

## **EIGHT INVESTMENTS THAT WORK FOR PHYSICAL ACTIVITY**



This ISPAH document provides an overview of best evidence which can be used to advocate, inform and lead physical activity policy and discussion.

A call to action for everyone, everywhere, including professionals, academics, civil society and decision makers, to embed physical activity in national and subnational policies.

## PHYSICAL ACTIVITY IS A POWERFUL INVESTMENT FOR BETTER HEALTH, AND A SUSTAINABLE AND PRODUCTIVE WORLD

Physical activity is an encompassing term for human movement, in homes, villages, schools, cities, organisations and communities, and is undertaken for many reasons. It is inclusive of both incidental and deliberate bodily movement at work or home, while travelling or for leisure.

More than 1.4 billion adults globally do not achieve minimum recommended levels of physical activity (1), and are, therefore, at increased risk of non-communicable diseases (NCDs) (2). Conservatively, physical inactivity costs the global economy \$USD 68 billion yearly (3). Current physical activity prevalence prevents 3.9 million deaths per year globally (4). Conversely, insufficient physical activity is responsible for more than 5 million annual preventable deaths (2, 5).

Physical inactivity is related (directly and indirectly) to the other leading risk factors for NCDs such as high blood pressure, high cholesterol and high glucose levels and to the recent striking increases in childhood and adult obesity, not only in high-income countries (HIC) but also in many low- and middle-income countries (LMIC) (2). Nearly 80% of NCD deaths (28 million) occur in LMIC countries (6), indicating a large potential for preventive interventions in LMIC settings. In addition to the physical health benefits, physical activity can enhance mental and social health and well-being as well as provide cognitive health benefits all at individual and community levels (5).

One in four adults and four in five adolescents are insufficiently physically active globally (1, 7). As a public health issue, the current level of physical inactivity has been characterised as a global pandemic (8).

### SYSTEMS-BASED APPROACHES ARE REQUIRED TO INCREASE PHYSICAL ACTIVITY

A systems-based approach unites the expertise and enthusiasm from across all components of the system, from individual, community, societal and political layers, to develop a shared understanding about the complexity of a problem (i.e., physical inactivity), map key players, and identify points to disrupt the system (9). The system will include people, communities, organisations, resources (knowledge, money, time), physical and social environments, built infrastructure, and the economy more broadly.

The critical aspect of a systems-based approach is not expecting interventions to work in isolation and moving away from this somewhat traditional approach. Instead, we must understand the way systems work in context, how the system responds, and how public health approaches could adapt according to the needs of the system.

In bringing together a collection of stakeholders (locally, nationally, or internationally) to understand the root causes of physical inactivity, systems-based approaches enable each stakeholder to see where they fit within a bigger picture. Wider stakeholders – who may not previously have engaged in the physical activity agenda – can see how their work contributes both to the problem, and conversely, to the solution. This document can be a platform to identify and reach out to key stakeholders to commence physical activity conversations.

Communities have a key role to play within a systems-based approach; they can mobilise local community assets, foster engagement from local residents, and provide real-life insights about the reality of the problem.

Several factors are required to support the adoption of a systems-based approach with community involvement (10). The first is identifying and obtaining the support of people who shape the system – be that government officials or influential local residents. The second is allowing time to build or strengthen relationships, to develop trust between partners, and to ensure there is capacity and capability within the system for change. Finally, to ensure the sustainability of the approach, appropriate governance is needed, and moreover, the alignment of several agendas will enable cross-sectoral stakeholders to benefit from their engagement.

A systems-based approach to increasing population levels of physical activity will include commitment to (11):

- 1. National policy
- 2. Local policies and regulations
- 3. Accessible programmes across the life course
- 4. Supportive environments
- 5. Partnerships across sectors and with communities



In addition, system supports are required to ensure a robust implementation of policy. These include:

- 1. National physical activity guidelines (or adoption or adaptation of global guidelines)
- 2. Investment in strong institutions to lead the physical activity agenda
- 3. Support for physical activity monitoring, surveillance and research
- 4. Investment in advancing competencies in the physical activity workforce
- 5. Ensuring sustainable financing for policy implementation at scale

These considerations provide important systems support for policy and for these ISPAH 8 Investments.

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PHYSICAL ACTIVITY HELPS TO CREATE A BETTER AND SUSTAINABLE WORLD FOR EVERYONE

The benefits of physical activity extend beyond health and contribute directly to achieving many of the United Nations 2030 Sustainable Development Goals (SDGs) (12), including reduced use of fossil fuels; reduced air pollution; less congested and safer roads; reduced inequalities; increased gender equality; sustainability of cities; and increased industry productivity.

In its Bangkok Declaration of 2016 (13) the International Society for Physical Activity and Health (ISPAH) recognised the many cross-sector benefits of physical activity and its contribution to achieving many of the SDGs (see Figure 1). The contribution of physical activity to the SDGs is further acknowledged in the World Health Organization (WHO) Global Action Plan on Physical Activity 2018-2030 (GAPPA) (14).



Figure 1: Economic, social and environmental co-benefits of policy action to increase physical activity (taken from, Active: A Technical Package for Increasing Physical Activity (15)).

Health inequities are differences in health status between population groups that are socially produced and systematic in their unequal distribution across the population. In keeping with the SDGs, physical activity can be a powerful tool for promoting equity. This can be realised through the delivery of transport infrastructure that favours walking and cycling, ensuring accessibility to community services and facilities for older adults and people with disabilities, delivery of robust physical education for all girls and boys as well as accessible and affordable access to sport and recreation services for people of all ages.

### BUILDING ON THE WHO GLOBAL ACTION PLAN FOR PHYSICAL ACTIVITY 2018-2030

Endorsed by the World Health Assembly in May 2018, and launched in June of the same year, the GAPPA sets targets for all countries to reduce physical inactivity by 10% by 2025, and 15% by 2030 (14). The GAPPA outlines four strategic objectives and 20 policy actions. The four strategic objectives are:

- 1. Active societies (social norms and attitudes)
- 2. Active environments (spaces and places)
- 3. Active people (programmes and opportunities)
- 4. Active systems (governance and policy enablers)

The Toronto Charter for Physical Activity (16) was a landmark document outlining the direct health and co-benefits of investing in policies and programmes to increase physical activity. Building on this, the accompanying Investments that Work for Physical Activity (17) provided guidance on evidence-informed investments to increase physical activity.

This 2020 update to *Investments that Work for Physical Activity* builds on the physical activity strategies of the 2011 version (17) and, when used in conjunction with the GAPPA (14), will assist professionals, planners, practitioners, policy makers and member states to respond to the current pandemic of physical inactivity.

### THERE IS NO SINGLE SOLUTION

Physical inactivity is a complex public health issue with multiple interacting influences. It has been said that "For every complex problem there is an answer that is clear, simple, and wrong" (18). Searching for a single solution to increasing physical activity may have hampered progress in this field, by encouraging focus on simple, often short-term, individual-level health outcomes, rather than complex, multiple, upstream, population-level actions and outcomes (19).

In many ways, a systems-based approach builds on previous uses of a socio-ecological model that placed the drivers of physical activity in their social and environmental context (20). A systems-based approach adds the dynamic connections between the factors that collectively form the system and considers how stakeholders interact with the factors. A systems-based approach can help make sense of what otherwise might be perceived as diverse and chaotic relations between large numbers of factors and their physical, commercial, sociocultural and political contexts (21). Effective approaches to tackling inactivity will thus require multiple concurrent polices, strategies and actions to be implemented across settings and sectors (see Investment 8).

To support countries, states, cities, towns and villages ready to respond, ISPAH outlines eight investments that work for physical activity, which are supported by good evidence of effectiveness and have worldwide applicability.

The updated ISPAH eight investments below can be readily mapped against the framework for action in the WHO GAPPA and its four strategic objectives (14).

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# 8 INVESTMENTS FOR PHYSICAL ACTIVITY



1. WHOLE-OF-SCHOOL PROGRAMMES



於念。2. ACTIVE TRANSPORT



3. ACTIVE URBAN DESIGN



4. HEALTHCARE



5. PUBLIC EDUCATION, INCLUDING MASS MEDIA



6. SPORT AND RECREATION FOR ALL



7. WORKPLACES



8. COMMUNITY-WIDE PROGRAMMES

### WHOLE-OF-SCHOOL PROGRAMMES

A whole-of-school approach to physical activity involves: prioritising regular, high quality, physical education classes; providing suitable physical environments and resources to support structured and unstructured physical activity throughout the day (e.g. play and recreation before, during and after school); supporting active travel to school programmes; and enabling these actions through supportive school policies and by engaging staff, students, parents and the wider community. A whole-of-school approach can provide maximal opportunities for school-based physical activity participation, particularly given that children spend more time in schools than any other venue away from home. In addition, schools provide access to a wide range of children from across the population, regardless of social background and over a continuous period of time (22).

While there is a growing evidence base that supports the efficacy of individual components of whole-of-school programmes e.g., physical education programmes (23), active classrooms (24, 25), after school physical activity (26) and recess (27), their effectiveness have more often than not been examined in isolation and there is a lack of evidence investigating the implementation of comprehensive wholeof-school programmes at multiple levels and with different stakeholders (28). However, multicomponent school physical activity programmes which combine several physical activity opportunities across the school, have been most consistently successful in increasing students' physical activity (29) and have been demonstrated to be sustained in the long-term (30). One of the most well-known and successful multicomponent programmes is Finland's Schools on the Move (31). Research on the programme has demonstrated increased physical activity during recess and throughout the school day, more recess time spent outdoors, more active commuting to school during winter and greater student involvement in the planning of school activities (31, 32).

The GAPPA states the need to strengthen the implementation of whole-of-school programmes (14) and expand, extend and enhance whole-of-school components to improve student's physical activity opportunities. Policies and systems need to be developed to support the implementation of high-quality programmes to increase the likelihood that whole-of-school programmes are effective at changing overall physical activity in children and young people (33).





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### **ACTIVE TRAVEL**

Travel is integral to everyone's daily lives, whether it is moving between home and work, meeting friends and peers, to do the shopping, and for many other reasons. Often, transport is a necessary and utilitarian activity that cannot be avoided and is a social determinant of health.

Because travel takes up a relatively large proportion of people's daily time, integrating more physical activity into transportation is a practical and sustainable way to increase daily physical activity (34). Shorter (<5km) car trips can often be replaced by bicycling, if safe and well-connected infrastructure for cycling is available (35). Improving public transportation will lead to more people walking or cycling to and from stops or stations, which adds a significant amount of physical activity to people's daily life (36). Increasing active transportation will provide many co-benefits such as improved air quality, reduced traffic congestion, and reduced carbon dioxide emissions (36).

Designing cities so they support walking, cycling and public transportation instead of driving requires a considerable change in thinking in many countries where cities have been, and still are, designed in a car-centric way (37). In 2016, the Lancet published a series with three papers in which the links between urban design, transport and health were explored (36, 38, 39). In the first series paper, eight integrated regional and local urban design interventions were identified that, when combined, encouraged walking, cycling, and public transport use, while reducing private motor vehicle use (36). These eight interventions were: destination accessibility; equitable distribution of employment across cities; managing demand by reducing the availability and increasing the cost of parking; designing pedestrianfriendly and cycling-friendly movement networks; achieving optimum levels of residential density; reducing distance to public transport; and enhancing the desirability of active travel modes.



Several cities around the world are actively working towards increasing walking, cycling and public transportation. In Melbourne, Australia, Plan Melbourne (2017-2050) is guided by the principle of 20-minute neighbourhoods (40). The 20-minute neighbourhood is all about 'living locally'—giving people the ability to meet most of their daily needs within a 20-minute walk from home, with safe cycling and local transport options. In Paris, France, Mayor Anne Hidalgo advocates for a '15-minute city', and many investments in cycling infrastructure over the past few years have seen the share of cyclists rise by 54% (41). In Ghent, Belgium, a 25% increase in cycling was reported in the first year of implementing its new traffic plan (42). Large increases in funding for walking and cycling have also been announced in Ireland (43) and the United Kingdom (44).



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### **ACTIVE URBAN DESIGN**

Since 2007, the majority of the world's population live in cities. This is projected to grow to 68% in 2050 (45, 46). The way cities are built and designed impacts many of our conscious and unconscious behavioural choices. An international study of physical activity in 14 cities around the world showed that adults who lived in the most activity-friendly neighbourhoods engaged in 68 to 89 minutes more physical activity per week than those living in the least activity-friendly neighbourhoods (47). Across the 14 very different cities, on five continents, residents living in neighbourhoods with a higher residential density, a more connected street-network, a good public transportation network and more parks, were more active than residents living in other neighbourhoods (47). These built environment elements most likely effect two types of physical activity behaviour; (i) the availability of opportunities for recreational activity, such as parks and urban green spaces, influences recreational physical activity; (ii) whereas more destinations, shorter distances and a better walking, cycling and public transportation infrastructure influence transport-related physical activity.

A paper in the Lancet series on urban design, transport and health recommends cities to actively pursue compact and mixed-use urban designs that encourage a transport modal shift away from private motor vehicles towards walking, cycling, and public transport (39). In another paper in the same series, using a health impact assessment framework, the population health effects of land-use changes were modelled to reflect a compact city, which resulted in health gains (38).

The conclusion of the Lancet series highlighted built environment attributes that will increase physical activity while simultaneously providing many additional health and environmental benefits. These included creating compact cities that locate shops, schools, other services, parks and recreational facilities, as well as jobs near homes, and providing highly connected street networks that make it easy for people to walk and cycle to destinations.







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### **HEALTHCARE**

Healthcare professionals come into contact with large proportions of the population, and frequently interact with people with chronic disease such as diabetes, or risk factors for cardiovascular disease such as hypertension (48). Besides the extensive population reach of healthcare professionals, they are widely respected and trusted, meaning they have considerable potential to influence public and individual opinion (49, 50).

Evidence indicates that healthcare based interventions, either targeting physical activity alone, or combined with interventions for other modifiable risk factors such as tobacco use, the harmful use of alcohol and unhealthy diets, are effective (51-53) and most are also cost-effective (54). There is particularly strong evidence for providing brief advice and for signposting or referral of patients to physical activity opportunities within the community (55, 56). Interventions are most effective when inactive individuals with the greatest readiness to change are identified, simple and realistic advice is given, and behavioural and cognitive approaches are used to facilitate the adoption and maintenance of physical activity (51).

The GAPPA states the need to strengthen pre- and in-service training of health professionals (including doctors, nurses, and other allied health professionals), to increase knowledge and skills (14). Health professionals should be competent to undertake assessment and provide brief advice and/or counselling on physical activity in routine practice. It is also important that health professionals are aware of appropriate opportunities so they can advise patients on how to increase their activity levels. Physical activity promotion in healthcare should focus on both primary and secondary prevention, given there is strong evidence on the benefits of physical activity for both prevention and disease management (2). Policies and systems need to be developed to support the integration of physical activity into routine care, including financing of clinical preventive services and dissemination of tools for assessing, advising and following-up patients.





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### **PUBLIC EDUCATION, INCLUDING MASS MEDIA**

Public education can involve print, audio and electronic media, digital and social media, outdoor billboards and posters, public relations, point of decision prompts and mass-distribution of information.

Mass media provide an effective way to transmit consistent and clear messages about physical activity to large populations. In most countries, physical activity promotion is absent from mass media. Both paid and non-paid forms of media can raise awareness of health benefits, inform about targets and activity guidelines, raise motivation to be active and to stay active, raise self-efficacy to be active, and impact attitudes, beliefs and intentions. Media can also increase awareness of opportunities and ways to be active, stimulate increases in help-seeking behaviours (e.g., interaction on a social media platform or helpline) and contribute to building cultural norms that are favourable to physical activity (57). Best practice communication campaigns and community campaigns to enhance awareness and understanding are identified in the GAPPA (14).

In recent years there has been a rapid expansion of 'new media', including social and digital media and other uses of hand-held devices, wearable devices and the internet. These new media provide important contemporary opportunities to reach mass audiences in cost-effective ways (58). These communications are often interactive (two-way or group), they may be linked to specific programmes, they can be tailored to demographic segments, linked to hand-held or wearable devices, and can respond to objective and personalised data inputs in individually tailored ways. Some internet-based interventions have reported significant increases in physical activity (59).

A review of the evidence for physical activity communication has shown that:

- 1. Physical activity messages should be framed positively and highlight short-term outcomes specifically relating to social and mental health.
- 2. Message content should be tailored or targeted to the intended recipient(s).
- 3. When developing messages, formative research, psychological theory and/or social marketing principles should be used (60).



Photo Credit: Leo Reynolds. Could you get off a stop earlier? (CC BY-NC-SA 2.0) Available from: https://flic.kr/p/6MBb39

A 2019 review of reviews reported that mass media was found to increase knowledge. awareness, and intention for physical activity; but impact on physical activity behaviour was mixed (61). Public education and communication on its own will likely have limited effect on behaviour, emphasising the importance of a systems-based approach. However, when complemented by health promotion activities such as the provision of programme opportunities and infrastructure supports this will enhance outcomes (62). Consistent with a systems-based approach, public education as part of a combination of approaches such as community-based events and community engagement, adequately funded, based on sound theory and sustained over time are recommended as most effective in achieving positive impacts (63, 64).

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### **SPORT AND RECREATION FOR ALL**

Playing and engaging in sport is popular worldwide and for many holds significant cultural meaning (65). Shifting trends in global participation have resulted in stagnant and declining levels of participation in organised sport (65, 66). Instead, individuals are frequently choosing informal, social sport and recreation opportunities (67, 68).

Political and strategic directions globally (14, 69-71) have acknowledged the breadth and depth of positive population outcomes associated with engagement and participation at all levels of sport and recreation (72), including active participation and volunteering throughout the life course (72, 73). Specifically, sport and recreation, including sport for development, has been linked to eight of the United Nations SDGs, with direct links to health, social, economic, development, peace and sustainability agendas (74-78).

Creating positive attitudes and fostering sport and recreation as a social norm can be achieved through mass sport and recreation events that engage whole communities, as well as mass communication campaigns that focus on the cobenefits of participation (14) (see section 5). Enhancing the visibility of elite sportspeople can create positive role models, inspiring participation in sport and recreation. Legacy plans for sport and recreation should be embedded within wider legacy efforts that run alongside the hosting of major events (79, 80).

People need places and spaces for sport and recreation (14). Opportunities for partnering with stakeholders responsible for urban planning and land use policy should be enacted to ensure equitable access to sport and recreation facilities and amenities (14).

Sport and recreation opportunities must target audiences where the need may be greatest or participation rates may be lower (including women and girls, people with disabilities, older adults and culturally linguistic and diverse groups) as well as fostering positive experiences to retain existing, and returning, participants (14). High-quality delivery can be achieved by the diversification of the sporting workforce and enhancing the capability and capacity of delivery organisations (14, 70).





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### **WORKPLACES**

Previously, many occupational tasks required employees to be physically active, however, this has decreased with the automation and computerisation of many work-related tasks, resulting in an overall decrease in habitual levels of physical activity (81). The workplace is one of the most opportune settings for health promotion as most adults spend at least one-third of their day at work (81, 82). The investment in physical activity-based interventions in the workplace is a priority as well as a 'strategic business enhancement' opportunity (81).

Workplace-based physical activity interventions can provide numerous physical, mental, and social health benefits as well as reduced absenteeism (83) and burnout (84) among employees. As such, the GAPPA states the need to enhance provision of, and opportunities for, physical activity programmes and promotion in workplace environments that facilitate people of all abilities to be physically active (14). Workplace policies that are developed and tailored for various sectors, should encourage and promote physical activity for all employees and promote a culture of health (85). Policies and programmes might relate to: designing workplace environments that promote incidental physical activity; supporting active commuting; physically active social activities; educational events to inform employees on the benefits of physical activity; encouraging an active working culture (for example, walking meetings); and providing employees with paid time for exercise and/or flexible time for physical activity (81). Interventions that include wearable devices, mobile phone apps and web-based initiatives are also encouraged (86). Importantly, information related to the policies should be disseminated and implemented with all employees.

The WHO's Healthy Workplace model encourages a holistic approach to implementing physical activity in the workplace (87). The first step is to mobilise employers and employees and conduct a needs analysis. Establishing a healthy workplace committee and champions, including a range of stakeholders, is part of the second step. Wellness ambassadors or health champions is an effective strategy to engage hard to reach workers, such as shift workers or those located in regional offices, and to encourage employee uptake (88). After assessing health status and lifestyle behaviours (and other outcomes of interest such as sick leave), the committee should prioritise the focus area for interventions. Implementing the intervention must include evaluation.



Photo Credit: Longtrekhome. Falun Dafa the second exercise, standing meditation. (CC BY-NC-SA 2.0) Available from: https://flic.kr/p/4MmtnT

The most successful interventions are based in workplaces that have embedded a culture of wellness (89). Workplaces should ensure that their initiatives are "supported by solid strategic plans with measurable goals" (89). The following six strategies increase the likelihood of effective and sustained physical activity initiatives in workplaces: (i) active leadership support and commitment; (ii) participation by stakeholders in the organisation including employees and labour unions; (iii) policies; (iv) supportive built and social environments; (v) comprehensive, multicomponent and collaborative initiatives; and (vi) data-driven change to inform ongoing and future initiatives (89, 90).

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### **COMMUNITY-WIDE PROGRAMMES**

Community-wide programmes offer more than one approach to tackle physical inactivity for a population as they operate at a series of levels to impact on behaviour. These levels reflect systems-based approaches and look to change policies, e.g., to improve the built environment and provide programmes. Effective components of community-wide programmes include a mix of mass media and settings-based programmes (e.g., healthcare or schools). These combinations of policy, environment and programmes are more effective to increase population levels of physical activity as they target different types of physical activities, work, active travel and recreation (sections 7, 2 and 6 respectively). Baker et al., suggested that examples of community-wide programmes included a mix of (91):

- 1. Social marketing through local mass media (e.g., television, radio, newspapers).
- 2. Other communication strategies (e.g., posters, flyers, information booklets, websites, maps) to raise awareness of physical activity opportunities and provide specific information to individuals in the community.
- 3. Individual counselling by health professionals (both publicly and privately funded), and referral to local physical activity opportunities.
- 4. Working with voluntary, government and nongovernment organisations, including sporting clubs, to encourage participation in walking, other activities and events.
- 5. Working within specific settings such as schools, workplaces, aged care centres, community centres, homeless shelters, and shopping malls. This may include settings that provide an opportunity to reach disadvantaged persons.
- 6. Environmental change strategies such as creation of walking trails and infrastructure with legislative, fiscal or policy requirements, and planning for the broader population.



Evidence shows positive impacts of community-wide programmes for increasing physical activity, particularly levels of walking and active transport (91, 92). There is also evidence from mass media and environmental infrastructure or community events, and environmental change approaches (93). Built environment infrastructure, alongside media campaigns, have been shown to increase active travel physical activity (94, 95). One community-wide intervention incorporating focused promotion strategies was effective at increasing populationlevel physical activity when sustained for several years (96). Community approaches have been very popular in Latin American countries, with networks to encourage their adoption, adaption and scaling up underway (97). Using technology and social media has also added to the reach of these programmes.

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## OTHER COMPLEMENTARY DOCUMENTS

ISPAH's Eight Investments that Work for Physical Activity is updated from the 2011 ISPAH document, Investments that Work for Physical Activity (ISPAH 2011).

This document complements other ISPAH policy documents:

- The International Society for Physical Activity and Health (ISPAH) (2010). The Toronto Charter for Physical Activity: A Global Call to Action. https://ispah.org/resources/keyresources/
- The International Society for Physical Activity and Health (ISPAH) (2016). The Bangkok Declaration on Physical Activity for Global Health and Sustainable Development. https://ispah.org/resources/key-resources/

It can be used in conjunction with WHO documents:

- WHO Global Action Plan on NCDs 2013-2020 (WHO 2013)
   https://www.who.int/nmh/events/ncd\_action\_ plan/en/
- WHO Global Action Plan on Physical Activity 2018-2030 (GAPPA) (WHO 2018) https://ispah.org/resources/additionalresources/

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**Contributors:** Trevor Shilton, Matthew McLaughlin, Lindsey Reece, Anna Chalkley, Sjaan Gomersall, Jasper Schipperijn, Karen Milton, Maria Hagströmer, Ben Smith, Paul Kelly, Tracy Kolbe-Alexander, Jacqueline Mair, Charlie Foster, James Nobles, Nick Cavill.

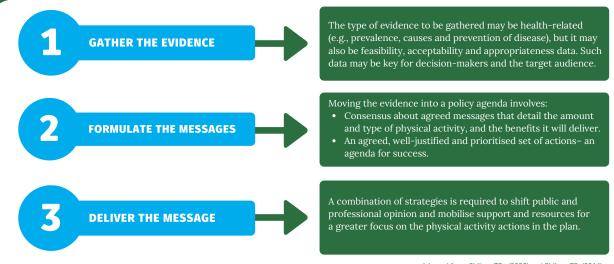


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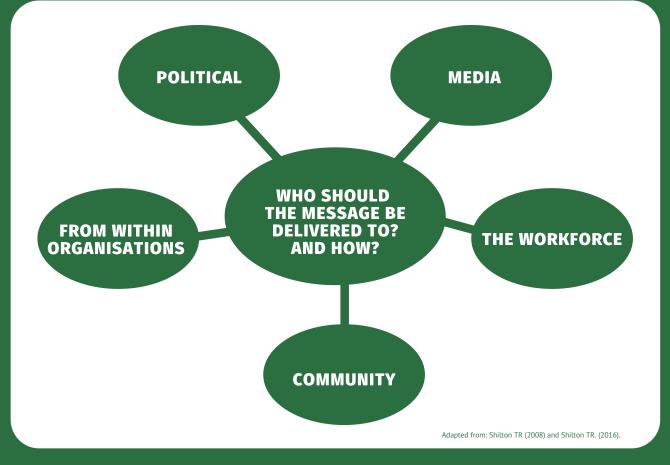
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