

Building back better from COVID-19

Activity-friendly communities for a healthier, greener and resilient future



Dr. Deepti Adlakha



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The power of neighbourhoods in a pandemic



For city residents, equitable access to walkable, activity-friendly streets and local green space are more than coronavirus-era amenities.

They are critical for physical, emotional, and mental health.

Physical Activity and COVID-19



- A daily exercise outdoors is good for your health and well being but being socially responsible is important.
- Practice Social Distancing at all times
 - Stay local and do not travel unnecessarily
 - Groups of more than 2 people are not permitted unless from the same family
 - Respect local residents who live close by
 - Dispose of all rubbish in the bins provided or at home if you can

- PA has beneficial effects on immune function, inflammation, antioxidants, and stress that are directly relevant to COVID-19
- Pandemic responses include restricted access to indoor and outdoor opportunities to be active, likely reducing PA
- Though PA is usually considered an “essential activity” during shutdowns, we have seen no evidence of directly educating people about the benefits of PA or promoting PA
- Lack of direct evidence about the effects of PA on COVID-19 or the health impacts of restricting access to places for PA may inhibit action
- Building evidence on the relevance of PA for COVID-19 could lead to a higher priority for promoting PA during the pandemic

The density debate



Andrew Cuomo  @NYGovCuomo · 22 Mar



This is not life as usual.

There is a density level in NYC that is destructive.

It has to stop and it has to stop now.

NYC must develop an immediate plan to reduce density.

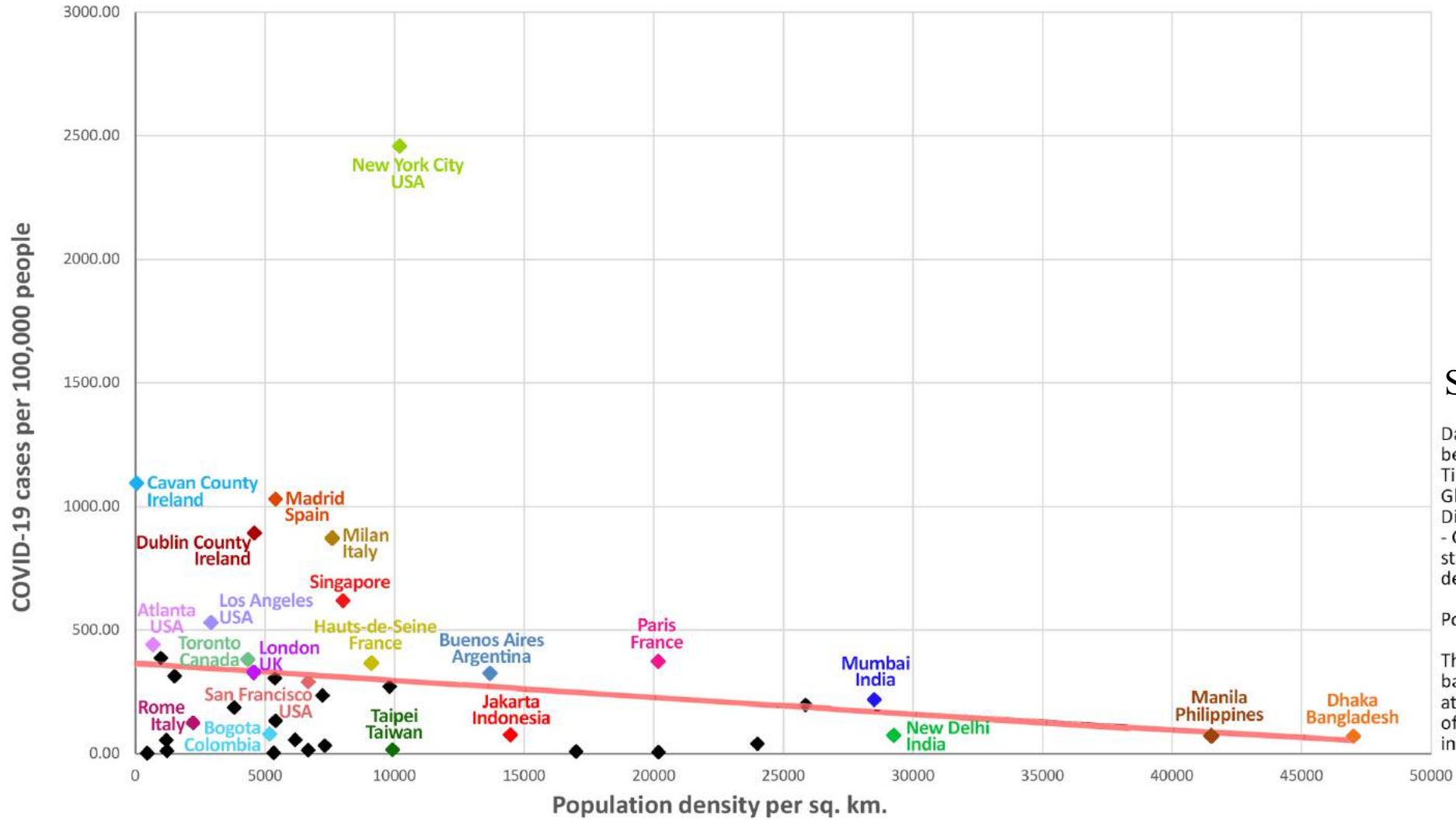
[#StayAtHome](#) 

 1.3K

 5.1K

 25.2K





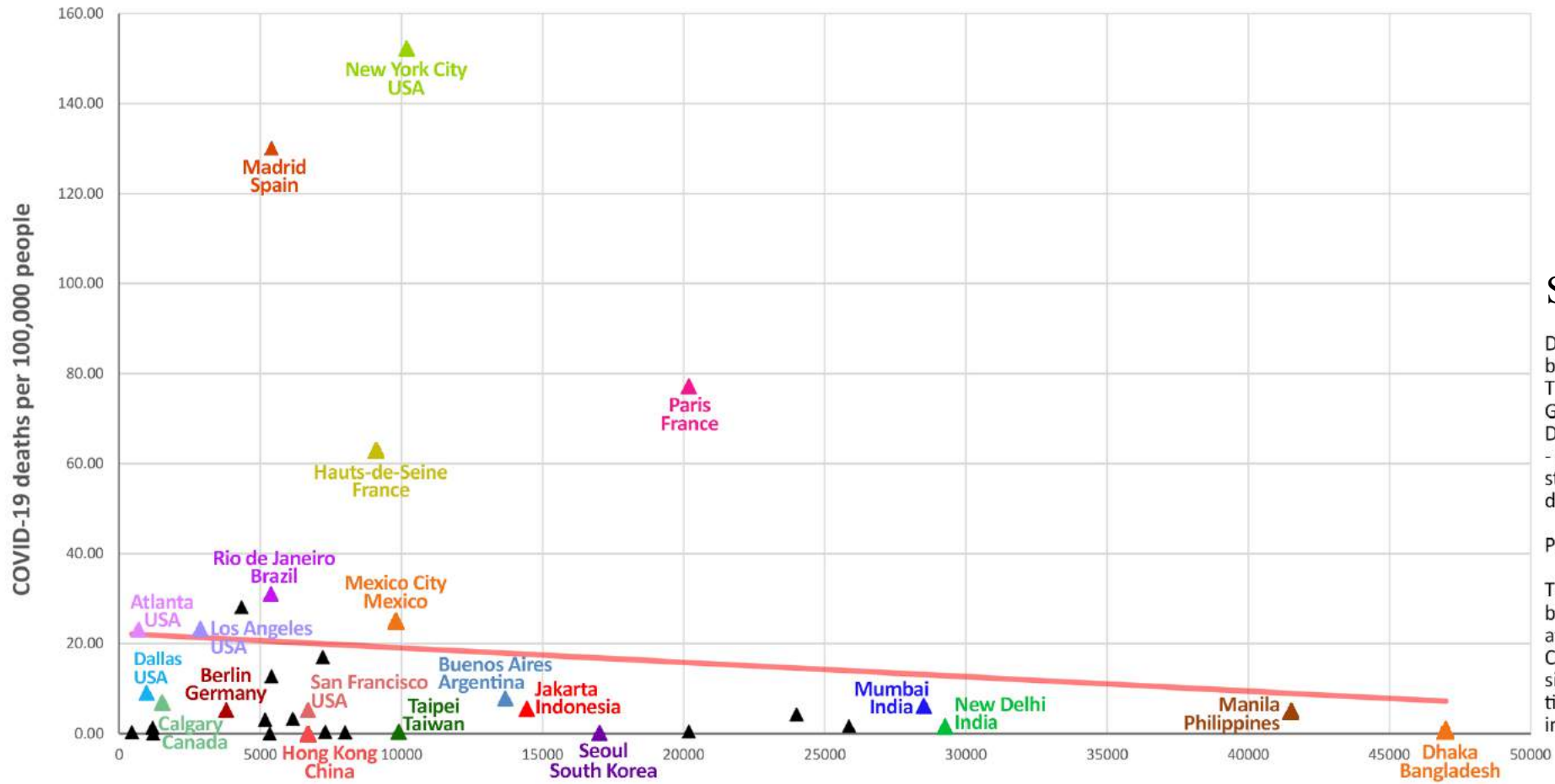
Spearman's rho=-0.12, p=0.45

Data source: COVID-19 case data have been compiled from The New York Times Coronavirus Map: Tracking the Global Outbreak, European Center for Disease Prevention and Control (ECDC) - Our World in Data report, and official statistics released by government departments in respective countries.

Population data from World Bank.

This figure includes data for 41 cities based on reports from early June 2020 at the time of preparation. At times, officials revise reports or offer incomplete information.

Figure 1A. Scatter plot of population density and per capita COVID-19 cases



Spearman's rho=0.02, p=0.93

Data source: COVID-19 case data have been compiled from The New York Times Coronavirus Map: Tracking the Global Outbreak, European Center for Disease Prevention and Control (ECDC) - Our World in Data report, and official statistics released by government departments in respective countries.

Population data from World Bank.

This figure includes data for 35 cities based on reports from early June 2020 at the time of preparation. Data on COVID-19 deaths was not available for six cities included in Figure 1A. At times, officials revise reports or offer incomplete information.

Figure 1B. Scatter plot of population density and per capita COVID-19 deaths

Density

versus

Crowding

The number of people living in each unit of area (such as a square mile)



Control measures, including mask wearing, have worked to control the virus in Hong Kong, despite its density. EPA-EFE

The number of people that fill a space almost completely, leaving little or no room for movement.



Workers in a Meat Processing Plant (BBC)

Study finds meatpacking plants were responsible for 8% of coronavirus cases in opening phase of pandemic in the US

CITYLAB

Pandemics Are Also an Urban Planning Problem

Will COVID-19 change how cities are designed? Michele Acuto of the Connected Cities Lab talks about density, urbanization and pandemic preparation.

By [Ian Klaus](#)

6 March 2020, 18:40 GMT

Popular Latest

The Atlantic

IDEAS

A Backlash Against Cities Would Be Dangerous

Undue fears of urban density warp public policy—and make Americans more vulnerable.

MAY 17, 2020

Scott Wiener

State senator in California

Anthony Iton

Physician and senior vice president at The California Endowment

Now Is the Time to Embrace Density

Restrictive zoning blocks less-affluent families from the opportunities that cities offer.

By **Carol Galante**

Ms. Galante is the faculty director of the Turner Center for Housing Innovation at the University of California, Berkeley.

May 12, 2020

Op-Ed: Dear Gov. Cuomo, The Problem Is Crowding, Not 'Density'!

The coronavirus crisis show why New York's leader must move forcefully to create more space for people, a prominent urbanist argues.

By [Brent Toderian](#) Apr 6, 2020 94 COMMENTS



Crowded sidewalks like these on Seventh Avenue (pictured in 2017) are the legacy of the movement to give more space to cars. Coronavirus has shown that we must give more space to people. Photo: DOT



Expected net effects of built environment attributes on non-communicable diseases and infectious diseases

Source: Adlakha, D. & Sallis, J.F. (2020). Activity-friendly neighbourhoods can benefit non-communicable and infectious diseases. *Cities and Health*, 1-5. <https://doi:10.1080/23748834.2020.1783479>

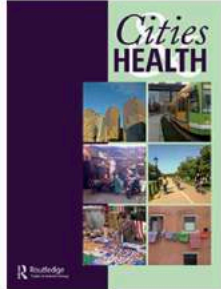
Non-Communicable Diseases	Environmental Attributes	Infectious Diseases
Favourable effect	Residential density	No effect
Favourable effect	Mixed land use	Favourable effect
Unfavourable effect	Automobile-optimized transportation system	Favourable effect
Favourable effect	Public transportation	Unfavourable effect
Favourable effect	Pedestrian & bicycling facilities	Favourable effect
Favourable effect	Parks, trails, open spaces	Favourable effect
Favourable effect	Open streets initiatives	Favourable effect

- Cities are a boon for public health—even now. As public-health experts have known for decades, people who live in a city are likely to walk and bike more often, and they live closer to community services such as grocery stores.
- Urban density also supports faster emergency-response times, better hospital staffing, and a greater concentration of intensive-care beds and other health-care resources.

Results from 36 cities showed no relation between population density and recorded COVID-19 cases or deaths rates

Conclusions

- Dense walkable cities with recreation facilities that are recommended for non-communicable diseases are generally better during infectious disease epidemics.
- Walking and biking are the safest and healthiest forms of transport, if there are safe places to walk and bike.
- Recommended mitigation measures on public transport include limiting riders, ensuring physical distancing, requiring masks, providing hand sanitizer, and cleaning vehicles often.



The image shows the cover of the journal 'Cities & Health'. It features a vertical strip of six small photographs on the left side, depicting various urban scenes like buildings, streets, and parks. The title 'Cities & Health' is prominently displayed in the center. The Taylor & Francis logo is in the top right corner, and the Routledge logo is in the bottom left corner of the cover image.

Cities & Health

ISSN: (Print) (Online) Journal homepage: <https://www.tandfonline.com/loi/rcah20>

Activity-friendly neighbourhoods can benefit non-communicable and infectious diseases

Deepti Adlakha & James F. Sallis

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To link to this article: <https://doi.org/10.1080/23748834.2020.1783479>

The Conversation (UK)

Why urban density is good for health – even during a pandemic



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80

942

Disease outbreaks shape our cities. Public health concerns have influenced some of the most iconic developments in urban planning. London's sewage systems were developed in response to cholera outbreaks in the 19th century. In the USA at the turn of the 20th century, public parks became a popular (though possibly ineffective) way of offering citizens cleaner air to protect them from diseases such as tuberculosis. Now, COVID-19 may have an impact on urban spaces, too.

The spread of COVID-19 in some of the world's most populous cities has raised concerns about density, the number of people inhabiting a given urbanised area. Busy sidewalks, buildings and public spaces make physical distancing difficult, increasing the risk of contagion. This critique against density goes back to the late 19th century, when some American civic leaders argued that disease and poverty stemmed from crowded and unsanitary conditions in dense cities.

However, the idea that density is unhealthy is an oversimplification and misleading when it comes to COVID-19. Findings from our research show near-zero associations between the density of 36 world cities (as measured in people per square kilometre) and rates of COVID-19 cases and deaths.

Research priorities for physical activity and COVID-19



Building back better: A sustainable, resilient recovery after COVID-19

A more resilient economy depends on a shift to sustainable, healthy practices

- Aligning recovery measures with long-term objectives for reducing GHG emissions.
- Integrating more ambitious policies to halt and reverse biodiversity loss and restore ecosystem services, including through nature-based solutions.
- Fostering innovation that builds on enduring behaviour changes.



Figure 1. Key dimensions for Building Back Better



- As economic activity resumes, there is an opportunity to reallocate road space and encourage active transport, as a means to create jobs, reduce emissions, improve resilience and even boost public health.
- At least 150 cities around the world have already taken emergency action to create temporary cycle lanes and other space for active transport that allows for social distancing rules (ITF, 2020).
- To make these temporary changes permanent, stimulus measures could support redesigning road space away from cars to more sustainable modes (with a holistic view to enhance accessibility and promote safety) and adequately price it, building on evidence from the air quality and road safety improvements due to COVID-19 lockdown measures.

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Journal of Sport and Health Science 00 (2020) 1–7

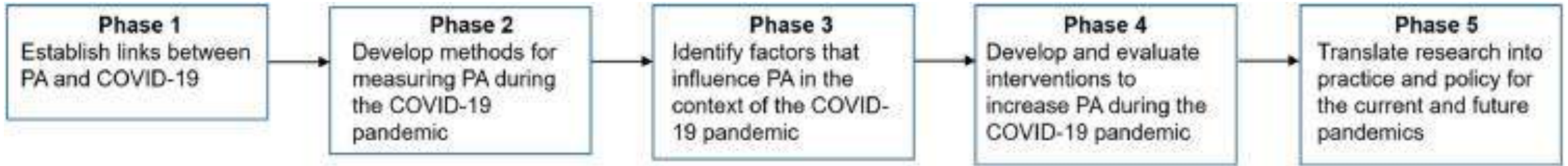


www.jshs.org.cn

Opinion

An international physical activity and public health research agenda to inform coronavirus disease-19 policies and practices

James F. Sallis^{a,b,*}, Deepti Adlakha^c, Adewale Oyeyemi^d, Deborah Salvo^e



1) PA as a mitigation strategy for COVID-19

No specific recommended studies.

General recommendations:

- ✓ Use or adapt validated instruments when possible
- ✓ Device-based measures are preferred but may be challenging
- ✓ Document all measure and protocol adaptations

- 2) Use big data to understand changes in PA during COVID-19
- 3) Learn how to reduce disparities in PA opportunities during COVID-19

- 4) Improve clinical care of COVID-19 patients through PA
- 5) Evaluate methods for managing safe use of PA locations during COVID-19
- 6) Evaluate local mapping of safe places for PA during COVID-19
- 7) Cultural tailoring of PA promotion during crises

Efficacy & effectiveness of Phase 4 studies must be established prior to this step.

There is a tremendous opportunity to implement “**hybrid**” studies that simultaneously assess the **efficacy, effectiveness, feasibility, acceptability, cost, potential reach, and scalability.**

Research Priorities – Urban/Rural Planning

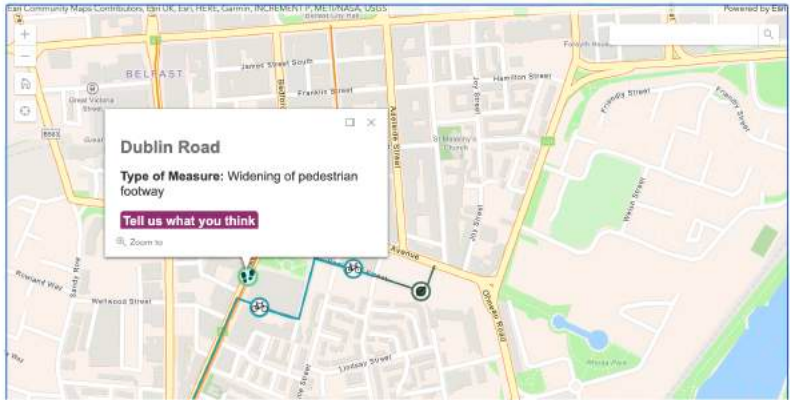
Develop & evaluate built environment interventions to increase PA during COVID-19

Evaluate local mapping of safe places to be active during the pandemic

- **Proposed study:** Use GIS mapping to identify **safe community walking and cycling routes** and develop access protocols for PA in hyperlocal outdoor environments. Evaluate the **effect of publicizing maps of PA locations/routes** on the PA levels of residents, crowding, and hyperlocal infection rates.
- **Rationale: Maps** that highlight parks, green spaces, and safe, convenient walking or cycling routes with marked distances can **help people to discover safe opportunities for local PA** during the COVID-19 pandemic and beyond.
- **Policy implications:** These studies could inform **policies and guidelines** that aim at **promoting PA and access to neighborhood outdoor environments** during the current pandemic, future pandemics, and other times of crises.

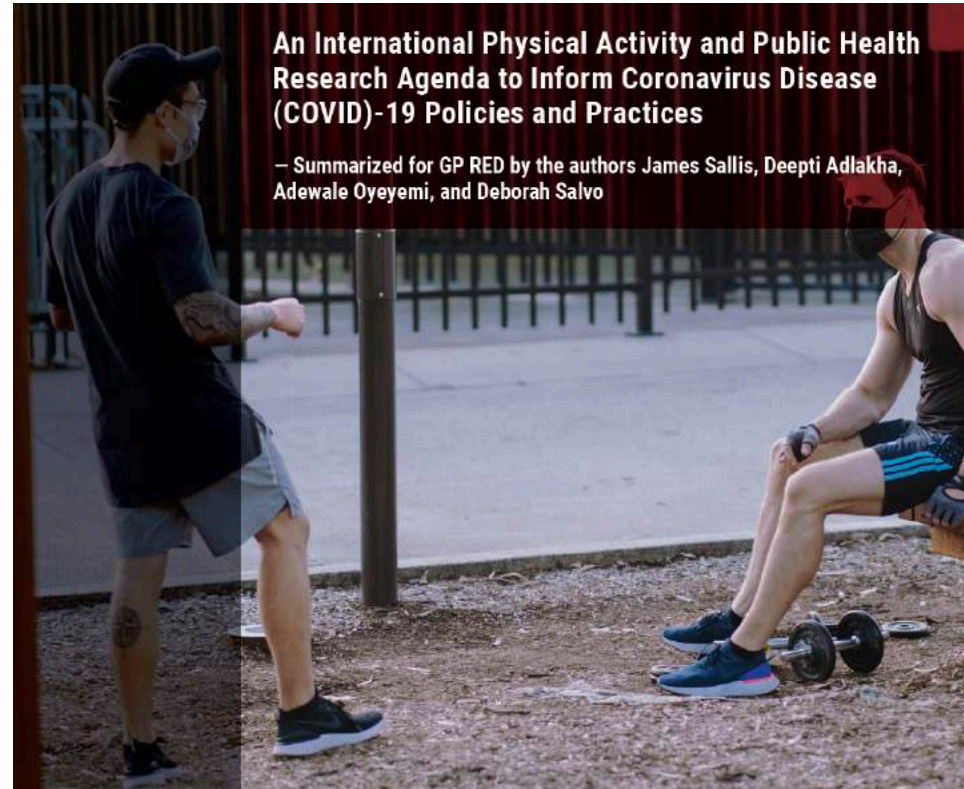


*The supplementary plates may be omitted.



Space to move | Feedback on a scheme near you

Research Recommendations



- Please consider conducting studies like the ones recommended here, or studies with similar public health relevance
- Share this paper with your networks and encourage collaborators to conduct studies with transdisciplinary teams
- Connect with **INCOPAR: International Network of Coronavirus and Physical Activity Research**
- Register study ideas online (link is in last paragraph of paper)
https://docs.google.com/forms/d/e/1FAIpQLSfrHSnVpnApmBk8DZ5tELJT82VN-YxxC7RfXtdprYWh_6HTPg/viewform
- Collaborate with others internationally and use common methods whenever possible

Thank you!

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