

COURSE ON POLICIES AND PROGRAMS TO PREVENT CHRONIC DISEASES THROUGH PHYSICAL ACTIVITY

A multidisciplinary and multisectoral perspective

February 13-15, 2013 - Bogotá, Colombia

Recent research has provided significant data:



5.3 million deaths
globally can be
attributed to
physical inactivity.



1.3 million deaths
be prevented if
physical inactivity
were reduced by
25%.



The trend of the
prevalence of global
physical inactivity
makes it **pandemic.**

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.ii 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

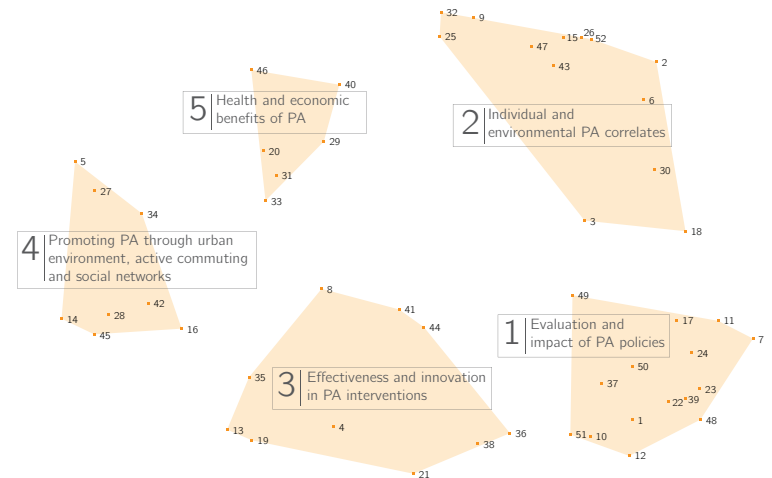


Figure 1. Cluster map of environmental and policy research agenda to promote PA. Brazil, 2011



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.

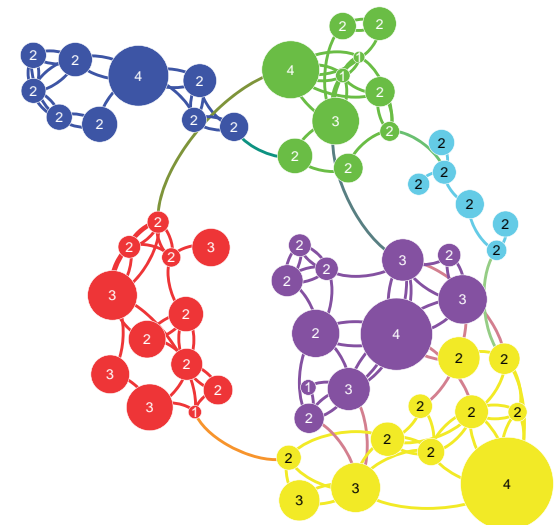


Figure 2. Social network analysis exercise carried out by the course's participants using the software Gephi.

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.

Example:

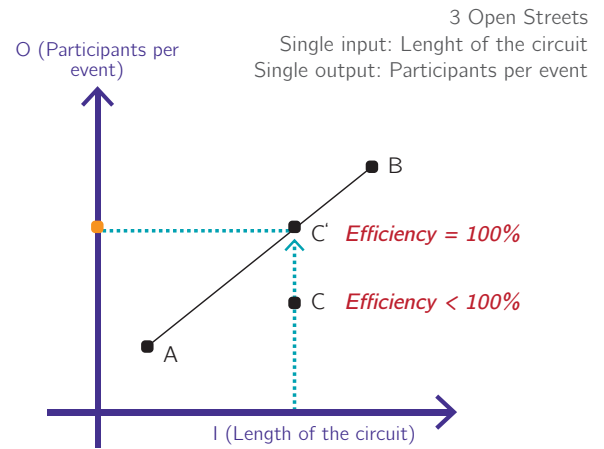


Figure 3. Efficiency curve. Example for Open Streets (Ciclovías Recreativas)

An example of the use of agent models in public health: Influence of the BRT TransMilenio in complying with PA recommendations (walking for transport).

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.



"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.

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/>

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.



Information

For more information and references:

<http://epiandes.uniandes.edu.co/>
<http://cicloviarecreativa.uniandes.edu.co/>

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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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