Developing Evidence-Based Strategies for Cardiovascular Prevention and Control through Global Research Networks

Dr. Cristina Rabadán-Diehl, PhD, MPH
Acting Director, Office of Global Health
National Heart, Lung, and Blood Institute
National Institutes of Health, USA
“Prevention of cardiovascular disease is a lifetime opportunity for ... individuals, families, communities, and the health care system.”

Susan B. Shurin, M.D., Acting Director
National Heart, Lung, and Blood Institute
How to control risk factors?
Struggling Schools

Other Challenges

Limited access to healthy choices (food, exercise)

Poor Health

Immigration Status

Poor Housing

Low income/ Limited money

Unemployment

Crime

Social Determinants of Health

Other Issues?
NHLBI Community Health Workers Initiative
The Vision of the Initiative

To empower community health workers (CHWs) to be an integral part of a public health approach to decrease health disparities in cardiovascular, lung, and blood diseases in underserved and minority communities.
Evolution of CHW Program

1994: Birth of Salud para Su Corazon (SPSC)
1996: National Call to Action
1998: NCLR Survey
2002: Promotora Conference
2004: Evaluation of SPSC Pilot Projects
2006: Est. networks in Texas & Florida
2008: SPSC Training Center at GCHC
2010: Healthy Heart, Healthy Family (HHHF)

Key Events:
- Heart Health Campaign- DC
- Conduct formative research
- SPSC Manual
- SPSC North Texas
- HRSA & CHC Partnerships
- "Breath of Life" Latino asthma manual
- PAHO Collaboration in Latin America
- With Every Heartbeat is Life (WEHL)
CHW Heart Health Manuals

Your Heart, Your Life/Su Corazón, Su Vida
Latinos

With Every Heartbeat is Life
African Americans

Honoring the Gift of Heart Health
American Indians and Alaska Natives

Healthy Heart, Healthy Family
Filipino Americans
Key Partnerships

Professional Associations
• Association of Black Cardiologists (ABC)

Government Agencies
• Department of Housing and Urban Development (HUD)
  – Public Housing Resident Organizations
• Health Resources and Services Administration (HRSA)
• Indian Health Service (IHS)
• Pan American Health Organization (PAHO)
• Promotores Networks

Academia
• School of Public Health-El Paso Regional Campus
• The University of Texas- Health Science Center at Houston

Community-based Organizations

Clinics
• CHCs and FQHCs

CHW Networks
Provides international leadership in research, training, and education to reduce non-communicable chronic diseases worldwide

Network of 11 NHLBI-UnitedHealth Group Centers of Excellence in Global Health established in 2009

NIH and five international research centers launched the Global Alliance for Chronic Diseases in 2009- RFA on Hypertension

Non-communicable chronic diseases account for ~60% of deaths and 47% of global burden of disease
• Hypertension affects an estimated 1 billion people worldwide
Goal: To establish Centers of Excellence to combat non-communicable chronic cardiovascular and pulmonary diseases (CVPD) in developing countries

Each Center of Excellence:
- Enables research capacity building
- Trains future chronic CVPD investigators
- Conducts research on new or improved approaches, programs, and measures to prevent or treat chronic CVPD
- Partnership between NHLBI and UnitedHealth Group—established June 8, 2009
- Network of 11 Collaborating Centers
- Centers have a network of local and international partners, in developing and developed countries
<table>
<thead>
<tr>
<th><strong>Argentina</strong></th>
<th><strong>Developed Country Partner</strong></th>
<th><strong>Research Example</strong></th>
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</table>
| *South American Center for Cardiovascular Health (SACECH). Institute for Clinical Effectiveness and Health Policy (IECS)* Buenos Aires | • Tulane University Louisiana, USA  
• Bariloche, Argentina  
• Marcos Paz, Argentina  
• Temuco, Chile  
• Pando, Uruguay | - Conduct epidemiological study to identify major CVD risk factors for future intervention studies  
- Evaluate the burden of CVD in the Southern Cone including costs and health services utilization. |

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<tr>
<th><strong>Guatemala</strong></th>
<th><strong>Developed Country Partner</strong></th>
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</table>
| *Institute of Nutrition of Central America and Panama (INCAP)* Guatemala City, Guatemala | • John Hopkins University Maryland, USA  
• N. America (S. Mexico - Chiapas)  
• C. America (Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica, Panama)  
• The Caribbean (Dominican Republic) | - Assess cardiovascular status and the feasible environmental changes that are socially and culturally acceptable to improve lifestyle behaviors for children living in poor urban settings.  
- Adapt and validate an intervention model for CVD prevention in patients with diabetes and high blood pressure, which could be implemented in primary health care centers of Costa Rica (San José) and Southern Mexico (Chiapas). |
<table>
<thead>
<tr>
<th>Mexico</th>
<th>Developed Country Partner</th>
<th>Research Example</th>
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<tbody>
<tr>
<td>El Colegio de Sonora</td>
<td>University of Arizona</td>
<td>- Adapt and validate a community-based prevention intervention program that utilizes community health workers, with an emphasis on physical activity and nutrition.</td>
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<tr>
<td>Hermosillo, Sonora, Mexico</td>
<td>Tucson, Arizona</td>
<td>- Examine the role of promotores in NCD prevention within the Mexican health care system. Construct an empowerment model which includes individual, family and community changes in prevention programs.</td>
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<td>Activity sites</td>
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<td>• Northern Mexico</td>
<td></td>
<td></td>
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<tr>
<td>• U.S. Mexico Border</td>
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<tr>
<th>Peru</th>
<th>Developed Country Partner</th>
<th>Research Example</th>
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<tr>
<td>Universidad Peruana</td>
<td>Johns Hopkins University</td>
<td>- Assess the cardiovascular risk factors profile in Lima (very urban) and Tumbes (less urban). Also assess disease progression, from a baseline disease-free status to hypertension and diabetes.</td>
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<tr>
<td>Cayetano Heredia</td>
<td>Maryland, USA</td>
<td>- Examine the prevalence of COPD in two Peruvian populations: one that burns solid fuels for energy and one that uses electricity/kerosene.</td>
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<tr>
<td>Lima, Peru</td>
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<td>Activity sites</td>
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<tr>
<td>• Central Coastal Peru</td>
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<tr>
<td>(Lima)</td>
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<tr>
<td>• North Coastal Peru</td>
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<tr>
<td>(Tumbes)</td>
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<tr>
<td>• South Eastern Andes Peru</td>
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The whole is better than the sum of its parts

- Sub-committees: Epidemiology, Community Health Workers, Training, Pulmonary
- Regional networks: COEs in India and Latin America
- COEs working and publishing together
- Five supplements to support collaborative work across the COEs
- One training supplement on the Developmental Origins of Health and Disease (DOHaD)
- Develop database to aggregate COE common data elements
- Five supplements to align COES research with the GACC RFA on Cookstoves and child mortality
- Centers are interacting with policy makers
Collaborative Project in Latin America

- To determine the effects of mobile health (mHealth) technology, including short message services (SMS) and telephone calls, to promote lifestyle modification focused on reducing blood pressure and preventing progression from pre-hypertensive status to hypertension in individuals at poor urban clinics in Argentina, Guatemala, and Peru.

New support from Medtronic
Attracting new partners

- US-CDC
- Medtronic Foundation
- American Thoracic Society
- International Academy of Cardiovascular Sciences
- National Institute of Mental Health (NIH)

  - **RFA-MH-13-040**: “Challenges in Global Mental Health: Integrating Mental Health into Chronic Disease Care Provision in LMIC”
Research Alliance Aims to Reduce Impact of Hypertension Around the World

The Global Alliance for Chronic Diseases (GACD), composed of leading international public health research organizations, is coordinating a consortium of research projects on hypertension prevention and control in 15 low- and middle-income countries. Each research project is conducted through a partnership between investigators in a developed country institution and investigators and institutions in a low- and middle-income country. The projects are funded by four of the GACD members, with an investment of more than $21 million over the next 3 to 5 years.
GACD Hypertension Program

- 15 community-based research projects that will focus on implementing effective approaches to control high blood pressure
- The projects represent an investment of more than US$21.8 million over three to five years
- Research in 15 different low- and middle-income countries:
  - Argentina
  - China
  - Colombia
  - Fiji
  - Ghana
  - India
  - Kenya
  - Malaysia
  - Nigeria
  - Peru
  - Rwanda
  - Samoa
  - South Africa
  - Tanzania
  - Uganda
“International partnerships are crucial to fighting this massive epidemic. All nations are feeling the devastating impact of ...non-communicable diseases and, consequently, must be part of the solution. This convergence of interests presents exceptional opportunities - and enormous responsibilities - to those of us in the medical research community. “

Roger Glass, Director, FIC, 2011
Cristina Rabadán-Diehl, Ph.D., M.P.H.
Acting Director, NHLBI Office of Global Health
Director, Centers of Excellence Program
rabadanc@nhlbi.nih.gov