Recent research has provided significant data:

- 5.3 million deaths globally can be attributed to physical inactivity.
- 1.3 million deaths could be prevented if physical inactivity were reduced by 25%.

However, the importance of physical activity (PA) continues to be underestimated. We face a complex and dynamic phenomenon and a field that still has much left to explore. There is no magic bullet for physical inactivity.

To face these challenges, it is crucial to strengthen expertise in PA. It is essential to include multiple perspectives and incorporate the experiences and views of communities, practitioners, decision makers and researchers from different disciplines.

Because of this, the Centers for Disease Control and Prevention (CDC), Universidad de los Andes, Coldeportes and the International Union for Health Promotion and Education (IUHPE) carried out the second part of the Course on policies and programs to prevent chronic diseases through physical activity: A multidisciplinary and multisectoral perspective. Its objectives were to provide a deeper view on the multidisciplinary and multisectoral perspectives of PA promotion and present new ideas and methods to better understand what lies behind the global pandemic of physical inactivity.

Participants represented the health, social sciences, education, recreation and sports, and urban planning sectors; they belonged to public, private and academic institutions.

Faculty included experts in medicine, physical therapy, nutrition, public health, epidemiology, industrial engineering, biomedical engineering, urban planning, anthropology, psychology, government and public policy, and mathematics.

This fact sheet summarizes the main contents of the course.

It takes an average of 17 years for 14% of clinical research to generate health benefits. Therefore, it is critical to develop strategies for scientific evidence results to be useful in practice.

Latin America represents 8.5% of the world population but only produces 2% of English publications on PA.

84% of the world’s population lives in low- and middle-income countries, but 90% of the evidence on PA interventions comes from high-income countries.
Methodological tools to study PA as a complex phenomenon

→ Provide an innovative perspective for old and new questions
→ Build on knowledge and experience of different disciplines
→ Facilitate reducing the gap between research and practice

**Concept mapping**
Visual representations of the structure of knowledge and ideas

**How?**
1. Plan: Identify experts and pose a question
2. Brainstorm
3. Rate (all participants) and score (subgroup) ideas
4. Compute maps and produce reports
5. Analyze and interpret

**Qualitative methods**
→ Study PA in context.
→ Allow for answering why and how questions.
→ Study behaviors, meanings, practices, attitudes, interactions, values and perspectives.

**Why?**
PA does not happen in a vacuum. It takes place in specific spaces cross-cut by cultural and social factors.

**What for?**
→ Evaluate programs/strategies.
→ Understand quantitative data.
→ Study successful cases.
→ Facilitate collective processes.

**Social network analysis**
Representation of the structure of a group of actors and the links between them.

**Why?**
Social ties and interactions have behavioral consequences (including healthy behaviors).

**What for?**
→ Study the diffusion of information and behaviors or diseases transmission.
→ Study the influence of social networks, social capital and social support on health and healthy behaviors.
→ Study organizational and health services networks.
Data envelopment analysis (DEA)
Non-parametric applied multi-criterion method used to evaluate the relative efficiency of decision-making units in different contexts (e.g. a program). The resultant score is flexible and is based on the assumption that programs are dynamic.

What for?
→ Evaluate programs and public policies using multiple criteria (does not require the assignment of weights to each criterion).
→ Identify benchmarks (role models) for less efficient programs.
→ Produce recommendations for the continuous improvement of the programs.

This method was used to design an evaluation model for Open Streets (Ciclovías Recreativas) according to their quality and efficiency, through collaboration between practitioners and researchers.

Agent models
Computational models that simulate interactions between agents and their environment (in time and space), according to established rules.

What for?
→ Evaluate programs/strategies/infrastructures of complex systems (e.g. cities).
→ Study behaviors, interactions, dynamics and adaptation.

Some examples of networks:

Project GUIA:
http://www.projectguia.org

Physical Activity Policy Research Network - PAPRN:
http://paprn.wustl.edu/Pages/Homepage.aspx

Physical Activity Network of the Americas - RAFA/PANA:
http://www.rafapana.org

Center for Basic and Applied Interdisciplinary Complexity - ceIBA:
https://sites.google.com/site/centroceiba/home/

“A specific issue that is relevant to implement policy changes for promoting physical activity in Colombia is…”

Participants replied:

Multi-level interventions; coordinated multisectoral work; strategies to guarantee sustainability; empowering, training and participation of the civil society; evaluation of existing programs and dissemination of successful ones; generation of incentives; promotion of cultural change; dissemination of information about policies and norms; availability of resources; provision of opportunities for PA in daily-life scenarios; political will; capacity building and training; inclusion of PA goals; and indicators in development and action plans.
Future research should aim to close the gap between countries that suffer from the burden of chronic diseases and countries that produce knowledge. It is crucial to evaluate local programs by multidisciplinary groups of researchers and practitioners and to disseminate results to diverse audiences.

Policy and research recommendations

How to translate PA evidence to practice?

→ Think about dissemination to different audiences at the beginning.
→ Actively involve practitioners from the beginning.
→ Identify topics relevant for academia that can also be useful for strategic local problems.
→ Frame the results to match decision makers’ needs and produce policy briefs.
→ Evaluate dissemination strategies.
→ Promote incentives for collaborative work between researchers and practitioners.
→ Balance fidelity to evidence and local adoption.
→ Assess practitioners’ training needs and facilitate continuous education.
→ Provide more student opportunities for practice experience.
→ Advocate for editorial policies of scientific publications to better reflect the needs of the practice.

How to build a multidisciplinary and sustainable PA research group?

→ Include various and complementary disciplines, skills and experiences.
→ Think globally about associations, networks and collaborations.
→ Networking requires coordination, permanent communication and prioritizing.
→ Emphasize productivity and publications.
→ Keep in mind that a few well positioned researchers can have great impact.
→ Devote attention to the efficient management of research.
→ Promote a collaborative and fair working environment in which people come first.
→ Offer opportunities and mentorship to all members and at all levels.
→ Allow distinguished members to be role models.
→ Favor student exchange in all directions: north-south, south-south, south-north, north-north.
→ Share information.
→ Encourage creativity to overcome barriers.

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The production of this document has received financial support from the United States Centers for Disease Control and Prevention (CDC), an Agency of the Department of Health and Human Services, under Cooperative Agreement Number CDC RFA DP07-708 on Building Capacity of Developing Countries to Prevent non-Communicable Diseases and the International Union for Health Promotion and Education (IUHPE). The content of this document is solely the responsibility of the authors and does not necessarily represent the official views of CDC.

Design: Diana Fernández