

# Eight Investments That Work for Physical Activity

**Running head: Eight Investments for Physical Activity**

**Manuscript type: Public Health Practice**

## **Abstract**

**Background:** The International Society for Physical Activity and Health (ISPAH) is a leading global organisation working to advance research, policy and practice to promote physical activity. Given the expanding evidence base on interventions to promote physical activity, it was timely to review and update a major ISPAH advocacy document - Investments that Work for Physical Activity (2011).

**Methods:** Eight investment areas were agreed through consensus. Literature reviews were conducted to identify key evidence that would be relevant to policymakers in each sector or setting.

**Results:** The eight investment areas were: whole-of-school programmes; active transport; active urban design; health care; public education; sport and recreation; workplaces; and community-wide programmes. Evidence suggests that the largest benefit for population health will be achieved by combining these investments and implementing a systems-based approach.

Conclusions: Establishing consensus on ‘what works’ to change physical activity behaviour is a cornerstone of successful advocacy, as is having appropriate resources to communicate key messages to a wide range of stakeholders. ISPAH has created a range of resources related to the eight investments described in this paper. These are available in the ‘advocacy toolkit’ on the ISPAH website ([www.ispah.org/resources](http://www.ispah.org/resources)).

### Introduction

The World Health Organization (WHO) recently published global guidelines on physical activity and sedentary behaviour.<sup>1,2</sup> These guidelines acknowledge and endorse the many benefits of physical activity to individual health and wellbeing, including reduced risk of noncommunicable diseases, as well as improved mental health, sleep and cognitive function.<sup>1,2</sup> In addition, achieving improvements in population levels of physical activity can contribute to other key international agendas, including the 2030 Agenda for Sustainable Development.<sup>3,4</sup>

Despite the substantial and wide-ranging benefits of physical activity, one in four adults and four in five adolescents globally are insufficiently active.<sup>5,6</sup> Furthermore, inequities in participation exist by geography, sex and social gradient.<sup>5</sup> While many countries have developed policies to tackle physical inactivity<sup>7</sup>, global prevalence has remained relatively static over the past 20 years, emphasising the need for greater investment and cross-sectoral action.<sup>5</sup>

In 2018, the WHO published the Global Action Plan on Physical Activity 2018-2030.<sup>8</sup> This document set a global target for a 15% reduction in physical inactivity by 2030. The WHO Global Action Plan on Physical Activity outlines a wide range of actions across multiple sectors and settings including schools, health care, transport, urban planning, public education, sport, communities and workplaces.<sup>8</sup> Advocacy efforts are needed to engage each of these sectors and settings and encourage implementation of the actions outlined in the plan.<sup>9</sup>

The 2020 WHO guidelines on physical activity and sedentary behaviour and the WHO Global Action Plan on Physical Activity 2018-2030 are landmark documents which summarise the evidence and set the global direction for increasing population levels of physical activity. However, neither were specifically created as advocacy tools to increase engagement in the physical activity agenda and encourage increased investment and action.

The International Society for Physical Activity and Health (ISPAH) is a leading global organisation working to advance research, policy and practice to promote physical activity. One of ISPAH's goals is to lead advocacy actions to advance knowledge translation and improve policy and practice. Establishing consensus on 'what works' to change physical activity behaviour is a cornerstone of successful advocacy, as is having appropriate resources to communicate key messages to a wide range of stakeholders.<sup>10,11</sup>

In 2010, ISPAH published The Toronto Charter for Physical Activity, which was a call to all countries to make physical activity a priority for all.<sup>12</sup> Subsequently ISPAH published Noncommunicable Disease Prevention: Investments that Work for Physical Activity<sup>13</sup>, which provided a summary of the evidence on how to get populations more active across multiple sectors and settings. Successive global policy documents, and particularly the WHO Global Action Plan on Physical Activity 2018-2030, largely align with the actions recommended in ISPAH's 2011 Investments That Work document but include a key additional setting – workplaces.

Given the expanding evidence base on the effectiveness of interventions to promote physical activity and the inclusion of workplaces in the WHO Global Action Plan on Physical Activity 2018-2030, it was timely to review and update the 2011 Investments That Work document. The updated 2020 document includes eight investments.<sup>14</sup> In this paper we briefly introduce each investment area and reflect on how the updated document can be used to develop and support a clear physical activity advocacy strategy.

### **Methods**

The eight areas included in the updated document were agreed through consensus among the ISPAH board, based on the 2011 Investments That Work document and a review of actions in the WHO Global Action Plan on Physical Activity 2018-2030. A lead for each of the eight areas was identified, who undertook a non-systematic literature review.

Collaborations were formed between board members and experts outside of the board to draft each investment. All board members that contributed to the document reviewed all investment areas. The final content of each of the eight investments was agreed through consensus. The eight investments are explained below and summarised in Figure 1.

### **Eight Investments That Work for Physical Activity**

#### *1. 'Whole-of-school' programmes*

A whole-of-school approach is one which is multi-component and committed to promoting physical activity to all members of the school community, through supportive policies,

environments and sustainable opportunities. There is growing evidence that supports the efficacy of a range of physical activity promotion strategies in schools including: physical education programmes that develop confidence, competence and motivation to be active<sup>15</sup>; active classrooms<sup>16,17</sup>; after school physical activity opportunities<sup>18</sup>; activities during recess/break times<sup>19</sup>; and the promotion of active transport to and from school.<sup>20</sup>

### *2. Active transport*

Active transportation to and from places is a practical and sustainable way to increase daily physical activity for many people. Eight interventions have been identified that, when combined, have been shown to encourage walking, cycling, and public transport use, while reducing private motor vehicle use. These eight interventions are: improving destination accessibility; ensuring equitable distribution of employment across cities; managing demand by reducing availability and increasing the cost of parking; designing pedestrian-friendly and cycling-friendly infrastructure to support movement networks; achieving optimum levels of residential density; reducing distance to public transport; and enhancing the desirability of active travel modes.<sup>21</sup>

### *3. Active urban design*

The way urban and suburban environments are built and designed influences many of our conscious and unconscious behavioural choices. Research from cities around the world has shown that adults who live in the most activity-friendly neighbourhoods engage in at least an hour, and up to an hour and a half, of more physical activity per week than those living in

the least activity-friendly neighbourhoods.<sup>22</sup> The creation of neighbourhoods that locate shops, schools, parks, recreational facilities, jobs and other services near homes, and provide highly connected street networks that make it easy for people to walk and cycle to destinations, have been shown to increase physical activity while simultaneously providing many additional health and environmental benefits.<sup>23</sup>

#### *4. Health care*

Health care professionals come into contact with large proportions of the population and are a trusted source of health advice, therefore they have a key role to play in promoting physical activity to their patients. Evidence indicates that primary-care-based interventions, either targeting physical activity alone, or in combination with interventions for other modifiable risk factors such as tobacco use, the harmful use of alcohol and unhealthy diets, are effective<sup>24-26</sup> and most are also cost-effective.<sup>27</sup> There is strong evidence for providing brief advice and counselling, particularly when linked with community opportunities and support.<sup>28-30</sup>

#### *5. Public education, including mass media*

Public education, including mass media, can involve print, audio and electronic media, digital and social media, outdoor billboards and posters, public relations, and point of decision prompts. It can be used to increase knowledge, awareness and intention to increase physical activity.<sup>31,32</sup> National and community-based communication campaigns should follow best practice principles including positive framing, tailoring and targeting, and

use of theory and formative research.<sup>33</sup> Public education should be combined with supportive infrastructure and opportunities for physical activity, including community-based programmes.<sup>8,34</sup>

### *6. Sport and recreation for all*

There is increasing evidence on the wide-ranging health, social and economic benefits of sport<sup>35</sup>, and for many, playing and engaging in sport holds significant cultural meaning.<sup>36</sup> Participation in sport and recreation can be encouraged through the provision of accessible and appropriate places and spaces, including both indoor and outdoor facilities and amenities<sup>37</sup>, as well as opportunities through formal and informal clubs and programmes.<sup>38,39</sup> Mass events that engage whole communities can help to create a social norm for participation in sport and recreation.<sup>40,41</sup>

### *7. Workplaces*

The workplace is one of the most opportune settings for health promotion and can bring benefits to employers including reduced absenteeism<sup>42</sup> and burnout<sup>43</sup> among employees. Policies and programmes can include: designing workplace environments that promote incidental physical activity; supporting active commuting; educational events to inform employees of the benefits of physical activity; encouraging an active working culture (for example, walking meetings); providing employees with paid time and/or flexible time for physical activity; and encouraging self-monitoring for example through wearable devices or mobile phone apps.<sup>44,45</sup>



### *8. Community-wide programmes*

Community-wide programmes offer more than one approach to tackle physical inactivity in a population as they operate at multiple levels (e.g., individual, social network, neighbourhood, society) to impact on behaviour.<sup>46</sup> These programmes can use systems-based approaches and look to create supportive policies, environments and programmes to encourage whole communities to be more physically active. Community-wide programmes can include a mix of components identified in the preceding seven investment areas, with emphasis on multi-component programmes and broad community reach.<sup>47</sup> Settings such as community centres, shopping malls, aged care centres and faith-based settings might be particularly important for an inclusive community-wide approach.

### **Discussion**

It is well documented that physical inactivity is highly variable between countries and world regions, and there are many barriers to physical activity promotion, particularly in low- and middle-income countries which have many competing priorities.<sup>48</sup> While ISPAH's Eight Investments That Work for Physical Activity are supported by evidence of effectiveness and have wide applicability, the feasibility of implementation will be context specific. For this reason, there is no one place to start; countries should begin by implementing the investments that are considered most feasible, based on factors such as political will, leadership, resources, and existing provision.

The Eight Investments That Work document is a “*call to action for everyone, everywhere, including professionals, academics, civil society and decision makers, to embed physical activity in national and subnational policies*”.<sup>14</sup> To realise the greatest benefit from the eight investments, we encourage policymakers to adopt a systems-based approach.<sup>49</sup> Such an approach moves away from isolated individualised interventions to collaborative cross sector efforts that work in a complementary way to facilitate population levels of physical activity. In financially constrained times, a systems-approach also helps to make efficient use of scarce resources.

Implementing a systems-based approach to physical activity promotion requires engagement with a wide range of stakeholders across multiple sectors and acknowledgment of the co-benefits of physical activity. When communicating with stakeholders it is important to emphasise the benefits of physical activity that are likely to resonate with their current priorities.<sup>9,50</sup> A systems-based approach allows stakeholders to identify where they fit within a bigger picture, and to understand how their work contributes both to the problem and the solution. Communities also have a key role to play within a systems-based approach; they can mobilise local community assets, foster engagement from local residents, and provide insights on the reality of the problem.

To support physical activity advocacy, ISPAH has created a range of resources related to the eight investments described in this paper. Firstly, the ‘Eight Investments That Work for Physical Activity’ document itself, which summarises the evidence for each investment, as well as the benefits of adopting a systems-based approach.<sup>14</sup> This document is available in the six official languages of the United Nations, as well as a growing number of other

languages. We have adapted the content of Eight Investments That Work for Physical Activity into an infographic and animation video to increase awareness of the document, distil key information for a wide range of stakeholders and re-emphasise the “call to action”.<sup>51</sup> An audiobook has been created, along with podcasts on each investment area and the importance of taking a systems-based approach. These resources form part of the ‘advocacy toolkit’ which is available via the ISPAH website ([www.ispah.org/resources](http://www.ispah.org/resources)). These resources provide an entry point to conversations with stakeholders across multiple sectors and settings. It is critical that physical activity researchers, practitioners and policymakers around the world utilise these resources to raise awareness, encourage greater engagement, and make the case for investment and action.

### **Conclusion**

The physical activity field has advanced significantly in the decade since the Toronto Charter for Physical Activity.<sup>12</sup> Through confident articulation and advocacy for the right combination of policies, environments and opportunities for physical activity, we have seen these reflected in global and national policy documents. Through these policies and interventions, it is possible to create more physical activity friendly communities and support the global population towards leading more physically active lifestyles. This will lead to significant gains in both physical and mental health, as well as other benefits including more attractive and less polluted environments, more connected communities, improved transport systems, and a stronger economy. Given the impact of COVID-19 on population physical activity levels and mental health, there has never been a more critical time to invest in actions that work to increase population levels of physical activity.

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**References**

1. World Health Organization. Guidelines on physical activity and sedentary behaviour. Geneva, Switzerland: World Health Organization; 2020.
2. Bull F, Al-Ansari SS, Biddle S, Borodulin K, Buman M, Cardon G, Carty C, Chaput J-P, Chastin S, Chou R, Dempsey P, DiPietro L, Ekelund U, Firth J, Friedenreich C, Garcia L, Jago R, Katzmarzyk PT, Lambert E, Leitzmann M, Milton K, Ortega F, Ranasinghe C, Stamatakis E, Tiedemann A, Troiano R, van der Ploeg H, Willumsen J (2020) World Health Organization 2020 Global Guidelines on physical activity and sedentary behaviour. *Brit J Sport Med.* 2020;54(24):doi:10.1136/bjsports-2020-102955.
3. United Nations. Transforming our world: the 2030 agenda for sustainable development. New York: United Nations; 2015.

4. International Society for Physical Activity and Health. The Bangkok Declaration on Physical Activity for Global Health and Sustainable Development. International Society for Physical Activity and Health; 2016.
5. Guthold R, Stevens GA, Riley LM, Bull FC. Worldwide trends in insufficient physical activity from 2001 to 2016: a pooled analysis of 358 population-based surveys with 1.9 million participants. *Lancet Glob Health*. 2018;6(10):e1077-e1086.
6. Guthold R, Stevens GA, Riley LM, Bull FC. Global trends in insufficient physical activity among adolescents: a pooled analysis of 298 population-based surveys with 1.6 million participants. *Lancet Child Adolesc Health*. 2020;4(1):23-35.
7. Klepac Pogrmilovic B, Ramirez Varela A, Pratt M, Milton K, Bauman A, Biddle SJH, Pedisic Z. Availability, comprehensiveness, implementation and effectiveness of national physical activity and sedentary behaviour policies in 76 countries. *Int J Behav Nutr Phys*. 2020;17:116:doi:10.1186/s12966-020-01022-6.
8. World Health Organization. Global action plan on physical activity 2018-2030: more active people for a healthier world. Geneva, Switzerland: World Health Organization; 2018.
9. Milton K, Bauman A, Faulkner G, Hastings G, Bellew W, Williamson C, Kelly P. Maximising the impact of global and national physical activity guidelines – the critical

- role of communication strategies. *Brit J Sport Med*. 2020;54(24): doi:bjsports-2020-102324.
10. Shilton T. Creating and making the case: global advocacy for physical activity. *Journal of Physical Activity and Health*. 2008;5(6):765-76.
  11. Blanchard C, Shilton T, Bull F. Global advocacy for physical activity (GAPA): global leadership towards a raised profile. *Glob Health Promot*. 2014;20(4):suppl.2013.
  12. International Society for Physical Activity and Health. The Toronto charter for physical activity: a global call for action. International Society for Physical Activity and Health; 2010.
  13. International Society for Physical Activity and Health. Investments that work for physical activity. International Society for Physical Activity and Health; 2011.
  14. International Society for Physical Activity and Health. ISPAH's Eight Investments That Work for Physical Activity. International Society for Physical Activity and Health; 2020.
  15. Lonsdale C, Rosenkranz RR, Peralta LR, Bennie A, Fahey P, Lubans DR. A systematic review and meta-analysis of interventions designed to increase moderate-to-vigorous physical activity in school physical education lessons. *Prev Med*. 2013;56(2):152–61.

16. Norris E, Steen T Van, Direito A, Stamatakis E. Physically active lessons in schools and their impact on physical activity, educational, health and cognition outcomes: A systematic review and meta-analysis. *Br J Sport Med.* 2020;54(14):826-838.
17. Seljebotn PH, Skage I, Riskedal A, Olsen M, Kvalø SE, Dyrstad SM. Physically active academic lessons and effect on physical activity and aerobic fitness. *The Active School study: A cluster randomized controlled trial. Prev Med Reports.* 2019;13(October 2018):183-188.
18. Mears R, Jago R. Effectiveness of after-school interventions at increasing moderate-to-vigorous physical activity levels in 5- to 18-year olds: A systematic review and meta-analysis. *Br J Sport Med.* 2016;50(21):1315-1324.
19. Erwin HE, Ickes M, Ahn S, Fedewa A. Impact of Recess Interventions on Children's Physical Activity—A Meta-Analysis. *Am J Heal Promot.* 2014;28(3):159-167.
20. Haapala HL, Hirvensalo MH, Laine K, Laakso L, Hakonen H, Lintunen T, Tammelin TH. Adolescents' physical activity at recess and actions to promote a physically active school day in four Finnish schools. *Health Educ Res.* 2014;29(5):840-852.
21. Giles-Corti B, Vernez-Moudon A, Reis R, Turrell G, Dannerberg AL, Badland H, Foster S, Lowe M, Sallis JF, Stevenson M, Owen N. City planning and population health: a global challenge. *Lancet.* 2016;388:2912-2924.

22. Sallis JF, Cerin E, Conway TL, Adams MA, Frank LD, Pratt M, Salvo D, Schipperijn J, Smith G, Cain KL, Davey R, Kerr J, Lai PC, Mitas J, Reis R, Sarmiento OL, Schofield G, Troelsen J, Van Dyck D, De Bourdeaudhuij I, Owen N. Urban Environments in 14 Cities Worldwide Are Related to Physical Activity. *Lancet*. 2016a;87:2207-2217.
23. Sallis JF, Bull F, Burdett R, Frank LD, Griffiths P, Giles-Corti B, Stevenson M. Use of science to guide city planning policy and practice: how to achieve healthy and sustainable future cities. *Lancet*. 2016b;388:2936-2947.
24. Vuori IM, Lavie CJ, Blair SN. Physical activity promotion in the health care system. *Mayo Clinic Proceedings*. 2013;88:1446-1461.
25. Sanchez A, Bully P, Martinez C, Grandes G. Effectiveness of physical activity promotion interventions in primary care: A review of reviews. *Prev Med*. 2015;76(suppl):S56–S67:doi: 0.1016/j.ypmed.2014.09.012.
26. Onerup A, Arvidsson FD, Blomqvist A, Daxberg EL, Jivegard L, Jonsdottir IH, Lundqvist S, Mellen A, Persson J, Sjogren P, Svanberg T, Borjesson M. Physical activity on prescription in accordance with the Swedish model increases physical activity: a systematic review. *Br J Sport Med*. 2019;53(6):383-388.
27. Zubala A, MacGillivray S, Frost H, Kroll T, Skelton DA, Gavine A, Gray NM, Toma M, Morris J. Promotion of physical activity interventions for community dwelling older adults: A systematic review of reviews. *PloS one*. 2017;12(7):e0180902.



28. Lamming L, Pears S, Mason D, et al. What do we know about brief interventions for physical activity that could be delivered in primary care consultations? A systematic review of reviews. *Prev Med.* 2017;99:152– 163:doi:10.1016/j.ypmed.2017.02.017.
29. Sanchez A, Bully P, Martinez C, Grandes G. Effectiveness of physical activity promotion interventions in primary care: A review of reviews. *Prev Med.* 2015;76 Suppl:S56-S67.doi:10.1016/j.ypmed.2014.09.012.
30. Orrow G, Kinmonth AL, Sanderson S, Sutton S. Effectiveness of physical activity promotion based in primary care: Systematic review and meta-analysis of randomised controlled trials. *BMJ.* 2012;344(7850):16.doi:10.1136/bmj.e1389.
31. Bauman A, Smith BJ, Maibach EW, Reger-Nash R. Evaluation of mass media campaigns for physical activity. *Eval Progr Plan.* 2006;29:312-322:doi:10.1016/j.evalprogplan.2005.12.004.
32. Gordon R, McDermott L, Stead M, Angus K, Hastings G. A Review of the Effectiveness of Social Marketing Physical Activity Interventions. Sterling, UK: National Social Marketing Centre; 2006.
33. Williamson C, Baker G, Mutrie N, Niven A, Kelly P. Get the message? A scoping review of physical activity messaging. *Int J Behav Nutr Phys Act.* 2020;17:1-5.

34. Grunseit A, Bellew B, Goldbaum E, Gale J, Bauman A. Mass media campaigns addressing physical activity, nutrition and obesity in Australia: an updated narrative review. Sydney, Australia: The Australian Prevention Partnership Centre; 2016.
35. UNESCO. 'Kazan Action Plan'. Outcome Document of the Sixth International Conference of Ministers and Senior Officials Responsible for Physical Education and Sport (MINEPS VI), Kazan, 13–15 July, 2017.
36. Hulteen RM, Smith JJ, Morgan PJ, Barnett LM, Hallal PC, Colyvas K, Lubans DR. Global participation in sport and leisure-time physical activities: A systematic review and meta-analysis. *Prev Med.* 2017;95:14-25.
37. Hanlon C, Jenkin C, Craike M. Associations between environmental attributes of facilities and female participation in sport: a systematic review. *Manag Sport Leis.* 2019;24(5):294-306.
38. Ooms L, Veenhof C, Schipper-van Veldhoven N, de Bakker DH. Sporting programs for inactive population groups: factors influencing implementation in the organized sports setting. *BMC Sports Sci Med Rehabil.* 2015;7(1):12.doi:10.1186/s13102-015-0007-8.
39. Eime RM, Harvey JT, Brown WJ, Payne WR. Does sports club participation contribute to health-related quality of life. *Med Sci Sports Exerc.* 2010;42(5):1022-8.

40. Stevinson C, Hickson M. Exploring the public health potential of a mass community participation event. *J Public Health*. 2014;36(2):268-74.
41. Chalip L, Green BC, Taks M, Misener L. Creating sport participation from sport events: Making it happen. *Int J Sport Policy*. 2017;9(2):257-76.
42. Lopez Bueno R, Casajus Mallen JA, Garatachea Vallejo N: Physical activity as a tool to reduce disease-related work absenteeism in sedentary employees: A systematic review. *Rev Esp Salud Publica*. 2018;92:e:201810071.
43. Naczenski LM, Vries JD, Hooff M, Kompier MAJ: Systematic review of the association between physical activity and burnout. *J Occup Health*. 2017;59(6):477-494.
44. Plotnikoff R, Morgan P, Gilson N, Kennedy S: Action area 2: Workplaces. In: *Blueprint for an Active Australia*. 3<sup>rd</sup> ed. Melbourne, Australia; 2019.
45. Whitsel LP, Pate RR, Ablah E, Lemon SC, Pronk NP, Wojcik JR, Walker A, Grossmeier J, Pollack KM, Whitsel LP, Bryant CX, Whitsel IP, Arena R, Kaminsky LA, Berrigan D, Katzmarzyk PT, Calitz C, Grossmeier J, Pshock J, Lobelo F, Pronk NP. Editor's Desk: Promoting Physical Activity in the Workplace. *Am J Health Promot*. 2019;33(2):312-326.
46. Spence JC, Lee RE. Toward a comprehensive model of physical activity. *Psychol Sport Exerc*. 2003;4:7-24.

47. Baker PRA, Francis DP, Soares J, Weightman AL, Foster C. Community wide interventions for increasing physical activity. Cochrane Database of Systematic Reviews. 2015;Issue 1.Art. No.:CD008366.
48. Lambert EV, Kolbe-Alexander T, Adlakha D, Oyeyemi A, Anokye NK, Goenka S, Mogrovejo P, Salvo D. Making the case for 'physical activity security': the 2020 WHO guidelines on physical activity and sedentary behaviour from a Global South perspective. Br J Sports Med. 2020; 54(24):1447-1448.
49. Rutter H, Cavill N, Bauman A, Bull F. Systems approaches to global and national physical activity plans. B World Health Organ. 2019;97(2):162-165.
50. Bourne L. Targeted communication: the key to effective stakeholder engagement. Procedia Soc Behav Sci. 2016;226:431-438.
51. International Society for Physical Activity and Health. Infographic. ISPAH's Eight Investments That Work for Physical Activity: infographic, animation and call to action. Brit J Sport Med. 2021;doi:10.1136/bjsports-2020-103635.