CHARTING NEW DIRECTIONS FOR CARDIOVASCULAR DISEASE (CVD) PREVENTION AND CONTROL IN THE AMERICAS: A JOINT NHLBI/PAHO WORKSHOP

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SUMMARY MINUTES

Compiled by Winfield Swanson
Consultant, Courtesy Associates, Inc.

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Wednesday, October 13, 2004

Preliminaries

Welcome on Behalf of NHLBI & Introduction of Participants*—Dr. Barbara Alving, Acting Director, NHLBI*

Dr. Alving opened the meeting and invited everyone to introduce themselves. This meeting took about a year to develop; Dr. Claude Lenfant dedicated much activity to the international efforts. Dr. Alving was humbled by the activity she saw currently underway in Latin America. Of the U.S. population, 38 million are Hispanic—about 68 percent of them from Mexico—but we have less than optimal data on risk factors and effective prevalence for this population. Some national efforts, e.g., *Hypertension Guidelines,* have become international sources. These began with an educational process. The outlook is one of integrated risk factors. Questions remain about how to evaluate these programs and whether they are cost effective. For this meeting, outcomes will be active collaboration and an active Web page that will be ongoing—which will include PowerPoint slides, agendas, etc. She offered participants literature from NHLBI and other agencies, available outside the conference room.

Welcome on Behalf of PAHO*—Dr. Carissa F. Etienne, Assistant Director, PAHO*

Chronic non-communicable diseases are the leading cause of mortality in many of the countries of Latin America and the Caribbean. They contribute significantly to morbidity and to our social and economic outcomes. It is an epidemic associated with poverty in its cause and effects. Our peoples' well-being, their productivity and longevity, their very quality of life is compromised by conditions that defy hitherto successful health care models. We seek new approaches to bring together disciplines and partners.

SESSION 1—PANEL A

Incorporating Prevention and Control of Cardiovascular Diseases in Primary Health Care: New Perspectives—Co-Chairs: Dr. Sylvia Robles & Dr. Ruth J. Hegyeli

Prevention Efforts in the USA*—Rear Admiral Kenneth P. Moritsugu, Deputy Surgeon General, DHHS, U.S. Public Health Service*

We seek new ways to protect the health of the more than 600 million people in the Americas. This meeting focuses on cardiovascular disease (CVD). The health priorities of Surgeon General Richard Carmona and DHHS Secretary Tommy G. Thompson are: disease prevention (including

bioterrorism and preparedness for national disasters), improving health literacy, and eliminating health disparities.

In June 2002, the "Healthier US" initiative was launched to improve health and reduce health care costs by encouraging physical activity, eating a nutritious diet, getting preventive screenings, and making healthy choices. It is envisioned as a paradigm shift to move from a disease care system to a health system. Prevention has a direct economic impact. In the United States, the costs associated with CVD rose $50 billion between 2000 and 2003. Reduction in risk factors reduces disease and therefore treatment costs. As part of this initiative, DHHS is awarding $35.7 million in grants to support community programs that promote better health and prevent disease.

Health literacy is the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions. Adults with limited health literacy have less knowledge, report poorer health status, and use fewer preventive and more expensive health services. Therefore health literacy is a global challenge. One answer is to train community health workers.

Health disparities are also associated with poor health outcomes. In the United States, blacks have higher CVD morbidity and mortality than other ethnic groups, and black men have the highest rate in the entire population. To address this inequity, NHLBI developed Enhanced Dissemination and Utilization Centers (EDUC). These are 12 specially fashioned, high-risk community-based projects that meet the unique needs of communities with utilization-tailored strategies; e.g., the Baltimore Healthy Hearts in Housing initiative links housing and health, builds capacity and infrastructure, realizes the potential of collaboration, and builds community good will and advocacy for heart health.

The Institute of Medicine's 2002 report underscores that many social aspects—such as employment, social relationships, and political participation—are contingent on health. Therefore creating conditions that enhance the opportunity for people to be healthy should be a shared goal. DHHS stands ready to work with participants for health in the Americas.

Global Initiative for Treatment of Major Chronic Diseases—*Dr. Shanthi Mendis, WHO/Geneva*

This year the World Health Organization (WHO) launched the Global Initiative for Treatment of Major Chronic Diseases. CVD, diabetes, chronic respiratory disease (CRD), and cancer are responsible for 42 percent of the disease burden of non-communicable diseases worldwide, and the number will increase, mostly from lower- or middle-income countries. Primary prevention, in addition to treatment of established disease, is key to control.

Without treatment, 8 percent of people who have had a heart attack or stroke will have a recurrent event within 2 years. Treatment with aspirin, beta blockers, statins, or ACE inhibitors reduces that rate to 2.3 to 6 percent. The EUROASPIRE survey after heart attack or stroke, showed the percentage of patients on medication vs the percentage who remained on it (secondary prevention): aspirin, 84 percent vs 66 percent; beta blockers, 66 percent vs 45 percent; statins, 63 percent vs 29 percent; and ACE inhibitors, 43 percent vs 53 percent. To

improve morbidity and mortality of CVD and other chronic diseases, we must focus on both primary and secondary prevention. But, affordability is an issue: e.g., in Pakistan, a 1-month supply of statins cost about a third of a monthly wage; in China, a 1-week supply of statins costs the same as 28 kg of rice. Generic drugs are much cheaper (e.g., in Kenya, generic furosemide costs 2.5 percent of the cost of the originator brand), but generics are not used as much as they could be. The treatment gap is much worse at the population level than at the facility level: 4 to 14 percent of the population is diagnosed with angina, but only 14 to 60 percent of them are being treated (1 to 20 percent with aspirin; fewer than 5 percent with beta blockers).

WHO's initiative focuses on identifying the determinants of effective drug treatment, namely affordability, accessibility, quality and efficacy, evidence-based prescription, and appropriate use. Ensuring these determinants involves incentives (e.g., CME, doctors' referral to link patients and families); manufacturing (procurement, distribution, regulations); and financing (public and private reimbursement, insurance, research and development). WHO plans to assess situations, identify barriers, offer direct intervention, and advocate for change. They have begun with surveys of the price of medicines to gather information on: procurement and final prices, prices in different parts of the country, relative of prices of proprietary vs generic drugs, affordability of treatment for ordinary people, and international differences in prices. The priority list of drugs that are life-saving for CVD and that require little oversight: aspirin, thiazides, beta blockers, ACE inhibitors, statin, metformin, glibenclamide, insulin, salbutamol, beclometasone/oral steroids, aminophylline, benzathine penicillin, beta blocker eye drops, and morphine.

Mechanisms to reduce prices include: ensuring generic medicines; seeking volume discounts for group purchases; opening competitive purchasing methods; monitoring prices paid by other purchasers; eliminating duties, taxes, and add-ons; and arranging partnerships. Expected outcomes of this initiative are: reduced cost of drugs, improved accessibility, more efficient procurement practices, evidence-based prescriptions, national programs addressing prescription drug needs through equitable programs, partnership arrangements with industry, and enhanced local production of generics.

Hispanic Populations in the United States—Demographics and Health*—Dr. Paul Sorlie, NHLBI*

Barriers to health care for U.S. Hispanic populations include: language, legality of residence, socioeconomic factors, and lack of access to care. Similar challenges occur elsewhere in the Americas. Prevention programs need to understand their target population, and Hispanics comprise a mixture of countries and cultures, whose only constant is language (except for Brazil). The U.S. Hispanic population has changed and is growing. The 2002 U.S. Census revealed that the U.S. Hispanic population is two-thirds Mexican (representing most national data for "Hispanics"), but with significant numbers from Puerto Rico, Cuba, and Central and South America. The population is young, with many people of working age; only 5.1 percent of Hispanics—but 22.6 percent of Cubans and 14.4 percent of non-Hispanic whites—are older than 65. Nearly 27 percent of Hispanics have less than a ninth grade education (vs 4 percent for non-Hispanic whites), an important factor for education efforts. About 8 percent are unemployed. Of the employed men, 27 percent work as operators or laborers. Most earn less than $35,000 per year and about a quarter live below the poverty level. Most live in an urban area; 9 percent (vs 22

percent of non-Hispanic whites) live in a rural area. Most live in the West (25.7 percent), and the fewest live in the Midwest (4.5 percent).

Death rates for Mexican Americans for CVD are a little lower and for diabetes mellitus, a little higher than total population averages. Meanwhile risk factors of hypertension and cholesterol are similar, but the numbers whose hypertension is under control are vastly different, with a third as many Mexican Americans under control. More Mexican Americans are obese and that rate is increasing. This situation presents a window of opportunity to prevent a CVD epidemic.

Prevention Efforts in Mexico*—Dr. Oscar Velázquez Monroy, National Center for Epidemiology, Surveillance, and Disease Control for Mexico*

The last 50 years have seen significant improvements in the drop in mortality, mostly from infectious diseases. Life expectancy in Mexico is now 75 and fertility has decreased; the population is aging—more than 7 million are older than 65. CVD, cancer, and diabetes account for nearly 58 percent of deaths. CVD is and will remain the main cause of death. Causes of death projected for 2020 (vs 1990) show more accidents and even more CVD.

The National Center for Epidemiology, Surveillance, and Disease Control conducted a survey that showed that between 1993 and 2000, diabetes, hypertension, dyslipidemias, tobacco use, and obesity increased among Mexicans. Furthermore, 2 of 3 people over the age of 20 are overweight or obese and do not see it as a problem. Of the 7.5 million people who have diabetes, two-thirds don't know it. These statistics have been compiled using an integrated detection system, i.e. when people seek other treatment they are tested for these conditions. The model is: primary prevention, detection and diagnosis, access and utilization of services, and improved quality of care. We must develop a complete social motivation strategy using the media and alliances with industry.

This year the national health care system targets adolescents for obesity. Simple and inexpensive indicators are being used, e.g., waist measurement (more than 85 cm for women or 95 cm for men) and height (less than 150 cm for women or 160 cm for men), as indicators of increased risk of diabetes, hypertension, and hypercholesterolemia. Education and communication with the community through self-help groups, where people can share experiences and help one another, is an important tool. In Mexico, 18,000 health units are specifically targeting obesity and hypertension. Web pages—one for diabetes, one for hypertension, and 3 more in progress—will reach certain levels of the population.

DELTA Mexico is a national multisectoral diabetes education project to train physicians and other health professionals to follow-up diabetes to reduce secondary effects when microalbuminuria is detected. Reducing incidence reduces cost.

In 2002, RENAHTA, a national hypertension program, re-surveyed 15,000 hypertensive patients to find out what had become of them: nearly 80 percent did not control their blood pressure; 2.3 percent had died; 1.7 percent had developed CVD; nearly 50 percent had some secondary effect. The average age was 39 years; 70 percent were followed-up at an average of 2.5 years. The obesity rate had increased by 23 percent. Diuretics and ACE inhibitors were the most commonly

used medications. Nearly 63 percent didn't know they had hypertension and nearly 72 percent of those who did had stopped treatment, many because of side effects.

Chronic non-communicable diseases continue to present at younger ages, implying that the health services will be overwhelmed. Health providers need to improve treatment and ensure greater adherence to that treatment.

Highlights of NIDDK-Supported Translational Research Efforts to Address Health Disparities in Type 2 Diabetes in Hispanics*—Dr. Allen Spiegel, Director, NIDDK*

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) devotes extensive effort to prevention and control of diabetes. Some concern has been raised about whether we are capturing diabetes mortality statistics because data come from death certificates, and diabetes often is not classified as the cause of death because the direct cause was usually CVD. End-stage kidney disease is often propelled by diabetes.

Children now have a 1 in 2 chance of becoming diabetic. Bienestar is a school-based risk factor–prevention program targeting fourth grade Mexican American children in poor neighborhoods in San Antonio, Texas, who actively participate in diabetes care.

Type 2 diabetes (which used to be called adult onset diabetes) can be reduced in all ethnic groups by lifestyle (the treatment of choice) and by metformin. Gestational diabetes mellitus (GDM) develops during pregnancy, but not before or after birth. Women who get GDM are at higher risk of developing type 2 diabetes in the future, and their children are at higher risk of developing obesity and type 2 diabetes. There have been clinical trials of preventive drugs, but the drugs are expensive and not available in generic form. The answer is to promote a healthy lifestyle among women, especially during the prenatal and postpartum period.

To aid in education, NIDDK resources are available on the Web at: www.ndep.nih.gov; www.niddk.nikh.gov; and www.niddk.nih.gov/health/nutri/nutri.htm. The agency also produces literature in Spanish and English, available from the National Diabetes Information Clearinghouse.

SESSION 1—PANEL B

Incorporating Prevention and Control of Cardiovascular Diseases in Primary Health Care: New Perspectives—Co-Chairs: Dr. Carissa F. Etienne & Dr. Gregory Morosco

The Canadian Heart Health Initiative: A Policy in Action*—Dr. Clarence Clottey, Health Canada*

The Canadian Heart Health Initiative (CHHI) was launched in 1988 as a strategy to address the CVD epidemic in Canada. The approach is policy-driven, systematic, and evidence-based. They want to apply current knowledge in prevention to diverse systems and use heart health as an entry point with a view to expanding to other non-communicable diseases that share common risk factors. The main goal is to focus on implementation; integrate and adapt known efficacious interventions into the fabric of the public health infrastructure, building on existing knowledge.

The initiative provides a bridge between policy and practice; it is nationwide and cooperative between government and private practice with a wide range of health disciplines. It delivers evidence-based prevention interventions, builds capacity and effective partnerships for CVD prevention, and controls health care costs. For the future, instead of following traditional hierarchical lines, it will be key to build on a partnership model, the momentum of each partner driving the processes.

Canada (which is federated) delivers programs through the provincial health departments. This initiative has been phased-in over 20 years. It involves policy development, heart health surveys, demonstrations, evaluations, and dissemination (where they are now). Policy is anchored in a heart health framework; the policy used the demonstration as a tool, so policy drove the demonstration. Consultation with stakeholders is important for the consensus approach to policy framework.

The federal government needed to fund community models to know how to implement practices in all 10 provinces. The Provincial Heart Health Surveys (1986–1992) obtained baseline data on risk factors. The 10 provinces agreed on risk factors and indicators using input from public health nurses who usually dealt with maternal and child care services; at the same time they built awareness. They obtained both behavioral and risk factor data on physical measurement. Results were well publicized and media created awareness: 2 of 3 Canadians had at least 1 risk factor. They then created a single national database—the Canadian Hearth Health Database. This exercise has brought the clinical and public health sides together. Another goal was to determine the feasibility of implementing a comprehensive, community-level approach.

CHHI—Process Evaluation of the Demonstration Phase (2002) offers an important base as they move toward partnership building. The dissemination phase (1995–2005) involves research dissemination projects, measures current levels of capacity, and determines factors that support key capacity building and dissemination. It will inform the new field of dissemination research. The end product will be a synthesis of the provincial dissemination reports. Other initiatives that will benefit from this approach are diabetes and breast cancer.

Achievements to date include: an extensive database on behavioral risk factors, with potential linkage to mortality and morbidity data; expansion of coalitions for heart health at all levels into chronic disease alliances; development of a flexible network management model for pan-Canadian initiatives in a decentralized environment; practical knowledge on planning and evaluation; mobilization of a prevention agenda in Canada; and links to international efforts, such as WHO CINDI and CARMEN, and hosting an international seminar and a global forum on heart health intervention.

Challenges of the Family Health Program in Brazil*—Dr. Jorge José Pereira Solla, State Secretary for Health Care, & Deputy Minister of Health, Brazil*

Brazil, with its new constitution (1988), created a national health system to give comprehensive health care to the entire population. In 2003, Brazil had a population of nearly 177 million, 75 percent of whom used Brazil's system of health care, SUS (*Sistema Único de Saúde*). Besides providing basic health care, Brazil is now the second country in the world for organ transplants and first for federally funded transplants. They used the family health system to implement an assistance model for prevention, treatment, and rehabilitation. About 1000 families have various teams to give basic assistance and to control communicable and non-communicable diseases. Almost 70 million people (39 percent) are covered; they hope to cover 100 million by 2006. Nearly 200,000 health community agents were trained to be a bridge between the service team and the people and to teach prevention.

There has been a dramatic increase in CVD, which means a dramatic increase in hospitalization, which has financial consequences. The incidence of hypertension is extensive, and this is an opportunity for diagnostic screening and treatment. In 2002, a national campaign was initiated to identify diabetes as well as hypertension. More than 90 percent of patients had regular follow-up with health agents. This system has 95 percent of the population covered for diabetes (2,796,255 have it); 68 percent are providing data. Nearly 8 million patients are registered and monitored, which has resulted in a 76 percent increase in patients' drug use. (Also, the federal government will distribute drugs for the price of manufacturing them.) Next year, the project to control hypertension will add physical activity to its "Holistic Treatment Teams."

Chile: Cardiovascular Health in the Context of Health Reform*—Dr. Antonio Infante, Deputy Minister of Health, Chile*

Health priorities of the Chilean health system are adapting to the necessities of the 21st century. Their goals are: to improve the health of the people; to diminish inequalities; to respond to the needs of the 21st century; to give better financial protection; and to augment citizens' participation.

Chile's national hypertension rate is 33.7 percent (higher for men than women). About 4 percent of the population has diabetes. Peak age for hypertension is about 40, a younger population than the peak age for diabetes, which is older than 70. Those with diabetes tend to be less educated and poorer. In Chile, 60 percent of the population is overweight (more men than women) or obese (more women than men); 42 percent smoke; 23 percent have metabolic syndrome; 55

percent are at risk for CVD; 90 percent are sedentary. Smoking and being overweight begin early. Only higher-income people reduce their risk factors. There is an 8-cm difference in height between richer and poorer people; average number of teeth remaining is 5 for poorer people vs 15 or 16 for wealthier ones.

Reform efforts have focused on health being a right for all citizens. The health authority includes the financing system and there is both a public and a private health care system. One of the biggest problems is that priority is given to the sickest people. We asked ourselves whether treatment existed and whether Chile has the capacity to offer that treatment to everyone in the country. Now the health system is focusing on the primary care network. Priorities will change, but reform recognizes the traditional situation. Everyone will have access to health care and will know how long it will take to receive benefits, and guarantees will be endorsed by the Ministry of Health.

SESSION 2—PANEL A

Prevention and Control of CVD Risk Factors at the Policy Level, Health Systems and Community: Main Issues and Perspectives—Co-Chairs: Dr. Jesus González-Hermosillo & Dr. Stephen Corber

Prevention and Control of CVD RF Policy Level, Health Systems and Community: Main Issues and Perspectives—Hypertension*—Dr. Keith C. Ferdinand, Medical Director, Heartbeats Life Center and Professor of Clinical Pharmacology, Xavier University College of Pharmacology, New Orleans*

Hispanic and African American populations suffer disproportionate prevalence and severity of hypertension, and sudden death from cardiovascular disease (CVD) is 3 times more frequent in African Americans than in whites. Disparities in risk factors—obesity, hypertension, dyslipidemia, type 2 diabetes, and a sedentary lifestyle that includes smoking and excessive consumption, may disproportionately affect the minority communities and reflect increased CVD.

Heart disease is the leading cause of death of white non-Hispanics as well as Hispanics who live in the United States. However, overall cardiovascular mortality is not improving in Hispanics as much as in whites. Hypertension is as prevalent in Hispanics as in whites at all ages. But, even with the same prevalence, there is less control in Hispanic populations, probably reflecting a disadvantage in health insurance status, a situation that may lead to exponential increases in CVD in the future. Hispanic Americans are a diverse group, represented by Mexican Americans, Puerto Ricans, Cuban Americans, Central Americans, and South Americans. Puerto Ricans may have a worse cardiovascular health status than Mexican or Cuban Americans. Overall, the rates of improvement in cardiovascular health are less in Hispanics than in whites or in African Americans.

The Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) has reclassified blood pressure, now including prehypertension (120-

139 mmHg systolic, and 80-89 mmHg diastolic blood pressure). During this stage, there is an increase in risk from elevated blood pressure, and lifestyle changes should be utilized. JNC 7 recommends lower blood pressure goals for patients at higher risk for CVD, specifically those with diabetes or kidney disease, which is more common in African Americans and Hispanics and should be treated more intensively. This will alleviate the need for dialysis and its expense. In general, treatment approaches are similar across all demographic groups.

Economic factors and lifestyle are important barriers to blood pressure control; however, diuretics are inexpensive and efficacious regardless of the ethnicity. Certain compelling conditions require additional aids to control blood pressure. Especially in higher risk Hispanic and African American populations, multiple antihypertensive agents (more than 2) are often needed to achieve target blood pressure goals.

There is a need for specific guidelines in controlling and treating obesity in Hispanics. Unfortunately, the United States has no universal health insurance policy, and less health insurance coverage in Hispanics means less access to primary care providers, specialists, and medications. Language is also a barrier to care. There would be a great benefit in culturally-based programs because adherence to therapy depends on: social, economic, and personal circumstances; providers' empathetic and nonjudgmental assistance; financial concerns and employment; and drug addiction.

The NHLBI has sponsored *Salud para su Corazón* (Health for Your Heart), a Latino-focused initiative that incorporates the use of *promotores* (lay health workers), who are trusted and respected role models and have a passion for health in their communities. This program is an example of a practical means of dealing with the fact that hypertension and cardiovascular risk factors are often under-diagnosed and under-treated in Hispanic populations. CVD is the leading cause of death for all U.S. populations, and more aggressive screening and comprehensive culturally-sensitive risk management approaches are sorely needed.

Cardiovascular Health Program in Chile*—Dr. Maria Cristina Escobar, Health Ministry, Chile*

For Chile, 2 clearly defined health objectives are CVD and cancer. Sources of information are the *Burden of Disease Study* (1993), the *Quality of Life Survey* (2000), and the *National Health Survey* (2003). Priority has been given to primary health care, which is well-established. The National Health Survey pointed out the need to prevent risk factors. For this, integration of risk factors is key. Mortality from ischemic disease and stroke are decreasing. The cardiovascular health program, started in 2000, integrates the detection and management of major cardiovascular risk factors. A random sample of 1376 patients with at least 1 year of follow-up in hypertension and diabetes showed that most have at least 1 risk factor (tobacco, hypertension, diabetes, or hypercholesterolemia). The Ministry of Health integrated hypertension and diabetes by implementing CARMEN in 2 demonstration areas. The planning phase occurred in 2000–2002; the implementation phase, 2003; Ministry of Finance approval of an increase in budget for cardiovascular health throughout the country, 2004; and CVD health in AUGE plan (addressing people with cardiovascular risk factors), 2005.

A primary problem is that 60 percent of the people are overweight or obese, and dealing with this will prevent hypertension and other conditions. In preventive health examinations for adults, they classify conditions with a simplified system according to risk level. People who deal with CVD are starting to work with people in the Kidney Society. They are disseminating educational material and guidelines on preventing overweight and smoking.

Achievements include: increased coverage of the population at risk; monetary incentives have promoted detection at younger ages (35 to 45); the number of patients with complete assessment of target organ damage has increased; and resources are being used more efficiently. Challenges include: meeting goals; increasing funding for statins for secondary prevention; implementing quality control and a standardization lab; instituting incentives for the right direction; capacity building (e.g., training via e-learning); integrating health promotion strategies; and gradual incorporation of more preventive actions before diabetes or hypertension develops. Only awareness, treatment, and control will reduce high blood pressure rates. Because the blood pressure program is tied to primary health care, many more women than men are aware of, treat, and control their high blood pressure.

NHLBI National Cholesterol Education Program—Perspectives and Guidelines—
Dr. James Cleeman, NHLBI

The National Cholesterol Education Program (NCEP) builds its activities on a strong science base and with strong partnerships. About 40 partners from the private and public sectors are involved on the NCEP Coordinating Committee. This partnership makes the NCEP a national program, and not just a federal project. The NCEP's dual strategy combines a public health and a clinical or high-risk approach. The rationale for a public health strategy is clear: Average cholesterol levels in the United States are too high—the average total cholesterol level is now about 200 mg/dL—and people who maintain low levels of risk factors have a low risk of coronary heart disease (CHD) over their lifetime. The public health approach promotes heart-healthy lifestyle habits, including low saturated fat and low cholesterol eating patterns, physical activity, and weight control, and requires individual action and policy and environmental changes. This public health strategy is reflected in the NCEP Population Panel report, in the Dietary Guidelines for Americans, and in many activities of the federal government and other organizations.

The clinical approach is reflected in the NCEP Adult Treatment Panel III (ATP III) guidelines for cholesterol management (2001). The scientific evidence from examining CHD outcomes in clinical trials shows that cholesterol-lowering therapy reduces CHD incidence, regardless of whether the intervention used is diet, drugs, or surgery. A basic principle of ATP III is that the intensity of cholesterol-lowering therapy should be matched to the level of risk for CHD: the higher the risk, the lower the LDL goal Assessment of a person's overall CHD risk is thus a crucial element of clinical care. ATP III recommends assessment of the 10-year risk for CHD in patients with 2 or more risk factors (i.e., cigarette smoking, hypertension, low HDL cholesterol, advancing age, or family history of premature CHD).

Diabetes is regarded as a CHD risk equivalent in ATP III because the risk for a major coronary event virtually equals that in established CHD, and diabetics who develop CHD exhibit a high mortality rate at the time of an acute event as well as after an acute myocardial infarction. ATP III established different LDL cholesterol goals and cut-points for therapeutic lifestyle changes and drug therapy for different risk categories. The risk categories are: CHD or CHD risk equivalents (10-year risk >20 percent), LDL goal <100 mg/dL; 2+ risk factors with 10-year risk 10-20 percent, LDL goal <130 mg/dL; 2+ risk factors with10-year risk <10 percent, LDL goal <130 mg/dL; and 0 to 1 risk factor, LDL goal <160 mg/dL. Since ATP III, 5 major clinical trials of cholesterol-lowering with statin therapy and clinical endpoints have been reported. The implications of these trials for cholesterol management were reviewed in an NCEP paper published in July 2004, which for the most part offered clinicians therapeutic options rather than firm recommendations. For example, in patients at very high absolute risk (e.g., cardiovascular disease + diabetes, or patients with acute coronary syndrome), trial results give clinicians a therapeutic option to set a lower LDL goal of <70 mg/dL based on clinical judgment. Therapeutic lifestyle changes (TLC)—low saturated fat and low cholesterol diet, physical activity, and weight control—are the primary therapy for lowering LDL cholesterol. If TLC does not lower LDL sufficiently, drug therapy can be added to TLC but not substituted for it.

LDL lowering is the prime objective of cholesterol-lowering therapy. However, metabolic syndrome is a secondary target of therapy. Metabolic syndrome is a cluster of CHD risk factors that arise in a single individual. The underlying causes are abdominal obesity, physical inactivity, and insulin resistance. ATP III innovated a set of clinical criteria for diagnosing the syndrome that are easy to apply. They include: increased waist circumference (more than 40 inches [102 cm] for men or more than 35 inches [88 cm] for women), elevated triglycerides, lowered HDL, elevated blood pressure, and elevated fasting glucose. The therapeutic objective is to reduce the underlying causes: reverse overweight and physical inactivity through weight control and physical activity. These should reduce most of the metabolic syndrome risk factors. If risk factors persist, it may be necessary to add drug therapy to treat hypertension, the prothrombotic state, and atherogenic dyslipidemia (lipid triad).

NHLBI recognizes that guidelines are helpful only if they are actually used by professionals and by the public. To promote the adoption of the guidelines, NHLBI provides a variety of tools and materials to help implement the recommendations.

Diabetes in the Americas*—Dr. Alberto Barceló, PAHO/WDC*

The term “Hispanic” conflates populations who have nothing in common other than their language. The prevalence of type 2 diabetes is increasing to epidemic proportions worldwide. A survey (1976–1991) shows that the increase in prevalence is highest in Barbados and Mexico. Diabetics have a 2.5 times higher premature mortality, but between half and a third of diabetics are not aware of their condition. Diabetes-related mortality has increased to 12 percent in Dominica and 13 percent in Costa Rica. Diabetes-related mortality is increasing in Chile even as mortality from heart disease and strokes is decreasing.

Diabetes complications include neuropathy (44 percent), nephropathy (38 percent), heart disease (25 percent), end-stage renal disease (15 percent), blindness (12 percent), and stroke (12

percent). PAHO's SABE (*Salud, Bienestar y Envejecimiento*) project investigated health in 7 countries with self-reports from 10,891 participants on the prevalence of a major non-communicable disease. People with diabetes have more hypertension, stroke, and heart disease. The Central American Diabetes Initiative is a multinational survey of diabetes, hypertension, and other CVD risk factors. It included 8000 participants from Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama. Glucose intolerance, diabetes, and hypertension are undiagnosed in about half the people.

CVD risk factors—lack of exercise, high cholesterol, obesity (which is increasing in children aged 0 to 5), and hypertension—are all more common in diabetics. The rationale for primary prevention is both scientific and economic. Major studies on diabetes undertaken in China, Finland, the United States, Europe, and Canada show that changes in lifestyle with or without drug intervention can reverse the trends. The American Diabetes Association recommends opportunistic screening for IGT or IFG for those aged 45 or older with an emphasis on those whose body mass index exceeds 25. Other tests should be considered if the patient is overweight and has any other risk factors. Those with IGT or IFG should receive lifestyle advice and consider drugs if that fails, targeting those at highest risk for diabetes mellitus or CVD. The Finland National Policy recommends using fewer screening tests and tailoring tests to individual risk factors. Mexico uses a 54-tiered screening process: those who have a higher score on the first test, go to blood testing, etc.

In the Americas, more than 125 million people are at risk of developing diabetes mellitus (those aged 45 to 64), and more than 1 million cases of type 2 diabetes mellitus are diagnosed each year, half of which could be prevented. Effective prevention programs would have to include 3 million people, but the savings would total more than $95 billion (more than $37 billion in direct health care savings). Clearly we need to begin primary prevention strategies as well as improve diabetes management.

National Diabetes Education Program*—Ms. Joanne Gallivan, NIDDK*

The National Diabetes Education Program (NDEP) is a joint program of the U.S. Department of Health and Human Services, the National Institutes of Health, and the Center for Disease Control and Prevention. NDEP has more than 200 public and private partners. The program's goal is to reduce the morbidity and mortality associated with diabetes. To tailor messages to target populations, the NDEP formed a work group for each different ethnic group. They are currently developing materials for Hispanics, African Americans, Pacific Islanders, American Indians, and Asian Americans.

More than 2 million (10 percent of the population) Hispanics in the United States have diabetes. Yet, in general, people with diabetes tend not to know of the link between CVD and diabetes. The goal of the NDEP campaign (Small Steps Big Rewards—Prevent Type 2 Diabetes) is for people to lower their risk and to know about the link with CVD. Losing 5 to 7 percent of body weight and getting 30 minutes of exercise per day can lower the risk significantly. NDEP is producing a tool kit for health care providers. See their Web site—www.ndep.nih.gov—or call them 1-800-438-5383.

Discussion

- Dr. Burgos-Calderon noted that the number of people and the amount of money involved demands that we deal with this problem. CARMEN has been implemented in Venezuela, but we must link that to CVD and kidney, endocrine, and metabolic diseases. We also need a logical framework for CVD, which will reduce duplication of effort.

- Dr. Escobar does not know what explains the reduced CVD rates in Chile, but those rates have been going down for the past 30 years and continue to do so. However, the risk rates are not compared with the developed rates, and now more Chileans are overweight.

- Many of the health systems in other countries are dominated by leadership at the national level, unlike in the United States. Dr. Schuster wondered how the United States can achieve similar successes with its decentralized health care system.

- Dr. Uauy: Community involvement in health care is a necessity. The U.S. medical profession is very conservative in promoting health; they promote medicine. Doctors are therefore a force against change, and the community needs to demand access to good health care, which requires social mobilization. Every new paradigm, e.g., prevention, is initially rejected by the establishment. The community needs to demand prevention. We also need to change the mind-set of those who have health insurance; everyone wants the latest technology and the "best" drugs—they don't have a social philosophy about health. Physicians want to make money but don't get paid to prevent disease. Government and company physicians receive a salary, but that too is based on the number of patients treated.

- Dr. Escobar: The Latin American systems don't work with doctors. The most important people at the community level are nurses, dieticians, health care workers, etc, who are trained and who enjoy their work, which doctors don't enjoy.

- Dr. Clottey: Health systems need creative leadership at the top and a true partnership from the ground up. For the latter, there must be recognition that people play at different levels and contribute different things; all need to be involved from the beginning. People must also be engaged in evaluation. This develops more flexible management of networks. The health care system a country has and the way people behave about their health depend on their culture; Canadian and U.S. culture values science, independence, and freedom of choice. But, the best innovation, the best science, doesn't translate easily into community-wide programs. It's complicated. Money, education, and availability of drugs are the positive factors here. To change behavior we would not start with a ministerial directive. Tobacco cessation and seat-belt requirements are examples of a fundamental public health change that originated with community demand. However, obesity is different—you don't have to smoke to live, but you do have to eat to live. We do have some mandate to fix this. The Veterans Administration system (which is a large system mandated by Congress) is one of the major success stories in care of diabetes by using information technology. The United Kingdom is doing an extraordinary and expensive experiment with incentives for reaching targets in terms of glycemia, etc. Information technology, of necessity, will have to capture data it didn't have to before.

- The planners of this meeting made an effort to bring together countries that have a universal care system, and talk about coalitions and partnerships. But do programs built on partnership model get better results? Mr. Bracht said we have little evidence, but the tobacco change illustrates the effectiveness of coalitions and partnerships (the medical community being a partner, not the leader—e.g., the last institutions to prohibit smoking were hospitals). Now funding has declined and we see increases in smoking among young people. However, we're seeing the same thing with the fast food industry and obesity, which supports the premise that the public gets what it demands.

- Chronic obstructive pulmonary disease (COPD) is low on the list of causes of death in Latin America, where smoking rates are higher. However, Ms. Selin thought that prevalence and per capita consumption of tobacco vary widely among countries, and consumption may well be lower than it was here.

- We know what prevents chronic diseases, but we don't know the actual tasks to achieve prevention. We have the clinical and the population approaches, but to really change behavior you have to change something by a small amount for the entire population, rather than by a large amount for a small part of the population. Developing effective partnerships could help leverage and multiply the potential for building resources. But we need to learn more.

- We need a system of leadership that communicates with the population. It took 20 years to change the health system in Chile and most of that time was spent on justification of the changes. When the people were told about the concerns, they saw their own behavior. The health system must have a health objective, health leadership, and economic objectives, and be able to justify costs. Health systems must be focused on better health outcomes; that way the people will be concerned about their own health. Today we have not discussed high impact behavior and its cost, but have skirted the issue by talking about expenditure on drugs and comparing the cost of drugs with the cost of rice, etc.

- Traditional public health policies have dealt with infectious diseases—vaccination and diagnosis—with independent networks. This doesn't apply to chronic diseases because of the great need for prevention within the community. Therefore, it is important to enhance the primary health care and basic health care network because it is the threshold of the system; it is the educator that promotes health and stands out in terms of diagnosis and treatment. It is difficult to prioritize prevention and treatment of CVD because we have to convince people to change their lifestyle and eating habits. We have to get the media to work with us, and we have to go door-to-door. People within the community can connect community members with health care services. In primary care, the differences are seen within developed countries; primary care in the U.K. system is strong and the role of the physician crosses barriers and boundaries. They have to incorporate action on a broader spectrum. In Brazil, the biggest challenge has to do with the relative lack of involvement of physicians; we need to re-qualify, so to speak, physicians for a role in prevention.

- The concept of empowerment has not been evident here. Community leaders who are empowered to implement health care changes are the ones who will make changes. Many

strategies fail because we impose a strategy without finding out what the community wants. The first step is to sit down with community members, explain the problems, and then let them choose what to work on first.

- Given what we have heard so far, we conclude that science is important, but we have little science in Latin America. A chronic and problematic factor is putting in first place problems that lack inexpensive treatment and are part of our routine, but good medicine is not inexpensive, and pharmacology is important. So too are primary care and prevention. In Latin America, we have to combat CVD, as enemy #1. From a marketing point of view, it is easier to treat AIDS and infectious diseases; our biggest problem is preventing CVD (the base of the iceberg) and secondary prevention. We have to work jointly as a result of this meeting, so we should have as an outcome of this meeting something that shows that better health treatment is sometimes more costly, especially considering that 90 percent of health care costs are expended in the last year of life.

SESSION 2—PANEL B

Prevention and Control of CVD Risk Factors at the Policy Level, Health Systems and Community: Main Issues and Perspectives—
Co-Chairs: Dr. Antonio Infante & Dr. Lucimar Coser Cannon

***U.S. Dietary Guidelines and Heart Health**—Dr. Darla Danford, NHLBI*

Published jointly by the U.S. Department of Health and Human Services (DHHS) and the U.S. Department of Agriculture (USDA) every 5 years since 1980, the *U.S. Dietary Guidelines* will be released in January 2005. The dietary guidelines serve as the cornerstone of U.S. nutrition policy and are used in many nutrition programs and in the development of educational materials. The guidelines also provide the basis for dietary guidance in the Institute's population-based approach for components of the NHLBI education programs. The Food Guide Pyramid is 12 years old and is being revised along with the dietary guidelines. USDA plans to release the revised Food Guide graphic, which may or may not be a pyramid, shortly after the release of the 2005 *U.S. Dietary Guidelines*. Other cultures have developed analogous dietary guidelines and/or food guidance graphics, but not necessarily as pyramids.

The 2000 *U.S. Dietary Guidelines* contained 3 overarching concepts and 10 specific recommendations:

- The first concept is Aim for Fitness which recommends aiming for a healthy weight and being physically active each day.
- The second concept, Build a Healthy Base recommends letting the Pyramid guide your food choices; choosing a variety of grains daily, especially whole grains; choosing a variety of fruits and vegetables daily; and keeping food safe.
- The third concept, Choose Sensibly recommends choosing a diet that is low in saturated fat and cholesterol and moderate in total fat; choosing beverages and foods to moderate

your intake of sugars; choosing and preparing foods with less salt; and if you drink alcoholic beverages, doing so in moderation.

An external scientific Advisory Committee was appointed by the 2 departments to conduct an analysis of new scientific information and to prepare a summary report of their findings. This Dietary Guidelines Advisory Committee submitted their report in August and has recommended 9 major messages for consideration by the departments in their 2005 revision:

- Consume a variety of foods within and among the basic food groups while staying within energy needs.
- Control calorie intake to manage body weight.
- Be physically active every day.
- Increase daily intake of fruits and vegetables, whole grains, and nonfat or low-fat milk and milk products.
- Choose fats wisely for good health.
- Choose carbohydrates wisely for good health.
- Choose and prepare foods with little salt.
- If you drink alcoholic beverages, do so in moderation.
- Keep food safe to eat.

Dietary recommendations in the NHLBI high-risk or clinical approach program strategies are consistent with the current dietary guidelines. These recommendations are exemplified by the Dietary Approaches to Stop Hypertension (DASH) eating plan (in the National High Blood Pressure Education Program), the Therapeutic Lifestyle Changes (TLC) Diet (in the National Cholesterol Education Program), and the Weight Control menu plans (in the Obesity Education Initiative). Various tools have been developed for disseminating this dietary guidance through patient education efforts. (See: www.nhlbi.nih.gov for all 3 eating plans as well as other related education tools.) More information on the dietary guidelines is available at: www.health.gov/dietary guidelines. The new *U.S. Dietary Guidelines* and related consumer education materials will be made available on the Web site.

***Overweight and Obesity**—Ms. Karen Donato, NHLBI*

Overweight and obesity are topics in the news, and the increasing rates in most countries are alarming. This is compounded by its effect on diabetes and other cardiovascular disease risk factors. According to a new CDC report, overweight and obesity may soon outrank smoking as the major preventable disease in the United States. The most current prevalence data from NHANES 1999-2000 published in the October issue of *JAMA* show that 65 percent of adults are either overweight or obese. Obesity, which is defined by a body mass index of $\geq$ 30 kg/m^{2,} has increased from 23 percent in NHANES III to 31 percent of adults. The prevalence of overweight in children has also increased, doubling in 25 years in children to 15 percent and tripling in adolescents to also 15 percent. Looking at the Behavioral Risk Factor Surveillance Data from 1988 to 2002, one can see a steady increase in obesity across most states. In 2002, most states had 20 to 24 percent of adults obese, with 3 states having more than 25 percent of adults obese. No state had fewer than 15 to19 percent of adults considered obese.

Activities of the NHLBI Obesity Education Initiative fall under 2 categories; the high risk strategy and the population-based strategy. The high risk strategy targets individuals experiencing or at high risk for adverse health effects and medical complications because they are overweight or obese. The population strategy tackles the problem from the standpoint of prevention of overweight and physical inactivity. This strategy involves the development of messages and programs encouraging all people to increase physical activity and improve nutritional habits in order to help avoid overweight and obesity.

Under the high risk category, the NHLBI convened an expert panel to consider issues related to the identification, evaluation, and treatment of overweight and obesity in adults. The institute released the clinical guidelines expert panel report in 1998 and also published the guidelines in *Obesity Research.* The guidelines recommended 3 important measures when conducting patient assessments: the body mass index, waist circumference, and other risk factors. Body mass index is highly correlated to total body fat, and a high waist circumference confers additional disease risk. The BMI cutpoints for overweight are 25-29.9 kg/m^2 and $\geq$ 30 kg/m^2 for obesity. High risk waist circumference in men is defined as > 102 cm (> 40 in) and in women, it is > 88 cm (> 35 in).

Obesity is associated with a number of comorbidities including high blood pressure, high blood cholesterol, type 2 diabetes, sleep apnea, certain cancers, and other serious problems. An analysis of the NHANES III data showed that the prevalence of hypertension increases as body mass index increases. Nevertheless, primary care professionals often have trouble talking to patients about weight and weight loss. NHLBI has developed educational materials for primary care professionals. One such product is the abbreviated version of the clinical guideline, *The Practical Guide* developed in partnership with the North American Association for the Study of Obesity. Other tools developed to disseminate the messages include a primary care provider kit, 2 online CME modules, 2 Palm OS interactive applications, and the Aim for a Healthy Weight Website. The site provides practical information on nutrition and physical activity for health professionals and the public Another popular web page, Portion Distortion, was developed to show consumers how portion sizes and caloric content of many popular foods have increased over the past 20 years.

The Hearts n' Parks program is an example of the population-based strategy to encourage healthy eating and increased physical activity. The program is collaboration with the National Recreation and Park Association and the American Dietetic Association. Hearts N'Parks efforts are underway in 50 magnet center sites in 10 states, chosen because of the high risk for CVD and the strong capability of the park and recreation departments. The magnet centers made a 3-year commitment to implementing heart healthy programs and agreed to carry out the numerous responsibilities including evaluation. It provides a unique venue to learn about heart healthy lifestyles. Hearts N'Parks is a good example of adopting programs to meet the needs of the community and mobilizing community partners and bringing people together.

The Healthy Weight Initiative will embrace the following program elements: national media and messaging, community outreach, and partnership development. The primary audiences will be children and their parents or care providers. The secondary audiences will be key influencers such as physicians, teachers, coaches and peers. More information is available at: www.nhlbi.nih.gov.

***Overcoming Obesity**—Dr. Ricardo Uauy, Chile*

Obesity is an international issue. In primitive times, people had limited energy intake—energy expenditure exceeded intake. Over the last 150 years people have had unlimited energy intake—intake exceeds expenditure. So, we must either reduce intake or increase expenditure or do both—it's an issue of energy balance. But body mass index (BMI) doesn't tell the whole story: 2 men have a BMI of 22.3, but 1 has 9.1 percent body fat and the other (from India) has 21.2 percent. For Asians, at a given BMI, the percentage of body fat is higher.

Relative risks associated with obesity include: NIDDM, gallbladder disease, dyslipidemias, insulin resistance, and breathlessness. Risk factors related to death in the Americas in 2000 are: tobacco, foremost, followed by high blood pressure, high BMI, high cholesterol, lack of fruit and vegetable intake, alcohol abuse, and physical inactivity. Reducing these risks would prevent about 90 percent of type 2 diabetes. Overweight predominates in the Americas in response to a rapidly changed diet over recent years, with higher sugar and fat intake and decreased physical activity.

Genetics may be a factor, and research is a good thing, but unless we look at the underlying factors—access to safe and healthy food, price regulations, policies that affect marketing, advertisements, subsidies that lower the cost of high sugar and fat products, and psychosocial determinants—we will not solve the problem. Factors that determine obesity, diabetes, and CVD all have to do with dietary change and physical inactivity. We need to be concerned with obesity early in life—low birth weight is associated with obesity, while breast-fed babies gain less weight after birth relative to those fed formula. Obesity prevention needs to be considered at every stage in life. The recently completed WHO Multicentre Growth Reference Study monitored 8000 children for growth for their first 6 years of life: children across the world grew similarly. Their length followed the present standard but their weight at 1 year was significantly less than the present U.S. NCHS/CDC charts that served as the basis for the present international standards, which suggests that we may be underestimating the true prevalence of childhood obesity.

A few of the things we can do are: Consider that individual responsibility is not sufficient; there is a need to change the environment to facilitate active lives and promote consumption of healthy foods. Improve availability of fruits and vegetables by relative pricing, provide exercise breaks at work, and examine marketing practices and advertisement to children.

***Physical Inactivity**—Dr. Carlos Crespo, University of Buffalo*

Public health programs survey to define a problem, identify risk factors to determine the cause, perform intervention evaluation to find out what works, and implement research findings. Physical activity is a leading health indicator. Since 1993, lack of physical activity has been added as a risk factor for CHD, regardless of other risk factors; it also has a direct effect on other cardiovascular risk factors. Physical activity reduces other cause-specific and all-cause mortality, e.g., cancer and stroke. Physical activity increases physical readiness—nearly 20 percent of 17-

to 20-year-olds are not eligible for military service due to excess of body weight—this is no longer only a public health issue.

Most of what we know about Hispanics' health status comes from Mexican Americans. Puerto Rican men have the highest stroke mortality, and inactivity is higher among Hispanics and African Americans at very young ages. Everyone becomes more inactive as they age, but as Hispanics have acculturated they have become less active.

Environmental factors communicate with the public, e.g., an escalator to the fitness center, or 14 cup-holders in a car that seats 7. With children, inactivity and TV watching are increasing, as is eating more calories—in the United States, we spend far more money on fast foods. Studies have shown that there is a significant correlation between lack of enrollment in physical education classes and inactivity in adulthood. And, there is a negative correlation between inactivity and household income, although occupation is not correlated. Inactivity correlates with poverty, and there is a weak correlation between lack of health care coverage and inactivity. The more HMOs there are in an area, the less inactivity. Spending money on physicians or on hospital care is not related. Married white men are less active than single ones; but the correlation does not hold true for women. Social support (talking on the phone, getting together with friends, attending church, being a member of clubs, etc) is related to less inactivity. Perceiving the environment as not safe is related to inactivity, as is enrollment in substance abuse and alcohol treatment or being overweight and smoking. Activity is also related to season and geography or climate. When you call it "exercise," people stop coming, but when it's fun, they do it. Exercise by itself will not cause weight loss, but it is still good for your health. Physical activity is today's best public health bargain.

Physical Inactivity*—Dr. Enrique Jacoby, PAHO/WDC*

In the Americas, non-communicable diseases-those related to tobacco, hypertension, overweight, cholesterol, not eating fruit and vegetables, alcohol abuse, and inactivity (of which diet- and nutrition-related diseases account for 70 percent)-are responsible for the most deaths, followed by injuries; 12 million DALYs are lost to nutrition-related non-communicable diseases, but only 4 million DALYs to undernutrition. Nevertheless, the concentration in public health is still on infectious diseases. Treatment of non-communicable diseases is for life and is costly: in Latin America, $300/capita; in the United States, $3400.

In the suburban environment, where people have to drive everywhere, inactivity is the norm and people are more likely to weigh more and have higher hypertension rates as one study in the United States now suggests. In urban environments which are more densely populated, have diversity of land uses, and are rich in street amenities, people are 25 to 30 percent more likely to walk and bicycle than in car-oriented neighborhoods. Population density is also related to carbon emissions. Recent surveys in Latin America using the International Physical Activity Questionnaire (IPAQ) show that fewer than 15 percent of people practice sports, but more than two-thirds walk for utilitarian as well as recreational reasons. A Bogota survey showed that people using their own mode of transportation (private cars, motorcycles) walk roughly 5 minutes. When using mass public transportation (which 80 percent use for utilitarian purposes), people walk approximately 20 minutes. Now that walking and moderate physical activity has

been proven to have health benefits, the city where we live is the new "gym," the public health community should take interest in this.

Of all World Bank loans, 20 to 25 percent are directed toward transportation, which suggests the attention given to this issue, primarily because of economic and productivity reasons. In fact, there are good reasons for that. Most public transportation in Latin America is inefficient, chaotic, stressful, and air-polluting. Now, in addition to economic reasons, we can conclude that a good mass transportation system can also benefit our health by promoting more walking, reducing contamination, and possibly reducing accidents on the road. Mass transportation systems can catalyze other changes in the city, also beneficial to health. A good example is the city of Bogota in Colombia. In an 8-year period, 4 consecutive city administrations transformed the city transportation system, emphasizing mass transportation and discouraging the use of private cars. They also favored pedestrian life and biking (Bogota has 300 km of bike trails throughout the city), defense of urban public spaces, crime control, and a culture of participatory civic life. Such an environment is certainly helping to improve the quality of life and also providing a boost to the city's organizational systems and productivity. No less important, it is also good in terms of public health. We think it is time urban planners and city governments joined efforts. It is crucial to public health to move away from the individual behavior change paradigm, to a population approach that through diverse types of incentives and environmental changes, can positively influence population health levels.

Thursday, October 14, 2004

SESSION 2—PANEL C

Prevention and Control of CVD Risk Factors at the Policy Level, Health Systems and Community: Main Issues and Perspectives—

Co-Chairs: Dr. Clarence Clottey & Dr. James Kiley

Tobacco Control in the Americas*—Ms. Heather Selin, PAHO/WDC*

Tobacco use causes 5 million deaths annually, mostly in the developing world, but 1 million of them occur in the Americas (Non-communicable diseases are responsible for a third of all deaths). In addition, tobacco costs $200 billion annually in health care because smokers get sick more often. The biggest challenge is tobacco's social and political context—it's a not very regulated and highly acceptable drug, and, unlike cholera, it employs lobbyists and PR groups. In this climate, for adolescent smokers (aged 13 to 15) in the Americas, the prevalence rate is highest in Chile (38 percent) and lowest in St. Lucia (13 percent).

Few countries have effective tobacco control policies. Government and civil society infrastructure is limited, and the health care systems focus on individual approaches, which won't cause population change. Smoking prevalence is stagnant in most countries, but it is decreasing in Brazil, Uruguay, and North America, and per capita consumption is decreasing.

An important tool is the *WHO Framework Convention on Tobacco Control*, adopted in 2003. This international treaty has been signed by 168 countries and ratified by 32. It addresses the most cost-effective controls: tax and price increases on tobacco products, establishing smoke-free environments, health warnings on packaging, and bans on tobacco advertising, promotion, and sponsorship. For example, a price increase of 10 percent results in a per capita consumption decrease of 8 percent in low- and middle-income countries; the effect is greater on the young and the poor. However, erosion of social acceptability of smoking is the single most dangerous change for the tobacco industry. Smoke-free environments reduce tobacco consumption among smokers by a third. In 1978, a spokesman for the Tobacco Institute said they are, "the most dangerous development to the viability of the tobacco industry that has yet occurred."

The WHO treaty requires health warnings that cover 30 percent of the surface of all tobacco packaging within 3 years. Package messages with information perfectly targeted at smokers, provide information that smokers read. These messages meet the standard of informed consent and they greatly detract from the appeal of the package. They motivate smokers to try to quit and they support other tobacco-control policies and goals. Evidence shows that in Brazil and Canada, half of smokers had changed their opinion on the health consequences of smoking as a result of the warnings on packages—e.g., pictures with the caption, "smoking causes impotence" or "smoking causes cancer of the larynx." Many smokers don't smoke at home because of the effect on their family. But, bans on tobacco promotion decrease consumption more quickly in countries that have them than in countries that do not.

PAHO is promoting ratification and implementation of the WHO treaty by raising awareness of the treaty implementation process. It supports the Smoke Free Americas initiative, which promotes smoke-free environments. It is building civil society capacity and sponsoring economic research to counter the arguments of the industry, where health arguments are ineffective.

***Smoking Cessation**—Dr. Norman Hymowitz, New Jersey Medical School*

More than 50 years after the connection between lung cancer and smoking was first established, cigarette smoking still is common in most industrialized countries of the world and is increasing at a rapid rate in less developed countries. As a consequence, premature death from tobacco-related illness continues to rise at an alarming rate throughout the world. To promote their product, tobacco companies spend more than $12 billion per year in the United States alone and many times that number worldwide.

There are 2 approaches to help smokers quit smoking: clinical—intense treatment for a few people—or public health—less intense treatment for many individuals. The clinical approach involves behavioral and pharmacological methods; when the 2 are combined, they are more successful than either alone. Smoking is a learned behavior, and as much effort must go into relapse prevention as in initially quitting. Behavioral strategies include: establishing a quit date for initial cessation and preparing for that quit date by self-monitoring of smoking behavior, i.e., becoming aware of each cigarette and the conditions under which smoking occurs; modifying conditions in which smoking occurs and engaging in alternative behaviors; diet and exercise to prevent weight gain and promote health consciousness; relaxation and coping skills; and, perhaps, aversive conditioning. Smokers are encouraged to plan the quit date and to use strategies that helped them quit to remain cigarette-free. Long-term follow-up and support are very helpful to the ex-smoker. Pharmacological therapy includes: nicotine replacement therapy (NRT) (gum, patch, inhaler, nasal spray, or lozenge), bupropion (Zyban), combination therapy (e.g., patch plus gum, NRT plus Zyban), extended use (6 months to a year, there is little concern for addiction), and high-dose patches or gum.

Remaining issues are: long-term maintenance of smoking cessation and relapse (smoking is a chronic disease and smokers may have to quit many times before succeeding for good); adolescents (high dropout rates, modest outcomes-much lower than adults); and harm reduction. With respect to the latter, it is important to note that so called “light” and “ultra light” low tar and nicotine cigarettes are as likely to cause lung cancer and heart disease as regular cigarettes, and we need to be sure that new products, e.g., potential reduced exposure products (PREPS), are not used as “starter products” by youths or as deterrents to quitting smoking by adolescents and adults.

One aspect of the public health approach mission is to repackage clinical approaches so they can be used for a large number of people. This may be accomplished via mass media campaigns, computer and Internet programs, self-help quit smoking brochures and materials, hotlines, and community-wide quit-and-win contests. Physicians and other health care providers have an important role to play, with cigarette smoking assuming the status of a vital sign. Physicians should use the National Cancer Institute’s 5 A’s algorithm to anticipate smoking (youth), ask about smoking, advise cessation, assist cessation attempts, and arrange follow-up. Health care

providers should form a partnership with their patients to help them prepare for a quit date and prevent relapse. To facilitate this process, the New Jersey Medical School has produced a series of audio-visual vignettes to show medical students and residents how to address tobacco in office and clinic settings. The videos demonstrate counseling, interviewing, and intervention skills for conducting a smoking history, determining nicotine addiction levels, assessing readiness for change, and forming a partnership with the patient to develop and implement a treatment plan. Dr. Hymowitz showed one of these videos that demonstrated the importance of following up referrals, motivating the patient, and enhancing self-efficacy.

The public health approach also relies heavily on community-wide initiatives to alter societal norms that encourage smoking and implement policies and legislation that deter tobacco use. Examples of the latter include clean indoor air laws, excise taxes, age-of-sale laws, curbs on tobacco advertising, counter advertising, and school health programs. The combination of clinical and public health approaches to tobacco prevention and control have led to marked reductions in tobacco use in the United States and elsewhere and hold promise of additional success throughout the world.

Discussion

- Inertia is the greatest problem. A sense of urgency is lacking because smoking-related diseases are seen as diseases of wealthy countries. People think that if they maintain the status quo, they'll be fine. We need the support of the ministries of health, e.g., with such support, Brazil went from being the biggest exporter of tobacco to the strongest opponent.

- Coalitions are a useful force with many people coming forward with the same message. Uruguay now has one of the strongest coalitions in the world. PAHO is working with the Coalition against Cancer, contributing stories from the Americas.

- With the New Jersey training program for medical residents, use of the vignettes is tied to a Web site over a year—it's 10 hours of videos on CD, Web site interaction, and supplementary seminars. The videos could also be used over the 3 years of a resident's training program, implemented within the rest of their training.

SESSION 3

Programs at the National Level to Promote Heart Healthy Lifestyles—Co-Chairs: Dr. Oscar Velázquez Monroy & Dr. Shanthi Mendis

Salud Te Recomienda—*Dr. Vivian Green, Department of Health, Puerto Rico*

Salud Te Recomienda is a health initiative of the Department of Health in Puerto Rico. Overweight and obesity prevalence increased by about 20 percent between 1966 and 2000. In 2003, 60 percent of the population was overweight or obese. Adolescent overweight and obesity increased from 5 percent in 1966 to 20 percent in 1997, an increase of 300 percent. Since 1992,

mortality rates from all non-communicable diseases increased, and all are related to lifestyle. Therefore they implemented a program to promote behavioral changes and healthier lifestyle choices. They formed partnerships that include supermarkets and the fast food industry, cafeterias, and the main food distributors. People look for and read health information and want to change their diet, but implementing change is difficult for them. Therefore, programs must be simple and easy to use.

Foods that comply with health standards are assigned a logo. The Department of Health of Puerto Rico developed the food selection criteria based on the current dietary guidelines of various organizations, including the American Heart Association, the American Diabetes Association, and the American Cancer Society. The variables evaluated include the percentage of total fat, saturated fat, cholesterol, sodium, and the dietary fiber content. Products that fulfill the evaluation criteria receive Puerto Rico's Department of Health logo "Puerto Rico Health Department Recommended." This indicates that the product fulfills dietary recommendations and that The Department of Health of Puerto Rico recommends it.

Health Department dietitians visit supermarkets to identify the products that meet the criteria established, and assign these products the logo "*Salud Te Recomienda*." Fast food establishments voluntarily submit their menus for nutritional analysis carried out by a registered dietitian. The nutritional analysis is then submitted to the food evaluation committee, who select those menus that meet the established criteria. Selected menus are then granted the "Salud *Te Recomienda*" logo. Establishments can place the logo on their menu boards or on posters near the cash registers. The logo's art work is supplied by the Department of Health of Puerto Rico, and the fast food establishment is responsible for its reproduction.

Partners in this endeavor include: cafeterias (general public, school, and hospital), supermarkets, pharmaceutical companies, non-profit organizations, fast food companies, mass media, schools, health plans, and distributors of food, fruits, and vegetables. As of October 2004, the following had joined the program: 9 national supermarket chains, 10 fast food chains (i.e., 75 percent of all fast food chains in Puerto Rico), 9 food distributors, and 3 hospitals. Supermarkets in the program show large increases in the sale of fruits, olive oil, oatmeal, juices, and whole-grain food. The pattern is the same with hospital cafeterias. To be a partner, cafeterias must display in a separate area, grilled or baked meat, fruits, milk, and water. At fast food restaurants, the price of foods and the menus have not changed, but the sale of NOT recommended products was lower and feedback from consumers was positive. Future strategies include incorporating the heart symbol in all restaurant menus, and expanding the program to small businesses.

Nationwide Media Programming—*Dr. Elmer Huerta, Washington Hospital Center*

The reality of the U.S. health care system is that it is a disease-based medical system model. Everyone is waiting for symptoms to appear. Afterwards, patients visit an extremely busy primary care system or an emergency room. Barriers to adequate health care include lack of information, linguistic isolation, poverty (you can't plan 20 years ahead if you don't know what you will eat next week), and lack of health insurance. People, especially immigrants, don't understand the health care system—Medicare A or B, HMO, PPO, etc.

The optimal questions are how to motivate people to see a doctor when they have no symptoms, how to develop a health promotion–based system, how to get from an advanced disease system to management of pre-conditions and early disease? We must focus on the person with the health—knowledge, attitudes, behavior, poverty, fears, fatalism, false beliefs. We must develop an ethnically sensitive, culturally relevant, media-based program. Mass media sets the agenda, legitimizes the issue, and ultimately changes behavior. Some media principles are: use it consistently (every day, like the sports reporter), develop comprehensive health education programs (not just for one particular disease or condition), use all media channels available for the community (driving time, talk shows on TV and radio, newspapers, Internet), develop a trusted messenger, and don't mix health education with a commercial message.

Dr. Huerta produces 3 kinds of radio shows—a 1-minute program, a daily 1-hour local talk show, and a weekly 1-hour national talk show (started last week). They reach 85 percent of Latinos in the United States. He also produces a 1-hour TV show and Internet sites. For NHLBI's "*Salud para su Corazón*" program, Dr. Huerta produced 20 radio programs run as a 4-week series of daily programs on heart health. Radio is the most important source of this information for adults. Most of the target audience has a high school education or less, they speak good to little English, and most are laborers and service people.

Ultimately, Dr. Huerta has created a "preventorium"—the opposite of sanatorium—at Washington Hospital Center, for people without symptoms who want to learn how to keep well, for prevention and early detection, and for patient education. At the beginning of the 20th century, children were placed in preventoriums to protect them from their parents' tuberculosis. To convince people that this is the model they want, we must use the media. The Washington Hospital Center Cancer Preventorium begun in July 1994, and has since seen more than 14,000 people, and has received inquiries throughout the Americas for other conditions. It is possible to change attitudes with the media. Scientists talk to scientists, but non-scientists don't receive the information unless it is translated and disseminated so they can adopt the knowledge and change.

Discussion

- Much effort depends on Dr. Huerta—it's his project—but he's working on that. They have a manual on how to set up a preventorium. Money-wise, Dr. Huerta is not paid for his radio presentations; this is his hobby. Radio stations make money from this because it's so popular they can charge the highest rate for ads.

- Writing down the scripts could provide tools for other countries. Then marketing and media techniques could be adapted from other sectors. We also want to adapt these things for Eastern countries.

- The World Heart Federation is launching a new journal *Prevention and Control.*

Reducing Sodium in the Food Supply—*Dr. Stephen Havas, University of Maryland, & the American Public Health Association*

About 80 percent in those older than 75 have high blood pressure, and risk increases as blood pressure increases. Reducing blood pressure would reduce heart disease morbidity and mortality, but primary hypertension is a largely preventable condition. In 1993, the goal was no more than 6 g (1 teaspoon) of sodium per day; current consumption is 24 g or more per day.

In 2001, the American Public Health Association (APHA) was asked to sponsor a resolution on sodium. Sodium reduction is most amenable to a pubic health solution, but 75 percent of salt intake comes from processed and restaurant food, e.g., 1 cup of Campbell's Select Chicken Noodle Soup contains 990 mg of sodium; Stouffer's Vegetable & Chicken Pasta Bake contains 1190 mg of sodium. However, products labeled "healthy" have less sodium, so you can find a can of chicken noodle soup with only 360 mg of sodium and a chicken and vegetable entrée (weighing half an ounce less than the former) with 530 mg of sodium. Restaurant foods typically have 1000 mg or more of sodium per serving. Chefs Dr. Havas interviewed usually put in a teaspoon of salt per serving, and in one North Carolina restaurant, he found a chef who used half a cup per serving. E.g., 1 slice of pizza has 1580 mg, a tuna sandwich 1360 mg, chicken chow mein 2450 mg, and chicken fajita 3600 mg. But cutting sodium in restaurant foods is feasible: compare Burger King's king-size fries (1070 mg sodium) with McDonald's super-size fries (390 mg sodium).

The APHA developed and passed a resolution on reducing sodium in the food supply by uniting political factors and using the media. It was endorsed by the National High Blood Pressure Coordinating Committee, the JNC, the National Academy of Sciences, and the new U.S. Dietary Guidelines. In the United Kingdom, the Scientific Advisory Committee on Nutrition produced *Salt and Nutrition* (2003). The Food Standards Agency achieved large reductions in salt levels in bread, and the Consensus Action on Salt and Health (CASH) keeps the pressure on. In Finland, the North Karelia Project has been responsible for the dramatic decrease in salt intake over the last 30 years. One baker gradually reduced the sodium content in all breads so that his customers didn't notice.

High blood pressure is preventable, and excess sodium is a major cause. Ask for restaurants to hold the salt.

Getting Women to "See Red": The Heart Truth Campaign*—Dr. Ann M. Taubenheim, NHLBI*

Breast cancer is most women's most feared disease, but, in fact, heart disease is a more significant killer. That is why the NHLBI launched in 2002 a national campaign for women about heart disease, called *The Heart Truth*. The primary audience of *The Heart Truth* campaign is women aged 40 to 60. The campaign tries to leverage women's interest in their outward appearance to focus on what's inside (the heart). The campaign is using national public service advertising—TV, radio, and print—and media relations to build broad awareness. In February 2003, NHLBI debuted the Red Dress as the national symbol for women and heart disease awareness. The Red Dress serves as a red alert, reminding women to find out their risk for heart disease and take action to lower it. The icon was designed to be as recognizable as breast cancer's pink ribbon. Another campaign strategy is to disseminate educational materials to

inform and educate women about heart disease, including, *The Healthy Heart Handbook for Women*, a 105-page comprehensive guidebook. First Lady Laura Bush serves as *The Heart Truth's* ambassador and has conducted 10 events throughout the United States to raise awareness of women's heart disease. A key campaign strategy is the development of a partnership between NHBLI and the U.S. fashion industry. Each February, since 2003, top designers have contributed red dresses, which have been debuted as *The Heart Truth's* Red Dress Collection at Fashion Week held in New York.

The Heart Truth Campaign is also building partnerships with a range of other organizations, including, WomenHeart: the National Coalition for Women with Heart Disease; *Glamour* magazine (a 3-year partnership in which a monthly column on heart disease appears); corporate partners—Albertson's, General Mills, Johnson & Johnson, Swarovski, California Pistachio Commission, RadioShack, and Revlon; government partners, such as the Office on Women's Health of the Department of Health and Human Services, health professional partners; and community partners. In the Single City Stop Program, communities raise funds to bring 4 or more red designer dresses to their community and plan a program around it to raise awareness about women's heart disease.

Other key campaign strategies include showcasing the issue with media events, such as, National Wear Red Day, held on the first Friday in February (February 6, 2004). *The Heart Truth* 2004 Road Show went to 5 cities—Philadelphia, Chicago, San Diego, Dallas, and Miami—and provided cardiovascular disease screening to nearly 4000 people. More than 600,000 campaign materials have been distributed by the NHLBI Health Information Center, including over 200,000 Red Dress pins. *The Heart Truth* is beginning to attract international attention (e.g., in Romania, Australia, England, and China). However, although awareness among women that heart disease is their #1 killer is increasing, a knowledge gap remains, particularly among women of color.

Discussion

Sodium

- It's easy to eat less sodium, but most of the salt people eat, they are unaware of. Unless you know you're eating it, it's hard to reduce sodium consumption. Fast food restaurants have not focused on this major issue. In the supermarket, the consumer must look very closely at labels: a typical tomato sauce has 1000 mg of sodium per cup, but you could have less than 100 mg per cup. We must pressure the food manufacturing industry and restaurants to use less salt.

- Dr. Havas is aware of no difference between sexes in salt intake. Although men seem to use salt more, the rise in blood pressure seems equal between men and women. Both eat processed foods.

- The United Kingdom is approaching the issue of developing regulations gingerly, but they are getting close to regulations. The Food Standards Agency has shown the range and is meeting with industries at the higher end to either lower sodium content or label their products. In the United States, there is a move to get FDA to improve food labeling.

The Heart Truth Campaign

- A gala for a single city promotion is amazing, but sustaining that level of interest is the challenge. The Heart Truth campaign has started working with the Office on Women's Health, so they may soon have material that will reach physicians. Another major goal is to reach minority women, for which many more partnerships will be formed. In the Latino community, heart disease is not discussed much. They are working with the Hispanic news media in the United States and have promises of support. Partnering with other organizations that reach minority women is a big part, e.g., Links reaches many African American women. We have to create a win–win situation for them.

Fast Food

- Dr. Green has no written agreement with the fast food companies; only a verbal agreement. The Department of Health says nothing about compensation of foods or recipes. For McDonald's, the healthy food initiative was a salvation because it came when McDonald's was being sued for promoting heart disease; so the Health Department is protecting them and some foods they sell by assessing food content and that a menu not exceed 1000 mg of sodium. The Department of Health gives them a letter specifying that these are the foods integrated into our campaign.

SESSION 4

Programs at the Community Level to Promote Heart Healthy Lifestyles—Co-Chairs: Dr. María Cristina Escobar & Ms. Janet Voute

Salud para su Carazón, an Example of Enhanced Dissemination and Utilization Center (EDUC)—*Dr. Héctor Balcázar, University of Texas, School of Public Health at Houston, El Paso Regional Campus*

We need commitment to achieve sustainable effects of heart healthy behavioral change "in the trenches." Enhanced dissemination and utilization as community interventions are using various methods that include culturally rich components to change health outcomes. We need complex interventions that incorporate culture and process. *Salud para su Carazón* (Salud) is a translation process that works. Its components include: development of a community-based public health framework, development of effective educational material dissemination, implementation of the Salud campaign emphasizing *promotoras de salud*, and development of effective community outreach processes. The Salud EDUC program includes community-wide screening and risk factor assessments for CVD, individual-family dissemination of cardiovascular health information and implementation of strategic family-based heart healthy interventions. The result is that more people can identify risk behaviors and work toward heart healthy behavioral change.

The *Promotora* Outreach Model of the *Salud* EDUC, based on the train-the-trainer model, is an application of culturally enriched process dimension. Community alliances were more easily developed: 74 percent had a personal interest in preventing CVD in the community; 55 percent reported increased involvement in addressing CVD in the community; and 61 percent reported increased activity in joint CVD ventures. The program must work with families to effect change.

A 6-month intervention was launched within the *Salud* EDUC infrastructure to see whether *promotoras* were effective at the individual level (*promotoras* giving materials without a talk), compared with *promotoras* teaching group educational sessions to Latino families with the *Su Corazon, Su Vida* curriculum. *Promotora* training involves empowerment and anchors the training opportunities to set *promotora* goals adding their passion to their work, namely working with Latino families to improve their health. *Promotoras* help a family identify their risk factors. They use a pre- and post-behavior questionnaire to evaluate healthy lifestyle behavior (salt behavior, fat behavior, weight control, etc.). The program was effective for both interventions: classroom setting and the one-to-one intervention (only materials were given). Now *Salud* is integrating behavioral and clinical approaches for sustaining healthy communities with the *promotora* outreach model so that p*romotoras* will be able to sustain dissemination and utilization efforts with Latino communities using a more integrated system of outreach and care.

The Salud EDUC program utilizes interventions at the community level and enhances that utilization by direct interventions with individuals and the family. (Speaking Spanish is not enough to qualify as culturally aware.) In the United States, the concept of *promotoras* is unique and has to be sold. The concept of prevention in the community is a necessary and sufficient condition that Salud EDUC has integrated with the promotora model. *Salud para su Carazón* implementation methods are available on CD-ROM, which is not copyrighted.

The Chicago Southeast Diabetes Community Action Coalition (REACH 2010)—
Dr. Aida Giachello, Midwest Latino Health Research, Training, and Policy Center

The Chicago Southeast Diabetes Community Action Coalition was established 12 years ago as a minority research center, mostly for diabetes, cancer, and tobacco-related diseases. One goal is to eliminate disparity through community capacity-building, change among change agents, targeted actions, and systems change. Health promoters (*promotoras*) play a critical role in integrated community health approaches in this community.

The coalition promotes strong partnerships, and community engagement is key. They use community participatory action research and evaluation approaches. They in the coalition believe there are more similarities than differences between racial and ethnic minorities in the United States, so their aim is to identify best practices and engage in model transfer among ethnic groups. To this end they have trained community health *promotoras* in diverse roles: data collector, community organizer, outreach worker, diabetes educator, case manager, etc.

Having multiple partnerships is critical, and they have found coalition partners in professional groups, churches, government agencies (e.g., FDA), and hospitals. The research method used is community participatory research, which creates consciousness among residents so they become effective agents of social change. Action research (vs traditional research) is flexible, involves the community, and shares financial resources with the community. The coalition engages the community in action planning, forming a community coalition, but the community is leading the way. They target health promotion to the individual and the family. Its implementation is ongoing so the project doesn't stop at the end of the research period. To facilitate the ongoing nature of the work, a broad scope of work brings partners together to work on grant

development, so when the money comes through, the people are ready to begin the project and are active participants in all the activities.

Coalition members identify target populations by community mapping. For interventions, they work with hospitals to establish centralized data tracking on diabetes-related conditions. They have established 3 diabetes self-care centers (learning centers), 1 in the African American and 2 in the Latino communities. To reach their audiences, they promote workshops, exercise-related activities, health fairs, community awareness and education projects, and publish brochures, posters, and articles.

Programas Comunitarios de Promoción de Estilos de Vida Saludable. Costa Rican Heart Health Program/CARMEN Program*—Dr. Darlyn Castañedas, Costa Rica*

Costa Rica is a country of 51,100 km^2 with a population of 4 million. As mortality and fecundity have decreased, migration has increased; the infant mortality rate is 10.8 per 1000 live births; and life expectancy is 78 years. The population is aging. A social security system was begun in 1948 (after the last war), and the Ministry of Health was reformed. Today, 21 percent are poor, but only 6 percent live in extreme poverty. The literacy rate is at 90 percent.

Health policy for 2002–2006 aims at providing health care that is: equal, proven, universal, ethical, and high quality. Emphasis will be directed to CVD and cancer—major health problems in Costa Rica. Mortality due to hypertension is increasing. CARMEN was created as an approach to CVD, and Costa Rica made a political decision to support this strategy. CARMEN emphasizes training human resources, and integrated actions in community education (family, school, the workplace). In conjunction with this, they developed dietary guidelines for school cafeterias tailored to the region (e.g., suggesting fruit that's locally available).

CARMEN works with PAHO, but also with local groups. They have sponsored health fairs and sales of fruits and vegetables at lower prices, training people and giving them recipes. This gives poor people access to healthier and cheaper foods. PROEVISA is a program that underscores healthy lifestyles. Health workers should be a model of what they want to promote—we can't ask others to do what we refuse to do. Ethics entails the capacity to see in someone else what I would like to feel in myself.

Challenges include the people's relative poverty. At the same time, they are trying to consolidate reforms so they don't lose the good things they had before. To address sustainability of the health care system, they are working with legislators and the Ministry of Health on health services and evaluation and assessment.

Iniciativa CARMEN Bucaramanga, Colombia*—Dr. Gloria P. Arenas Castillo, Colombia*

Because of the progressive trend in these non-communicable diseases, the Ministry of Environment and Health in Bucaramanga, the Santander Foundation, and the Cardiovascular Society, work together. CARMEN was begun in 1999–2000 in response to the increasing incidence of CVD. This is an intersectoral project involving academics, health care providers,

governments, institutions, the community, and PAHO. CARMEN consists of a group of actions that promote habits and behaviors that lead to a healthy lifestyle, and culminates in creation of a collective effort. The slogan is, "CARMEN lives in you. Take advantage of your 5 senses."

Colombia is a country of contrasts containing 44,531,000 people of whom 37 percent are poor. It has 1098 municipalities. Santander, in the northeast, is one of the departments in Colombia, the capital of which is Bucaramanga, a city of 558,740 people. CVD and related mortality are increasing. To begin the CARMEN initiative, they identified 40 neighborhoods (20 for intervention and 20 controls). The plan of action was structured on management, information strategy, education and communication, research, and then evaluation—everything supported by community participation. A prevention survey revealed primary risk factors to include inactivity, a family history of non-communicable diseases, alcohol abuse, hypertension, and diabetes. The strategies involved promote a healthy lifestyle, improve the environment, investigate, formulate public policy, monitor risk factors, and, most important, invite community participation.

The perception of the community regarding their needs is the starting point. Involving the community from the beginning empowers the members. We began with diagnosis and awareness and convening the community to identify leaders to be a support network. We created groups in each of the neighborhoods where we would be intervening. Based on the results of the survey, we designed lines of intervention for the prevention of smoking, to control alcohol abuse, to promote physical activity (MOVE, with a local ant as logo) and a healthy diet, to induce women to go to breast cancer screening and cytology.

The initiative has an interdisciplinary team coordinated by professionals who develop the training activities. The director is a nurse—other members are an epidemiologist, a physiotherapist, a professional in physical education, a community assistant, somebody who specializes in social communication and helps design these strategies, and a nutritionist who does the training for the change in lifestyle. These people train community promoters.

U.S.–Mexico Border Diabetes Prevention and Control Program—*Dr. Beatriz Apodaca, PAHO Regional Office, El Paso, Texas*

The U.S.–Mexico Border Diabetes Prevention and Control Program is a collaborative project that attempts to prevent diabetes by identifying risk factors, and developing prevention and control programs that respond to the needs of the border population. The border population has particular characteristics: the Hispanic population is less educated and less economically developed. This bi-national project requires bilingual communication for each committee. Many times, northern Mexico has more in common with the southern United States than with southern Mexico. The U.S. side may have more money, but the Mexican side has more involvement. Turnover of personnel is a problem. The objective is to prevent diabetes among residents 18 and older in the border area—10 states (4 U.S., 6 Mexican) and 38 communities (all with more than 30,000 inhabitants). To achieve the objective, they used 3960 completed questionnaires to assess the population for anthropometric measurements, blood pressure, etc.

In Mexico, all activities take place through the government and institutions, whereas, in the United States, work takes place with government offices and profit and nonprofit agencies. In

fact, they had to sign contracts with non-governmental agencies to complete the questionnaire. Activities are easier to administer on Mexico side where 98 percent participated. On the U.S. side, they had to pay participants $10 each. The goal is to develop a bi-national community strategy to reduce several health risk indicators, increase healthy life styles, reduce risk factors among relatives, and use health promoters for pilot interventions. Training for personnel will involve material already developed by other institutions, e.g.: CDC's *Diabetes Today*, and the University of Chicago's *Diabetes Education and Empowerment for Promotoras*.

For this 2-year project, there are 60 participants per site for 11 sites. The intervention group will receive 18 months, i.e., 74 education sessions, of training for the person and his or her family. Training with the delayed intervention group will last 4 months (16 sessions). Participants were identified by their primary care center. They have type 2 diabetes, are ambulatory, of Hispanic origin, 18 years or older, resident in the border area, and willing to participate in a 2-year study. Half were male; half female.

They are evaluating reduction of body mass index, waist circumference, and A1c level and promoting smoking cessation, physical activity, and a healthy diet. Their accomplishments have been: the border is seen as an epidemiological unit; the project was implemented through a consensus process; they produced an operation manual for phase 1; the Mexican lab's capacity was strengthened; and they convened the symposium "Diabetes, a Challenge for All." Prevention and intervention models were applied in the same project. About 100 institutions have collaborated so far.

Discussion

CARMEN

- In Colombia, the CARMEN project uses an intervention area of 20 communities in which leaders have selected themselves. It is hoped that with the leaders, possible crossover contamination with the control communities can be prevented. However, physical activity is somewhat contagious because people copy one another.

Sleep

- Dr. Carl E. Hunt, of the National Center on Sleep Disorders Research, noted that another important "S" word is sleep. He thinks sleep disorders, which are under-diagnosed and which accompany obesity, should be included in these studies. Questions about sleep could easily be added to survey questions.

Promotoras

- Using *promotoras* means that health personnel are likely to have the same level of risk factors as the people they are trying to help—they tend to smoke, be overweight, and eat poorly. Dr. Balcazar agreed, adding that credibility is an issue, which makes selection criteria very important. The Chicago Southeast Diabetes Community Action Coalition tries to engage *promotoras* who will change themselves. It is hoped that the process of changing will lead to self-changes, and, in Chicago, they are tracking *promotoras* and other personnel to look for behavioral changes. Capacity-building is important to gain a bridge to the community;

sometimes clinical systems are not reaching out. *Promotoras* cannot diagnose, but they can identify risk factors.

Values

- From a sociological point of view, we're transitioning from modernity to post-modernity; a main value of post-modernity is immediate gratification. We must look at the way the world is changing to understand our clients' values.

Empowerment

- Dr. Arenas Castillo noted that community empowerment is important and can be effected by using each neighborhood's chairman of the community board. These people are in charge of the community and are already motivated. In the Chicago Southeast Diabetes Community Action Coalition, they work with children and older people in physical activities. Every week these community leaders receive training about nutrition, leadership and decision-making, and promotion of physical activities. Empowerment takes place when you facilitate individual and professional growth. In a community, it happens when you offer resources, which facilitates growth.

- In Puerto Rico, the main factor is to identify leaders, said Dr. Green. Health Department personnel visit communities and tell them the problems they found in their communities based on studies. The community leaders are the ones who decide which problem to tackle first. They are the ones responsible; the Health Department distributes strategies and they tell the Health Department what they need to accomplish them.

Sustainability

- The programs discussed today use a lot of resources, and sustainability is an issue. Evaluation of their effectiveness and their cost effectiveness are needed for them to survive. In Chicago, they deal with this concern by contracting with community agents who subcontract with social agencies that were not previously dealing with health. E.g., they have institutionalized diabetes into their programs. We train them to write proposals so they can get their own funding. It is important that the community be left better than it was when we found it. Coalitions are important as well as cooperative links with key sectors. When you raise awareness in sectors you get commitment so the program will continue if the people believe it is useful for their community.

- Dr. Arenas Castillo said that because projects are inter-sectoral, they get resources from the public health sector and distribute them according to epidemiological need. This involves PAHO, government agencies, and health service institutions. Community empowerment is important because governments change (this has happened in Colombia 3 times since CARMEN was established), but the community won't let their program die. CARMEN doesn't need a lot of resources because the program really has to do with education. Patients believe in their doctor's prescriptions, so the doctor can prescribe physical activity.

- The project itself, because it includes grassroots participation, ensures sustainability. In Costa Rica, this strategy was useful because Dr. Castañeda's group demonstrated that the strategy worked. They get funds only from government, so they have to negotiate any other funds. It would be good to work with other ministries, e.g., education, foreign trade, labeling.

Working in networks—although they are not getting funds—they can talk and exchange experiences. Peer networking may be the best way to work.

- At first only 30 percent of countries in the region had a budget line devoted to non-communicable diseases. A fundamental criterion for CARMEN is government commitment—the Ministry of Health writes to PAHO saying they will invest in non-communicable diseases. Public health in the 1960s was geared to infectious diseases and maternal and child health. Now a key project is about to open—a CARMEN school to train teachers in capacity-building. This will involve observation and dialog about health policies, e.g., activity and diet, how to build policies in various countries, what strengths allow implementation of these policies.

- Even though CARMEN is an umbrella project, its sustainability is very important. For projects, whether micro or macro, to be sustainable, they must be linked to the infrastructure. The types of things investigated are different, e.g., basic lab science vs clinical practice. CARMEN is closer to implementation; others are trying strategies to see what works. Population health vs the clinical (or individual) approach is another variable. Some of the clinical approaches are appropriate for primary care. But, at a public health level, some of the individual approaches won't work. Furthermore, a project must be carefully designed if it is intended to be applied to another culture. E.g., in Chile, they may institute legislation on physical behavior that can't be done elsewhere.

Funding

- The Border Project shows that collaboration works when we want it to. For this project, most funding comes from CDC and PAHO in United States, and the rest has been in-kind, e.g., participation of the Mexican Secretary of Health. Dealing with 2 countries involves cost differentials in the 2 countries. The survey they took would have cost $240 each had it not been for in-kind contributions that reduced the cost to about $20 each.

- Money is important, but in Health for Your Heart, much can be done to promote change with little money. The message grows and broadens. Establishing partnerships breaks paradigms. The goal of making change is a win–win partnership.

- The social and professional capital in each intervention, if added up, is even more expensive for global interventions. We need to seek what is most cost effective, e.g., a good lobbying effort against smoking may have more impact. Micro-experiences are learning labs that should be included in public policy, but should not be continued.

- The future of a micro-project is subject to the reality of your country, e.g., Argentina supported CARMEN, but 2 months later, the country defaulted. Projects might be solidified with an umbrella organization to support them in sudden fiscal crises. Some micro-projects become solid and lasting and we need to find mechanisms.

Evaluation

- Dr. Schuster thinks we need to change the culture of how health care is delivered and to do this, measuring outcomes must be considered the norm. We need to promote the culture of re-measuring at all levels. If it becomes part of the culture, it gets lost in the process, e.g.,

physicians routinely re-check potassium levels, but this is not as successful as measuring hypertension as a whole.

- In Mexico, the evaluation done for the CVD program doesn't require additional resources because they use the information collected systematically. Dr. Velázquez will share this methodology. Using these tools enables process improvement—they call it walking toward excellence. They identify the best performers and promote competition.

SESSION 5

Trends in Preventative Interventions: Promoting Heart Health in Clinical Practice—Co-Chairs: Dr. Alberto Barceló & Dr. Bruce McManus

Community-based Cardiovascular Improvements: Translating Knowledge into Outcomes—*Dr. Richard Schuster, Wright State University, Dayton, Ohio*

Wright State University, in Dayton, Ohio, is 1 of 12 sites that houses an Enhanced Dissemination Utilization Center (EDUC). Theirs is CHARTER (Cholesterol & Hypertension Awareness Reduction Treatment & Education of Risk Factors). Translation means more than getting information from bench to bedside. In U.S. clinical practice, knowledge of current research is good, but practice is poor. One study revealed that physicians thought 50 to 60 percent of their hypertension patients were under control when actually (according to their own records) only 25 percent were. We know what to do, but, in the United States, the public has received mediocre care. E.g., only 31 percent of U.S. hypertensives are under control, and only 35 percent of people with high cholesterol know their condition.

Evidence shows that physicians' behavior can be changed by means of the following (least important to most important): education (e.g., grand rounds), administrative changes (hassles), participation (ask them to come together to decide what they should do, i.e., peer pressure), financial incentives (rewards and penalties), and feedback (showing them clinical outcomes). As an example of feedback, one CHARTER project concerned cholesterol management in insured (i.e. middle- and upper-class) patients with coronary artery disease. The process here was to show doctors their numbers regarding clinical outcomes, review the guidelines, give the doctors expectations, and show them the numbers again. A letter from the doctor was sent to the patient saying, "Please help me control your cholesterol." Spontaneously, systolic blood pressure levels improved. Similarly, in a hypertension and obesity management program for an African American and an Appalachian (white) population, physicians received feedback on their clinical performance. They measured waist size as a vital sign during visits of hypertensive patients. After 1 year, systolic blood pressure showed a 9-point drop, fewer data were missing, and more people had optimal cholesterol levels. Of course, the Hawthorne effect may be responsible for better numbers, i.e. if you study something, you change it, or the process of trying to do better improves processes.

Another CHARTER project shows how mass media and social marketing can be used to educate the public. To raise awareness in a target audience of middle-aged women, they used a 30-second TV commercial in which a woman disappears from a family picture, along with the tag line: "Keep yourself in the picture; know your numbers." There was an 85 percent (12,711 women) increase in middle-aged women in Dayton who saw the commercial and acted. A fourth project, which has just begun, addresses physicians' awareness of obesity. We wanted physicians to note obesity as a CVD risk factor, but found that 53 percent of physicians are uncomfortable discussing obesity with their patients. In sum, CHARTER has been successful in changing the culture of how medicine is practiced in Dayton, Ohio.

***VARICG/ALAS Project**—Dr. Ricardo López Santi, Argentina*

ALAS means Free Adults in Healthy Attitude, and VARICG is an institutional group working in CARMEN. The project began in 1999, and 1 year later they evaluated workers of City Hall: 25 percent were at moderate to high risk according to European risk scores. In 2001, they started workshops to promote physical activity, good nutrition, and anti-tobacco attitudes. In 2002, they analyzed different initiatives around the world—e.g., Chile and North Karelia, Finland—before beginning their own CARMEN initiative in La Plata. The initiative was then expanded to 8 more cities, and they hope to incorporate 20 cities by the end of the year.

The ALAS program uses health teams composed of physicians, technicians, biochemists, and nutritionists. They collect survey, biometric, and biochemical data, and determine the risk level and enter patients into the program. Results are reported to the team and to the patient. Low-risk patients receive education and treatment; moderate- to high-risk patients are evaluated by a cardiologist and followed by education and treatment or cardiology treatment. All information is available on the VARICG/ALAS Web site.

VARICG/ALAS's first health promotion campaign, called MOVE, TAKE HEART OF YOUR HEART, focuses on physical activity through awareness, cooperation with other programs (sharing economic resources), and community coalitions with places that have already had successes. Its most important event will be held at the stadium in La Plata (which holds 30,000 people) where they hope to attract media attention. A short video gives the message of the campaign: sedentariness shortens your life; physical activity makes life better and improves your quality of life. This campaign will continue until March 2005. ALAS shows how institutional coalitions can fight CVD.

***CARMEN Program, Región del Bío Bío, Chile**—Dr. Cecilia Villavicencío Rosas, Chile*

Chile is a country of 15 million people of whom 86 percent are urban and 95.7 percent are literate; the infant mortality rate is 8.3 per 1000. Its 4000 km^2 are divided into 13 regions. The Bío Bío region is more rural and has fewer educated and literate people than elsewhere in Chile. It contains 4 provinces, 5 health services, 28 hospitals, and 177 rural health care posts. The health characteristics are about the same as for the rest of the country, except that cholesterol and HDL levels are higher. Non-communicable diseases that cause the most deaths are CVD (28 percent) and cancer (24 percent). By implementing CARMEN, the Ministry of Health and its

representatives in the Bio Bio Region want to control risk factors and reduce death and morbidity. The classic programs, separated by disease, weren't yielding desired results.

Strategies include improving the CVD health program in 10 demonstration areas. They integrated an educational program, "Mírame," for children, created a center for chronic non-communicable diseases, and conduct surveys—regional, national, and school health. A rural hospital built in the 1960s, responded to the economic and sociological needs of the second half of the 20th century—and, there are 18 similar hospitals. For an area of 25,000 people, it has 38 beds and 116 employees (including 8 doctors). Anything more complicated than a caesarian goes elsewhere.

To put these hospitals to the best use, they changed the program for chronic disease to a program of cardiovascular health and enrolled 1490 patients. They used new therapies and new drugs, and trained doctors and the rest of the health team to deal with hypertension, diabetes, and other conditions of interest. The result: 2 years later, 90 percent of hypertensives and 60 percent diabetics are compensated. Health care workers were incorporated into this practice and are gaining credibility in this change in paradigm. A multidisciplinary approach is appropriate because 96 percent of patients share risk factors and should be treated in an integrated fashion.

Education is critical for success. The entire health care team is trained in nutritional management. Evaluation is integrated into the program from the grassroots level. They work with families and incorporate other issues, e.g., depression (to which chronically ill patients are often subject). These methods have provided a technical platform not previously available for epidemiological work.

Discussion

Team-building

- In Chilean centers, these health teams always existed; the health care system created in 1952 was conceived as a multidisciplinary team. The health team has been growing in response to new professions and new needs—e.g., in recent years, mental health was recognized as a problem, and psychologists were added; likewise physical therapists, and now physical education teachers are an experimental addition. Medical technologists, who have a year of training in a hospital, were always part of the team. In general, the leader is the doctor. Initially doctors thought the team structure would add to their work, but they saw that that fear was unfounded, and their outcomes were improving.

- In Argentina, the concept of interdisciplinary work is integral, begun as a science entity they wanted to develop. Consolidating the work group was simple. Their problems began when they had to go 50 km from the city to take blood tests, but the blood was not centrifuged until 12 hours later causing errors in analysis. Interdisciplinary group members can train others, but work approaches and methodologies must be standardized. You don't need a cardiologist to do a cardiac risk assessment. It is important to determine, with WHO guidelines, what is important, so patient and doctor will get the appropriate results. This does not imply additional costs, but standardization of the tools we use.

Physicians

- At the EDUC at Wright State University, study subjects are physicians. They are very competitive and fairly aggressive, so if you give them the responsibility, they will improve and they will be accountable. There is evidence that when physicians are excluded from management of chronic diseases, you get better outcomes; that nurse practitioners get better outcomes when managing blood pressure and high cholesterol. Only about a third of chronically ill people need a physician's care, and giving it to them anyway accounts for some of the unnecessary medical expense.

- In the United States, physicians are like cowboys, like the Lone Ranger. Now they have to be part of a team, e.g., they have to know how to use a defibrillator. But we can't expect them to be part of a team without educating them. Now, the top 10 percent of medical school students add a fifth year in business school so they will be able to manage large health care conglomerates.

- Brazil launched a program to train the public to access defibrillation, but did not train physicians, which resulted in 3 deaths because physicians didn't know how to use the defibrillators.

- PAHO had 14 member states in 1906. Since 2002, PAHO has been working, mostly as a facilitator, on 3 levels, national, health services, and community. When PAHO first initiated CARMEN, they worked mostly with prevention, but gradually saw that this could not be separated from control. For years, doctors, with the possible exception of pediatricians, have been the forgotten professional in public health.

- With systems that use health practitioners, doctors are still the ultimate decision-makers.

Sustainability and Translation

- We need to consider sustainability vis à vis the relationship between public projects and private companies, e.g., pharmaceutical or equipment companies. Fast food and tobacco companies have much more money for this than health organizations. In Brazil, a program supported by Pfizer was launched—and it looked like a Pfizer program.

- The question is how to extract what you need from these organizations without letting them corrupt you. Dr. Schuster recommended *Getting to Yes* by Uri, a book about negotiation. The main point is that you can find common ground somewhere, and if you can do that, you can create coalitions to give you money to do what you want to.

- Thinking about the lay public and streamlining information, the American Heart Association started a movement to simplify information; it must also be "tropicalized." Most times, we cannot simply transfer the information we get from meetings like this to our own country. In Brazil, guidelines are published every 5 years; e.g., we no longer ask the public to check their pulse or do CPR. Another cultural issue, regarding the red dress logo, is that a red dress has a different connotation in Brazil than in the United States.

CVD Trends

- Preventive care is difficult to separate budgetarily because counseling is also done in primary care. But, regarding prevention and treatment, one does not cause the other.

- In Chile, about 25 percent of the total budget is allotted to primary health care. Next year, it will be 20 percent. Because the Costa Rican CVD trends may not have been adjusted, they may in fact be similar to the declining trends Dr. Escobar cited for Chile.

Kidney Disease

- In 2002, the Nephrology Society of Latin American introduced a paradigm shift in response to the ethical problems surrounding dialysis. In that year, evidence became available that permitted a distinction between what was remission and what was regression, and the National Kidney Foundation introduced stages in disease classification. To establish strategies for reduction, we have to reduce the disease burden initially. This implies radical changes toward the public health sector. In Argentina, the government approved the framework, as the government did in Chile, but it's not final. Kidney disease must be introduced into CARMEN. In Cuba and in Puerto Rico, in managed care, benchmarks were established to identify stages, all within a model based on biology, psychology, and social problems.

Friday, October 15, 2004

Dr. Hegyeli presented the rough draft of conclusions she had drawn up, which the group used as a departure point for discussion. Dr. Alving encouraged an open and frank discussion, recognizing that each country has strengths and weaknesses. She then introduced meeting facilitator, Dr. Neil Bracht.

Forging New Directions to Improve Cardiovascular Health in the Americas. Facilitated Interactive Session—Mr. Neil Bracht, University of Minnesota

As a neutral observer for the past 2 days, Dr. Bracht congratulated all speakers (there were 32 presentations and 376 slides). He was struck by high quality of the presentations, and by the evidence in them of an overwhelming call to action. The urgency for action led to the discussion of what participants can do in a sense of shared responsibility and shared opportunity. Much discussion was devoted to changing the paradigm, but not to effective ways to do that. Until we have data on the percentage of budgets spent on prevention work and until we define "prevention," we can't address any paradigm shift because to get a paradigm shift, we're going to have to reallocate monies and increase budgets for prevention. The U.S. non-system of health care is not very relevant to this discussion and inhibits much that could be done in prevention; in this, Latin American countries are far ahead in terms of a comprehensive, more multi-sectoral approach. Strong vested interests in the United States in hospital associations and pharmaceutical and insurance companies make reform extremely difficult. Much more can be learned from Canada, particularly regarding dissemination (provinces are diverse). (In fact, the first reference on the bibliography Dr. Bracht distributed is a Canadian paper.) Dr. Bracht opened the discussion with the issue: Many countries in Latin America are moving forward to maximize

cost effectiveness. In the United States, we seem not to have a similar focus. We have very different systems and modes of health care coverage. What are the relevant collaborations that could take place between many of the countries represented and not represented here? He invited people to share their perspectives and add to the list he projected on the screen.

Health Care Systems

- There are dramatic opportunities for change. In the United States, Dr. Schuster notes, we have been facing health care crises for years, but as costs go up something will likely happen. Many people in Latin America are interested in developing insurance programs to provide care, but we in the United States, live in an environment of too much insurance. Much of U.S. health care is provided by employer-based insurance programs (an artifact of post–World War II economics and politics). However, employers surveyed about a year ago predicted that in 5 years, half would no longer be offering health insurance because it's so expensive that it is depleting their profits. If employers get out of the insurance business, it may produce an opportunity for reform that would include prevention, because the insurance industry depends on quarter-by-quarter profits, and prevention doesn't pay quickly enough for the insurance industry to make its profits. But, if government becomes the biggest insurer, prevention will almost have to be a focus.

- Dr. Mendis agreed that what is done in Latin America may not be directly applicable to the U.S. situation. Nevertheless, in all countries there are marginalized and minority populations who don't get the best care. There are, particularly in the development of best practice, models that can have many lessons for the United States as well, e.g., risk stratification systems, which can be dealt with in an expensive manner or a less expensive manner.

- Dr. López Santi pointed out that in the United States, many types of health care are available. But, groups of people who depend on the government services, e.g., the Indian Health Care Service, fit very much the pattern of Latin American countries, except that within the system, they're seen as the poor partners. If we had minorities around the table, they would feel very much integrated into Latin American research settings. Maybe partners for this group are not the "ivory tower" people, but people who are doing the work at the grassroots and are not competing with the $1000-per-day NIH clinical setting that performs more MRI than the state of Connecticut. That model is not constructive for people who are going to work with prevention. Also, maybe working with limited resources and making the most of them can teach lessons for the rest of the system. Therefore, we should explore beyond the traditional mode. Unless we measure and create the advocacy tools, there will be no change of paradigm. Moreover, those tools will not convince advocates of the drug- and hospital-based model. That has been the U.S. model, and that model is not conducive to more health. It's conducive to more medicine and more expenditure. The United States is probably facing health costs as a political, economic issue beyond public health. We can highlight the value of prevention in extreme situations that fail without social action—individual action fails dramatically in obesity. Everybody believes in public health when they have no access to immunizations.

- Teddy Roosevelt founded PAHO in 1902, and for some years the director of PAHO was the Surgeon General, Dr. Robles noted. The United States invented international health, and this is a time for renewal of international health. Every country has a different system. The

national health system mentality calls for a state-run system, but other possibilities contribute to the pool of meaning. There are outstanding HMOs in the United States that do lead to preventive services, and the U.S. Prevention Task Force does a magnificent job. Translating science into action involves building capacity among those critical thinkers, and that will lead to improvements in the field and in the trenches. Cervical cancer screening has not reduced mortality in the United States because research has not been translated into practice. How much of the budget countries put into an item is a measure of success. World Bank loans have overlooked public health entirely in the last few years. PAHO has been trying to bring the countries together in a network with CARMEN. PAHO also has the "Virtual Health Library" in 3 languages. This meeting is a fantastic opportunity to renew the invention of international health.

- In the U.S.–Mexican border region, Dr. Apodaca sees the enormous differences in the ways 2 health care systems work; there are limited resources on both sides of the border, except in California and cities farther from the border (Albuquerque, Houston, San Antonio). Resources are at the first and second level, so Dr. Apodaca's group has had to work with exchanges between the 2 countries—some people have no insurance, some don't speak the language. They have seen the need to exchange experiences, to have different systems implanted in the different states. Patients from the United States have at times had to go to Mexico in search of health services. We must strengthen strategies that improve the first level and prevention services in this unprotected population at the border. Community participation is enormous. They first had to sensitize everyone to the needs of the population. Dr. Apodaca recommends an exchange to see what the needs of these populations are and how we can support each other.

Action Plan

- Dr. Velásquez Monroy thought the most important challenge is to have an action plan for the future. We must call attention to the fact that now—when the burden of disease is so heavy—is an excellent opportunity, a time of transition. We don't have good information as to prevention expenditures, but Mexico has just introduced a reform in the health sector that distinguishes personal health from public health services. In this scheme, prevention would fall under community services. It also allowed identification of a lack of information. Now we have everything measured, and we're able to know that this proportion of the budget is about 30 percent. If we seek a change, we have to start with the identification of our investment in preventive care and in individual care. We also have to work on marketing to sell these ideas to politicians—otherwise we will have excellent ideas that go nowhere. We are a critical mass that could take many initiatives forward in the days ahead. We should start with measuring our actions in prevention and then go to decision-makers, that is, Congress. We must make sure we understand clearly what we're doing, what we're investing, and the effects of all of these actions. All of this must be measured because what is not measured cannot be known and what is not known cannot be transformed. This meeting signals a call to action, which Dr. Velásquez accepts.

- A measurement tool is available on the Web site.

Budget

- Dr. Velásquez said that participants in this meeting have experience and are available to support; and that Dr. Velásquez is committed to other countries to share their evaluation methodology. First, we need a common definition of prevention—PAHO could be the authority on this definition—and we need to know the amount of money we spend on public health. If we don't know what we currently spend, we won't know how much we have to spend on supplies.

- Dr. Havas thinks the United States spends less than 5 percent of its health care budget on prevention.

- Deputy Surgeon General Moritsugu said in his presentation that 90 percent of the health care budget is spent in a patient's last year of life; therefore 10 percent is all that remains for actions one could take, which would include prevention.

- In Canada 1 to 2 percent of the budget is spent on public health, but public health does more than prevention. Also, Dr. Corber asserted, prevention is more than the percentage of the health care budget because most prevention does not take place in the health care system per se. School children learn about health and nutrition; water systems are changed for the public good. Ultimately, these things may have more impact than what the health care system does. So calculating the cost may not be the most effective use of our time.

Systems Changes

- Dr. Havas thought Latin American countries deserve enormous credit for being ahead of the United States in looking at multiple risk factors and recognizing the need to integrate services. A major concern is the general lack of attention to system problems that are causing coronary heart disease, cancer, and stroke—diseases that are largely preventable. We know the causes, but only talking about simply implementing guidelines for people who already have risk factors misses the boat. We need to prevent people from developing risk factors in the first place. Most high blood pressure is preventable, but to keep people from developing high blood pressure requires system changes, e.g., reducing sodium in the food supply, reducing portion size, and increasing physical activity for children as well as adults. Without addressing systems, programs will address only a small group and the result will not be detectable because we are overlooking the larger problems that affect everyone. In the North Karelia study, they compared treating only the people with the highest blood pressure vs treating the entire population: The population-based approach has a much greater effect than the high-risk approach. Something needs to be done on a much larger scale. This group should be leading the way by discussing system changes.

- Changing the paradigm is really the issue. Dr. Corber illustrated the situation with a story: When an Irishman was asked how to get to a certain place, he said, "Well, if I wanted to get there I wouldn't start from here." We in public health are in a mess and one answer will not suit everyone. Also, most of the meeting participants are not decision-makers. What is needed is to effect changes in policy. We have heard about many lessons in primary prevention, the importance of the news media, and population-based approaches. People in different countries need different messages and different triggers to change behavior. We can provide good guidelines for health. A program for one thing (CVD) will probably not have

long-term effect, except maybe for immunization, especially one so multi-faceted, and with so many different factors involved in causation, and so many different sectors, and so much overlap of diseases. The system will differ in different countries as we progress in effective primary prevention and as we produce good guidelines. Change will be incremental. We could be helpful in evaluating what works and what doesn't. We could try to help implement how to record properly while other work is being done, so record-keeping is not a separate costly exercise, but a routine task built into what is already being done. We could help countries design record-keeping mechanisms so they could evaluate whatever the interventions are.

- We are talking about major environmental changes. Collaboration with industry is one way of starting to bring them into a partnership. Funding causes in risk factors requires that we look at larger systems changes.

- In the last 2 weeks, Dr. Villavicencio Rosas and others have traveled to various centers in United States, and were surprised to find in 1 country, 3 countries that have nothing to do with each other. Dayton has nothing to do with Washington, and El Paso and Laredo have nothing to do with Dayton and Washington. Therefore, in each place, they devote tremendous effort to prevention because it is not institutionalized, and the effort of each group will be lost after 2 or 3 years without a system of collaboration.

Evaluation

- Dr. Havas stated that evaluation includes long-term evaluation for all countries, e.g., we survey risk factors regularly through NHANES, so we know what is happening on a population basis to cholesterol levels, blood pressure levels, and inactivity.

- There is a pressing need for technical assistance in evaluation and resources, and it will take a collaborative effort to define what is required to do that.

- Dr. Sanchez believes that we have to share ways of evaluating to be able to translate dissemination into results, and if we have results, institutions are willing to help.

Collaboration

- Dr. Barceló pointed out that the countries represented at this meeting are the most developed in Latin America. The countries that are most needy are not here, e.g., Guatemala, Nicaragua and other Central American countries and the Caribbean countries (in Barbados, 17 percent of the population has diabetes). Chile and Brazil are doing well, but many countries are doing nothing. We must expand beyond the group of countries represented at this meeting and look at the needs of the region in general.

- There are many areas for collaboration with NIH, Dr. Barceló continued. It's not only a question of money being in short supply, but also human resources and information. People at the Ministry of Health must be convinced that chronic diseases are a problem. Many don't recognize chronic disease. Three factors are important here: evaluation, i.e. measuring the prevalence of the disease in the country; primary prevention; and management of specific diseases. The patient needs to receive evidence-based treatment specific for the disease.

- As chair of the Inter-American Health Foundation, Dr. Timerman has had to manage the immense differences among the American countries. Brazil is the only country in Latin America that doesn't speak Spanish, and from there, difficulties increase. It is easier to sensitize people to the dangers of accidents and trauma than to the dangers of chronic disease. Latin people are creative and innovative because of the lack of resources. Some of the successful programs can become models to be replicated elsewhere, and we can work together with legislators to make more resources available. We need to disseminate results, but also to collaborate in research in the different realms, and Dr. Timerman offers the support of the Instituto del Corazon de San Pablo.

- There are more than 600 million Latin Americans in this hemisphere. As a way of introducing programs in the Latin American community, would it be possible, Dr. Balcazar wondered, to establish a relationship through Latin American and U.S. universities, and the researchers in Latin America, a CARMEN relationship with the Latin Americans in the United States. We could look at health problems in the Latin American population as a whole. Sometimes we need sociologists and anthropologists to understand our communities. Scientific institutions look at biological problems, but we have not looked at the social environment and the problems that arise from there. So maybe we should have some concrete projects that could be related to CARMEN and to the EDUC.

- On behalf of the membership of the World Heart Federation, the Inter-American Society of Cardiology, the Inter-American Heart Foundation, and every society of cardiology and heart foundation, Ms. Voute encouraged participants to involve non-governmental organizations (NGOs). They can offer support, resources, information, advocacy and awareness-building, materials, and people who run programs or fund-raising walks. Dr. Hermosillo could complete what the societies can offer on the scientific side.

Physical Activity

- Dr. Green is not surprised that the United States and many other countries don't offer much money for public health because many strategies that have been proposed are not effective. That is because we don't identify the real problems people face, e.g., we recommend physical activity without considering why people are inactive. People get home from work and take care of their duties; they're not going to go out to exercise late at night. Until we identify the real problems communities face, we won't be able to reach them in the prevention stage. Even less will we be able to increase the allotment of money for public health because we can't demonstrate results.

- Dr. Alving agreed. We can't change the lives of women—liberated women know they get to do 2 or 3 jobs instead of just 1. We have to build physical activity into the workplace. Women need to know that you don't have to go to the gym, you just have to move. Women need to know that you don't have to be trapped in high heels. As the Nike ad says, "Just do it." We have to get employers to encourage these healthy behaviors.

Health Measures

- The finance minister knows how much the health minister spends; health care is a cost, Ms. Voute said. Health care professionals have no tools with which to argue for investment in

prevention. There are no comparative data. We are keen on investing in prevention, but how much should we invest, and how can the effects be measured? Ms. Voute believes that influencing the split of resources between prevention and treatment, between community and individual, is a critical issue, and we can't just do it by demonstrating efforts that bubble up. Everyone's costs are going up and everyone is concerned. We need a few key arguments. What gets measured gets done. We need to invest more and we need to help people make the argument.

Doctors' Role

- Dr. González-Hermosillo, representing the Inter-American Society of Cardiology, asserted that identifying the problem is the easy part; solutions are difficult. To this point, responsibility has been seen as the government's. We have not managed to have an impact on the problem because authorities and the population are not convinced that prevention is better than cure; doctors are not won over because prevention doesn't pay. Doctors use their intellect to cure. They need to be convinced that prevention is better than cure. We talk about limited resources, but we have not tapped the pharmaceutical industry, the food industry, companies that make exercise equipment. Doctors can knock on those doors. The RENAHTA project is an example of how interaction between doctors and health authorities can ensure that the pharmaceutical industry opens its pocketbook. We NGOs are a tool and we are willing and able to help if you in public health will help us educate ourselves about the problems.

Research

- Dr. Mendis proposed that NHBLI and PAHO identify concrete operational research projects, particularly upstream policy-oriented research projects within the common initiative. We need to find innovative ways, especially in low- and medium-resource settings. It's hard enough with resources. Through continuing medical education programs we can improve the knowledge and skills of doctors, but we don't know whether that knowledge and skill really translates into behavioral changes.

Population-based Initiatives

- We must deal with day-to-day problems, and the activities we have are not the perfect framework for these actions. We must have population-based initiatives, capacity-building for leadership, and evidence-based research. Dr. Infante offered as a good example of a population-based initiative, the introduction of folic acid in bakery flour to reduce congenital malformation, and also iodine. We need to identify which preventive examinations we should conduct. E.g., to get married you need a license and preventive tests, and to go to school you need preventive test—including preventive tests at such times is not expensive.

- We must simplify things because, as Dr. Sanchez pointed out, we are not in a position to change the policy of governments. We have to implement a protocol among ourselves to see what specific points we want to work on. To do that we have to build partnerships and alliances. We have to reach the population with education. Schools have staff and students who are willing to broadcast the message. We have to use the population, and that doesn't cost anything.

Inter-sectoral Work

- The health sector, as per Dr. Coser-Canon, has always been responsible for the entire health care, but health is coming to terms with this truth: If we have to have a budget for prevention, we must ask how much. Health permeates every aspect of a person's life. We have to learn to work at the sectoral level, as in a coalition. We should be the inductors, advocates of health, but we don't always have to be the leaders. In Latin America we have strong inter-sectoral action, but the private sector has a social responsibility. PAHO has experience working at the inter-sectoral level; last year they convened 2 large meetings, and included the Department of Agriculture. Policies should be accompanied by appropriate data. We need to work within the health sector in prevention. Brazil has a system that pays for therapeutic procedures; how can prevention be incorporated into it? This is a matter of constant concern. We need to promote health and prevent disease. We need inter-sectoral work. NHLBI and PAHO should work together.

Prevention

- A strategy is a plan of action, Dr. López Santi said. We must generate alliances with a concrete objective; we must put on the agenda all institutions of health. Prevention is not on the agenda of any Latin American department of health. Surveillance is never discussed. A forum of this nature needs to formally recommend alliances. We could have institutes where people listen; we could ask societies and institutions to put prevention on their agenda. Another complication is the great turnover in people in these institutions.

- Dr. Schuster saw a need for a unifying proposal to increase national resources committed to CVD prevention. National resources go beyond budget to include working with NGOs and businesses. Commitment should go on to a strategic plan, it directs resources and interest. NHLBI should be involved because the recommendation is science-based and policy-based. This kind of recommendation implies measurement. Our focus should be on CVD prevention. It's practical—this is the leading cause of death in the United States, and it's something we at this table have an opportunity to influence, even as we live in a disease-centered world.

Information-sharing

- Dr. Robles saw the next step as committing ourselves. NHLBI and PAHO should develop a virtual way to share this information. PAHO has a virtual health library in São Paulo through which we can connect people and Dr. Robles offered this resource.

- Dr. Villavicencio Rosas saw the need to come to order in the discussions. We have talked about public policy, the regulating role of governments, community interventions, and interventions in the health system at the clinical level, at the secondary level. These are all totally different things. If we don't have a model for our discussions, we are just giving opinions and expressing our thoughts without any conclusions. So my recommendation is to have an orderly system for discussion in different plans of analysis.

Government Role

- Dr. Villavicencio Rosas thinks we should make recommendations to government because government has the best opportunity to influence populations. Government can act or not, but we must make them aware. PAHO, after all, is an institution that was formed by government.

Reaching Consensus: Shared Vision, Prioritizing Activities, Best Practices, and Evaluation

Dr. Bracht will take the group's recommendations, draft a statement calling for action, and circulate it for revision. Issues covered in the last 3 days include: prevention, health equity and disparities, health literacy, comprehensive and integrated policies, sustainability of effort, best practices, and community empowerment. Participants wanted to continue the dialog with working groups that would remain in contact by e-mail. The participants divided members into groups and assigned each a leader. Each will devise a statement of work and, within 2 weeks, the leader of each group will send that statement to Dr. Coser Cannon.

According to the Canadian definition (first reference on the bibliography), the best practices in health promotion are those sets of processes and actions that are consistent with health promotion, effectiveness assessment, feasibility assessment, practicality assessment.

The group compiled a list of topics to be covered by the following subgroups.

Collaborative Action Plan for a Pan American Cardiovascular Initiative (PACI)

Subgroups

Members of the subgroups follow with the chair's name in bold type.

Evaluation: Outcomes, Cost Effectiveness, Process
- Apodaca
- Castañedas
- **Schuster**
- Timerman
- Uauy
- Velásquez

Communications & Advocacy
- Coser-Canon
- **Hegyeli**
- Huerta
- Voute

Extenders
- **Barceló**
- Rabadan-Diehl

Best Practices/Systematic Reviews, Demonstrations
- Arenas
- **Balcazar**
- Castañedas
- Escobar
- Havas
- Hymowitz
- Sánchez
- Santi

Government Policies (System Change)
- Agusto
- Coser-Canon
- Havas
- Hymowitz
- Infante
- Schuster
- Timerman
- Uauy
- **Velázquez**
- Villavicencio

Surveillance
- **Apodaca**
- Barceló
- Hymowitz
- Villavicencio

Priority Recommendations

Dr. Alving: Take examples from around the world for working on a population basis.
Dr. Barceló: Include capacity-strengthening efforts.
Dr. Infante: Involve international credit organizations and international banks.
Dr. Schuster: Develop a strategic plan for reducing CVD in the Americas.
Dr. Timerman: Prepare a document in 3 languages for dissemination. Include media to elaborate. Produce an Intranet for these groups.
Dr. Velázquez: Prepare a specific document, "Advocacy for CVD."

Discussion and Wrap-up—Dr. Stephen Corber & Dr. Lawrence Friedman

Dr. Friedman has been at NIH since 1972 and has participated in many meetings with wonderful discussions and recommendations that go nowhere. This meeting is more positive because the problem is extraordinarily important and because the participants are enthusiastic and have a set of clear recommendations. NIH is primarily a research organization, and all recommendations have some component of research, so we at NIH want to be part of them. NHLBI has a long history of translation and outreach activities—high blood pressure, cholesterol, and other programs. Similarly, NHLBI has a long history of collaborating with PAHO and other NGOs and we intend to continue doing all that—these are ongoing activities. We must be flexible and evolve—science and knowledge are not static. Success also depends on a clear timetable.

Dr. Corber expected the high quality he found in the presentations about theory but his expectations were exceeded by the high quality of presentations on theory and practice. Everyone participated in a productive and collaborative way. PAHO is committed to supporting these activities and he encouraged leaders to consult with PAHO because the organization has a lot of information on these countries and knows whom to consult with. PAHO is committed to working on communications network. With regard to raising the profile of CVD, the group should be aware that PAHO member countries meet every September. If this group makes sufficient progress, it might be appropriate to make CVD a priority topic at the next meeting. PAHO has an established link with NHLBI. Already the manual of procedures and standards on blood pressure measurement has been jointly developed and published, and a number of joint activities have been identified in a memorandum of understanding. Joint publication of scientific documents was one commitment and this collaboration allows that opportunity; we agreed to have joint visits and that has taken place. This is a good start, but our work is just beginning.

***Concluding Remarks**—Dr. Stephen Corber*

Dr. Corber thanked the experts and consultants, who are all pressed for time, but who participated in this meeting and he hoped their commitment would continue. NHLBI's spirit and attitude has made this possible.

Dr. Alving thanked everyone, especially Dr. Morosco and Dr. Heygeli, for organizing the meeting and Ms. Gloria Ortiz and her colleagues for their supporting role.

Presentations will be posted on the NHLBI Web site and PAHO Web site (with permission).

Adjourned 11:50

Participants

Co-Chairs

Barbara Alving, M.D.
Acting Director
National Heart, Lung, and Blood Institute
National Institutes of Health
Department of Health and Human Services
Building 31, Room 5A52, MSC 2486
Bethesda, Maryland 20892-2480
Tel: 301-496-5166
Fax: 301-402-0818
Email: alvingb@mail.nih.gov

Mirta Roses Periago, M.D.
Director
Pan American Health Organization
World Health Organization
525 23rd Street, N.W.
Washington, DC 20037-289
Tel: 202-974-3663
Fax: 202-974-3663
E-mail: Director@paho.org

Country Representatives

BRAZIL

Jorge José Santos Pereira Solla, M.D.
State Secretary for Health/Deputy Minister of Health for Brazil
Secretaria de Atenção à Saúde, Ministério da Saúde, Esplanada dos Ministérios
Bloco G, Edf. Sede, 9º andar, sala 900,
Cep 70.058-900, Brasília - DF
BRAZIL
Tel: 55 61 225-0211/315-2626/315-2627
Fax: 55 61 226-3674
E-mail: audienciasas@saude.gov.br

CANADA

Clarence Clottey, MD, MPH
Deputy Director
WHO – Collaborating Centre on
Non Communicable Disease Policy
Centre for Chronic Disease Prevention and Control
Population and Public Health Branch
120 Colonnade Road, Room A130
6701A – Ottawa, Ontario K1A 0K9 CANADA
Tel: (613) 957-1073
Fax: (613) 954-8631
E:mail: clarence_clottey@hc-sc.gc.ca

CHILE

Antonio Infante, M.D.
Deputy Minister of Health for Chile
Ministerio de Salud
Mac-iver nª 541 p-3 Gabinete Subsecretario
Santiago
CHILE
Tel: 6300407 or 6300408
E-mail: ainfante@minsal.cl

COLOMBIA

Dr. Eduardo Alvarado (invited)
Deputy Minister of Health for Colombia

MEXICO

Oscar Velázquez Monroy, M.D.
Director General del Centro Nacional de Vigilancia Epidemiológica y Control de Enfermedades
Secretaría de Salud
Benjamín Franklin No. 132, Piso 2
Col. Escandón
Mexico, D.F.
MEXICO
Tel: 52 55 2614-6323 or 52 55 2614-6324
Fax: 52 55 2614-6432
E-mail: ovelazques@salud.gob.mx

UNITED STATES OF AMERICA

RADM Kenneth P. Moritsugu, M.D., M.P.H.
Deputy Surgeon General
Office of the Surgeon General
U.S. Department of Health and Human Services
5600 Fishers Lane, Room 1866
Rockville, MD 20857
Tel: 301-443-4000
Fax: 301-443-3574
Email: kmoritsugu@osophs.dhhs.gov

Partner Organizations

CARMEN Network

Lucimar Coser Cannon M.D., MPH., Ph.D
Regional Advisor
Unit on Noncommunicable Diseases
Area of Disease Prevention and Control
Pan American Health Organization
525 23r St., N.W.
Washington, D.C. 20037-2895
Tel. 202- 974-3695
Fax: 202- 974-3331
E-mail: coserluc@paho.org

Interamerican Heart Foundation

Sergio Timerman, M.D., Ph.D.
President
Inter-American Heart Foundation
Director
Heart Institute of Sao Paulo (InCor)
Resuscitation Dept. and Emergency Medical Training
University of Sao Paulo Medical School
Rua Para 270/13, Higienopolis
São Paulo, SP 01243-020
BRAZIL
Tel: 55 11 3663 0981
Fax: 55 11 3663 1024
E-mail: timerman@incor.usp.br

Interamerican Society of Cardiology (IASC)

Jesus Antonio Gonzalez-Hermosillo, MD, FACC
Secretary-Treasurer, Interamerican Society of Cardiology
Chief of Electrocardiography and Electrophysiology
Instituto Nacional de Cardiologia "Ignacio Chavez"
Departamento de Electrocardiografia (sotano)
Juan Badiano # 1 Tlalpan
Mexico DF 14080
MEXICO
Tel: 52-55 5513 3740
Fax: 52-55 5641 2130
E-mail: aghermo@yahoo.com

Interamerican Society of Hypertension (IASH)

John E. Hall, Ph.D. (invited)
President, Inter-American Society of Hypertension
University of Mississippi Medical Center
Jackson, Mississippi 39216-4505
Tel: 601-984-1820
Fax: 601-984-1817
E-mail: jehall@physiology.umsmed.edu

International Atherosclerosis Society
Dr. Ricardo Uauy
Professor
Instituto Nutrición y Tecnología de los Alimentos INTA. University of Chile
Av. Macul 5540
Santiago,
CHILE
Tel: 562 678-1497
Fax: 562 221-4030
E-mail: uauy@uchile.cl

International Society for Heart Research
William Weglicki, M.D.
President American Section
International Society for Heart Research
George Washington University Medical Center
Ross Hall
2300 I Street, N.W., Room 402
Washington, D.C. 20037

CIHR Institute of Circulatory and Respiratory Health
Bruce McManus, MD, FRCPC, Ph.D.
Scientific Director
CIHR Institute of Circulatory and Respiratory Health
Room 553, Burrad Building
St. Paul's Hospital/Providence Health Care
1081 Burrad Street
Vancouver, B.C. V6Z 1Y6
CANADA
Tel: 604-806-8934
Fax: 604-806-9274
E-mail: bmcmanus@mrl.ubc.ca

Latin American Society of Nephrology and Hypertension
Rafael Burgos-Calderón, MD
Chief Nephrology Section, Department of Medicine
School of Medicine, University of Puerto Rico
Coordinator, Renal Health Committee. Latin American
Society of Nephrology and Hypertension
Home address: ST 1 J-13 Los Frailes Norte,
Guaynabo, Puerto Rico 00966
Tel: 787-754-0101 ext. 2300 or 2301
Fax: 787-294-3609
E-mail: rburgosc@prtc.net

Regional Center for Border Health
Abel Sánchez, M.D.
Health Programs Coordinator
Regional Center for Border Health
1896 E. Babbit Lane
San Luis, AZ 85349
Tel: 928-627-9222
Fax: 928-627-8315
E-mail: mrincon@wahec.com

World Heart Federation
Ms. Janet Voute
Chief Executive Officer
World Heart Federation
5 Avenue du Mail
1205 Geneva, Switzerland
Tel: 41 22 807 03 23
Fax: 41 22 807 03 38

World Hypertension League (WHL)
Claude Lenfant, M.D. (invited)
President, WHL
Past Director
National Heart, Lung, and Blood Institute
National Institutes of Health
9000 Rockville Pike
Bethesda, MD 20892
Tel: 301-496-5166
Fax: 301-402-0818

American Public Health Organizations
Stephen Havas, M.D., M.P.H., M.S.
Professor
Department of Epidemiology and Preventive Medicine
University of Maryland School of Medicine
Howard Hall, Room 140 B
660 West Redwood Street
Baltimore, Maryland 21201
Tel: 410-706-3450
Fax: 410-706-0540 fax
E-mail: shavas@epi.umaryland.edu

Individuals

Gloria Patricia Arenas Castillo, MD
Subdirectora de Salud Pública
Secretaría de Salud de Santander
Calle 45 No. 11-52
Bucaramanga, Santander
COLOMBIA
Tel: 57-7-633-7049
Fax: 57-7-642-1060
E-mail: gloriap164@latinmail.com

Matilde Alvarado, R.N., M.S.N.
Coordinator
Minority Health Education and Outreach
Office of Prevention, Education and Control
National Heart, Lung, and Blood Institute
National Institutes of Health
Department of Health and Human Services
31 Center Drive, Building 31 Room 4A-10
Bethesda, MD 20892-2480
Tel: 301-496-1051
Fax: 301-402-1051
E-mail: Alvaradm@nhlbi.nih.gov

Irene Agurto, Ph. D.
Sociologist
Ginecólogo de Salud Pública
Pan American Health Organization
World Health Organization
525 23rd Street, N.W.
Washington, DC 20037-289
Tel: 202- 974 3573
Fax: 202-974-3331
E-mail: agurtoir@paho.org

Beatriz A. Apodaca, MD, MPH, MA.
Coordinator
Diabetes Binational Project
Field Office, US-Mexico Border
Pan American Sanitary Bureau
5400 Suncrest Dr., Suite C-4
El Paso, TX 79912
Tel: 915-845-5950
Fax: 915-845-4361
E-mail: apodacab@feb.paho.org

Hector Balcazar, Ph.D.
Assistant Dean and Professor
Health Promotion and Behavioral Sciences
UT School of Public Health at Houston
El Paso Regional Campus
1100 N. Stanton, Suite 110
El Paso, TX 79902
Tel: 915-747-8507
Fax: 915-747-8512
E-mail: hbalcazar@sph.uth.tmc.edu

Alberto Barceló, MD, MSc
Regional Advisor
Unit on Noncommunicable Diseases
Area of Disease Prevention and Control
Pan American Health Organization
525 23rd Street, NW
Washington, D.C. 20037-2895
Tel: 202-974-3589
Fax: 202-974-3331

Glen Bennett, M.P.H., C.H.E.S.
Coordinator
Advanced Technologies Applications in Health Education Programs
Office of Prevention, Education, and Control
National Heart, Lung, and Blood Institute
National Institutes of Health
U.S. Department of Health and Human Services
31 Center Drive, Building 31, Room 4A10
Bethesda, MD 20892-2480

Neil Bracht, M.P.H.
Professor Emeritus
University of Minnesota
1050 Candeleras St.
Las Cruces, New Mexico, 88011
Tel: 505-532-0543
E-mail: neilbracht@aol.com.

Ms. Deshiree Belis
Pan American Health Organization
World Health Organization
525 23rd Street, N.W.
Washington, DC 20037-289

Dr. Darlyn Castañedas
Gerencia de División Médica
Caja Costarricense de Seguro Social
San José,
COSTA RICA
Tel: 506-295-2380
Fax: 506- 295-2859
E-mail: dcastane@ccss.sa.cr

James Cleeman, M.D.
Coordinator
National Cholesterol Education Program
National Heart, Lung, and Blood Institute
National Institutes of Health
U.S. Department of Health and Human Services
31 Center Drive, Building 31 Rm 4A10
Bethesda, MD 20892
Tel: 301-496-1051
Fax: 301-402-1051
E-mail: cleemanj@nhlbi.nih.gov

Stephen Joel Corber, M.D.
Manager
Area of Disease Prevention and Control
Pan American Health Organization
525 Twenty-third Street, N.W.
Washington, D.C. 20037-2895
Tel: 202- 974-3850
Fax: 202-974-3632
E-mail: corberst@paho.org

Carlos J. Crespo, Dr.PH, MS, FACSM
Associate Professor
Dept. of Social and Preventive Medicine
University at Buffalo
The State University of New York
270 Farber Hall, Room 277, Bldg. 26
3435 Main Street
Buffalo, NY 14214-3000
Tel: 716-829-2975, ext 641
Fax: 716-829-2979
E-mail: ccrespo@buffalo.edu

Darla Danford, M.P.H., D.Sc.
NHLBI Nutrition Coordinator
Office of Prevention, Education, and Control
National Heart, Lung, and Blood Institute
National Institutes of Health
U.S. Department of Health and Human Services
31 Center Drive, Building 31 Rm 4A10
Bethesda, MD 20892
Tel: 301-496-0554
Fax: 301-496-1051
E-mail: danfordd@nhlbi.nih.gov

Ms. Amy Danzig
Technical Writer/Editor
Office of Prevention, Education, and Control
National Heart, Lung, and Blood Institute
National Institutes of Health
U.S. Department of Health and Human Services
31 Center Drive, Building 31 Rm 4A10
Bethesda, MD 20892
Tel: 301- 496-4236
Fax: 301- 402-2405
E-mail: danziga@nhlbi.nih.gov

Karen Donato, S.M., R.D.
Coordinator Obesity Initiative
National Heart, Lung, and Blood Institute
National Institutes of Health
U.S. Department of Health and Human Services
31 Center Drive, Building 31 Rm 4A10
Bethesda, MD 20892
Tel: 301-496-1051
Fax: 301-402-1051
E-mail: Donatok@nih.gov

María Cristina Escobar, M.D.
Encargada Programa Salud del Adulto
Ministerio de Salud
Mac-Iver 541, Piso 4, Santiago
CHILE
Tel: 6300-496
Fax: 562-638-2238
E-mail: mescobar@minsal.cl

Miguel Espinoza, M.D.,
Ginecólogo de Salud Pública
Pan American Health Organization
World Health Organization
525 23rd Street, N.W.
Washington, DC 20037-289
Tel: 202-974-3493

Carissa F. Etienne, M.D., MSc.
Assistant Director
Pan American Health Organization
World Health Organization
525 23rd Street, N.W.
Washington, DC 20037-289
Tel: 202-974-3404
Fax: 202-974-3602
E-mail: AssistantDirector@paho.org

Ms. Pilar Fano
Office Assistant
Unit of Noncommunicable Diseases
Area of Disease Prevention and Control
Pan American Health Organization
525 23rd St., N.W.
Washington, DC 20037-2895
Tel: 202- 974-3810
Fax: 202-974-3331
E-mail: fanopili@paho.org

Keith Copelin Ferdinand, M.D., F.A.C.C.
Director, Heartbeats Life Center
1201 Poland Avenue
New Orleans, LA 70117
Tel: 504- 943-1177
Fax: 504- 943-1298
E-mail: KCFerdmd@aol.com

Lawrence Friedman, M.D.
Acting Deputy Director
National Heart, Lung, and Blood Institute
National Institutes of Health
U.S. Department of Health and Human Services
Building 31, Room 5A52, MSC 2490
Tel: 301-496-1078
Fax: 301-402-0818
E-mail: friedmanl@mail.nih.gov

Robinson Fulwood, Ph.D., M.S.P.H.
Senior Manager
Public Health Program Development
Office of Prevention, Education, and Control
National Heart, Lung, and Blood Institute
National Institutes of Health
U.S. Department of Health and Human Services
31 Center Drive, Building 31 Rm 4A10
Bethesda, MD 20892
Tel: 301-496-1051
Fax: 301-402-1051
E-mail: fulwoodr@nhlbi.nih.gov

Joanne Gallivan, M.S., R.D.
National Diabetes Education Program
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health
US Department of Health and Human Services
9000 Rockville Pike
Bldg 31 Rm 9A04
Bethesda, MD 20892
Tel: 301- 496-6110
Fax: 301-496-7422
Email: GallivanJ@hq.niddk.nih.gov

Ms. Erika García
Pan American Health Organization
World Health Organization
525 23rd Street, N.W.
Washington, DC 20037-289

Virginia E. Gidi, M.P.H.
International Health Officer for the Americas
Office of Global Health Affairs
Office of the Secretary
5600 Fishers Lane Rm. 18-74
Rockville, MD 20857
Tel: 301-443-4010
Fax: 301-443-4549

Aida Giachello, Ph.D.
Associate Professor and Director
Midwest Latino Health Research, Training, and Policy Center (MC 625)
University of Illinois at Chicago
Jane Addams College of Social Work
1640 West Roosevelt Road, Suite 636 IIDD
Chicago, ILL 60608-6906
Tel: 312- 413-1952 or 312- 996-3212
Fax: 312-996-3212
E-mail: aida@uic.edu

Vivian Green, Ph.D.
Special Assistant to the Secretary of Health, Nutrition Area
Puerto Rico Department of Health
Oficina de los Ayudantes del Secretario
P.O. Box 70184
San Juan, P. R. 00936-8184
Tel: 787- 274-7681/82
Fax: 787- 250-6547
E-mail: vgreen@salud.gov.pr

Ruth Johnsson Hegyeli, M.D.
Associate Director for International Programs
National Heart, Lung and Blood Institute
National Institutes of Health
Department of Health and Human Services
31 Center Drive, MSC 2490
Bethesda, MD 20892-2490
Tel: 301 496-5375
Fax: 301 496-2734
E-mail: HegyeliR@nih.gov

Sharon Hrynkow, Ph.D.
Deputy Director
Fogarty International Center
National Institutes of Health
U.S. Department of Health and Human Services
Building 31, B2/C39
Bethesda, MD 20892
Tel : 301-496-1415
Fax: 301-402-2173
Email: sh141s@nih.gov

Elmer Huerta, M.D., M.P.H.
Washington Cancer Institute
Washington Hospital Center
110 Irving Street, N.W. Room C1219
Washington, D.C. 20010
Tel: 202- 877-7929
Fax: 202-832-6222

Carl E. Hunt, MD
Director
National Center on Sleep Disorders Research
National Heart, Lung, and Blood Institute
National Institutes of Health
U.S. Department of Health and Human Services
6705 Rockledge Drive, Suite 6022
Bethesda, MD 20892-7993
Tel: 301-435-0199
Fax: 301-480-3451
E-mail: huntc@nhlbi.nih.gov
www.nhlbi.nih.gov/sleep

Norman Hymowitz, Ph.D.
Department of Psychiatry
New Jersey Medical School
Behavioral Health Science Bldg.
Floor F, Room 1510
183 South Orange Avenue
Newark, NJ 07101
Tel: 973-972-5425
Fax: 973-972-8305
E-mail: hymowitz@umdnj.edu

Enrique R. Jacoby, M.D., M.P.H.
Regional Advisor Unit on Nutrition
Area of Family and Community Health
Pan American Health Organization
525 23r St., N.W.
Washington, D.C. 20037-2895
Tel: 202- 974-3539
Fax: 202- 974-3675
E-mail: jacobyen@paho.org

James Kiley, Ph.D.
Director
Division of Lung Diseases
National Heart, Lung, and Blood Institute
National Institutes of Health
US Department of Health and Human Services
RKL2, Room 10018
6701 Rockledge Drive
Bethesda, MD 20817
Tel: 301-435-0233
Fax: 301- 480-3547
E-mail: kileyj@nhlbi.nih.gov

Chitra Krishnamurti, Ph.D.
Scientific Review Administrator
DEA-Review Branch
National Heart, Lung, and Blood Institute
National Institutes of Health
US Department of Health and Human Services
Two Rockledge Center, Room 7206
6701 Rockledge Drive
Bethesda, MD 20892-7924
Tel: 301-435-0398
Fax: 301-480-3541
E-mail: krishnac@nhlbi.nih.gov

Ricardo López Santi, M.D.
Director
Cardiovascular Disease Prevention Program
Fundación Bioquímica Argentina
Calle 19 #2656
Entre 505 y 506 Gonnet (1897)
ARGENTINA
Fax: 54-221-4845735
E-mail: lopezsan@way.com.ar

Ms. Silvana Luciani
Project Manager.
Pan American Health Organization
World Health Organization
525 23rd Street, N.W.
Washington, DC 20037-289
Tel: 202- 974 3572

Shanthi Mendis, MD, FRCP, FACC
Coordinator
Cardiovascular Diseases
World Health Organization
Ave Appia 20, Room 4034
1211 Geneva 27
SWITZERLAND
Tel: 41-22-791-3441
Fax: 41-22-791 3111
E-mail: mendiss@who.int

Helena O. Mishoe, Ph.D., MPH
Director
Office of Minority Health Affairs
National Heart, Lung, and Blood Institute
National Institutes of Health
US Department of Health and Human Services
Two Rockledge Center
6701 Rockledge Drive
Room 8188
Tel: 301-451-5081
Fax: 301-480-0862
E-mail: mishoeh@nhlbi.nih.gov

Gregory J. Morosco, Ph.D., M.P.H.
Associate Director for Prevention, Education, and Control
National Heart, Lung, and Blood Institute
National Institutes of Health
U.S. Department of Health and Human Services
31 Center Drive MSC 2480
Bethesda, Maryland 20892-2480
Tel: 301-496-5437
Fax: 301-480-4907
E-mail: moroscog@nih.gov

Lindsay Newcomb, MPH
Technical Officer
Ginecólogo de Salud Pública
Pan American Health Organization
World Health Organization
525 23rd Street, N.W.
Washington, DC 20037-289
Tel: 202-974 3583

Rachel A. Nugent, Ph.D.
Program Director, Health and Economics
Fogarty International Center
National Institutes of Health
U.S. Department of Health and Human Services
Building 31, B2/C39
Bethesda, MD 20892
Tel: 301-496-8733
Fax: 301-402-0779
E-mail: nugentra@mail.nih.gov

Gloria Ortiz
International Program Officer
National Heart, Lung, and Blood Institute
National Institutes of Health
Department of Health and Human Services
31 Center Drive, Building 31 Room 4A-10
Bethesda, MD 20892-2480
Tel: 301-496-5375
Fax: 301-496-2734
E-mail: ortizg@nhlbi.nih.gov

Cristina Rabadan-Diehl, Ph.D.
Health Scientist Administrator
Division of Heart and Vascular Diseases
Vascular Biology Research Program
National Heart, Lung, and Blood Institute
National Institutes of Health
US Department of Health and Human Services
RLK2, Room 10186
6701 Rockledge Drive
Bethesda, MD 20892-7940
Tel: 301- 435-0550
Email: rabadanc@nhlbi.nih.gov

Sylvia Robles, M.D.
Chief
Unit on Noncommunicable Diseases
Area of Disease Prevention and Control
Pan American Health Organization
525 23r St., N.W.
Washington, D.C. 20037-2895
Tel: 202- 974-3306
Fax: 202- 974-3331
E-mail: roblessy@paho.org

Richard J. Schuster, MD, MMM
Boonshoft Chair and Director
Health Systems Management
Wright State University
3139 Research Blvd.
Kettering, Ohio 45420
Tel: 937-258-5555 (Office)
Fax: 937-258-5544
E-mail: richard.schuster@wright.edu

Paul D. Sorlie, Ph.D.
Leader
Analytical Resources Scientific Research Group
Epidemiology and Biometry Program
Division of Epidemiology and Clinical Applications
National Heart, Lung, and Blood Institute
National Institutes of Health
U.S. Department of Health and Human Services
6701 Rockledge Drive, MSC 7934
Bethesda, MD 20892
Tel: 301-435-0456
Fax: 301-480-1455
E-mail: SorlieP@nih.gov

Allen M. Spiegel, M.D.
Director
National Institute of Diabetes and Digestive and Kidney Diseases
National Institutes of Health
US Department of Health and Human Services
Bldg. 31, Rm. 9A/52
Bethesda, MD 20892
Tel: 301-496-5877
Fax: 301-402-2125
E-mail: spiegela@extra.niddk.nih.gov

Ann Taubenheim, Ph.D., R.N.
Coordinator, NHLBI Women's Heart Health Education Initiative
National Heart, Lung, and Blood Institute
National Institutes of Health
Department of Health and Human Services
31 Center Drive, Building 31 Rm 4A10
Bethesda, MD 20892
Tel: 301-496-1051
Fax: 301-402-1051

Dr. Ricardo Uauy
Professor
Instituto Nutrición y Tecnología de los
Alimentos INTA
University of Chile
Av. Macul 5540
Santiago,
CHILE
Tel: 562 678-1497
Fax: 562 221-4030
E-mail: uauy@uchile.cl

Jamie Varghese, R.N., C.C.V.N., Ph.D.
Heart Research Program
Division of Heart and Vascular Diseases
National Heart, Lung, and Blood Institute
National Institutes of Health
US Department of Health and Human Services
6701 Rockledge Dr. Room 9204
Bethesda, MD 20892-7940
Tel: 301- 435-0510
Fax: 301- 480-1454

Graciela C. Villavicencio Rosas, M.D.
SEREMI Región VIII
Ministry of Health, Chile
Caupolicán N° 518 oficina 510
Concepción,
CHILE
Tel: 56-41- 227-044
Fax: 56-41- 226-066
E-mail: cvillavi@saluddelbiobio.tie.cl

Gail Weinmann, MD
Director, Airways Biology and Disease Program
National Heart, Lung, and Blood Institute
National Institutes of Health
US Department of Health and Human Services
6701 Rockledge Drive
Bethesda, MD 20892
Tel: 301-435-0202
Fax: 301-480-3557
E-mail: gweinmann@nih.gov