



*The Monthly Newsletter of ISPAH*



MAY 2019

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# RECENT RESEARCH, POLICY & PROGRAMS

## GUIDELINES ON PHYSICAL ACTIVITY, SEDENTARY BEHAVIOUR AND SLEEP **FOR CHILDREN** UNDER 5 YEARS OF AGE



"To grow up healthy, children need to sit less and play more"

The WHO have released new 24-hour guidelines on physical activity, sedentary behaviour and sleep for children under 5 years of age. The report states that children under five must spend less time sitting watching screens, or restrained in prams and seats, get better quality sleep and have more time for active play if they are to grow up healthy.

"Improving physical activity, reducing sedentary time and ensuring quality sleep in young children will improve their physical, mental health and wellbeing, and help prevent childhood obesity and associated diseases later in life," says Dr Fiona Bull, programme manager for surveillance and population-based prevention of noncommunicable diseases, at WHO.

To read the guidelines [click here](#).



Light intensity physical activity linked to lower risk of heart disease in older women

In this study of nearly 6,000 older women, researchers found women in the highest category of daily low intensity activity were 42% less likely to experience a heart attack or die from heart disease compared to those in the lowest category.

For the original journal article [click here](#), and read our guest commentary by Christopher Moore on page 4.



Record numbers more physically active

Results from the latest Sport England Active Lives Adult Survey shows more women, older adults and disabled people and those with long-term health conditions are getting active. The survey also revealed that although inactivity rates are decreasing, stubborn inequalities still remain.

[Read more here](#).

Mixed-methods evaluation of a community-wide physical activity program

This article describes a process evaluation of the Active Launceston program in Australia, and provides a model for implementing high-reach, community-wide interventions that improve physical activity outcomes.

[Read more here](#).





# MEMBER PROFILE



You can contact  
Christopher on



**NAME:** MR CHRIS MOORE

**PROFESSIONAL title AND AFFILIATION:** Graduate student; Department of Kinesiology, University of Massachusetts Amherst, USA

**BRIEFLY DESCRIBE YOUR RESEARCH:** My research strives to improve public health by informing standards and developing tools for measuring and modulating walking behavior. I am involved in an NIH/NIA-funded (CADENCE- Adults) study aimed at linking walking intensity and cadence to develop a simple and accessible translation of physical activity intensity guidelines.

**BRIEFLY DESCRIBE YOUR JOB:** My primary role has been data collection for the CADENCE-Adults study. I have also become increasingly involved in processing accelerometer data, data analysis, manuscript writing, and mentoring undergraduate and (more junior) graduate students.

**2 THINGS YOU'D ADVOCATE FOR IN YOUR COUNTRY?** I would advocate for our government to improve built environments (i.e. public parks, recreation facilities, and the walkability of communities) to make physical activity more accessible and integrated into daily living. I would also advocate for expanding physical activity surveillance so that the least active communities who stand to benefit the most can be targeted.

**NEXT BIG THING IN PHYSICAL ACTIVITY?** Physical activity patterns. There is interesting research emerging about whether physical activity accumulated in different patterns have differential effects on health, such as the role of light physical activity, the influence of bout length, and the concept of a "weekend warrior".

**FAVORITE PHYSICAL ACTIVITY?** I have always enjoyed playing soccer and (American) football, but I have become more passionate about resistance training and boxed for several years. I also really enjoy maxing-out the speed on our lab treadmill desk (4mph) for a few miles a day.

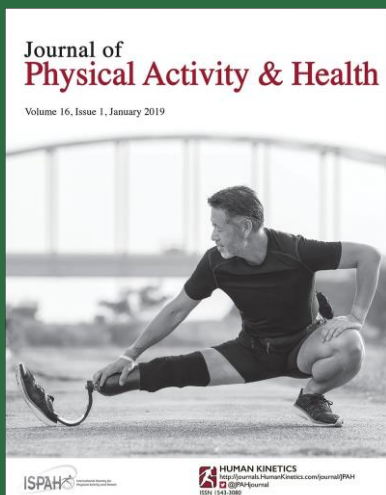


## JPAH EDITOR'S PICK

Professor Loretta DiPietro shares her pick from the May issue.



Knell, G et al. Cost-Effectiveness of Improvements to the Built Environment Intended to Increase Physical Activity



"Public strategies and policies regarding urban and building design that promote physical activity (PA) are gaining momentum within the public health arena. Unfortunately, the effectiveness of such design strategies and policies on indicators of community-level PA often is difficult to evaluate, and translating any improvements in PA behavior into economic terms is even more problematic. Knell and colleagues recently performed a cost-benefit analysis to determine that sidewalk improvements were cost-effective based on self-reported PA. The ability to quantify the economic benefits of built environment changes that promote physical activity can help communities to garner neighborhood support and inform and justify program and policy decisions at the local level."

# COMMENTARY

## DOES ALL MOVEMENT COUNT IN CHD AND CVD PREVENTION?

By Christopher Moore

In 2016, only 25% of American women  $\geq 75$  years of age were estimated to have met the US federal physical activity (PA) guideline of 150 minutes/week of moderate-to-vigorous PA (MVPA;  $\geq 3.0$  METs). However, the majority of older adults' active time consists of light intensity PA (LPA; 1.5–2.9 METs). The prospective cohort study by LaCroix and colleagues [1] provides the first examination of LPA relationships with coronary heart disease (CHD) and cardiovascular disease (CVD) in adults. As prevention of CHD is understudied in women, these relationships were examined in a diverse cohort of 5,861 older women from the Objectively Measured Physical Activity and Cardiovascular Health (OPACH) study.

Between March 2012 and April 2014, US women  $\geq 63$  years of age were asked to wear an accelerometer (hip-worn ActiGraph GT9X) for 24 hours/day over one week. Average LPA and MVPA (minutes/day) were then derived using age-specific intensity cut-points that were previously published in the OPACH Calibration Study. The use of these cut-points is a strength given that, in this calibration study, the traditional NHANES cut-points were reported to underestimate MVPA and LPA of older women when tested against indirect calorimetry. Participants were subsequently followed through February 2017, during which 143 CHD (primary outcome) and 570 CVD events (fatal and non-fatal) were self-reported and adjudicated through physician review of medical records (another notable strength).

After adjusting for several potential confounding variables, women in the highest LPA quartile ( $>5.6$  hours/day) had a 42% lower risk of CHD and 22% lower risk of CVD, compared to those in the lowest LPA quartile ( $<3.9$  hours/day).

Furthermore, LPA dose-response relationships with CHD and CVD remained significant (although slightly attenuated) after adjusting for MVPA. The beneficial effects of LPA were also observed across strata of CVD risk, physical functioning, and MVPA.

Upon closer examination of the data, it appears that at least 75% of women met US aerobic PA guidelines (upper three quartiles of MVPA attained  $\geq 26$  minutes/day). Although applying PA guidelines to device-assessed PA can be problematic, if this reflects abnormally high levels of PA in these older women, one may wonder whether the effect of LPA would be stronger in samples including the less active older women that are more common in the US population.

The authors note that the use of absolutely-defined intensity is a limitation; some activities categorized as LPA may have been considered MVPA if intensities were classified relative to the maximal capacity of older adults. Additionally, this study only included women and had a maximum follow-up of 4.2 years. Thus, there is a need for longer-term prospective studies that include both sexes. Future randomized trials are also needed to help address the potential for residual confounding and to begin testing interventions for increasing LPA. The current study supports that “all movement counts” towards preventing CHD and CVD in older women. While these results are preliminary, the authors suggest that encouraging older women to participate in more LPA may be prudent because of its feasibility, low risk, and abundance in daily living.



[1] LaCroix AZ, Bellettiere J, Rillamas-Sun E, et al. Association of Light Physical Activity Measured by Accelerometry and Incidence of Coronary Heart Disease and Cardiovascular Disease in Older Women. JAMA Netw Open. 2019;2(3):e190419. doi:10.1001/jamanetworkopen.2019.0419

# THIS MONTH'S ECN CORNER FEATURES 6 MEMBERS FROM ACROSS THE WORLD WHO WILL BE PRESENTING AT ISBNPA IN JUNE...

## EARLY CAREER NETWORK CORNER

Meet our featured Early Career Professionals:



Dr Stephanie Prince Ware



Dr Gregore Iven Mielke



Ms Anna Le Gouais



Ms Leonie Heron



Ms Alice Burgin



Dr Lauren Arundell

### Join us!

ECN members are kept up to date with news about exciting events and webinars, and receive priority access to Congress Events which are often FREE for ISPAH ECN members.

To join, you must be a current member of ISPAH.

If you are already a member of ISPAH, but not an ECN member, email us:

[ispahearlycareer@gmail.com](mailto:ispahearlycareer@gmail.com)

Give us a brief overview of what you will be presenting at ISBNPA.

**Stephanie** – “the results from a large systematic review and meta-analysis of device-measured PA, sedentary behaviour and cardiometabolic health and fitness across occupational groups”

**Leonie** – “the healthcare costs associated with prolonged sedentary behaviour in the UK in 2016-17”

**Gregore** – “findings from the 2015 Pelotas (Brazil) Birth Cohort Study”

**Anna** – “qualitative findings of decision-making for active living infrastructure (walking and cycling infrastructure and open spaces) in new communities in England”

**Alice** – “preliminary findings from my final PhD study – exploring the effects of an apparatus free, high-intensity intermittent exercise intervention”

**Lauren** – “two poster presentations utilising survey data from over 500 families from Australia. I'll describe the prevalence of parent & child screen based sedentary behaviours, & the intervention strategies that parents believe are important”

What are you most looking forward to at ISBNPA?

**Stephanie** – “the opportunity to interact and network with others who have similar research interests”

**Leonie** – “the keynote by Greet Cardon and the early career researcher and student pre-conference workshop”

**Gregore** – “strengthening my network and meeting with world leader researchers”

**Anna** – “finding out about a range of PA research from different places, and enjoying Prague!”

**Alice** – “presenting my research and heading about lots of other insightful work, as well as meeting new colleagues and catching up with old ones!”

**Lauren** – “hearing about the research being conducted on children's PA & sedentary behaviours - particularly learning about the different behaviour measurement tools, techniques and analysis methods, as well as the intervention strategies being developed”

What do you hope to get out of ISBNPA?

**Anna** – “to learn about different types of PA research and also meet other researchers. I have a year left of my PhD, so making connections for future research collaboration would be great.”

**Alice** – “to come away with new thoughts and ideas about my own and about others' research – and to have fun!”

**Lauren** – “to gain a greater understanding of where the field is currently positioned, how my research fits in it & the next steps forward”

**Gregore** – “new collaborations and innovative research ideas”

**Leonie** – “to pick up new ideas that I can incorporate into my future work. I am also looking forward to receiving feedback on the work I'm presenting”

**KEEP YOUR EYE OUT FOR THEIR PRESENTATIONS – THERE IS A LOT OF EXCITING RESEARCH EMERGING!**

By Shannon Montgomery,  
ECN Communications Officer



@scmontgomery11






# ISPAH COUNCIL UPDATE



Co-chair  
Terry Boyle

 @drterryboyle



Co-chair  
Brigid Lynch

 @drbrigidmlynch

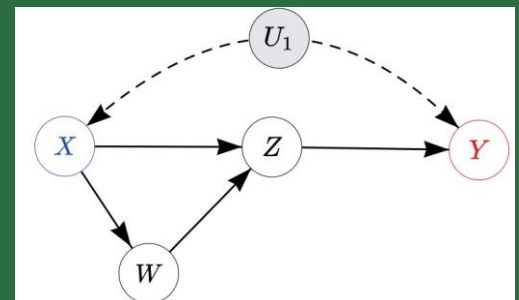
The Epidemiology Council is a new ISPAH council formed in 2019. The overarching aim is to advance the science of physical activity epidemiology. Since the 1990s, a range of new statistical approaches have been developed to improve causal inference in observational research and quantitatively estimate the impact of measurement error, exposure misclassification and selection bias on the results of observational studies. Physical activity epidemiology has not kept pace with these methodological advances.

The Epidemiology Council will promote awareness and knowledge of contemporary causal inference and quantitative bias assessment methods. It aims to:

- Contribute to evidence-informed advocacy by helping to build a stronger and more robust evidence base to better inform public health guidelines.
- Contribute to education of ISPAH members by facilitating training opportunities, hosting online webinars and journal clubs, and providing input into the biannual ISPAH Congress and associated workshops.
- Build capacity by fostering the development of physical activity epidemiology internationally, by developing the Physical Activity Cohort Study Repository (PACE) (Project Lead: Andrea Ramirez Varela). This resource will facilitate researchers returning to existing cohort studies with multiple assessment time points and using contemporary causal inference methods to provide stronger evidence

Become a member of the Epidemiology Council by selecting to join when initiating or renewing your ISPAH membership. Current ISPAH members can join the Epidemiology Council by contacting the Council Secretary, Suzanne Dixon-Suen: [suzanne.dixon-suen@cancervic.org.au](mailto:suzanne.dixon-suen@cancervic.org.au)

Directed Acyclic Graph



## AND THE WINNER IS...

Dr Lucy Loveday aka  
[@moortolifedr](https://twitter.com/moortolifedr)

Thank you to everyone for tagging us in your tweets on World Day for Physical Activity 2019!

### HAVE SOMETHING TO SHARE?

Do you have any news, job adverts or images about physical activity that you'd like to share with ISPAH? Please send them to us via [ispahorg@gmail.com](mailto:ispahorg@gmail.com) or social media!



**#physicalactivity**  
**#globalpanet**

... the pictures that were tweeted in celebration of World Day for Physical Activity?

# UPCOMING EVENTS

ISPAH and ISBNPA are co-hosting another webinar later this month:

Join this webinar to find out more about getting the most out of a conference from early, mid and senior researchers, respectively. All speakers will consider what can be done before, during and after a conference to capitalise on the conference attendance.

**Webinar: Getting the most out of a conference: what to do before, during and after a conference.**

**Speakers**

- Prof Amanda Daley (Loughborough University, UK)
- Dr Lauren Sherar (Loughborough University, UK)
- Dr Joey Murphy (University of Limerick, Ireland)
- **Discussants: Tepi McLaughlin and Dr Rachel Sutherland**

**Date/Timezone 1hr webinar:**

- May 28th 07:00am London
- May 28th 08:00am Berlin
- May 28th 16:00pm Melbourne

**1 week prior to the ISBNPA 2019 Conference**

Register Now!

Co-hosted by:



Can't make it live? A recording will be made available on the ISPAH YouTube Channel

Human Kinetics have a series of physical activity-themed workshops coming up. The next webinar is about physical activity and pregnancy:

You're pregnant, are you sure you should be doing that?

By Dr Hayley Mills (In partnership with BASES).

Date: Wednesday 5th June 2019

Time: 15.00 BST



Visit the Human Kinetics website for more details:



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