

WHO/PAHO Collaborating Centers Meeting on
**Sustainable Development
and Environmental Health**

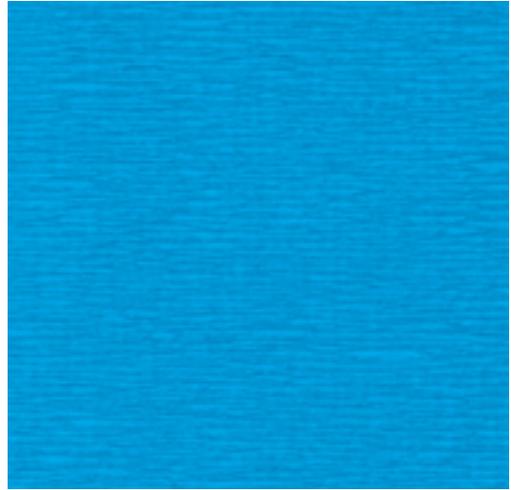
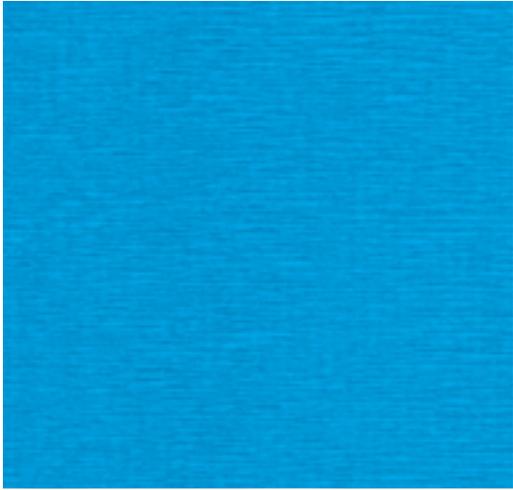


Final Report

Research Triangle Park, NC

24-26 October 2011





WHO/PAHO Collaborating Centers Meeting on Sustainable Development and Environmental Health

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Sustainable Development and Environmental Health Area (SDE)

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Acronyms

CC(s)	Collaborating Center(s)
GEH	Global Environmental Health
GHG	Greenhouse Gas
MOH	Ministry of Health
NCDs	Non-communicable Diseases
RER	Region-wide Expected Result
SDE	Sustainable Development and Environmental Health Area
SDH	Social Determinants of Health
SO	Strategic Objective
UNCSD	United Nations Conference on Sustainable Development
WG	Working Group

List of Institutions and Programs mentioned in the report

CDC	Centers for Disease Control and Prevention
EPA	Environmental Protection Agency
INSP	Instituto Nacional de Salud Pública (National Institute for Public Health) (México)
NCEH	National Center for Environmental Health
NIEHS	National Institute of Environmental Health Science
NIH	National Institutes of Health
NIOSH	National Institute of Occupational Safety and Health
NTP	National Toxicology Program
PAHO	Pan American Health Organization
UN	United Nations
UNEP	United Nations Environmental Program
WHO	World Health Organization
WHOCC(s)	World Health Organization Collaborating Center(s)

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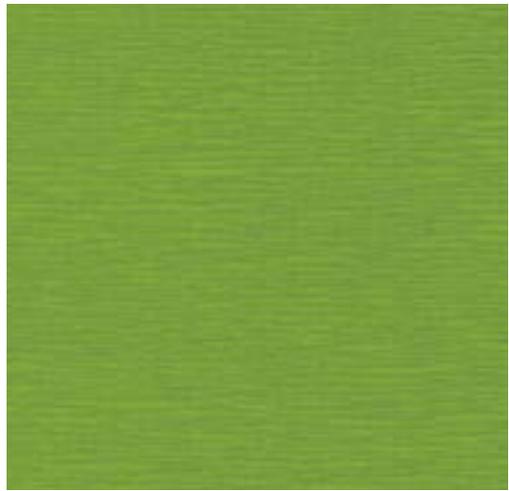
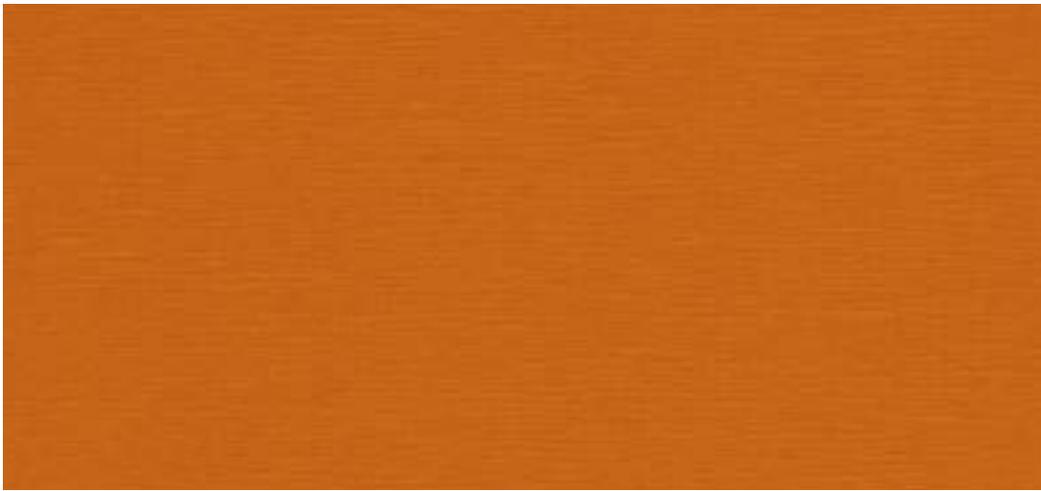
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Top: Participants of the WHO/PAHO Collaborating Centers Meeting, 24-26 October, 2011
Bottom: NIEHS Facilities, Research Triangle Park, NC

Introduction

The World Health Organization (WHO) Collaborating Centers (WHOCCs) are a highly valued mechanism of cooperation in which relevant institutions are designated by WHO to support the implementation and achievement of the Organization's planned strategic objectives at the regional and global levels.

By designating CCs, WHO gains access to top centers worldwide and improves its institutional capacity to support its activities and ensure the scientific validity of global health work. Conversely, designation as a WHO Collaborating Center provides institutions with enhanced visibility and recognition by national authorities; calls public attention to the health issues on which they work; opens up opportunities for CCs to exchange information and develop technical cooperation with other institutions, in particular at international level; and helps to mobilize additional resources from funding partners.

The WHOCCs have been in place since the founding of the WHO. Currently, there are over 800 WHOCCs located in over 80 Member States. Currently, there are 57 active WHOCCs associated with PAHO's Area of Sustainable Development and Environmental Health. The Collaborating Centers can be broken down into the following thematic areas: Environmental Epidemiology (9), Occupational Health (15), Mental Health and Drug Use (5), Tobacco (5), Health Promotion (9), Injuries and Violence Prevention (7), and Urban Health (7).

Since 2000, the WHO Executive Board has urged Member States to make full use of WHOCCs as sources of information, services and expertise; and to strengthen their own national capacity for training, research and collaboration for health development. WHOCCs were encouraged to develop working relations with other centers and national institutions recognized by WHO, by creating and joining collaborative networks. This encouraged WHOCCs to move from a model of bilateral relations (WHO and CCs) to a more dynamic model of multilateral networks and collaboration among CCs.

Some of the benefits of such model of Collaborating Centers Networks include greater global application and impact of the activities; new synergies and peer-to-peer opportunities for WHOCCs beyond their WHO agreed work; better alignment with WHO programs; and improved motivation for leadership opportunities. As a result, many networks of WHOCCs have been developed around thematic areas.

Through these global networks, the Organization is able to exercise leadership in shaping the international health agenda. Examples of existing networks of WHOCCs include the Global Network of WHOCCs for Nursing and Midwifery, the Network of WHOCCs on occupational health, and the Global Network of WHOCCs on communicable disease.

The Sustainable Development and Environmental Health Area (SDE) of the Pan American Health Organization (PAHO) strives to support the work of the WHO/PAHO CCs in the Region of the Americas and to improve the working relations and the coordination of activities throughout

the Region. Since 2003, SDE has organized a series of meetings of SDE Collaborating Centers with the goal of improving communication and knowledge exchange, supporting collaborative networking among the CCs and aligning regional work to better respond to the Region's priorities and needs in issues related to sustainable development and environmental health.

The first meeting took place in Brasília, Brazil in 2003. It was followed by a meeting in Cuernavaca, México in 2005, then in México City, Mexico in 2007, and lastly, in São Paulo, Brazil in 2009. This is the fifth meeting on the WHO/PAHO Collaborating Centers, which is expected to bring together the expertise and capacity, of the Collaborating Centers, in order to coordinate efforts to advance sustainable development and environmental health in our Region.

Socorro Gross-Galiano

Assistant Director
PAHO/WHO

Luiz Augusto C. Galvão

Manager, SDE
PAHO/WHO



Welcome Remarks

We would like to welcome you to the National Institute for Environmental Health Sciences (NIEHS).

The National Institute of Environmental Health Sciences is one of 27 research institutes and centers that comprise the United States' National Institutes of Health (NIH) and the US Department of Health and Human Services. The mission of the NIEHS is to reduce the burden of human illness and disability by understanding how the environment influences the development and progression of human disease.

Since its establishment in 1969, the NIEHS has evolved to its present status as a world leader in environmental health sciences, with an impressive record of important scientific accomplishments and a proud history of institutional achievements and growth. Through our actions, NIEHS seeks to promote the health of our community and our planet while performing valuable research that contributes to a stronger, healthier relationship between humans and the environment.

As a public health institute of the NIH, the NIEHS has a commitment to the goals of protecting and improving global health. With a strong history of international cooperation on environmental health problems and a research vision aimed at solving the puzzles of environmentally induced human disease, the NIEHS is uniquely poised at the forefront of Global Environmental Health (GEH). Global Environmental Health at NIEHS encompasses global research, international fellows training, outreach and capacity building, and service to the scientific community. Our groundbreaking research in GEH has helped to understand the impact of environmental and chemical exposures on health and the environment, to develop better interventions and to support prevention efforts to reduce the burden of human illness and to promote environmental sustainability.

The NIEHS global health vision is to coordinate research activities, enhance collaborations, and direct knowledge toward improving public health and disease burden outcomes. Toward this goal, NIEHS plans to provide a venue for communicating the outcomes and value of our GEH investment to the public; connect interested parties around the world looking at the same or similar problems; enhance mechanisms for GEH research and training programs; and, eventually, provide collaboration tools and interactive research technologies to connect scientists worldwide. NIEHS also seeks to strengthen existing global partnerships and establish new collaborative opportunities with the goal of facilitating fundamental basic research in global regions and fostering population-based research to address specific diseases.

Today, under the guidance of its 2006-2011 Strategic Plan, the NIEHS is expanding and accelerating its contributions to scientific knowledge of human health and the environment, and to the health and well-being of people everywhere. The NIEHS 2006-2011 Strategic Plan specifically identifies global health research, capacity building, training, and partnerships as a priority for our institute. As part of expanding community-linked research, the institute is undertaking to develop a program in global environmental health and build capacity to pursue research in global environmental health.

We look forward to collaborate and to build stronger relationships with PAHO and its Collaborating Centers in the Region.

Richard Woychik,
Deputy Director,
NIEHS



SDE
Collaborating
Centers

Welcome Remarks

(pre-recorded video¹)

**Maria Neira,
Director, Protection
of Human
Environment, WHO**

Dear friends and colleagues from PAHO, Collaborating Centers, and the NIEHS, I would like to give you a warm welcome to this meeting.

Public health is experiencing a crucial and challenging moment. Currently, Brazil is celebrating the WHO Conference on the Social Determinants of Health. In a few weeks, the Climate Change Commission² that will take place in Durban will bring countries together to discuss the development of policies to adapt to climate change. A few weeks ago, the high level United Nations Meeting on Non-Communicable Diseases took place to address this issue of great public health concern, and in June of 2012, we will celebrate the Rio+20 Meeting on Sustainable Development. These represent important opportunities to incorporate the issue of health in the political agenda and policy discussions.

How are we going to bring all these elements together in the agenda? How are we going to convince policymakers of the close link between healthy and sustainable settings and health objectives in order to improve and promote health, as well as reduce infectious and chronic, non-communicable diseases?

The answer is, by using all the scientific evidence available and by highlighting the interventions that have demonstrated their efficacy and their capacity to produce benefits for health; interventions such as those that have been implemented in urban settings, such as, for example, sustainable transportation policies that can reduce air pollution and greenhouse gases (GHGs), as well as combat sedentary behavior and, as a consequence, reduce the incidence of obesity-related illnesses.

This is a fascinating, yet critical moment. The health sector needs to demonstrate leadership and we need to position ourselves in order to influence these political agendas and to guarantee that health is a key component in policy discussions. This will allow us to make better decisions and to help develop sectoral and appropriate interventions, always prioritizing those that will improve the population's health.

The Collaborating Centers Network can play a key role in these processes, by creating the knowledge and the scientific evidence, and by helping to develop effective interventions. By doing so, the Collaborating Centers strengthen PAHO's capacity to work on and to move these issues forward.

We are very proud of the work done by our Collaborating Centers. We hope the Collaborating Centers Network will continue to support us and to generate the strength that we will surely need to make sure that health is always present in our policies.

1 The video of this presentation is available at: http://www.youtube.com/watch?v=DjTRxG_XsB4

2 This refers to the 17th Conference of the Parties (COP17) to the United Nations Framework Convention on Climate Change (UNFCCC)



Opening Remarks

It is a great pleasure to be here at the National Institute for Environmental Health Sciences for the WHO/PAHO Collaborating Centers Meeting. The NIEHS has been an important partner of the Pan American Health Organization over the years. It is an active WHO/PAHO Collaborating Center with a well-established and long standing partnership with our institution. We share common interests and goals in understanding the linkages between the environment and health in order to prevent disease, improve human health and promote environmental sustainability.

The Sustainable Development and Environmental Health Area of PAHO/WHO strives to bring together the social, physical, and environmental aspects of development and health. This requires connecting a range of knowledge from the various sciences and disciplines in order to build bridges among these interconnected aspects that are so central to sustainable development efforts.

This meeting attempts to bring together the expertise and capacity of the Collaborating Centers in order to coordinate efforts to advance sustainable development and environmental health in our Region. More specifically, it aims to:

- ❖ Involve and align the WHO/PAHO Collaborating Centers with the main expected regional results of PAHO's Work Plan 2012-2013 on sustainable development and environmental health.
- ❖ Provide technical input to facilitate the analysis of the achievements, gaps, emerging issues and the way forward in the implementation of the health-related issues of Agenda 21 in preparation for the United Nations Conference on Sustainable Development to be held in Rio de Janeiro, Brazil, in 2012 (Rio+20).
- ❖ Develop horizontal collaboration between WHO/PAHO Collaborating Centers on specific relevant scientific and technical topics.
- ❖ Develop relationships and discuss potential collaborative opportunities between WHO/PAHO Collaborating Centers and NIEHS staff and grantees.

We will also discuss the convergence of three important agendas that are used to guide the work that Member Countries and regional institutions implement in the Region: a) the Sustainable Development Agenda, which will be discussed in the context of the upcoming Rio+20 meeting (June, 2012); b) the Social Determinants of Health Agenda and its recent developments out of the WHO Conference on the SDH (October, 2011); and c) the Non-communicable Diseases Agenda and the recent Declaration on NCDs (New York, 2011). In the upcoming years, countries in the Region will require technical support to effectively implement these agendas. WHO/PAHO Collaborating Centers will play a major role in these efforts by contributing with innovative ideas and technical expertise and support both at the national and regional level.

Lastly, this meeting offers the opportunity to reflect on the relevance and the new roles that the WHO/PAHO Collaborating Centers can play in the context of the current WHO reform process, which aims to make the Organization better equipped to address the increasingly complex health challenges of the 21st Century, and to be more flexible to respond to the new and emerging public health threats that countries are facing worldwide. This reform process has called for WHO/PAHO Collaborating Centers to play a more prominent role in regional technical cooperation. As a result, SDE is striving to improve the working relations and coordination with the WHO/PAHO Collaborating Centers throughout the Region.

We look forward to a fruitful and productive collaboration with all of you.

Luiz Augusto C. Galvão, Manager, Sustainable Development and Environmental Health, PAHO/WHO



NIEHS Presentation

**Linda Birnbaum,
Director, NIEHS**

This is a very important meeting for NIEHS. Our Institute is committed to the mission of reducing the burden of disease and disability related to environmental factors in the United States and around the world. This workshop is critical to helping us translate our science into information and actions, including those leading up to the Rio+20 summit, that can protect public health and improve people's lives around the world.

I would like to share with you NIEHS's perspective on the links between our research on environmental health and the needs of developing countries for economic growth that is sustainable in terms of both natural resources and social systems, but also human health. As we are learning, health is too often left out of, or discounted, in discussions of sustainable development, where other factors such as economics hold sway. This is a mistake. The impact of health on development and the resulting long-term effects on sustainability should be a critical consideration in such discussions. NIEHS has supported scientific endeavors relevant to global environmental health and sustainable development for decades. As our global populations increase and our resources become more scarce, NIEHS will continue to work to ensure that health is not only NOT left out of the equation, but is in fact given a high priority in these considerations. We look forward to partnering in this endeavor with WHO, PAHO, and other organizations including those represented here today.

NIEHS is one of 27 institutes and centers of the National Institutes of Health. NIEHS is the premier environmental health sciences research institution in the world. NIEHS is unique at the NIH in that we are the only institute whose research has a primary focus on preventing disease, rather than diagnosing and treating it. This means that in addition to the highest quality, most rigorous laboratory-based science, we also have a strong commitment to educating, training, engaging, and partnering with other organizations and governments, including on an international level.

We believe that to fulfill our mission of reducing the burden of human illness and disability associated with environmental exposures, we must translate research into public health action, or "Bench to Prevention." This means that we have an obligation not only to produce the best science possible, but also to disseminate that science and bring it to bear on policy decisions and public health protection.

Environmental health risks serve as impediments to sustainable development through multiple pathways, depending on the stage of development and the types of diseases that predominate at that stage. This is reflected in the concepts of the epidemiological transition and environmental risk transition that occur with progressive economic development.

Many of you will be familiar with the epidemiological transition, which describes the change in types of diseases that make the largest contribution to mortality and burden of disease. It is characterized by a transition from what the WHO terms Group I conditions including communicable, maternal, perinatal, and nutritional conditions, to Group II conditions, or non-communicable diseases.

Concurrent with the epidemiologic transition, countries also undergo an "Environmental Risk Transition" defined as the changing contribution of environmental risks that occurs with development, and thus underlies the epidemiological transition.

This transition is characterized by local exposures such as smoke from cookstoves or impure water that have direct and immediate effects at earlier stages of development.



This is followed by exposures at the community level, and ultimately at the global level, with global problems like climate change and global mercury transport from the massive burning of fossil fuels which produce effects that are more delayed.

In rapidly developing countries, you can observe populations engaged in all of these different stages of transition. So, in terms of addressing environmental health barriers to development, there is still substantial progress to be made for all conditions.

While our primary mission is domestic, the NIEHS view has always extended beyond U.S. borders, both in the conduct our research and assisting other countries in its translation to public health interventions. The reason is this:

Environmental health is inherently global. As you know, many pollutants, such as mercury, greenhouse gases, and even particulate matter are widely distributed around the planet, affecting health far from emissions sources. The experiences of industrialized countries with adverse health impacts from polluted air, water, and land are becoming increasingly relevant around the world as less developed countries rapidly industrialize. In the race to achieve a higher standard of living, there is a risk of compromising public health. Yet there is also the potential for the disease prevention and public health protection that have been achieved in wealthier countries to be realized in developing countries as well.

In addition, diseases once associated more with a standard of living in developed countries such as diabetes and cardiovascular disease are gaining holds in less-developed countries at unprecedented rates. And the consequences to human health of climate change are being experienced universally, though the impacts—as with almost any environmentally related impact—are felt most sharply by the populations usually least able to absorb them and respond.

The WHO estimates that approximately 25% of the overall global burden of disease is attributable to environmental factors. The range of impact is considerable, from 12% in the wealthiest nations to as much as 40% in the poorest countries of the world.

For a research institute devoted to environmental health, we must be active where the rates and burden of environmentally-related diseases and disability are highest. At NIEHS, attention to the global impact of our research and programs is integrated into nearly everything that we do, and in fact, is specifically called out in our draft Strategic Plan. From the input we've received and the discussions we've had as we move forward in developing our next Strategic Plan, I feel strongly that this commitment will continue.

Throughout our history, NIEHS has been consistently committed to the goals of protecting and improving global environmental health. Upon opening its doors, the institute welcomed scientists and students from around the world for training and collaborative research. For 31 years, NIEHS has supported a cooperative agreement with the World Health Organization, through which the institute has helped to provide scientific leadership and expertise to efforts to protect public health worldwide from effects of toxic chemicals.

In addition to training and partnerships, NIEHS has also funded critical research in collaboration with other countries to better understand the impacts of environmental exposures among those most affected.

I'd like to now summarize some of research NIEHS has done and is doing in the six content areas we'll be talking about later today, highlighting especially some of the studies we're funding in Central and South America.

We have significant scientific resources dedicated to the issue of Children's Environmental Health, which has been a focus of the institute's for decades. There are currently 14 Children's Environmental Health Centers in the United States. Through these Centers, mothers, infants, and children are being studied in various settings, including rural, agricultural, and urban. The Centers each have multiple projects and core, and study a range of environmental exposures relating to health outcomes. They have also been studying a range of biomarkers, and how susceptibility to environmental pollutants may vary with genetic polymorphisms or in combination with social factors. The Children's Centers also engage in Community Based Participatory Research as one of their methods, helping to engage communities in the research and translate the findings back into policy and interventions.

Though our Children's Centers are focused here in the United States, some of our most significant translational work in Children's Environmental Health has been conducted internationally through a 31-year Cooperative Agreement with the World Health Organization. The meetings, workshops, documents, and partnerships fostered by this program continue to have far-reaching impacts on children's environmental health. We are currently engaged in developing the next iteration of our international relationships on this topic in hopes of building on these successes and broadening our abilities to improve children's health worldwide.

One research example in Latin America focused on Children's Health is the one led by Dr. Stephanie London in our Division of Intramural Research in partnership with Dr. Isabelle Romieu at the National Institute of Public Health in Mexico. The focus of this study is childhood allergic asthma and parents who have a high life-time exposure to ozone.

Another is being conducted by NIEHS grantee Robert Wright from Harvard University, also in collaboration with the National Institute of Public Health in Mexico, to investigate environmental exposures to combinations of metals (lead, arsenic, manganese) to understand and help predict toxic effects on neurodevelopment.

NIEHS is also strongly vested in exploring the Fetal Basis of Adult Disease, a second area of talks today. Research has shown that exposure to environmental stressors early in life, whether it's poor nutrition, cigarette smoke, harmful chemicals, etc. can have a significant effect on the diseases that you may develop as an adult, either by making you more susceptible to these conditions or initiating the processes that develop into these conditions.

The basic idea is that chemical effects on development at an early age can lead to health effects later in life, into childhood, puberty, and even late into adult life.

This has significant implications when we think about the huge increase in certain diseases like autism, diabetes, and obesity, all of which have environmental component, and many of which are increasing in the developing world.

A partnership between NIEHS researcher Dr. Steven Kleeberger, Johns Hopkins University, and the INFANT Foundation in Buenos Aires, Argentina is currently investigating the role of innate immunity and antioxidant enzyme genes in respiratory syncytial virus (RSV) infection and disease progression in infants and children.

In addition to the climate change research needs white paper, NIEHS also sponsored a series of studies that appeared in *The Lancet* in 2009 and explored ways in which efforts to reduce greenhouse gas emissions in diverse sectors of society could have health co-benefits. These studies specifically compared the potential impacts of efforts in both developed and developing countries (the UK and India).



The results of these studies showed that climate change mitigation measures can also reduce risk factors that contribute to communicable and non-communicable disease in the following sectors:

1. household energy,
2. land transport,
3. low carbon electricity,
4. food and agriculture,
5. short lived greenhouse gases.

In the area of Climate Change, NIEHS is addressing the future needs and sustainable development through a growing research program on health implications. NIEHS is currently funding research on population vulnerability to climate change impacts. This trans-NIH program is supporting pilot studies to help define vulnerability factors, develop methods, and build the community of researchers in this important area.

Another area where NIEHS is not just studying problems but funding research involving public health interventions is that of indoor air pollution caused by cookstoves. Nearly two million women and children around the world die every year, and many more are made sick or disabled, as a result of exposure to smoke from biofuels burned in cookstoves.

NIEHS is playing an important role in the new Global Cookstove Alliance, headed by the UN Foundation, by supporting the studies needed to ensure that this international cookstove replacement effort is accomplishing its goals and improving the lives of women and children in the poorest countries. We are currently looking at ways to conduct appropriate exposure assessments to establish baseline data that will help to determine the most effective interventions.

The Green Economy is a newer area for NIEHS research and efforts, but one in which we are very interested in exploring. We're doing this in a number of ways including a focus in our Superfund Research Program on green chemistry, bioremediation, and phytoremediation to promote sustainability. Through our Worker Environmental Training Program we are training and retraining workers to participate in the green economy.

Although not one of the specific topics of discussion planned for this afternoon, it's important to mention our strong commitment to global training and capacity building, which crosscut our research efforts. For the last 15 years, NIEHS supported an International Training and Research in Environmental and Occupational Health program, which is a trans-NIH program administered through the Fogarty International Center, based at the Mt. Sinai School of Medicine and led by grantee Luz Claudio, to train individual scientists from Brazil, Chile, and Mexico in key disciplines of environmental and occupational health research, and building a network of skilled environmental and occupational health scientists for the Latin American region who can address cross-cutting international environmental health issues.

I'd like to mention the efforts of our open-access journal, Environmental Health Perspectives, which has played a leading role in translation of environmental health research throughout the world. The journal has always had a global focus, and from its earliest days has reached out to partner with scientific and publishing organizations in other countries to increase the availability of the highest quality scientific data throughout the world, particularly to developing countries who

often are most severely affected by environmental exposure and therefore most in need of the information.

And so I hope I have demonstrated some of the rich and varied ways that NIEHS is providing critical scientific information to effort to achieve sustainable, and healthy, global development. As we move forward in our efforts, these are the tenets that we will keep at the forefront of our thinking and strategies.

To help coordinate our efforts, we are looking to ensure that a strong global environmental health and sustainable development program here at NIEHS works to integrate our research, training, and translation efforts and maximize the effectiveness of our partnerships. This program is being led by the NIEHS Office of the Director by Dr. John Balbus, with partnerships across the Institute. Through it we will increase our interactions and partnerships with the other federal agencies and international organizations who have the ability to help translate our science into effective environmental health and sustainable development programs, policies and initiatives. I hope that this week's discussions are one step toward meeting those goals.

We're pleased to have been able to sponsor and share in this meeting. I hope it has been productive and successful for all of you. I applaud your continued commitment to our shared global environmental health and sustainable development goals, and I look forward to our future interactions. For all of our efforts are critically needed to ensure that the needs of the present are met without compromising the health and wellbeing of future generations.



WHO/PAHO Collaborating Centers Contributions to SDE Workplan 2010-2011 and 2012-2013

The world faces critical challenges related to health inequities and environmental degradation. It is critical to incorporate these concerns into development plans in order to satisfy population's basic needs and to achieve better protection and management of ecosystems. No nation can achieve that on its own. A global alliance is critical to advance sustainable development worldwide.

Since 1989, Agenda 21 has served as a framework for countries to develop and implement national strategies, policies, plans and programs that incorporate integrated responses to issues of development and environmental sustainability. Implementation of Agenda 21 has helped countries to address current challenges while also preparing them to face new, emerging challenges. It is important that international cooperation support and complement these national efforts; while the United Nations system plays a key role, other international, regional and sub-regional institutions are called upon to contribute and strengthen such efforts. The upcoming Rio+20 meeting represents a great opportunity to revisit the Agenda 21 and to propose a new agenda for sustainable development that more broadly addresses the economic, social and political aspects that are central to sustainable development. Another important upcoming event is the WHO Conference on Health Promotion that will take place in 2013 in Finland. It will be an opportunity to reflect upon and build a technical cooperation agenda that strategically links health promotion and environmental health actions.

By bringing together the capacity of regional institutions to this meeting of the WHO/PAHO Collaborating Centers, we expect to better align PAHO and the CCs' work with these major global and regional movements and agendas and to define how we can contribute to their advancement. This is also an opportunity to align the CCs workplans with that of PAHO, and to review the commitments made at the global level, as well as those related to national agendas.

We hope to achieve these objectives by considering three important agendas: (a) the global development and technical cooperation agenda, (b) the CCs agenda based on their area of expertise, and (c) PAHO/WHO's agenda for the Region. Some of WHO and PAHO's strategic and planning documents that should be considered in this effort include:

- ❖ WHO's General Plan of Work and Global Health Agenda (GPW/GHA) 2006-2015;
- ❖ WHO's Medium-term Strategic Plan (MTSP) 2008-2013;
- ❖ WHO's Program Budget 2008-2013;
- ❖ PAHO's Health Agenda for the Americas (HAA) 2008-2017;
- ❖ PAHO' Strategic Plan (SP) 2008-2012 and PAHO Program and Budget (PB), which outlines country and subregional cooperation strategies; and
- ❖ PAHO Biennial Workplan (BWP) which outlines PAHO's operational plans and activities in each country of the Region.

Luiz Augusto C. Galvão, Manager Sustainable Development and Environmental Health, PAHO/WHO



PAHO's Strategic Plan defines a series of Strategic Objectives (SO) that outline the Organization's strategic direction and goals. Each SO is further operationalized with the definition of indicators, targets, strategic approaches and region-wide expected results. PAHO/SDE has under its responsibility the following SOs:

- ❖ **Strategic Objective 3:** To prevent and reduce disease, disability and premature death from chronic non-communicable conditions, mental disorders, violence and injuries.
- ❖ **Strategic Objective 5:** To reduce the health consequences of emergencies, disasters, crisis and conflicts, and minimize their social and economic impact.
- ❖ **Strategic Objective 6:** To promote health and development, and prevent or reduce risk factors such as use of tobacco, alcohol, drugs and other psychoactive substances, unhealthy diets, physical inactivity and unsafe sex, which affect health conditions.
- ❖ **Strategic Objective 7:** To address the underlying social and economic determinants of health through policies and programs that enhance health equity and integrate pro-poor, gender-responsive, and human rights-based approaches.
- ❖ **Strategic Objective 8:** To promote a healthier environment, intensify primary prevention and influence public policies in all sectors so as to address the root causes of environmental threats to health.

Taking into account these strategic and planning documents, and based on the SOs outlined above and their respective RERs, during this meeting we aim to define a workplan for 2012 and 2013 that will coordinate PAHO's work and priorities with those of the CCs while also contributing to the work developed by the CCs in their area of expertise. We also hope to promote horizontal collaboration among CCs in their technical areas as well as in cross-cutting issues.

I wish you a productive and fruitful work. We look forward to working with you in the next few years.



Introduction to Working Group Discussions

During the second day of the meeting, participants were divided into five thematic Working Groups (WG)³:

Group 1. Workers' Health

Group 2. Risk Assessment and Global Environmental Change

Group 3. Health Promotion and Healthy Settings

Group 4. Road Safety, Injury and Violence Prevention

Group 5. Alcohol, Tobacco, Drugs and Mental Health

The Working Groups had two general objectives:

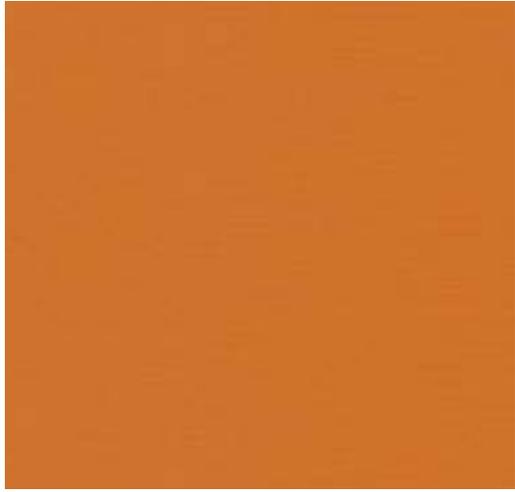
- ❖ To involve and align the WHO/PAHO Collaborating Centers with the main expected regional results of PAHO's Work Plan 2012-2013 on Sustainable Development and Environmental Health, in particular on the following program areas:
 - ◆ Workers' Health
 - ◆ Alcohol and Tobacco
 - ◆ Mental Health
 - ◆ Health Promotion and Human Security
 - ◆ Healthy Settings
 - ◆ Basic Sanitation and Health
 - ◆ Risk Assessment of Environmental Hazards
 - ◆ Environmental Global Change and Health
 - ◆ Road Safety, Injury and Violence Prevention
 - ◆ Social Determinants of Health
 - ◆ To further develop horizontal collaboration between WHO/PAHO Collaborating Centers on specific relevant scientific and technical topics.

Each WG selected a Chairperson and a Rapporteur. The specific objectives of the working group discussions were defined as the following:

- ❖ To analyze the various products and contributions by WHO/PAHO CCs to the SDE 2010–2011 Work Plan for further improvement, expansion, and dissemination at country level.
- ❖ To identify new products and contributions by WHO/PAHO CCs to the SDE 2012-2013 Work Plan.
- ❖ To identify opportunities for horizontal collaboration between WHO/PAHO CCs on specific relevant technical areas/themes.

Working groups were provided with the template of a matrix to facilitate the organization of their ideas and plans. The Rapporteur of each WG presented the main conclusions and recommendations of their group at the Plenary Session held on Wednesday, 26 October 2011.

3 See Annex C for a list of participants in each WG



Highlights from Working Group Discussions

Issue	Possible solutions
Intersectoral collaboration	<p>Promote work with other sectors and work with other disciplines/ professions to think about health (e.g. planners, engineers).</p> <p>Learn more about HOW to work across sectors.</p> <p>Develop tools for those doing intersectoral work.</p> <p>Engage other sectors and disciplines in our work by inviting them to meetings and discussions.</p>
Communications: <ul style="list-style-type: none"> ◆ Between PAHO and CCs ◆ Among CCs ◆ Between country offices and CCs 	<p>Promote regular meetings or conference calls.</p> <p>Increase use of sharepoint site.</p> <p>Produce quarterly bulletins.</p> <p>Establish a communication coordination position that would rotate among the CCs.</p> <p>Establish clear communication protocols between PAHO (HQ and Country offices) and CCs that are not centered on one person.</p> <p>Keep CCs informed of projects, and create joint projects.</p> <p>Let PAHO know when a CC visits/works in a country.</p> <p>Create a briefing book for country visits.</p> <p>Share contacts because it is often the same person working on this issue at the country level.</p> <p>Send around opportunities and information to CCs.</p> <p>Increase use of virtual technologies to share information and exchange experiences.</p> <p>Develop fact sheets for CCs and their activities.</p> <p>Inform PAHO/HQ about challenges and successes of CC in countries.</p>
Networks	<p>Promote the establishment of new and strengthen existing networks in thematic and cross-cutting issues.</p> <p>Promote the involvement of CCs in such networks.</p>
CC agreements	<p>Clearly define which of the international endeavors of the institutions will be or will not be part of the CC agreement. A special note is given to initiatives that sometimes start from the bottom up and maybe in the future they can be considered as part of the CC.</p> <p>Clarify to CCs whether it is possible to integrate initiatives that were not part of the original agreement under the CC. The possibility to have an addendum when necessary was proposed.</p> <p>Clarify ethical guidelines and procedures involving CC initiatives.</p>

Issue	Possible solutions
Dissemination of work Concerns related to: <ul style="list-style-type: none"> ◆ Quality ◆ Time to produce 	Creation of a «peer-revision» group composed of representatives from CCs to review publications and articles prepared by CCs.
Relationship with Country Offices	Keep Country Offices informed of CCs activities and copy HQ staff when communicating with country office. Share more information about the CCs with country offices (for example progress reports, or bio sheets).
Work in cross-cutting issues	Clarify the role of the specific PAHO areas/units and of the CCs in terms of contributing to address the challenges associated with cross-cutting issues. Promote opportunities to engage CCs in working with cross-cutting issues.
Funding and sustainability	Search for opportunities to fundraise together, addressing common priorities with the benefit of multisite outcomes. Clarify guidelines for PAHO funding. Disseminate information regarding funding opportunities to CCs.
Adoption of more integrated approaches, in particular, the Social Determinants of Health	Connect the work of CCs with the Social Determinants of Health. Develop a SDH Toolbox that could potentially engage multiple CCs. Understand how countries are acting on the SDH. Promote the adoption of “health in all policies” approach to address root causal factors (i.e. in agriculture, energy, transportation and urban planning) and broaden our partnerships. Work towards the recognition of the contribution of environmental degradation and contaminants to disease through capacity building and training for the health sector. Encourage CCs to incorporate approaches that take into account environmental justice and equity with a focus on vulnerable populations.
Collaboration towards Rio+20	Support the review of PAHO reports that will be presented in the meeting. Participate in events at national level, such as those organized by Ministries of Health.



Reports from Bilateral Meetings

Meeting 1. Green Economy and Health

The main topics discussed included:

- ❖ **The worker education and training program:** awareness of risk exposure and potential victimization for workers and emergency relief responders. We agreed there is a need for international training and education.
- ❖ **Climate change and risk management:** Without proper financial preparation for the effects of climate change, national and global economies will struggle.
- ❖ **Community awareness and engagement:** increasing community awareness will empower them to act on their own behalf to promote change.
- ❖ **Biotransformation:** reducing the burden on fossil fuels is a positive step, but not at the expense of the workers and communities where these products are grown and harvested.
- ❖ **Worker protection and first responders:** again, the need for training and increased awareness for those who go in first to save others. They shouldn't have to sacrifice their own health, if it is not necessary.
- ❖ **Green jobs:** increase in technological advances sometimes means increased burden on the environment and the wallet. How do we support both and bring prosperity to countries that maybe cannot afford it? And, how do we get industry to comply to higher standards in this distressed economy?
- ❖ **Human health:** this element needs to be highlighted when discussing green economy. It is not only about environment, but the balance between human health and environmental health. Both require recognition. If we focus on human health effects, then perhaps the message will be heard rather than dismissed by pseudo-science or non-believers.
- ❖ **Increase communication:** we all agree there is a need for information and education regarding climate change and risk. The more opportunities to discuss, the less chance to dismiss.
- ❖ **Focus on children:** by educating a child, we believe, the message will not only stay a part of them, but will hopefully transfer up the chain to their parents and family members to evoke change. Why not empower the hands, heads and hearts of the future?



Meeting 2. Climate Change and Cookstoves

The main topics discussed included:

- ❖ **Occupational aspects such as the effects of heat stress on sugar cane workers.**
- ❖ **Health implications of climate change mitigation strategies; the effects of wind and solar being explored in Grenada.**

The need for integrated health surveillance and environmental data was stressed. The potential health impacts of the Gulf oil spill and potential future spills from new drilling in the Gulf were also discussed. Lastly, participants discussed the work taking place in the Americas on cookstoves and a PAHO official mandate to address indoor air pollution.

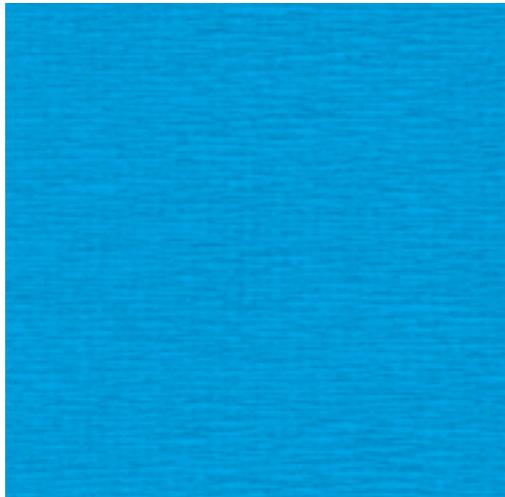
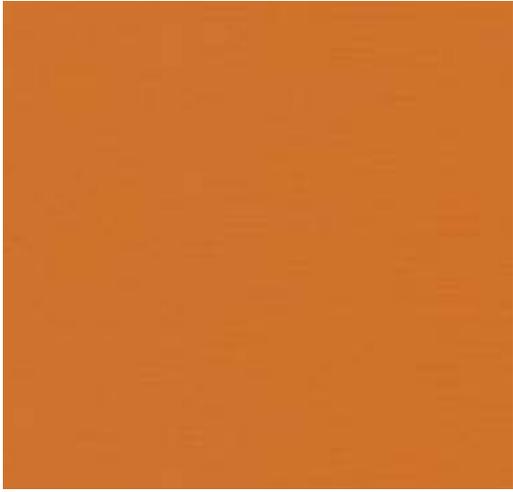
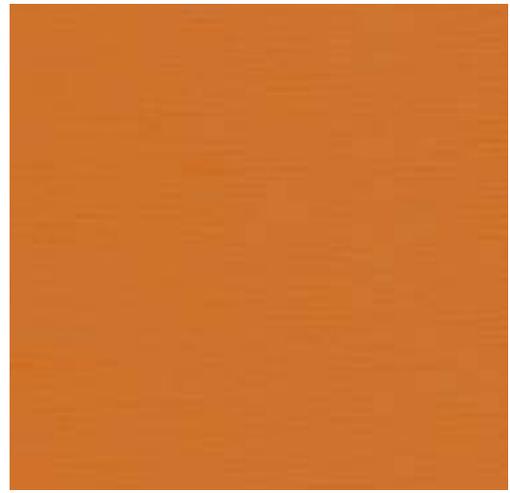
Meeting 3. Children's Environmental Health

The main topics discussed included:

- ❖ **Environmental tobacco smoke:** children and women's exposures.
- ❖ **Indoor air pollution:** carbon monoxide exposure and neurological outcomes.
- ❖ **Health of schools:** the need to connect with the Healthy Schools Network (www.healthyschools.org, Claire Barnett) and to work with EPA to get a Children's Environmental Health Center focused on school environment issues. There is no international healthy schools network. Contact person was designated as Mike Humble, NIEHS (humble@niehs.nih.gov and Bono Sen, NIEHS/EHP, senb@niehs.nih.gov).
- ❖ **Issues related to communication and translation of research.**
- ❖ **Intervention strategies for epigenetic effect:** dietary manipulation of mothers.
- ❖ **Pesticides:** the need to determine burden on children and bring the issue back to PAHO agenda. EPA has a compendium on priority chemicals including pesticides. Brenda Eskenazi commented on meeting in November: Are We Poisoning Our Children? (<http://www.mch.berkeley.edu/news-and-events/ceeventarewepoisoningourchildren>) A resource recommended was the International Society for Children's Health and the Environment, <http://www.ische.ca/> (Bruce Lanphear).
- ❖ **The importance of the built environment.**
- ❖ **NCDs.**
- ❖ **Recent UN event: no mention of toxicant effects and of NIEHS body of knowledge.**
- ❖ **National Toxicology Program (NTP):** it is frustrating that NTP has knowledge, but has not disseminated it on a global scale to provide strength of evidence. There is a need to translate NTP information into public health impacts. Contacts at NTP: Kris Thayer (Thayer@niehs.nih.gov) and Mary Wolfe (wolfe@niehs.nih.gov).



- ❖ **Incorporate into the 1014 meeting?**
- ❖ **Children's environmental health as part of the cooperative agreement:** it is still a focus of new initiatives and Collaborating Centers.
- ❖ **Children's environmental health atlas:** it is being published by WHO/UNEP. It reviews state of children's environmental Health in different parts of the world, but 50% of the pages are dedicated to México (where much research has been done) and 60% of the publication is about lead hazards. Lead is easy to measure. The problem with other exposures is that they are hard to measure and we need to define more markers of exposure.



Annex A

Working Matrix – Activities for 2012-2013⁴

**WHO/PAHO Collaborating Centers Meeting
Sustainable Development and Environmental Health (SDE)
Durham, North Carolina, 24-26 October 2011**

S.O.	RER	PRODUCT/SERVICES AND TASK*	CC	PAHO SUPPORT
		• XXX		

* a) data bases; b) policy; c) monitoring and surveillance; d) human resources development; e) research project; g) expert committee participation; h) publications; i) other

⁴ This link includes the matrixes discussed in the different working groups, but it is understood that they will be adjusted as required, www.paho.org/sde/collaborating-centers

Annex B

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Annex C

Meeting Agenda

MAIN OBJECTIVES

- ❖ Involve and align the WHO/PAHO Collaborating Centers with the main expected regional results of PAHO's Work Plan 2012-2013 on sustainable development and environmental health, in particular on the following areas:
 - Workers' Health.
 - Alcohol and Tobacco.
 - Mental Health.
 - Health Promotion and Human Security.
 - Healthy Settings.
 - Basic Sanitation and Health.
 - Risk Assessment of Environmental Hazards.
 - Environmental Global Change and Health.
 - Road Safety, Injury and Violence Prevention.
 - Social Determinants of Health.

- ❖ Provide technical input to facilitate the analysis of the achievements, gaps, emerging issues and the way forward in the implementation of the health related issues of Agenda 21 in preparation for the United Nations Conference on Sustainable Development (UNCSD) to be held in Rio de Janeiro, Brazil in 2012 (Rio+20).

- ❖ Further develop horizontal collaboration between WHO/PAHO Collaborating Centers on specific relevant scientific and technical topics.

- ❖ Develop relationships and discuss potential collaborative opportunities between WHO/PAHO Collaborating Centers and NIEHS staff and grantees.



Monday, 24 October 2011

- 7:30 – 8:00 **Departure from Radisson Hotel Lobby**
- 8:00 – 8:30 **Security and Registration**
Lobby, Rall Building at NIEHS
- 8:30 – 8:50 **Welcoming Remarks** (Main Conference Room, Rall Building)
- Richard Woychik, Deputy Director, NIEHS (USA)
 - Maria Neira, Director, Protection of the Human Environment, WHO/HQ (PRERECORDED)
 - Luiz Augusto C. Galvão, Manager, Sustainable Development and Environmental Health Area, PAHO/SDE (USA)
- “Workshop on Health and Sustainable Development”**
- 8:50 – 9:15 **Introduction on the United Nations Conference on Sustainable Development (UNCSD) in Rio de Janeiro, Brazil in 2012**
- Carlos Corvalan, PAHO/SDE (USA)
 - Guilherme Franco Netto, Ministry of Health (BRA)
- 9:15 – 10:45 **Session 1. Environmental, Occupational, and Urban Challenges**
- Chair:** John Balbus, NIEHS (USA)
- Risk Assessment of Environmental Hazards**
- Christopher Portier, CDC (USA)
- Global Environment and Health**
- Jonathan Patz, University of Wisconsin (USA)
- Workers’ Health**
Joseph (Chip) Hughes, NIEHS (USA)
- Urban Health**
- Carlos Crespo, Portland State University (USA)
- Discussion**
- 10:45 – 11:00 Coffee Break (Rall Building Lobby)
- 11:00 – 12:30 **Session 2. Social Environment**
- Chair:** Horacio Riojas, INSP (MEX)
- Road Safety, Injuries and Violence Prevention**
- Marta Hajar, INSP (MEX)
- Health Promoting Schools**
- Carmen Aldinger, EDC (USA)
- Mental Health and Substance Use**
- Sergio Aguilar-Gaxiola, University of California, Davis (USA)
- Health Promotion and Human Security**
- Luis Fernando Duque, University of Antioquia (COL)
- Discussion**

- 12:30 – 14:00 **Lunch Break** (NIEHS Cafeteria)
- 14:00 – 15:30 **Session 3. Development and Health**
- Chair:** Pierre Gosselin, INSPQ (CAN)
- Noncommunicable Chronic Diseases**
- Ligia Salazar, CEDETES (COL)
- Millennium Development Goals**
- Carlos Maldonado, ECLAC (CHI)
- Social Determinants of Health**
- Marcia Westphal, University of São Paulo (BRA)
- Basic Sanitation and Health**
- Guilherme Franco Netto, Ministry of Health (BRA)
- Discussion**
- 15:30 – 16:00 **Coffee Break** (Rall Building Lobby)
- 16:00 – 16:30 **WHO/PAHO Collaborating Centers Contributions to SDE Workplan 2010-2011 and 2012 -2013**
- Luiz Augusto C. Galvão, PAHO/SDE (USA)
- 16:30 – 16:45 **Introduction to the Working Groups Discussions**
- Jacobo Finkelman, PAHO/SDE (USA)
- 17:00 – 17:45 **Return to the Radisson Research Triangle Park Hotel**
- 18:30 – 20:00 **Reception**
Radisson Research Triangle Park, Meeting Room H
(Cocktails and hors d'oeuvres will be served)

Tuesday, 25 October 2011

- 9:00 – 10:30 **Working Groups Discussions**
- Workers' Health – GROUP A**
(Conference Room)
Chair and Rapporteur to be selected by the Working Group
- Risk Assessment and Global Environmental Change - GROUP B**
(Conference Room)
Chair and Rapporteur to be selected by the Working Group
- Health Promotion and Healthy Settings - GROUP C**
(Conference Room)
Chair and Rapporteur to be selected by the Working Group
- Road Safety, Injury and Violence Prevention - GROUP D**
(Room D350)
Chair and Rapporteur to be selected by the Working Group



- Alcohol, Tobacco, Drugs and Mental Health - GROUP E**
(Room E226)
Chair and Rapporteur to be selected by the Working Group
- 10:30 – 11:00 **Coffee Break** (Rall Building Lobby)
- 11:00 – 12:00 **Continues Working Groups Discussions**
- 12:00 – 13:30 **Lunch Break** (NIEHS Cafeteria)
- 13:30 – 15:30 **Continues Working Groups Discussions**
- 15:30 – 16:00 **Coffee Break** (Rall Building Lobby)
- 16:00 – 17:30 **Continues Working Groups Discussions**

Wednesday, 26 October 2011

- 8:30 – 9:30 **Plenary. Working Groups Presentations**
Main Conference Room, Rall Building
- Chair:** Carlos Santos Burgoa (PAHO/WHO)
- Workers' Health – GROUP A**
- Risk Assessment and Global Environmental Change - GROUP B**
- Health Promotion and Healthy Settings - GROUP C**
- Road Safety, Injury and Violence Prevention - GROUP D**
- Alcohol, Tobacco, Drugs and Mental Health - GROUP E**
- 9:30 – 9:45 **Group Picture**
- 9:45 – 10:45 **NIEHS Presentation**
- Linda Birnbaum, Director, NIEHS
- Closing Remarks**
- 10:45 – 11:15 **Coffee break** (Rall Building Lobby)
- 11:15 – 12:30 **Meetings between NIEHS Scientists and WHO/PAHO Collaborating Centers on Specific Topics**
- Green Economy and Health
 - Children's Environmental Health
 - Growth and Development/Fetal Basis of Adult Disease
 - Climate Change and Sustainable Development
 - Interaction of Environment with Infectious Agents
 - Cook Stoves

Annex D

Working Group Distribution

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