

The Physical Activity Policy to Practice Disconnect

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Physical inactivity is an important global health challenge, causing more than 5 million deaths each year.¹ The World Health Organization has recognized it as such and has included physical activity within major global disease prevention plans since 2004.^{2–5} Research on physical activity policy is relatively new with the first publications appearing in the mid-1990s.^{6,7} Physical activity policy development has progressed since the year 2000 at the global and national levels,^{3,5,8–10} but implementation of national policies has remained limited.^{11,12} Research on physical activity and public health relevant to developing and implementing policy and programs has also grown over recent decades so that we now have both conceptual frameworks^{13,14} and tools for analyzing national policy development and implementation.^{6,11,15–19} The Global Observatory for Physical Activity (<http://new.globalphysicalactivityobservatory.com>) has played an important role in developing these lines of research and collecting the data required to inform the research.

Meanwhile, certain cities have created comprehensive and robust multisectoral programs and policies supporting physical activity (active transport, recreation, education, sports, green space, climate change mitigation, and synergy with the United Nations Sustainable Development Goals) with little or no formal public health policy or leadership.^{20–24} National physical activity policies are especially well developed in Europe where the European Network for Health-Enhancing Physical Activity (HEPA) has provided effective information sharing, models, and cross-country support.²⁵ Europe also has a number of excellent examples of physical activity-friendly cities with strong multisectoral local policies, programs, and infrastructure; however, only a few countries have widely and successfully implemented national programs for physical activity.^{11,26–28} A research group in the South of France has adapted the European HEPA Physical Activity Tool for national physical activity policy development and implementation for use at the municipal level.²⁹ Another research group in Ireland has built upon the HEPA Physical Activity Tool to develop a multilevel assessment tool for national physical activity policy development and implementation (Physical Activity Environment Policy Index).³⁰ Initial results from both tools demonstrate excellent feasibility and utility for better understanding policy development and implementation.^{30,31} The Global Observatory for Physical Activity is independently developing and evaluating a similar tool for assessing national and subnational physical activity policy development and implementation. The French studies suggest that HEPA strategy recommendations translate poorly from the national to local level, in part due to lack of funding as well as


the complex multisectoral nature of many physical activity promotion strategies. However, rich multisectoral local networks may facilitate more effective HEPA policies and programs.³¹

The hope and goal of this small and quite interconnected community of physical activity policy researchers is to solve one of the major problems limiting progress in increasing population levels of physical activity. Despite the well-documented evidence for effective physical activity interventions and well-elucidated recommendations, policies, and plans, population levels of physical activity have remained static over recent decades.^{12,32} Four interconnected reasons may be at the root of this lack of progress: (1) failure to implement effective strategies; (2) poor translation of research-derived strategies to real-world practice; (3) an emphasis on non-scalable research and corollary inattention to evaluation of more scalable strategies; and (4) insufficient attention to issues of country, culture, and context. For each of these 4 failings, we will provide exemplars and propose possible solutions.

Not enough money or people applied to solving the vexing and complex problem of physical inactivity is a root cause of failed implementation of effective strategies. For a public health problem underlying 5 million deaths every year, the commitment of resources to attacking physical inactivity is laughably small. As with any important public health challenge requiring policy makers to commit substantial resources, establishing saliency and urgency is critical. To date, advocacy efforts for physical activity have not been particularly successful in this regard. Even within public health and academia, physical activity is all too often not taken seriously. However, limited resources may not be the only cause for poor implementation. Another disconnect seems equally important (Figure 1). In most countries, physical activity research and the development of recommendations, plans, and policies occur primarily within the health sector.^{2,4,33,34} Dissemination of these health policies tends to flow down the usual health pipelines, eventually reaching municipal or local health jurisdictions. Rarely does capacity (staff or funding) to implement these plans exist within local health agencies. In fact, even if there was capacity, other sectors such as education, sport, environment, transport, and urban planning are much better positioned to actually implement changes that will influence population physical activity levels. So, how can we solve these problems? Improved advocacy for physical activity and better engagement with other relevant sectors at both national and local levels are rather obvious solutions. However, both depend upon investing time and energy to build partnerships outside of health and framing a dialogue in which increasing opportunities for physical activity solve major problems for and from the perspective of the other sectors. Neither of these tasks are easy, but current global crises may provide opportunities. Climate change is an existential crisis forcing high-priority policy responses at all levels, and active transport (ie, more people walking and

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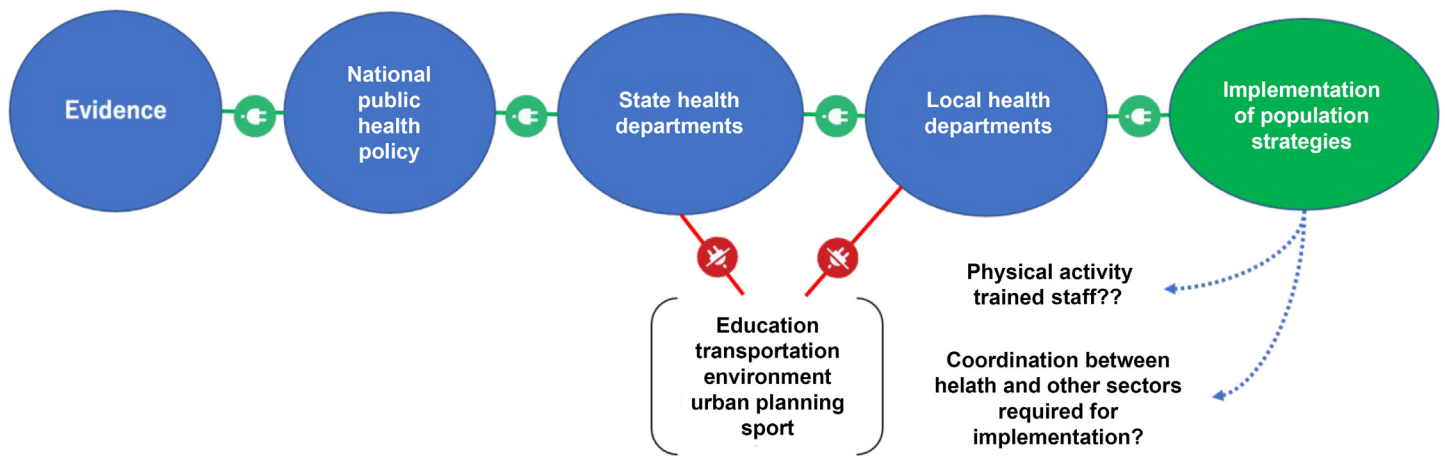


Figure 1 — The physical activity policy disconnect.

cycling) is a pragmatic part of the solution.^{35,36} Pandemic preparedness sits at the top of most countries' public health priorities in the wake of the global disaster of COVID-19. Once again, increasing population levels of physical activity should be part of the strategy to blunt the impact of the next pandemic by ensuring healthier and more resilient populations.^{37–39}

A second important issue has been the failure to translate research on effective interventions to real-world practice. Quality school physical education and primary care-based physical activity counseling and referral are notable examples.^{40,41} The evidence bases for both are well and long established, but progress in making either a norm has been elusive. In both cases, physical activity is acknowledged as important but other issues are felt to be more important and more pressing. Education and health care are complex systems, and introducing multifaceted physical activity promotion strategies within these systems is inherently complicated with many potential failure points. Perhaps explicitly turning to complex systems' methodologies can help us understand what is needed to achieve better implementation within education and health care. Another less appealing alternative is that we must temper our expectations for how much can be accomplished within these sectors. Perhaps all we can hope for is adaptation of good physical activity promotion strategies within those few examples of progressive, sympathetic, or favorably structured education and health care systems.

The conundrum of ever more research that has little or no chance of scaling up while potentially large-scale strategies are minimally evaluated has been discussed at some length.^{12,42} This seems to be an issue of research funding continuing to focus on evidence generation, not on complex, real-world multisectoral scale-up. The vast majority of well-designed theory-based individually targeted behavior change interventions simply do not scale-up.⁴³ There are surprising exceptions, and perhaps we can learn from them. Few behavior change interventions have been more intensive, effective, and costly yet cost-effective than the Diabetes Prevention Project lifestyle intervention.^{42,44} But, shifting from individual to group focus, partnering with community-based organizations, and harnessing technology facilitated scaling the Diabetes Prevention Project up from a research study to a national prevention program.⁴⁵

Finally, the most obvious barrier to turning good physical activity research and policy into effective community-based programs is the disconnect between the settings where research is

conducted and where it must be applied. Over the past 30 years, we have learned that country, culture, and context are enormously important in determining what types of strategies for physical activity promotion will be effective.^{12,26} Research from Brazil and Colombia clearly demonstrates that a different mix of strategies and programs for physical activity promotion from that recommended in North America is needed in these countries.^{46,47} While much progress has been made in globalizing physical activity research, 90% of publications ("evidence") still emanate from high-income countries while low- and middle-income countries (LMIC) that account for 90% of the global population produce only 10% of research publications.¹⁵ The solution has been obvious for some time: more contextually specific intervention research conducted in diverse LMICs by LMIC researchers.⁴⁸ However, training investigators, enhancing the capacity of research universities, minimizing brain drain, mobilizing and directing funds to LMIC, and translating new research insights into policies and programs in these countries remain a challenge.

Physical inactivity is a proverbial wicked problem: multifactorial, complicated, and resistant to easy solution. But it is not an insoluble problem! Some countries and cities have made substantial commitments in health or other sectors and have seen increases in population levels of physical activity.^{26,35} Focusing on the solutions proposed above and committing to pragmatic research and multisectoral partnerships and strategies seem likely to get more people more active in more countries. But as was noted more than a decade ago "more of the same will not be enough."⁴⁹

References

1. 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(9838):219–229. doi:10.1016/S0140-6736(12)61031-9
2. World Health Organization. *WHO Guidelines on Physical Activity and Sedentary Behaviour*. 2020.
3. World Health Organization. Global strategy on diet, physical activity and health [Internet]. Published 2004. Accessed February 14, 2023. <https://apps.who.int/iris/handle/10665/43035>
4. World Health Organization. *Global Recommendations on Physical Activity for Health*. 2010.

5. World Health Organization. *Global Action Plan on Physical Activity 2018–2030: More Active People for a Healthier World*. 2018.
6. Ramírez Varela A, Pratt M, Harris J, et al. Mapping the historical development of physical activity and health research: a structured literature review and citation network analysis. *Prev Med*. 2018; 111:466–472.
7. Klepac Pogrmilovic B, O’Sullivan G, Milton K, et al. A global systematic scoping review of studies analysing indicators, development, and content of national-level physical activity and sedentary behaviour policies. *Int J Behav Nutr Phys Act*. 2018;15(1):123. PubMed ID: 30486826 doi:10.1186/s12966-018-0742-9
8. Lachat C, Otchere S, Roberfroid D, et al. Diet and physical activity for the prevention of noncommunicable diseases in low- and middle-income countries: a systematic policy review. *PLoS Med*. 2013;10(6): e1001465. PubMed ID: 23776415 doi:10.1371/journal.pmed.1001465
9. Kohl HW, Craig CL, Lambert EV, et al. The pandemic of physical inactivity: global action for public health. *Lancet*. 2012; 380(9838):294–305. doi:10.1016/S0140-6736(12)60898-8
10. Sallis JF, Bull F, Guthold R, et al. Progress in physical activity over the Olympic quadrennium. *Lancet*. 2016;388(10051):1325–1336. doi:10.1016/S0140-6736(16)30581-5
11. Klepac Pogrmilovic B, Ramírez Varela A, Pratt M, et al. National physical activity and sedentary behaviour policies in 76 countries: availability, comprehensiveness, implementation, and effectiveness. *Int J Behav Nutr Phys Act*. 2020;17(1):1–13. doi:10.1186/s12966-020-01022-6
12. Pratt M, Ramirez Varela A, Salvo D, Kohl HWIII, Ding D. Attacking the pandemic of physical inactivity: what is holding us back? *Br J Sports Med*. 2020;54(13):760–762. PubMed ID: 31704698 doi: 10.1136/bjsports-2019-101392
13. Schmid TL, Pratt M, Witmer L. A framework for physical activity policy research. *J Phys Act Health*. 2006;3(suppl 1):S20–S29. PubMed ID: 28834511 doi:10.1123/jpah.3.s1.s20
14. Klepac Pogrmilovic B, O’Sullivan G, Milton K, et al. The development of the Comprehensive Analysis of Policy on Physical Activity (CAPPA) framework. *Int J Behav Nutr Phys Act*. 2019;16(1):1–15. doi:10.1186/s12966-019-0822-5
15. Ramírez Varela A, Nino Cruz GI, Hallal P, et al. Global, regional, and national trends and patterns in physical activity research since 1950: a systematic review. *Int J Behav Nutr Phys Act*. 2021;18:1–15. doi: 10.1186/s12966-020-01071-x
16. Klepac Pogrmilovic B, O’Sullivan G, Milton K, Biddle SJH, Pedisic Z. A systematic review of instruments for the analysis of national-level physical activity and sedentary behaviour policies. *Health Res Policy Syst*. 2019;17(1):86. PubMed ID: 31722717 doi:10.1186/s12961-019-0492-4
17. Bull FC, Milton K, Kahlmeier S. National policy on physical activity: the development of a policy audit tool. *J Phys Act Health*. 2014;11(2): 233–240. PubMed ID: 23364305 doi:10.1123/jpah.2012-0083
18. Bull F, Milton K, Kahlmeier S. *Health-Enhancing Physical Activity (HEPA) Policy Audit Tool (PAT) Version 2*. World Health Organization Regional Office. 2015.
19. World Health Organization. *Assessing National Capacity for the Prevention and Control of Noncommunicable Diseases: Report of the 2019 Global Survey*. 2020.
20. Giles-Corti B, Vernez-Moudon A, Reis R, et al. City planning and population health: a global challenge. *Lancet*. 2016;388(10062): 2912–2924. doi:10.1016/S0140-6736(16)30066-6
21. Sallis JF, Bull F, Burdett R, et al. Use of science to guide city planning policy and practice: how to achieve healthy and sustainable future cities. *Lancet*. 2016;388(10062):2936–2947. doi:10.1016/S0140-6736(16)30068-X
22. Sallis JF, Cerin E, Conway TL, et al. Physical activity in relation to urban environments in 14 cities worldwide: a cross-sectional study. *Lancet*. 2016;387(10034):2207–2217. doi:10.1016/S0140-6736(15) 01284-2
23. Stevenson M, Thompson J, de Sá TH, et al. Land use, transport, and population health: estimating the health benefits of compact cities. *Lancet*. 2016;388(10062):2925–2935. doi:10.1016/S0140-6736(16) 30067-8
24. Pratt M, Salvo D, Cavill N, et al. An international perspective on the nexus of physical activity research and policy. *Environ Behav*. 2016;48(1):37–54. doi:10.1177/0013916515609668
25. Martin-Diener E, Kahlmeier S, Vuillemin A, et al. 10 years of HEPA Europe: what made it possible and what is the way into the future? *Swiss Sports Exerc Med*. 2014;62(2):6–12.
26. Pratt M, Perez LG, Goenka S, et al. Can population levels of physical activity be increased? Global evidence and experience. *Prog Cardiovasc Dis*. 2015;57(4):356–367. PubMed ID: 25304047 doi:10.1016/j.pcad.2014.09.002
27. Vuori I, Lankenau B, Pratt M. Physical activity policy and program development: the experience in Finland. *Public Health Rep*. 2004; 119(3):331–345. PubMed ID: 15158112 doi:10.1016/j.phr.2004. 04.012
28. Noël Racine A, van Hoya A, Boyd A, et al. A scoping review of published research on local government policies promoting health-enhancing physical activity. *Int J Sport Policy Politics*. 2020;12(4): 747–763. doi:10.1080/19406940.2020.1816561
29. Noël Racine A, van Hoya A, Baron A, et al. Development of a local health-enhancing physical activity policy analysis tool in France: CAPLA-Santé. *Health Promot Pract*. 2021;22(4):540–548. PubMed ID: 32295445 doi:10.1177/1524839920916462
30. Woods CB, Kelly L, Volf K, et al. The physical activity environment policy index for monitoring government policies and actions to improve physical activity. *Eur J Public Health*. 2022;32(suppl): iv50–iv58. doi:10.1093/eurpub/ckac062
31. Noël Racine A, Garbarino JM, Corrion K, D’Arripe-Longueville F, Massiera B, Vuillemin A. Perceptions of barriers and levers of health-enhancing physical activity policies in mid-size French municipalities. *Health Res Policy Syst*. 2020;18(1):62. PubMed ID: 32513193 doi:10.1186/s12961-020-00575-z
32. Ramírez Varela A, Hallal PC, Mejía Guieso J, et al. Status and trends of physical activity surveillance, policy, and research in 164 countries: findings from the Global Observatory for Physical Activity—Gopa! 2015 and 2020 surveys. *J Phys Act Health*. 2023;20(2): 112–128. PubMed ID: 36535269 doi:10.1123/jpah.2022-0464
33. Piercy KL, Troiano RP, Ballard RM, et al. The physical activity guidelines for Americans. *JAMA*. 2018;320(19):2020. PubMed ID: 30418471 doi:10.1001/jama.2018.14854
34. Umpierre D, Coelho-Ravagnani C, Cecília Tenório M, et al. Physical activity guidelines for the Brazilian population: recommendations report. *J Phys Act Health*. 2022;19(5):374–381. PubMed ID: 35418515 doi:10.1123/jpah.2021-0757
35. Salvo D, Garcia L, Reis RS, et al. Physical activity promotion and the United Nations sustainable development goals: building synergies to maximize impact. *J Phys Act Health*. 2021;18(10):1163–1180. PubMed ID: 34257157 doi:10.1123/jpah.2021-0413
36. Woodcock J, Edwards P, Tonne C, et al. Public health benefits of strategies to reduce greenhouse-gas emissions: urban land transport. *Lancet*. 2009;374(9705):1930–1943. doi:10.1016/S0140-6736(09) 61714-1
37. Sallis JF, Pratt M. Multiple benefits of physical activity during the Coronavirus pandemic. *Rev Bras Ativ Fis Saúde*. 2020;25:1–5. doi:10.12820/rbafs.25e0112

38. Sallis R, Young DR, Tartof SY, et al. Physical inactivity is associated with a higher risk for severe COVID-19 outcomes: a study in 48 440 adult patients. *Br J Sports Med.* 2021;55(19):1099–1105. PubMed ID: [33849909](#) doi:[10.1136/bjsports-2021-104080](#)
39. Ramirez Varela A, Sallis R, Rowlands Av, Sallis JF. Physical inactivity and COVID-19: when pandemics collide. *J Phys Act Health.* 2021;18(10):1159–1160. PubMed ID: [34412032](#) doi:[10.1123/jpah.2021-0454](#)
40. Kahn E, Ramsey L, Brownson R, et al. The effectiveness of interventions to increase physical activity: a systematic review. *Am J Prev Med.* 2002;22(4):73–107. doi:[10.1016/S0749-3797\(02\)00434-8](#)
41. Lobelo F, Rohm Young D, Sallis R, et al. Routine assessment and promotion of physical activity in healthcare settings: a scientific statement from the American Heart Association. *Circulation.* 2018;137(18):e495–e522. doi:[10.1161/CIR.0000000000000559](#)
42. Knowler WC, Barrett-Connor E, Fowler SE, et al. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *N Engl J Med.* 2002;346(6):393–403. PubMed ID: [11832527](#) doi:[10.1056/NEJMoa012512](#)
43. Reis RS, Salvo D, Ogilvie D, Lambert Ev, Goenka S, Brownson RC. Scaling up physical activity interventions worldwide: stepping up to larger and smarter approaches to get people moving. *Lancet.* 2016;388(10051):1337–1348. doi:[10.1016/S0140-6736\(16\)30728-0](#)
44. Roux L, Pratt M, Tengs TO, et al. Cost effectiveness of community-based physical activity interventions. *Am J Prev Med.* 2008;35(6):578–588. PubMed ID: [19000846](#) doi:[10.1016/j.amepre.2008.06.040](#)
45. Gruss SM, Nhim K, Gregg E, Bell M, Luman E, Albright A. Public health approaches to type 2 diabetes prevention: the US national diabetes prevention program and beyond. *Curr Diab Rep.* 2019;19(9):78. doi:[10.1007/s11892-019-1200-z](#)
46. Hoehner CM, Soares J, Parra Perez D, et al. Physical activity interventions in Latin America. *Am J Prev Med.* 2008;34(3):224–233.e4. PubMed ID: [18312811](#) doi:[10.1016/j.amepre.2007.11.016](#)
47. Pratt M, Brownson RC, Ramos LR, et al. Project GUIA: a model for understanding and promoting physical activity in Brazil and Latin America. *J Phys Act Health.* 2010;7(suppl 1):S131–S134. doi:[10.1123/jpah.7.s2.s131](#)
48. Ding D, Ramirez Varela A, Bauman AE, et al. Towards better evidence-informed global action: lessons learnt from the Lancet series and recent developments in physical activity and public health. *Br J Sports Med.* 2020;54(8):462–468. PubMed ID: [31562122](#) doi:[10.1136/bjsports-2019-101001](#)
49. Hallal PC, Bauman AE, Heath GW, Kohl HW, Lee IM, Pratt M. Physical activity: more of the same is not enough. *Lancet.* 2012;380(9838):190–191. doi:[10.1016/S0140-6736\(12\)61027-7](#)