



## Welcome

It looks like we are going to have one IPEN Newsletter per year, so this is our chance to bring IPEN members up to date on what we have accomplished this year and what is coming next. There have been important milestones for both the Adult and Adolescent studies. This newsletter shows the rapid progress being made in the funded IPEN studies and in broader international efforts to improve built environment and physical activity research and to use the research to inform policy decisions internationally. Many thanks to Carrie Geremia for editing the newsletter and ensuring that everyone sent in their sections. Make sure your accomplishments are acknowledged in the 2014 newsletter and on the IPEN website. [Send your items for posting.](#)

-Jim Sallis

## Research Updates

### IPEN Adult

After years of planning, grant writing, data collection, creation of comparable variables, and fiendishly complex analyses, the first papers from IPEN Adult have been submitted. Ester Cerin and Delfien van Dyck are tied for the honor of first submitted papers. See more details below and find the link to an [document where you can follow progress on all the papers](#). Several other papers are well advanced.

I realize that it has taken a long time to prepare the data for analyses, but the Coordinating Center staff have been meticulous in creating not only high quality datasets we can use with confidence, but also extensive documentation about procedures that can be used to answer any questions or challenges (from reviewers). Many thanks to Kelli Cain, Terry Conway, Alex Mignano, Carrie Geremia, and Edith Bonilla for their hard work on this. The main survey and accelerometer data are now ready for analyses, but additional survey scales and hourly accelerometer data are being prepared. Marc Adams, Larry Frank, and Jim Chapman have been working with all the GIS experts in each country to finalize the GIS variables. Paul Hess from Toronto was our external reviewer. This has been a demanding process, but the park and transit data are now ready, and the land use data are in the final stages of checking. Thus, we are pleased to report that the final GIS database will be ready for distribution to authors in the near future. More information on GIS can be found below. The availability of these data will allow lead authors of the remaining approved papers to begin analyses. In a belated development, the IPEN Adult methods paper finally appeared in the print edition of *Journal of Physical Activity and Health*, after being online for about 2 years. See the link on page 6.

It is thrilling to be at this stage of seeing the first results from IPEN. I am gratified by the outstanding teamwork among all players, including the investigators who are making quick progress with their analyses and papers. Look for IPEN Adult symposia and papers at the [ICPAPH](#) Conference in Rio and [ISBNPA](#) Conference in San Diego, both in 2014.

### IPEN Adolescent

While the Adult study is focused on analyzing data, IPEN Adolescent is just getting underway. Hong Kong, New Zealand, Portugal and Brazil have begun data collection, and several more countries will begin collecting data in Spring (Northern Hemisphere) 2014. The preparation has included finalizing the survey, developing methods for neighborhood selection even when recruiting through schools, and documenting the neighborhood selection methods in a GIS template. An accelerometer data collection protocol has been developed and shared with investigators. Study materials and protocols can be found [here](#). Much of the preparatory work for IPEN Adolescent was accomplished at a productive 1-day meeting prior to the ISBNPA Conference in Ghent, Belgium in May 2013. See details below.

### IPEN Senior

We are attempting to obtain funding for an IPEN study of older adults. Our initial proposal to NIH was not successful, so a revised proposal was submitted in early November. We are hoping for a better outcome, and we will keep you informed. Several investigators have already obtained internal funding for IPEN Senior studies, and we are supporting them in using common methods.

### IPEN meetings prior to ISBNPA Conference in Ghent



IPEN Adult Group, Ghent 2013



IPEN Adolescent Group,  
Ghent 2013

I was already a fan of Ghent, because of the visits occasioned by my collaborations with Ilse de Bourdeaudhuij and her many talented colleagues. The most eventful part of the visit was prior to the ISBNPA conference. We had two days of IPEN meetings. The first day was a writing retreat for the IPEN Adult investigators. We had attendees from 10 countries, and everyone made very good progress on papers and proposals. A couple of new paper topics were conceptualized at this meeting.

The second day was a meeting of IPEN Adolescent investigators, and 12 countries were represented, including Zaki Islam and colleagues joining remotely from Bangladesh. It was great to get progress reports from all the countries. The commitment to the project, and to following the protocols, was gratifying. Highlights of the day were the overviews of GIS methods from Marc Adams and accelerometer methods from the team of Rodrigo Reis and Kelli Cain. Billie Giles-Corti from Australia attended, because she is working with both IPEN groups to assist with communicating our results to policy makers and practitioners. She is leading a conceptual paper on policy-relevant built environment research. Here are photos of both groups from Jasper Schipperijn's high-tech camera. More photos can be found [here](#).  
-Jim Sallis

### Final PhD Defense of IPEN Adolescent Investigator Adewale Oyeyemi



Jim Sallis and Adewale Oyeyemi,  
Ghent 2013

My favorite event in Ghent was the final PhD defense of Dr. Adewale Oyeyemi. It was a personal thrill to see this talented young investigator complete his doctorate during this visit to Ghent. Ghent University's PhD examination process is rigorous. The student must respond to written comments of external examiners, oral questions of an internal university committee, and finally the oral defense with the external examiners that was witnessed by a large audience including many IPEN investigators. My connection with Adewale started several years ago when he contacted me about his interest in doing a study of built environments and physical activity for his master's thesis. This was the first inquiry about this field of study I had received from Africa, so I made sure to be supportive of his ambitions. He was well aware of the damage that chronic diseases are already inflicting on Africans, as a result of economic and technological development, and he realized the potential of environmental improvements to slow this process. For several years we have been corresponding, and I have advised him on his studies. Adewale's research progress has been thoughtful and systematic. We were able to support his attendance at the 2011 ISBNPA conference in Melbourne where he made his first international presentation. It was there that Ilse de Bourdeaudhuij, Benedicte Deforche, and Delfien van Dyck arranged for Adewale to complete his doctoral studies at Ghent University. Only two years later he completed his degree, appropriately timed to coincide with the 2013 ISBNPA conference. And he really completed his degree in style. His PhD included 8 published or submitted papers, all related to built environment and physical activity in Nigeria. It was a joy to witness this professional triumph, and afterwards more than 50 people celebrated at a dinner. Here is a photo of Adewale and myself with some beautiful Ghent architecture behind us.  
-Jim Sallis

### Developing NEWS-Africa at a meeting in Nairobi, Kenya

Nairobi has been in the news lately for unfortunate reasons, but we had a truly inspiring meeting of investigators from throughout sub-Saharan Africa who were enthusiastic to develop NEWS-Africa. Our timing was fortunate because the airport's international terminal burned one week before our meeting in mid-August, and the terrorist attack on the Westgate Mall was about two weeks after our meeting. We had a delightful and fruitful meeting. [Click here](#) for more on this meeting.  
-Jim Sallis

## IPEN Activities

### Jim Sallis visits Rodrigo Reis in Curitiba, Brazil



Fellows and Faculty at the Advanced Course in Physical Activity and Public Health in Curitiba.



Parque Barigui



Brazilians work hard, but they know how to have fun too.



The pedestrian street in downtown Curitiba.

I made my first visit to Curitiba, Brazil in early July 2013. The occasion was the first Advanced Course in Physical Activity and Public Health Research, cosponsored by the US CDC and the Brazilian Physical Activity Society. The fellows in the course were very engaged and posed challenging questions to the faculty. A highlight was seeing for myself the physical activity-friendly environmental features that Rodrigo Reis has been telling me about. Curitiba is known for its 400 parks that are a source of pride and a contributor to a high quality of life among the population, and I was not disappointed. There are small parks or plazas in every neighborhood, each with its own character, and most with physical activity facilities, such as playgrounds, outdoor exercise equipment, tennis courts, or walking paths. Rodrigo and his wife Louise toured me around several large and beautifully designed parks.

Upon my arrival on a Sunday morning, I was immediately taken to the main park, Parque Barigui, and it was a blur of thousands of people moving in all directions. It was expertly designed for active living, and the perfect weather did not hurt either. People of all ages and sizes were doing every imaginable type of physical activity, mostly for leisure, but the park was well connected with the bicycle trail network. The trail system throughout the park allowed extensive amounts of safe activity in thoroughly pleasurable surroundings away from cars. In one part of the park there were organized races for school children. An extra treat was running into a team of Rodrigo's students and staff who just happened to be there testing the iSOPARC observation system on iPads.

In the 1970s the main downtown street in Curitiba was converted to a pedestrian mall. Though some of the buildings need to be updated, the pedestrian street attracts thousands of people every day.

### CEPA Update

The Council on Environment and Physical Activity (CEPA) is one of the thematic councils of the International Society of Physical Activity and Health. CEPA was launched, with support from IPEN, at the 3rd International Congress on Physical Activity and Public Health (ICPAPH) in Toronto. Its aim is to support communication and collaboration among researchers in order to promote further research on physical activity and the environment and its application internationally. At the 4th ICPAPH in Sydney, eight working groups were formed, and the current leadership group was elected.

At the 5th ICPAPH in Rio de Janeiro, CEPA members will select new leadership. Currently, the leadership consists of Takemi Sugiyama (chair), Jacqueline Kerr (co-chair), Rodrigo Reis (co-chair), Erica Hinckson (working group coordinator), and Delfien Van Dyck (communication officer). Keeping with our plan to transition to new leadership with the support of some existing leadership, we will have Rodrigo Reis as CEPA chair, with Jacqueline Kerr continuing as co-chair. At this time, we invite your nominations (or self-nominations) for three positions: co-chair, working group coordinator, and communications officer. Please [email](#) your nominations to Takemi Sugiyama. We will then put these nominations to a vote at the Rio meeting.

-Takemi Sugiyama

## IPEN Activities

### GIS Updates

IPEN GIS teams in 11 countries have made tremendous progress since our last newsletter. We congratulate all of them on completion of their GIS work! This effort was not simple or easy. Country teams had to develop dozens to hundreds of required variables for 500m and 1 km street-network buffers measuring walkability features, access to public transit, private recreation, and park environments. In addition, a subset of four countries went beyond our required variables and completed desired variables including a set of informal-route buffers. The IPEN [GIS Templates](#) provided countries with the needed definitions and explicit guidance to promote comparable measures. We also developed a set of comparability and quality control evaluations. Drs. Marc Adams (Arizona State University) and Paul Hess (University of Toronto) lead the comparability evaluations of GIS measures based on template responses. Dr. Larry Frank and Jim Chapman from Urban Design for Health (UD4H) provided expert consultation and input on GIS discrepancies and resolutions. After many months of review and new data requests of countries, we are happy to announce that the comparability evaluation has concluded successfully. Dr. Adams at the IPEN Coordinating Center is now leading the data cleaning and logic checks to ensure a robust GIS datasets are available for analyses. As a result of these efforts, we are excited to announce that the first GIS dataset is available. An 11-country pooled dataset on public transit access was released in September and is available to IPEN investigators for analyses and papers. Public parks will be released in a couple of weeks followed by walkability components such as land use. We look forward to many papers examining this unique and international objective environment dataset!

Additionally, the Coordinating Center and UD4H have started planning for the GIS work on IPEN Adolescent. We conducted our first international call with participating countries in April to discuss scope of the GIS work based on lessons learned from the Adult study. Afterwards, Dr. Adams provided trainings on neighborhood selection and IPEN GIS Templates at the ISBNPA meeting in Ghent. Dr. Frank and UD4H are currently developing a series of on-demand training webinars on GIS topics and new measures on regional accessibility. The Coordinating Center plans to provide an updated set of GIS Templates and webinars for IPEN-A by the end of the year. We look forward to working with existing and new countries participating in IPEN-A.

-Marc Adams

### Visitors

**Mika Moran, Israel:** I was lucky to have the opportunity to visit the IPEN coordinating center in San Diego this summer. The visit was short but productive – one week perfectly planned consisting of intensive trainings and meetings, during which I got to know the wonderful team in San Diego. The valuable professional support along with the warm hospitality of Jim and IPEN's staff made this visit very special and memorable to me. Last but not least, this visit provided me with important tools to coordinate the IPEN-A study in Israel. I look forward to this study and to the next visits along the way.

**Irene Esteban, PhD student from Autonomous University of Madrid, Spain.** I spent 99 days with Jim Sallis and his research group. My count is per day because I don't want to miss any days. Each day has brought a lot of learning. I attended weekly IPEN Coordinating Center meetings in which I learned about the successful challenge to coordinate more than 15 countries. Likewise I enjoyed weekly MAPS meetings where I understood how hard work brought the expected recompense: "full, abbreviated and mini version of microscale audit tool". A full training on GIS and neighborhood selection, GPS processing, and accelerometry involved me a little more in the IPEN study. I attended Southwest District AAHPERD Conference in Las Vegas, the California Endowment meeting in Los Angeles, the SPARK training in San Diego, the CycloSDia event and much more. I also had the chance to work with [TEAN data](#) as well as to advance in my dissertation which is about "physical activity, physical fitness, obesity and cognition in young within [The UP&DOWN Study](#)". In between papers, I enjoyed biking around beaches, surf lessons and walking in San Diego. A meaningful lesson I bring to Spain is the importance of going one step beyond the scientific area using evidence to prevent health problems and create active communities, and the worth to communicate evidence through print and social media reaching all audiences. I would really like to thank Jim Sallis for his great hospitality and his research group. It was a wonderful experience in both personal and professional spheres. Thanks for making me feel at home. I will see you soon at ALR Conference or ISBNPA Conference!



Irene Esteban, Mika Moran, Jim Sallis and Akira Hino



Irene Esteban with the San Diego team

## Integrating Health Outcomes with Land Use and Transportation Planning

In light of the obesity epidemic, high rates of asthma, social inequalities, and other health concerns, land use planners, transportation planners, and public health officials are beginning to collaborate to address multiple health issues through changes to the built environment. One response has been the application of health impact assessment (HIA) to evaluate planning proposals, funding decisions, or policies that result in modification of the built environment. HIA is a tool for providing stakeholders and decision-makers with information needed to evaluate the implications of changes to laws, policies, programs, development proposals, or investment priorities on human health. Most HIAs to-date have made use of qualitative rather than quantitative assessment methods, limiting the understanding of relative effect size or fiscal impact differences between alternatives with any degree of precision.

It is already common practice in urban planning to use quantitative scenario planning software tools to evaluate economic, traffic, school system, and other infrastructure impacts in relation to alternative planning and development decisions. Over the last several years, [Urban Design 4 Health](#) has been working throughout North America to augment these standard tools with the development of quantitative, evidence-based HIA extensions to the standard software tools used by planners.

Ideally, predictive HIA models are fit using local built environment and health data available at a reasonably disaggregate level (e.g. individual or Census Block). We have developed health-modules for several tools exclusively based on local data sources, such as the CommunityViz software tools for Toronto and San Diego, and the I-PLACE3S tool for King County, WA. The UD4H developed modules are used to predict levels of physical activity, obesity, chronic disease, respiratory conditions, traffic safety, and other outcomes in relation to urban form and transportation system design differences across possible future development scenarios.

In one state-wide application in California local data were not available. Instead UD4H made use of IPEN Adult data collected in the United States. The health module developed by UD4H is one component of a tool (UrbanFootprint) funded by the California High Speed Rail Authority to evaluate the impact of land use and transportation system changes on greenhouse gas emissions and other metrics. As no California-specific data were readily available for parameterizing this tool, IPEN data were used to fit models predicting daily minutes of moderate or vigorous physical activity and several body weight outcomes (e.g. BMI, likelihood of being overweight/obese) in response to changes in residential density, retail floor:land area ratio, and intersection density. These same built environment characteristics could then be modified for California regions through a scenario planning exercise, with UrbanFootprint providing metrics on the estimated differences in physical activity and body weight between alternative scenarios. In turn, the predicted distribution of normal, overweight, and obese body weight in the population was used to estimate the risk of obesity-related chronic disease and fiscal impacts attributable to change in the built environment.

The interest in more completely assessing the impacts of design decisions continues to grow, as does the need to use the primary data collection and analysis of efforts like IPEN to further the objective, evidence-based evaluation tools available to decision makers and the public.

-Urban Design 4 Health

### IPEN Photo Codebooks

IPEN Adult investigators have been at work compiling photos from their countries. Each photo codebook illustrates the main features of a country, and when compiled show the range of environments studied in IPEN. Examples of mixed land use in high-walkable, low-income environments are shown here, and each individual codebook can be viewed [here](#).

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## Updates from the IPEN Publication Committee

The IPEN Adult Paper List (working document) has been [posted on the IPEN website](#). Please refer to this document for more information about papers discussed below.

Mid September, the first IPEN 12-country study paper using physical activity data around the globe was submitted. The paper was led by Ester Cerin (Paper 6) and studied associations of adults' perceived neighborhood environment with objectively-measured physical activity in 11 of the 12 countries. Another paper was submitted this month by Delfien Van Dyck (Paper 9) which described the association of objectively-assessed physical activity and sedentary time with BMI and weight status in IPEN Adult countries.

Three more papers are almost ready to be submitted (Papers 3, 4, and 5) and three lead authors are working on the data analyses and first drafts together with their small writing groups (Papers 7, 8 and 10). GIS data are almost ready and will be sent to the lead authors soon.

This shows that in a very short time, a lot of action was seen in IPEN Adult papers. We encourage all IPEN Adult investigators to continue working on the 12-country data in the coming months and aim towards sharing our results in high-quality publications around the world.

-Ilse DeBourdeaudhuij

## IPEN-Related Publications 2013

### Coordinating Center

- Cerin, E., Conway, T.L., Cain, K.L., Kerr, J., De Bourdeaudhuij, I., Owen, N., Reis, R.S., Sarmiento, O.L., Hinckson, E.A., Salvo, D., Christiansen, L.B., MacFarlane, D.J., Davey, R., Mitáš, J., Aguinaga-Ontoso, I. and Sallis, J.F. (2013) **BMC Public Health** 13:309. Sharing good NEWS across the world: developing comparable scores across 12 countries for the neighborhood environment walkability scale (NEWS). [Link](#)
- Kerr, J., Sallis, J.F., Owen, N., DeBourdeaudhuij, I., Cerin, E., Frank, L., Reis, R., Fromel, K., Mitáš, J., Troelsen, J., MacFarlane, D., Salvo, D., Schofield, G., Badland, H., Guileen-Grima, F., Davey, R., Bauman, A., Saelens, B., Rid-doch, C., Ainsworth, B., Pratt, M., Schimd, T., Adams, M., Conway, T., Cain, K., Van Dyke, D., and Bracy, N. (2013). Advancing science and policy through a coordinated international study of physical activity and built environments: IPEN methods. **Journal of Physical Activity and Health**, 10, 581-601. [Link](#)

### 3-Country Papers led by Delfien VanDyck

- Van Dyck, D., Cerin, E., Conway, T.L., DeBourdeaudhuij, I., Owen, N., Kerr, J., Cardon, G., Frank, L.D., Saelens, B.E., and Sallis, J.F. (2013) Perceived neighborhood environmental attributes associated with adults' leisure-time physical activity: Findings from Belgium, Australia, and the USA. **Health and Place**, 19, 59-68.

### Australia

- Sugiyama, T., Ding, D., & Owen, N. (2013). Commuting by car: Weight gain among physically active adults. **American Journal of Preventive Medicine**, 44(2), 169 -173.

### Brazil

- Reis RS, Hino AAF, Parra DC, Hallal PC, Brownson RC. Bicycling and Walking for Transportation in Three Brazilian Cities. **American Journal of Preventive Medicine** 2013;44(2):e9-e17. [Link](#)
- Hino, A.A.F., Reis, R.S., Sarmiento, O.L., Parra, D.C., and Brownson, R.C. (2013) Built Environment and Physical Activity for Transportation in Adults from Curitiba, Brazil. **Journal of Urban Health** (Impact Factor: 2.13). 10/2013. [Link](#)

[Send us your IPEN-related publications](#) (with pdf's) for posting on the website and in our next newsletter.

## New Project: MAPS for IPEN-Adolescent

Like most studies in the built environment literature, IPEN has focused on "macro-level" variables such as walkability and park proximity. IPEN's creation of internationally comparable GIS variables is a pioneering advancement, but the GIS work will not answer all the important questions. Most of us have understood for some time that "microscale" variables like sidewalk quality, details of street crossings, and building aesthetics can affect the experience of people being active in an environment. There are observational (or audit) instruments available to assess microscale features, but they are seldom used due to their cost of data collection and complexity of scoring. Our US-based team has been working on advancing microscale measurement for some time. Larry Frank and Brian Saelens took the lead in adapting existing audit measures that have been used in our US studies of children and their parents, adolescents, and older adults. Led by doctoral student Rachel Millstein, we published a paper describing the development, scoring, and interobserver reliability of MAPS (Microscale Audit of Pedestrian Streetscapes). Led by Kelli Cain, we recently submitted a paper demonstrating that MAPS scores explain substantial amounts of variance, especially in walking and biking for transport, in all age groups, even after adjusting for macro-level walkability. We are now working on a paper that documents the utility of a shorter version of MAPS (MAPS-Abbreviated) that has about 60 items instead of the original 120. We are in the beginning stages of designing an app that can be used for data collection and scoring, and we are also evaluating a comparable version of MAPS that can be completed using Google Streetview.

We are proposing to use MAPS in most or all IPEN Adolescent sites. Before this can be done, an international version of MAPS must be created. In the next few months we will be working with IPEN Adolescent investigators to develop MAPS-Global. The overall approach will be to begin with MAPS-Abbreviated and ask each interested IPEN investigator to conduct qualitative research to identify items that need to be added to adequately assess physical activity environments in each country. Then we will attempt to create a harmonized MAPS-Global that can be used in all IPEN countries. Data collection around the homes of IPEN Adolescent participants could be conducted either by in-person audits or Google Streetview. Jim Chapman has determined that virtually all IPEN Adolescent sites have Google Streetview coverage, though the dates of photos are not always clear. UD4H will conduct audits remotely for a limited number of sites that need assistance. Stay tuned for more on this exciting project.

Millstein RA, Cain KL, Sallis JF, Conway TL, Geremia CM, Frank LD, Chapman J, Van Dyck D, Dipzinski L, Kerr J, Glanz K, Saelens BE. Development, Scoring, and Reliability of the Microscale Audit of Pedestrian Streetscapes (MAPS). *BMC Public Health*, 2013, 13:403. [Link](#)

Cain KL, Millstein RA, Sallis JF, Conway TL, Gavand KA, Frank LD, Saelens BE, Geremia CM, Chapman J, Adams MA, Glanz K, King AC. Contribution of Streetscape Audits to Explanation of Physical Activity in Four Age Groups Based on the Microscale Audit of Pedestrian Streetscapes (MAPS). *Under review*.  
-Jim Sallis and Kelli Cain

## Upcoming

### IPEN at Active Living Research (ALR)

For the first time at the ALR Conference, we are having a special international symposium, sponsored by The Robert Wood Johnson Foundation. We are drawing on IPEN investigators to present methods, results, and a statistical workshop on international built environment and physical activity studies. Mike Pratt from CDC has been instrumental in organizing this symposium. See the details [here](#).

### ICBM

The 13th International Congress of Behavioral Medicine will be held August 20-23, 2014 in Groningen, the Netherlands and will feature a keynote address by Jim Sallis including IPEN results. The deadline for workshop submissions is November 1 2013 and the deadline for symposium, paper and poster submissions is January 15 2014. More information [here](#).

### Journal of Transport and Health

The [Journal for Transport and Health](#) has been launched, devoted to research on the many interactions between transport and public health. The journal aims to cover transport and health issues in all countries. Three particular aims of the journal are: to promote dialogue between the two research communities it serves, to improve the quality of data and the appropriate use of data; and to encourage transfer of research into practice.



IPEN: International Physical Activity and the Environment Network  
[ipenproject.org](http://ipenproject.org)