identify risk factors instead of disease outcomes and early attention to risk factors can prevent the development of disease. WHO also promotes a standard methodology that is simple and inexpensive to produce valid and reliable estimates of risk factor prevalence; this kind of methodology can be repeated over time to see trends. Who also supports the creation of a surveillance network. In addition, WHO recommends that data be used to develop interventions and policies.

Ms. Riley then presented WHO’s main surveillance activities: Adult risk factor surveillance using a STEPwise approach, complimentary youth risk factor surveillance, (Chile was one of the first to implement the global school-based youth survey), STEPS

stroke surveillance, and the Global InfoBase, which stores comparable data around key risk factors and disease-specific data.

Ms. Riley described the STEPwise framework to surveillance and explained why WHO suggests this framework. The STEPwise framework is a simple a system that can be flexible at the country level in terms of risks, conditions, ages, areas so that it can be adapted in a culturally- and locally- appropriate way. This approach relies on standard method and tools and has the potential to add onto existing systems.

Ms. Riley then explained in detail the STEPS approach to risk factors and the content of each step. The conceptual framework is the distinction between the different levels of risk-factor assessment: information by questionnaire, physical measurements, and blood samples and the three modules in describing each risk factor: core, expanded, and optional. The steps move up in terms of complexity, thus step 2 is more complex than step 1 and step 3 is more complex than step 2. In addition, the core data in each step is the most critical data; the expanded data set and optional modules are the optimal set of data.

- Step 1 includes information by questionnaire and from individuals on demographics and health behaviors. The core level includes basic sociodemographic information as well as information on tobacco and alcohol use, fruit and vegetable consumption, and physical activity. The expanded step 1 includes information on smokeless tobacco use and tobacco cessation, binge drinking, oil or fat consumption, history of high blood pressure and diabetes.
- Step 2 includes physical measurements; at the core level this includes height, weight, waist circumference, and blood pressure, at the expanded level this includes hip circumference and heart rate.
- Step 3 core gathers data on biochemical measures such as fasting blood sugar and fasting total cholesterol. Step 3 expanded includes triglycerides and HDL cholesterol.

The optional modules can collect data on mental health, intentional and unintentional injury, oral health and any other health behavior.

The STEPS methodology is a household-based questionnaire and physical measurements being taken by trained interviewers and the biochemical measurements being taken in a clinical setting. The sample is representative and includes adults aged 25–64 in order to be able to look at chronic disease outcomes. The sample is also stratified by age and sex because incidence rates are specific for each age group and gender.

To implement STEPS, WHO headquarters, the WHO Regional Office, and the Coordinating Committee for Surveillance (CCS) at the country level all work together. Several criteria must be present in order for STEPS to be implemented, for example ethical approval, adequate sample size, and adherence to the Core STEPS instrument.

Ms. Riley then presented maps of the WHO Regions, highlighting where STEPwise surveillance is active. Ms. Riley noted that some countries download the material from the internet without informing WHO HQ that they are undertaking a STEPS survey.

Ms. Riley also presented some strengths of the STEPS approach, such as the opportunity to build capacity at country and regional levels and the access to technical support. Current STEPS activities were also presented and include updating the instrument to reflect changes in GPAQ and dietary questions, the review and updating of all STEPS manuals and tools, the development of training curricula for planning, field work, and data management, and capacity strengthening workshops for data analysis and interpretation.

Ms. Riley concluded the presentation by discussing the vision and opportunities for the STEPS framework. It is expected that within 10 years, most countries will have a surveillance system that produces comparable, reliable, valid and timely risk factor prevalence estimates. WHO provides many resources for the use of STEPS. More information can be found on www.who.int/chp/steps.

Dr. Branka Legetic, Regional Advisor on Noncommunicable Disease from PAHO, Washington, DC presented the WHO-PAHO framework proposal for Noncommunicable Disease surveillance. Dr. Legetic opened her presentation with a quotation from David Frazier to emphasize that there are many different understandings of the term surveillance and that PAHO is supporting a wider concept of surveillance to include more than just basic risk factors. CNCD surveillance is an essential tool for evidence-based decisions and for the monitoring of public health interventions. It falls within the essential functions of public health and is recognized as the responsibility of governments.

Dr. Legetic then presented the differences between acute and chronic disease surveillance, where there are differences in the purpose, use of data, data analysis, and dissemination of information.

Dr. Legetic gave a profile of surveillance data in the Region, showing that most countries have data on at least one chronic disease risk factor, in most cases it is tobacco use. Some countries in the Region have disease-specific mortality data, while others don't have mortality data related to CNCDs. In addition, the methodology used to obtain the data on mortality and risk factors varied from one study to another, therefore making comparability between countries difficult.

PanaSuRF (Pan American Surveillance of Risk Factors) was then presented. *PanaSuRF* offers tools for risk factor surveys based on previous experiences and is tailored to Latin America and the Caribbean. It has been implemented across Central America with a total sample size of 17,000 individuals and results are available for Guatemala, Nicaragua, and Costa Rica. *PanaSuRF* follows the STEPwise implementation strategy endorsed by WHO.

According to a study done by PAHO on national capacities in health statistics, there are several areas that need to be strengthened: health information systems, public health surveillance, and information analysis, among others. In addition, the recent WHO report *Preventing Chronic Diseases: a vital investment* promotes chronic disease surveillance as an integral part of the global strategy for prevention and control of chronic diseases and their major risk factors. This report calls attention to the need of having periodic, reliable data in order to monitor and assess population health.

The WHO-PAHO framework proposal for Noncommunicable Disease surveillance is primarily guided by the interests and needs of the countries. It is also based on the PAHO priority agenda, which stresses the importance of addressing the unfinished agenda, protecting health achievements, and facing new challenges, along with working in key countries and using a Stepwise framework.

The overall objective of the proposal is to establish and implement a CNCD surveillance system at the regional, subregional, national, and local levels which is used for public policy formation, implementation, and evaluation.

Dr. Legetic described the Stepwise concept of WHO as concept that allows countries to choose and conduct CNCD surveillance at the level that suits it best at that stage. To illustrate this concept, Dr. Legetic presented a map as a simulation of where each step of the proposal can be implemented in the Region.

The flow of data at the national and international level was presented as a two-way flow of information, both from the country-level toward WHO and also from the global level back to the countries. The collection of data would occur at the country level, as well as analysis on that level. Sub regional centers, yet to be developed and a Regional InfoBase would compile and analyze data at their level, and will be compatible to the WHO InfoBase.

Dr. Legetic then presented the proposed general objectives, which are:

- Provide guidance and support infrastructure development for CNCD and risk factor surveillance system.
- Strengthen countries national and local technical capacity to apply surveillance on CNCDs and RF.
- Provide assistance to the countries in analysis and use of data for decision making related to NCD policies and programs.

The proposed specific objectives are

- Identify existing information, sources and countries capacity for application of surveillance on NCD and RF.
- Agree upon core, expanded and desirable indicators, standard methodology of collection and analysis
- Assure training for countries on methodology of collection, analysis and placement of data on info Base
- Establish Regional info base and provide and disseminate information on updated trends and distribution of burden of NCD and RF prevalence over time.

Dr. Legetic finished her presentation by describing the next steps in the development of CNCD surveillance in the Region. PAHO/WHO will form an intraprogrammatic working group and make a baseline assessment of the availability of data, sources of data, and capacity in the countries. The working group will agree upon indicators for the basic, expanded, and optimal levels, subregional training workshops will take place, the Regional infrastructure for the InfoBase will be established, and the Regional situational analysis on CNCDs and risk factors will be disseminated. On the country level, countries will provide information for basic assessment, take active participation in discussions and workshops, assure adequate infrastructure, and regularly send information to the Regional database.

Dr. Enrique Vazquez, PAHO/WHO Adviser and focal point for CNCDs in Argentina, presented the experience of chronic disease surveillance in Argentina. Argentina has two national health information systems; one is the registry of basic data and the other is the mortality registry. Dr. Vazquez presented the types of data related to health: environment, human modification of the natural environment, socioeconomic and political data, health situation data, healthcare resources, determinants of health, and health promotion strategies and processes. Dr. Vazquez then presented the sources that can provide various types of health-related information.

Dr. Vazquez then explained that two scenarios are possible with regard to a national surveillance system. The first is an integrated system. This system has information on mortality, morbidity, health care (primary care and hospital-based care), programs and other sectors. With regard to public health surveillance, there is a balance between communicable disease surveillance and chronic, noncommunicable disease surveillance. In addition, health studies are conducted on a periodic basis and the information generated is used in decision-making.

On the other hand, the second scenario is a weak system. In this kind of system, new data is not connected to previous data, and there is only data on mortality and health programs. The surveillance is not balanced; rather it is focused on communicable disease surveillance. The analysis of information is poor and dispersed and is not related to decision-making. The countries of Latin America and the Caribbean fall somewhere in the spectrum between these two systems.

Dr. Vazquez then presented some keys for the advancement of CNCD surveillance, including the evaluation of the available sources of information, the establishment of a quality improvement strategy, the establishment of priorities, and the development of a strategy for the use of the information in decision-making.

Dr. Vazquez focused on Resolution CD40.R10 adopted during PAHO's 40th Directing Council in 1997 on the Collection and Use of Core Health Data to evaluate the health status of the population and health trends, providing an empirical basis for identifying the population groups with greater health needs, stratifying epidemiological

risk, determining critical areas, and examining the response of the health services to provide input for policy-making and setting priorities in this field. This resolution is the mandate for institutionalizing the Regional Core Data Initiative (RCDI). Components of this Initiative are the PAHO Basic Indicator Data Base with an online table generator, which is a multidimensional query tool that offers a collection of 108 indicators for 48 states and territories of the Americas from 1995 to 2005. The system presents data and indicators on demography, socioeconomics, mortality by cause indicators, morbidity and risk factors, and access, resources and health services coverage. This initiative also includes country health profiles and the Atlas of Basic Health Indicators.

With regard to CNCDs, several indicators are included in the Initiative: 19 indicators are related to CNCD mortality and 9 are related to CNCD morbidity and risk factors.

Dr. Vazquez then presented some new methods of analysis of CNCD mortality. Dr. Vazquez was able to illustrate that by using other forms of analysis, such as life expectancy and years of life expectancy lost, which are measures derived from mortality data, it is possible to demonstrate the impact that a particular disease will have on the population. These new forms of analysis are important tools for situational analysis and for decision-making in public health.

In conclusion, Dr. Vazquez mentioned that the methods of analysis are not an end in themselves; rather, the following are needed: detection of problems in quality, evaluation of the analysis, and improvements in decision-making. In addition, Dr. Vazquez noted some beneficial effects such as an increase in self-esteem of the employees.

Country Experiences

Lic. Mario Virgolini, from the Ministry of Health of Argentina presented his country's experience with the *National Survey of Risk Factors*. First, Lic. Virgolini presented the principal causes of death in Argentina, with cardiovascular diseases accounting for 32% of the deaths in 2001. The principal risk factors for morbidity in Argentina are alcohol use, hypertension, tobacco, underweight, overweight, high cholesterol, and low fruit and vegetable intake.

Proper surveillance of CNCDs includes the monitoring of risk factors in addition to the monitoring of mortality and morbidity. In order to design preventive strategies, it is crucial to know the determinants of CNCDs decades early. Periodic surveys are needed to monitor behaviors, conduct, and risk attitudes of the population.

Lic. Virgolini then presented some general characteristics of the survey as a risk factor surveillance system. First, the purpose of the survey is to obtain valid and reliable estimates of the prevalence of risk factors. The overall objective is to develop a valid and reliable survey in order to supply the CNCD surveillance system with estimates of the

prevalence of risk factors. Specific objectives are to monitor trends and the distribution of risk factors, evaluate the effectiveness of interventions, and disseminate the results. The survey is a cross-sectional prevalence study of adults over 18 years old, with national-provincial, and urban-rural representation, by subgroups.

Lic. Virgolini explained the methodology that was adopted to carry out the survey. It included a group of 28 international experts who chose the variables, reviewed available CARMEN questionnaires, reviewed other already valid questionnaires such as the WHO Standard Risk Factor Questionnaire, defined the 14 modules including the basic and optional questions for each module, and proposed a group of basic indicators for each module. In addition to items on sociodemographic aspects and health coverage, the survey contains items on risk factors and care of chronic diseases such as hypertension and diabetes. The survey underwent a transcultural adaptation and validation and resulted in a standard instrument for risk factor surveys in Argentina.

As of October 2005, most phases of the survey at the national level have been carried out, from the general preparation and pilot tests which began in April 2004 to the initial data analysis. The national and provincial statistical analyses were set to begin in November 2005, with the preliminary final report to be produced in December 2005. Local experts will be involved in the production of this report. Later, it is expected that CNCD and risk factor surveillance will be used in decision-making. In addition, workshops to prepare a communications campaign for health promotion in areas of risk factors will take place.

Dr. Barbara Medina from the Ministry of Health of Chile presented the experience of chronic disease surveillance in Chile. First, Dr. Medina presented the context of CNCDs in Chile: the demographics, the epidemiology, and the burden of disease. Cardiovascular diseases are the principal cause of death in Chile, accounting for 31% of deaths, followed by cancers which account for 23% of death. Noncommunicable diseases account for 73% of the disease burden in the country. The priorities of CNCD surveillance in Chile are the contribution of information that will improve the decision-making process and the evaluation of the achievements in the health goals. Various sources of information are available for analysis, such as registers and health surveys. In addition, special studies are done for each disease.

Population surveys are undertaken, for example the *National Health Survey 2003* or the *Global Youth Tobacco Survey* in 2000 and 2004. In addition, monitoring of the indicators for the health objectives for the decade 2000–2010 and population registers form part of the system of CNCD surveillance in Chile. Additionally, as a pilot experiment, a Regional Center for Surveillance of CNCDs has been established in the VIII Region.

The *Quality of Life and Health Survey* in Chile has, as its objective, to know the perception that Chileans have on their life and health. The results will provide a baseline for the evaluation of achievements in health policy and adjustment of the health

objectives. The sample has national coverage, both urban and rural, and the health module contains items on family health and individual health.

Dr. Medina then presented the *National Health Survey* which took place in 2003 with the following objectives:

- To know the prevalence of priority diseases in Chile in a representative sample of the population.
- To describe the prevalence of these diseases according to population groups of interest: sex, age, socioeconomic level, and education
- To construct a blood sample depository *seroteca* for the future use of the Ministry of Health.

Several health problems and their principal risk factors were studied in this survey. The survey produced various results, such as the prevalence of diseases and risk factors in total and by subgroups, the association between prevalence of risk factors and symptoms, the coexistence of risk factors and pathologies, the contrast of real prevalence data versus perceived and self-reported prevalence data, and the acquisition of a blood sample depository.

The Ministry of Health participated in the *Global Youth Tobacco Survey*, an initiative of WHO which was first implemented in Chile in 2000, and later in 2003. The results of the survey are available on the Ministry of Health's website, as well as on the CDC website. The Ministry of Health also participated in the Global school-based student health survey, another initiative of WHO.

The Ministry of Health of Chile has established cancer registries in order to know the incidence and distribution of cancers in the population; this information is intended to contribute to the planning and evaluation of cancer programs and treatment. There are three registries implemented in the country which rely on various sources of information such as clinical files and medical death certificates. The primary results have been able to show the incidence of most types of cancer in the three Regions where registries have been established. The results are available on the following webpage: <http://epi.minsal.cl>.

The Center for CNCD Surveillance in the VIII Region is a pilot whose objective is to create a methodology of comprehensive CNCD surveillance that includes mortality, morbidity, prevalence, incidence, and levels of exposure to the main risk factors in the population older than 14 years. The evidence comes from studies of the disease burden, the cost-effectiveness of interventions, and population surveys. The goal is for this evidence to affect the formulation of policies and plans in order to achieve the health objectives for the decade 2000-2010.

The health objectives have been developed within the framework of the health sector reform in Chile. These objectives indicate the health goals that the country should achieve by 2010. The objectives take into account the starting point of the current sectoral reform. The objectives reflect priorities of the sector, with concrete goals in priority areas and they are the central element for preparation of the health policies. The

evaluation of the health objectives is currently being undertaken. The general objective of this evaluation is to assess the progress that has been made toward the achievement of the health objectives.

Dr. Medina concluded her presentation by presenting the future of CNCD surveillance in Chile and concluded that CNCD surveillance is involved in a broader health information system and is a fundamental part of the work in public health. In addition, CNCD surveillance supplies quality information for the decision-making process and the evaluation of public policies.

Dr. Deborah Carvalho Malta, National Coordinator on Noncommunicable Diseases in the Ministry of Health, presented the policy of surveillance of CNCDS in Brazil.

In the Ministry of Health of Brazil, there are five Secretariats; surveillance is one of these and includes a specific division on CNCD surveillance, which is involved with disease and overall health promotion. The mission of CNCD surveillance is to consolidate the surveillance system for CNCDS and their risk factors in Brazil's Unified Health System (*Sistema Único de Saúde de Brasil*).

Dr. Carvalho Malta presented the situation of CNCDS in Brazil. Brazil is experiencing three kinds of transition right now. The first is the epidemiological transition, with a reduction of infectious disease and an increase in CNCDS and violence. The second is a demographic transition, characterized by a reduction in mortality rates, an increase in life expectancy, and a decrease in the fertility rate. The third is the nutritional transition, which consists of a reduction in malnutrition and an increase in obesity.

Risk factors for CNCDS are prevalent in present-day Brazil; for example the rates of obesity and physical inactivity are rather alarming. In addition, Dr. Carvalho Malta presented tobacco use as an important risk factor that Brazil has been able to reduce through a strong national prevention program in conjunction with the National Cancer Institute (INCA). Legal cigarette sales have decreased by as much as 32% since the national program began. In addition, deaths attributed to cancer of the lung, bronchial tubes, or trachea have also decreased in recent years among men 30-49 years old.

The surveillance system in Brazil is focused on the analysis of mortality and morbidity trends; in addition, attention is also given to using surveillance as a tool in the prevention and control of CNCDS. The focus of Brazil's CNCD surveillance system is the integrated prevention of risk factors because they are common to several diseases and they exist during the entire lifespan.

Dr. Carvalho Malta then presented the actions that Brazil is currently undertaking in the surveillance, prevention, and control of CNCDS. First, the national health promotion policy is in progress and seeks to facilitate dialogue between the health sector, other governmental sectors, and society. Through this policy, it is hoped that various

sectors will come together and take co-responsibility for the health of the nation. This policy maintains six priority areas:

- The global strategy on diet, physical activity, and health
- The prevention of violence
- Healthy environments (schools, workplace, cities, smoke-free environments)
- Reorientation of the health services
- Construction of health plans on municipal level
- A culture of solidarity and social responsibility

The agenda for surveillance, prevention, and control of CNCDS in Brazil was agreed upon in September 2005 between various parties from the Unified Health System, health institutions and technicians. The agenda consists of four main points, the first of which is the structuring of the surveillance system for CNCDS, their risk factors, and their protective factors. The information in the surveillance system will come from various sources, such as a specific school-based survey or national telephone surveys. The system will follow a step-wise approach, consisting of three modules, basic, expanded, and optional, that collect data on CNCDS, accidents, and violence. Brazil already has some plans for surveillance, including a national health investigation on behavioral risk factors and protective factors in 2007-2008, a national school health investigation with CGPAN (*Coordinação Geral da Política de Alimentação e Nutrição*) and the Ministry of Education (MEC) in 2006, and viability studies to implement the surveillance system via telephone. In addition, technical support and collaborations with scientific institutes and others are included.

The second point in the agenda is management, which includes regulation, finance, human resources, participation, social responsibility, and sustainability. The Technical Advisory Committee consists of experts from various universities who advise and set challenges in the agenda. Various other committees are working on other priorities. For example, a committee for the management of the national health promotion plan is currently constructing the promotion policy, and both an intra-ministerial commission and an inter-ministerial committee exist for the implementation of the global Strategy on Diet, Physical activity and health. In order to build capacity of Brazil's human resources in CNCDS surveillance, various courses are going to be offered.

The third point in the agenda is interventions for prevention, which includes plans based on the Global Strategy that target healthy eating and physical activity, in addition to plans for the prevention of tobacco use, cancer, diabetes and hypertension. All of these plans include partnerships and coordination between the Ministry of Health and other involved parties.

The fourth point in the agenda is evaluation and support for research. This includes participation in the CARMEN policy observatory, a guide for the evaluation of CNCDS, and a study on the macroeconomic impact of CNCDS.

Dr. Lavados from the University of Chile presented a case study on population-based stroke registers and stroke surveillance in developing countries. Stroke is one of the major CNCDs; 15 million people worldwide suffer a stroke every year.

Dr. Lavados presented characteristics of population-based incidence studies and demonstrated their importance. Although criteria for ideal studies have been established, developing countries face many challenges that would need to be overcome in order to successfully undertake an ideal population-based stroke registry. For this reason, the establishment of such a registry is almost impossible in some countries. Some of these challenges are the lack of human resources trained in public health and epidemiology, the little grant money available for neuroepidemiological studies, difficulties in access to CT scanning, and little awareness of stroke as a public health problem, among others.

Dr. Lavados then presented the PISCIS project (*Proyecto de Investigación en Stroke en Chile; Iquique Stroke Project*). Iquique is a city in the north of Chile where the project took place; the study population was a prospective population based on a 215,000 inhabitant northern city and included both hospitalized and non hospitalized participants over a 2-year period. An informational campaign entitled “Care about your mind” (*Cuide su cerebro*) accompanied the study. Results indicated that 380 strokes were identified in total, with 292 incident cases, 71% of which were hospitalized. The study also found a 30-day case fatality rate of 23% and a sixth month death or dependency rate of 53%. The results were published in a 2005 article in the *Lancet*.

Dr. Lavados then presented several cardiovascular risk factors in the PISCIS project; for example the prevalence of diabetes is almost 10% higher in this population than in the regular population. When the results of the PISCIS project are projected to the entire Chilean population, the following estimates are calculated: 27,000 cases of stroke each year. Of this 27,000, 9,000 will die by 6 months’ time and another 6,000 will be permanently disabled at 6 months. Out of the estimated 27,000 strokes each year, 18,000 will occur in people with hypertension, 6,000 people will have diabetes, 3,500 will have high cholesterol, and 5,000 will be taking aspirin.

In conclusion, stroke population studies are possible in developing countries if the population to be studied is well chosen for size, the methods are standardized and simple, there is free and ready access to CT scan and medical attention, and enthusiastic investigators are able to commit support from local political and health authorities and the pharmaceutical industry.

Surveillance in stroke is important because it provides data on the magnitude of disease occurrence in populations over time, estimates of future resources needed for prevention and measures the impact of public health initiatives. The WHO STEPS-Stroke initiative provides a framework for continuous standardized data collection, allows for comparisons over time and between populations, is a sequential process, and is an easy-to-use internet-based tool.

The WHO STEPS-Stroke initiative follows the same concept as the WHO STEPwise framework for CNCD risk factor surveillance, with three steps and various modules- core, expanded, optional- within each step. The main outcome measures of WHO STEPS-Stroke in Chile are the following:

- incidence of hospitalized stroke in 3 different geographical regions
- the incidence of fatal strokes in the community
- management of stroke
- health facility resources allocate to stroke patients
- functional status of stroke patients at discharge

WHO has approved three sites for the STEPS-Stroke study in Chile: Iquique in the north, Talca in the central region, and Punta Arenas in the south. Funding has been pre-approved by the FONIS (*Fondo Nacional de Investigación en Salud*) and is pending final approval in December.

Discussion: Surveillance of CNCDs and Risk Factors

1. Much more time is needed to talk about surveillance in general. Many years ago, a risk factors survey was done in several countries and now we are continuing with this work. For example, PAHO and CDC developed an initiative in 5 capital cities of Central America and now Panama and Belize are going to undertake national surveys. The system for the surveillance of risk factors that PAHO has created for the Region is called PanaSuRF and includes a questionnaire, a field work manual, a module for computer data entry, 13 distinct modules, and 3 optional modules. The surveys were done the most complete way they could be, especially since these countries did not have a surveillance system in place. For the first time, the capitals in Central America have data . This system follows the Stepwise concept, but with adaptations for the Region, and is based on the experiences of our countries combined with experiences from the USA and other countries.

PAHO's core data system didn't give much information on CNCDs for many years because the systems in the countries are designed for surveillance of communicable diseases, not CNCDs. Now that Dr. Legetic is in Washington, she will work on developing CNCD surveillance.

With regard to mortality data, the change in the International classification of disease (ICD 10) has brought many changes in the monitoring of CNCDs. For example, in Mexico, primary and secondary cause of death is recorded that made it possible for diabetes to be recognized as a cause of death. In addition, it became possible to separate death from cardiovascular disease into more specific causes, such as heart attack.

2. *What is the periodicity that is advised to repeat risk factor surveys?*
Three to five years has been defined as the ideal periodicity to repeat risk factor

- surveys. Risk factor surveys can also be included into other surveys- variables and questions can be integrated into other surveys to best use the resources that are available.
3. In the United States, the sample is done every year.
 4. Surveillance is a fundamental theme which requires more time. First, it should work through two perspectives. One being public health surveillance as a wide concept with many sources, and the other being permanent surveillance systems. Second, the current surveillance systems need to be reviewed and the different levels in which we are going to work within the surveillance systems need to be differentiated. CNCND surveillance has problems with consistent denominators. In addition, we are oversaturated with information; many surveys investigate the same topics. Surveys should be complementary, not duplicating, which leads to difficulty in the evaluation of data.
 5. What is the representation from the countries who have participated in the STEPS survey?
 6. Globally, most of the 69 countries that have done STEPS surveys have done nationally representative samples; some have gone to the subregional level extensively (e.g. in large countries such as India it makes sense to have subregional data). A lot is determined by access to a good sampling frame- (e.g. if good census data exists country wide). The effort in many places is to get a nationally representative sample stratified by age and sex. (25-64, males and females).

Although in general a STEPwise approach is advocated, it is recommended that countries just starting out initially focus on steps 1 and 2. Step 3 is best undertaken when the country has more experience and resources. The cost is enormous to do step 3 for countries without surveillance systems, so it is better to obtain good data on the first step and make it more complex when the survey is repeated.

7. One problem with surveys is the resources. When countries don't do surveys it is because they don't have the resources. The other Regional Offices of WHO only have one person dedicated to CNCNDs, PAHO has an entire team and is able to dedicate a Regional Advisor to surveillance. We have the technical capacity to do surveys, we just don't have the resources. PanaSuRF is designed in English and Spanish, and Belize is the first country to use the English version.

Conclusions

1. There is a need to dedicate one CARMEN network meeting to the topic of surveillance.
2. The ideal periodicity to repeat risk factor surveys is every 3-5 years.
3. Every country can obtain good data using a STEPwise approach to risk factor surveillance.

Fourth Session: Sustainable Development and Management of Risk Factors and Chronic Disease

This session focused on sustainable development and management of risk factors and chronic disease. This session included presentations on PAHO's priorities in this area, experiences in healthy municipalities, the importance of primary health care, and several country-level experiences in chronic disease management. The presentations were followed by discussion, where the participants discussed strategies in chronic disease management and the evaluation of programs.

Dr. Alberto Barceló, chief a.i. of the Noncommunicable Diseases Unit from PAHO-WDC, opened the fourth session with his presentation on the Management of chronic noncommunicable diseases and risk factors. Until now priorities in the control of CNCDS were diabetes and cervical cancer. The justification for this is the high incidence of cervical cancer and the high prevalence of type 2 diabetes in the Region, the evidence of cost-effective interventions in cervical cancer and the impact of metabolic control on cardiovascular risk in people with diabetes. In addition, there is evidence that diabetes care is sub-optimal and that there is little or no effect of cervical cancer programs on mortality rates. Another factor, available resources, also determined the priorities (e.g. PAHO received a large grant from the Gates Foundation for the cervical cancer project and a grant from the Division of Diabetes Translation at the CDC allowed PAHO to undertake the diabetes surveys in Central America).

The focus of work in the control of CNCDS and their risk factors is to work on several aspects of management of diseases. PAHO has done a study in Mexico on the quality of chronic care. Now days activities are focused on prevention of chronic diseases through actions targeted at obesity, physical activity, and healthy eating. Some activities that are currently underway are the development of interventions in primary health care services with the objective of evaluating or implementing evidence-based care and prevention guidelines, self management programs, and programs for the evaluation and improvement of care systems. Other activities are targeted at advising the development of clinical information systems, whereas others are aimed at the development of initiatives that relate health services to community resources.

Dr. Barceló then presented methodology for care quality improvement: the chronic care model by Wagner and the Breakthrough Series (BTS) by the Institute for Healthcare Improvement. These strategies have been utilized by WHO and PAHO to improve the quality of chronic care. The chronic care model relies on the interaction of various factors in the community and the health system to produce results. The BTS methodology is based on learning sessions with action periods in between. The interventions are based on the repeated use of cycles of improvement, called P-D-S-A (Plan, Do, Study, Act) cycles, to improve the quality of care. Each part of the cycle has specific questions for the health team to answer in order to be able to evaluate their situation.

During the learning sessions, primary health care teams detect the problems that impede good care and plan solutions, which are implemented during the action periods in between the learning sessions.

The methodology and selected results of Collaborative project VIDA focuses on improvement of diabetes care, that took place in Veracruz, Mexico was part of the presentation. After one year of the intervention, the results indicated an improvement in metabolic control, as measured by HbA1c, an increase in nutritional and foot care education, and an increase in registered eye and foot care cases.

Some effective experiences were noted in the VIDA project, namely the inclusion of a structured self-management program in primary care, the in-service training of the health team instead of the traditional methods of continuing education, the cross consultation with a specialist, and the modification of the referral system so that the patient returns to the primary care team after concluding treatment with a specialist.

PAHO has been working to influence health policies, improve programs and to advocate for cervical cancer prevention in Latin America and the Caribbean since 2000.

The objectives of the cervical cancer project are to:

- Assess alternative screening and treatment methods: two demonstration projects have been established, one in Peru & another in El Salvador.
- Improve program organization and delivery of services. The following has been conducted: program needs assessments, training of health personnel and provided assistance with guidelines and standards.
- Improve quality of care for screening services: a continuous quality improvement method in El Salvador has been pilot tested.
- Advocate for cervical cancer prevention to become a priority public health issue: scientific and programmatic materials have been created and disseminated, meetings have been held with Ministers of Health and senior health officials for advocacy purposes.

Demonstration projects were established to assess effectiveness of method “see and treat” by using Visual Inspection with Acetic Acid as a screening test and cryotherapy delivered by primary care physicians as a treatment method for precancerous lesions, all in one single visit. This was meant to greatly reduce the need for multiple visits and will diminish the potential loss to follow up of screened positive women.

In addition, a continuous quality improvement was tested in El Salvador, using the aforementioned P-D-S-A cycles. Some problems that were identified were low coverage, low quality of the testing, long wait time, and low follow-up. After one year of the quality improvement intervention, improvements were seen in the quality of the testing, the wait time, and in the follow-up.

Dr. Barceló mentioned that the VIDA project is featured in the recent WHO publication *Preventing Chronic Diseases: A Vital Investment*. In addition, WHO has provided PAHO with funds to produce the final report of the VIDA project in the same design as the WHO report. Dr. Barceló concluded his presentation by reiterating that the incorporation of strategies for the prevention of CNCDs is a priority that should be implemented immediately.

Dr. Fernando Rocabado, WHO PAHO adviser from PWR office in Peru, presented sustainable development from the local level: the case of healthy municipalities. The creation of healthy environments relies on the participation of responsible politicians, local governments and community agents in the health and environmental sectors so that the whole environment—physical, social, economic, political, and labor—are favorable and not damaging to health, thus ensuring a sustainable use of the natural resources.

A series of healthy environment projects have been undertaken, including healthy municipalities, healthy schools, health workplaces, and healthy markets, among others. The classic definition of health promotion is providing people with the necessary means (determinants) to improve and exercise a greater control over their health. Dr. Rocabado identified 11 determinants for a healthier Peru. Some of these include employment and working conditions, education, nutrition, and quality and quantity of health services. The majority of these determinants come from outside of the health sector, thus presenting the opportunity to work outside of health services and create multi-sectoral partnerships.

Health is the result of a process of social production and it is an expression of quality of life in terms of well being, services, and other conditions. The responsibilities of municipalities with regard to well being are the authorization of construction, public transport, streets, markets, etc. The responsibilities of the municipality with regard to services are clean water, cemeteries, education, a police force, etc. The responsibilities of a municipality with regard to other conditions are public spaces, culture, art, sports, etc.

A healthy municipality should look for the following qualities: a participatory, strong community, coverage of the basic needs, a varied and dynamic economy, optimal and accessible health services, among others. Policies should focus on improving the environments, improving lifestyles, protecting the entire population, not only specific groups, and healthy production and economy.

There are many examples of healthy municipalities; the three first proposals for healthy municipalities in the Region of the Americas were Zacatecas, Medellin, and Cienfuegos. In addition, the municipality of Sherbrooke in Quebec, Canada began healthy municipality projects in 1992 and Santa Catarina began in 1993. The prioritized problems were mainly environmental. Also in the early 1990's, the Mexican Network of Municipalities for health began and became one of the most active movements in the world. The Declaration of Monterrey has had a strong influence in the Region and has affected programs in Cuba, Venezuela, and Panama, among other countries.

PAHO offers guidelines for the promotion of quality of life through the strategy of healthy municipalities and communities. Dr. Rocabado presented the phases in the development of a healthy municipality, starting with the initial phase during which awareness is raised, commitments are made, and analysis is undertaken. Later, the municipality will pass through a planning phase and an implementation phase. Some municipalities identified such problems as drug addiction, alcoholism, environmental pollution, and domestic violence. Loja, a municipality in Ecuador, worked for 8 years to attain a clean, healthy city.

The network of healthy municipalities functions to promote and generate healthy public policies at the local level. In addition to acting on the governmental level, the network seeks to promote the participation of citizens. Some municipalities focus on the development of healthy families and communities, which includes healthy cooking, construction and maintenance of latrines, storage of seeds, and ecological farming. Other municipalities have focused on the air quality and the reduction of air pollution. Still, other municipalities have directed their actions toward primary health care. Several municipalities have targeted specific risk factors, such as tobacco smoke and physical activity. These actions have relied on the participation of the entire municipality. Healthy municipalities have achieved much, especially in terms of being able to put health on the political, social, and institutional agenda.

Dr. Rodrigo Soto representative of the PAHO working group on primary health care presented the role of primary health care in the management of risk factors and chronic, noncommunicable diseases. Dr. Soto oriented his presentation by posing the following question, “Is it possible to significantly advance in the reduction of risk factors and in the control of CNCs, equitably, if the countries do not construct health systems based on primary health care?”

Dr. Soto then presented some data that represent the health problems that the Region is facing, both from the unfinished agenda, such as maternal and infant mortality, and from the new challenges, such as the global epidemic of obesity. Dr. Soto also noted that overweight, obesity, hypertension, and diabetes are inversely related to educational level, thus unequally affecting the population with the least resources.

Dr. Soto then posed another question, “what good it is to treat people’s illnesses and then send them back to the conditions that generated the illness?” It is necessary to reconstruct the system of primary health care and to renew the commitment of the countries to strengthening primary health care. PAHO supports the position that recognizes the reform of primary health care as an integral part of the development of health systems and clarifies that the most adequate way to produce equitable and sustainable improvements in the health of the people is to base health systems in primary health care.

The primary health care system needs to be reformed because things have changed in the past 23 years; new knowledge has been acquired and the epidemiological

profile has changed. Some indicators have improved, for example most countries have decreased their levels of infant mortality, but other problems have remained and yet others have emerged.

Some values are key to a health system based on primary care, such as the view of health as a human right, solidarity, and equity. In addition, several principles and 12 key elements of a health system based on primary care were presented.

Dr. Soto also spoke about the importance of prioritizing horizontal programs. Harmonious collaboration between vertical and horizontal programs will allow health networks to progress and grow, thus expanding the guarantee to health as a right. This harmonious collaboration will combine the specificity of the vertical approach with the sensitivity of the horizontal approach, leading to more integrated actions of a higher quality and a more equitable distribution. In addition, the integration of these two approaches will allow for an adequate prioritization of the available resources and the optimal participation of the community in improving their own health and well-being. In conclusion, it is only possible to make significant progress in the reduction of risk factors and the control of CNCDs in an equitable way if the countries of the region develop health systems based on primary health care.

Country Experiences

Dr. Mohammed Rahaman from the Ministry of Health of Trinidad and Tobago presented his country's community experience in the management and prevention of chronic, noncommunicable diseases. First, Dr. Rahaman gave a profile of the country, noting the epidemiological transition and the increase in the ageing population. He then presented the mission statement of the Ministry of Health which is to promote wellness and ensure the availability of quality health care to the people of Trinidad and Tobago in an affordable, sustainable and equitable manner.

By 1997, cardiovascular diseases and diabetes accounted for 40% of all deaths in the Caribbean region, with Trinidad and Tobago having the highest overall percentage. Since 1998, cardiovascular diseases accounted for the highest number of hospital admissions by far, when compared with other chronic diseases. CNCDs also present a large economic burden on the country.

Trinidad and Tobago has had experience, especially in the last decade, of integrating CNCD programs at the community level. These experiences are based on the non pharmacological management of disease to reduce problems and reduce mortality and morbidity from CNCDs and to improve quality of life. First, diabetes support groups and a diabetes awareness program targeted toward people with diabetes and their family members was introduced to raise awareness of the relationship between diabetes and other chronic diseases, to improve knowledge of risk factors and increase self-management skills, and to provide support for people with diabetes in their efforts to modify behaviors.

A well weight management program was also introduced with the objectives of building and increasing the personal health skills of the community relating to physical activity and nutritional practices and empowering communities to achieve well-being by training community persons as exercise instructors and developing community wellness centers as well as an environment within the health sector to support the practice of healthy lifestyles. 12 well weight management programs were established between 1997 and 2003 and 75% are currently functioning. The programs have helped participants to lose weight, feel good, and create a social network. Some challenges are maintaining the support from the health personnel and the monitoring and evaluation of the program. Currently, well weight management programs for seniors also have been implemented as well.

Another initiative, the exercise by prescription program, has also been implemented and consists of clients undergoing a medical examination and later being referred by the Medical Officer and District Health Visitor for physical exercise. These clients are referred to a specialized center and are instructed in physical fitness by trained instructors three times per week. Their blood pressure, blood glucose, and weight are monitored at every session and evaluation has shown that there has been improved control of blood pressure and blood sugar among clients, as well as improved well-being.

The healthy spaces initiative has been implemented with four specific target groups in mind: school children, out of school youths, adults and elderly, and women. This initiative is multisectoral and several needs were identified by the community, including potable water supply, greater access to medical services, developmental skills training programs for youth, and recreational areas for children, among others. Three pilot projects have been implemented and one of these, Plum Mitan, has been identified as a model of best practices for their achievements in addressing the identified problem areas.

Other activities have been undertaken in Trinidad and Tobago to address CNCDS from the community perspective, such as updated guidelines on the management of certain chronic diseases, and risk factor surveillance. In addition, policies have been developed to target CNCDS and risk factors, especially tobacco use. Trinidad and Tobago has several future plans in place aimed at the prevention and control of CNCDS, in particular a comprehensive wellness program that is based on a Jamaican model.

Dr. Maria Cristina Escobar, from the Ministry of Health of Chile presented the Chilean cardiovascular health program. She began her presentation by calling attention to the health objectives for the decade 2000-2010, in particular the objective of confronting the new challenges that stem from the ageing population and societal changes. She also presented information on cardiovascular diseases in Chile, namely the high rates of death and disability from cardiovascular diseases.

The Chilean cardiovascular health program is based on primary health care. It covers 70% of the hypertensive population and 77% of the diabetic population and is

growing. Dr. Escobar also noted that the proportion of people with hypertension or diabetes who are in control of their disease is sub-optimal. Therefore, the Ministry of Health has created various resources to assist the population in achieving cardiovascular health.

First, in 2000, the Ministry began reorienting the system from a classic, disease-specific approach, to a program with an integrated approach. The ministry created several clinical guides to help the health sector in this transition and to conserve the technical basis of the program.

The Ministry also conducted an in-depth evaluation of the effectiveness of the CARMEN cardiovascular health program in 13 health centers. The study had several limitations, including the limited study period (2 years), the auto-reporting of information without independent validation, and the before-after design was not appropriate to infer causality. However, several conclusions about the program were made. The study demonstrated the problems in the program, such as deficiencies in the reliability of information. For example, only 47.1% of the participants registered the same height in 2001 and 2003, therefore the measurements of BMI are not valid. In addition, there was a high loss of follow-up in the subgroups, one participating primary health center reported a 41.6% loss in the cohort in the 2-year period. Some results demonstrated modest effectiveness in control of overall cardiovascular risk. The effectiveness of the program was highest among people with high and maximum cardiovascular risk. Also it was found that control successes vary by health center and the effectiveness of the program in achieving favorable changes depends of good leadership and team work. Also, financial resources that assured implantation of the project drove to high use of visits per patient, good monitoring system and use of now accessible medicaments. There as a small number of participants in the study found who were under exclusive non-pharmacological treatment for their conditions.

Chile as a part of Health care reform offers guarantees related to treatment and care for certain conditions. During 2005-2007, 56 pathologies will have guarantees of access, opportunity, financial protection, and quality. Among these 56 pathologies there are several that belong to chronic diseases and their RF as: myocardial infarction, stroke, diabetes type 1 and 2, hypertension, cancers The idea is to increase the improvements in health in proportion with the expenses.

A pilot diabetes prevention program with a focus on non-pharmacological treatment is being endorsed by the Ministry of Health, with the goals of attaining lifestyle changes in people who have pre-diabetes.

In addition, a research project is being undertaken with PAHO and the International Life Sciences Institute that will investigate the effects of training the primary health care team on the following variables: sedentary lifestyles, consumption of fruits and vegetables, and overweight and obesity. The target population is people with cardiovascular risk. The study is a random cluster design and is currently in progress.

Dr. Ina Santos from the Federal University of Pelotas in Brazil (Universidade Federal de Pelotas) presented a proposal for a guide for the evaluation of CARMEN community actions. The overall objective is to construct a methodological guide for the evaluation of community interventions aimed at the prevention of risk factors for chronic, noncommunicable diseases. Specific objectives are to review the available literature on community-based preventive interventions for CNCs, construct the indicators for the evaluation, and create a guide for the evaluation.

Completion of the first specific objective is currently underway; various sources, such as PUBMED and the Cochrane Library, are being reviewed. Some of the search terms being utilized are Community-based intervention, quasi-experiment, chronic noncommunicable disease, Diabetes, Hypertension, CVD, North Karelia Project, CINDI, CARMEN, Minnesota Heart-Health Program, among others.

For the analysis, different instruments are being utilized. For randomized control trials, the standards in the CONSORT statement are followed, for nonrandomized control trials, the TREND statement guides the evaluation, and for observational studies, Downs and Black's instrument is used as a reference. Dr. Santos then presented the steps to take in the evaluation of interventions; each step has a main research question that guides the evaluation.

Completion of the second specific objective consists of determining the types of indicators that will be measured along four main themes: indicators of availability, utilization, coverage, and impact. Four questions guide the analysis of these themes.

- Availability: "What is available/being offered to the population so that the objectives of the CARMEN initiative are attained?"
- Utilization: "Which the receptivity of the population to the programs/interventions that are being offered?"
- Coverage: "What kind of coverage do the programs that are being offered have?"
- Impact: "What kind of impact do the programs/interventions have on risk factors?"

To determine the type of evaluation, two questions should be answered for a useful evaluation. The first is "what decisions need to be made and who will be the decision makers?" Different decision makers need different information in order to make decisions; this needs to be taken into account at the beginning of the evaluation. The second question is "What degree of scientific inference is required?" Three levels are presented: Adequacy (were the program's objectives attained?), plausibility (the attained goals were due to the program?), and probability (What is the statistical probability that the program had an effect?). Dr Santos then illustrated each of these levels with real-life examples from Brazil, such as a plausibility assessment of the impact of the national milk program in the state of Alagoas.

Randomized control trials are essential for clinical trials and community studies in order to establish the effectiveness of relatively simple interventions. Randomized control

trials require additional evidence from non-randomized studies in order to increase the external validity. Given the complexity of several public health interventions, studies of adequacy and plausibility are essential in different populations. Evaluations of adequacy, and plausibility whenever possible, should also be part of the routine.

Lic. Mario Virgolini, from the Ministry of Health of Argentina, presented the experience of CARMEN in Argentina. According to the Ministry of Health, cardiovascular disease is the leading cause of death in Argentina, accounting for 32% of all deaths in 2001.

The Ministry of Health is undertaking a national risk factors survey for the purpose of CNCD surveillance; the survey is based on a PAHO model and consists of 14 modules. The survey was validated in Tierra de Fuego and is experiencing national implementation throughout 2005. The Ministry also supports operations research, such as the generation of knowledge for policy formation, fostering partnerships between scientific societies and NGOs, evaluating communications strategies, among others. The Ministry also provides support to local projects, including healthy municipalities and smoke-free institutions.

Several advances have been made; one such example is the National Tobacco Control Program, which focuses on restricting publicity, reducing accessibility, creating smoke-free environments, offering smoking cessation services, social communication, and tobacco surveillance. These are responses to the particular situation in Argentina, for example, Argentina represents one of the countries with the highest rate (70%) of adolescents exposed to second-hand tobacco smoke in their homes, according to the Global Youth Tobacco Survey. In addition, according to the Ministry of Health, approximately 60% of non-smokers are exposed to smoke in their homes and 90% of nonsmokers are exposed to smoke outside the home. Therefore, one of the foci of the program is the creation of smoke-free environments. Some strategies utilized are a national registry of smoke-free companies, support for smoke-free municipalities, and training. Also, many smokers in Argentina would like to quit, therefore the Ministry offers a wealth of resources, such as this website: www.dejohoydefumar.gov.ar and a toll-free phone number. Several other resources complement these to form the comprehensive national program. More information on the program can be found here: www.msal.gov.ar.

The Ministry of Health also emphasizes healthy eating and active living to target risk factors for CNCDS. The Ministry's goals are to reduce the prevalence of risk factors, raise awareness of the importance of interventions, develop action plans, and conduct research and surveillance. The Ministry acts on three levels: promotion, specific protection, and secondary prevention. Lic. Virgolini then presented one effort in healthy eating: the reduction of sodium in processed foods. This initiative is based on evidence and relied on agreements in the food industry, in particular in the bread industry, to support this initiative. To complement the actions taken by the food industry, community

programs also were put into effect to educate and change attitudes, both in the general community and in schools.

The strengthening of health services is also crucial for the control of risk factors; clinical practice guidelines have been developed and distributed and training for professionals has been provided. The most effective strategies are found to be those which combine interventions aimed at the general population with interventions aimed at the high-risk population.

Discussion

1. The discussion is related to the presentations and the organization of the CARMEN network. The feedback given in the discussion can be fruitful for the whole set of countries.
2. Many countries and parties are involved in this theme; there are very diverse situations from the systematic point of view regarding the quality and coverage offered by the health system. In addition, primary data collection is needed in order to be able to undertake an evaluation of the programs. Both qualitative and quantitative methodologies should be considered. Additionally, there should be different levels of assessment- efforts at the local level and the national level should be evaluated. Evaluation is fundamental for the decision-making process.
3. *Can Brazil circulate the draft of their proposal so that the other countries can contribute their feedback?*
Brazil's presentation can be circulated and the draft document can be available by February for everyone's input.
4. We have to think in terms of evaluating interventions and obtaining evidence on interventions at various levels. We must know which things are useful and which are not. For example, on the topic of physical activity in a particular country, how many interventions are needed and for how long? This kind of evidence is needed so that the countries can develop and build their programs. It is imperative to know which types of things work for specific themes; it is not sufficient to try any activity in any way. If something works in schools, it won't necessarily generalize to other populations and areas. We need more information on what specifically works for the prevention and control of CNCDs.
5. Some programs have experienced notable advances in coverage, metabolic control, and tobacco control. There is an operational study on the national level which is implementing actions that scientific evidence has shown to be effective.
6. There are changes in people's attitudes and habits, such as ways of eating and conduct. These changes will also change the indicators.

7. Collective interventions- for example, in legislation and creation of healthy spaces- are happening for the first time.
8. Chronic diseases are going to have an impact at the governmental level, the Ministries of Health have the responsibility of centering the policies. Only providing services is not going to bring about change; the policies must change. The presentation from Dr. Vazquez from Argentina was important in demonstrating how to convince decision makers with data. In addition, tobacco is the easiest habit to change (when looking at diet, physical activity, and tobacco) but it can't be left out of the programs. Diet can be difficult to change because of cultural factors, even with good policies it will take years, but with tobacco control we can have effects in 2 years' time. Political times are brief, so we can take actions that will have effects in political times.
9. The strategies need to be integrated; one aspect, for example education alone, will not do anything, because there still will be issues of accessibility, etc. We must work on advocacy and accessibility. In addition, what are the most feasible strategies to follow? This may depend on the context of each country. It is important to continue knowing the elements that contribute to the best development.
10. The surveys provide a much-needed baseline for the programs. Maybe the majority of the countries don't have a clear plan or they don't make progress because of lack of resources. We should seek out a multi-centric survey, perhaps having something as a group will help us.
11. The network of countries is maturing and changing in a positive manner; CARMEN is now a strong force in the Region, with 20 countries involved in integrated actions for CNCDs. We should think of the actions that work and do not work; there is sufficient scientific evidence for this. We need to create integrated programs that work in the correct quantity, coverage, and moment. This is not easy and takes a lot of effort but it is necessary.
12. The CARMEN school is an instrument for capacity building for both health professionals and non-health professions. It forms part of the integrated approach, along with management, surveillance, etc.
13. The surveys have served in Central America to jump-start things; the government's attention has been called toward CNCDs.
14. The evaluation must occur at two levels: the micro and macro level.

Conclusions

1. Brazil's presentation and draft document will be circulated by February for everyone's input.
2. Programs for the management of chronic noncommunicable diseases and risk factors should be evaluated so that decision makers have specific information on what works to obtain particular goals.
3. Strategies must be integrated and have the support of governments; CARMEN and the surveys in Central America demonstrate the importance of this.

Fifth Session: Capacity-Building on NCD Prevention and Control

This session focused on importance of capacity-building in the prevention and control of CNCDS. Presentations were given on the CARMEN school and on a proposed partnership between CARMEN and the CDC in Atlanta. Future plans in capacity building in the Region were also presented. The presentations were followed by a discussion where the participants discussed the development of the human resources for the prevention and control of CNCDS.

Dr. Gonzalo Valdivia from the Department of Health of Chile's *Pontificia Universidad Católica* (PUC) gave a presentation on the evidence-based public health course that took place in 2004 in Santiago, Chile. Trainers from the University of St. Louis, a PAHO/WHO Collaborating center for evidence-based public health practice, collaborated with trainers from PUC and a local team of experts to run the course. A manual was utilized as a reference and the course was adapted for the local context. This course responds to the concern that much of the action in public health is not based on sound science or evidence; this course aims to fill this gap in its training of health professionals.

The course was made up of 7 modules, each of which had its own objectives and limitations. The first module is the introduction and overview, with the goal of providing an introduction to evidence-based decision making. The first module provides an overview of basic principles and applications in disease prevention and health care. One major limitation of the first module is the scarcity of local case studies of population interventions, therefore participants are not familiar with applications in public health practice that are based on strong evidence or weak evidence.

The second module aims to develop and initial, concise, operational statement of the issue by presenting a systematic approach to defining a public health problem. After

this module, participants should be able to understand the overall strategic planning process for setting priorities in public health, develop a concise written statement of the public health problem, issue or policy under consideration in a measurable manner, and understand a criterion for the components of a sound problem statement.

The third module, quantifying the issue, presents an overview of descriptive and analytic epidemiology. Some limitations of this module are the heterogeneity in the knowledge and use of epidemiological concepts and the lack of technical-conceptual discussion on the fundamental basis of causal logic.

The fourth module focuses on determining what is known through the scientific literature. This module will instruct participants on how to search scientific literature and introduce them to several key databases. Several limitations exist with regard to this module. Some key limitations are the lack of abilities in conducting effective searches for information on the web, and inefficient access to a web connection. In addition, limitations exist with regard to bibliographic searches, for example access to some publications is restricted.

The fifth module, developing program or policy options, provides the methods for assembling and selecting program or policy options. This module focuses on such topics as the need for careful decision-making, criteria for prioritizing among options, systematic reviews, basic decision analysis, and economic evaluation.

The sixth module focuses on developing an action plan and implementing interventions through review of the key components of the strategic planning process. However, the lack of local experiences in the design of public health interventions targeted at CNCDS and their determinants is a major limitation in this module.

The seventh module provides an overview of program/policy evaluation, with an emphasis on practical issues that are likely to be encountered in the public health setting. This module also allows participants to gain experience in at least one type of qualitative analysis. A limitation of this module is that there is a tendency not to evaluate programs and initiatives.

Some suggestions have come out of this pilot study. One is to establish a preparation module before the initiation of the first course module. It is proposed that this module will evaluate capacities in aspects that are fundamental to the course and will instruct participants in the conceptual bases of public health. It is also suggested that the availability of resources is strengthened and that the focus of the trainers is homogenized. It is important to note that the course was developed at the same time as the changes in the health system were occurring.

The university has a proposal for a master's program in evidence-based public health that will emphasize the aforementioned concepts but will be strengthened in various ways in order to ensure that participants are able to successfully undertake all the tasks presented in the course. The characteristics of the program are developed and

include the option of taking the course at the *diplomado* (certificate) level, or at the master's level. A thesis is also expected of the participants and adequate support will be provided to the participants.

Planning Ahead

Dra. Marcela Cortés from the *Universidad Católica de la Santísima Concepción* in Chile followed up Dr. Valdivia's presentation by speaking about the course that was offered by *Santísima Concepción* University under the auspices of PAHO and the Regional Ministry of Health on evidence-based public health.

This program provides participants will the tools that allow them to apply their evidence-based knowledge to decision-making. The program is mainly intended for health professionals who are in leadership positions within their respective institutions. The purpose of the program is to stimulate the practice of evidence-based public health on the local and national level to contribute to the development of highly-trained professionals who respond to the current demands on the Chilean Health System. The program has various objectives that relate to the comprehensive training of health professionals.

The program contains 10 modules:

- I. Conceptual Basis: the practice of evidence-based public health
- II. Biostatistics
- III. Clinical epidemiology
- IV. Health economics
- V. Models of evidence-based care: evaluation of health technology
- VI. Social sciences and epidemiology
- VII. Research methodology: clinical research design
- VIII. Public health management
- IX. Thesis project
- X. Execution and dissemination of research

The program's requirements improved and the modules are quite in-depth. Current students are now researching 14 distinct lines of investigation.

Dr. Rodolfo Vazquez, Head of the Epidemiology and chronic disease program from the Ministry of Health, Uruguay, presented the train the trainers course that took place in Uruguay with participation of Brazil, Paraguay and Argentina. The course is designed for professionals who already were trained in public health and the overall objective of this course was that the participants obtain the tools and support to be able to train health professionals in evidence-based public health, with the goal of working on the prevention and control of CNCs on the operational level.

The course was carried out with the collaboration of PAHO and St. Louis University, with the Faculty of Medicine of the University of the Republic acting as the responsible academic party in the country. The course lasted 5 days and relied on a participatory methodology. A pre- and post- course evaluation took place as well as a continual evaluation of the participation in workshops and presentations.

The course is made up of 7 modules:

- I. Introduction and general concept: update participants' concept of evidence-based public health and decision-making
- II. Quantification of the problem: acquire the skills to transmit epidemiological concepts and construct the indicators for the quantification of health problems
- III. Formulation of public health policies and programs: train participants in the formulation of public health policies and programs.
- IV. Problem-based bibliographic searches: provide the participants with the necessary tools to be able to show health professionals how to obtain bibliographic resources that respond to concrete public health problems.
- V. Planning and implementation of community interventions: design a training unit in the planning and implementation of evidence-based community interventions
- VI. Evaluation of community intervention programs, programs and policies: plan a training unit in the area of program and policy evaluation.
- VII. Surveillance system for the prevention and control of CNCDS: offer elements to train health professionals in epidemiological surveillance of CNCDS.

Ms. Barbara Gray, Communications Coordinator with the Prevention Research Centers (PRCs) of CDC presented a proposal for a new partnership between CARMEN and CDC. In September 2005, CDC and PAHO entered into an agreement for "health promotion and noncommunicable disease and injury prevention initiatives in Latin America and the Caribbean." Researchers in these two institutions use comparable strategies to achieve goals in noncommunicable disease prevention, such as integrated prevention for reducing multiple risk factors and the promotion of health equity.

The synergy between the researchers and the networks can occur in many ways; discussion soon revealed that, with some enhancement, the CARMEN school may be an ideal mechanism for developing a US-Latin American and Caribbean relationship for training and subsequent joint research in noncommunicable disease prevention.

Three stages of development are seen for this relationship. The short term objective is to deliver and evaluate selected public health training. The mid term objective is to develop and implement multiple training courses that can foster a partnership for selected research in applied public health. The long term objective is to build an infrastructure in the CARMEN countries to enable full cooperation with the PRCs on developing effective disease prevention strategies for widespread dissemination.

The PRC Program is the brainchild of a set of forward-thinking leaders in public health who advocated for resources to head off symptomatic disease, particularly in high-risk communities. In 1984, the US Congress enacted a law authorizing the Secretary of Health and Human Services to fund extramural academic centers for health promotion and disease research; CDC was identified as the administrative agency. The first three centers were selected in 1986; as of today, there are 33 centers in 26 states that are now funded for core research and special interest projects at a total of more than US \$40 million per year.

All centers are required to conduct community-based participatory research. Each Prevention Research Center is guided by at least one community committee that has significant responsibilities, including helping to select research priorities, recruiting appropriate partners, and interpreting the community culture and values that can affect an intervention. These committees are active participants in the research process; community members are regularly trained and compensated for conducting health promotion activities. The PRCs work almost exclusively with underserved populations such as Mexican-Americans on the US-Mexico border or American Indians in several states.

Many PRCs use funding from both CDC and other sources; for example the PRC at Yale University was awarded about \$5.5 million from CDC for its core activities. Over this same period, the center positioned itself to attract another \$7 million from 19 funding agencies, conducted more than 52 studies, and published an equivalent number of research articles in the scientific literature. Given examples such as this one, it is thought that the PRC model can offer a significant return on investment.

As a group, the PRCs conduct about 500 research projects per year and address a wide range of health issues. One example is Planet Health, which is an interdisciplinary school curriculum developed by Harvard University's PRC with teachers and principals from public middle schools aimed at increasing physical activity and healthy eating and decreasing television viewing and unhealthy eating. The program has shown significant results. The city of Boston's public schools formed a partnership with the PRC and implemented the program in 6 schools; now hundreds of teachers and administrators use the program in Boston and 2000 copies of the curriculum have been purchased by interested parties in 48 states and 20 countries. In addition, an independent economic analysis of Planet Health found it to be more cost-effective than commonly accepted preventive interventions. It is projected to save money via avoided medical costs and productivity losses later in life: every dollar spent on Planet Health in middle school translates to a savings of \$1.20 in medical costs and lost wages when the children reach middle age.

Another example is the Lifetime Fitness Program in the state of Washington, which increased endurance, strength, balance, and flexibility in the elderly. Today the program is offered in 64 community sites in six states and is recognized as one of the top 10 physical activity programs for seniors.

The PRCs have also been successful in bringing about policy changes. Training is another strength of the PRCs; because the PRCs bridge academic study and practical, community application of results, they are uniquely positioned as a resource for training students, public health practitioners, and public health advocates. A catalog of PRCs training can be found on <http://www.cdc.prc/training/index.htm>. The April 2005 edition of CDC's peer-reviewed electronic journal, *Preventing Chronic Disease*, features some of the PRCs most established training programs, such as the evidence-based public health course that was presented earlier, a course on physical activity and public health for practitioners, and a course on social marketing.

The CARMEN school and CDC would like to offer support for the evidence-based public health course in different settings and contract with the appropriate in-country organization to evaluate the effectiveness of the course. In addition, they would like to evaluate the course for physical activity and public health, which is modeled on a course developed by the PRC at the University of South Carolina. Ms. Gray invited the participants to consider their interest in and commitment to the courses.

The PRCs at CDC recognize the possibility of a long-term partnership with the CARMEN school in order to achieve a wider diffusion and impact of programs than originally expected.

Discussion

1. One concern is that the emphasis of the courses is on epidemiology, when in reality chronic diseases require a complex approach which isn't traditional.
2. Two very important modules were missing in the course in Montevideo, one of which is health economics. In the course, a lot of different perceptions on epidemiology in public health were presented; the course allowed the participants to approach each other in a diverse group and understand what each one was saying. This especially occurred when the participants were preparing press meetings and advocating to certain groups; the participants learned to seek evidence from each institution.
3. Brazil offers two special courses: one in the surveillance of CNCs and the other in evidence-based public health. It is important to carry out the conceptual modification of the difference between evidence-based public health and evidence-based medicine. Some of the initial topics need greater depth, for example the economic evaluation in public health needs more work and depth.
4. Brazil already has a proposal for a master's degree program in evidence-based public health. The course is 40 hours and focuses on the quantification of problems, establishment of hierarchies, organization of information, and would like to include the quantitative evaluation. Is there a possibility for PAHO or CDC to finance this course?

5. The theme for the next World Health Day is the development of health human resources. During this year we should all work together to determine the state of human resources for CNCDS.
6. We should take advantage of the already existing resources, for example in universities. There is a network of public health faculties and this may be a good link to take advantage of.
7. There is an opportunity to create a library of information on public health (not clinical information) and unify the existing information. There is a need to publish articles that are related to public health. There is a key database in the Cochrane Library.
8. The need is to have health workers who are trained to work in the prevention and control of CNCDS; an idea is to find an intermediate situation that can provide quick training.
9. PAHO is aware that the Region has public health schools that can offer training. The CARMEN school intends to bridge the gap between the academic world and the practical world through offering courses on the real-life application of public health concepts. The CDC has offered a rich proposal that presents an opportunity for the CARMEN school.

Conclusions

1. Public health requires specific training; some courses have been implemented in the region to fill this gap, however some topics need more depth.
2. Academic theory and practical application need to be linked in public health training; the CARMEN school can be the vehicle through which this occurs.
3. It is important to assess the available human resources for public health in the Region, including resources such as universities.

Closing Session

Ms. Elizabeth Cafiero, from PAHO- Washington presented information sharing and promoting an integrated approach to policy, data collection, and prevention and management of risk factors and CNCDS in Latin America. First, Ms. Cafiero presented the concept of “knowledge management.” Knowledge management refers to the sharing of an organization’s collective knowledge. Whereas in the past, organizations produced, compiled, and distributed information in a fairly limited way (e.g. mail, newsletters, journals), the changing technology has provided organizations with a variety of ways to share information. These new techniques will allow organizations to share information in a way that will increase access to relevant information and increase productivity and innovation. Successful knowledge management practices are important for CARMEN

because they can facilitate multisectoral work, expedite processes, increase access to the highest quality information and expertise available, and avoid the duplication of efforts.

The four initial communications strategies for CARMEN are the CARMEN e-mail account, the CARMEN listserv, the CARMEN SharePoint teamsite, and the CARMEN website. First, the CARMEN e-mail account, CARMEN@paho.org, will be managed by PAHO staff and will serve as a first point of contact for anyone interested in CARMEN.

The CARMEN listserv works in conjunction with the CARMEN email account. A listserv is an electronic mailing list that has the ability to send email out to a large group of people or target specific people within a group. For example, the listserv can send out a bulletin on a general topic to the entire list of subscribers, but can also send a targeted message to a more specific group of subscribers. The CARMEN listserv can help get critical information to a variety of people, it can be a vehicle for information sharing, and can also be tool to market a message to a specific audience.

The CARMEN SharePoint is a new tool that will aid communications in the network. A SharePoint is an interactive website. Instead of just downloading information as on a regular website, information can be uploaded to the SharePoint; there is a 2-way flow of information. The SharePoint is not designed for the public; rather it is designed for particular members of a working group. It has various functions that help in the development of a project. The SharePoint site for CARMEN is <http://shp.paho.org/DPC/NC/CARMEN/default.aspx>. To enter, a username and password are needed. Some features include a list of contacts, a list of tasks, a calendar, announcements, and an image library.

One of the best features of SharePoint is the document libraries. Traditionally, SharePoint sites have a “reference documents” library and a “working documents” library. Members can enter the library, view a document, and make changes in Microsoft Word, Excel, or PowerPoint for the other members to see. This way a document can be produced by members who are not located in the same office, without clogging email boxes with heavy attachments.

SharePoint also has a discussion feature. Members can view a discussion topic and respond to any of the posted items. This function consolidates all the responses chronologically on one site, and again does not clog email boxes. Members can also set email alerts to be notified when changes are made to the site. The SharePoint is currently undergoing updates by the information technology area in Washington and is not ready for us to use. Once it is ready, PAHO-Washington will provide all CARMEN members with access and instructions on the site.

The final tool is the CARMEN website. Unlike the SharePoint, the website is open to the public and a well-organized website is crucial for information dissemination to a wide audience. As CARMEN develops, the website will reflect the changes. In order

for these communications strategies to work, the active participation of all CARMEN members is needed.

Election of the CARMEN Network Board New Members and a Host Country for the Next Meeting

It was decided that the same members would continue for another term, and that three countries would join the Board: Trinidad and Tobago, Paraguay, and Panama.

In addition, the standards for entry into the CARMEN Network will be reviewed and clarified in the following months.

Closing Presentation

Dr. Alberto Barceló presented a conclusion of some key points of the CARMEN meeting and PAHO's technical cooperation in the area of non communicable diseases. Some recommendations that were made on the Global Strategy on Diet, Physical Activity, and Health were that CARMEN member countries will participate in the consultation process, each country will organize their own national implementation strategy, and PANA/RAFA and CARMEN will increase collaboration and share information. With regard to health policy, the policy observatory will continue in Canada, Costa Rica and Brazil, with the expansion to other countries, new experiences will be disseminated, training will be offered on linking data analysis to policy formulation, and the Global Strategy will be reinforced through policy analysis.

During the session on surveillance, the need for a holistic perspective on surveillance was discussed, along with the needs to create a surveillance implementation plan, to monitor the development of the CNCND epidemic. In addition, a future meeting will be planned on surveillance. With regard to CNCND management, the importance of strengthening primary care, improving the quality of chronic care, incorporating screening and primary prevention into health systems, and promoting adequate disease management were discussed.

Some conclusions that were drawn out of the sessions were that PAHO's collaboration on CNCNDs should continue and include policy, surveillance, health promotion and management of CNCNDs and risk factors. Actions should be population-based and focus on strengthening primary care. In addition, subregional networks and intercountry cooperation are important.

The methodology of successful strategies, such as healthy settings interventions, should be disseminated. Other areas in PAHO and other PAHO Member States should be included. PAHO will continue to support demonstration sites and national strategies. The following will continue to be organized: periodical meetings, evidence-based public health courses, and evaluations. The CARMEN network will play a major role in the

implementation of the Global Strategy and the CNCD strategy plan. The Network's management committee will be revitalized with a meeting and review of documents and rules for the Network.

Endnotes

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