

## 3. Policy domains for action

### 3.1 The education domain and physical activity

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#### 3.1.1 How does this domain contribute to a more active society?

The education domain refers to preschool, primary and secondary school, and tertiary phases of education including vocational and adult education. In Australia, education at preschool, primary, secondary and tertiary phases are widely accessed by the general population. Educational attainment is associated with greater physical activity (PA) participation, improved socioeconomic status and better health and wellbeing. In 2017, 87% of preschool-aged children attended a preschool or preschool program; and 58% of 2–3 year old children and 45% of four-year-old children attended formal childcare.<sup>1</sup> Formal education starts around age five (Kindergarten/Prep) in Australia and is compulsory until completion of Year 10 (age 15–16). Young people must then participate in full-time education, employment or training (or a combination) until age 17.<sup>2</sup>

During formal education years, almost all Australian children are enrolled in school. During adolescence for females and early adulthood for males, the proportion of the population participating in education declines sharply with age, although nearly one in five (19%) people aged 15 to 64 years in Australia are enrolled in formal study annually.<sup>3</sup> Tertiary education is most common among those aged 17–21 years old. Each of these education phases has the potential to make an important contribution to building people's knowledge, understanding, and appreciation for the multiple benefits of regular PA.

The core function of the education domain is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all<sup>4</sup> but the importance of educational settings for public health interventions is widely recognised; they allow targeted interventions to influence a large subpopulation for a substantial proportion of time. There is some evidence that exposure to PA opportunities for children and adolescents within education settings to establish active behaviours, tracks into later life.<sup>5–7</sup> There is a need to increase efforts to ensure greater empowerment and inclusive participation for young people with special educational needs<sup>8</sup>, physical disabilities<sup>9</sup>, and to address inequities in participation associated with gender, socioeconomic or cultural/linguistic background.<sup>10</sup>

Physical education (PE) and PA are described in the [United Nations Sustainable Development Goals](#) (SDG 4.1) as “*fundamental rights for all*” and, should be integrated throughout the education domain.<sup>11</sup> Quality PE which ensures inclusive access for all and supportive environments in educational settings are essential to establish physical and health literacy for long-lasting healthy, active lifestyles; however PE alone is not sufficient nor solely responsible for ensuring improvements in physical literacy.<sup>11,12,13</sup> In Australia, PA policies (for government schools) generally recommend at least 120 minutes per week of scheduled PE classes and organised school sport activities.<sup>14</sup> Few jurisdictions meet the Active Healthy Kids Australia 2016 recommendation of at least 150 minutes of scheduled PA during school time each week<sup>14</sup>, which would contribute just over one-third towards the total amount recommended for children under the Australian guidelines (the remaining amount may be gained through other activities and settings e.g. active transport to and from school, active play at home, sport participation in community settings). However, these school policies are generally not mandated across all year levels or monitored widely in Australia.<sup>15</sup> The Australian Curriculum for Health and Physical Education is described clearly on the website maintained by the Australian Curriculum, Assessment and Reporting Authority (see [here](#)).<sup>16</sup>

PA can make a significant contribution to achieving the objectives of education providers.<sup>11</sup> There is strong evidence that PA participation during structured breaks, such as recess and lunch, and through PE and an active curriculum improves students' concentration and academic performance, and also improves health outcomes.<sup>17-19</sup> PA participation has further been shown to increase student engagement in school, reduce truancy, as well as develop social skills such as team work and leadership among students.<sup>20,21</sup> Ensuring structured and unstructured PA is promoted, accessible and supported throughout all educational phases is important to optimise the mutual lifelong physical, social, psychosocial and cognitive benefits of being active throughout the life course.<sup>11</sup>

School-based AT strategies provide additional opportunities within the education setting for increasing PA particularly among primary school children.<sup>22</sup> To realise the potential for increasing PA of those attending educational settings, effective policies and programs which can be readily and sustainably adopted by education providers need to be implemented. Effective policies and programs are noted in research reports<sup>23-26</sup>, but evidence for implementation of effective and cost-effective interventions at scale is less readily available.<sup>27</sup>

### 3.1.2 What is the supporting evidence?

#### A preliminary note on surveillance

There is an overarching urgent need for Australia to have standardised surveillance for PA, across the life course.

AIHW notes that the most recent data available on PA among children and adolescents is the ABS 2011–12 National Nutrition and Physical Activity Survey.<sup>28</sup> The establishment of a consistent national approach to regular measuring of children's height and weight, fundamental movement skills (FMS) and PA at key stages of primary and secondary schools, with 'opt-out' (passive) consent is overdue.

For adults, Australian states and territories undertake Computer Assisted Telephone Interview (CATI) surveys with nutrition and PA components; they are compromised by inconsistent data collection methodology and the fact that data are self-reported and limited in scope.

AusPlay (a sport participation survey) provides some valuable participation data but does not address these issues or provide long-term trends as this survey is not contiguous or comparable with the previous sport sector driven ERASS survey series 2001–2009, the earlier PSM surveys to 2000 or DASETT surveys in the late 1980s.

See further [Chapter 1.2](#) (participation rates, trends and social disparities) and [Chapter 5](#) (surveillance).

Promising interventions which promote PA in preschool, primary, secondary and tertiary education settings involve developing the wide variety of skills in students which are known to be required for them to participate fully and experience the range of benefits that PA has to offer.<sup>13</sup>

#### The concept of physical literacy

In 2019, the concept of physical literacy was defined as *"Lifelong holistic learning acquired and applied in movement and physical activity contexts"* by experts in Australia.<sup>13</sup> Physical literacy and the associated Australian Physical Literacy Standards Framework provide a structure and guide for a range of stakeholders to monitor and inform programs to promote PA in educational and other domains. Enhancing the physical, psychological, social and cognitive domains of physical literacy<sup>13</sup> (Figure 20) is likely to lead to increased knowledge, understanding, confidence, skills and attitudes which facilitate participation in PA through the life course. However, confirmation through further research studies is needed.<sup>10,29,30</sup>

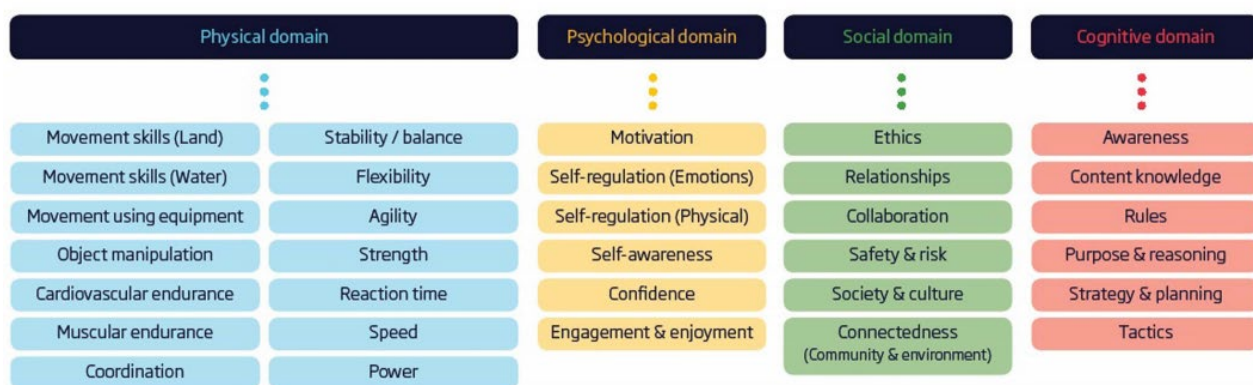


Figure 20. Physical literacy – a vocabulary of movement for life

Source: Keegan et al 2019.<sup>18</sup>

## The concept of the Health Promoting School

To tackle chronic diseases, the WHO has designated a set of strategies in education as 'recommended'. To be consistent with this designation requires implementation of a whole-of-school approach that includes quality PE, availability of adequate facilities and programs to support PA for *all* children.<sup>10,25</sup> A whole-of-school approach can be adapted to all settings within the education domain. The WHO Health Promoting Schools Framework is one way to establish a whole-of-school approach.

A **Health Promoting School** is one that:<sup>31</sup>

- Fosters health and learning with all the measures at its disposal
- Engages health and education officials, teachers, teachers' unions, students, parents, health providers and community leaders in efforts to make the school a healthy place
- Strives to provide a healthy environment, school health education, and school health services along with school/community projects and outreach, health promotion programs for staff, nutrition and food safety programmes, opportunities for PE and recreation, and programs for counselling, social support and mental health promotion
- Implements policies and practices that respect an individual's wellbeing and dignity, provides multiple opportunities for success, and acknowledges good efforts and intentions as well as personal achievements
- Strives to improve the health of school personnel, families and community members as well as pupils, and works with community leaders to help them understand how the community contributes to, or undermines, health and education. The key features of Health Promoting Schools are illustrated in Figure 21.



Figure 21. Key features of Health Promoting Schools

Source: WHO 2017.<sup>31</sup>

The whole-of-school approach encourages comprehensive interventions rather than knowledge-focused interventions which, implemented alone, lack evidence of effectiveness.<sup>20,21</sup> A comprehensive approach should also be linked to opportunities for PA outside of school and school hours, such as to encourage and support active travel to and from school, and participation in out-of-school or community-based sport and other activities.

Essentially the WHO Health Promoting Schools framework comprises three core components:

- **Curriculum** (teaching and learning)
- **School organisation** (ethos and environment)
- **Partnerships and services**.<sup>31,32</sup>

The next section of this chapter discusses the evidence for each of these in turn, by the respective phases of education (preschool, primary/secondary, tertiary). The following **Case Study** provides an example of a program in Victoria that is based on the WHO model for Health Promoting Schools.

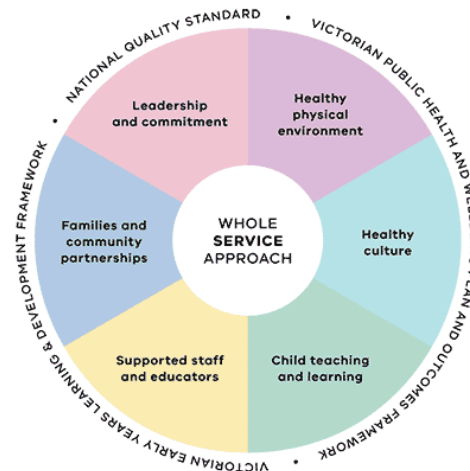
## Case study: Achievement Program (Victoria)

[www.achievementprogram.health.vic.gov.au/](http://www.achievementprogram.health.vic.gov.au/)

The **Achievement Program** supports early childhood services and schools to create healthy places for learning (note, there is also a program for workplaces). Schools and services that register with the program receive an evidence-based health and wellbeing framework that is aligned with WHO's model for Health Promoting Schools (see right for the model developed by the program for Early Childhood Services).

The health priority areas for Healthy Early Childhood Services and Schools include PA.

Participating schools and services also receive support from program staff and a wide network of regional health promoters. The program is free, supported by the Victorian Government and delivered by Cancer Council Victoria.

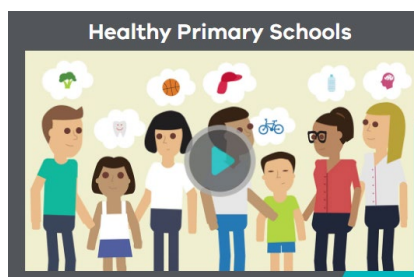
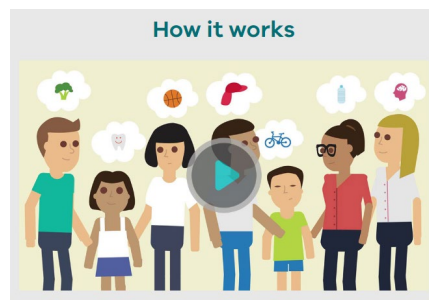


The key principles that underpin the **Achievement Program** are:

- Create a healthier environment using the policies, tools and resources provided by the program
- Build on the work that is already being undertaken to support health and wellbeing
- Lead by getting Victorian Government recognition as a healthy place
- Thrive by helping everyone in the community be healthy and well.

Watch these videos for further information about how this program works.

### Videos explaining how the program works



## Curriculum, teaching and learning

### Preschool education

While the strongest evidence for facilitating the development of physical literacy in early childhood education and care settings are theory-based interventions that include structured activities delivered by experts<sup>33</sup>, some observational studies have suggested that in-service training of early childcare staff to integrate PA into the daily routine could be a more feasible yet effective option.<sup>34–36</sup>

Interventions should be tailored to the target group of parents or care providers, in particular by addressing cultural considerations, community needs and the provision of ongoing support.

In the context of the childcare setting, the delivery of structured PA sessions that can be easily incorporated into the daily 'routine' and are delivered through a hands-on approach may be most effective at increasing children's moderate to vigorous intensity PA (MVPA). Programs should focus on changing parent or provider practices to effect change in children's PA levels, and on measuring changes in parent or provider behaviour to help elucidate the impact of those behaviours on children's PA.<sup>37</sup>

### Primary and secondary education

As noted earlier, knowledge focused interventions, implemented alone, lack evidence of effectiveness<sup>20,21</sup>, however knowledge-based approaches can be improved when they are combined with skill-based (such as PE) or other approaches.

Systematic reviews about the promotion of PA in primary<sup>38–40</sup> and secondary<sup>39–42</sup> schools have been reported. Primary school interventions often contain multiple components (e.g. diet, family) implemented alongside PE interventions, making it difficult to disentangle effects.<sup>38</sup> However there is strong evidence for enhanced school-based PE to effectively increase the amount of time students spend in MVPA during PE classes.<sup>39</sup> PE lessons can be enhanced by providing professional development training and resources to non-specialist teachers. Recent evidence has shown that a staff development intervention, delivered partially online and designed to minimise transition time between activities and maximise movement and skill development can significantly increase MVPA among students during PE.<sup>43</sup>

Taken together, evidence from these studies suggest that: (i) school PE should promote and encourage active play and engagement. PE teachers should be encouraged and supported to keep adolescents physically active for at least 50% of allocated PE time as recommended by organisations such as the US Centers for Disease Control and Prevention and the UK Associations for Physical Education<sup>53</sup>; (ii) noting that PE is not the sole source of PA in the school day, cross-curricular mapping of potential sources and support for student PA should be undertaken and the opportunities leveraged; (iii) student enjoyment of PE needs to be nurtured and facilitated more than is currently the case; (iv) school policies (such as changing into PE uniforms) for PE should not restrict participation in these lessons. School psychologists could assist PE teachers to ensure that group allocations and the actions of teachers during PE are promoting strong and significant social relationships.<sup>44</sup>

There is also benefit in integrating PA through activity breaks or experiential learning into regular/academic classroom lessons (i.e. outside of PE lessons).<sup>12,44</sup> Studies have shown that these improve concentration, test scores and academic behaviours<sup>17,44,45</sup>, although the studies which demonstrate the positive relationship between PA breaks during class time and educational outcomes are mainly low and moderate in quality.<sup>44,45</sup> School leadership and policy implementation which normalise PA as part of standard pedagogy would be required to enable more teachers to implement active breaks in the classroom. The **Case Study** below is an example of a program currently offered to all primary schools in Victoria that aims to equip teachers with the skills to deliver lessons in a more active format.



## Case study: Transform-Us! (Victoria, primary schools)

<https://transformus.com.au/>



**Transform-Us!**

For School Leaders > For Teachers > For Parents >

**Latest News:** Transform-Us! to make moving the norm throughout the day at Victorian primary schools – Find out more

Transform-Us! is currently available to all Victorian Primary schools and teachers and uses innovative strategies within the classroom, school and home settings to get students moving more and sitting less.

Transform-Us! involves incorporating movement into everyday class lessons so that the delivery of the lesson changes, not the content. It is a simple and easy program that can improve children's classroom behaviours, academic outcomes, physical activity and their health.

Transform-Us!

- Is evidence based
- Is free to register and do the online training
- Has a minimal cost to implement
- Is easy to implement
- Requires minimal equipment and teacher time
- Links to the Victorian Curriculum










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Transform-Us! Health lessons

Active Lessons

Active Breaks

Active Homework

Active Environments

Newsletters for Parents

### Transform-Us! uses innovative behavioural, pedagogical, and environmental strategies within the classroom, school and home settings to get students moving more and sitting less. Transform-Us! is currently available to all Victorian Primary schools.

Transform-Us! strategies involve incorporating movement into everyday class lessons – the delivery of the lesson changes, not the content.

It is designed to be delivered by all primary classroom teachers and it does not focus on sport or PE. Full lesson plans and supporting resources are made available after the online teacher training module is completed.

### Impact

The final results were very positive. Compared to a comparison group, students who participated in Transform-Us! had:



33 minute reduction in sitting per day



5 minute increase in moderate to vigorous activity per day



Lower Body Mass Index (BMI), waist circumference and systolic blood pressure



Higher vitamin D levels



85%

of students experienced greater concentration after an active break.



79%

of students improved time-on-task after an active lesson.

## Tertiary education

Embedding PA and health across all disciplines and curricula in tertiary education settings remains limited in Australia.<sup>46</sup> However, policies in university and vocational education settings which direct the inclusion of PA curriculum for students in relevant sectors such as medicine and health, transport, urban planning, social care, tourism, recreation, and sports and fitness would have significant reach in upskilling future generations in the promotion of PA and design of activity-friendly environments and infrastructure. For example, quality education of undergraduate PE teachers while at university would improve their ability to teach FMS in schools and provide quality PE experiences to school students.<sup>47</sup> Interventions embedded within the tertiary curriculum have also been found effective in improving PA among students themselves. These have involved frequent face-to-face contact with facilitators and use of available facilities such as a fitness centres, walking paths and sports fields.<sup>48</sup> Allocating funding to PA programs and environmental improvements would help to create activity promoting environments in tertiary settings, however, more confirmatory research is needed to guide future program specification and investment.<sup>11,48</sup>

## School organisation, ethos and environment

### Preschool

In preschool settings, there is some evidence that modifications to the physical environment, such as playground markings or rearrangement of indoor areas, can significantly improve PA levels of children<sup>33</sup>, especially if educators and families are engaged with these environments with the children. Evidence of policy and ethos interventions in the preschool setting are lacking.<sup>34</sup>

### Primary and secondary school

*Inside* the classroom, there is a suggestion that integrating dynamic seating and more flexible learning spaces into the primary school classroom environment hold promise for reducing children's sitting time and increasing their standing time.<sup>45,49-51</sup>

Many observational studies discuss the importance of a supportive school organisational culture, especially among teaching staff, for PA interventions in schools. A whole-of-school policy or strategic approach is one way to achieve this. Policy approaches which formalise committees of teachers and executive staff in schools are sometimes proposed to enhance the implementation of whole-of-school strategies to increase PA, however evidence for the effectiveness of school-level policies on PA is mixed.<sup>15,52,53</sup>

Environments, both physical and social, can influence student PA behaviours.<sup>47</sup> Strategies to achieve more PA for students include increasing recess (break) times, as well as improved facilities, access to spaces, rules and policies that promote PA and shifts in social norms. Several systematic reviews of school recess interventions to increase PA have been published.<sup>54-58</sup> This body of evidence indicates that interventions based on playground markings, game equipment, or a combination of the two, do *not* seem to increase the PA of preschoolers and school children during recess, whereas interventions based on playground markings plus physical structures (e.g. football goal posts, basketball hoops) *can* increase the PA of school children during recess in the short to medium term.<sup>55</sup> School playground reconstruction has resulted in reduced sedentary time among younger children but has otherwise to date shown limited effects on PA levels.<sup>55,59</sup> The investment required would need to be weighed against the low cost improvements/additions that can be made such as line markings, fixed/unfixed equipment and structures which as noted above, can be effective strategies.

After-school PA interventions have shown mixed effectiveness in increasing PA levels to date; more evidence is required to confirm their status in the best strategic intervention mix.<sup>60</sup> The US Community Preventive Services Task Force has also noted the value of promoting initiatives such as *Safe Routes to School*.<sup>61</sup> Recent reviews provide modest support for the effectiveness of school-based AT strategies for increasing PA and AT in children, with walking school buses and educational strategies demonstrating the greatest potential.<sup>22</sup> AT projects that focus on both infrastructure and non-infrastructure initiatives achieve the best outcomes; other important elements that may contribute to success include having supervisors at pedestrian crossings, school drop-off points, bike



education programs and school travel plans.<sup>62-64</sup> The quality of evidence in the reviewed studies is generally poor and few interventions included secondary schools, highlighting a need for more research targeting secondary school settings. This is important given that the factors associated with active school travel may differ markedly between children and adolescents. Finally, because some children may live too far from their school, interventions aiming to promote AT to/from other destinations such as parks, shops, sport venues, and friends' and relatives' houses may also be warranted.<sup>62</sup> This creates the current challenge, which is that these programs generally achieve low population reach, and scaling-up AT for school aged children would be contrary to existing trends in many countries, including Australia.

### Tertiary settings

Evidence for the tertiary phase of education, including vocational education and training, is underdeveloped.<sup>11</sup> The whole-of-institution approach is encouraged in an International Charter – the Okanagan Charter (2015) however few institutions in Australia appear to be explicitly adopting this charter and its principles for achieving a health promoting university setting which promotes PA for students and staff.<sup>46,65</sup>

### Partnerships and services

There is evidence that partnerships which engage experts to provide professional development and training for education providers, in the absence of tertiary qualified PE teachers, facilitates the progression of students along the physical literacy continuum. To achieve this, financial resources are required to enable contractual agreements to be established between providers and schools. Funding and grants have been trialled in schools to facilitate community and sports organisations partnerships and services. Strengthening the links between education settings and community-based sports and activities shows promise but evidence of effectiveness is required. These community links should be underpinned by physical literacy pedagogy rather than performance pedagogy, sustained and promote PA to influence school culture.<sup>66</sup>

Some studies have trialled intervention components in schools such as newsletter snippets, text messages, active homework, websites or school specific mobile applications (apps) to engage families in PA promotion as partners, as part of multicomponent programs.<sup>67,68</sup> More research is required to understand the impact and cost effectiveness of such approaches for engaging families in PA promotion. The main gap in evidence in the education domain is the *lack of evidence for real-world implementation at scale*. A good example of a current partnership innovation designed to address this gap and to advance scaled up implementation of effective efforts in the primary school phase is **Transform-Us!** (see the **Transform-Us! Case Study**).<sup>69</sup>

## 3.1.3 What works? Infrastructure and program specification

The specification for education as a 'recommended' strategy domain requires whole-of-school programs that include quality PE and provide adequate facilities and programs to support PA for *all* children (Table 14). The primary school stage of education offers great potential to influence children's PA and health, but the availability of specialist PE teachers is often limited to the secondary school stage of education, so there are strategic and logistical challenges to overcome in the primary phase in order to take full advantage of the opportunities available.<sup>a</sup> This could involve assessing the value of strategic linkages between secondary and primary schools and/or linkages with PA and sport provider organisations in the wider community to achieve better physical literacy outcomes. There are many opportunities to get children moving throughout the school day through active lessons, active breaks, during recess and lunch breaks, before and after school (including AT), as well as through changes to the classroom and broader school environment to support PA (see the **Transform-Us! Case Study**).

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<sup>a</sup> Mandated PE, delivered by movement specialists, is rarely delivered in primary school but there is accumulating evidence to indicate the importance of considering this policy option.

Table 14. Recommended design specifications for whole-of-school programs to promote physical activity

Design features	Evidence-based program specification
<b>Whole school approaches</b>	<ul style="list-style-type: none"> <li>Strengthen formal pre-service and in-service training for preschool, primary and secondary school teaching staff and administrators<sup>15</sup></li> <li>Ensure implementation of inclusive access for all to PE, PA and sport<sup>8-10</sup></li> <li>Ensure school leadership support for PA policy development and implementation within local contexts<sup>31</sup></li> <li>Integrate theory (ecological models, whole-of-systems thinking) within program design, implementation and evaluation</li> <li>Develop design guidelines for facilities which ensure educational environments are activity permissive, including fixed and portable play equipment</li> <li>Provide positive, challenging and developmentally appropriate learning experiences</li> <li>Foster empowerment and inclusive participation in PA</li> </ul>
<b>Preschool educational settings</b>	
<b>Availability of adequate facilities</b>	<ul style="list-style-type: none"> <li>Include more frequent outdoor free-play times of shorter duration rather than fewer of longer duration<sup>10,70</sup></li> <li>Promote outdoor play and encourage educators to actively engage with children in this learning environment<sup>10</sup></li> </ul>
<b>Availability of programs to support PA</b>	<ul style="list-style-type: none"> <li>Deliver structured PA sessions with a hands-on approach, incorporated into daily routines; provide hands-on training to staff to enable effective delivery<sup>10,37</sup></li> <li>Programs should focus on changing parent or provider practices to effect change in children's PA levels<sup>10,37</sup></li> </ul>
<b>Primary and secondary phases of school education</b>	
<b>Availability of adequate facilities</b>	<ul style="list-style-type: none"> <li>Provision of equipment, spaces that engage and challenge students to initiate unstructured PA during recess and lunch breaks in the school day, including allocation of time and encouragement from school staff to do so<sup>10,53-56</sup></li> <li>Flexible learning spaces for PE and academic lessons<sup>45,49-51</sup></li> </ul>
<b>Availability of programs to support PA</b>	<ul style="list-style-type: none"> <li>Mandate delivery of high-quality organised PA, with PE lessons as a core component, across the school week (at least 150 minutes per week) with a focus on enhancing physical literacy<sup>30</sup></li> <li>Ensure the presence of qualified sport and PE teachers in primary and secondary schools and provide flexibility in timetabling and curriculum for sports opportunities<sup>10</sup></li> <li>Comprehensive school PA programs that include curricular and non-curricular PA promotion elements need to be implemented at scale to increase activity levels across the school day<sup>10,71,72</sup></li> </ul>

### 3.1.4 What are the recommendations for investment and action?

#### A recommended investment

Both the WHO<sup>73</sup> and US Community Preventive Services Task Force<sup>74</sup> designate investment in the education domain as 'recommended'. The National Heart Foundation also provides recommendations for this domain in its *Blueprint for an Active Australia* (see [Appendix 1](#) for an overview of the Blueprint).<sup>75</sup> Finally, a recent review has been undertaken by the SPRINT research group at the University of Sydney, which makes relevant recommendations.<sup>10</sup>

#### Cost effectiveness of school-based physical activity interventions

Two recent reviews have concluded that school-based PA interventions are cost effective compared to other population-based interventions in terms of PA outcomes.<sup>76,77</sup> The Physical Activity 4 Everyone trial involved a 24-

month multicomponent school-based intervention implemented in secondary schools located in disadvantaged communities.<sup>78</sup>

Cost effectiveness analysis (CEA) was undertaken from a societal perspective and conducted on an intention to treat basis. Table 15 shows the incremental cost effectiveness ratios (ICERs) for each incremental outcome measure and the additional expenditure required to deliver each additional unit of benefit. ICERs of \$56/minute of MVPA gained and \$1/MET hour<sup>a</sup> gained provide support for the cost effectiveness of this program, which, it should be noted, chose to focus on disadvantaged communities.

Table 15. Cost-effectiveness analysis (CEA) for the Physical Activity 4 Everyone Program

Incremental outcomes	Incremental cost-effectiveness ratios	
Additional minute of MVPA per day	A\$56	[95% CI \$35-\$147]
MET hour gained per person per day	A\$1	[95% CI \$0.6-\$2.7]
BMI unit avoided	A\$1408	[95% CI \$788-\$6570]
BMI z-score 10% reduction	A\$563	[95% CI \$282-\$3942]

MVPA = moderate to vigorous physical activity, MET = metabolic equivalent (unit of energy expenditure), BMI = body mass index

### 3.1.5 What other strategies intersect with this domain?

The education domain intersects with many of the identified *domains for best investment* in PA.

**The eight domains for best investment**

- 1 Sport and recreation
- 2 Communication and public education
- 3 Transport and the environment
- 4 Urban design and infrastructure
- 5 Primary and secondary healthcare
- 6 Education
- 7 Workplaces
- 8 Community-wide programs

Stakeholders in the education domain have great potential to influence participation in sport and recreation activities outside of school, especially during childhood. The strategies which the sport, workplace, transport and environment, urban design and infrastructure, healthcare, community-wide programs and communication and public education domains could employ in collaboration with the education domain include:

<sup>a</sup> A MET hour is a calculation of time that takes into account the intensity of the PA expressed in METs (metabolic equivalent) and the duration of participation.

- Consistent public communication to parents and students about the importance of PA to develop increased participation further as a public priority
- Encourage AT to school and development of supporting infrastructure, such as dedicated walking and bicycle paths, bike racks, AT groups using technological support
- Enable access to school environments outside of school hours to increase access to play spaces
- Partner with sports organisations to deliver structured activities both during school times and before and after school hours
- School communities have the potential to lead or contribute to community-wide programs to increase PA.

### 3.1.6 What are the implications for policy?

Effective policies and programs are already available in the education domain. Implementation of policies at scale which promote a whole-of-school/institution approach to PA would be improved by:

- Establishing PA policies for the education setting with clear language, and specifying monitoring and accountability mechanisms specific to each sub-category – including PE, physical literacy, active school transport, school environment
- Using theory and/or logic models to inform planning, implementation and evaluation of school-based approaches to PA – currently very limited in real-world and scaled-up application<sup>79</sup>
- Mandating delivery of high-quality organised PA including scheduled PE that focuses on developing physical literacy<sup>10</sup>
- Providing a major boost to PE in Australian schools; encouraging more schools to achieve the recommended standard of adolescents being physically active for at least 50% of allocated PE time, as recommended by Australian experts, US Centers for Disease Control and Prevention and the UK Associations for Physical Education; providing targeted support to support the teaching of PE for schools in disadvantaged areas<sup>10</sup>
- Allocating funding to PA programs and environmental improvements across education domains which create activity permissive environments; funding professional development to equip primary and secondary teachers with the necessary competence to deliver these innovative programs<sup>10</sup>
- Focusing on progressing children and adults along the physical literacy continuum while engaged in educational settings through structured curricular activities and by ensuring accountability through reporting against these standards at school and system level<sup>10</sup>
- Supporting early intervention programs for 3–6-year-olds to build Physical Literacy (including FMS) in the preschool years<sup>10</sup>
- Strengthening FMS acquisition during primary and into secondary school years<sup>10</sup>
- Examining the feasibility of developing a program of specialist primary school PE teachers, perhaps in coordination with high schools.<sup>10</sup>

- **School-based PA interventions are cost effective compared to other population-based interventions in terms of PA outcomes**
- **Schools need to be encouraged to achieve the recommended standard of children being physically active for at least 50% of allocated PE time**
- **Intervention programs to build Physical Literacy (including fundamental movement skills) are needed urgently in the preschool years, with reinforcement in primary and secondary school phases**
- **Research and evaluation priorities are:**
  - (1) **Effectiveness of implementation at scale (see Transform-Us! Case Study)**
  - (2) **Standardised surveillance for PA, across the life course; regular measuring of children's height and weight, fundamental movement skills and PA at key stages of primary and secondary schools, with opt-out (passive) consent.**

## Further resources and examples

Refer to the links listed under 'Education' in [Appendix 5](#) for other useful resources and guidance.

Refer to [Appendix 3](#) for some illustrative examples of policies, programs and other initiatives in Australia that relate to this domain (particularly those described under GAPPA 1.4, 3.1, 3.3).

## References

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## 3.2 The transport domain and physical activity

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**Note:** Refer also to [Chapter 3.3](#) which contains relevant evidence and recommendations relating to the urban design and infrastructure domain.

### 3.2.1 How does this domain contribute to a more active society?

Transport involves any journey from one place to another (including the trip to work) but most trips are made for social reasons, to transport a passenger (e.g. a child) or for shopping. The commute to work is often targeted for intervention because it is generally a regular and potentially less complex trip. The convenience of motorised transportation and the design of the built environment has limited physically demanding travel. Where walking and cycling were once the main mode of travel, the proliferation of the car has reduced time spent travelling actively while simultaneously increasing sedentary time. In addition, contemporary car-ownership, and the vast roadway network that prioritises motorised travel to accommodate it, adversely impact public health through environmental risk exposures such as air pollution, noise, greenhouse gas emissions, and traffic hazards.

The promotion of walking and cycling for transportation complemented by public transportation or any other active transport (AT) represents a promising strategy not only to address problems of urban traffic congestion, environmental pollution and climate change, but also to provide substantial health benefits.<sup>1-3</sup> Despite associated risks of exposure to traffic and to air pollution, AT policies can overcome car dependence and increase PA levels.<sup>4</sup> The population benefits of AT (walking and cycling) have been shown to reduce the risk of all-cause mortality independent of other reported PA.<sup>5</sup> A recent evidence review highlights the importance of the AT environment as a key domain for achieving moderate to vigorous intensity PA in children, adolescents and adults.<sup>6</sup>

More than many other forms of PA, walking and cycling, in particular commuting for transport purposes (i.e. getting from place to place) are easily incorporated into a daily routine, increasing the potential for adoption and maintenance over time and thus the potential for population health impact<sup>7</sup> and increased health and social equity.<sup>8-10</sup> A model of the health impacts of AT policies is shown at Figure 22, adapted from Mueller et al<sup>1</sup> and Larouche.<sup>11</sup>

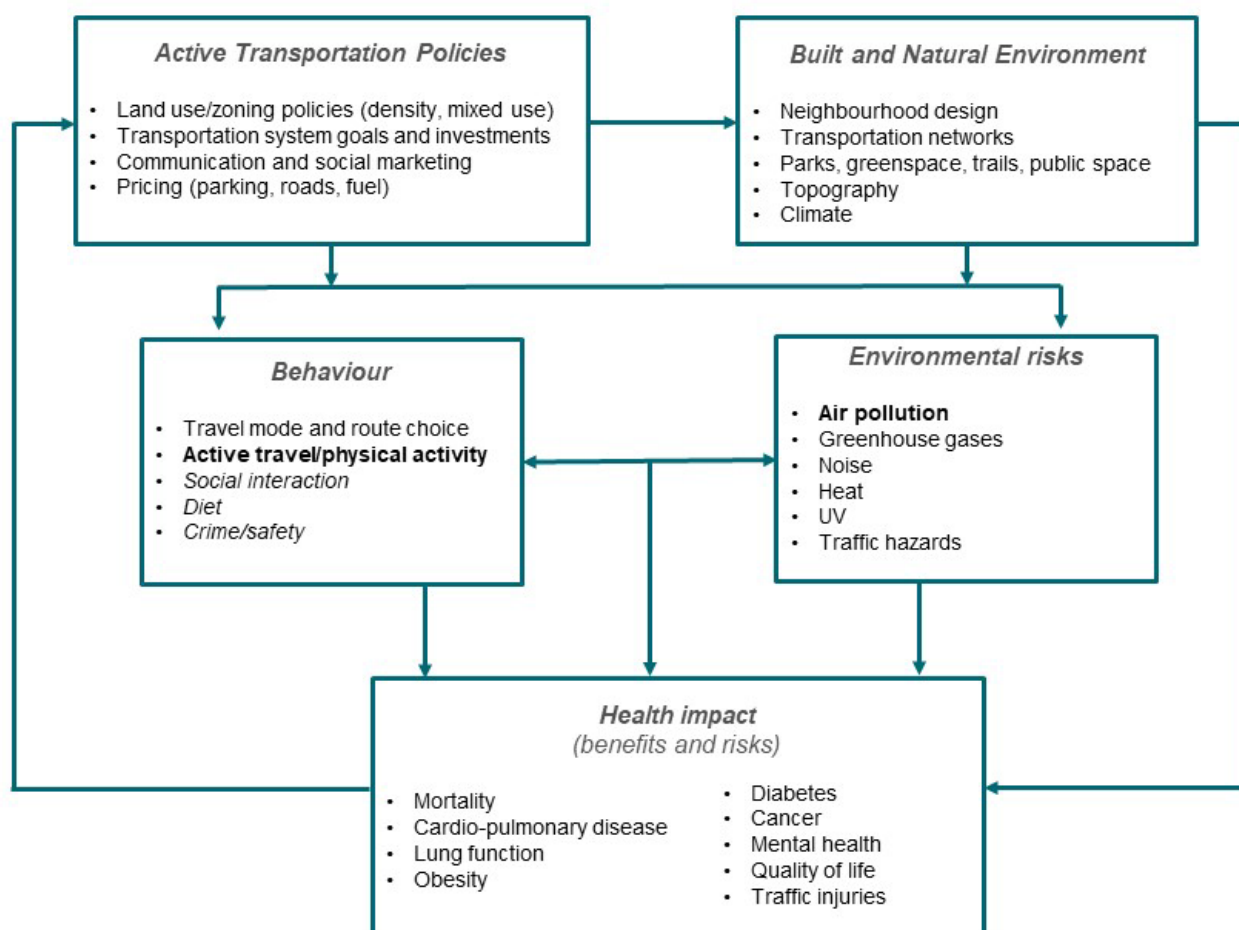


Figure 22. Health impacts of Active Transportation policies, conceptual model

Source: Adapted from Mueller<sup>1</sup> and Larouche<sup>11</sup>.

[Note: In Figure 22, variables shown in bold have the strongest exposure-health evidence quantified; variables in italics are the most challenging for researchers to measure well and investigate]

### 3.2.2 What is the supporting evidence?

In the 'best buys and other recommended interventions' to tackle chronic diseases, the WHO has categorised this set of strategies as 'recommended'.<sup>12</sup> To be consistent with this designation, strategies must ensure that macro-level urban design incorporates core elements of:

- Easy access to a diversity of destinations (via residential density)
- Integration with public transport
- Connected street networks that include footpaths and cycling infrastructure.

This assessment is consistent with the finding of the US Community Preventive Services Task Force (CPSTF).<sup>13</sup> The CPSTF finding is based on longitudinal research examining coordinated approaches that combine new or enhanced elements of walking or cycling transport systems with new or enhanced land use and environmental design features (16 studies).<sup>13</sup> Evidence from additional cross-sectional comparisons shows that built environment interventions are required as a package.<sup>13</sup> Combinations of these urban design built environment characteristics are associated with higher levels of transport-related PA, recreational PA and total walking among exposed people (74 studies).<sup>13</sup>



A recent review on the effectiveness of AT interventions (involving 84 studies that used a control or comparison group), found substantial robust evidence for the positive impact of a range of intervention types to increase AT.<sup>14</sup> The strongest evidence for positive impact was in relation to town- or city-wide interventions which used multifaceted attempts combining infrastructural modifications with social marketing and behaviour change initiatives to encourage uptake of new or improved infrastructure.<sup>14</sup> The review also found evidence to support more localised environmental modifications to improve individual routes or networks.<sup>14</sup> Strong evidence was also found to support the effectiveness of school-based AT interventions, and individualised marketing approaches to change travel behaviours (e.g. personalised travel planning initiatives such as 'TravelSmart' – see **Case Study** below).<sup>14</sup> Evidence in this category of individualised approaches is overwhelmingly dominated by the personalised travel planning studies conducted under the 'TravelSmart' initiative, shown to be almost universally positive for walking and cycling.<sup>14</sup> A review of first generation programs in Australia has been reported by Taylor<sup>15</sup>, while the challenges in gaining support and sustained investment have been reported by Williams.<sup>16</sup>

### Case study: TravelSmart® - individualised marketing (Australia, UK, USA)

TravelSmart® was designed to be a cost-efficient marketing approach to increase the use of environmentally friendly transport modes (walking, cycling, public transport) and thereby reduce the volume of car traffic.

#### The intervention

The TravelSmart intervention involves three key phases, each based on personal contact with the households in a target area. The process involves dialogue which motivates people to consider and review their travel behaviour in the context of their lifestyles. People who are interested in changing are supported and encouraged, but the choice is always left to the individual.

#### History and implementation

The history of the TravelSmart program in **Western Australia** is instructive – [Click Here](#)

Various TravelSmart programs have been implemented in Australia, UK and the USA.

In mid-2003, the National Travel Behaviour Change Project was established, in a partnership with the Australian Government Department for the Environment, Water, Heritage and the Arts (formerly the Australian Greenhouse Office) and the Governments of South Australia, Victoria, Australian Capital Territory and Queensland.

#### Relevant resources

A report for TravelSmart in **South Australia** is available and has been described as a Best Practice Case Study by Philp and Taylor<sup>17</sup> – [Click Here](#)

A TravelSmart Workplace Factsheet from **Western Australia** is available – [Click Here](#)



### 3.2.3 What works? Infrastructure and program specification

The transport infrastructure and program specification for regional level and local urban planning level is shown in Table 16. Specifications for 'what works' in relation to other types of AT interventions are not as yet sufficiently clarified, given the diversity of approaches that have been found effective and the lack of reported detail on the nature of interventions and contribution of individual components towards effectiveness.<sup>14</sup> For example, effective school-based interventions have included safe routes to school approaches (using environmental modification and educational/motivational activities), competition-based approaches, bike training and education, and walking school buses.<sup>14</sup> The most appropriate approach for any one school will likely be based on local circumstances,

consistent with a whole-of-school approach (refer [Chapter 3.1 Education](#)). There are some common features for other intervention types; for example, individualised travel behaviour interventions have generally involved face-to-face contact with households and provided individually-tailored information to motivate and support people to review and shift their travel behaviours towards more active modes.<sup>14</sup> Refer to [Chapter 3.5 Communication and public education](#) and [3.6 Community-wide programs](#) for further guidance.

Table 16. The 9D's for regional and local level urban planning to support active transport.

Design feature	Examples
<b>REGIONAL PLANNING</b>	
<b>Destination accessibility</b> Regional employment, facilities, and services conveniently accessible by public transport; destinations for daily living available locally	Jobs, facilities, and services within 30 minutes travel from home by public transport; daily living destinations within walking distance
<b>Demand management</b> Parking supply and pricing policies to increase the attractiveness of using alternative travel modes to driving	Building codes and other government policies that minimise car parking
<b>Distribution of employment</b> An appropriate mix of employment available across a region	A job–housing balance from 0.8 to 1.2
<b>LOCAL URBAN PLANNING</b>	
<b>Design of urban centres overall</b> Urban design creates walkable catchments around activity centres and incorporates accessible public open space; street networks minimise distances between homes and daily living destinations, reduce traffic exposure, and create safe pedestrian, cycling, and public transport networks; lot/plot layouts designed to increase residential densities and promote natural surveillance	High street connectivity including ped-sheds $\geq 0.6$ within 0.8–1.2 km (i.e. 1–15 minutes walk) of activity centres, transport hubs, and schools; separated pedestrian and cycle paths; local public open space provided; housing overlooks streets and public open spaces. Design that makes car use inconvenient: 'no car zone', 'pedestrian friendly zones', green traffic light settings consider volume of <i>walkers</i> not volume of cars
<b>Pedestrian network</b>	Footpaths, trails, traffic calming, intersection design, well-lit streets and landscaping
<b>Cycling network</b>	Bicycle systems, protected bicycle lanes, trails, traffic calming, intersection design, well-lit streets and landscaping
<b>Public transport network</b>	Expanded transit services, times, locations, and connections
<b>Design of parks and recreational facilities</b>	Public parks, public recreational facilities, private fitness facilities
<b>Density</b> Residential densities sufficient to support the viability of local business and high-frequency public transport services	Multi-unit housing built around activity centres with shops, services, and transport hubs. Smart growth communities and new urbanist designs, relaxed planning restrictions in appropriate locations to reduce sprawl, sustainable compact cities and communities with affordable housing

Design feature	Examples
<b>Distance to public transport</b> High-frequency public transport located within short walking distances from homes	Bus stops accessible $\leq 400$ m; rail stops accessible $\leq 800$ m from homes
<b>Diversity/Mixed land use</b> Residential areas built with different types of housing mixed with commercial, public, and recreational opportunities	Residential, commercial, cultural, institutional, or industrial land uses that are physically and functionally integrated to provide a complementary or balanced mix of restaurants, office buildings, housing and shops. Different types of housing available near, around and on top of shops and services required for daily living
<b>Desirability</b> Neighbourhoods designed to be safe, attractive, and accessible; public transport that is convenient, affordable, frequent, safe, and comfortable	Crime prevention design principles incorporated into residential and commercial developments; urban greening strategies implemented; traffic minimised, calmed and separated from pedestrians and cyclists, particularly near schools

Source: US Community Preventive Services Task Force (2017)<sup>13</sup>; Giles-Corti et al (2016)<sup>18</sup>.

### 3.2.4 What are the recommendations for investment and action?

#### A recommended investment

Alongside the established 'best buys' WHO has designated as 'recommended' investment to achieve macro-level urban design that incorporates: connected street networks that include footpaths and cycling infrastructure; easy access to a diversity of destinations and access to public transport; and the housing (and therefore population) density required to make mixed use planning and public transport services viable.<sup>12,18</sup> Priority should certainly be given to investing in whole-town or city-wide programs given the evidence supporting their effectiveness at a population level.<sup>14</sup> However, investments should not be limited to these approaches given the range of other AT interventions that have also been found to be effective, including improving individual AT routes or networks, school-based AT interventions, social and individualised marketing programs and workplace programs.<sup>14</sup>

#### Cost effectiveness supported by accumulating evidence

Cost effectiveness analysis (CEA) in this set of policy and program actions is complex and the current WHO position is that the current evidence does not allow a robust CEA, although a recent systematic review does provide a good synthesis of the current knowledge and challenges.<sup>19</sup> A wide variety of potential benefits/risks and cost categories have been included into the available economic evaluation of AT interventions, with limited uniformity of type or methodology of inclusions between studies. These inclusions incorporate a multitude of health, social, economic and environmental considerations. The systematic review included 17 cost-benefit studies reporting cost-benefit ratios for hypothetical interventions, with all except one finding that benefits exceeded costs.<sup>19</sup> One study reported incremental cost effectiveness ratios (ICERs) and a comparative analysis indicating the conditions required under each approach for the results to be most similar for two hypothetical scenarios; the case estimates of A\$176 per QALY (quality-adjusted life year) to A\$17,639 per QALY<sup>a</sup> are considered cost effective.<sup>20</sup> Another study presented results for each of three evaluated scenarios in terms of costs per averted DALY (disability-adjusted life year), ranging from approximately A\$8,353 per DALY<sup>b</sup> to just over A\$34,384 per DALY averted.<sup>21</sup>

<sup>a</sup> Based on GBP/AUD exchange rate of 1.87.

<sup>b</sup> Based on GBP/AUD exchange rate of 1.87.

## Clear program design and implementation specifications available

The evidence allows clear specification of the required actions for walking and cycling infrastructure (Table 16). Full implementation of the recommendations for policy and program investments will be more or less feasible according to specific country contexts and the resource constraints that apply to those responsible for financing, planning and implementation of the intervention(s).

Current evidence highlights the importance of cities' existing characteristics in determining health impacts of AT policies. Characteristics such as baseline PA levels in the population, traffic safety or air quality, can increase or decrease the benefits associated with AT policies.

Greater health benefits are achieved when the policy focus is on the more sedentary population and by implementing mutually reinforcing strategies that discourage private cars use by making this transportation mode slower, less convenient and more costly compared to AT.<sup>22</sup> The implementation of AT policies with an improvement in traffic safety (in particular, for AT modes) will lead to greater net health benefits.<sup>23</sup> Improving air quality beside the implementation of an AT policy will also reduce the risks for cyclist and pedestrians (as for all other citizens) and increase the health benefits of the interventions.<sup>24</sup>

### 3.2.5 What other strategies intersect with this domain?

The transport domain intersects with many of the identified *domains for best investment* in PA.

#### The eight domains for best investment

- 1 Sport and recreation
- 2 Communication and public education
- 3 Transport and the environment
- 4 Urban design and infrastructure
- 5 Primary and secondary healthcare
- 6 Education
- 7 Workplaces
- 8 Community-wide programs

In particular, transport strategies closely intersect with those in the urban planning and infrastructure domains. Urban planning determines land-use diversity and density which influences individual decisions to choose AT. Effective networks of footpaths and bike paths, integrated with public transport, support both AT and active recreation. This infrastructure – combined with the access to destinations and public transport and connected street networks – delivers a dual benefit of reducing traffic congestion and increasing PA.

Transport and planning sectors could work in collaboration to develop or refurbish facilities and AT infrastructure between transport hubs such as train stations, sports facilities, schools and business centres, to ensure the design of surrounding streetscapes are pedestrian and cycling-friendly, and have appropriate end-use facilities (e.g. safe bicycle storage) to support AT to and from these destinations. This is also important to address equity of access to key destinations and opportunities for PA such as sport and recreation facilities and programs.

Communication and public education strategies (such as awareness raising campaigns, promotional events and trip planning support) can help promote attitudinal and behavioural shifts away from car use and towards greater walking, cycling and public transport use. Behavioural interventions can also be directed at schools and workplaces where there is a potential to gain widespread population reach, such as through walk or cycle to school programs. Transport and urban planning strategies will need to play a complementary role to enhance the effectiveness of such programs by creating safe pedestrian and cycling environments around these settings.

### 3.2.6 What are the implications for policy?

A package of integrated transport and planning interventions aligned at the regional and local level is needed to create safe, convenient and comfortable opportunities and environments for AT while reducing the attractiveness of private car use. Key aspects involve ensuring easy access to a diversity of destinations, integration with public transport, promoting the residential density needed to support viable local businesses and frequent public transport services, and connected street networks for walking and cycling. Policies, programs and funding investments should initially prioritise underserved and socioeconomically disadvantaged areas (the areas which are also more likely to suffer the negative externalities of car dependency in terms of noise, air pollution and road injury).<sup>18,25</sup>

Behavioural and social marketing interventions have a complementary and valuable role to play in shifting social norms and travel mode preferences and can be incorporated into interventions in other settings such as workplaces and education to encourage active commuting to and from these destinations. The funding, packaging and sequencing of behavioural change and infrastructural interventions will need to be carefully considered so that target populations for behaviour change interventions have the benefit of supportive infrastructure to facilitate changes in travel modes.<sup>14</sup> There is also a need to improve knowledge around what works and for which groups; AT funding should therefore require robust evaluation of interventions (i.e. using control groups where possible, long term follow ups over at least three years, collection and analysis of demographic and PA profiles of beneficiaries, and economic or value for money evaluation).<sup>14,25</sup>

Finally, the area of policy co-benefits is increasingly coming into focus, which will help enable greater alignment of the PA agenda with other critical issues – for example, Philp and Taylor have discussed implications of travel behaviour change for climate change mitigation and adaptation.<sup>17</sup>

#### Further resources and examples

Refer to the links listed under 'Transport and the environment' in [Appendix 5](#) for other useful resources and guidance.

Refer to [Appendix 3](#) for some illustrative examples of policies, programs and other initiatives in Australia that relate to this domain (particularly those described under GAPPA 1.2, 1.4, 2.1, 2.2, 2.3, 3.1, 3.3, 4.1).

- WHO designates as 'recommended' investments designed to achieve macro-level urban design, incorporating:
  - Connected street networks (that include footpaths and cycling infrastructure),
  - Easy access to a diversity of destinations and access to public transport, and
  - The housing (and therefore population) density required to make mixed-use planning and public transport services viable
- Other effective investments include building and connecting active travel (AT) networks; school-based AT interventions; social and individualised marketing programs and workplace-based programs
- The policy co-benefits for AT and PA are increasingly important; the implications of travel behaviour change for climate change mitigation and adaptation have already been identified and will only increase in importance.

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## 3.3 The built environment domain and physical activity

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**Note:** Refer also to [Chapter 3.2](#) which contains relevant evidence and recommendations relating to the transport domain.

### 3.3.1 How does this domain contribute to a more active society?

People's physical activity (PA) is embedded in the built environment surrounding them. The built environment includes workplaces, schools, home, shops, and the space between these places. Urban design and infrastructure includes the aforementioned settings, as well as public open space and green areas, footpaths, cycleways, and public transport systems. Integrated regional and local land-use and transport interventions that support health include design, diversity, density, accessible public transport and destinations, demand management, distribution of employment, and desirability.

This domain can make a key contribution to a more active society through compact and mixed-use urban designs that encourage a transport modal shift away from private motor vehicles towards walking, cycling, and public transport as well as facilitating walking and cycling for leisure.<sup>1</sup> Moreover, if environmental factors are related to PA levels, then environmental interventions have the potential to reach large groups of people, and are likely to achieve sustainable outcomes.<sup>2</sup> Environments that facilitate people to be more active are also associated with co-benefits such as physical and mental health, social cohesion, safety/injury prevention, and less traffic, air pollution, noise, and crime (see [Chapter 1.1](#) on co-benefits).<sup>3</sup> These co-benefits are in line with the UN's Sustainable Development Goals.<sup>4</sup>

### 3.3.2 What is the supporting evidence?

In the built environment domain, we rely very much on well implemented longitudinal studies which include objective measures of the environment to provide appropriate evidence for recommended policy actions. Taken as a total body of research, there is now sufficient evidence from such longitudinal studies to recommend the adoption of design features shown as most likely to influence PA as a very promising strategic approach and one that is recommended by the WHO (see below).

A 2019 meta-analysis of social and built environment factors associated with obesity was recently reported by Zhang; it identifies design factors shown to have greatest promise and those requiring further investigation.<sup>5</sup> The most promising factors relate to: (i) facilities for pedestrians and cyclists; (ii) street connectivity; (iii) residential density; (iv) land use mix; (v) retail density; and (vi) access to public transportation. Factors concerning different age groups, minority populations, groups with low socioeconomic status, food environment, and street-level urban design features need further research evidence.

A 2018 systematic review of the built environment as a determinant of PA was reported by Kärmeniemi and colleagues and examined 21 prospective cohort studies and 30 natural experiments.<sup>6</sup> They found that objectively measured improvements in the accessibility of different types of destinations, public transportation and land use mix were associated with increased PA. The researchers concluded that creating new infrastructure for walking, cycling and public transportation could induce demand for walking and cycling.<sup>6</sup> The results from a longitudinal study in Finland strongly supported the hypothesis that increasing mixed land use and access networks in urban environments can enhance regular walking and cycling at population level in adult populations.<sup>7</sup>

In the 'best buys and other recommended interventions' to tackle chronic diseases, the WHO has categorised this set of strategies as 'recommended'.<sup>8</sup> As stated in [Chapter 3.2](#), to be consistent with this designation, strategies must ensure that macro-level urban design incorporates the core elements of:

- Easy access to a diversity of destinations (via residential density)
- Integration with public transport
- Connected street networks that include footpaths and cycling infrastructure.

This assessment is consistent with the finding of the US Community Preventive Services Task Force which in addition notes the value of promoting initiatives such as *Safe Routes to School*.<sup>9</sup>

### 3.3.3 What works? Infrastructure and program specification

Key recommendations from the evidence include the need to make active transport (AT) safe, attractive, affordable, and desirable; prioritise wide pedestrian paths and non-motorised transport/cycling lanes over motorised transport; and ensure sufficient separation of pedestrian/non-motorised and motorised transport. The evidence also points to the importance of urban design that makes neighbourhoods safe, attractive, destination accessible, and with green spaces and parks. Equitable distribution of employment across cities should be promoted, creating jobs and residences close within commutable distances. Similarly, schools, educational institutes, and homes should be located away from high-traffic routes. Another important recommendation is to change patterns of land use to increase density with mixed land use in very low-density areas and to decrease density in high-density urban areas. The evidence allows clear specification of the required actions (refer to [Table 16](#) in [Chapter 3.2](#)).

### 3.3.4 What are the recommendations for investment and action?

#### A recommended investment

WHO has designated as 'recommended' investment designed to achieve macro-level urban design that incorporates connected street networks that include: footpaths and cycling infrastructure; easy access to a diversity of destinations and public transport; and the housing (and therefore population) density required to make mixed use planning and public transport services viable.<sup>10,11</sup>

#### Cost effectiveness supported by accumulating evidence

As stated before, while there is a plethora of cross-sectional studies on built environments and PA, only few studies have evaluated effects of environmental interventions and only some of those have taken economic benefits into consideration.<sup>12</sup> However, a recent systematic review provides a good synthesis of what we currently know about the cost effectiveness of strategies in this domain of urban design and infrastructure.<sup>13</sup> In 17 studies reporting cost-benefit ratios for hypothetical interventions all except one found that PA benefits exceeded costs (see [Section 3.2.4](#)).<sup>13</sup>

#### Systems approach a fundamental requirement

Ensuring that the full range of societal consequences of land use and transport decision making is considered requires a systems approach<sup>14</sup>; the design of the system needs to embrace governmental decision making together with routine collaborations between researchers, practitioners, and policy makers ([Figure 23](#)).<sup>15</sup>

Recommendations for investment align with the specification of the required actions set out in [Table 16](#) of [Chapter 3.2](#).

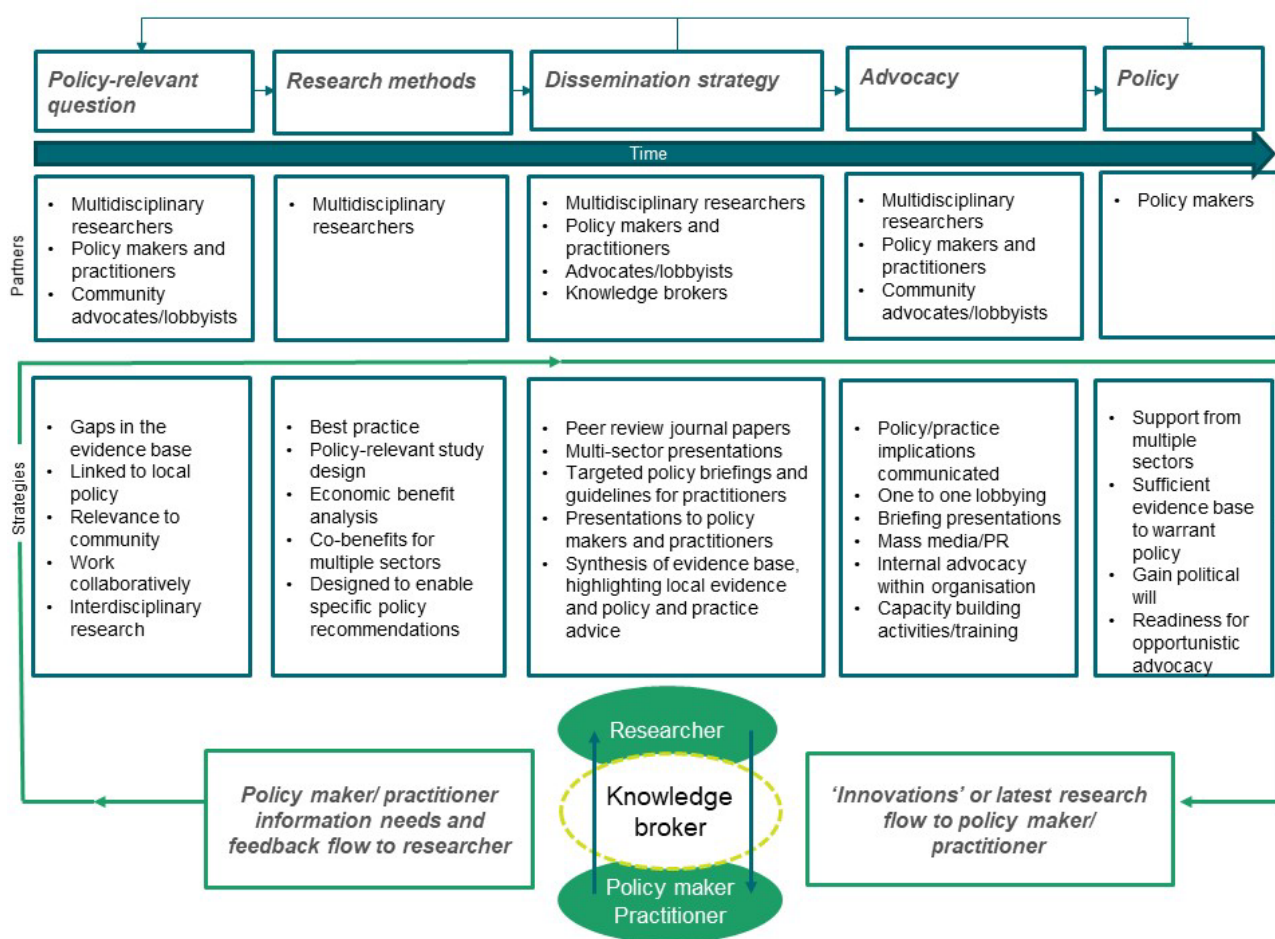


Figure 23. A systems approach to urban design and infrastructure decision making

Source: Adapted from Giles-Corti et al 2015.<sup>15</sup>

## An evidence-based implementation toolkit and resources

The Heart Foundation's web-based toolkit **Healthy Active by Design** (Figure 24) provides design specifications, case studies and resources that support efforts to promote physical activity through the domain of the built environment. These resources include action resources prepared by the NSW Healthy Planning Expert Working Group on creating walkable neighbourhoods and using green infrastructure for urban cooling. It is available at: [www.healthyactivebydesign.com.au/](http://www.healthyactivebydesign.com.au/)

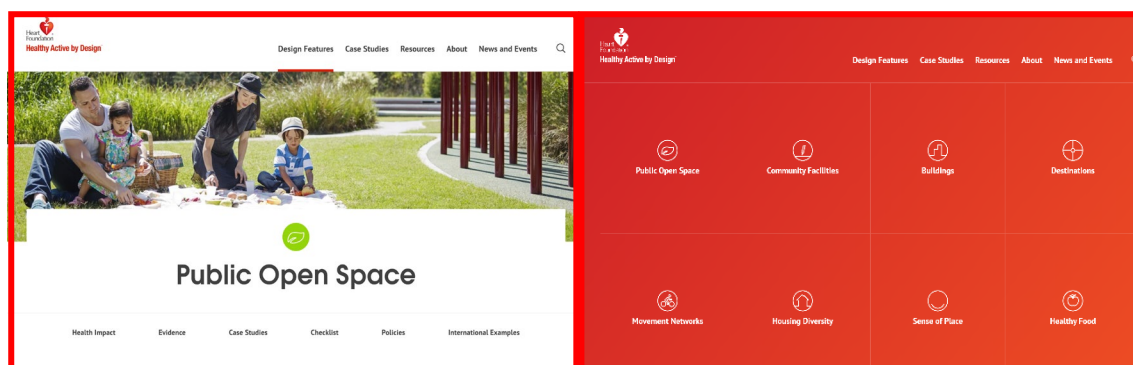


Figure 24. The Heart Foundation's 'Healthy Active by Design' web-based toolkit

## Sport infrastructure

In relation to the built environment in sport and recreation settings, a range of standards have been developed around facility development and use to ensure sport is safe, enjoyable and more accessible to the community. Compliance with standards is mandatory in some instances. The governing body for each sport generally provides information about facility requirements and standards. The [Australian Sports Directory](#) provides a list of National Sporting Organisations recognised by the Australian Sports Commission. Each sport should be consulted for current information on facility requirements and use. In NSW, the [Community Sport Infrastructure Resource Library](#) has provided a guide for the planning, design and construction of innovative, sustainable and fit-for-purpose community sporting infrastructure. This includes a [web portal](#) with resources to assist with best practice design specification.

## Walking, walking, walking

If some of the concepts and specifications in this chapter seem overly detailed, it may help to know that for the most part, we are talking about "*more walking*". Walking is the most common form of PA and is linked to the outcomes of better built environment, so is accessible across sociodemographic groups, and has good potential to influence the most inactive in society in an equitable manner.<sup>16,17</sup>

- There are clear design principles for planning integrated regional and local land use and transport environments to encourage a mode shift away from private car use and towards walking, cycling and use of public transport
- The Heart Foundation's web-based toolkit ([Healthy Active by Design](#)) provides design specifications, case studies and resources that support efforts to promote PA through the built environment domain
- In sport and recreation settings, the [Community Sport Infrastructure Resource Library](#) provide a guide for the planning, design and construction of innovative, sustainable and fit-for purpose community sporting infrastructure. This includes a [portal](#) with resources to assist with best practice design specification.

### 3.3.5 What other strategies intersect with this domain?

Based on the evidence in this review, governments are urged to use *all eight* of the identified *domains for best investment* to achieve the comprehensive strategic approach necessary to increase population participation in PA. There is great opportunity for synergistic effects from concurrent action in these domains.

<b>The eight domains for best investment</b>	<b>1</b>	Sport and recreation
	<b>2</b>	Communication and public education
	<b>3</b>	Transport and the environment
	<b>4</b>	Urban design and infrastructure
	<b>5</b>	Primary and secondary healthcare
	<b>6</b>	Education
	<b>7</b>	Workplaces
	<b>8</b>	Community-wide programs

For example, communication and public education might be used in part to change awareness and attitudes about the links between urban design and health impacts and to improve an understanding of compact and mixed-use urban designs. This might in turn lead to a better-informed public, more interested in the way elected officials formulate policy in this area. Sport and active recreation organisations often use public open space and green space for their activities. These organisations may have a more significant role to play in maintaining and restoring these spaces to encourage more people to use them. The sector should prioritise improving access to public open space and green areas to ensure recreation facilities are appropriate for all age groups. This involves partnering with relevant stakeholders to ensure public spaces which could be used for PA are accessible, well maintained, safe and inclusive.

### 3.3.6 What are the implications for policy?

There are clear design principles for planning integrated regional and local land use and transport environments that encourage a mode shift, away from private car use and towards walking, cycling and use of public transport. Planners working at the regional and local level (along with the transport sector) need to work in a coordinated manner, to ensure interventions make the best possible contribution towards population PA and other important goals such as safety/injury prevention, road congestion, air pollution and climate emissions.

Key principles at the local level relate to providing easy access to a diversity of neighbourhood destinations and high frequency public transport, and connected street networks that include footpaths and cycling infrastructure. Local planners need to ensure that residential density (and therefore customer demand) is adequate to support the viability of local businesses and frequent public transport services that make AT attractive. At a regional level, planners can play a key role by providing an appropriate mix of employment opportunities across a region that are conveniently accessible by an efficient public transport network. Policy makers can help further strengthen the evidence base by partnering with researchers to conduct studies such as natural experiments that can evaluate the effect of changes to built environments or transport systems on people's health and behaviours. By collaborating with researchers, policy makers can help ensure research questions are relevant to policy and produce policy-informing findings that can be usefully disseminated and communicated to improve policy and practice.

### Further resources and examples

Refer to the links listed under '[Urban design and infrastructure](#)' in [Appendix 5](#) for other useful resources and guidance.

Refer to [Appendix 3](#) for some illustrative examples of policies, programs and other initiatives in Australia that relate to this domain (particularly those described under GAPP 1.2, 1.4, 2.1, 2.2, 2.3, 2.5, 3.1, 4.1).



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## 3.4 The primary and secondary healthcare domain and physical activity

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### 3.4.1 How does this domain contribute to a more active society?

Primary and secondary healthcare providers can contribute towards a more physically active society by integrating physical activity (PA) counselling as part of routine care and treatment and supporting links with community-based programs and services.

#### PA promotion in primary care: Reducing chronic disease in Australia

Primary and secondary healthcare providers are at the forefront of direct, one-to-one provision of information, advice and support for PA in Australia. They also deal with the consequences of low PA, particularly chronic conditions. General practitioners (GPs) deliver the majority of primary care services, seeing 85% of the population each year. Patient surveys suggest that around 20% of people can recall discussing PA in a consultation with their GP in the past year.<sup>1,2</sup> While encouraging, there is scope for increasing PA advice and prescription in primary care, given its significant role in the prevention and management of the dominant causes of disease and disability in Australia (refer to [Chapter 1.1](#)). There is strong support for the integration of PA in clinical practice by the Royal Australian College of General Practitioners (RACGP)<sup>3,4</sup>, Australian Medical Association<sup>5</sup>, National Heart Foundation<sup>6</sup> and American Heart Association<sup>7</sup>, as well as the Federal and State Departments of Health<sup>8</sup>, and WHO<sup>9</sup>.

#### Make Every Contact Count

In addition to GPs, other health professionals with a valuable role to play in the promotion of PA include practice nurses and nurse practitioners, as well as exercise physiologists, sport and exercise medicine specialists, Aboriginal health workers, physiotherapists and health educators, many of whom rely on referral from general practice (especially as part of Team Care Arrangements under Medicare). The Make Every Contact Count (MECC) framework<sup>10</sup> developed in England (Figure 25), shows there is scope to discuss PA in most encounters with patients and clients. The MECC framework describes four levels of PA intervention ranging from very brief awareness raising and information provision in routine primary care, to high intensity counselling, planning and support that may be offered by specialist practitioners.

#### Primary and secondary care promoting active living in the community

Primary and secondary healthcare providers can also make a significant contribution in support of community-based PA strategies. For instance, they can disseminate information, and provide signposting to PA opportunities available at leisure and aquatic centres, gyms, neighbourhood centres and other venues. There may be some barriers that affect this, such as practitioners' attitudes, perceptions about patient motivation and health literacy, consultation time pressures and concerns about program or service availability and accessibility.<sup>11,12</sup> Addressing these barriers is important to support greater awareness of PA opportunities among patient populations and likelihood of participation. Some of the strategies which may help address these barriers are covered in Table 17 (see Section 3.4.3). Furthermore, the professional bodies and health services that practitioners are affiliated with are important partners in advocacy efforts to bring about policy and environmental changes to support active living in communities.



Figure 25. Making Every Contact Count [MECC] as a behaviour change intervention

Source: Public Health England 2016.<sup>10</sup>

### 3.4.2 What is the supporting evidence?

There is a substantial body of evidence that the provision of PA advice and counselling through healthcare services is effective.<sup>13</sup> WHO identify these strategies as a 'best buy' for chronic disease prevention.<sup>14</sup> The range of behavioural change strategies that have been beneficial include:

- Verbal advice
- Development of behaviour change objectives
- Written prescriptions
- Provision of written materials
- Feedback.

Several reviews have reported that brief PA interventions have similar levels of efficacy to more intensive interventions involving multiple occasions of contact.<sup>15,16</sup> The synthesis of intervention evidence indicates that small to moderate increases in PA can be maintained for at least 12 months.<sup>17</sup>

The challenge remains to develop mechanisms to deliver these interventions at scale. Evidence generated in small scale trials may not produce generalisable results or be developed for scalability. Given the reach of the primary care sector, this remains a next stage challenge for the field.

Evidence from economic evaluation of the cost effectiveness of PA promotion strategies in healthcare settings also shows that brief advice for PA delivered in primary care is cost effective<sup>18-20</sup>, particularly when the mental health benefits of increasing PA are accounted for.

### 3.4.3 What works? Infrastructure and program specification

The evidence shows that multiple communication, education and support strategies can help promote PA in healthcare settings, including verbal advice, written prescriptions and self-help materials, among others. A recent review<sup>15</sup> specified how these elements can be incorporated into brief PA interventions, as shown in Table 17.

Table 17. Examples of communication, education and support strategies for brief physical activity interventions

Design feature	Examples
Health professional counselling protocols (counselling guidelines, key messages)	Structured protocols with clear and simple messages and processes (e.g. to assist health professionals with raising the difficult topic)
Written prescription and/or care plan	A 'written prescription' outlining PA goals and a plan for PA participation developed during the consultation may be a useful adjunct to verbal advice to increase PA
Follow-up	Follow-up sessions after the initial consultation may be important in achieving improvement in PA outcomes over longer timeframes (such as 12 months). Ensuring follow-up over an appropriate time period appears to be more important as a 'success factor' than the duration of individual counselling sessions
Directory of services	Knowledge of relevant PA opportunities and support services (e.g. having a current directory, database/reference file)
Specialist support staff	Availability of support and specialist staff (e.g. exercise specialist, physiotherapist, practice nurse, local PA service providers, sports clubs and organisations, walking groups). Communication arrangements to facilitate continuity of care and feedback to the referring practitioner

In addition to these intervention elements, success factors for the delivery of PA advice and counselling in routine healthcare have been identified<sup>19</sup>, which are integrated into the 5As framework recommended by the RACGP for the provision of preventive primary healthcare.<sup>4</sup> These involve:

- **Asking** patients with an elevated risk of chronic disease (e.g. obesity, high blood pressure) about PA
- **Assessing** motivation, preferences, barriers and health literacy of patients, and using this to guide advice and support for PA
- **Advising/Agreeing** actions by providing information and recommendations that are simple, clear, specific, and realistic, negotiating goals and targets for PA and checking for understanding using 'teachback' approaches
- **Assisting** with change by applying insights from behaviour change theory, particularly goal setting, identifying internal motivators, building self-efficacy, promoting self-monitoring and encouraging social support for PA
- **Arranging** support by providing referral to allied health services or community programs and scheduling follow-up.

The encouraging evidence about the effect of PA interventions using wearable devices, such as pedometers and wrist worn activity monitors<sup>11</sup>, and digital communication methods like text messages and websites, indicates that these technologies have considerable applicability to healthcare settings.<sup>12,13</sup> The potential applications are broad and relevant to supporting the 5As approach if used as part of PA assessment, monitoring (e.g. patient self-monitoring, alerts to clinicians if goals are not met), reminders, tailored education, and support. There is, however, a need to demonstrate how these intervention modalities can be integrated into healthcare delivery and to show how they can increase the adoption and maintenance of PA among clinical populations.

### 3.4.4 What are the recommendations for investment and action?

The global Exercise is Medicine movement has called for PA to be addressed as a vital sign in every patient visit to a healthcare practitioner.<sup>21</sup> Data shows that most patients are not advised about PA, even when they have relevant conditions such as hypertension or obesity.<sup>2</sup> Ongoing efforts need to be directed towards building clinician capacity and changing practitioner's behaviour so that they recommend PA more often. This can be facilitated by professional leadership, skill development, organisational change, financial support and partnerships between healthcare practitioners and providers of PA opportunities and specialist exercise support.

#### Leadership

Departments of health, professional associations and credentialing bodies of different healthcare practitioners, and non-government public health organisations have a vital role to play in increasing understanding that promoting PA is an essential and evidence-based component of health service provision.

The development and dissemination of consensus statements and practice guidelines will contribute to a shift in awareness and attitudes towards PA as an issue that is relevant to many areas of clinical care. Recent findings from a nationwide survey of GPs conducted by the RACGP revealed low usage of the organisation's *Smoking, nutrition and physical activity* (SNAP) guidelines.<sup>22</sup>

A long-term awareness and education initiative aimed at health professionals (such as the initiative launched in England as part of the Moving Healthcare Professional Project<sup>23</sup>) may be needed to elevate awareness of such guidelines and the role of PA in disease prevention and management.

#### Skill development

WHO's *Global Action Plan on Physical Activity 2018–2030* (see [Appendix 4](#) for an overview) recommends embedding PA into pre and in-service training of health professionals to improve the knowledge, skills and confidence of healthcare practitioners to integrate PA promotion into service delivery.<sup>9</sup>

At the pre-service training level, foundational education in PA assessment, prescription and counselling should be provided within university courses (e.g. medicine, nursing, physiotherapy). It is recommended that this education introduce behaviour change models, incorporate practice-based learning experiences, and foster understanding of how PA is relevant to the personal wellbeing of health professionals as well as their readiness to address this issue with patients and clients.

Further skill development and specialisation can be facilitated by the integration of PA promotion into the professional development programs available to health professionals. These can examine PA prescriptions for different health conditions, models of multidisciplinary care, and systems to support integration of PA into routine practice. Refer to the **Case Study 'Moving Medicine'** below for an example of a professional development initiative in the UK that aims to support the integration of PA into routine clinical care, which is promising but not yet evaluated. The findings from the RACGP's recent survey indicate broad support among GPs for increased professional development to enhance confidence and skills to provide brief interventions and motivational interviewing, early intervention and preventive health advice, and improve whole-of-practice approaches to patient lifestyle change.<sup>22</sup>

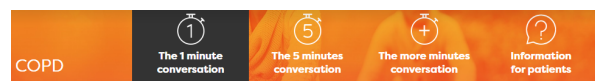


## Case study: Moving Medicine (UK)

<https://movingmedicine.ac.uk/>

**Moving Medicine** is a new online platform developed by the Faculty of Sport & Exercise (FSEM) UK (governing body for Sport and Exercise Medicine in the UK) in partnership with Public Health England and Sport England which provides:<sup>24</sup>

- **Step-by-step online guides to counselling patients** with different health conditions such as pregnancy, cancer, dementia, depression, falls and frailty, and musculoskeletal pain. Guides are structured according to the 5As framework and adapted to the amount of time a clinician has available at the end of a consultation (i.e. one, five or more minutes)
- **An online toolkit for hospitals** to help patients be more active during and after their time in hospital
- **An online course 'Active Conversations'** which is designed to provide practical training to help clinicians have quick, effective and positive conversations with patients to encourage greater PA. The course is accredited with CPD points from the FSEM (UK) but also accepts enrolments from clinicians outside of the UK.



### 1 minute conversation



Did you know?



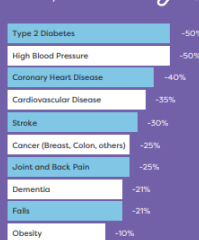
Example of one of the step-by-step guides for supporting brief conversations about PA with patients with COPD

### Being active is important for falls and frailty

What good things could being more active do for you?



Reduce your risk by being more active. All adults keeping physically active reduces your chance of:



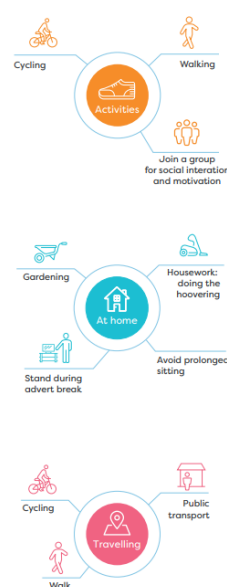
How can being active reduce the risks?



Top tips for physical activity in falls and frailty:

- 1 Being more active helps to promote confidence, prevent physical decline and gives a purpose and enjoyment to each day.
- 2 Physical activity is often enjoyable in groups with social interaction helping with motivation, support and fun.
- 3 Try and build small amounts of activity into your daily routine in episodes of more than 10 minutes at a time.
- 4 Build up activity gradually and start gently.
- 5 Exercise and being more active can help reduce your risk of falling, improve confidence and physical functioning for daily tasks.
- 6 Consider the use of chair based exercise programmes.

Build activity into everyday life:



Example of a patient resource for falls and frailty

## Organisational change

Improvements in the quality and efficiency of PA advice and counselling will be facilitated by the development of practice systems that embed this into day-to-day service delivery. The adoption of guides, such as the RACGP's '5As Framework' can assist healthcare practitioners to take a consistent and comprehensive approach to addressing PA. Other enabling elements within practice systems include validated PA assessment tools, prompts to discuss PA in the management of relevant conditions (e.g. type 2 diabetes, obesity), forms for recording advice that is given, cues to follow this up in later consultations, and written information resources that can be given to patients and clients.<sup>15</sup>

General practices and other healthcare providers may be more likely to adopt enabling elements if they form part of the minimum data required to meet accreditation standards and the indicators in the Practice Incentives Program Quality Improvement (PIP QI) Incentive, a Federal Government scheme that rewards general practices for participating in certain quality improvement activities. Desktop software programs can provide a ready access point for these enablers of PA promotion. The inclusion of enabling elements in accreditation standards and the PIP QI Incentive can similarly be expected to increase the likelihood that software providers will incorporate these in practice software.

## Financial support

The General Practice Management Plans and Team Care Arrangements, funded under the Medicare Benefits Scheme, have enabled the engagement of allied health professionals, such as exercise physiologists and diabetes educators, in more intense lifestyle interventions for patients with chronic disease. The PIP QI (mentioned above) is another scheme that could be used to incentivise general practices to incorporate quality improvement activities around PA.

The recent survey conducted by the RACGP reveals that GPs often refer patients needing comprehensive advice or more complex interventions to allied health professionals, highlighting the importance of maintaining these arrangements to support multidisciplinary engagement in PA prescription and support and intervention.<sup>22</sup> Government funding of resources and training opportunities for healthcare practitioners can improve their readiness and capacity to address PA within routine service delivery.

## Partnerships

Communication and information sharing between healthcare practitioners and providers of PA facilities and programs, supports the signposting of patients and clients to these initiatives. Partnerships between health practitioners with specialist skills in exercise prescription (e.g. physiotherapists, exercise physiologists) and providers of different types of PA in communities may also assist the design and adaptation of these opportunities so they are suitable for individuals with particular needs and/or limitations.<sup>25</sup> This specialist input can increase the confidence of patients and clients who are signposted to these activities to participate, and support patients with achieving independence and self-management as they transition out of the health system into the community.<sup>25</sup>

### 3.4.5 What other strategies intersect with this domain?

The primary and secondary healthcare domain intersects with many of the *domains for best investment* in PA.

#### The eight domains for best investment

- 1 Sport and recreation
- 2 Communication and public education
- 3 Transport and the environment
- 4 Urban design and infrastructure
- 5 Primary and secondary healthcare
- 6 Education
- 7 Workplaces
- 8 Community-wide programs

Healthcare practitioners play a central role in the promotion of PA in the community. Their capacity to have reach and impact is influenced by the context in which they practice, linkages with PA services and PA programs and other opportunities in their locality. Significant intersections between primary and secondary healthcare and other domains within the PA system include:

- **Communication:** social marketing campaigns (incorporating mass media) about PA that could be led by Departments of Health in partnership with non-government public health organisations and professional associations such as the RACGP to:
  - (a) Raise awareness among healthcare practitioners about PA as a public health priority
  - (b) Generate knowledge among patients and clients that they can seek guidance on PA
  - (c) Create a climate where it is easier for practitioners to initiate advice and counselling opportunistically
- **Community-wide strategies:** the involvement of healthcare practitioners within multifaceted community-wide PA interventions can add to the profile and credibility of these initiatives, in addition to directly assisting the significant segment of the population with whom they have contact to plan and adopt behaviour change. This includes signposting or referring patients to local community facilities and programs that promote PA for diverse population groups
- **Sport and recreation:** health practitioners can signpost to sport and recreation opportunities as a valuable way of assisting patients and clients to gain ongoing support for PA and is a pathway through which PA providers in communities can broaden their reach to inactive, higher needs individuals.

### 3.4.6 What are the implications for policy?

Health departments at state and federal levels, alongside non-government public health organisations, primary health networks and professional associations such as the RACGP, can lead the way in elevating the importance of PA as a critical component of routine clinical care. Guidelines for PA advice and support already exist for the primary care context.

- The provision of PA advice and counselling through healthcare settings has been identified as a 'best buy for chronic disease prevention and a cost-effective strategy for promoting PA
- There is a spectrum of approaches that may be used to deliver PA advice and counselling, ranging from very brief interventions to intensive counselling and support from an exercise specialist
- Provision of PA advice in healthcare settings is currently limited in Australia. Policy makers have a key role to play in providing leadership and financial support for programs that can help elevate the importance of PA in routine practice, upskill the healthcare workforce, and build organisational capacity for delivering PA interventions
- An integrated approach involving all relevant organisations (government, non-government and professional associations), is needed to develop a sustainable model for PA promotion in health care settings.

However, a sustained behaviour change campaign aimed at health professionals would likely help to increase awareness and their usage. Other recommended areas for investment include:

- Additional training opportunities and resources to build practitioner skills and confidence in delivering effective brief interventions and motivational interviewing
- Modifying the existing Medicare and PIP QI schemes to incentivise and enable more GPs to offer PA counselling as part of routine care
- Maintaining the existing General Practice Management Plans and Team Care Arrangements funded under the Medicare Benefits Scheme as they are enablers of a multidisciplinary approach to PA prescription.

Currently however, there is a fragmented approach to PA promotion in healthcare settings with many players involved including the RACGP, National Heart Foundation, Primary Health Networks and local, state and federal governments. Bringing all the relevant players together under an integrated approach will be necessary to develop a sustainable model for PA promotion in primary and secondary healthcare.

## Further resources and examples

Refer to the links listed under ‘Primary and secondary healthcare’ in [Appendix 5](#) for other useful resources and guidance.

Refer to [Appendix 3](#) for examples of policies, programs and other initiatives in Australia that relate to this domain (particularly those described under GAPPA [1.4](#), [3.2](#)).

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## 3.5 The communication domain and physical activity

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### 3.5.1 How does this domain contribute to a more active society?

Mass media campaigns are designed as organised purposive interventions using mass media communications to increase community awareness about particular health-related issues. Their role is to increase whole-community understanding, shape the agenda for change and to signpost a range of potential change options or information-seeking steps that could lead to health enhancing behaviours. Mass media campaigns can initiate the cognitive change process, influencing understanding and beliefs and then impact attitudes and behavioural intention. The final stage involves influencing health behaviours directly, with short-term behavioural trialling, or longer-term behavioural maintenance. They use mass-reach channels to access a large population or population subgroup.<sup>1,2</sup>

Standalone mass media campaigns are generally less effective than those that integrate with comprehensive efforts including environmental supports, regulation, and policy change across the prevention system.<sup>3</sup> For this reason, many have argued that mass media campaigns should be just one part of a broad social marketing strategy, which includes complementary policy and environmental changes.<sup>1,4-6</sup> What we term 'mass media-based social marketing campaigns' (MM-SMC) combine mass media with the right policy actions, programs/services/products and supportive environments.

There is compelling evidence that MM-SMC represent best practice, which WHO encourages member states to aspire to when designating MM campaigns as a 'best buy' for the prevention and control of chronic diseases.<sup>7-10</sup> Social marketing is an *integrative* approach that embraces Promotion (e.g. mass media campaign), Product (e.g. programs and brand), Price (e.g. financial cost, time/opportunity costs of activities) and Placement (e.g. social, commercial, digital, physical environments). The (not recommended) 'stand-alone' mass media campaign would represent only a limited subset of the 4Ps framework – in effect 'one P – promotion', which would result, at best, in increased community awareness of the issue. By contrast, the social marketing approach harnesses multiple strategies at multiple levels for synergistic impacts.<sup>11,12</sup> Increasingly, social marketing and mass media campaigns are incorporating social media either in conjunction with, or instead of, traditional channels.<sup>13-15</sup>

Thus far, the evidence indicates that relying exclusively on social media for campaign communications are premature, and none have been published in the PA arena. While new studies are emerging<sup>16-19</sup>, not enough is yet known about the best strategic mix for campaigns using social media platforms.<sup>20,21</sup> As noted by the US Centers for Disease Control and Prevention:

*"These platforms are complements to, not substitutes for, traditional mass media. Because data on the contribution of digital media efforts to reaching campaign goals are still emerging, evaluation of digital media efforts can help determine effectiveness and establish an evidence base".<sup>3</sup>*

Given the recency of social media approaches to health behaviour change, there is currently no evidence that social media alone can change behaviour. However, these methods are inexpensive, can be tailored to different audience segments, and are recommended as complements to, not substitutes for, traditional mass media.

### 3.5.2 What is the supporting evidence?

In the recent update of 'best buys' and other recommended interventions for the prevention and control of chronic diseases, WHO stipulates the following as a best buy (cost effectiveness analysis (CEA)  $\leq$  INT\$100 per DALY averted in low- and middle-income countries (LMICs)):

*"Implement community-wide public education and awareness campaign for physical activity which includes a mass media campaign combined with other community-based education, motivational and environmental programs aimed at supporting behavioural change of physical activity levels."*<sup>7</sup>

The 'best buy' status afforded to public education and awareness campaigns by WHO is supported by several recent reviews<sup>5,6,22,23</sup>, noting the need for improvements in campaign reporting research and research methods.

### 3.5.3 What works? Infrastructure and program specification

In their discussion of best practice in mass media campaigns, the FLOWPROOF protocol has been proposed, comprising nine key components of campaign implementation and evaluation, based on a synthesis of campaign evaluation and effectiveness data (Figure 26).<sup>1</sup>

For a newly developed campaign, it is generally held that planning for television should aim for individuals to be exposed to a message on three or more occasions. This is based on the concept of minimum effective frequency (MEF), meaning that selection of program placement should be guided by aiming for the largest proportion of the target audience exposed to the television commercial (TVC) three times or more in order for the TVC to achieve its maximum communication effect (this is a general rule of thumb, but an MEF estimation formula is discussed in detail by Rossiter<sup>24</sup>).

For reinforcement phases of an established campaign, particularly if the TVC content is quite emotive, the media buying plan may aim to maximise the proportion of the target audience reached 1+ times, i.e. buying to maximise reach without needing to achieve 2+ or 3+ frequency. This is also likely to require less investment over a given campaign phase.<sup>3,25</sup>

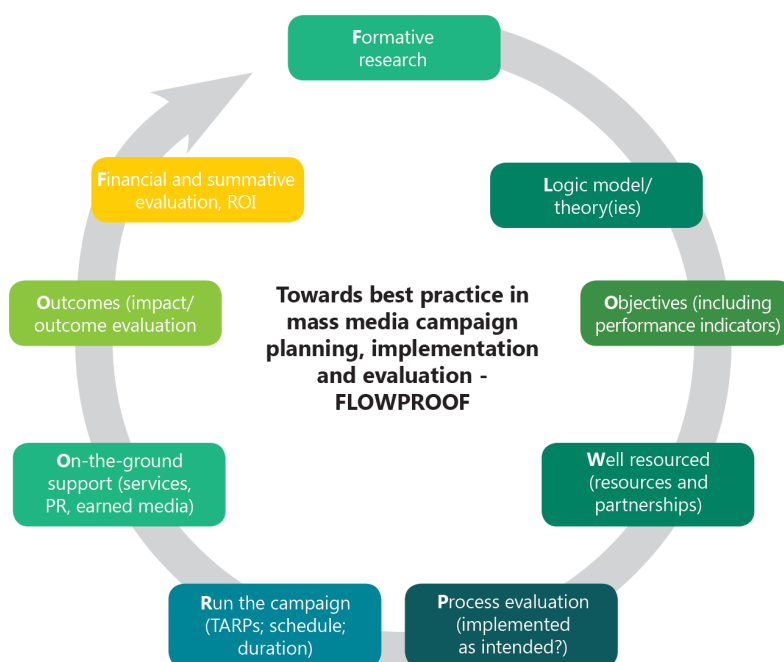


Figure 26. FLOWPROOF protocol for best practice in mass media campaigns

Source: Grunseit et al 2016.<sup>1</sup>

Tobacco control campaigns have a longer and more extensive history and research basis than other health issues such as PA. Using tobacco control as an approximate reference, the US Centers for Disease Control and Prevention have recommended an annual investment standard of US\$3.10 per capita for statewide mass media campaigns.<sup>3</sup> For example, to meet this investment effectiveness standard for a NSW adult population aged 18-64 years would require annual investment of approximately A\$6M.<sup>a</sup>

### 3.5.4 What are the recommendations for investment and action?

From their review of PA mass media campaigns in Australia<sup>22</sup>, researchers set out the FLOWPROOF protocol (Table 18) together with nine key recommendations:

1. Campaigns should be part of an integrated, system-wide approach to chronic disease prevention
2. Campaigns and main messages should be consistent across Australia
3. Underpinning theory/logic models need to be made explicit and applied
4. Clear, measurable campaign goals and objectives should be specified
5. Linkages to broader strategies (beyond communication) should be further developed
6. Campaign duration and investment should reach a defined impact threshold
7. A campaign planning and evaluation protocol (e.g. FLOWPROOF) could contribute to better practice
8. Campaign evaluations should be made publicly available
9. Sustained campaign efforts over several years are required to achieve population impact.

Table 18. Design specifications for mass media campaigns to encourage a more active society

Design feature	Explanation and examples
Formative research	<ul style="list-style-type: none"> <li>• Planning research to develop and test campaign themes, messages and communication elements, and assess the need for and feasibility of a campaign</li> <li>• May include epidemiological assessment, message design, formative testing and concept development</li> <li>• May use qualitative and/or quantitative approaches</li> </ul>
Logic model/use of theory	<ul style="list-style-type: none"> <li>• Explicitly identifies how the overall campaign is intended to work and whether one or more theories or frameworks (e.g. social cognitive theory, health belief model or hierarchy of effects model) is used to guide planning and evaluation</li> </ul>
Objectives (including performance indicators)	<ul style="list-style-type: none"> <li>• Defines target audience or audience segmentation</li> <li>• Specifies measures or indicators to assess campaign performance. For example, if a 'hierarchy of effects' model was incorporated, performance indicators corresponding to each level of hierarchy might be developed for categories such as awareness, specific message recall, knowledge enhancement, attitudinal change, confidence or intention to change behaviour, or behavioural trialling or maintenance</li> </ul>
Well-resourced	Invests adequate resources (see per capita investment standard under 3.5.3) and builds necessary partnerships across sectors
Process evaluation	<ul style="list-style-type: none"> <li>• Process evaluation answers the following research questions:               <ol style="list-style-type: none"> <li>(a) Did we implement campaign components as intended?</li> </ol> </li> </ul>

<sup>a</sup> Based on ABS population estimates for September 2015 and USD/AUD exchange rate of 1.27.

Design feature	Explanation and examples
	<p>(b) What campaign elements did we implement that were:</p> <p>(i) Planned</p> <p>(ii) Opportunistic?</p> <ul style="list-style-type: none"> <li>Process evaluation starts early, and in anticipation of tracking the unfolding campaign activities, is both scheduled and opportunistic. A standard reporting template for local implementation teams is a useful tool</li> </ul>
Run the campaign	Implements the necessary campaign 'dose' i.e. media weight Target Audience Rating Points (TARPs)/Gross Rating Points, type of scheduling and duration to achieve defined reach effectiveness threshold
On the ground support	Deploy the infrastructure, services associated with the campaign, public relations and earned media functions to support effective implementation
Outcomes	<ul style="list-style-type: none"> <li>Ensures that campaign impact or outcome evaluation is conducted with optimal evaluation research design (ideally longitudinal analyses using a cohort design with comparison cohorts from regions unexposed to the social marketing and mass media campaign) and with the use of established reliable and valid measures and indicators to assess each component</li> <li>Uses a systematic approach to share evaluation results with stakeholders</li> </ul>
Financial and summative evaluation	Undertake an integrated summative and economic campaign evaluation, including breakdown of all costs incurred and returns on investment.

### 3.5.5 What are the recommendations for low-resource situations?

Low-resource situations describe where the financial, human or other resources for campaigns are less than optimal, or the timing is very rapid between commissioning and delivery of a campaign. Low-resource settings include low income countries, but also smaller or localised campaigns in a defined region or city, with relatively small campaign buying budgets. Defining optimal resourcing standards for MM-SMC is difficult, although the guidance for investment in tobacco control mass media campaigns is a possible reference point.<sup>3</sup> Those responsible for overall planning and budgeting may wish to consider whether they confine their investments to actions that they can afford to fund fully rather than risk wasting resources should an underinvestment in MM-SMC fail to reach a reasonable performance standard.

For those who believe they can achieve impact on a 'shoestring' budget, researchers have developed a 10-step A-to-J framework and guide to getting started with campaigns – the PRAGMMATIC (Practical Guidance on Mass Media Techniques In Countries) framework.<sup>26</sup> The steps are as follows: (1) Audience selection; (2) Build messages; (3) Choose channels; (4) Develop partnerships; (5) Enhance the campaign product; (6) Free up resources; (7) Generate publicity; (8) Heighten the highs; (9) Invent fresh content; (10) Join up strategies.

These 10 steps are illustrated in Figure 27 which is about *low-resource settings*. These include LMIC (as defined by World Bank classifications) and other lower resource situations (regardless of country classification) where the financial, human or other resources for campaigns are less than optimal. A low-resource setting is not necessarily synonymous with a low-income country/region. For example, a campaign might be implemented in a high-income country setting, but also be limited in resources at a given local implementation level.

# The PRAGMMATIC Framework

## Build messages

Look at other successful campaigns to find examples of suitable messages to achieve the campaign objectives. Adapt, test and refine them with your target audience (small groups/pairs/individuals). Co-design with audience as much as possible to ensure messages are engaging, meaningful, memorable and motivating.

## Develop partnerships

Create a coalition of partners or a group who share an interest in the outcomes and who will share the costs (and benefits) of running the campaign.

## Find resources

Find additional free (or very low-cost) human and material resources to support the campaign. Resources can be extended with interns, volunteers and partners. Many companies will work pro bono or at a reduced rate for corporate responsibility initiatives or issues of interest to them.

## Heighten highs

Use early feedback from the target audience, community, partners, success indicators, social media analytics to boost energy and direct resources to the parts of the campaign to give the best overall impact.

## Join forces

Link the campaign to other strategies, by design or opportunity – e.g., link a physical activity campaign to a bike/walk to school day, walk to work day, to world Physical Activity day, bike share schemes, exercise prescription by doctors. Link a healthy eating campaign to fruit & vegetable promotions in retail outlets.



## Aims and Audience

Use '5WH' questions:

**What** is the main goal? (what behaviours will the campaign seek to influence?)

**Whose** behaviour will the campaign seek to influence?

**Where** will it run? (local or national)

**When** will it start, finish?

**Why** this campaign, why now?

**How** will campaign 'success' be defined & measured? [Develop success indicators based on clear objectives for the short term (3 mths) & longer term (12-18 mths)].

## Choose channels

Identify the most effective mix of media channels to reach and engage your target audience. Check what commercial advertisers are doing to reach this audience. Lower cost options include social media, influencer engagement and digital media; higher cost options include mass media, activations and direct marketing.

## Enhance the campaign

Identify and incorporate goods and services that encourage and support the target audience to engage with the campaign and adopt the desired behaviour(s) – e.g., provide goal-setting & monitoring tools (pedometers, apps), help with access (maps, directories, vouchers), enable social support groups, provide information, signage, brochures.

## Generate publicity

Publicity is low-cost and powerful. Earned media opportunities include:

- Hard news: increases awareness
- Opinion pieces: set the agenda
- Features: stimulate conversation
- 'How-to' pieces: build self-efficacy
- Online: find advocates, develop discussion
- Community newsletters: gain grassroots involvement

## Invent fresh content

Monitor audience response and campaign measurement data (engagement, saturation) to find out when you need to refresh the communication materials. Return to Step 2 but use learnings and resources from previous campaign phases.

## FLOWPROOF

Evaluate reach, response and impact. Consider working with academic partners. If resources are sufficient, consider using FLOWPROOF; if not return to Step 1, review and repeat the steps.

Figure 27. PRAGMMATIC: 10 steps towards implementing best practice campaigns in low-resource situations

Source: Bellew et al 2020.<sup>26</sup>

### 3.5.6 What other strategies intersect with this domain?

Communication and public education that encourages people across the lifespan to engage in PA is one of the identified *eight domains for best investment* which are used as a central organising framework for this guide. Making use of all eight domains allows for the comprehensive strategic approach necessary to increase population participation. A designated 'best buy' in its own right, mass media approaches to communication and public education can also provide a communication umbrella across all domains, as well as the opportunity to develop a brand to strengthen the marketing platform (Figure 28).



Figure 28. Mass media can provide a communication umbrella across all domains

### 3.5.7 What are the implications for policy?

Mass media campaigns are important for raising population awareness and understanding about PA but must form part of an integrated strategy that ensures the right policy actions, programs/services/products and environments are in place to support changes in behaviour. This integrated approach is known as 'mass media-based social marketing campaigns' (MM-SMC).

We recommend that policy makers follow the FLOWPROOF protocol and accompanying recommendations (outlined in [Section 3.5.4](#)) when planning, implementing and evaluating mass media-based social marketing campaigns to promote a more active society. Key aspects of FLOWPROOF relate to:

- **Campaign development:** use of formative research and logic model/theory
- **Evaluation:** clearly defining specific and measurable objectives and performance indicators
- **Implementation:** adequate dosage and maintenance of the campaign to achieve impact
- **Resourcing and partnership building:** to support implementation and evaluation.

- The FLOWPROOF protocol and accompanying recommendations (outlined in [Section 3.5.4](#)) are for implementing mass media-based social marketing campaigns
- For low-resource contexts the PRAGMMATIC (practical guidance on mass media techniques in countries) protocol is recommended.

Where the FLOWPROOF protocol and recommendations cannot be followed (due to inadequate resources or highly restricted timeframes), policy makers should consider whether investments are better directed towards other actions that can be funded fully rather than risking underinvestment in (and consequently, marginal impact of MM-SMC).



If a decision is still made to run a campaign in this scenario, we would suggest following the PRAGMMATIC (Practical Guidance on Mass Media Techniques In Countries) Protocol – the 10 steps outlined in [Section 3.5.5](#), as a guide to help maximise the use and availability of campaign resources and optimise impact.

## Further resources and examples

Refer to the links listed under ‘[Mass communication and public education](#)’ in [Appendix 5](#) for other useful resources and guidance.

Refer to [Appendix 3](#) for some examples in Australia that relate to this domain (particularly those described under [GAPPA 1.1](#) and [1.2](#)).

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## 3.6 The community domain and physical activity

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### 3.6.1 How does this domain contribute to a more active society?

Ecological models highlight that patterns of physical activity (PA) in populations are influenced by determinants at multiple levels, including intrapersonal, interpersonal, organisational, environmental and policy factors.<sup>1</sup> This perspective provides the foundation for community-wide programs to promote PA, that use a mix of coordinated strategies to address the multilevel determinants of activity. Actions might include mass media campaigns, primary health care-based interventions, community participation or educational events, advocacy and environmental changes. According to Mittelmark: *"The term communitywide describes large-scale programs that are intended to involve many residents and the institutions of entire villages, towns or cities"*.<sup>2</sup>

Community-wide approaches to tackling public health risks have been used extensively since the latter part of the 20th century<sup>3</sup>, and there is a substantial knowledge base and numerous frameworks to guide how these are implemented. It is understood that each community is different from the next, with a unique set of assets among its people, places, services and networks. Consequently, community-wide PA programs are effective when they deliver evidence-based infrastructure and programs in the context of a given community, tailoring the investments to the assessed needs of that community, and harnessing local partnerships and strengths to create synergistic benefits. Systems thinking, and the method that it employs such as dynamic simulation modelling, can enable identification of critical determinants within communities and facilitate coordinated action by partner agencies to modify these.<sup>4</sup>

Community-level interventions can respond to local community opportunity, capacity and nuance. They may also be able to mobilise local partnerships and resources e.g. faith based; farm based; or culturally, geographically or climatically tailored to local need and across local communities.

### 3.6.2 What is the supporting evidence?

While there have been discrepant findings from systematic reviews<sup>5,6</sup>, community-wide programs to promote PA have been strongly recommended by the United States Preventive Services Task Force<sup>7</sup>, the WHO<sup>8,9</sup>, the American Heart Association<sup>10</sup> and leading PA researchers.<sup>11</sup> The broad consensus about the benefits of these programs is premised on an understanding that they are a vehicle for coordinated, best practice action on the ecological determinants of PA. Further, there is good evidence to support the multiple constituent strategies that are usually incorporated within community-wide programs. These include social marketing and mass media<sup>12</sup>, enhancements to the built environment and transportation systems<sup>13</sup>, settings-based interventions in schools<sup>14-16</sup> and workplaces<sup>17,18</sup>, education and counselling in primary and secondary healthcare<sup>15,19,20</sup> and individually-tailored health behaviour change programs.<sup>21</sup>

The available economic evaluations support the cost effectiveness of community-wide programs to promote PA. For instance, community-wide strategies to promote walking and the use of pedometers have been reported to have highly favourable cost effectiveness, calculated as the ratio of costs per person per day to MET-hours of PA gained per person per day.<sup>22</sup> Use of a simulation approach to model the cost per Quality Adjusted Life Year (QALY) gained from different PA interventions, based on estimates of the impact that these would have upon disease incidence, has also found that community-wide strategies are cost effective.<sup>23</sup>

Overall, WHO identified community-wide programs as the most cost-effective approach to increasing PA in populations. It recommended that member countries:<sup>8</sup>

*"Implement community-wide public education and awareness campaign for physical activity which includes a mass media campaign combined with other community-based education, motivational and environmental programmes aimed at supporting behavioural change of physical activity levels".*

### 3.6.3 What works? Infrastructure and program specification

Table 19 summarises the evidence-based components which can be used to build a community-wide program, with examples of each. WHO has stipulated the first two components (mass media campaigns, and primary and secondary healthcare) as 'best buys' overall<sup>8</sup>, so that it is reasonable to suggest that these might be prioritised in selection component options to build a community-wide approach, however all of the design features shown are supported by scientific evidence.

Table 19. Design specifications of evidence-based components to increase PA through community-wide programs

Design feature	Examples
Community-wide campaigns using mass media, social marketing	<ul style="list-style-type: none"> <li>Promote PA by using television, radio, social media, newspaper columns and inserts, and trailers in cinemas</li> <li>Incorporate multiple components from the other 'design features' below to build the community-wide approach</li> </ul>
Primary and secondary healthcare program component options	<ul style="list-style-type: none"> <li>Risk factor screening and education</li> <li>PA counselling</li> <li>Individually tailored health behaviour change programs</li> <li>Combined diet/PA programs for people at increased risk of type 2 diabetes</li> </ul>
Family-based interventions	<ul style="list-style-type: none"> <li>Goal-setting tools and skills to monitor progress (e.g. website to enter information)</li> <li>Reinforcement of positive health behaviours (e.g. reward charts or role modelling of PA by parents or instructors)</li> <li>Organised PA sessions (e.g. instructor led opportunities for active games)</li> </ul>
Settings-based program component options: education, workplace, sport	<ul style="list-style-type: none"> <li>Whole-of-school initiatives with adequate facilities and programs</li> <li>Linkages between schools and wider community to increase PA opportunities</li> <li>Creation of new or enhanced access to places for PA combined with informational outreach activities (e.g. sports voucher/incentive schemes)</li> <li>Workplace-based programs to improve diet/PA and reduce weight</li> <li>Point-of-decision prompts to encourage use of stairs</li> <li>Transport access guides</li> <li>Showers</li> <li>Bicycle storage facilities</li> </ul>
Environment and policy component options: combinations of transportation, land use, environmental design	<ul style="list-style-type: none"> <li>Urban greening strategies</li> <li>Physical improvement to green space combined with a community engagement element that promotes the green space and reaches out to new target groups</li> <li>Creation of new/enhanced footpaths and walking trails</li> </ul>

Design feature	Examples
	<ul style="list-style-type: none"> <li>• Campaign linked/branded signage for new/existing local footpaths and walking trails</li> <li>• Increase street connections to create multiple route options, shorter block lengths</li> <li>• Traffic calming, intersection design, street lighting and landscaping</li> <li>• Building codes and other local policies that minimise car parking</li> <li>• Expanded transit services, times, locations and connections</li> <li>• Bus stops accessible <math>\leq 400\text{m}</math>; rail stops accessible <math>\leq 800\text{m}</math> from homes</li> <li>• Bicycle systems, protected bicycle lanes, trails</li> <li>• Safe routes to school</li> </ul>
Technology-based distance interventions	<ul style="list-style-type: none"> <li>• Incorporation of activity monitors to increase PA in adults with overweight or obesity</li> <li>• Mobile text messages, emails or websites for people with established chronic diseases</li> <li>• Telephone-based coaching services</li> </ul>

It is further recommended that community-wide programs with these design features adopt an assets or strength-based approach which encourages individuals from within the communities to lead and facilitate co-production and delivery of programs, and services. Recognising the unique assets in communities, during planning and implementation of programs using existing capacity and resources in communities increases a program's effectiveness. This approach has been adopted within the Active Living by Design (ALbD) Community Action Model, which provides an evidence-informed ecological framework for increasing active living in communities using integrated and multilevel, cross-sectoral strategies, with an intentional focus on health equity (Figure 29).<sup>24,25</sup>



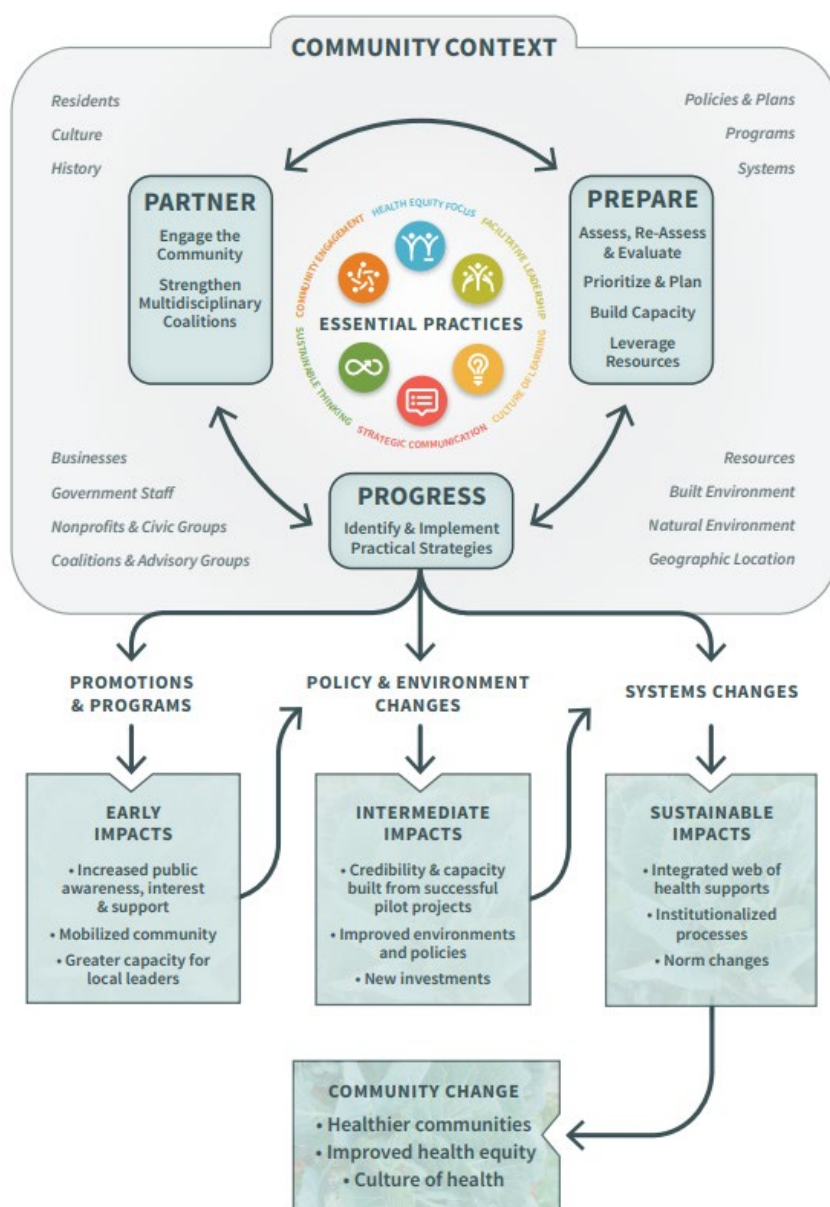


Figure 29. Active Living by Design (ALbD) Community Action Model (updated in 2016)

Source: Stasi 2019.<sup>26</sup>

This model, which can be best understood by following the arrows from top to bottom, is based on six essential practices for producing meaningful and sustainable change in communities. These practices, which are positioned in colour at the centre of the top part of the model and summarised in Table 20, underpin all stages of the model. The model uses a 3P Action Cycle consisting of the iterative stages of partner, prepare and progress to deliver actions in relation to promotions and programs, policy and environment changes and systems changes that are appropriate to the community context, thereby improving community health outcomes.<sup>26</sup>

Table 20. The six essential practices of the Active Living by Design Community Action Model

Essential practices	Details
Health equity focus	Intentional focus on reducing health disparities in communities by addressing social, economic and environmental inequities
Community engagement	Intentional process of empowering community members to authentically engage in and contribute to the planning and implementation of solutions within their own communities
Facilitative leadership	A capacity building and management approach that shares power and influence among engaged partners
Sustainable thinking	Considers the social, environmental and economic assets and opportunities needed for successful and lasting community change
Culture of learning	Embeds ongoing opportunities in the community to improve effectiveness and impact through partnerships, continual assessment of initiatives and collaborative sharing and learning
Strategic communication	Goal-driven method of communication that aligns messages and strategies with communities' priorities and values, adapts to evaluation results and aims for evolving dialogue

Source: Stasi 2019.<sup>26</sup>

### 3.6.4 What are the recommendations for investment and action?

Community-wide PA programs should be strongly supported by government and non-government agencies as a vehicle for multilevel strategies that can be adapted to local contexts and achieve levels of implementation and engagement necessary for population-level behaviour change. State and national agencies can assist these efforts by supporting capacity building, intersectoral collaboration, and coordination with whole-of-population strategies.

#### Capacity building

Evidence, case studies, and models for community-wide PA promotion should be disseminated to organisations that can provide leadership in these programs at the local level, particularly regional health authorities, local councils and sport and recreation bodies. Provision of training in methods such as systems mapping, co-design and collective impact will foster skills and shared understandings that support coordinated and collaborative action.

#### Intersectoral collaboration

Collaboration with community-level organisations that play an important role in the provision of infrastructure and programs for PA at the community level, including those in the education, transport, planning and sport and recreation sectors, will be enabled when this takes place under the aegis of state or national commitments by these organisations to address this issue. The development of high-level policies and programs across these sectors, therefore, will support their involvement in community-wide programs at the local government and regional levels. Other community-wide initiatives are developed exclusively within a city or municipality, and generate an 'Active Community X' program of work, occurring predominantly at that local level (e.g. Active Launceston<sup>27</sup> – see [Appendix 3](#) (under GAPPA area 3.6)).

## Coordination with whole-of-population strategies

While community-wide programs should be contextually relevant and make use of local assets, these can be supported by alignment with strategies and use of resources that have been developed to promote PA at the state or national level. These include mass media messages and materials, guidelines for urban design and transport planning, and behaviour change strategies and resources designed for use in healthcare, education and other settings.

### 3.6.5 What other strategies intersect with this domain?

Community-wide programs, by their nature, may intersect with all of the other domains for PA promotion that are addressed in this document. Mass communication, improvements to the built environment, and education delivered in workplaces and/or healthcare settings form the mainstays of these programs, but other combinations of strategies may be used depending on local needs and resources. Furthermore, community level action has a valuable role to play in reaching and supporting socially disadvantaged people, who are likely to experience greater barriers and fewer opportunities for PA in the contexts in which they live (see [Chapter 4](#) for further information).

#### The eight domains for best investment

- 1 Sport and recreation
- 2 Communication and public education
- 3 Transport and the environment
- 4 Urban design and infrastructure
- 5 Primary and secondary healthcare
- 6 Education
- 7 Workplaces
- 8 Community-wide programs

- Community-wide programs, by their nature, involve a mix of strategies across multiple domains to address the multilevel determinants of PA for that community
- The identification, development and implementation of suitable strategies should be adapted to local needs, harness local assets (resources, partners), and engage community members
- Government and non-government public health agencies have a role to play in supporting community-wide PA programs.

### 3.6.6 What are the implications for policy?

Given the local and regional nature of community-wide PA programs, the clearest implications are for local government bodies which may find the ALbD Community Action Model useful for understanding the principles and practices for effective program development and delivery for more active communities.

The formulation of strategies that comprise community-wide programs will depend on local needs and should be developed using an assets or strength-based approach that encourages community engagement.

Systems thinking can enable local governments, their partners and the community to identify the critical determinants affecting PA in the community and facilitate coordinated action to address these. Public health agencies at the state and national level also have an important role to play, particularly in supporting capacity building at the local level, and provision of supporting investments and infrastructure.

## Further resources and examples

Refer to the links listed under 'Community-wide programs' in [Appendix 5](#) for other useful resources and guidance.

Refer to [Appendix 3](#) for some illustrative examples of policies, programs and other initiatives in Australia that relate to this domain (particularly those described under GAPPA 1.1, 1.2, 1.3, 3.3, 3.4, 3.5, 3.6).

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## 3.7 The workplace domain and physical activity

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### 3.7.1 How does this domain contribute to a more active society?

At different life stages, some settings are of greater or lesser significance in terms of their potential to reach a large proportion of the population. Workplaces are one such setting because they capture much of the adult population. Over 12.2 million Australians in the 15–64 years age group were estimated to be employed at the beginning of 2019. In addition, the national participation rate was at near record high levels for this population at 78.2%.<sup>1</sup> Further, the gap between male and female participation rates in this age range was less than 10 percentage points, at 82.9% and 73.5% respectively, continuing the long term convergence of male and female workforce participation. These data indicate the importance of the workplace setting for the 15–64 years age group as a platform for interventions and programs to improve health and wellbeing overall and especially through the potential to nurture a more active society.

Forecasts indicate a smaller working population will need to support the rising healthcare and social welfare costs of an ageing Australian labour force in the coming decades.<sup>2</sup> Current Australian Government policies aim to encourage employers and employees to maintain workers' physical and mental wellbeing to enable long term and productive participation in the labour force. Reaching workers through the workplace setting is one way towards achieving better health<sup>2,3</sup>, while delivering numerous other potential benefits for organisations and employees (Table 21).<sup>4</sup>

This potential is contingent on the availability of effective, affordable and sustainable interventions and programs that can be scaled to achieve population reach; a considerable challenge given the significant proportion of workplaces that are small (44% of all Australian workplaces in 2017–18) and which experience greater difficulties implementing workplace programs.<sup>5,6</sup>

**Table 21. The potential benefits of health promotion in the workplace setting**

Benefits to the employer organisation	Benefits to the employee
✓ Well-managed health and safety program	✓ Safe and healthy work environment
✓ Positive and caring image	✓ Enhanced self-esteem
✓ Improved staff morale	✓ Reduced stress
✓ Reduced staff turnover	✓ Improved morale
✓ Reduced absenteeism	✓ Increased job satisfaction
✓ Increased productivity	✓ Increased skills for health protection
✓ Reduced healthcare / insurance costs	✓ Improved health
✓ Reduced risk of fines and litigation	✓ Improved sense of wellbeing

Source: Adapted from WHO 2018.<sup>4</sup>

### 3.7.2 What is the supporting evidence?

A recent review of health and wellbeing in the workplace setting has reported on: (i) evidence of effectiveness; (ii) essential program components; (iii) implementation success factors; and (iv) the influence of organisational factors, leadership, systems, policies, culture and work design.<sup>7</sup> There is strong evidence that lifestyle management interventions as part of workplace wellness programs can increase healthy behaviours such as PA. These effects are sustainable over time and are clinically meaningful but their potential for workforce-wide impact is constrained by limited reach (i.e. a small proportion of workers is reached by programs), challenges associated with attempts to scale up evidence-based workplace programs and attenuated effectiveness at scale (i.e. programs become much less effective when scaled up). There is also evidence of effectiveness for interventions to prevent type 2 diabetes and to tackle obesity/overweight in the workplace; however, interventions vary substantially in their effectiveness. The greatest weight loss was achieved only through intensive lifestyle interventions (that is, at least four months in duration) that implemented a structured, established program. By contrast, weight reduction was minimal among less intensive interventions, and/or those that did not comply with the specifications of the established model. Further, more work is needed to refine efforts to address socioeconomic inequalities in obesity. The review noted the prominence of PA as a research theme in the workplace setting, especially in the decade to 2017 and cited 20 important publications since 2011 alone.<sup>8-27</sup>

A substantial body of literature supporting workplace PA interventions exists, exemplified by a recent systematic review of reviews which found high quality evidence of positive health effects of workplace health promotion initiatives that target PA.<sup>28</sup> According to a stakeholder-centred synthesis, short, simple exercise or fitness programs have the strongest evidence of positive impacts on work related outcomes in general workers and could provide similar benefits to more complex and expensive interventions.<sup>23</sup> Participation in workplace team sport is also a promising strategy with improvements in individual health (perceptions of health, vitality, fatigue at work), group (improved social interactions) and organisational (work performance) outcomes.<sup>24</sup> Similarly, group-based interventions targeting PA in shift workers also show moderate evidence of effectiveness.<sup>29</sup> Effective interventions included components such as competitive group activities, the use of free resources (e.g. fitness trackers), and feedback from an instructor. Tailoring for individual fitness levels was also noted as necessary for effective engagement.

The evidence further indicates that multilevel or multicomponent workplace interventions are effective for increasing PA and reducing sedentary behaviour (SB).<sup>7,30-32</sup> The *Moving to business* (MTB) study in Finland<sup>30</sup> noted some compensatory effects, whereby employees' leisure (outside of workplace) PA levels decreased slightly but not enough to undermine the overall positive impact on total PA.<sup>30</sup>

The Bellew review also reported moderate strength evidence in support of a systems approach (generically) to health promotion in the setting, noting also that five major international and national health agencies (US Centers for Disease Control and Prevention, WHO, National Institute for Occupational Safety and Health, National Institute for Health and Care Excellence, Workplace Health Association Australia) are consistent in stipulating leadership and workplace culture very prominently within the recommendations in the frameworks and models which they promote.<sup>7</sup>

Feltner and colleagues<sup>31</sup> reviewed the effectiveness of Total Worker Health (TWH) interventions which take an integrated approach to promoting worker health and wellbeing by combining occupational health and safety, injury prevention, and hazard minimisation efforts in the workplace. While they found only some evidence of effectiveness of TWH interventions for decreasing sitting time in office workers, they identified characteristics of effective integrated interventions which involved co-designing, planning and implementing multicomponent programs.

The participatory approaches to intervention design and implementation ranged from inviting target worker groups to provide input during the planning and implementation phases, to creating joint management-employee advisory boards.

Altogether, the current evidence base supports a multilevel and systemic approach to the promotion of PA and reduction of SB in the workplace setting which is consistent with the current WHO ‘best buy’ recommendation. Nonetheless, more research on the effectiveness of specific actions or combinations of actions implemented at different levels will help to refine our specifications and recommendations in the workplace domain.

The benefits of workplace interventions can also be hampered by poor implementation, despite their promise.<sup>33</sup> There are limited studies examining the effectiveness of varying implementation strategies for workplace health promotion programs, including those targeting PA.<sup>34</sup>

The available evidence suggests that the trialled strategies (e.g. educational meetings, tailoring interventions to a specific workplace, and consensus processes) have little to no effect on the long-term effectiveness of the programs. Implementation science research is required if we are to understand the most effective ways to scale up workplace PA interventions, allow for flexibility and adaptation of effective interventions so they can be readily adopted and widely implemented while preserving acceptable levels of effectiveness. Better reporting of contextual influences, such as organisational culture, participant demographics, leadership support and workplace policies, will help to address gaps in knowledge about implementation.

### 3.7.3 What works? Intervention and program specification

The evidence reviewed in this report allows for clear specification of interventions and programs in the workplace which are designed to contribute to a more active society (see Table 22).

Table 22. Design specifications for policies and programs to increase physical activity in the workplace setting

Level of intervention	Examples to increase PA	Examples to reduce SB
Organisation	<ul style="list-style-type: none"> <li>• Include workplace health in the strategic plan</li> <li>• Engage occupational health staff and nominate a wellbeing team for PA promotion</li> <li>• Offer health risk assessments or similar screening</li> <li>• Use targeted approaches (high-risk, tailored) as well as universal</li> <li>• Provide incentives (including financial) to motivate participation for hard-to-engage workers and for defined outcomes (e.g. to use one hour working time per week for PA)</li> <li>• Provide exercise equipment for shared use</li> <li>• Develop a shared bicycle scheme for work-related travel</li> <li>• Strategically locate office printers to increase daily steps</li> <li>• Develop interactive interventions to encourage staircase use instead of lifts (e.g. smartphone prompts, use of gamification, team-based challenges)</li> <li>• Build/update locker rooms, showers, bike storage facilities</li> <li>• Organise PA day/s, team sports events</li> </ul>	<ul style="list-style-type: none"> <li>• Provide staff with sit-stand desks</li> <li>• Provide standing desks in meeting rooms and collective spaces</li> </ul>
Work unit/ department	<ul style="list-style-type: none"> <li>• Organise weekly group exercise or instructed PA breaks</li> <li>• Offer talks on wellbeing including PA</li> <li>• Hold walking meetings, or introduce activity breaks during meetings</li> <li>• Promote active commuting to work</li> </ul>	<ul style="list-style-type: none"> <li>• Hold stand-up meetings, or remind and encourage standing as an option during meetings</li> </ul>

Level of intervention	Examples to increase PA	Examples to reduce SB
Individual	<ul style="list-style-type: none"> <li>• Include conversation on PA and wellbeing in individual development discussions</li> <li>• Offer individual PA counselling based on screening assessments</li> <li>• Provide email messages and information on increasing PA</li> </ul>	<ul style="list-style-type: none"> <li>• Include PA and sedentary lifestyle behaviours in a 'work-life balance' component of Staff Development Reviews</li> <li>• Model the behaviour</li> </ul>

SB = sedentary behaviour

The **Case Study** below provides an example of a free workplace health promotion initiative in NSW that aims to reduce chronic disease risk among workers by helping them make small changes to their lifestyles and to support businesses to create healthier workplace environments.

## Case study: Get Healthy at Work program (NSW)

[www.gethealthyatwork.com.au](http://www.gethealthyatwork.com.au)



The **Get Healthy at Work** program is a free workplace health promotion initiative that aims to reduce chronic disease risk among workers by helping them make small changes to their lifestyles and support businesses to create healthier workplace environments. Get Healthy at Work offers free tools, resources and support to address these priority health areas:

Smoking / Healthy eating / Physical activity / Active travel / Alcohol consumption / Mental wellbeing

### **Get Healthy at Work comprises two related pathways**

#### **1. Healthy Lifestyle Checks**

A free and confidential health check completed by workers either online or with a trained health professional at the workplace or over the phone. It offers immediate feedback about an individual's health and their risk of type 2 diabetes, heart disease or mental ill health. It also offers advice on how to make changes for better health, with referrals to lifestyle coaching programs and other health services.

#### **2. Workplace Health Program**

Provides tools and resources for workplaces (examples below) to put together a simple online Action Plan to address a priority health area at the workplace. The program is available online with telephone support from the Get Healthy at Work team. Workplaces have the option of completing both pathways, or just one depending on the needs and resources of the workplace.

### **Get Healthy at Work resources**

#### **Get Healthy at Work fact sheet**

A fact sheet that describes the Get Healthy at Work program

[Download](#)

#### **Manager engagement email**

An email template to request the participation of senior leaders

[Download](#)

#### **Get Healthy at Work next steps email**

An email template to outline to senior leaders the next steps of the Workplace Health Program

[Download](#)

#### **Get Healthy at Work presentation**

A PowerPoint presentation to support the business case and outline the high-level commitment required

[Download](#)

### **CASE STUDY VIDEO: The Lido Group**



### 3.7.4 What are the recommendations for investment and action?

#### A recommended investment

WHO recommends the implementation of multi-component workplace PA programs in its updated 2017 guidance on 'Best Buys and other Recommended Interventions'.<sup>35</sup> This is consistent with the supportive recommendation of the US Community Preventive Services Task Force.<sup>36</sup>

#### Design and implementation specifications are clear

We know what to do – the evidence allows clear specification of the interventions which can work; these are set out in Table 22.

#### Evidence of cost effectiveness accumulating

The review conducted by Lewis et al<sup>37</sup> found that workplace PA interventions were cost-effective or even cost-saving, however other reviews have been inconclusive.<sup>38</sup> It is important, going forward, to raise the standards of quality and consistency of workplace wellness economic research which has to date been very variable.<sup>7</sup>

There is promising evidence that even higher returns on investment could be achieved in programs incorporating newer approaches such as telephone coaching of high risk individuals together with the use of financial incentives; more research is required in these new areas.<sup>7</sup> Linked telephonic lifestyle coaching services (such as Get Healthy at Work) and clinical chronic disease support services were noted among the fastest growing components in Australia and New Zealand; however there have been challenges in achieving widescale uptake by workplaces.

### 3.7.5 What other strategies intersect with this domain?

As noted in other sections, *all eight identified domains for best investment need to be leveraged concurrently* to configure the comprehensive strategic approach necessary to increase population participation in PA.

<b>The eight domains for best investment</b>	<b>1</b>	Sport and recreation
	<b>2</b>	Communication and public education
	<b>3</b>	Transport and the environment
	<b>4</b>	Urban design and infrastructure
	<b>5</b>	Primary and secondary healthcare
	<b>6</b>	Education
	<b>7</b>	Workplaces
	<b>8</b>	Community-wide programs

For example, workplaces can encourage active travel by providing end of trip facilities, limiting on-site parking, and allowing flexible working hours that facilitate off-peak travel. Transport and urban planning strategies play a complementary and synergistic role, for example creating safer pedestrian and cycling environments around workplaces can enhance the effectiveness of workplace programs to promote active travel. Team sports which are linked with workplaces also provide multiple benefits both for organisations and individuals.<sup>24</sup> However, the key message is that *all* the other strategies intersect synergistically with this domain.

### 3.7.6 What are the implications for policy?

The workplace is an important setting for PA policy because it allows access to much of the adult population. Implementation of multicomponent workplace PA programs can make an important contribution as one part of a more comprehensive approach. Policy makers play a central role in enabling the prioritisation of health promotion in the workplace by sponsoring or endorsing programs, delivering and/or providing resource support and financial incentives for adoption.<sup>5</sup>

Government-backed or delivered programs need to be supported by evaluation of the implementation process, with particular regard to the contextual factors (including enablers and barriers) that affect program delivery. This will enhance understanding of how programs can be adapted to local contexts while still delivering effective outcomes for PA. Health economic data indicate that workplace PA interventions are cost-effective or even cost-saving; it remains important to further evaluate this aspect of program performance.

It is possible that higher returns on investment can be achieved in programs incorporating newer approaches such as telephone coaching of high-risk individuals together with the use of financial incentives; more research is required to be definitive here.

- Evidence for the workplace domain supports a multilevel and systemic approach to the promotion of PA and reduction of SB
- This policy position is supported by WHO recommendations in the updated 2017 guidance on 'Best Buys and other Recommended Interventions' and by the recommendations of the US Community Preventive Services Task Force
- Leadership and workplace culture that is supportive of health (including PA) feature prominently in recommendations of major international and national health agencies.

### Further resources and examples

Refer to the links listed under 'Workplaces' in [Appendix 5](#) for other useful resources and guidance.

Refer to [Appendix 3](#) for some illustrative examples of policies, programs and other initiatives in Australia that relate to this domain (particularly those described under GAPPA 1.4, 3.3).

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## 3.8 The sport and recreation domain and physical activity

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### 3.8.1 How does this domain contribute to a more active society?

#### A preliminary note about the Australian sport system and political structure

The sporting ecosystem within Australia is a complex and multilayered operation at federal, state or territory, and local authority levels.

Federally, *Sport Australia* is responsible for overseeing the implementation of national policy, population monitoring, the development of sport participation and the distribution of funding to *national sporting organisations (NSOs)*.

Many (mainly Olympic sport) NSOs and their respective *state sporting organisations (SSOs)*, receive funding from Sport Australia to increase sport participation and maximise elite performance.

At a state and territory level, government departments have general responsibilities for sport and recreation development and participation, along with local government.

In 2018, the Australian Federal Government released a national sport based strategy (*Sport 2030 – National Sport Plan*; see summary of this Plan in [Appendix 1](#)) which includes the aim of reducing the number of physically inactive Australians by 15% by 2030,<sup>1</sup> thereby aligning a participation sub-component of sport policy with the WHO targets, and the Global Action Plan for Physical Activity.<sup>2</sup> National policies have also permeated the policies of NSOs, with many setting themselves ambitious participation targets as part of their strategic plans while also experimenting with new game formats and/or participation strategies.<sup>3</sup>

Sport has traditionally focused on competition and elite performance. This has begun to change as increasing evidence of the wide-ranging health benefits of MVPA has highlighted the potential of sport to contribute towards health enhancing PA.<sup>4,5</sup> In Australia and internationally, there is a considerable shift in sports participation towards less competitive, less structured, shorter and more social formats, which can be more easily incorporated into community lifestyle.<sup>6-8</sup>

Unlike the situation in Europe, sports *clubs* are not necessarily the main choice for participation in sport or PA in Australia. For example, 10-year trends in sport and recreation participation levels indicate that while leisure time PA has slightly increased, sport participation has remained steady.<sup>9</sup> Sports organisations are confronted with the challenge of configuring and scaling up the programs and support needed to boost participation in social sport.<sup>10</sup>

### 3.8.2 What is the supporting evidence for sport and population physical activity?

The recommendations for policy action and investment encourage sport systems, policies and programs to promote a 'sport for all' model that redefines sport to focus on its broad benefits for physical and mental health, and social and community outcomes (see [Chapter 1.1 Benefits](#)) and promote participation across the life course.<sup>2</sup> Figure 30 shows physical literacy and participation in PA/human movement across the life course; within the life course movement choices will include participation in community and/or elite sport. People who meet the PA guidelines for Australians do so not solely through sport, but through a mixture of activities and these

choices/motivations change throughout the lifespan and for different types of activities. Figure 31, in showing the percentage of the population across the life course participating in sport (2016) and meeting age-appropriate PA Guidelines (2018), also shows the room and need for improvement in these rates.

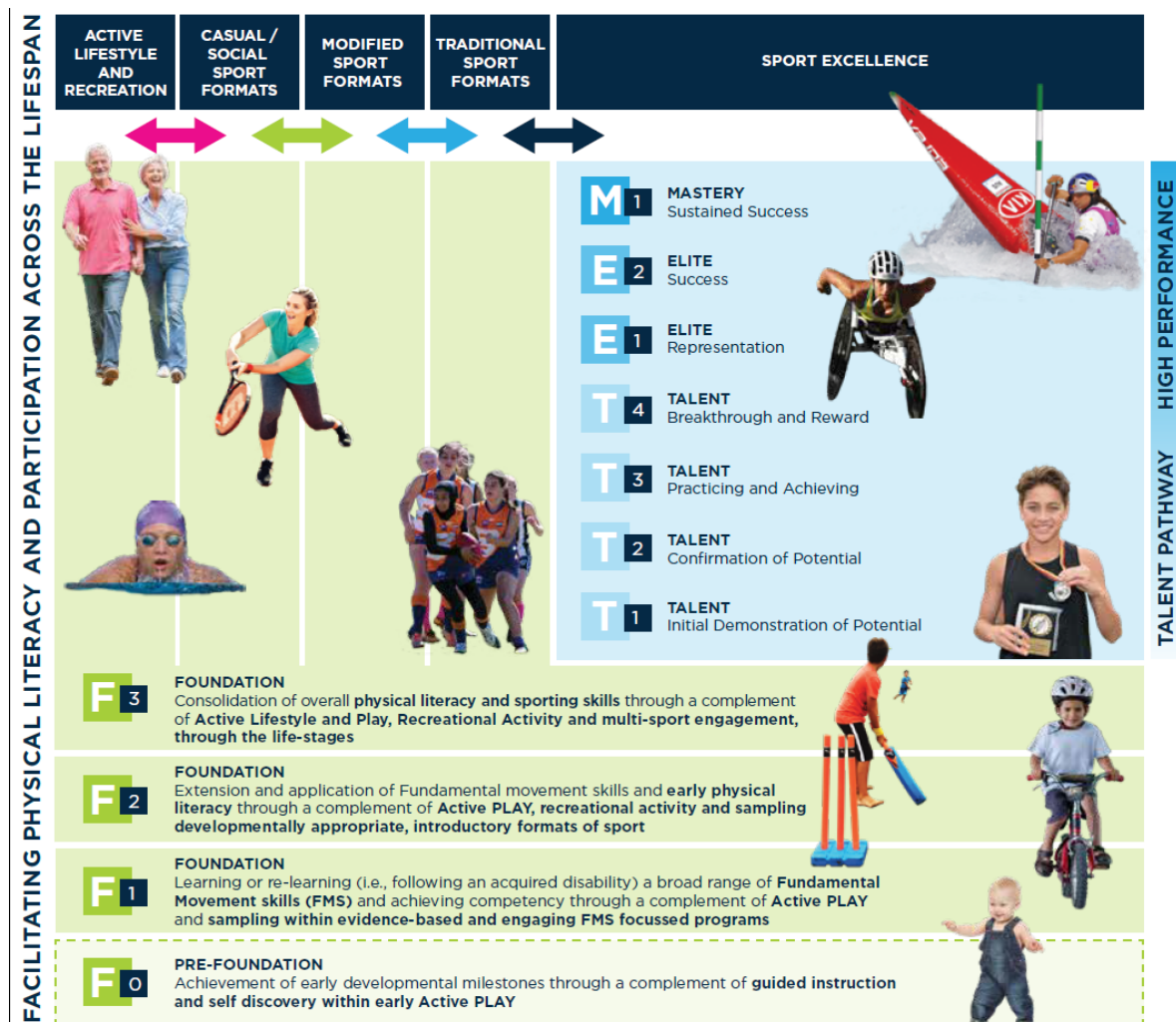


Figure 30. Physical literacy and participation across the lifespan

Source: FTEM participant framework (2019).<sup>11</sup>

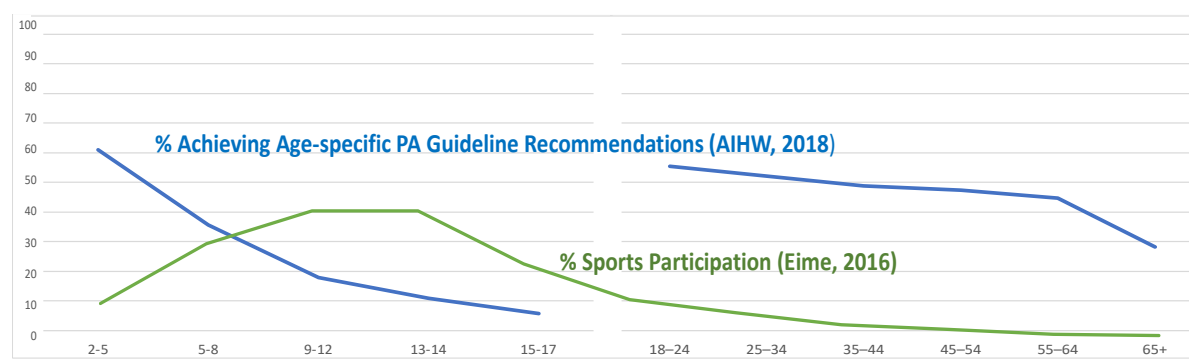


Figure 31. Proportion of the population across the life course participating in sport (2016) and meeting age appropriate PA guidelines (2018)

Source: AIHW Physical Activity across the Life Stages (2018)<sup>12</sup>, and Population levels of sport participation (2016)<sup>13</sup>.

It is important to note that there are gender and socioeconomic differentials in sport and active recreation participation (see Chapter 1.2 Participation rates, trends and social disparities). For example, female sport participation and retention in sport programs beyond early adolescence remain an ongoing challenge.<sup>14</sup> Community-level sports facilities, programs and infrastructure need to be part of the strategies to redress gender inequity in sport.<sup>15</sup>

There is a need for multi-strategic ecological approaches to promote PA into which sport programs can fit. This indicates the need for change at various levels of the sports governance system. One central strategy may target participation in non-traditional sports or other recreation and PA programs in traditional sports settings.<sup>10</sup> There are some concerns, however that the current sports club model (volunteer dependent) does not have the capacity to accommodate this broader approach; many sports clubs are already struggling to accommodate females, and volunteers primarily manage the 'core of sports clubs' which is the more traditional competitive model.<sup>15,16</sup>

In line with the emerging market segments, sports organisations are adapting their traditional offerings and repositioning their participation strategies to attract new audiences including individuals who may be less active. At the state and territory level in Australia, there are some clear examples of efforts to reposition the sport system. In one example, the Victorian Health Promotion Foundation (VicHealth), a statutory authority focused on promoting healthy lifestyles, has invested to encourage new participants into sport through community-wide social marketing, and through new, non-traditional social sport products redesigned to target insufficiently active members of the community (see **Case Study – Doing Sport Differently (VicHealth)**). In another example, the New South Wales government committed more than A\$207 million in 2017–18 for the **Active Kids** program – a universal voucher program reducing the cost of sports registration and membership through the provision of a A\$100 voucher.<sup>17</sup>

One approach to maximise the impact of participation-oriented innovations in sport and active recreation is to focus on specific groups which are insufficiently active. Given large population segments targeted, this could influence inactive population groups to do a little more PA.<sup>18</sup> Ooms et al developed a checklist for implementing sporting programs in organised sport settings which target inactive people, but it will be a challenge for the sport sector to achieve this at scale<sup>19</sup>, not least because of the capacity issues of volunteers in the current model, as noted above.<sup>15,16</sup> There may be a need to consider innovations in the approach to develop programs for the insufficiently active, but perhaps still using sporting club infrastructure. Paid professionals, local council employed staff, health insurance companies and private providers could arguably play a role. Some considerations are outlined below.

## The modification of traditional sporting delivery

Sporting organisations face the challenge of responding to changing trends in activity choices, with individuals favouring less organised, non-competitive structured forms of PA. The challenge is to modify and adapt traditional

sporting offers to attract new less active population groups, such as older adults or those with existing chronic disease. An international example is the Scottish Football Fans in Training (FFIT) lifestyle program which uses settings for elite football to engage overweight middle-aged men.<sup>20</sup> This program has been effectively scaled up through Europe with the multicountry European Fans in Training (EuroFIT).<sup>21</sup> An adapted version of this program is currently being trialled in Western Australia in the context of AFL ([www.aussiefit.org/](http://www.aussiefit.org/)).<sup>22</sup> These kinds of programs require further testing and development in the Australian context.

Between 2015–2018, VicHealth invested in the redesign, implementation and evaluation of social sporting offers products.<sup>10</sup> In-depth analysis of the challenges faced by sport highlighted the need to understand their own organisational capacity to deliver culturally appropriate and social products, as well as leverage partnerships to develop and sustain products for new audiences. Increasing registration and attendance at sports clubs does not make it certain that an individual is being more physically active. Policy developments need to focus specifically on increasing PA through sport, and to ensure that program coaches and supervisors or other providers are suitably trained towards this end<sup>23–25</sup>. It should be noted that delivery of quality activities in the sport setting which develops an 'individual's physical literacy' (see [Chapter 3.1 Education](#)) and fitness requires support and training for coaches and supervisors.

## Sports clubs as settings for health promotion

Sports clubs as a setting for health promotion has been recognised for three decades since the 1986 Ottawa Charter.<sup>26</sup> Early Australian efforts focused on delivering public health messaging at sponsored events<sup>27</sup>, with the attention turning to sports clubs creating health-promoting environments. The focus on sports participation through sporting clubs and organisations reflects the strong social, community and cultural role that sport plays globally.<sup>28</sup> Sport clubs may bring people together and increase social capital within communities.<sup>29</sup>

A more recent review of the social responsibilities of sports clubs and their role in health promotion found that while opportunities were plentiful, it was not something that a sports club did automatically, and cultural shifts within sporting organisations were needed to make health and wellbeing more central to their core business.<sup>16</sup> The *primary responsibilities* of these clubs are sport participation, creating a safe and inclusive environment and ensuring the club is economically and legally sound. The research found that clubs had modest resources, limited capacity to go beyond their core business and do not currently perceive it as their role to embrace the wider concept of 'health promotion'.<sup>16</sup>

## Volunteers and mega-sporting events

Frequently, we hear that "*volunteers are the life blood of sport*". Volunteers are those who consciously use their time to support organisations within the community for no monetary return. More specifically, volunteering may be defined as "*provision of unpaid help willingly undertaken in the form of time, service or skills, to an organisation or group, excluding work done overseas*."<sup>30</sup> Grassroots volunteers contribute to the social and economic capacity of sport and sporting clubs in Australia. Volunteers may also be participants in sport, with greater potential for social and wellbeing benefits over and above those of volunteering itself.<sup>31</sup> Some volunteer recreational initiatives, such as Parkrun (a free 5km timed walk or run in local parks on Saturdays mornings in 22 countries globally) are emerging with their global network of 'high-vis heroes' exceeding 370,000.<sup>32</sup>

The potential for community mass events, staffed by volunteers, may have a role in increasing community PA. These local events are more likely to increase activity than mass spectator events such as the Olympics or other international sporting competitions. The mass spectator events show limited evidence of impact on PA levels.<sup>33,34</sup> It remains for these mega-events to improve planning for, and integration of community PA programs into the pre-event phase, several years before the actual mass sporting event occurs, if they are to contribute to improvements in population PA participation rates.<sup>35</sup>

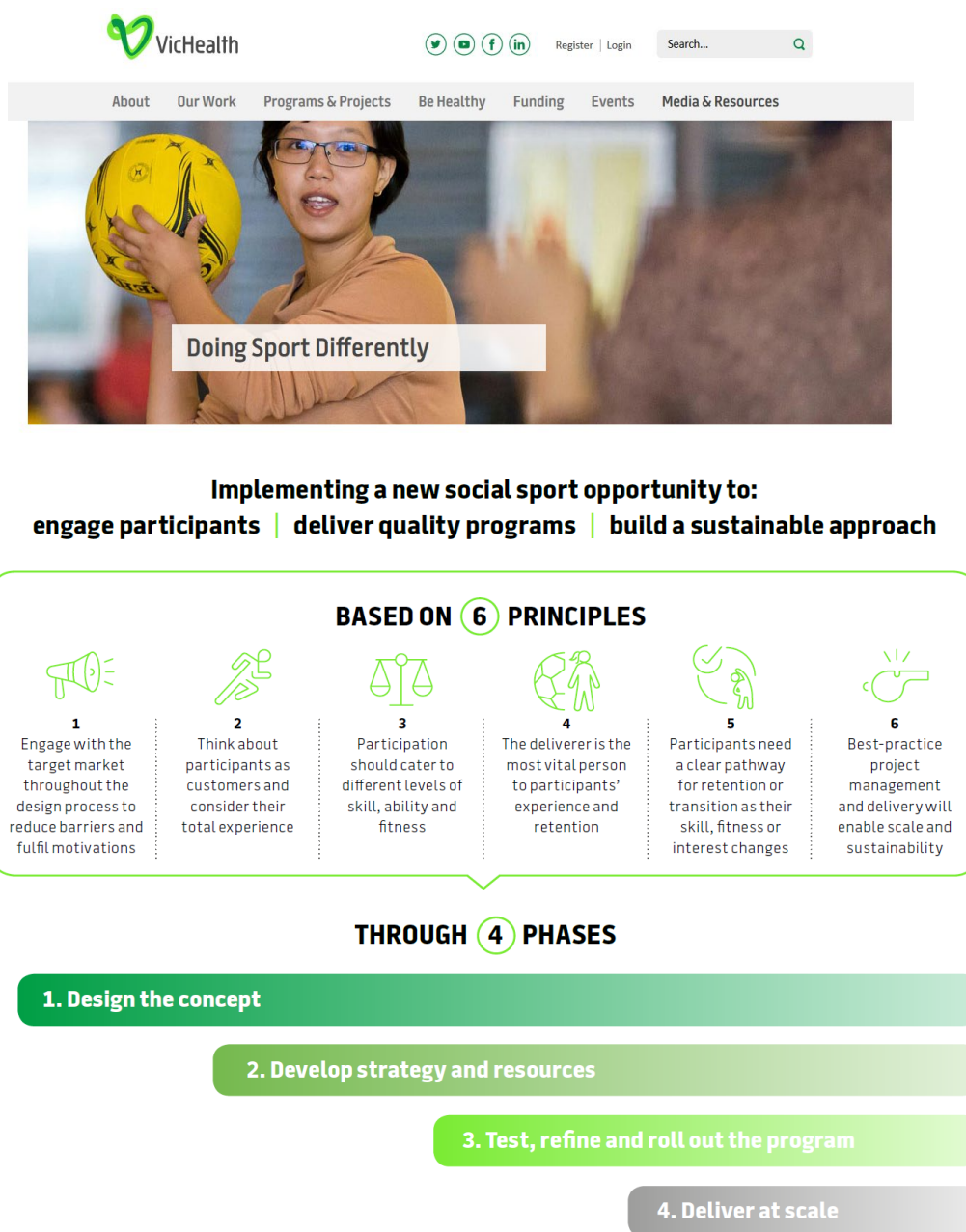


## Case study: Doing Sport Differently (VicHealth, Victoria)

[www.vichealth.vic.gov.au/media-and-resources/doingportdifferently](http://www.vichealth.vic.gov.au/media-and-resources/doingportdifferently)

The Victorian Health Promotion Foundation (VicHealth) and La Trobe University have developed resources based on six key principles to guide the design and delivery of sport-based programs that target people who are less active. The web-based toolkit highlights these six principles and provides high level guidance to build the capacity of the sports sector to create participation opportunities. The initiative is designed to support organisations through four phases of implementing a new 'social sport' participation opportunity or adapting an existing one.

*"Social sport is less structured than traditional sport. It has fewer rules and more flexibility but is more structured than active recreation activities. Social sport can be designed and delivered by an organisation (e.g. state sporting association), sport club, local council or other individuals and groups. Social sport places a greater emphasis on fun, social interaction and enjoyment than on performance, results and competition"* (VicHealth).



## Sport stadia

Sport stadia are an important setting for reaching large numbers of people and for promoting and communicating broad public health messages, yet many are still incorporating fast food advertising and outlets, alcohol and tobacco promotion. An international example in which an attempt was made to challenge this is the 'healthy stadia' movement, which started in the UK and Europe from 2005. An audit of policy and practice in this area across 10 European countries (2013) found that sport stadia remain an underused setting for health promotion.<sup>36</sup>

## Sport for Development

'Sport for Development' refers to using sport, in its broadest sense, to contribute to specific development objectives in low- and middle-income countries (LMICs) e.g. health, social, economic, inclusion, as captured in the Sustainable Development Goals (SDGs).<sup>37</sup> The Kazan Action Plan is another important tool for aligning international and national policy in the fields of physical education, PA and sport with the United Nations 2030 Agenda; the plan addresses the needs and objectives identified in the UN Action Plan on Sport for Development and Peace. These concepts are of greatest relevance for LMICs.<sup>38</sup>

An example of Sport for Development is the Australian Government's 'Pacific Sports Partnerships' (PSP) program which provides support for sport in Pacific Island countries in our region. Currently, the PSP supports 13 sports across six countries.<sup>39</sup> This funding is used to strengthen sport administration and programs although evidence to date for the effectiveness of sport in targeting Sport for Development outcomes is mixed.

### 3.8.3 A specification of potential interventions for the sport and recreation domain

The table below describes potential interventions for increasing population level PA participation in the sport and recreation domain.

Table 23. Potential interventions for the sport and recreation domain

Intervention	Design specifications
Sector-wide strategic approaches	<ul style="list-style-type: none"><li>• Paradigm shift for broadening definition of participation beyond just sport club participation, to include participation as a strategic goal</li><li>• Consistent terminology and standardised targets to promote unity and comparison</li></ul>
Sports settings	<ul style="list-style-type: none"><li>• Organisations develop and deliver innovative social sport products for new audiences including insufficiently active groups and for women and girls</li><li>• Build capacity to develop a skilled workforce, harness the power of volunteering, to ensure appropriate and inclusive delivery</li><li>• Shift to social sport; informal, flexible options delivered by skilled personnel who can foster inclusive and positive experiences</li><li>• Community sports settings and stadia could become environments for health promotion and building stronger communities</li></ul>
Use the complete continuum of sport	<ul style="list-style-type: none"><li>• Recognise the unique characteristics throughout the sporting continuum, from elite athletes being role models, to Sport for Development in LMICs and grass roots community participation</li></ul>
Major events	<ul style="list-style-type: none"><li>• Pre-event planning including PA programs; sustained investment and legacy that has PA and sport participation targets; partnerships essential between sport and other sectors to enable this</li></ul>

Intervention	Design specifications
Infrastructure	<ul style="list-style-type: none"> <li>• Design guidelines for new facilities</li> <li>• Inclusive and welcoming environments that foster community participation</li> </ul>
Volunteers	<ul style="list-style-type: none"> <li>• Increase volunteer capacity and scope; focus on community programs that recognise their potential contribution to PA</li> </ul>

### 3.8.4 What are the recommendations for investment and action?

It is important to apply multisectoral (cross-agency) approaches to support sport and recreation's delivery of PA programs. This will require systemic changes to the culture and strategic reach of sport and recreation, within the complex ecosystem of the federated Australian sporting system and with political support. New activities, modifications to traditional sporting programs and targeting of new audiences are essential; however, the capacity of sport to deliver new programs requires attention which may involve identifying other workforce to deliver programs.

Sport has the potential to broaden the participation base through enhanced understanding of the needs of target audiences and programs tailored to reach specific population segments, including inactive, women and girls, culturally and linguistically diverse and Aboriginal and Torres Strait Islander communities, all within a consistent standardised set of metrics. Inclusiveness and gender equity are key outcome indicators of these changes in the sport policy landscape.

Tasked with this paradigm shift, the sport and recreation sector will need to be supported to enhance the capability and capacity of their workforce and harness the power of volunteers. Policy congruence and linkages between sport and recreation and other sectors are essential and could be facilitated by the national policy released by Sport Australia (*Sport 2030 – National Sport Plan*; see [Appendix 1](#) for a summary of this Plan).

### 3.8.5 What other strategies intersect with this domain?

Cross-sectoral engagement, systems-wide responses and changes within the sport and recreation sectors are all prerequisites to support a paradigm shift in sport that upholds population level PA as a strategic goal in its own right. As noted in other sections, this involves leveraging the other *identified domains for best investment*:

#### The eight domains for best investment

- 1 Sport and recreation
- 2 Communication and public education
- 3 Transport and the environment
- 4 Urban design and infrastructure
- 5 Primary and secondary healthcare
- 6 Education
- 7 Workplaces
- 8 Community-wide programs

For example, the communication and public education domain can be leveraged to help reshape community perceptions about sport participation being the primary domain of the elite participant, and to develop inclusive campaigns that can help attract inactive groups to new or modified sport or social offerings. Sports stadia provide potentially valuable settings for broadcasting and enhancing the reach of public health messages such as those promoting PA. There are intersections with the education domain, with schools and other institutions providing key settings for the delivery of physical literacy programs and potentially, facilities for community sport and recreation.

The urban design and infrastructure domain is also relevant for the development and improvement of sporting facilities, infrastructure and their accessibility to support inclusive participation regardless of gender, cultural background and ability.

Finally, the sport domain offers substantial opportunity to influence the design and delivery of community-wide programs that promote PA, particularly among less active population groups such as older people or those with existing chronic disease.

### 3.8.6 What are the implications for policy?

The sports sector has taken steps in some jurisdictions towards repositioning the sport system. This is in response to shifting demand away from organised or traditional sporting formats and the recognition that social sport offers an important opportunity for increasing population level PA, while expanding sport's participation base and attracting new audiences.

Ambitious participation targets have been set at the national level. To achieve these targets, a paradigm shift is needed within the sport sector to develop and deliver new, modified and/or more flexible offerings needed to appeal to less active groups while maintaining the engagement of existing participants throughout their life course.

A recent review (*Active and Inactive Young Australians*) has examined barriers and enablers of participation in PA (including sport and active recreation) among children and young people aged 3–18 years, living in Australia. It offers five strategic principles and a series of policy recommendations for consideration by all Australian governments.<sup>10</sup>

The key strategic principles identified in this review are: (i) Human movement continuum; (ii) Intersectoral approach; (iii) Life course approach; (iv) Whole-of-society benefit; and (v) Whole-of-systems approach.

Although focused on younger Australians, the *10 policy options* set out in this review are of great importance and have applications across the life course and to the system as a whole. These policy options are set out on the next page.<sup>10</sup>

- **There is an urgency to develop standardised and sustained surveillance of sport, PA and sedentary behaviour in all Australian states and territories and at the federal level**
- **Sports systems, policies and programs need to promote a 'sport for all' model**
- **Five strategic principles are suggested:**
  - (i) **Human movement life course continuum**
  - (ii) **Intersectoral approach**
  - (iii) **Life course approach**
  - (iv) **Whole-of-society benefit**
  - (v) **Whole-of-system approach**
- **10 priority policy options have been recommended for Australian governments (see below).**

## 10 policy options set out in Active and Inactive Young Australians

- i. Develop standardised surveillance of sport and PA and sedentary behaviour in all Australian States and Territories and at Commonwealth level; monitor population participation rates of Australians in human movement, including: (i) age-specific guidelines for recommended PA; (ii) sport; and (iii) active recreation
- ii. Develop a long-term investment strategy to implement the Australian government *Drivers of Participation* and *Physical Literacy Frameworks*
- iii. Support early intervention preschool programs for 3-5-year-olds to build Fundamental Movement Skills (FMS) and for primary school aged children to consolidate and strengthen FMS acquisition
- iv. Evaluate a pilot program of specialist primary school physical education teachers, in coordination with high schools as appropriate, across the three sectors (Government, Independent and Catholic)
- v. Provide incentives to boost the delivery standards of physical education (PE) in Australian schools; in particular, encourage more schools to achieve the recommended standard of children and adolescents being physically active for at least 50% of allocated PE time, as recommended by Australian experts, US Centers for Disease Control and Prevention and the UK Associations for Physical Education
- vi. Provide targeted support to support the teaching of PE for schools in disadvantaged areas
- vii. Promote membership of and participation through sports clubs, social sport and enjoyable PA activities to older Australian adolescents as they transition to adulthood; ensure that the products and services meet the needs and interests of these young adults
- viii. Develop family-based policies and interventions taking account of recent evidence on the effectiveness of these approaches
- ix. Redress inequity in participation, including initiatives to address the financial barriers to participation in sport such as voucher schemes
- x. Ensure program research and evaluation is used to support the goals of Sport 2030 (including, when developed, the national PA strategy); conduct specific evaluation studies to determine the effectiveness of newly introduced policies and programs.

Source: Active and Inactive Young Australians.<sup>14</sup>

## Further resources and examples

Refer to the links listed under 'Sport and recreation' in [Appendix 5](#) for other useful resources and guidance.

Refer to [Appendix 3](#) for some illustrative examples of policies, programs and other initiatives in Australia that relate to this domain (particularly those described under GAPP 1.4, 2.4, 3.1, 3.3, 3.4, 3.5).

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