



Global
Observatory for
Physical Activity
GoPA



The Global Observatory for
Physical Activity - Go PA!

Project Mission and Methods

2015





Project Mission and Methods, 2015

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Project Mission and Methods, 2015

I. INTRODUCTION

Mission:

The mission of the Global Observatory for Physical Activity is to monitor physical activity surveillance, research, and policy worldwide, with the ultimate goal of reducing the global burden of mortality and morbidity caused by physical inactivity.

a) Definition

The Global Observatory for Physical Activity is a global organization consisting of physical activity researchers, epidemiologists, public health policy makers and practitioners producing and analyzing reliable, high quality and current global data, information and knowledge on the topic of physical activity and health. There is no other observatory dedicated to monitoring worldwide physical activity globally.

The Observatory is a council of the International Society of Physical Activity and Health (ISPAH) and the principal office is at the Center of Epidemiological Research of the Universidade Federal de Pelotas, Brazil.

b) Objective

The Observatory's aim is to turn physical activity information into meaningful public health action and policy. The Global Observatory for Physical Activity was formed in response to the urgent call to action raised by the 2012 Lancet Physical Activity Series (3,4). The Observatory encourages and facilitates collection and dissemination of national-level information about physical activity-related behaviors, plans, policies, and research.

Data from the Observatory will help countries to determine their needs and initiate or improve standardized data collection, surveillance systems, policy making, research, health burden statistics, program development, and evaluation related to physical activity. Data from the Observatory can be used by governments, researchers, advocates, and society to improve population levels of physical activity.

Worldwide physical activity and public health

a) Public health importance of physical activity

Over recent decades, physical inactivity has reached pandemic proportions in high, middle, and low-income countries (1,2). It is estimated that 5.3 million people worldwide die every year due to physical inactivity (1). Physical inactivity is responsible for 6% of coronary heart disease deaths, 7% of type 2 diabetes deaths, and 10% of all breast and colon cancer deaths. Physical inactivity also increases the risk of high blood pressure, stroke, metabolic syndrome, depression and falls, as well as leads to improved bone health, body composition, functional health, cardiorespiratory and muscular fitness and cognitive function (1). Physical activity guidelines state that every adult should accumulate 150 minutes per week of moderate-to-vigorous intensity physical activity (5).

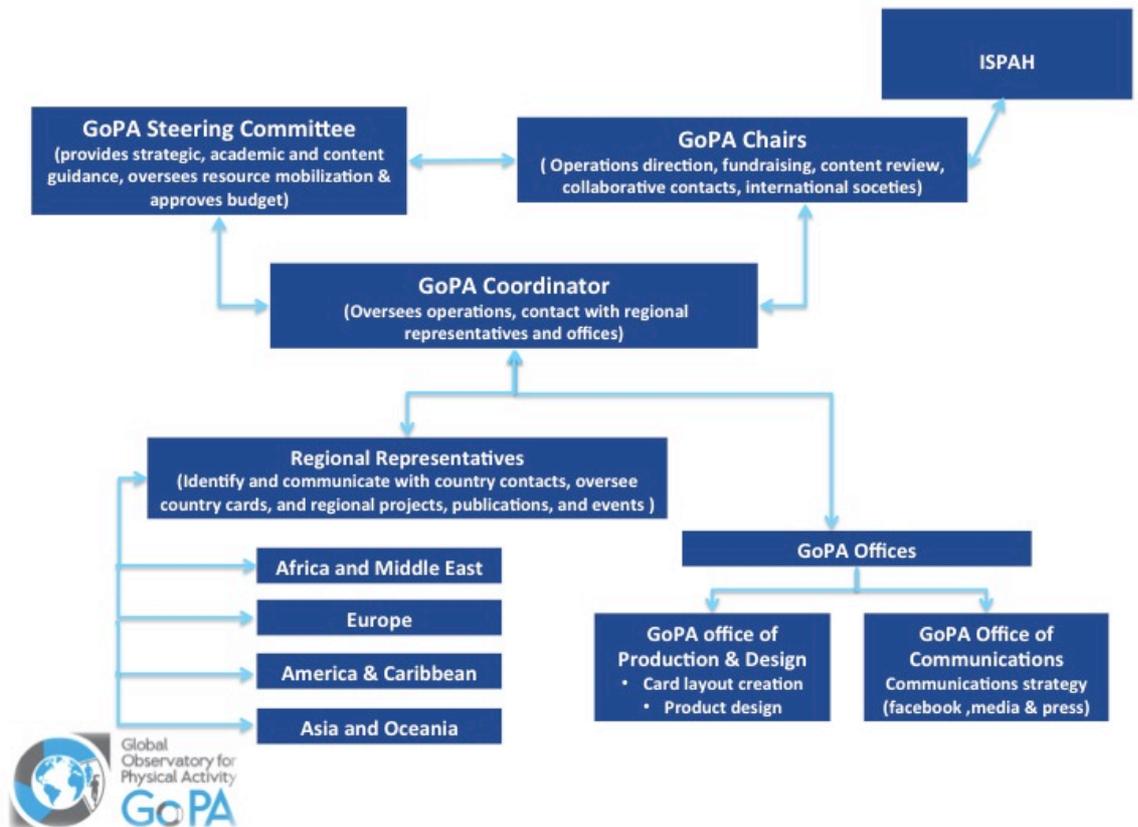
b) Physical activity levels worldwide

In the Lancet Physical Activity Series launched in 2012, using data from 122 countries, it was estimated that 31.1% of the world's adult population was physically inactive. Physical inactivity was higher among women than men and increased with age.(2)



2. METHODS OF THE OBSERVATORY

a) Structure



b) Data Indicators of the Observatory

Population levels of physical activity are the result of dynamic and multilevel interactions among governmental agencies, educational systems, businesses, voluntary organizations, and other aspects of society. To help understand the barriers and potential facilitators for increasing the prevalence of health-related physical activity, GoPA! assembles a variety of indicators for each country (Table I). Careful use and analyses of these data can improve physical activity advocacy and produce intelligent action to increase the physical activity level of a specific population.

- **General information:** The population size, life expectancy, literacy rate, and several socioeconomic indexes provide a general background about the environment in which physical activity behaviors occur.

- **Physical activity prevalence:** Updated WHO guidelines for physical activity recommend that every adult should perform aerobic activity of moderate-intensity for at least 150 minutes (2 hours and 30 minutes) a week, or vigorous-intensity aerobic physical activity for 75 minutes (1 hour and 15 minutes) a week, or a combination of moderate- and vigorous-intensity aerobic activity that expends equivalent energy expenditure. Aerobic activity should be performed in bouts of at least 10 minutes, and, preferably, spread throughout the week. (18).

We obtained the overall and sex-specific prevalence of physical inactivity among adults (18+ years) from the WHO Repository.



- **Physical inactivity health burden and related mortality:** Having an estimate of deaths due to physical inactivity, or the estimated population attributable fraction for all-cause mortality associated with physical inactivity as estimated in Lee IM, Shiroma EJ, Lobelo F, et al. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *Lancet* 2012; 380: 219-29. Physical inactivity is defined as not being physically active (II).
- **Physical inactivity related mortality:** Having an estimate of deaths due to physical inactivity, or the estimated population attributable fraction for all-cause mortality associated with physical inactivity as estimated in Lee IM, Shiroma EJ, Lobelo F, et al. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *Lancet* 2012; 380: 219-29. Physical inactivity is defined as not being physically active (II).
- **National Physical activity plan:** Every country should have a national physical activity plan created and endorsed by the government. The plan should not only endorse the benefits of achieving the recommended level of physical activity, but should also encourage the promotion of physical activity and regularly monitor the prevalence of health promoting-physical activity.

For our analyses this variable was coded in one of the following three categories: (a) no physical activity policy; (b) physical activity embedded as part of a NCD plan; (c) standalone physical activity plan.

- **Physical activity surveillance:** Physical activity surveillance is the regular collection, analysis, interpretation, and dissemination of information about the prevalence of people meeting the WHO Guidelines for physical activity. Physical activity prevalence is estimated surveys using the GPAQ (Global Physical Activity Questionnaire), the IPAQ (International Physical Activity Questionnaire), Eurobarometer or other similar questionnaires that cover physical activity at work/in the household, for transport, and during leisure time. Surveys should include a representative sample of the entire population or, in some cases, a clearly defined geographic segment of the population.

For our analyses this variable was coded in one of the four categories: (a) no national physical activity surveillance data; (b) weak physical activity surveillance - only one survey identified; (c) not regular physical activity surveillance - two surveys identified; (d) regular surveillance - three or more surveys identified, and a clear periodicity, with a specific year for the next survey.

- **Physical activity research:** We searched PubMed for articles on physical activity and public health in 2013. The search terms were "physical activity" (title or abstract) and country name (anywhere in the title, abstract, text or affiliation). We examined the lists for each of the 217 countries and excluded studies on exercise physiology or those whose outcomes were unrelated to physical activity and public health. Physical activity research ranges from descriptive studies to the evaluation of physical activity promotion programs. GoPA! uses a variety of indicators pertaining to scientific publications and collaborations among researchers to estimate the country's contribution to physical activity research worldwide.



TABLE I. COMMON SET OF INDICATORS .

General information	Country capital
	Inhabitants
	Life expectancy
	GINI Inequality Index
	Human development Index
	Literacy rate
	Income classification by World Bank
	Region classification by World Bank
Prevalence	Physical activity prevalence among adults (18+years)
Health Burden of inactivity	Deaths by non-communicable diseases
	Deaths related to physical inactivity
National Plan	Availability of a national or sub-national physical activity plan
Surveillance	Existence of a national survey that includes physical activity questions and the first, most recent and next survey
Research	Number of articles related to physical activity and public health - PubMed search in 2013
Research	Number of active researchers in the field - PubMed search in 2013
	Average connections among authors (shared authorship in papers)
	Articles and researchers per million people
	Identified publishing groups
	Country contribution to physical activity publications - PubMed search in 2013

c) Collection process

Population levels of physical activity are the result of dynamic and multilevel interactions among governmental agencies, educational systems, businesses, voluntary organizations, and other aspects of society. To help understand the barriers and potential facilitators for increasing the prevalence of health-related physical activity, GoPA! assembles a variety of indicators for each country (Table I). Careful use and analyses of these data can improve physical activity advocacy and produce intelligent action to increase the physical activity level of a specific population.

- **Population under surveillance:** We used the World Bank list of 215 countries, with the exceptions that we divided the United Kingdom into England, Scotland, Wales and Northern Ireland, and we merged China and Taiwan, as requested by the contact persons from these countries. Our list therefore had 217 countries.
- **Period of time of data collection:** Starting in 2014, data will be collected every two years.
- **Data collection:** Using a standardized methodology we gathered physical activity data and statistics from 217 countries.



- **Reporting sources of data:** Recognized and acknowledged sources of information include the World Health's organization Global Health Observatory Data, World Bank, CIA's World Factbook, United Nations, The Lancet 2012 Physical Activity Series, and Pubmed among others.
- **Data management:** A database includes all the information and will be updated periodically.
- **Data analyses and dissemination:** In order to present the information in an organized fashion, country specific physical activity profiles were created and called: Country Cards of physical activity.

3. PRODUCTS

a) Physical activity country cards

Country Cards provide countries with current and reliable data to improve surveillance, policy, and research indicators. They are meant to be a dynamic tool that can be transformed and adapted to help countries meet their goals in physical activity. Indicators from the Global Observatory for Physical Activity are presented in an organized fashion, creating country-specific physical activity profiles.

The first set of cards were developed by the Observatory team and submitted for public online comment and suggestions during August 2014. The cards were substantially revised based on comments from over 50 people representing more than 20 countries.

The Country Cards will be updated every two years, published, and posted on the Observatory's website, <http://www.globalphysicalactivityobservatory.com/>.

The Country Card project is the main tool of the Observatory designed to assist countries in physical activity promotion. The country cards bring together general demographic data, physical activity indicators, and statistics compiled using a standardized methodology. In addition, the cards depict each country's relative contribution to physical activity research during the year.

Of significant importance to participating countries is that the fundamental physical activity indicators will not change ensuring comparability across all sets of cards over time.

b) Country cards related consultation

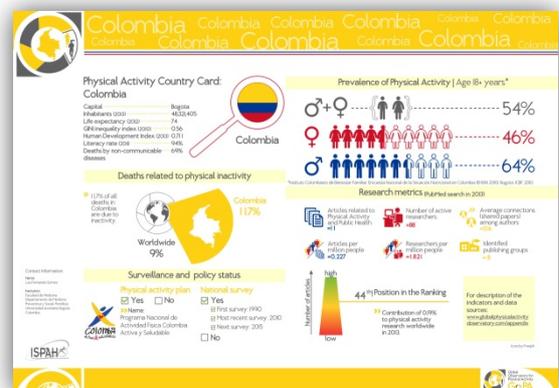
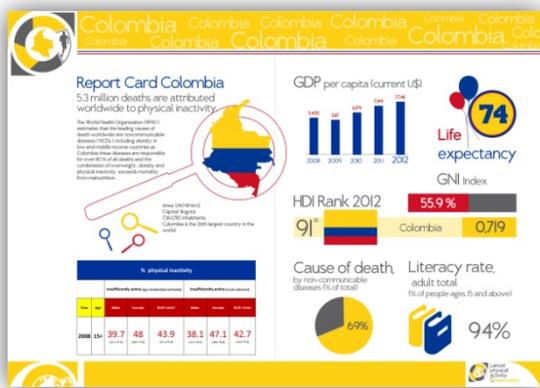
With the Observatory's listing of 217 country cards and their country-specific contacts, a worldwide network has been created. This collaborating network will be able to provide other countries technical support to improve local surveillance, policy, and research indicators.

All countries can potentially receive support and able to develop skills around context-specific needs (e.g., local capacity building). Also, successful experiences and lessons from other participating countries including physical activity promotion, surveillance, policy, measurement and research methods will be made available among members resulting in global and regional partnerships.



This dynamic will encourage and build capacity among country contacts to become physical activity advocates. The goal is that every country receives the required tools to enable them to produce and provide physical activity information in accordance with standardized methodologies and valid tools. The Observatory, serving as manager of the country cards will summarize worldwide physical activity information with the goal of placing physical activity promotion at a higher level on the global public health agenda. In addition, the Observatory will provide participating countries many training, research, and other collaborative opportunities.

Comparison between the first draft and the final country card for Colombia



The figure below provides details on the sources of information and indicators used.

Country Card Appendix

Demographic indicators

Total population | World Bank
Life expectancy | World Bank
GNI | World Bank
The GNI index measures the extent to which the distribution of income within an economy deviates from a perfectly equal distribution. A GNI index of 0 represents perfect equality, while an index of 1 implies perfect inequality.

Physical activity prevalence
- WHO Global Health Observatory data/National country survey according to the international recommendation (population fluctuating at least 30 minutes a week of moderate-intensity or 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity).
Based on self-reported physical activity captured using the GPAQ, IPAQ or similar covering work, household, transport, and during leisure time activities).
- Eurobarometer 80.2 (data population is regularly engaged in sport, exercise or other physical activities 3 times per week, or more).
*The European Union does not endorse changes, if any, made to the original data and in general terms to the original survey, and such changes are the sole responsibility of the author and not the EU.

Literacy Rate
| World Bank, CIA World Factbook and Who Global Observatory Data
Human Development Index | United Nations
Deaths by NCDs | World Bank
Deaths related to physical activity
| Lee IM et al, Lancet 2012; 380: 219-29.

Research metrics

Articles related to physical activity and public health
We searched MEDLINE for studies using the terms 'physical activity' and country name either in the study title or abstract. Only 2013 publications were included. Studies on exercise physiology or whose outcomes were not related to physical activity were excluded.

Number of active researchers
The number of researchers who were authors or coauthors of at least one paper identified in the search.

Average connections among authors
Calculated using social network techniques in Gephi 8.2.

Identifies publishing groups
Calculated using the modularity algorithm of the social network analysis program Gephi 8.2.
Researchers per million people
Number of physical activity researchers identified per each million inhabitants.
Articles per million people
Number of articles identified per each million inhabitants.

Ranking

Built in 4 steps

- * The number of physical activity articles meeting the inclusion criteria was compared to the total number of physical activity articles identified in PubMed (e.g. out of 6649 worldwide articles, 217 were from Brazil).
- * The percentage of physical activity-related publications per country was determined (e.g. out of the 217 articles identified, 96 - 44% - were selected based on the inclusion criteria).
- * The number of expected physical activity publications per country was determined (e.g. 0.4424*6649 for Brazil).
- * The number of physical activity articles meeting the inclusion criteria was divided by the expected physical activity publications per country, obtaining the country contribution to physical activity publications in 2013 (e.g. 96/294 = 3.26%).

Position in the Ranking
Contribution of ...% to physical activity research worldwide in 2013.





c) Country contacts

Following the standardized draft of the country cards for every country around the world a potential contact in every country was identified and formally invited to be the country contact. This invitation mentions that country contacts will be acknowledged on the Observatory website as the contact person for their countries, and that these contacts will own the cards along with the Observatory. All country contacts will be invited to translate the card into their languages and use it for research and advocacy purposes. There are no costs associated with taking part in the Observatory.

Country contacts were selected based on a PubMed search of the physical activity literature, supplemented by recommendations from public health experts. Country contacts have demonstrated experience in the area of physical activity and public health either as researchers or as members of government institutions.

Active contact search was initiated in November 2014. To date the Observatory has 146 confirmed contacts, 130 ready to launch cards. Over 800 emails have been sent since November 2014, reflecting the dynamism of the Observatory's work. The Observatory has an email account: physicalactivityobservatory@gmail.com.

The countries for which a contact person was already identified and agreed to take part are: American Samoa, Angola, Antigua e Barbuda, Argentina, Aruba, Australia, Austria, Bangladesh, Barbados, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia Herzegovina, Botswana, Brazil, Brunei Darussalam, Bulgaria, Cameroon, Canada, Cabo Verde, Cayman Islands, Chile, China, Colombia, Costa Rica, Croatia, Cuba, Curacao, Czech Republic, Denmark, Dominica, Dominican Republic, Ecuador, Egypt, England, Estonia, Ethiopia, Faeroe Islands, Fiji, Finland, France, French Polynesia, Germany, Ghana, Greece, Greenland, Grenada, Guam, Guatemala, Guyana, Haiti, Hong Kong SAR China, Hungary, Iceland, India, Indonesia, Iraq, Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kenya, Kiribati, Korea Republic, Kosovo, Kuwait, Lao PDR, Lebanon, Lithuania, Luxembourg, Macao SAR, China, Macedonia, Maldives, Malta, Marshall Islands, Mexico, Micronesia, Mongolia, Mozambique, Myanmar, Nepal, Netherlands, New Caledonia, New Zealand, Nicaragua, Nigeria, Northern Ireland, Northern Mariana Islands, Norway, Oman, Palau, Palestine/West Bank and Gaza, Panama, Papua New Guinea, Paraguay, Peru, Poland, Portugal, Puerto Rico, Qatar, Romania, Russian Federation, Rwanda, Samoa, Saudi Arabia, Scotland, Serbia, Seychelles, Singapore, Slovak Republic, Slovenia, Solomon Islands, South Africa, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, Sint Maarten (Dutch Part), St. Martin (French part), St. Vincent and the Grenadines, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tanzania, Thailand, Tonga, Trinidad and Tobago, Tunisia, Turkey, Tuvalu, United Arab Emirates, United States, Uruguay, Vanuatu, Venezuela, Vietnam, Wales.



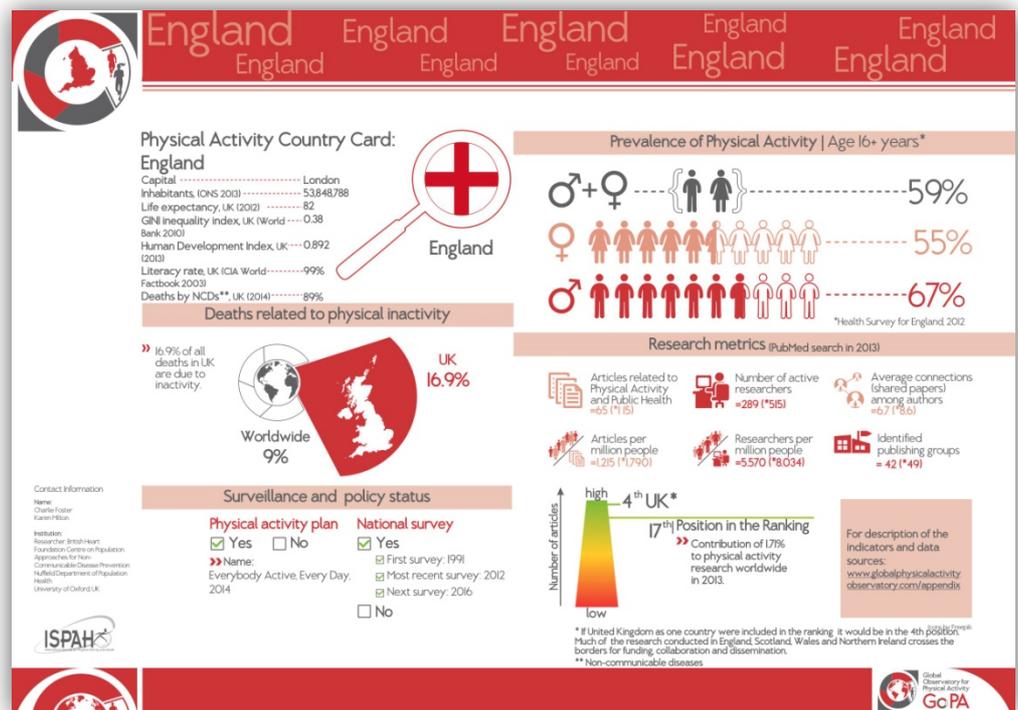
d) Country cards review

For the Observatory it is very important to have local experts to critically review the card in order to determine if the most recent and accurate information available is presented. Also, contacts are free to engage other representatives from their country and create working groups in order to meet the goal of reflecting the country's physical activity status as best as possible. A review period for each of the country cards will be 21 days prior to the final launch of the Observatory.

The Observatory's coordinator encourages frequent interaction with each country contact until the card is ready to launch and the country contact is satisfied with the process.

It is acknowledged that each country has specific needs and therefore flexibility in making adjustments to each card's layout reflecting each country's status will be provided in making the best possible presentation of the cards.

Example of England's card adjustments

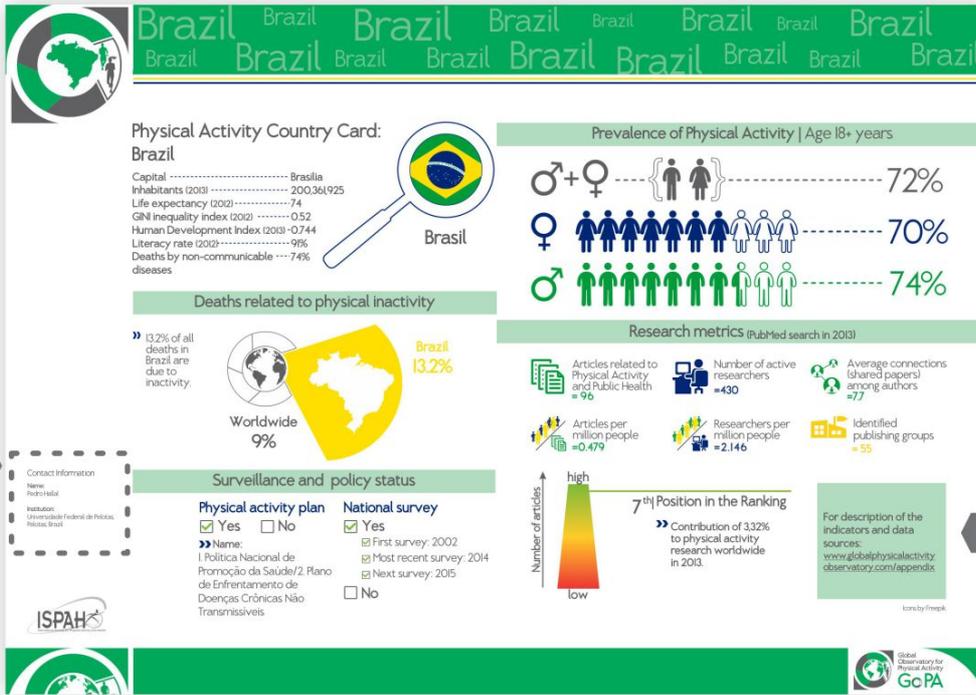




Updates in the country cards

The country cards and translations were updated before the launch with the following 3 changes:

1) Updated Logo



2) Country contact information was included

3) Updated website link

Country card layout update | Global Observatory for Physical Activity

GoPA

e) Translations

All the country cards are available in English and if the country contact has agreed, cards will be translated into a country's specific language (e.g. 26 languages include: Arabic, Bulgarian, Chinese, Croatian, Czech, Dansk, Dutch, French, German, Greek, Greenlandic, Hungarian, Italian, Japanese, Lithuanian, Macedonian, Maori, Nepalese, Polish, Portuguese, Rumanian, Russian, Spanish, Swedish, Slovak, Welsh).



f) Launch

A media toolkit was created in order to assist the launch of the first set of 130 cards including:

- A generic press release suitable for adaptation
- A 'key messages' document for spokespersons (1 page of key takeout and facts, What, why, where, how many - key findings, etc.
- A Q&A - Question and answer sheet
- Updated example of a country card and related appendix

g) Collaboration With Other Physical Activity Initiatives

The Observatory collaborates with the International Society of Physical Activity and Health (ISPAH) and the Active Healthy Kids Global Alliance to promote physical activity worldwide. Several related initiatives are underway. A letter has been sent to participating groups to help explain the links and relationships between them.

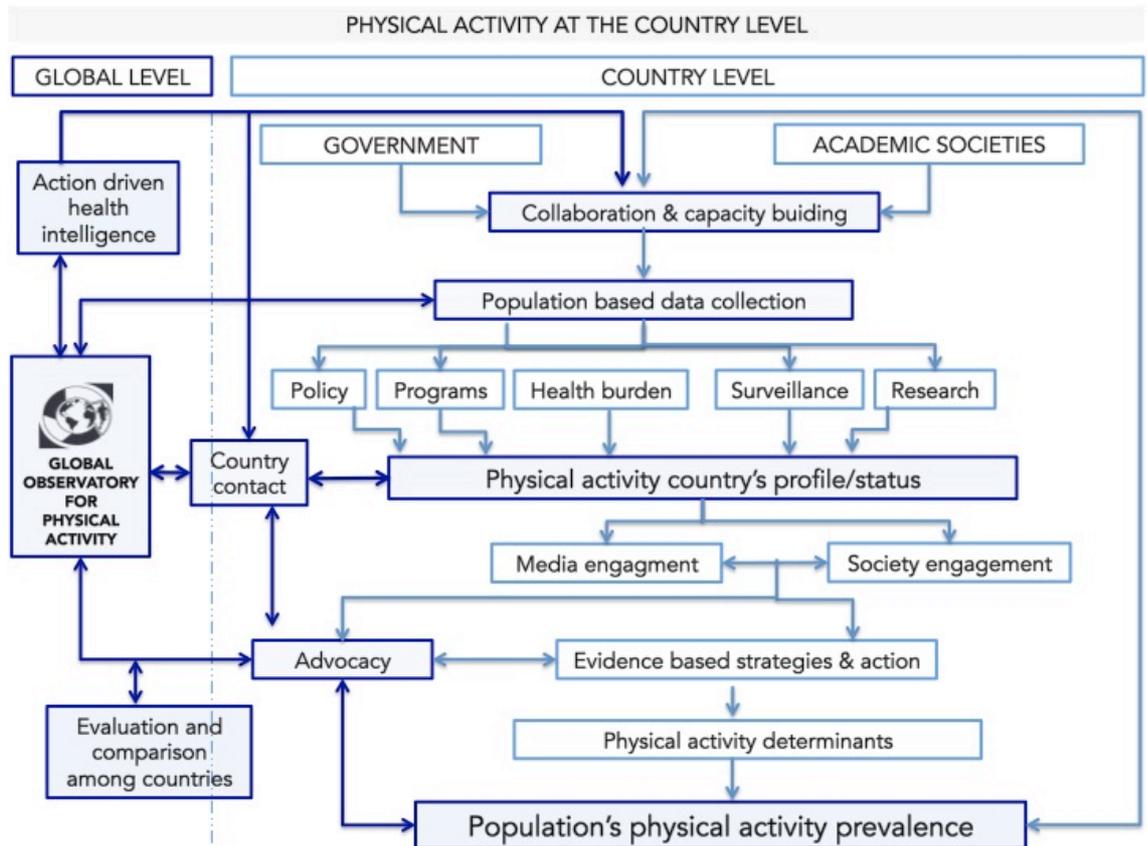
It was identified that in six countries the same individuals were involved in both projects, therefore in order to avoid confusion it was reinforced that collaboration is a priority for these initiatives. Also, the Observatory working group and the country contacts will meet at the International Congress of Physical Activity and Public Health (ICPAH) 2016 in Thailand (<http://www.ispah2016.org/>). The cards will be presented in a poster session, where the participants will be able to interact with researchers and policy makers from all the countries.

4. THEORETICAL FRAMEWORK

The Observatory theoretical framework is based in the following theories: Socio-ecological models and related multilevel dynamic frameworks (6,7); Governability and governance (8); Social action theory (9); Communication action (10).



CONCEPTUAL MODEL CHART AND DESCRIPTION



ACTORS OF THE SYSTEM

a. Country level

- I. Government
- II. Academic societies
- III. Media
- IV. Civil society

b. Global level

- I. Global Observatory for Physical Activity

c. Both country and global level

- I. Country contact (bridge to connect the country to the Observatory)

HOW THE MODEL WORKS?

At the country level, the government and academic societies interact to improve capacity building and human resource training in the area of physical activity. The Observatory can make strategic alliances to strengthen **Collaboration and capacity building**.



Also, at the country level the government and academic societies interact to [improve Population-based data collection](#) of physical activity data at the national level. The Observatory can collaborate to improve these processes and recommend based on evidence and expertise in the area.

At the country level, physical activity data are collected and this data become the country's baseline prevalence of health-promoting physical activity, equivalent to a [Physical activity profile/status](#).

At the country level the government, academic societies, media and civil society use this physical activity status to implement strategies to promote physical activity, measure progress, and prevent chronic disease, therefore implement [Evidence-based strategies and action](#).

Strong support, guidance and collaboration is provided by the Observatory in order to engage in [Physical activity advocacy](#) and make physical activity a public health priority (II).

The goal is escalate physical activity to the highest levels of decision-making. Advocacy is a combination of individual and social actions designed to gain political commitment, policy support, social acceptance and systems support for a particular health goal or program) primarily aimed at effecting changes in legislation, policy and environments that support healthy living.

The Observatory, based on the country profiles, will be able to make [Evaluation and comparison between countries](#) in order to understand what influences physical activity level at the population level.

[Finally](#), the Observatory based on the country profiles and the comparison between countries will produce Action driven health knowledge and contribute to the improvement of physical activity level at the population level.
hen Collaboration and capacity building.

OUTCOME = INCREASED PHYSICAL ACTIVITY AT THE POPULATION LEVEL

“THROUGH THE OBSERVATORY, WE ARE CREATING A GLOBAL COLLABORATIVE NETWORK THAT AIMS TO PRODUCE EVALUATION AND ADVOCACY TOOLS HELPING GOVERNMENTS, RESEARCHERS AND SOCIETY TO IMPROVE THEIR HEALTH STATUS THROUGH THE PROMOTION OF PHYSICAL ACTIVITY”



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