



WHO Collaborating Centre
for Physical Activity Nutrition and Obesity



THE UNIVERSITY OF
SYDNEY

Towards Best Practice in the promotion of Physical Activity, Sport and Active Recreation

A Rapid Evidence Review



SPRINTER Research Group
Prevention Research Collaboration
Sydney School of Public Health
Charles Perkins Centre
The University of Sydney

A research partnership funded by NSW Office of Sport and hosted at The University of Sydney

PURPOSE OF THE REVIEW

This evidence review aims overall to:

- (i) update the evidence base for best practice guidance on interventions to promote increased participation in physical activity (*put simply, “being active” - all-encompassing Sport, Active Recreation and other forms of physical movement*) across the lifecourse (*from cradle to grave*) to achieve positive outcomes in health
- (i) distinguish strategies as broad health-oriented physical activity and sector-specific sport-based and active recreation
- (ii) identify a broad evaluation framework consistent with that guidance.

To achieve this, the research was designed to:

- (iv) summarise evidence on strategies that have demonstrated effectiveness, and/ or show promise for intervening at population level to increase participation in physical activity, sport, and active recreation
- (v) explore what the characteristics of a successful sport and active recreation sector in NSW and Australia might comprise and what this, in turn might imply for the key pillars of a strategy to drive increased participation of the community as a whole in physical activity, sport and active recreation.

Who should read this report?

- The findings of this review are expected to inform the development of initiatives within the NSW Office of Sport and to inform ongoing policy dialogues with other NSW Government departments and external agencies. The review is designed primarily for senior officials of the NSW Office of Sport as well as the NSW partner agencies involved in the [NSW Healthy Eating Active Living \(HEAL\) Strategy](#) and the [NSW Premier’s Priority Tackling Childhood Obesity](#). The findings may also be of wider interest to other stakeholders in the health, sport and active recreation sectors.

Options for reading this report

- This is a sizeable document and it is unrealistic to expect all stakeholders to undertake the task of reading the whole review.
- Therefore with the intention of making it easier for the reader to find the information most important to them, we propose the following:
 - If you just want the headlines, read the executive summary.
 - If you are a policy maker interested in how the collation of the evidence base can inform a multisector approach and future policy in Australia and beyond, read section global and nation policy section and the implications for policy at the end of each domain section.
 - If you are an academic, or have time, read everything in the order with which they are presented to you including the appendices.

Executive Summary

EVIDENCE REVIEW QUESTIONS

The review was designed to address the following research questions:

1. What is the evidence for successful strategies to drive participation¹ across the lifecourse in the ‘*eight domains for best investment*’?
2. Using evidence found in response to Question 1, what guidance can be provided to identify the ‘*best buys*’ or priorities for investment and action for (a) government (b) non-government sectors to advance participation?

SUMMARY OF METHODS

The search strategy focussed on higher quality evidence reviews (meta-analyses and systematic reviews of randomised trials or of longitudinal studies). All systematic reviews used as the basis for key findings or conclusions of this rapid review were independently assessed for relevance and quality by at least two researchers. Additionally, a specifically targeted literature and policy review was undertaken of the international evidence base to identify evidence of large scale, national policy or frameworks that focused on increasing participation in physical activity, recreation or sport. Government and non-government websites were reviewed, with definitions of physical activity, recreation and sport also collated and reviewed.

To ensure the relevance of these findings to the NSW population, key stakeholders from the Physical Activity, Recreation and Sports sectors in NSW, through the external project advisory group for SPRINTER, were also invited to submit projects and programs to understand what is currently being delivered to increase participation in physical activity and sport. This component of the review would address the knowledge gap between programme and projects throughout the state and will aid understanding of which local programmes deliver measurable results.

KEY FINDINGS

- The review identified *8 Domains for best investment* which are used as the central organising framework for the report:

The 8 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

- Despite variations in the quantity and quality of evidence across the investment domains, the review identified policies and programs supported by sufficient evidence in all eight domains. These policies demonstrate effectiveness in increasing participation and cost effectiveness at the societal level. On current evidence and in line with international consensus, the leading edge or ‘best buy’ domains are domain 2 (communication and public education) and domain 5 (primary and secondary healthcare), whilst

¹ Participation in all-encompassing Sport, Active Recreation and other forms of physical movement

the other six domains are all 'recommended'. Critically though, no single domain, policy or program can, in isolation, deliver sufficiently meaningful increases in participation at population level; a comprehensive, multifaceted and multisectoral approach is necessary.

- Amongst the eight domains reviewed, evidence for effectiveness of policies and programs is least developed for domains 1 (Sport and recreation), 3 (Transport and the environment) and 4 (Urban design and infrastructure). This is more about 'absence (or maturity) of evidence' rather than 'evidence of absence'; in other words research and evaluation in these domains has been more challenging to undertake and/or has received less attention to date. Whilst it is hoped and most likely plausible that intervention efforts could be effective here, there is insufficiently robust evidence to make our statements about effectiveness and cost-effectiveness as definitively as we can for the other five domains.
- There is a wealth of evidence for effectiveness of a large number programs and interventions across the spectrum of movement (from the physical activity of daily living through to organised and competitive sports), across the lifecourse (from infancy to older ages) and across all eight domains for best investment. As far as we are aware, this evidence review sets out program specification ("what works?") in the domains for best investment, with more precision than any evidence review has been able to achieve to date.
- The global review of national policies found that the majority of countries align in principle with the World Health Organisation NCD Global Action Plan's voluntary global target of 10% reduction in physical inactivity, although it is rare to find national monitoring and surveillance systems reporting progress against this target. New Zealand and England have the best examples of clearly defined, measurable and accountable goals. Examples of best practice in relation to communicating and sharing progress against a defined national target include the Canadian method of producing a score card and the independent annual reports produced by Sport England. The majority of Sport policies are driven by the Sport sector with Physical Activity led by health. England provides the best model for Australia in relation to a true partnership approach with collaboration across government and sectoral boundaries.
- The review highlights the opportunity Sport as a sector has in driving change. The gap in the evidence base presents Australia and NSW the opportunity, to fill this with adopting an evidence based, multi-sector strategy for driving up participation in Sport, Recreation and Physical Activity.
- The review identified two concepts which are especially important for policymakers to note. These are (i) ***physical literacy*** and (ii) ***"movement minutes" - a common core performance metric for the physical activity sector***. Physical literacy is a pivotal strategic concept because (a) early competency of movement skills appears to encourage greater participation in sport and lifelong physical activity; and (b) it has the potential to provide a common schema for all human movement, for all ages & abilities that can work across the sport, physical activity and recreation sector. "Movement minutes" is a proposed common core performance measurement tool or metric. It provides a standardised way of measuring the success of policy actions – for all ages, for all abilities, for all forms of physical activity/sport/recreation and across all sector agencies and organisations.

POLICY CONSIDERATIONS OVERALL

- The single most important implication for policymakers from the evidence is that no single domain, policy or program can, in isolation, deliver sufficiently meaningful increases in participation at population level; a comprehensive, multifaceted and multisectoral approach is necessary. This requires either a central government agency and/or one lead agency to undertake a multisectoral leadership and coordination role.
- The second clear implication is the emergence of a framework for best investment with program specification in eight domains spanning the lifecourse. This allows policymakers to configure a comprehensive strategic investment mix best suited to meet the needs of the population groups prioritised by government strategy.
- Thirdly, if increasing participation of the whole community is the policy objective for government, particularly with health benefits as a desired outcome, then a focus on the most inactive people irrespective of age, race, and socio-economic status is required. Inactive people may (strategically) be defined as people not achieving 30 minutes of moderate intensity movement each week. This population focus has implications for the design, delivery and marketing of infrastructure and programs across domains and across the lifecourse.

POLICY OPTIONS FOR NSW GOVERNMENT

This evidence review was designed to be of assistance in guiding further development of initiatives within the NSW Office of Sport and to inform ongoing policy dialogues with other NSW Government departments and external agencies. It was prepared primarily for senior officials of the NSW Office of Sport as well as the NSW partner agencies involved in the NSW [Healthy Eating Active Living \(HEAL\) Strategy](#) and the NSW Premier's Priority [Tackling Childhood Obesity](#). Preparation of this report coincided with consultations on the development of a National Plan for Sports and Physical Activity in Australia as well as consultations on the development of the WHO Global Action Plan for Physical Activity. It is likely that synergies will be found in the ideas and recommendations that emerge across these State, National and International developments.

Based on the reviewed evidence, the NSW Government may wish to consider the following policy options:

(i) Multisectoral Action Plan

Ensure a comprehensive, multifaceted and multisectoral approach with NSW Department of Premier and Cabinet and/or one lead agency undertaking the central leadership and coordination role;

(ii) Eight Investment Domains

Use all eight identified *domains for best investment* to achieve the comprehensive strategic approach necessary to increase population participation;

(iii) Adjust the strategic investment mix for best returns

Adjust and refine the weighting of the investments in the strategy mix (across the eight domains) according to the priorities and resources that flow from the finalised National Sports and Physical Activity Plan; focus on the niche investments best undertaken at NSW State level, whilst harnessing the benefits of investments best undertaken as national level by the Australian Government;

(iv) Get the most inactive people moving

Focus greatest efforts on the most inactive people irrespective of age, race, and socio-economic status; these members of the community may (strategically) be defined as people not achieving 30 minutes of moderate intensity movement each week;

(v) Common core performance metrics

Develop a set of common core performance indicators for the proposed Multisectoral Action Plan. For example, adopt “movement minutes” as a common performance metric for the whole physical activity sector;

(vi) Accelerate adoption of international best practice

Examples of best practice in relation to communicating and sharing progress against a defined target include the Canadian method of producing a score card and the independent annual reports produced by Sport England. England provides perhaps the best model for Australia, its States and Territories in relation to a true partnership approach with multi-sectoral collaboration.

POLICY OPTIONS FOR NSW OFFICE OF SPORT (OoS)

Based on the reviewed evidence, and in addition to the ‘top-level’ priorities above the NSW Office of Sport may wish to consider the following policy options:

- Prioritise physical activity and sport across all state level , OoS policy and work with stakeholders, existing and new, to weave movement into all aspects of life. The OoS to lead physical activity across NSW government.
- Adopt and embed a ‘*Sport for all*’ model throughout the Office of Sport that recognises the broad value of Sport in changing lives. This could involve bringing together ‘Sport’ and ‘Physical Activity’.
- Introduce a new, outcome based framework to support all organisation which get people moving abolishing the traditional distinction between participation in sport and broader physical activity.
- Develop an evidence based NSW participation strategy that is led by NSW Office of Sport and owned by all physical activity and sport stakeholders.
- Re-define and consider the meaning of key strategic terms in order to develop a consistent, shared narrative within the Office of Sport.
- Invest in understanding and challenging the under-representation of population groups (females, CALD, disadvantaged communities) in NSW Sport and Physical Activity.
- Own and adopt accurate measurement and surveillance systems to capture a more detailed picture of an individuals leisure time activity and that recognises the impact on individual and community health, wealth and wellbeing.
- Commit to an evidence based approach, investing in robust research and evaluation to contribute to the evidence base on the role of Sport for all.

- Drive for innovation and unique partnerships leveraging investment and reach that is new territory for Office of Sport.

- Population awareness raising of the benefits and importance of being physically active through a social marketing campaign.

- Volunteering in Sport not only enriches lives , but it is the foundations with which the sector is built. Evidence to support the power and value of this must be completed and aligned with a NSW volunteering in Sport strategy.

Recommended citation

Reece, L., Foley, BC., Bauman, AE., Bellew, B. Towards Best Practice in promoting participation in Physical activity, Sport and Active Recreation. Rapid Evidence Review for the NSW Office of Sport. SPRINTER Group, 2017. The University of Sydney.

The NSW Office of Sport commissioned the, Sport and Active Recreation Intervention and Epidemiology Research (SPRINTER) Group, University of Sydney, to undertake this evidence review as an independent study and to prepare this report. SPRINTER was supported by the WHO Collaborating Centre for Physical Activity Obesity and Nutrition where it is co-located at the Charles Perkins Centre.

Acknowledgments

This evidence review was prepared by

SPRINTER

Professor Bill Bellew	Professorial Fellow, Prevention Research Collaboration
Dr Lindsey Reece	Principal Researcher
Ms Bridget Foley	Research Officer
Professor Adrian Bauman	Director, Prevention Research Collaboration

Technical support WHO Collaborating Centre for Physical Activity Obesity and Nutrition

We also acknowledge the assistance and input of the following

NSW Office of Sport

Mr Wayne Green	Director Policy and Sector Strategy
Ms Deborah Howard	Principal Policy and Strategy Officer
Ms Kerry Turner	Manager, Participation & Partnerships
Mr Andrew Putt	Director, Sector Performance
Dr Phil Hamdorf	Executive Director

SPRINTER Governance Team

Prof Adrian Bauman	Professor of Public Health
A/Prof PH Phongsavan	Associate Professor of Public Health
A/Prof Emmanuel Stamatakis	Professor, Physical activity, Lifestyle and Population Health
Dr Justin Richards	NHRMC Post-doctoral Research Fellow
Prof Louise Baur	Professor of Child & Adolescent Health, Associate Dean & Head, Children's Hospital at Westmead Clinical School

Contents

PURPOSE OF THE REVIEW	2
Executive Summary	3
EVIDENCE REVIEW QUESTIONS	3
SUMMARY OF METHODS	3
KEY FINDINGS	3
POLICY CONSIDERATIONS OVERALL	5
POLICY OPTIONS FOR NSW GOVERNMENT	5
POLICY OPTIONS FOR NSW OFFICE OF SPORT (OoS)	6
Recommended citation	8
Acknowledgments	8
Contents	9
How this report is structured	10
Global Strategic Overview	11
National Policy Overview: Australia	16
1 Key Domain: Sport and Recreation	29
1.1 Sport and Recreation	29
1.2 Active Recreation	33
1.3 Recommendations for investment and action for the Sport and Recreation sectors?	34
2. Other Key Domains for Investment and Action	36
2.1 Communication and public education	36
2.2 Transport and the environment	37
2.3 Urban design and infrastructure	42
2.4 Primary and Secondary Healthcare	44
2.5 Education	48
2.6 Workplaces	53
2.7 Community-wide programs	55
3 Moving for life: a lifecourse perspective	58
4 Towards best practice: strategies for success	65
NSW Participation strategies	65
Key findings	65
Glossary of terms	79
Appendices	83
References	97

How this report is structured

Global Strategic Overview

We commence with a global overview of national/ sub-national strategies – examining countries to see which ones have a Sport Strategy, a Physical Activity Strategy, both a Sport AND a Physical Activity Strategy and especially which jurisdictions have used a multi-sectoral planning approach.

National Policy Overview

We focus on the Australian context and provide an overview of the policies, plans and strategies employed across Australia and identifies best practice interventions to increase physical activity, sport and active recreation participation amongst the population.

Eight Domains for Best Investment

These are the established domains for “investments that work” with the addition of workplaces because WHO has now lists it in the newly updated “Best Buys” for NCD Prevention 2017.

The 8 Domains for best investment² are used as the central organising framework for the report. They are

- | | |
|-----------------------------------|--------------------------------------|
| The 8 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 |

Section 1 *Key Domain for investment and Action: Sport and Recreation*

Sport and recreation is a priority focus for this review. We commence with this domain, assessing the evidence for strategies that work.

Section 2 *Other Key Domains for investment and Action*

Next we look at the evidence for effective strategies in each of the other seven Key Investment Domains

Section 3 *Moving for life: a lifecourse perspective*

Here, we re-examine strategies through the lens of the ‘lifecourse’ approach – from infancy through to the later years.

Section 4 *Towards best practice: strategies for success*

This section synthesises all previous sections, summarising what can help us aspire to best practice strategies that are effective and cost-effective in meeting the needs of the populations we strive to serve.

² Based on: [NCD Prevention: Investments that work for physical activity \(GAPA/ISPAH\)](#) and updated to reflect ‘Best buys’ and other recommended interventions for the prevention and control of noncommunicable disease (The updated Appendix 3 of the WHO Global NCD Action Plan 2013-2020).

Global Strategic Overview

Review of international policies designed to increase participation in Sport, recreation, and physical activity

The aim of this section is to identify, summarise and allow easy comparison of the most prominent international examples of policy approaches to increasing participation in physical activity (including Sport and Active Recreation) at global, national and state levels.

A secondary aim is to highlight synergies and potential opportunities for collaboration across the sport and physical activity sector, with a view to the identification of best practice principles for government policy and to inform a strategic approach to participation in NSW, Australia.

A multi-sectoral endeavour

Policy is a formal statement that defines priorities for action, goals and strategies and provides a guide to action achieve intended goal, initiated by government, non-government, or private sector organisations (Milio, 2001; Bull et al, 2004). Researchers in policy literature have consistently advocated for cross-sectoral, multi-agency partnerships (Bull et al, 2004) yet in the physical activity and public health policy literature, sport has been remarkably absent from the agenda (Berg, Warner and Das, 2015; Mansfield and Piggin, 2016). Collectively, the strong body of growing international academic evidence and the global political drivers, reinforced by the 2011 UN political declaration and WHO Global action plan on NCD's prevention and control 2013-2020, emphasise the urgent call to action for promoting population changes in physical activity. This call to action recognises the integration of sport within the public health agenda, and again reinforces the importance of a multi-agency approach. Given this momentum, it is critical to consider what a successful policy framework and participation strategy might comprise, what leadership and partnership roles may be suggested, what performance indicators and metrics for success may be recommended in consideration of the most appropriate way to measure progress.

Sport as a policy lever

Changing population physical activity levels is not a one sector issue (Bull et al, 2004; Eime et al, 2015). The inextricable links between sport, physical activity and health are evident and sport policy makers increasingly recognise the value of advocating sport as a means of physical activity participation (Casey, Payne and Eime, 2012). That said, the literature on sport and active recreation is eclectic and its span includes health sciences, physical education, management, and economic disciplines, that elucidating its essential strengths in supporting best practice approaches to drive population participation remains a challenge (Rowe et al, 2013). Enhancing understanding of sport participation trends and the influences on such behaviour are critical in informing better research and more effective policy. Notwithstanding the apparent disconnect between physical activity and sport research, with only 6% of articles published in a 10-year review of peer-reviewed articles, focused on active participation (Henderson et al, 2009). More evidence on this literature is discussed in [Section 1 - Key Domain: Sport and Recreation](#)

Sport for all, across the lifecourse

Globally, the importance of the Sport for all approach in tackling non-communicable disease was reiterated as one of the key investments listed in the Toronto charter (International Society for Physical Activity, 2010). The worldwide promotion of sport for all, through the implementation of community policy and programs was reiterated. Explicit links were recommended between International Sport Federations, National Olympic Committees, and national and regional sporting organisations.

The *future of Sport in Australia* report (Crawford, 2009) provided a comprehensive examination of the state of Australian sport and confirmed that if sport was to have a successful future, it required the right structure and governance.

There was recognition in 2009 that Australia had no national sports policy or vision, with no agreed definition of success. The absence of such definitions resulted in a failure to collect meaningful data about the quality of sport and recreation participation. In direct response subsequent policies (*Australian Sport:*

pathways to success, 2010; A national sports policy framework) took a more comprehensive approach to strengthening the sport sector in its entirety and attempted to enhance partnerships and collaboration across government and sporting organisations. More recently the Australian Sports commission strategic plan and participation policy Play.Sport.Australia, engage and unite sporting stakeholders particularly national sports organisations to realign and streamline the delivery of sustainable sporting outcomes for all Australians. At the time of writing this report, the Australian sports commission was in the process of national consultation on a national sports plan.

Integration of Sport for all in public health policy

Leisure time activity is the common metric which unites sport and physical activity. That said, the depth and reliability of data collected from the sport and recreation space makes drawing conclusions and making strategic decisions about sport and health policy a real challenge. The research literature highlights that the context of participation has changed (Elme et al, 2016). The integration of sports participation data from multiple sources could provide a sector wide understanding of participation as a means to providing a strong evidence base for sector development (Eime et al, 2015). With that in mind, Australia presents an interesting case study to consider in relation to participation in sport as despite a rich history on the international sporting stage, participation in physical activity along with structured participation in recreation and sport, and indices of health status, these do not necessarily reflect an accurate representation of the Australian lifestyle (Hoye and Richardson, 2011). In contrast, in the same year, 2011, the United Kingdom (UK), Sport England commissioned a poignant rapid purposive review of the role of sport in health promotion after a 'landmark' shift in national political focus to tackling physically inactivity. The report concluded that the evidence base for the effectiveness of interventions for specific promotion of sport was far less developed than those of physical activity, but critically reinforced the opportunity the sport sector held (Cavill, Richardson and Foster, 2012).

Targeted policy evidence review

A specifically targeted literature and policy review was undertaken of the international evidence base to identify evidence of large scale, national policy or frameworks that focused on increasing participation in physical activity, recreation or sport. Government and non-government websites were reviewed, with definitions of physical activity, recreation and sport also collated and reviewed. For the purposes of this review, the following definition of a policy on participation was used; *'a formal statement that defines participation in physical activity, recreation or sport as a priority area, states specific population targets and provides a specific plan or framework for action. It describes the procedures of institutions in the government, non-government and private sector to promote physical activity, recreation or sport in the population, and defines the accountabilities of the involved partners'* (Bull et al, 2004).

Criteria for successful policies have been well documented (Bull et al, 2014; Bull et al, 2008; WHO, 2010) and include the need for strong consultation during development; multi-strategic and multi-level partnerships; clear national guidelines for physical activity; target population and clarity of evaluation metrics. Underpinned by the best practice policy strategies and standardised policy audit tool developed by Bull, Milton and Kahlmeier, (2013), the key elements of physical and sport policy were coded where available. These elements included: policy lead and key partners, strategic objectives, success indicators/metrics for success, key learnings and recommendations. A detailed audit of legislation and national context for each country of inclusion, was out of scope for the current review. No direct consultation with key stakeholders from each of the countries took place although this methodology has been used in other policy reviews (Bellew et al, 2008; Bull et al, 2014).

Data were collected and extracted for each of the countries identified, and tabulated. A summary of findings for selected countries is presented in Table 1 whilst the full tabulation is featured as Appendix 1.

Global overview of strategic policy frameworks to increase participation

The strength of this review is the complete global picture provided not only on a geographical basis but also across both Physical Activity *and* Sport. Table 1 describes the main features of the best policy examples, with an emphasis on those with most likely generalisability to the Australian population: England, New Zealand, Ireland, and Canada. Australian policy was reviewed at a national, state and territory level with local council case studies illustrated if they were deemed of significant quality – see Appendix 2. All of the countries had either a physical activity or a sport policy (or both) in place with England, Canada, Japan and New Zealand having a standalone sport plan that demonstrated an intent to driving participation and physical activity for health and wellbeing outcomes. In the United States documentation, there was less prominence of Sport in any documentation. Canada, Japan, New Zealand and UK all have stand-alone policy advocating for population changes in physical activity. A thorough review of physical activity policy in European countries has been recently conducted (Bull et al, 2015) and is reflected in Appendix 1. In summary, across seven countries (Italy, Finland, Portugal, the Netherlands, Norway, Slovenia and Switzerland) all had national policy recommendations in some form whilst five countries reported specific stand-alone policies. Evaluation and the use of scientific evidence to inform policy was weak with only one country having an independent evaluation (Norway). Only two countries had multisector co-ordination with most countries highlighting the significant challenge of working across sectors.

Definitions – a need for a shared narrative

A striking finding from this review is that of inconsistency in the language and terminology used to define participation, sport and physical activity. Not only does this influence the ability to assess progress but it has significant implications when attempting to unite government departments. Primarily, when health are the driver, physical activity is used. Whilst in contrast, sport related policy, participation and structured sport, structured activity used. A shared narrative is critical for, not only for establishing cross-sector engagement but also for measuring and communicating progress. There is very little evidence, other than in the UK example, where the same definition is used across policy documentation, presenting an opportunity for the NSW government and Australia.

Target audiences

All reviewed policies incorporated a focus on population wide efforts. England is noteworthy for having a clearly defined aim and a target addressing the needs of the least physically active (less than 30 minutes of moderate activity per week). Globally (WHO) and in certain countries (for example Wales and Northern Ireland) there is an explicit equity dimension, with a clear focus on low socioeconomic groups, women, disabled or older people. ParticpACTION (Canada) includes a focus on children in inactive communities.

National goals and targets

The majority of countries align in principle with the WHO NCD Global Action Plan's voluntary global target of 10% reduction in physical inactivity, however it is rare to find the existence of national monitoring and surveillance systems reporting progress against this target. New Zealand and England have the best examples of clear, defined, measurable and accountable goals. The other countries generally have what amounts to statements of intent with limited accountability. Examples of best practice in relation to communicating and sharing progress against a defined national target include the Canadian method of producing a score card and the independent annual reports produced by Sport England.

Leadership and multi-sector collaboration

The majority of Sport policies are driven by the Sport sector with Physical Activity led by health. England provides the best model for Australia in relation to a true partnership approach with collaboration across government and sectoral boundaries.

Country/ Region	Strategic goals, objectives	Lead Agency	Partners/ Domains	Target population	Success Metrics	Results and Key learning	Key Documents/ / URLs
WORLD HEALTH ORGANIZATION (WHO) Global <i>Global Action Plan on Physical Activity (GAPPA)</i>	Global PAGs	MAP (generic)	Sport	Lifecourse	Relative target %	Many countries will use GAPPA as template and adopt PA targets within national plans.	www.who.int/nmh/events/ncd_action_plan/en/
	PA - all forms		Communication	Whole population	PAG compliance		http://www.who.int/entity/ncds/governance/gappa_version_4August2017.pdf?ua=1
	Sport - all forms		Transport & environment Urban design/infrastructure Health Education Workplace Community Wide (integrated)				
	Equity						
ENGLAND <i>Sport England Towards an active nation 2016 – 2021</i> <i>Public Health England "Everybody Active Everyday" 2016</i>	Sport - all forms	MAP (generic)	Sport	Whole population	Directional target	1% gain in population MVPA	https://www.sportengland.org/media/10629/sport-england-towards-an-active-nation.pdf
	PA - all forms	Health	Communication	Inactive/sedentary	PAG compliance		https://www.gov.uk/government/publications/everybody-active-every-day-2-year-update
	Sedentary	Sport	Health	Girls	Relative target %		
	National PAGs		Education	Women			https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/590578/Sporting_Future_-_first_annual_report_final.pdf
	Equity		Community Wide (integrated)	Low SES Disabled			
CANADA <i>Active Canada 20/20 National PA plan</i> <i>Canadian Sport Policy 2012 – 2022</i> <i>ParticipACTION</i>	NGO 'blueprint' plan	MAP (generic)	8 sectors-domains	Whole population	Directional target	AC 20/20 is equivalent to Blueprint for an Active Australia (advocacy in the absence of explicit government PA policy) Sport Policy 2022 is endorsed by Federal and Provincial Governments	https://journal.cpha.ca/index.php/cjph/article/viewFile/5041/3278
	PA - all forms						http://www.mtc.gov.on.ca/en/sport/sport/CSPEvaluationFinalReport.pdf
	Sport - all forms						https://www.participation.com/sites/default/files/downloads/Participation-StrategicPlan-MovingForward2015_0.pdf
	Sedentary						

Country/ Region	Strategic goals, objectives	Lead Agency	Partners/ Domains	Target population	Success Metrics	Results and Key learning	Key Documents/ / URLs
New Zealand <i>Community Sport strategy, Sport New Zealand 2015 – 2020</i> <i>Sport NZ Strategic plan 2015 – 2020</i> <i>“World’s most successful sporting nation.”</i>	Sport - recreational Sport - competitive	Sport	Sport	5-12 years 13-17 years	Relative target % Participation target	Sport Sector focus MAP approach not evident at national level (Regional example of MAP: <i>Moving Waikato 2025</i>)	http://www.sportwaikato.org.nz/getmedia/2cb9643a-c3c4-4cdf-aa63-70ac5e45976b/MovingWaikato2025consultation_finaldocument-BOOKLET_WEB.pdf.aspx
	Sport - High Performance			Inactive/sedentary	Objective target %		
Ireland <i>Healthy Ireland 2013 – 2025 Get Ireland Active! The National Physical Activity plan for Ireland.</i>	PA - all forms	MAP (generic)	8 sectors-domains	Lifecourse	Relative target %	MAP approach	www.getirelandactive.ie/Professionals/National-PA-Plan.pdf
	Sport - all forms			Whole population		Integration of participation approach within Sport sector	
USA <i>National Physical Activity Plan 2016 - 2020</i>	PA - all forms	NGO-led	Private sector/Business 8 sectors-domains Faith-based settings	Whole population	Directional target	National PA plan alliance - not for profit organisation with engagement across 8 sectors-domains + faith-based settings	www.physicalactivityplan.org/index.html http://e13c7a4144957cea5013-f2f5ab26d5e83af3ea377013dd602911.r77.cf5.rackcdn.com/resources/pdf/en/full-report.pdf
Japan	PA - all forms	Education	Education	Lifecourse	Directional target	Prominent leadership role for Ministry of education, sports, science, technology (MEXT); full MAP approach less evident	http://journals.humankinetics.com/doi/pdf/10.1123/jpah.2016-0296
	Sport - all forms	Sport	Sport	Whole population			

National Policy Overview: Australia

In Australia, the national physical activity guidelines are consistent with the World Health Organisations recommendations, however much of the population are not sufficiently active to maintain overall good health. Participation in sport and active recreation is the primary indicator of success in Australia, measured through AUSPLAY and ERAS. Different approaches have been adopted across the different states and territories to increase the amount of physical activity the population engages in. No single strategy will be effective to increase physical activity participation - a comprehensive, multifaceted, multisector approach is required. This section reports on the policies, plans and strategies employed across Australia and identifies best practice interventions to increase physical activity, sport and active recreation participation amongst the population.

Shared targets with accountability and measurable outcomes

A national sport and physical activity plan is currently under development through public consultation in Australia led by the Australian Sports Commission, which aims to get more Australians moving using evidence based approaches. The sport and active recreation sector will not achieve increases in population physical activity alone. It is essential that targets to increase physical activity are developed and align across government. The National Sport and Active Recreation Policy Framework recognised this in 2011 by identifying priority areas for collaboration across national, state and territory government.

In the Australian Capital Territory (ACT) a long term strategic plan for sport and active recreation was developed, known as Active2020. This was developed by a multisector working group which included industry and government representatives with a shared vision. The ACT plan is a good example of clearly defined objectives which holds sectors (Sport and Rec, Education, Tourism, Business etc.) accountable, through clear indicators of success. Other state and territory governments have plans for up to five years. In Western Australia, their strategic directions for the sport and recreation industry were developed through extensive consultation. This resulted in the formulation of thirteen challenges which required multisector action. In the case of "[Your move](#)", the WA Department of Transport has implemented a large pilot intervention to get people moving on their journey to work, school or around the community showing positive results. Although it appears promising, the WA plan appears to be lacking clear accountability and measurable outcomes for the challenges they intend to address by 2020.

In NSW, the Premiers Priority of reducing childhood obesity by 5% by 2025 has created a policy window for action for cross governmental collaboration to reduce childhood obesity, measured at population-level child body mass index. The focus on one child-health outcome, BMI, can be leveraged by the sport and active recreation sector to reduce inactivity, a risk factor for childhood obesity. Although population BMI reductions are one target which sport and health sectors share, additional targets related to the environment, social cohesion, community development, economic development and physical literacy should further be shared between sport and other sectors with clear accountability for action.

Monitoring and reporting of progress

High performance in sport is monitored by Australia's performance at major international events and the Australian Sport Commissions high performance strategy targets for the Australian Institute of Sport. The Sports Tally is an annual health check which reports on the outcomes so that progress is clearly monitored. National Sports Organisations (NSOs) are also well monitored to ensure they have the capacity to deliver effective high performance and athlete pathways. Beyond NSOs, the smaller scale sport and active recreation organisations and their development of athletes is not consistently monitored or reported.

In contrast, national participation in sport is monitored through AusPlay and reported frequently. Additional population health surveys and local sports participation surveys are further administered

in some states which may capture different aspects of the impacts sport and active recreation can have on public health.

In NSW the School Physical Activity, Nutrition Survey (SPANS) has been regularly monitoring fundamental movement skills in school aged children at a population level in health. Through long term objective monitoring of representative samples of school students, trends in this component of physical literacy can be monitored every 4 years. At a local level, monitoring and reporting on the impact of intervention strategies has limited evaluation data.

Understand the target group and co-design initiatives

Formative research to understand motivations for sport and physical activity has been undertaken by the ASC. Additional local level research into what facilitates physical activity participation among a specific target group will likely lead to implementation of more effective interventions, as they are tailored to specific needs. Co-design is a method which involves the target group in the intervention cycle. Co design can build skills and knowledge in local communities and strengthen networks for delivery of interventions so that it reaches the target audience. The Northern Territory master plan for physical activity and sport was developed in partnership with aboriginal communities. Through involving target groups in the development of the master plan, it is largely accepted in communities and the motivation of participants to assist in progressing the actions is enriched.

Area/region, name of program, dates	Strategic goals, objectives	Partners/ Governance lead	Target population	Success Metrics	Results and Key learning	Key Docs
A blueprint for an Active Australia 2014-2017	Built Environments; Workplaces; health care; Active Travel; Prolonged sitting; Sport and Active Recreation; Disadvantaged populations; Aboriginal and Torres strait islander peoples; Children and Adolescents; older people; Financial measures; mass media strategy; research and program evaluation.	The Heart Foundation	Target key life transitions, women and girls, low SES regional and rural area.	- Exercise, Recreation and Sport Survey (ERASS) - Support for clear research and program evaluation.	- Re-define Sport as sport-for-all with wide ranging benefits - Develop programs to promote participation during key life transitions. - Age appropriate opportunities; quality facilities; foster social change, health, unemployment, violence, abuse and education. - Subsidised fees for low SES groups: decrease barriers such as transport, cost knowledge and skills.	Link
Australian Sports Commission (ASC) Corporate Plan 2017-2021	High Performance; Participation; Sports industry growth	Australian Government	Australian population	Performance at major international events; Improved capability of NSOs to deliver effective high performance. Increase in the percentage of Australians participating in organised sport (traditional or social) – measure through AUSPLAY; Number of student attendances in the Sporting Schools program. Improved organisational capability of NSOs	N/A	Link
Australian Sports Commission (ASC) Play-Sport-Australia.	Blueprint for how the ASC can best support national participation. To see more Australians – particularly young Australians – participating	Sport sector at federal, national and state level.	Australian population	National participation survey. Market Segmentation for Sports Participation and The Future of Australian Sport studies. Applied learnings and case studies developed through our direct	N/A	Link

	<p>in sport more often. To have the sports we invest in to achieve year-on-year membership and participation growth. To achieve the above we want sports to be effective organisations — well-governed, strategic, embracing of commercial opportunities, adopting new technologies and delivering user-friendly sports opportunities that Australians want</p>			<p>project work with sporting organisations. Clearinghouse for Sport membership to digital portal knowledge sharing. Participation metrics in programs. Sports organisations governance and business capability.</p>		
<p>Australian Government - Department of Health</p>	<p>Supporting sport in Australia from grassroots to elite; increasing participation in physical and recreational activities to promote physical and mental health, staging world class major sporting events and protecting the integrity of sport.</p> <p>This commitment encourages greater participation in sport by all Australians and contributes to a competitive and clean Australian sports sector, based on the pursuit of excellence, integrity and leadership</p>	<p>Office for Sport (including NISU); Australian Sports Commission</p> <p>- ACT: Sport and Rec. Services; NSW: Office for Sport; NT: Sport and Rec. Services; QLD: Sport and Rec. Services; SA: Office for Rec. and Sport; TAS: Communities, Sport and Rec.; VIC: Sport and Rec. Services; WA: Department of Sport and Rec.</p>	<p>Australian-population</p>	<ul style="list-style-type: none"> - Implementing joint priorities agreed under the National Sport and Active Recreation Policy Framework. - Meeting of Sport and Recreation ministers (MSRM) last met in 2013 and comprised of commonwealth, state and territory ministers. - Committee of Australian Sport and Recreation Officials (CASRO) - promote a nationally collaborative approach to priorities identified in national policy framework. 	N/A	Link

National Sport and Recreation Policy framework 2011	<ul style="list-style-type: none"> - Increased participation; success in international competition; strong national Sporting context - Increase use of sport and recreation to achieve wider public policy and social inclusion outcomes. 	N/A	Australian-population	<ul style="list-style-type: none"> - An increase in the number of Australians, including specific population groups, participating regularly in sport and active recreation; - Increased number of medals/ improved rankings in international performance. - Increase percentage of athlete opportunities and quality of competition in national competitions. - Ensure media coverage of event and financial return to sport 	<ul style="list-style-type: none"> - Increased proportion of Australian state and territory portfolios using sport and active rec. activities, alignment with sport policies/ programs in the same target group and /or geographical area, to achieve broader gov. and social development outcomes. - Reviewed every 2 years & 4 years. 	Link
National Disability Strategy 2010-2020	Inclusive and accessible communities; Rights protection, justice and legislation; Economic security; Personal and community support; Learning and skills; Health and wellbeing.	Council of Australian Governments	People with disability	People with disability attain highest possible health and wellbeing outcomes throughout their lives.	Address issues specific to people with disability as part of the national expansion of key public health strategies such as dental programs, nutrition and physical activity programs, mental health, drug and alcohol and sexual and reproductive health programs, so that they explicitly meet the needs of people with disability.	Link
National Cycling Strategy 2011-2016	Doubling cycling participation between 2011 and 2016	Australian Bicycle Council	Australian population	National Cycling Participation Survey	Wayfinding signs are a critical element of any transport system, providing information that helps people to navigate the available network.	Link

					Separated cycle ways protect users and encourage people of all ages and abilities to cycle more often. Australian Standard for bicycle parking was reviewed to legislate improvements in bicycle parking provision.	
National Sports Plan expected May 2017.						
Victoria						
Active Victoria: A strategic framework for sport and recreation 2017 – 2021	- Increased state-wide participation in Sport and Active Recreation. - Strategic directions: Meeting demand; broad inclusive participation; focus on active recreation; build system resilience and capacity; connect investment in events, high performance and infrastructure; shared outcomes.	State, local and federal governments, schools, sports, community organisations, commercial facility, event and program providers.	Population-level (Vic) - Aboriginal; PLW disability; low health; CALD; low SES	- 20% increase in adolescents doing sufficient PA by 2025. - 10% increase in the number of adults doing sufficient physical activity by 2025. - Improved physical literacy and levels of physical activity by students. - Increased focus on outdoor play in early years.	N/A	N/A
Blueprint for an active Australia 2 nd edition 2014 - 2017	N/A	The Heart Foundation	N/A	N/A	- Recommend a national PA action plan. - Secure and sustainable funding. - Establish a cross-sector committee for national leadership and policy co-ordination	N/A
Vic sport 2017-2020	More Victorians enjoying sport.	State government; Vic health	Population-level (Victoria)	N/A	N/A	Link

	- New, social and non-affiliated (pay-as-you-play) participants; member capacity and networking (governance, participation, membership and commercial models); Workforce dev. (incl. volunteers); whole-of-government health, social and economic benefits of sport.					
Australian Capital Territory (ACT)						
Active20 A strategic plan for Sport and Active Recreation in the ACT and region 2011 – 2020	An enriched active capital. Supported through a united system that connects and promotes the economic and social value of sport and recreation to the health and wellbeing of the community. Priorities: Maximise community engagement; Promote the benefits; Increase organisational capacity; maximise individual success; sustainable team performance; promote a national sporting capital; maximise supporting infrastructure.	Sport and recreation clubs and services, ACT government, ACT legislative assembly members, education, health and community service, Australian Sport commission, NSO, SSO, national capital authority, Clubs ACT, business council.	Population-level (ACT)	- Increase participation in competitive, non-competitive, and social sport and active recreation activities at all levels. - Regular data showing accurate trends in participation collected and informs planning. - Participation opportunities based upon need. Facilities are used more creatively and competition schedules reflect community need. Wide variation in activities; inclusive; identified target groups, schools link PE with community clubs; access; transport to programs; disability and aged access friendly	Long term investment in infrastructure and facilities, and better marketing of opportunities to get the community actively involved.	Link

Towards Zero Growth: Healthy Weight Action Plan in 2013	Healthy weight strategy. Improve the overall health of our community and to meet the target of 'zero growth' by keeping the rates of overweight and obesity at or below their current level. Aims include achieving an increase in active travel (walking, cycling and public transport) and to influence levels of physical activity through good urban planning.	ACT Government, ACT Health	Population-level (ACT)	Collect and evaluate usage and demand data about walking and cycling infrastructure to guide actions that increase use. Improve the collection and assessment of biometric data in General Practice. ACT Health will also work as part of the National Health and Medical Research Council Partnership Centre: Systems Perspective on Preventing Lifestyle- related Chronic Health Problems (the Prevention Partnership Centre) to conduct an overarching evaluation of the Healthy Weight Initiative.		
Connecting and building recreation – A vision for the Territory	Increase participation in active recreation and play across the community. Increase the use of our natural assets, play spaces and sporting amenities by residents and visitors. Develop new opportunities through effective partnerships.	ACT Government, ACT Sport and Recreation	Population-level (ACT)	Exercise, Recreation and Sport Survey (ERASS) Recreation Users Stakeholder Group (RUSG) provide a regular forum to discuss matters that relate to active recreation participation and the management of recreation on public land and water in the ACT.	Active20 was an overarching strategic plan for sport and active recreation in the ACT.	
Northern Territory (NT)						
Sport and Active Recreation Master plan. 2016	- Territorians have a lifelong involvement in sport and active recreation. - Increase sustainability of sport and active recreation organisations and the viability of their programs;	Dep. Of Sport and Rec.; local gov.; sport groups; comm. groups; Dep. Of Health (NT), Dep. of	Population-level (NT)	- Baseline measures of PA, sport and active recreation levels taken.	N/A	Link

	Respond to changing patterns of participation and increasing involvement in active recreation; improve facility planning and provision; support regional and remote communities; invest in urban growth areas; whole of government integration.	Education (NT) and Dep. Of PM & Cabinet (Indigenous Strategy).				
Queensland (QLD)						
National parks, sports and racing. - Strategic plan 2017 – 2021 “Connected through healthy parks and active lifestyles.”	Support and encourage participation in physical activity through sport and active recreation.	Queenslanders improve their health and wellbeing through lifelong physical activity and community connection.	Population-level (Queensland)	Queenslander’s participation in physical activity: - Evaluation results and feedback on program and services delivered. - Utilisation rates of departmental sport and recreation venues. - 25% representation of Queensland Academy of Sport athletes in national teams.	N/A	Link
Queensland Active Logan	In 2028, the city of Logan will be recognised an active and healthy community underpinned by an implementation plan.	Local council - lead	Active Spaces Active People Active Organisations	N/A	- Active Logan participation study. - Theoretically underpinned by socio-ecological model. - Recognise spectrum of physical activity.	N/A
Western Australia (WA)						
Strategic Directions for the Sport and Recreation	- Provide vision and direction for Western Australia’s Sport and Recreation Industry	Department of Sport and Recreation, Western	Population level (WA)	Population health surveys. Clearly identified twelve challenges to both sport and	Western Australia’s sport and recreation organisations must proactively engage national and state/territory counterparts in	Link

Industry 2016-2020	<ul style="list-style-type: none"> - Increase stakeholder understanding of emerging issues - Guide strategic planning processes for organisations - Better inform governments of stakeholder aspirations 	Australian Government.		other sectors to tackle over the next five years.	developing governance models that are collaborative and strategically aligned partnerships. These models must balance local context and interest as well as national priorities	
Health promotion strategic framework 2017 – 2021	<ul style="list-style-type: none"> - Healthy Policies that increase PA. - Legislation and regulation: planning, transport, land use; built environments. - Economic interventions: fiscal policies to remove barriers to PA participation. -Supportive environments: health promoting and work cross sector. - Public awareness and engagement: life course and evidence based. - Community Development: local governments develop plans that include PA, inactivity and sedentary measures. - Targeted interventions - Strategic coordination, partnerships and workforce developments - Surveillance and monitoring systems. 	<p>Department of Health – lead.</p> <p>Federal and state government, non-government agencies, professional and voluntary, education, public and private, health professionals, community groups, general public and the media.</p>	<p>Low SES, aboriginal people, mental illness, people with disabilities, carers and families of people with sickness and disability, population living in rural and remote areas, some CALD, prison population.</p>	<ul style="list-style-type: none"> - Compliance with PA recommendations in WA adults (16+ years) increased 2007- 2015. - 5 to 15 years, compliance with PA recommendations has gradually decreased 2007 - 2015. - Voluntary targets set by the WHO global action plan for the prevention and control of non-communicable disease 2013-2020. 10% relative reduction in prevalence of insufficient PA. 	<ul style="list-style-type: none"> - Clear, defined links with state, national and international policy. - Clear guiding principles; adopting a whole of population approach; work in partnership and build capacity; intervene early and throughout life; promote equity and inclusivity. - Physical inactivity and activity are used interchangeably. Discrepancy between target and accountable outcome/data source. - Explicit link made with evaluation framework. 	Link
Tasmania (Tas)						

<p>Plan for Physical Activity 2011 – 2021</p> <ul style="list-style-type: none"> - Three-year implementation plans, annual action plans and routine process for monitoring progress. 	<ul style="list-style-type: none"> - Value and supports physical activity. - Create built and natural environments that enable and encourage physical activity. - Develop partnerships that build and share knowledge and resources. - Increase opportunities for all Tasmanians to be physically active where they live, work and play. 	<p>Premier Physical Activity Council in consultation with the Tasmanian community.</p>	<p>Population-level (Tasmania)</p>	<ul style="list-style-type: none"> - 10% increase in the participation by different age groups by 2021. - % of children aged 5-12 who are physically active for at least 60 minutes each day, 62% in 2009. - Tasmanian Child and health survey Tasmanian government: % of children aged 12-17yrs who are active for 60 minutes a day. 15% in 2008. - Tasmania: % of people 18yrs+ who are active for 30mins at least 5 days a week. 	<ul style="list-style-type: none"> - Underpinned by social ecology of physical activity. - Implementation plans reviewed on a frequent basis. 	<p>Link</p>
<p>South Australia (SA)</p>						
<p>Active City Strategy 2013 – 2023 Adelaide, SA</p>	<p>Quality spaces to be physically active; financially sustainable facilities; people choose to be physically active in the city; community led sporting opportunities.</p>	<p>Local council – lead.</p>	<p>Population-level (South Australia)</p>	<ul style="list-style-type: none"> - City Residents Survey: Increase in city residents participating in sport or rec. once per week - ABS Survey; Exercise, Recreation and Sport Survey (ERASS); Not available 50% of South Australians. - visits to aquatic centres, Golf course, cycling in city, use of urban spaces including trails, parks, facilities, city workers undertaking adequate levels of PA, sporting club registrations, people living within 400m of an active space 	<p>N/A</p>	<p>Link</p>

Office of Recreation and Sport Strategic Plan 2017-2021 South Australia. An active state.	<ul style="list-style-type: none"> - Places and Spaces - Capacity and capability - Access and opportunity - Sporting excellence - Investment - Business performance 	State government lead.	<ul style="list-style-type: none"> - Women in low sport participation cohorts - Invest in people, projects, initiatives that increase access and opportunities 	<ul style="list-style-type: none"> - Participation in structured sport and activity. - Pre-2010 ERASS. - Premier and cabinet South Australian strategic plan household survey (unpublished) 	N/A	Link
New South Wales (NSW)						
Healthy Eating and Active Living Strategy. Preventing overweight and obesity in NSW 2013-2018	<ul style="list-style-type: none"> - Increase incidental, moderate and vigorous physical activity. Reduce sedentary behaviours; Increase community awareness of PA as protective factors against disease. - Strategic directions: Supportive environments; state-wide programs; healthy eating and active living as part of routine service delivery; education and information. 	NSW Ministry of Health Government agencies.	Life course (Reproductive years – adults) Priority groups: Aboriginal; CALD; regional and remote communities; low SES groups.	<ul style="list-style-type: none"> - Increase participation in sport, rec., arts and cultural activities by 10% from 2010 levels in NSW; double bicycle trips in Sydney; increase walking trips by 25%. - Reduce overweight and obesity in children (5-16yrs) to 21% by 2015. Stabilise and reduce adult obesity by 2020. - Research partnership – Uni. of Sydney PA & Nutrition Obesity (PANORG) Research Group. 	<ul style="list-style-type: none"> - Population approach - Reducing inequity - Minimising harm - Working in partnership - Transparency - Building capacity - Effective implementation 	Link
NSW Office of Sport strategic plan Under consultation	Provision of high quality venues and facilities <ul style="list-style-type: none"> - Enhancing sector performance and sustainability; Improving participation in sport and active rec.; Improving the NSW high performance sport system; Ensuring 	N/A	N/A	N/A	N/A	N/A

	Office has the capability to deliver its agenda					
Sport NSW / NSW Sport federation 2015 - Policy Priorities to increase participation in NSW Community sport	<ul style="list-style-type: none"> - Recognise the social and health benefits associated with participation in sport and active recreation. - Embrace diversity - Value diversity of perspective - Respect stakeholder diversity. 	N/A	Women and girls	- Participation measure using ABS www.abs.gov.au/ausstats/abs@.nsf/mf/4156.0?OpenDocument	Whole of government approach to encourage participation in community sport; inclusive; address cost as a barrier through subsidised community sport club membership for children and youth from low SES backgrounds; establish community-based not-for-profit regional sports hubs; strengthen the capacity of NSW state and community sporting organisations to increase participation	Link

1 Key Domain: Sport and Recreation

1.1 Sport and Recreation

The core business of Sport has traditionally been to organise sporting activities in each sport with a focus on competition and performance. With increasing evidence on the plethora of benefits of moderate to vigorous physical activity on health enhancing outcomes, which are aligned with the traditional offer from sporting organisations, sporting clubs through the delivery of their core business, make a valuable contribution to public health. Globally the concept of sport clubs for health are recognised with the mission of the International Olympic Committee agenda 2020 referring to the educational and health values of sports. With diverse and somewhat large membership bases, sports clubs provide an opportunity to promote health enhancing physical activity through the conduit of sport. That said, little evidence is known about how children and adults start, stop and maintain their sporting participation throughout life, and critically there continues to be a gap in the evidence base for the most effective to actually increase population physical activity levels through sport and active recreation (Cavill et al, 2002). What is known though is that people who are involved in sport are more likely to achieve recommended levels of physical activity per week (Ooms 2015) and that the benefits of sports participation extend beyond physical activity and physical health to include mental health, community wellbeing and social capital (Emie , 2007;2013 Priest et al, 2008).

The *'best buys'* encourage sport systems, policies and programs to promote a *'sport for all'* model that re-defines sport to focus on its broad benefits and targets individuals across the life course(World Health Organization, 2017b). Adopting a systematic approach, this section will now examine the peer reviewed literature to provide the evidence base for recommendations on how sport as a sector can contribute to increasing population physical activity participation.

1.1.1 What is the supporting science?

Sports Clubs as health promotion settings

The focus on sports participation through sporting clubs and organisations reflects the strong social and cultural role sport plays globally (Eime, 2007) yet population participation rates vary significantly around the world. The focus of this review is sport's role in increasing participation in physical activity and sport.

Priest et al. (2008) conducted a systematic review, an update from the original review (Jackson, 2005) on the effects of specific intervention programs organised through sport organisations, designed to increase participation. No rigorous studies evaluating the effects of interventions organised through sporting organisations in sport could be found. This significant lack of evidence makes it challenging to provide clear strategic direction for future policy and practice. Whilst policy development in this area is understudied, evidence for benefits of sport to be engaged in this space exists (Geidne et al, (2013). There is a requirement for sports clubs to make changes across every layer of the organisation, which sometimes can be challenging when clubs can rely on parents and unpaid volunteers. To date, little research has focused on understanding the implementation context within the sport environment (Ooms et al, 2015).

To overcome this lack of 'effectiveness' evidence and in an attempt to provide an up to date reflection of the evidence base, key themes that emerged from the literature are discussed, with examples from particular programs and/or strategies, in order to inform future policy discussions.

Considering sports clubs as a setting for health promotion has received significant attention. The publication of the Ottawa charter by the World health organisation in (2005) provided a clear strategic direction for health promotion and a challenge for the sport sector to explore its role in fulfilling many of these priorities. Internationally, sports have adopted different models. Early Australian efforts focused on delivering public health messaging at sponsored events (Holman et al, 1997), with the attention quickly turning to sports clubs creating a healthier environment aligned with the World health organisation release of the Ottawa charter in

2005. Considering this with the wider policy context discussed in the global and national policy sections at the beginning of this report, the evidence for the best practice approach is less understood and more importantly, the practical implications of implementing this from a sport sector perspective. A review by Geidne et al, (2013) explored health promotion specifically in the youth sport club setting and found that whilst the opportunity was plentiful, it was not something that a sports club did automatically. Sports Clubs needed to place health at the heart of their strategies and daily practices, and focus not just on increasing participation levels, but also on the quality of the provision. Eime et al (2006) detailed an Australian case study where a sporting organisation changed its strategic goal to increase participation in sport, thereby calling for structural reform across the sporting sector and affiliated bodies. Whilst this is theoretically sound, there is continues to be limited research published, that has explored the transformational change required by sporting organisations and the state and national sport leaders, to create change at the volunteer based affiliated sports club. In addition, the impact of this on population participation rates also requires exploration. Eime et al, (2014) examined ten year trends in sport and recreation participation levels and trends and found although general increases in leisure time physical activity increased, there was a need for improved sport participation data to inform policy.

International examples where sport has promoted broad health enhancing outcomes to a wider population in order to extend the reach and availability of many sports include; The Dutch sports system and the Finish 'health promoting sports club' model. The Dutch Ministry of Health, Welfare and Sport initiated the national action place for sport and exercise (NAPSE) which set a population target for increased participation whilst the Finnish 'health promoting sport club model' provided clear guidance's for local youth sport clubs on health promotion activities that focused on policy and practice development. Recognising the importance of partnerships across the health and community sector, Casey et al (2009) explore the partnership and capacity building strategies of the sport and recreation sector to increase participation. Essentially, without the engagement of multi sector stakeholders that utilised a diverse skills mix, sports were left with the traditional model. A structured co-ordinated approach to enhancing capability and capacity to enhance health promoting partnerships are warranted by sports (Casey et al, 2006). In addition, though the strong focus on increasing participation through physical activity, for people who were currently inactive and on low incomes or living in disadvantaged communities was a strong theme.

An approach that have been trialled by sports globally, including Victoria Australia, England and United Kingdom is the targeting of interventions for inactive people led by the sport sector. This has been shown to have a high impact approach to shifting population levels of physical activity upwards (Cavill, 2016). Such interventions aim to get people doing little or no physical activity, to do something. Ooms et al. developed a checklist for implementing sporting programs in organised sport settings which target inactive people. The checklist applied an ecological perspective to increase the livelihood of successful implementation in the complex sports system (Ooms, 2015). Six phases which occur in the organised sport implementation context have been summarised with checklist items, and presented in figure 1.

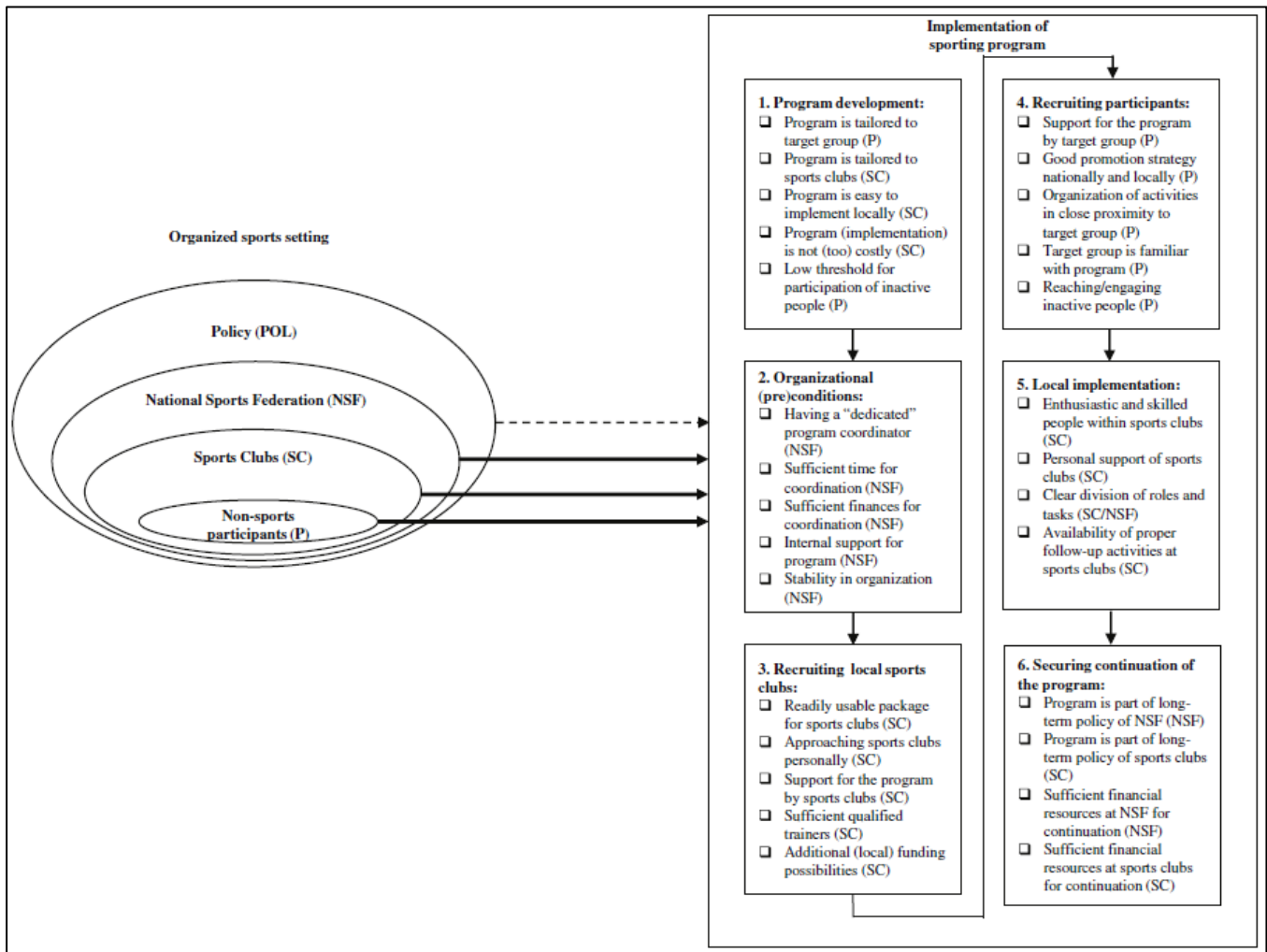


Figure 1 Checklist for implementing sporting programs in organised sport settings which target inactive people

Modification of the sporting offer

There is an emerging trend towards modifying sports as a strategy to meet the needs of new target audiences, including inactive population, older adults and clinical populations with chronic disease including obesity and cancer. The rationale for modification, is due to many considering sports clubs as 'icons' in a local area which have a unique potential to engage and foster community relationships, lacking the stigma often perceived by health care settings (Morgan et al, 2016). Therefore, in addition to the opportunity for forging new partnerships, sports clubs have potential to support health care services in health promotion and reducing cost of chronic disease. Some English and Danish football clubs have reported adapting their sport offering to low-intensity or shorter activities in an effort to engage a new community group, often spectators or parents, in being more active (Parnell 2013, Bennike 2014). An example to showcase here is the Football fans in training program, funded by the Scottish government and now adopted by numerous football clubs across the United Kingdom, which delivered weight loss and healthy living programmes targeting men (Hunt et al, 2014). Other examples include the Big issue street soccer programme (Sherry et al, 2016) and the walking football initiative in the United Kingdom. Walking Football is a lower impact but authentic form of football that enables players' particular older adults to increase participation (Reddy et al, 2017).

Collaboration

Partnership and capacity building strategies have been shown to improve the implementation of sport and recreation programs in Australia. (Casey 2009) Stakeholder engagement, formalisation of partnerships, skill development and multi-sectoral collaboration were important during all phases of program implementation. Collaborative approaches to increase physical activity between the sport delivery organisations and other

agencies (schools, community groups, Police, health providers, non-government organisations/charities) may be a way to sustain sports delivery.(England, 2017) Such collaborations have previously reduced barriers to participation at the community level through reducing costs or improving access to facilities.(Smith 2016, England 2016)

Broader Public health policy

A variety of other policies in sport settings have been studied which aim to influence nutritional supply, alcohol culture and advertising in sport settings. Provision of healthy and welcoming environments is an effective health promotion policy to increase physical activity participation in sport settings, particularly among women (Casey 2017, (Kingsland, Wiggers, Vashum, Hodder, & Wolfenden, 2016). It is expected that sports clubs increase the total physical activity of their players, however the reach of physical activity promotion beyond the player to their social networks are not well understood. Targeted physical activity promotion policies and interventions delivered through sport settings for members of the sporting community, including players, families, coaches and volunteers have limited evidence.

Sports stadia

Sport stadia are an important setting for reaching large numbers of people and for promoting and communicating broad public health messages , yet commonly they are associated with an environment conducive to fast food outlets, alcohol and tobacco promotion. An international example which attempted to challenge this is the healthy stadia. Healthy stadia was developed in the United Kingdom in 2005 with the European healthy stadia program launched in 2007. The goal of the programme was to use the loyalty shown towards the club brand and the locality of stadia in more disadvantaged areas to improve health outcomes of the associated community. Paradoxically , the real life evidence of effective strategies to implement healthy stadia is challenging. An audit of process across all European states (2013) found that sport stadia are a good and underestimated setting for health promotion. The healthy stadia initiative has been successful in evoking interest yet limited good practice remains on how to utilise stadia to raise awareness of the benefits of participation and how to influence behaviour change.

'Mega' events

mega events engage large volumes of people in short term, discrete events. This can provide an economic boost through tourism and transport to communities and improve social capital (Murphy 2007). There is little evidence to suggest that such events create a legacy of increasing physical activity in those who spectate, volunteer or work at sport stadia or mega events.(Murphy & Bauman, 2007) The best available evidence suggests that multi-sport events, such as the Olympic Games, may increase physical activity although only among those with positive perceptions of the event.(Ramchandani, 2017) A promising strategy to enhance positive perceptions of sporting mega events among the broader population is the adoption of a '*festival effect*', which appeals to human desires to '*be part of something on a large scale*'.(Weed et al., 2012) Case studies have also shown that a coordinated, multi-sectoral approach which strategically targets specific priority populations will likely have the greatest legacy on physical activity.(Reis, 2017) The key appears to be in fostering community and social outcomes and taking a festival approach which places less emphasis on the sporting element of the event.(Weed et al., 2012)

The infrastructure improvements which often accompany sporting mega events are furthermore likely to increase population physical activity. Additional strategies, which compliment improvements to sports facilities may engage targeted populations in more physical activity. Effective infrastructure improvements to increase physical activity, active transport and social sports will be further described under sections 3.2 and 3.3.

Skilled delivery

Registration and attendance with sports clubs and organisations does not make it certain that an individual is being more physically active. A strong and consistent characteristic of effective strategies to increase physical activity participation in sports clubs is that the coaches and supervisors are suitably trained (MacCallum Nike report 2014, Amour 2013). The delivery of quality activities in the sport setting which develops an individual's

physical literacy and fitness requires support and training for coaches and supervisors. Internationally, there is significant investment in athlete development and elite sports.

Socio-economic support

Government vouchers which create or enhance an individual's access to places for physical activity have good evidence to support their implementation (Bellew and Young, 2017). Creating or enhancing access to places for physical activity and providing informational outreach may achieve up to a 25% relative increase in the proportion of the population who are physically active at least three times per week. (US Centers for Disease Control and Prevention (CDC), 2011) The implementation of voucher schemes should not occur in isolation, but rather in combination with multi-component programs which target key population groups, with annual investment and include both process and impact evaluations. (Bellew, 2017)

Governments and funding providers may further choose to target sports clubs and organisations for systemic interventions which reduce barriers to sports participation. This may include introducing targeted funding with accountable reporting to encourage sports clubs to engage new audiences. (Smith, 2016) For example, sports clubs who apply for funds may be required to include a modification to their sports offer to engage more diverse communities or inactive people as part of the application and report on the impacts of these modification in achieving the intended outcomes.

Adverse outcomes

Available evidence on interventions which can be delivered through sports settings, also contains information on injury prevention, management and rehabilitation. Among populations who participate in sports, some injuries are likely to occur, however there is limited long-term evidence of sports injuries impairing function late in life. Various strategies have been studied to reduce the incidence of sports injuries, particularly among athletes. Injury prevention policies, when paired with local level implementation can be an effective way to reduce sports injuries and benefit recipient's physical health.

1.2 Active Recreation

Active recreation refers to activities that are engaged in by an individual for the purpose of relaxation, health and wellbeing or enjoyment. Participants may not acknowledge recreational activities as physical activity, as their purpose for engagement could be unrelated to the energy expenditure, however it is likely that these type of activities increase their total physical activity by stealth (Robinson 2010). Activities with a purpose beyond skill mastery, energy expenditure or physical fitness may provide an appropriate offer for an individual's needs such as mindfulness, building social connection, confidence or leadership.

1.2.1 What is the supporting science

Although active recreation may be undertaken in isolation, many people choose to engage and register with active recreation clubs, commercial providers, municipalities, community groups. In these recreational settings, activities can be engaged in in an organised, communal fashion. Active recreation providers play a vital role in engaging people in active lifestyles, however there is little evidence regarding effective strategies to increase physical activity in these settings. Furthermore, there is limited understanding what strategies can be effectively implemented through the active recreation sector to increase physical activity or sports participation.

Active recreation clubs, organisations, settings

There is good evidence to support fitness facilities and gyms as a results of these settings being used in intervention studies examining the impacts of physical activity on a variety of health outcomes. Characteristics of interventions with high participation rates included university qualified exercise professionals, structured exercise programs, group exercise and community based locations. It is important to note that many of these studies included older adults or clinical populations. Some observational data suggests that visiting a gym for fitness had a negative impact on quality of life and general fitness (England, 2017). Further investigation into the effectiveness of joining a fitness facilities or gym on physical activity levels is warranted. The relationship between the variety of recreational activities offered, multiple types (Gym with classes) or single activity (Yoga or Pilates studio, rock climbing gym) and a member's total physical activity is unclear.

Dance is an understudied domain of active recreation, presenting an opportunity for further research. There is some evidence that various types of dance interventions have effectively increased overall physical activity levels. (Robertson-Wilson, Reinders, & Bryden, 2016) While dance organisations are a thriving part of the active recreation sector, little is known about how participation in dance is achieved and maintained, especially among young people.

Outdoor recreation and camps

Walking, the most common type of physical activity, and cycling often take place in urban environments with greater density of parks and recreation areas. Effective strategies to increase these activities will be described in sections 3.2 and 3.3. Beyond environmental strategies, effective interventions which promote recreational walking and cycling among inactive people involve incremental progression, group participation or activity tracking devices. (de Vries, Kooiman, van Ittersum, van Brussel, & de Groot, 2016; Hakala et al., 2017) Activity tracking devices such as pedometers and physical activity apps have shown promise as low cost interventions to increase walking. As technology advances, augmented reality is predicted as a future trend to increase participation in active recreation.

Outdoor adventure camps generally aim to provide experiences and opportunities to bring about lasting educational, therapeutic, and rehabilitative change in vulnerable populations. The influence of these interventions on physical activity levels is unclear. Furthermore, there is mixed evidence on the effectiveness of summer camps to increase participation in physical activity outside the short duration of the camp.

Further information on population, environmental strategies to increase participation can be found in subsequent sections of this report.

1.3 Recommendations for investment and action for the Sport and Recreation sectors?

- Re-define the meaning of Sport to broaden its reach. Recognise and embrace the opportunity for sport to work in partnership with other sectors to promote health enhancing physical activity and sport for all.
- Identify a clear outcome framework that recognises the health, wellbeing and economic impact of participation and provides clear metrics to measure progress. Physical activity should be promoted for enjoyment with health benefits subsequently following. The needs of the target audience should be placed at the heart of the strategy.
- Inter and multi sector collaboration is critical in harnessing the power and value of physical activity and sport across multiple agendas. It is critical to include all these stakeholders in the consultation process to ensure a co-ordinated effort and capitalise on synergies across other public health portfolios.
- Focus on addressing the needs of under-represented groups in an attempt to reach and engage new audiences. Focus on engaging inactive people in active recreation and sports through putting them at the centre of the strategy.
- Sport has the opportunity to lead innovative partnerships in new spaces for example the Dance sector. Participation in Dance appeals to a different proportion of the population, than the traditional sporting codes, so undertaking research to understand who engages, the motives and barriers, could provide essential insight into driving participation in specific population groups.
- The skills and expertise of sports bodies, including sports clubs and universities should be harnessed to create strong relationships between diverse stakeholders. Engaging and utilizing the strengths of

non-sport bodies and professionals from other sectors would help enhance and consolidate these relationships.

- Leverage the value of the sport club brand to empower change amongst individuals across the lifecourse. Through understanding what drives broad participation, sport clubs could play a role in engaging and re-engaging individuals across the lifecourse. The chronic disease programs which deliver an adapted version of traditional sports are key examples of this.

- To overcome the significant lack of ‘implementation’ evidence, Invest in research and evaluation of the sport for all approach would aid policy and practice.
 - a. Monitoring and evaluation should seek to establish local level evidence of impact that reflects the diverse nature of sports for all (holistic) initiatives.
 - b. Invest in a comprehensive , consistent sport participation surveillance strategy
 - c. Evaluation should be an embedded aspect of sports for all initiatives. Linking local evidence with national and regional level data e.g. e.g. census, sports participation surveys would provide composite and comprehensive accounts of impact

- Ensure that physical activity interventions in organised sport settings take an ecological approach in the development and implementation of their programs. This considers the individual, the sports club, state and national sporting federations as well as policies which could moderate the impact of the interventions.

- Socio-economic support for physical activity participation – this may be in the form of improve program implementation which reduces the cost of program or provision of subsidies to make physical activities more affordable and accessible for those who are not sufficiently active.

- Healthy welcoming sporting environments (HWEs) – implementation is facilitated by availability of funding, training, guidance and support, club level leadership and understanding of the benefits of HWE’s and a positive attitude towards HWE’s.

- Risk mitigation – implementation of injury prevention. Treatment and management policies, including the provision of safe environments in which to be physically active.

- Sustained interventions which include adequate resources and training for high quality program delivery over time.

2. Other Key Domains for Investment and Action

2.1 Communication and public education

2.1.1 How does this domain contribute to a more active society?

This domain includes mass media and communication which is a recommended 'best buy' to increase physical activity, in combination with multi-component strategies. Mass media provides an opportunity to raise awareness, increase knowledge and shift community norms regarding physical activity using clear and consistent messaging, reaching large populations (Yun 2017). Public education can involve media such as images, videos, interactive games, social networking, and written information. This may be distributed by text messaging, print, audio or visual electronics (web/phone based applications, TV, radio), outdoor billboards and posters, public relations, point of decision prompts and mass participation events. Communication and public education can encourage physical activity and other healthy living behaviours (US Department of Health and Human Services - Community Preventive Services Task Force, 2011b), Yun 2017).

2.1.2 What is the supporting science

Mass media campaigns which deliver a series of consistent physical activity messaging through multiple forms of media have been implemented previously. To increase their impact, it is recommended that campaign activities such as community events, counselling and education occur concurrently. For example, an effective mass media campaign that might typically be implemented at state-wide or national scale could be used at the scale of a local community, with local organisations and services adding value and impact; this might be timed alongside a wider campaign, used sequentially to extend its duration, or implemented separately. The approach is effective for physical activity (US Department of Health and Human Services - Community Preventive Services Task Force, 2014b) but may be used to improve health more generally and/or a generic way to build community capacity and resilience (Cassidy, 2011; Syme, 2009).

Community-wide mass media campaigns which target general populations have been found to be highly cost effective strategy to increase physical activity (Abu Omar 2017). Most campaigns promote general physical activity, although some specifically aim to increase walking (Yun 2017). The evidence base so far has a diverse range of strategies. Underpinning the interventions with theory and ensuring clear, measurable campaign goals and objectives forms the most effective mass media campaigns (Grunseit 2016, Bauman 2011).

2.1.3 Infrastructure and program specification – what works?

Campaigns must be consistent, sustained and have sufficient infrastructure to ensure national amplification and local implementation and identity with campaign. Effective campaigns make use of multiple channels, one of which must be mass media, combined with the distribution of free or reduced price physical activity-related products/services. Providing selected communities with a higher dose of marketing activities and sustaining those activities over time yields more positive outcomes, which is an important consideration for geographical "inactivity hot spots" and for inactive population segments. The products/service provision component of integrated campaigns should be designed to:

- Facilitate adoption and/or maintenance of health-promoting behaviours (for example increased physical activity through pedometer distribution combined with walking campaigns)
- Facilitate and/or help to sustain cessation of harmful behaviours (inactivity, prolonged sitting)
- Protect against behaviour-related disease or injury (for example recreational safety helmets, sun-protection products)

2.1.5 What sport and active recreation strategies intersect with this domain?

Communication and public education which encourages people across the lifespan to engage in physical activity requires multisector action. The sport and active recreation sector are a key stakeholder in the planning, development and community based implementation of community-wide mass media campaigns.

2.2 Transport and the environment

2.2.1 How does this domain contribute to a more active society?

The convenience of motorized transportation has reduced the need for physically-demanding travel while simultaneously increasing sedentary time. In addition, contemporary car-ownership, and the vast network of roadway systems to accommodate it, adversely impact public health through environmental pathways 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 transportation represents a promising strategy to not only address problems of urban traffic strain, environmental pollution and climate change, but also to provide substantial health benefits.(Mueller, 2015; Tainio, 2017) Despite associated risks of exposure to traffic and to air pollution, active transportation policies can overcome car dependence and increase physical activity levels.(de Nazelle, 2011)

More than many other forms of physical activity, walking and cycling (in particular for transport purposes) may be easily incorporated into a daily routine, increasing the potential for adoption and maintenance of these behaviours over time and thus the potential for population health impact.(Bird et al., 2013) A model of the health impacts of active transportation policies is shown at Figure 1. Note that Variables shown in bold having strongest exposure-health evidence quantified; variables in *italics* are the most challenging for researchers to measure well and investigate.

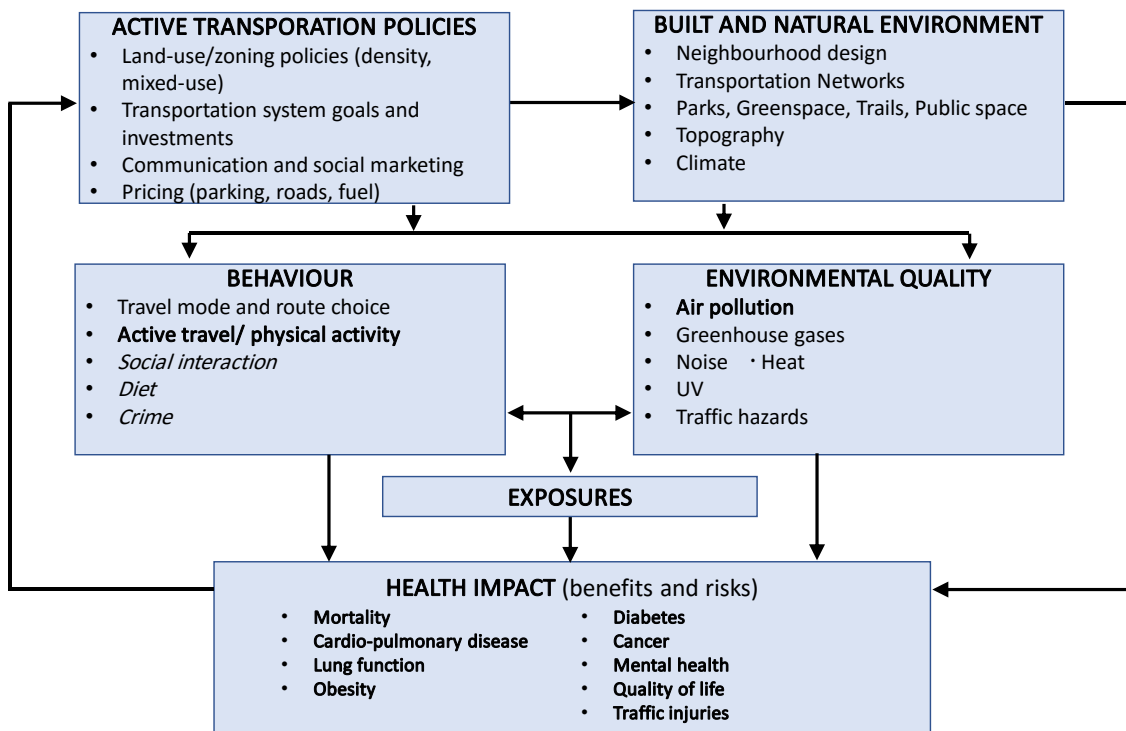


Figure 2 Health impacts of Active Transportation policies, conceptual model (adapted from Nazelle, 2011)

2.2.2 What is the supporting science?

In the “best buys and other recommended interventions” to tackle NCDs, the World Health Organization has designated this set of strategies as ‘recommended’.(World Health Organization, 2017a) To be consistent with this designation, strategies must ensure that macro-level urban design incorporates the core elements of:

- residential density;
- connected street networks that include sidewalks;
- easy access to a diversity of destinations; and
- access to public transport.

This assessment is consistent with the finding of the US Department of Health and Human Services Community Preventive Services Task Force (CPSTF) which in addition stipulates bicycle infrastructure and notes the value of promoting initiatives such as *Safe Routes to School*. The CPSTF finding is based on evidence from longitudinal studies of people exposed to coordinated built environment approaches (16 studies). Evidence from additional cross-sectional comparisons shows that combinations of activity-supportive built environment characteristics are associated with higher levels of transportation-related physical activity, recreational physical activity, and total walking among exposed people (74 studies).(US Department of Health and Human Services - Community Preventive Services Task Force, 2017c).

2.2.3 Infrastructure and program specification – what works?

Walking and cycling

Pedestrian and Bicycle Transportation System design features comprise four key overall components, shown in Table 1 with examples of the specifics of implementation.(US Department of Health and Human Services - Community Preventive Services Task Force, 2017c)

DESIGN FEATURE	EXAMPLES
Street pattern design and connectivity	Designs that increase street connections and create multiple route options, shorter block lengths
Pedestrian (walking) infrastructure	Sidewalks, trails, traffic calming, intersection design, street lighting and landscaping
Bicycle infrastructure	Bicycle systems, protected bicycle lanes, trails, traffic calming, intersection design, street lighting and landscaping
Public transit infrastructure and access	Expanded transit services, times, locations, and connections

Table 1 Design specifications for infrastructure and programs to promote increased walking and cycling

Source: US Community Preventive Services Task Force (2017)

Design features here comprise three key overall components at the regional planning level and six at the local urban planning level, shown in Table 2 below with examples of implementation specifics.

DESIGN FEATURE	EXAMPLES
REGIONAL PLANNING	
Proximity to community or neighbourhood destinations Regional employment, facilities, and services conveniently accessible by public transport; destinations for daily living available locally	Jobs, facilities, and services within 30 min travel from home by public transport; daily living destinations within walking distance. Community destinations such as stores, health facilities, banks, and social clubs that are accessible and close to each other
Demand management Parking supply and pricing policies increase the attractiveness of using alternative travel modes to driving	Building codes and other government policies that minimise car parking
Distribution of employment An appropriate mix of employment available across a region	A job–housing balance from 0.8 to 1.2
LOCAL URBAN PLANNING	
Walkability by design 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 ≥ 0.6 within 0.8–1.2 km (i.e. 1–15 min 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.
Access to parks and recreational facilities	Public parks, public recreational facilities, private fitness facilities
Density 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
Distance to public transport High-frequency public transport located within short walking distances from homes	Bus stops accessible ≤ 400 m; rail stops accessible ≤ 800 m from homes
Diversity/ Mixed land use 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.
Desirability 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

Table 2 Design specifications for planning and transport policies and programs to support walking and cycling

Source: US Community Preventive Services Task Force (2017); Giles-Corti et al. (20162)

2.2.4 What are the recommendations for investment and action?

A recommended investment

Alongside the established 'best buys' (community wide public education and mass media campaigns, physical activity counselling and referral as part of routine primary health care) WHO has designated as 'recommended' investment to achieve macro-level urban design that incorporates residential density, connected street networks that include sidewalks, easy access to a diversity of destinations and access to public transport.(World Health Organization, 2017a)

Cost-effectiveness supported by accumulating evidence

Cost effectiveness analysis (CEA) in this set of policy and program actions is complex as can be seen from Figure 1 and the current WHO position is that the current evidence does not allow a robust CEA, although a recent systematic does provide a good synthesis of what we currently know.(Brown, 2016) A wide variety of potential benefits/risks and cost categories have been included into the available economic evaluation of active transport interventions, with limited uniformity of type or methodology of inclusions between studies. These inclusions incorporate a multitude of health, social, economic and environmental considerations. In the recent systematic review seventeen cost-benefit studies reporting cost-benefit ratios for hypothetical interventions all except one found that benefits exceeded costs.(Brown, 2016) 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 £94 per QALY to £9439 per QALY are considered cost-effective.(Beale, Bending, Trueman, & Naidoo, 2012). Another study presented results for each of three evaluated scenarios in terms of costs per averted DALY, ranging from approximately £4470 per DALY to just over £18,400 per DALY averted.(Dallat, 2014)

Clear program design and implementation specifications available

The evidence allows clear specification of the required actions (Tables 1 and 2). 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 active transportation policies. Characteristics such as baseline physical activity levels in the population, traffic safety or air quality, can increase or decrease the benefits associated with active transportation policies.

Greater health benefits are achieved when the policy focus is on more sedentary population or more sedentary modes of transport (i.e. cars). The implementation of active transportation policies with an improvement in traffic safety (in particular for active transportation modes) will lead to greater net health benefits.

Improving air quality beside the implementation of an active transportation policy will also reduce the risks for cyclist and pedestrians (as all other citizens) and increase the health benefits of the interventions.(Rojas-Rueda, 2016)

2.2.4 What sport and active recreation strategies intersect with this domain?

Effective networks of footpaths, bikeways, and public transport support both active travel and active recreation (GAPA 2011). This infrastructure delivers a dual benefit of reducing traffic congestion and increasing physical activity. The strategies which the sport sector could employ in collaboration with the transport and environment domain for continuous improvement include:

- Engagement in the design and implementation of active transportation policies with stakeholders in this domain to improve traffic safety and increase physical activity.
- Formal involvement in the design of pedestrian and cycling friendly street scapes and off road routes to connect open space and other key destinations such as aquatic centres, schools and transport hubs (Newman 2014). This is especially critical during the development or refurbishment of infrastructure for mega events such as stadia.
- Adoption of international recommendations that 10% of the transport budget to be spent on walking and cycling (Marmot 2010)
- Build environmental considerations into sports policies and development

2.3 Urban design and infrastructure

2.3.1 How does this domain contribute to a more active society?

The amount of physical activity people do is largely influenced by 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, cycle ways, and public transport support both active travel and active recreation; It can be considered the glue setting-based approaches to increasing physical activity. Factors such as street layout, land use, the location of recreation facilities, parks and public buildings and the transport system can either encourage or discourage physical activity (WHO 2017). Good urban design can provide permanent, sustainable environments that encourage daily physical activity, which in turn increases opportunities for socialization, networking, cultural identity and good overall health (Calogiuri 2014, WHO 2017).

2.3.2 What is the supporting science

Populations are known to be more active if they have easy access to parks, sports fields, workplaces, public transportation and shops (WHO 2017). Active living, through increased physical activity, sports and active recreation, also positively contributes to economic prosperity and social cohesion in cities. A walkability index has been developed to help assess urban environments and the degree in which they encourage or facilitate active living. The index combines objective measures such as residential density, land use mix and street connectivity to define walkability. Moveability is an emerging term which further considers recreational areas in the indices calculation (Buck 2015). Investment in and maintenance of the environmental factors which define moveability can increase the amount of physical activity achieved by populations.

Green and public spaces provide opportunities for active recreation and sport as well as having broader impacts on enhancing public health. Those with higher exposure to green spaces have been found to be physically active more frequently, have a healthy body weight, reduced coronary heart disease, type 2 diabetes, osteoporosis and stress related diseases such as depression.(WHO 2017) In contrast, poorly maintained urban green space may discourage use and promote illegal activities, increased injuries, crime and anti-social behaviour. (WHO 2017) Improving access to safe, inclusive and accessible green and public spaces is one of the UN Sustainable development goals (SDGs). Enhancing green and public spaces is particularly important for women, children, older persons and persons with disabilities (United Nations 2015). Well planned urban settings which encourage physical activity implicitly, or where it is the simple choice, will contribute to more active societies overall.

2.3.3 Infrastructure and program specification – what works?

Guidelines, policy and legislation regarding residential density, street connectivity and mixed use zoning encourage physically active lifestyles at local, state and national levels are essential to guide urban design and infrastructure to promote active living (. Local governments and cities play a key role in implementing national and state guidelines in new developments and street modifications.

Although developments which promote physical activity require significant investment and can be time consuming to create, they have been shown to be cost effective as they provide permanent changes to everyday activities of the population. There is strong evidence for walking and cycling paths, well planned transport links and mixed land use designs. Engagement of multi-sectoral stakeholders is vital to ensure the planning and implementation process is appropriate and acceptable in the local communities.

Designing urban environments to promote safe pedestrian roaming between places can be achieved through purposeful, visible and well maintained walking and cycling paths. Walking and cycling paths which connect places of interest for convenient and safe travel can only be achieved through coordinated, long term planning. This provides sustainable, cost effective improvements to the built environment. Traffic calming

mechanisms, such as pedestrian crossings and speed limits in high traffic areas, further reduce barriers for inactive people to commence physical activity in their local environments.

Ciclovía events occur world-wide involve closing down major roads to motor vehicles so they can be exclusively used by bicyclists and pedestrians. Preliminary evaluations of these events have shown that opening streets for leisure activities boosts the local population's levels of physical activity above that of the usual day (Sarmiento 2016, Shu 2016). This type of program shows promise as an advocacy strategy for communities to highlight the need for improved infrastructure in urban areas to support active travel.

Within buildings and public spaces, ensuring that stair cases are designed and positioned for people to use them has been shown to be an effective way to increase daily physical activity. Stair cases which are centrally located, well-lit, well decorated and sign posted have strong evidence for increasing stair use (Jennings 2017, Chu 2016).

Research has also shown that installation of fitness equipment in parks, along with efforts to promote the equipment, increases physical activity of children, young people, and adults in these places (Hammer 2017, Escalante 2014). Provision of such infrastructure is reasonable from a cost perspective. (Heath 2012) Designing playgrounds to encourage varied and physically active play is appropriate in urban and educational environments. Simple modifications such as revamping areas, using brightly coloured paint, can promote individual and group activities for children.

2.3.4 What are the recommendations for investment and action?

Multi-sector, long term planning of built environment developments with leadership from local governments to ensure implementation of policies and regulations around residential density, street connectivity and mixed use zoning encourage physically active lifestyles of residents.

Residents should be able to access urban green spaces where possible within ten minutes' walk. Planners of new developments should aim to develop areas with large green spaces rather than dispersed small areas.

Installation, renovation and maintenance of urban green space and recreational areas. Ensuring that green spaces are accessible, safe and convenient for people to use will increase physical activity and social cohesion. Priority should be given to ensuring that environments are safe, inclusive and supportive of physical activity. To ensure that spaces are well maintained, local community groups or businesses may be engaged to sponsor or maintain parks.

2.3.5 What sport and active recreation strategies intersect with this domain?

Sport and active recreation organisations often utilise 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 utilise the spaces. 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 utilised for physical activity are accessible, well maintained, safe and inclusive.

Fund studies, based on the most rigorous designs possible, to examine the impact that changes to the physical environment have on physical activity levels (NICE 2008). This should involve the development of theoretical frameworks and assessments of economic, public health and social impacts.

2.4 Primary and Secondary Healthcare

2.4.1 How does this domain contribute to a more active society?

The domain of Primary and Secondary Healthcare is one wherein the majority of the community come into contact with healthcare providers, thereby affording opportunities to ‘make every contact count’ for the promotion of physical activity (See Section 4, Figure 00). Primary care brings promotion and prevention, cure and care together in a safe, effective and socially productive way at the interface between the population and the health system. In short, what needs to be done to achieve this is “to put people first”: to give balanced consideration to health and wellbeing as well as to the values and capacities of the population and the health workers. (World Health Organization, 2008) One view of the optimal or ‘better practice’ approach in the primary and secondary healthcare setting is possibly represented in the “Making Every Contact Count” (MECC) concept developed in England (Figure 2). (Public Health England, 2016; UK Government - Public Health England, 2016).



Figure 3 Making Every Contact Count [MECC] as a behaviour change intervention

The concept of MECC described above was based on principles outlined in NICE Guidance on behaviour change indicating considerable potential for improving the practices of health professionals in promoting health enhancing behaviour among members of the general community coming into contact with healthcare services. (National Institute for Clinical Excellence (NICE), 2007)

2.4.2 What is the supporting science?

Provision of physical activity counselling and referral as part of routine primary health care services through the use of a brief intervention has determined as a “best buy” in NCD prevention by the World Health Organization. It is accepted that this in turn requires sufficient, trained capacity within the setting (World Health Organization, 2017a). An updated systematic review for the US Preventive Services Task Force has reported on evidence of the benefits and harms of behavioural counselling for the primary prevention of cardiovascular disease in adults without known cardiovascular risk factors. Diet and physical activity behavioural interventions for adults not at high risk for cardiovascular disease result in consistent modest benefits across a variety of important intermediate health outcomes across 6 to 12 months, including blood pressure, low-density lipoprotein and total cholesterol levels, and adiposity, with evidence of a dose-response effect, with higher-intensity interventions conferring greater improvements. More evidence is need on longer-term intermediate and health outcomes or on potential for harmful effects of these interventions (Patnode, 2017). A systematic review of brief interventions for physical activity highlighted five implementation ‘success factors’:(Lamming et al., 2017)

2.4.3 Infrastructure and program specification – what works?

Brief Interventions for Physical Activity

DESIGN FEATURE	EXAMPLES
Health professional counselling protocols (counselling guideline, key messages)	<i>Structured protocols with clear and simple messages</i> and process;
Written prescription	A <i>‘written prescription’</i> outlining physical activity goals and/or step testing during the consultation may be a useful adjunct to verbal advice to increase physical activity;
Follow-up	<i>Follow-up sessions</i> after the initial consultation may be important in achieving improvement in physical activity outcomes over longer time frames (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	<i>Knowledge of relevant physical activity services</i> and structures (e.g. having a current directory, database/ reference file)
Specialist support staff	Availability of <i>support and specialist staff</i> (e.g. exercise specialist, physiotherapist, practice nurse, nurse practitioner, Local PA service providers, Sports clubs and organisations, waling groups)

Table 3 Brief counselling interventions for physical activity: implementation success factors (Adapted from Lamming et al 2017)

A systematic review of exercise referral scheme (ERS) has been reported, with a focus on the barriers and facilitators for adherence by community participants.(Morgan et al., 2016) These factors are summarised in Table 4

Exercise Referral Schemes (ERS)

Dimensions	LOW implementation (Barriers)	HIGH implementation (Facilitators)
Context Socioecological context of ERS patients (eg personal characteristics, home, work and family)	Concerns about worsening health problems was a barrier to adherence for some participants Lack of time as a result of personal commitments to work, family, role as a carer or social demands Loss of social support after the intervention Lack of external support from family members, particularly a spouse Not accommodating cultural/religious requirements : eg, language problem and the inability to communicate effectively with providers	External support from family members particularly a spouse Cultural/religious sensitivity such as women-only activities and consideration of religious holy days Maintaining routine: Making exercise a habit was viewed as important to ongoing physical activity beyond the ERS scheme
Evidence Could include research evidence, clinical experience, patient experience and local data	Participant experience Perceived poor/negative outcomes of ERS included general and mental health, exacerbation of specific health problems, disappointment over failure to lose weight and not benefitting from increased social engagement Poor perceptions of the intervention atmosphere and environment: Feeling uncomfortable in an 'intimidating gym environment'; Dislike of music/tvs in gyms; Difficulties operating gym equipment; Poor quality facilities Dislike of gym-based exercise due to boredom, preference for being outside	Participant experience Perceived improvements: Physical health improvements were the most commonly described; Others included weight-loss and physical activity, mental wellbeing and personal autonomy, social engagement - both during and after the programme Liking for gym-based activities because of its safe environment and weather independence Desire for range of different types of physical activities including dance, aerobics, yoga, swimming, or outdoor activities such as walking and cycling Group activities valued, with participants liking being in the company of like-minded companions rather than solitary exercise
Facilitation Factors related to the presence or absence of how the ERS scheme facilitates participation and progress	Perceived lack of sufficient support and supervision from providers High cost of exercise facilities, particularly after a subsidised ERS scheme Inconvenient scheduling eg activity timings clashing with work hours or child care Lack of ongoing professional support after the ERS Venue Location Problems: Long distance to travel, difficulties with public transport, perceptions of venue locations not being safe for women	Support and supervision from providers to help guide safe and efficient exercise, provide equipment, knowledge and motivation Peer support highly valued, specifically in relation to (i) having a companion/buddy to do the activity with during the scheme; (ii) engagement with others aiding integration and enjoyment Individualised and personalised service including an exercise programme tailored to user needs, ability, health status, preferences, goals and values Off-peak scheduling: The gym environmental was perceived to be less intimidating during off-peak hours. However, this was inconvenient for day-time workers Continuing professional support after the ERS programme was desired and described as a facilitator

The bold highlights the identified themes

Table 4 Referral schemes for physical activity – the implementation success factors (Morgan et al 2016)

Technology-based distance interventions promoting physical activity may be considered as adjunct interventions in primary and secondary healthcare. These include Websites, Mobile phones, DVDs, Online social support networks, self-monitoring with accelerometers/pedometers). Evidence is evolving rapidly in this field but based on recent meta-analytic research we can already say that the effectiveness of these interventions for promoting physical activity is similar to that of conventional practice, or 'usual care'.(Hakala et al., 2017)

Brief interventions promoting physical activity in primary care and the community are likely to be inexpensive compared with usual care. Given the commonly accepted thresholds, they are judged to be cost-effective.(Campbell, 2015; Garrett, 2011; Gc, 2016)

2.4.4 What are the recommendations for investment and action?

A best buy

Provision of physical activity counselling and referral as part of routine primary health care services through the use of a brief intervention has determined as a "best buy" in NCD prevention by the World Health Organization.

Design and implementation specifications are clear

Evidence allows good specification of the effective interventions in Primary and Secondary Healthcare and **Making Every Contact Count** [MECC] provides a useful overall framework to map these. The core specifications (minimum standard) aligns with 'Very Brief Interventions' – the base of the MECC 'pyramid'. Known success factors are patient follow-up, written prescription, clear counselling protocols with clear and simple messaging for patients. In addition, having (a) knowledge of/a directory of relevant services and (b) the possibility of referral to specialist support staff/organisations represents a better standard of practice.

Specifications for enhanced practice follow the levels of MECC and will be more or less feasible according to the specific context and the resource constraints that apply to those responsible for financing, planning and implementation of the intervention(s).

Cost-effectiveness supported by evidence

The cost effectiveness of the strategies discussed here is well supported by evidence. For brief interventions, the incremental cost of moving an inactive person to an active state, estimated for eight studies, ranged from £96 to £986. The cost-utility was estimated in nine studies compared with usual care and varied from £57 to £14 002 per quality-adjusted life year; dominant to £6500 per disability-adjusted life year; and £15 873 per life years gained.(Gc, 2016) For exercise referral schemes (ERS) The proportion of individuals achieving 90–150 minutes of at least moderate-intensity activity per week at 6–12 months' follow-up was greater for ERSs than usual care (relative risk 1.12; 95% confidence interval 1.04 to 1.20). Older patients and those referred for CHD risk factors appeared to be more likely than others to increase their levels of physical activity. Interventions enabling the development of social support networks are beneficial in promoting uptake and adherence. Exercise referral gained 0.003 quality-adjusted life-years (QALYs) at an additional cost of £225 per person. The estimated mean incremental cost-effectiveness ratio (ICER) in the probabilistic sensitivity analysis was £76,276. In the univariate sensitivity analysis the results were very sensitive (ICERs ranged from <£30,000 to >£100,000) to changes in the effect of ERSs on physical activity uptake and the duration of the protective effects and the direct health-related quality-of-life gains attributable to physical activity.(Campbell, 2015)

2.4.4 What sport and active recreation strategies intersect with this domain?

The primary and secondary health care domain are transitioning towards a mode of care which aims to treat a person, rather than just their disease or condition. Sport, active recreation and physical activity interventions provide primary and secondary health care stakeholders with evidence-based treatments for multiple aspects of a person's care. The strategies which the sport sector could employ in collaboration with the primary and secondary health care domain include:

- Policy design and implementation of primary and secondary care which incorporates evidence based physical activity recommendations, prescription, intervention and monitoring into every contact made.
- Integrate care between health care providers and exercise professionals. This may involve employing physical activity experts in primary care settings, increased referral of patients to exercise professions in the community and monitoring of physical activity as part of treatment plans.
- Strengthen links between primary and secondary health care and community-based sport and active recreation organisations.

2.5 Education

2.5.1 How does this domain contribute to a more active society?

The education domain denotes primary, secondary and tertiary phases of education, as well as vocational and adult education. Educational settings are widely recognised as prime environments for public health interventions because they provide access to a large proportion of the population, often in a closed environment.

In 2017, of the estimated 15.9 million people aged 15 to 64 years in Australia, over 3 million, or nearly 1 in 5 (19%), were enrolled in formal study (Figure 3).³

The majority of 15 to 19 year-olds (84%) were enrolled in formal study. This proportion declined sharply with age with 44% of those aged 20 to 24 years and 19% of those aged 25 to 29 years enrolled in formal study.

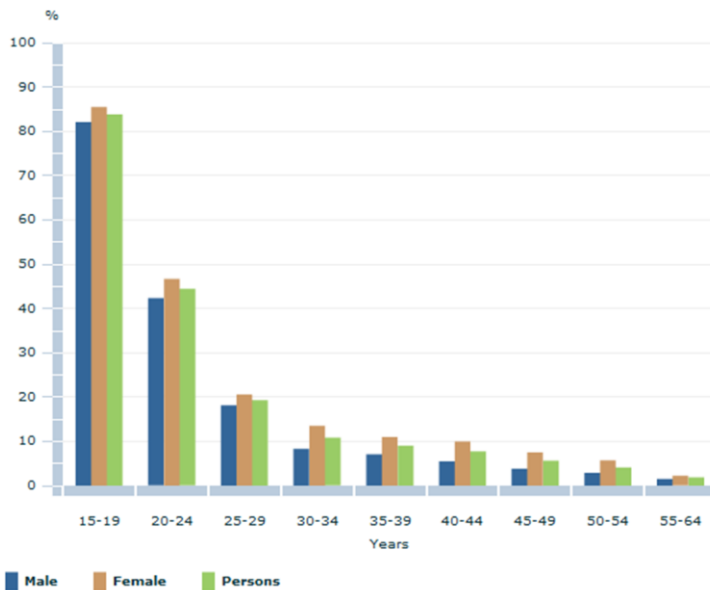


Figure 4 Proportion of the population enrolled in formal study, Australia, 2017 (ABS)

In NSW, the proportion of the population completing Year 12 (or equivalent) is high – ranging from 72.6% to 82.8% for those aged 20 to 44 years in 2017 (Figure 4). There were 1.1 million full-time school students in NSW in 2009. Of those, 56% (or 619,000 persons) were primary school students, and the remaining 44% (492,000 persons) were secondary school students. Of all full-time students in NSW, 375,000 (or 34%) were in non-government schools.⁴

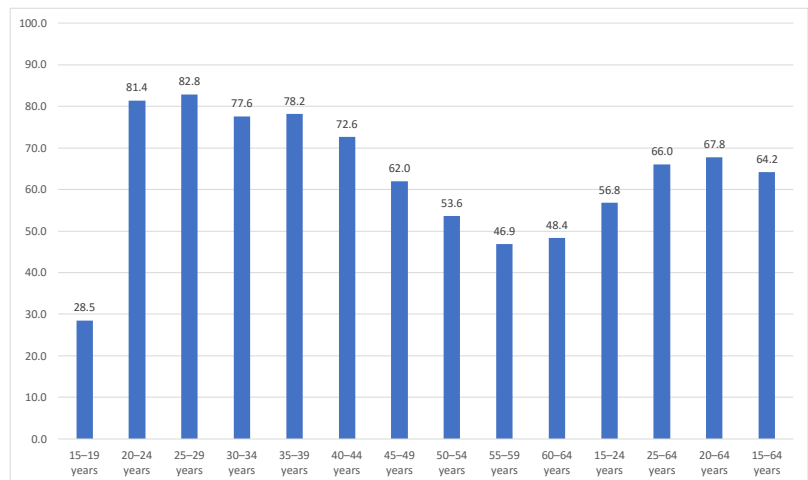


Figure 5 Educational attainment: Year 12 (or equivalent) persons aged 15-64 years - 2004 to 2017, NSW, 2017 (ABS)

Based on data collated from 105 countries, 80 % of youth aged 13–15 years did not meet the recommended public health guidelines of 60 min of PA per day.(Hallal, 2012) To realise the potential for increasing physical activity of those attending educational settings, we need effective policies and programs which can be readily adopted by education providers. These should align with educational goals and objectives so that the strategies have a chance of being adopted and sustained in a systematic way for the longer term. Effective policies and programs are already available.(Lai et al., 2014; Naylor et al., 2015; Riso, Kull, & Hannus, 2014; R. Sutherland, Reeves, P., Campbell, E., Lubans, D. R., Morgan, P. J., Nathan, N., Wolfenden, L., Okely, A. D.,

³ ABS [6227.0 - Education and Work, Australia](#), May 2017

⁴ ABS [1338.1 - NSW State and Regional Indicators](#), Dec 2010

Gillham, K., Davies, L., Wiggers, J., 2016). In NSW, only a quarter of primary school-aged children meet the national physical activity guidelines of an hour of activity each day (Boys 28%, Girls 18%); for secondary school-aged children, only one in 8 meet the physical activity guidelines, with girls significantly less likely than boys to meet these recommendations (Boys 15%, Girls 8%).(Hardy, 2016)

2.5.2 What is the supporting science?

In the “best buys and other recommended interventions” to tackle NCDs, the World Health Organization has designated this set of strategies in education as ‘recommended’. To be consistent with this designation requires implementation of whole-of-school programs that includes quality physical education, availability of adequate facilities and programs to support physical activity for *all* children.(Riso et al., 2014; World Health Organization, 2017a)

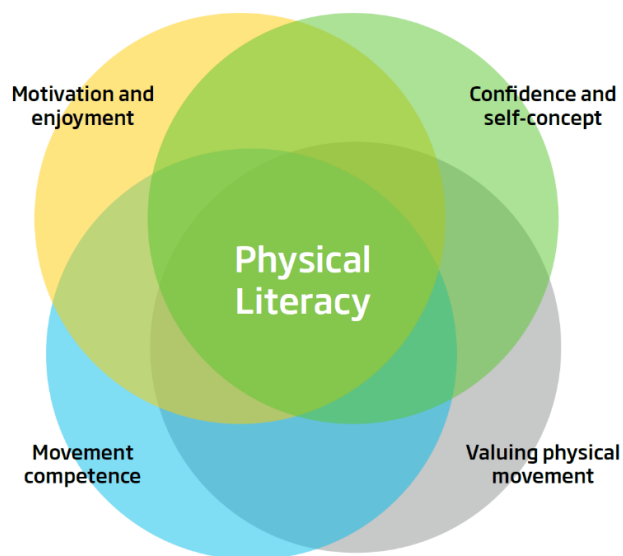


Figure 6 Physical literacy – a vocabulary of movement for life
Source: Keegan, ASC (2017)

Across this domain, leaders in education, policy and research are increasingly emphasising the concept of *physical literacy*, which may be thought of as a vocabulary for movement (Figure 1). Physical literacy emphasises the importance of developing a wide variety of skills required to participate fully and experience the full range of benefits that sport and physical activity have to offer. There are four interrelated aspects regarded as critical for success and lifelong involvement in physical activity (Keegan 2017). These four aspects can be used to monitor progress along a physical literacy continuum during development. Enhancing all four aspects early in life is more likely to lead to increased knowledge, understanding, skills and attitudes which facilitate participation in sport and physical activity, but confirmation through further research studies is needed. (Australian

Sports Commission, 2017; Edwards, Bryant, Keegan, Morgan, & Jones, 2017)

Of importance for policymakers in education is the accumulating evidence for the contribution of increased student physical activity to improved academic as well as improved health outcomes.(Martin & Murtagh, 2017; Sullivan, Kuzel, Vaandering, & Chen, 2017). There is strong evidence that after engaging in physical activity improves students’ concentration and academic performance during the day. Sports specifically have further been shown to increase student engagement in school, reducing truancy, as well as developing ‘soft-skills’ such as team work and leadership among participants. Physical activity and sport can make a significant contribution to achieving the objectives of education providers.

2.5.3 What are the recommendations for investment and action?

A recommended investment

Both WHO(World Health Organization, 2017a) and US Community Preventive Services Task Force (CPSTF)(US Department of Health and Human Services Community Preventive Services Task Force, 2014) designate investment in this domain as ‘recommended’.

Pre School

In the pre-school and child-care settings, the strongest evidence was for interventions with a theoretical basis which included structured activities delivered by experts, rather than teaching staff. (Finch 2016) This approach facilitates the development of fundamental movement skills during the early years of life. Modifications to the physical environment, such as playground markings or rearrangement of indoor areas, also significantly improved physical activity levels of children.(Finch 2016)

Primary and Secondary School

There is strong evidence for enhanced school-based physical education (PE) to effectively increasing the amount of time students spend in moderate- or vigorous physical activity (MVPA) during PE classes. Strategies to achieve this include developing and implementing well-designed PE curriculum and providing teachers with appropriate staff development to maximise opportunities for students to be active during PE lessons. Enhanced school-based PE resulted in 10 percentage points more PE class time engaged in MVPA as compared with standard PE classes.(US Department of Health and Human Services Community Preventive Services Task Force, 2014). Recent longitudinal research provides additional corroborative evidence in secondary schools.(Hunter, Leatherdale, Storey, & Carson, 2016) Furthermore, new evidence has shown that a staff development intervention, deliver partially online, which is designed to minimise transition time and maximise movement and skill development can significantly increase MVPA among students during PE (Lonsdale 2017).

Earlier research in schools has focused largely on knowledge-based interventions. This health education approach has had limited success in increasing physical activity. Many observational studies discuss the importance of a supportive school culture, especially among teaching staff, for physical activity interventions in schools. Based on progress in this area of research, there is increasing support for the adoption of a socio-ecological approach in school-based interventions. School policies and environments, both physical and social, appear to significantly influence student physical activity behaviours.(Morton, Atkin, Corder, Suhrcke, & van Sluijs, 2016) Strategies to achieve these changes include increasing break times, improved facilities and access to spaces, rules and policies which promote physical activity and shifts in social norms. Inside the classroom, there is a suggestion that integrating ‘standing desks’ into the primary school classroom environment hold promise for reducing children’s sitting time and increasing their standing time.(Minges et al., 2016)

After-school physical activity interventions have shown mixed effectiveness in increasing physical activity levels to date; more evidence is required to confirm their status in the best strategic intervention mix.(Mears & Jago, 2016) School playground reconstruction has resulted in reduced sedentary time among younger children but has otherwise to date shown limited effects on physical activity levels.(Escalante, García-Hermoso, Backx, & Saavedra, 2014; Hamer, 2017). The US Community Preventative Services Task Force has also noted the value of promoting initiatives such as *Safe Routes to School*.(US Department of Health and Human Services - Community Preventive Services Task Force, 2017c)

Tertiary education

Evidence for the tertiary phase of education, including vocational education and training (VET), is underdeveloped. During tertiary education, curricular activities may have vastly different time allocation and delivery methods, compared to earlier years. Furthermore, tertiary education is accessed by a people from across the life course, as shown in Figure 3, which adds complexity to intervention design and delivery. The current generation of programs which have shown some success in increasing physical activity were embedded within the tertiary curriculum, involved frequent face-to-face contact with facilitators and utilised facilities available within the tertiary education setting such as a fitness centres, walking paths and sports fields. (Plotnikoff, 2015) The tertiary phase of education is an appropriate setting for implementing and evaluating PA interventions, however more confirmatory research is needed to guide future program specification and investment.(Plotnikoff, 2015)

Providing quality tertiary education which increases students understating of the importance of physical activity and sport in these settings would have significant multi-sectoral reach. For example, quality education of undergraduate PE teachers while at university would improve their ability to teach fundamental movement skills in schools.(Morton 2016) University and VET settings offer an opportunity to influence multiple domains through training the next generation of their workforce.

Prisons and correction facilities are an additional educational setting where physical activity and sports interventions have demonstrated effect. Structured activities such as gardening, sports and recreation are appealing to prisoners during their ‘out of cell’ time. They help to increase the number of prisoners who

undertake VET training and develop physical and mental fitness for rehabilitation and community service. (Newman 2016)

Design and implementation specifications are clear

The specification for education as a ‘recommended’ strategy domain requires whole-of-school programs that include quality physical education, availability of adequate facilities and programs to support physical activity for *all* children (Table 5). The primary phase of education offers great potential to influence children’s physical activity and health, but the availability of specialist physical education teachers is often limited to the secondary phase of education so that there are strategic and logistical challenges to overcome in the primary phase in order to take full advantage of the opportunities available. 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 the desired physical literacy outcomes.

DESIGN FEATURE	EXAMPLES
<i>SCHOOL CURRICULUM</i>	
Whole-of-school programs that include quality physical education	• Active PE lessons
	• Personal student PA plan
	• Enhanced school sport program
<i>SCHOOL ENVIRONMENT</i>	
Availability of adequate facilities	• Activities during school recess (breaks)
	• Playground design
	• School physical activity policy statement
Availability of programs to support physical activity for <i>all</i> children	• Linkage with parents
	• Linkage with Community PA and Sport providers
	• Safe routes to school (walking and bicycling to school)

Table 5 Design specifications for policies and programs to increase physical activity in education settings

Cost-effectiveness supported by evidence

Two recent reviews have concluded that school-based physical activity interventions are cost effective compared to other population based interventions in terms of physical activity outcomes. (Laine, 2014; Wu, 2011). The Physical Activity 4 Everyone (PA4E1) trial involved a 24-month multicomponent school-based intervention implemented in secondary schools located in disadvantaged communities. (R. Sutherland, Campbell, E., Lubans, D. R., Morgan, P. J., Okely, A. D., Nathan, N., Gillham, K., Lecathelinais, C., Wiggers, J., 2016)

Cost effectiveness analysis (CEA) was undertaken from a societal perspective and conducted on an intention to treat basis. Table 2 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 gained provide support for the cost-effectiveness of this program, which, it should be noted, chose to focus on disadvantaged communities.

INCREMENTAL OUTCOMES	INCREMENTAL COST-EFFECTIVENESS RATIOS
Additional minute of MVPA per day	\$56 [95 % CI \$35–\$147]
MET hour gained per person per day	\$1 [95 % CI \$0.6–\$2.7]
BMI unit avoided	\$1,408 [95 % CI \$788–\$6,570]
BMI z-score 10% reduction	\$563 [95 % CI \$282–\$3,942]

Table 6 Cost Effectiveness Analysis (CEA) for the Physical Activity 4 Everyone (PA4E1) Program

2.5.4 What sport and active recreation strategies intersect with this domain?

Stakeholders in the education domain have great potential to influence participation in sport and recreation activities, especially during childhood. The strategies which the sport sector could employ in collaboration with the education domain include:

- Enhance professional development and training education providers, especially PE teachers, to facilitate the progression of students along the physical literacy continuum
- Provide financial support to schools for improvements in the facilities and equipment available for students in educational settings
- Strengthen the links between education settings and community-based sports and activities. These community links should be sustained and influence school culture, rather than for tokenistic events
- Encourage active travel to school and development of supporting infrastructure, such as dedicated walking and bicycle paths, bike racks, active travel groups using technological support.

2.6 Workplaces

2.6.1 How does this domain contribute to a more active society?

Workplaces are an important setting for promotion of physical activity as people (aged 15-64 years) spend large proportions of their waking hours engaged in work. In Australia, This high exposure time provides substantial opportunities for interventions to increase physical activity participation. The workplace, as a setting, is very diverse and has been rapidly changing over time - most recently with the influence of globalisation, automation and technological advancements. For example, tasks which were once completed manually can be done more efficiently by a person operating a program or machine which completes the required movement. These changes among others have resulted in reduced physical activity during the workday. Workplaces which provide opportunities for physical activity and encourage their employees to be more active experience social and economic benefits (WHO). Active and healthy employees are more productive, take fewer days of leave and are more likely to enjoy their work. (Pereira 2015, WHO)

2.6.2 What is the supporting science?

The World Health Organisation recommend that workplaces are utilised for interventions which aim to increase physical activity of the population. A variety of workplace health promotion programs have been implemented, showing benefits for both the employer and the employee (Figure 6). These benefits are greater for workers in high-risk occupations and settings which workers of low socio-economic status. (Amlani & Munir 2014, Malik et al 2014, Brinkley 2016)

Designing physical activity programs for specific workplaces to suit the needs of intended participants is vital. There is strong evidence for individual counselling and education to increase physical activity, when combined with multi-component interventions. (NICE 2008) Taking a participatory approach to organisational plans, policies and programs increases acceptability and effectiveness of workplace physical activity interventions. (NICE 2008)

To the organization	To the employee
a well-managed health and safety programme	a safe and healthy work environment
a 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 health care/insurance costs	improved health
reduced risk of fines and litigation	improved sense of well-being

Figure 7 Benefits of workforce health promotion.

Source:

http://www.who.int/occupational_health/topics/workplace/en/index1.html

Research shows that tailoring information and activities for different groups, such as providing low-level taster sessions and alternative activities such as walking football, are important to engage inactive employees. (Adams 2017) In addition, ensuring structured workplace physical activities have an emphasis on fun, enjoyable and social activities can increase employee motivations to participate. (Adams 2017)

Encouraging active travel to workplaces through providing information, improving end of trip facilities and group challenges have shown to be effective for walking, but limited evidence for cycling to work. Fiscal incentives for active travel have ben trialled with positive effect as well. Walking during the work day initiatives

also provide positive results for less active groups. Brinkley et al has also found that team sports hold complimentary benefits to increase physical activity to workplace health promotion interventions. Team sports improved personal health but also group cohesion and organisational performance. (Brinkley 2016)

There is a growing body of evidence related to office workers or white collar workers with an aim to reduce workplace sedentary behaviour. The evidence shows that multi-component interventions such as the installation of sit-stand work stations, combined with behavioural interventions produced the greatest effect in reducing workplace sitting. Behavioural interventions (goal setting, self-monitoring) should be grounded in theory and implemented as part of a multi-component intervention. Studies which used educational/behavioural interventions alone had small impacts on reducing sedentary time. (Chu 2016) Interventions which aim to increase stair use of the workforce have demonstrated positive impacts on physical activity. Point of decision prompts and signage to promote the use of stairs is a commonly used strategy in effective interventions to increase stair use at work sites.

2.6.3 Infrastructure and program specification – what works?

Multi-component workplace physical activity interventions which influence workplaces at an individual and organisational level have the strongest evidence for increasing physical activity of the workforce. During the development of interventions, a participatory approach should be taken which engages stakeholders from throughout the organisation in planning, development and implementation. Strong management buy-in, dedicated resources and embedding approaches within organisational objectives are key factors which are known to influence the success of workplace physical activity interventions.

There is strong evidence for educational and behavioural strategies including counselling, expert information and advice which motivates employees to be physically active. Evidence-based behavioural strategies such as goal setting and self-monitoring, when grounded in theory, are effective components to increase physical activity. These are strongest when implemented with organisational policies and environmental changes which further support the workforce to engage in physical activity. Ensuring buildings are designed to encourage stair use and movement throughout the day, as described in section 2.3 is a sustainable, insidious way to increase movement throughout the day when combined with other approaches.

Challenges, competitions, awards and incentives are strong motivators for organisations and their employees to be active. A variety of challenges have been used in workplace physical activity research and consistently achieve successful outcomes. (Hector 2012) Step count challenges and stair climbing challenges have been shown to increase daily physical activity. These may occur within one company or as multi-company competitions when a number of employees from different companies compete against each other, such as #BeActive Awards in EU and the Global Corporate Challenge. Incentives such as money and gift vouchers are effective motivators to increase participation and award organisations for engaging. (Hector 2012) For example, in the USA, a program asked employees wear a pedometer to track their daily step count, then upload this information into a web-based program. Upon meeting higher levels of physical activity, participants are able to gain higher levels of incentives, which are in the form of gift cards to numerous different retailers. (Quintiliani/WHO 2007)

2.6.4 What sport and active recreation strategies intersect with this domain?

Team sports which are linked with workplaces provide multiple benefits both for organisations and individuals. There is a need to develop an empirical understanding of effective strategies to increase the number of workplaces who encourage their employees to participate in team sports.

2.7 Community-wide programs

2.7.1 How does this domain contribute to a more active society?

Each community is different from the next, with a unique mix of assets among its people, places, services and networks. Community-wide physical activity 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. A NSW Government Policy approach *Community Builders* was developed “in response to evidence showing that making communities stronger is an effective way of reducing inequality and disadvantage. Strong communities are more resilient, and are better able to respond to challenges”.(NSW Government Department of Family and Community Services (FACS), 2017) Similarly, the Australian Government Department of Social Services has developed the *Strong and Resilient Communities* program supporting local community organisations in their efforts to overcome disadvantage and solve complex social problems.(Australian Government Department of Social Services, 2017) Community-wide initiatives which harness the assets within communities often increase opportunities for physical activity and active recreation by enhancing social and environmental supports.

2.7.2 What is the supporting science?

The US Community Preventive Services Task Force (CPSTF) has given ‘recommended’ status to community-wide campaigns(US Department of Health and Human Services - Community Preventive Services Task Force, 2014b) as well as community programs to increase social support.(US Department of Health and Human Services - Community Preventive Services Task Force, 2014a)

In addition to these specific ‘community-wide’ guidelines, the other established evidence-based programs may be included in the strategic mix – that is, social marketing and mass media(US Department of Health and Human Services - Community Preventive Services Task Force, 2011b), built environment approaches combining transportation system interventions with land use and environmental design(US Department of Health and Human Services - Community Preventive Services Task Force, 2017c), primary and secondary healthcare-based approaches(Lamming et al., 2017; Patnode, 2017; World Health Organization, 2017a), whole-of-school programs with adequate facilities and programs to support physical activity for all children(Riso et al., 2014; US Department of Health and Human Services Community Preventive Services Task Force, 2014; World Health Organization, 2017a), Family-based interventions to build family support and increase physical activity among children(US Department of Health and Human Services - Community Preventive Services Task Force, 2017a), inclusion of activity monitors to increase physical activity in adults with overweight or obesity(de Vries et al., 2016; US Department of Health and Human Services - Community Preventive Services Task Force, 2017d), Combined diet and physical activity promotion programs for people at increased risk of type 2 diabetes(Balk et al., 2015; Pronk, Remington, & Community Preventive Services Task, 2015), Workplace-based programs to improve diet or physical activity and reduce weight among employees(Anderson et al., 2009; US Department of Health and Human Services - Community Preventive Services Task Force, 2013), Creation of new or enhanced access to places for physical activity combined with informational outreach activities(US Department of Health and Human Services - Community Preventive Services Task Force, 2014c), Point-of-decision prompts to encourage use of stairs(US Department of Health and Human Services - Community Preventive Services Task Force, 2014d), Individually tailored health behaviour change programs(US Department of Health and Human Services - Community Preventive Services Task Force, 2014e), Technology-based distance interventions, especially for people with established NCDs addressing diet(US Department of Health and Human Services - Community Preventive Services Task Force, 2017b) and physical activity(Hakala et al., 2017; Muller, Alley, Schoeppe, & Vandelanotte, 2016; O'Hara et al., 2017; O'Hara et al., 2013; S. Schoeppe et al., 2016)

2.7.3 Infrastructure and program specification – what works?

Table 7 summarises the evidence-based components which can be used to build a community-wide program. WHO has stipulated the first two components (mass media campaigns, primary and secondary healthcare) as ‘best buys’ overall, 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.

DESIGN FEATURE	EXAMPLES
Community-wide campaigns using mass media, social marketing	<ul style="list-style-type: none"> Promote physical activity by using television, radio, social media, newspaper columns and inserts, and trailers in cinemas. Incorporate multiple components from the other ‘design features’ below to build the community-wide approach
Primary and secondary healthcare program component options	<ul style="list-style-type: none"> Risk factor screening and education Physical activity counselling <ul style="list-style-type: none"> Individually tailored health behaviour change programs Combined diet/PA programs for people at increased risk of type 2 diabetes
Family-based interventions	<ul style="list-style-type: none"> Goal-setting tools and skills to monitor progress, such as a website to enter information Reinforcement of positive health behaviours, such as reward charts or role modelling of physical activity by parents or instructors Organized physical activity sessions, such as instructor led opportunities for active games
Settings-based program component options: education, workplace, sport	<ul style="list-style-type: none"> Whole-of-school programs with adequate facilities and programs Linkages between schools and the wider community to increase PA opportunities Creation of new or enhanced access to places for physical activity combined with informational outreach activities (e.g. sports voucher/ incentive schemes) Workplace-based programs to improve diet/physical activity and reduce weight Point-of-decision prompts to encourage use of stairs Transport access guides <ul style="list-style-type: none"> Showers Bicycle storage facilities
Environment and policy component options: combinations of transportation, land use, environmental design	<ul style="list-style-type: none"> Urban greening strategies implemented Physical improvement to green space combined with a social engagement/participation element that promotes the green space and reaches out to new target groups Creation of new / enhanced footpaths and walking trails Campaign linked/branded signage for new/ existing local footpaths and walking trails Increase street connections to create multiple route options, shorter block lengths Traffic calming, intersection design, street lighting and landscaping Building codes and other local policies that minimise car parking Expanded transit services, times, locations, and connections Bus stops accessible ≤400 m; rail stops accessible ≤800 m from homes Bicycle systems, protected bicycle lanes, trails <ul style="list-style-type: none"> Safe Routes to School
Technology-based distance interventions	<ul style="list-style-type: none"> Incorporation of activity monitors to increase physical activity in adults with overweight or obesity Mobile phones, e-mails, text messages or websites for people with established NCDs Telephone-based coaching service (e.g. <i>Get Healthy</i>)

Table 7 Design specifications of evidence-based components to increase physical activity through community-wide programs

It is further recommended that effective 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 of programs, and services. This has been termed an ‘ABCD’ approach – Asset Based Community Development. This approach is based on the principle of identifying and mobilizing individual and community ‘assets’, rather than focusing on problems and needs. (www.nurtureddevelopment.org/wp-content/uploads/2016/01/Croydon-ABCD-full-report.pdf) Recognising the unique assets in communities, during planning and implementation of programs utilising existing capacity and resources in communities increases a program’s effectiveness.

2.7.4 What are the recommendations for investment and action?

A recommended investment

Community-wide programs are designated as a ‘recommended’ investment by WHO and by the CPSTF. It should be noted, that the ‘best buys’ (mass media, primary and secondary healthcare) can be used as components to build the community-wide approach.

Design and implementation specifications are clear

The specifications for programs that 'work' are set out as Table 7. Further details are available within each of the corresponding sections of this report.

Community wide physical activity programs, even those being implemented at a national level, should be adapted for local settings. Each community has their own unique set of strengths which should be identified, mapped and understood prior to planning an intervention. It may be useful to conduct an audit of existing physical activity programs using existing tools to prevent duplication of effort or partner with local individuals who are aware of their community's assets. This should be a two way process where identified strengths are validated by community partners, establishing community buy-in in the process. (PCAL) Program sustainability should also be considered during the planning process to ensure community-wide interventions can be maintained long term.

2.7.5 What sport and active recreation strategies intersect with this domain?

Community wide programs, by nature, intersect with multiple domains. The key strategy from this domain is that no one intervention strategy will increase participation in sport and active recreation. Stakeholders in the sport and active recreation domain should ensure they support community wide, evidence based programs and integrate strategies mentioned in the other 8 domains to complement and enhance the impact of individual interventions.

Sport clubs are one setting which could play an active role in community mobilisation through community-wide physical activity interventions. In addition to providing greater opportunities for physical activity across the lifecourse, sport and active recreation clubs may be active stakeholders to building resilience and capacity in communities.

3 Moving for life: a lifecourse perspective

Introduction

In sections 2 and 3, we looked at how we might increase peoples engagement in physical activity, sport and active recreation across the 8 'domains' - such as sport, education, workplaces and so on. In this section, the lens we use is that of the 'lifecourse' approach – from infancy through to the later years of life. Firstly we remind ourselves of the recommended types and amount of movement for better health across the lifecourse. (Table 8). Then we look at how the 8 domains operate across the lifecourse. From the whole-of-population perspective, these domains become more or less relevant, more or less into play, according to where people are on the lifecourse journey (Table 9). Finally, we look at the strategies across the lifestage which have the best evidentiary pedigree – that is have a scientific basis to indicate effectiveness (Table 10).

Adopting a lifecourse approach emphasises a temporal and social perspective to public health. It takes into consideration the biological, behavioural and psychosocial processes operate across a life. This approach is not a new concept with the idea that experiences in early life shape adult behaviour being a central tenant of public health for several decades. Its application within physical activity and sport has however gained momentum more recently. The advantage of adopting a life course approach, is the interdisciplinary nature and its ability to be synchronised with to other agendas. It also ensures that the needs of the individual and society is placed at the strategic heart.

For example, for 5 to 10 year-olds, the primary school phase of education provides a setting which allows us to reach almost all of young people in that age range. Similarly, for 11 to 18/19-year-olds the secondary phase of education comes into prominence as a key setting. General practitioners (GP) are widely used in Australia and are the first point of contact for health issues for many Australians; more than 80% of people over the age of 15 see the GP every year - the proportion of people who saw a GP in the previous 12 months has remained steady over time: 2009 (80.8%), 2010–11 (81.6%), 2011-12 (80.9%) and 2012-13 (81.1%). Many people see the GP more frequently than this (Figure 00). Thus the primary health care and general healthcare setting is relevant throughout much of the lifecourse. The eight domains are mapped to the lifecourse in Figure 8.

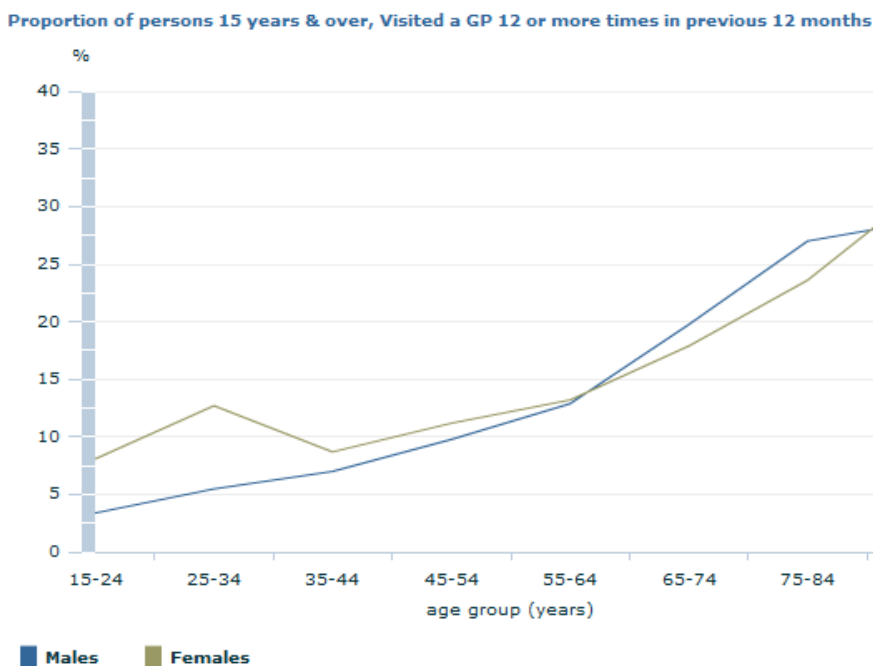


Figure 8 Proportion of persons 15 years & over visiting a GP 12 or more times in previous 12 months Source: Patient Experiences in Australia: Summary of Findings, 2012-13

How does human movement related to health needs across the lifecourse?

WHO has published guidance on the recommended population levels of physical activity for health (World Health Organization, 2010), as have countries such as the USA (US Department of Health and Human Services, 2008), Canada (Canadian Society for Exercise Physiology (CSEP), 2011), and most recently, Australia (Australian Government Department of Health, 2014). The Australian (2014) guidelines represent the most up-to-date evidence-based position on recommended population levels of physical activity for health and it is likely that global recommendations will reflect these in the near future. The recommended amount and type of physical activity for health varies with age; whilst professionals may at times simplify guidelines and distil them down to more basic concepts for the purpose of clear communication, they should also ensure overall consistency with evidence-based recommendations. These recommendations are shown in Table 8.

What physical activity, sport and recreations is recommended for better health across the lifecourse?

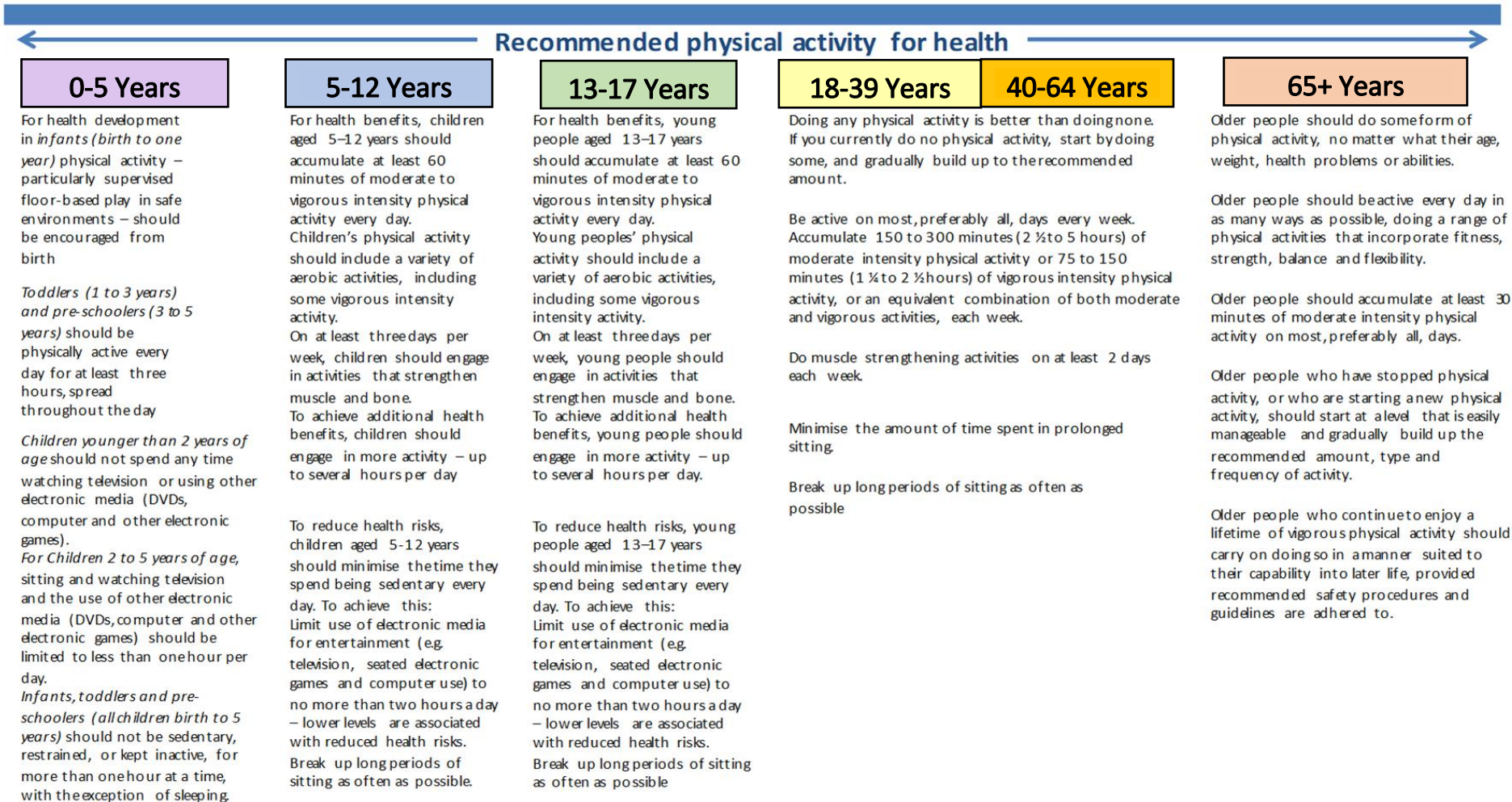


Table 8 Human movement needs across the lifecourse: guidelines on physical activity for better health

How and where can we influence physical activity, recreation and sport across the lifecourse?

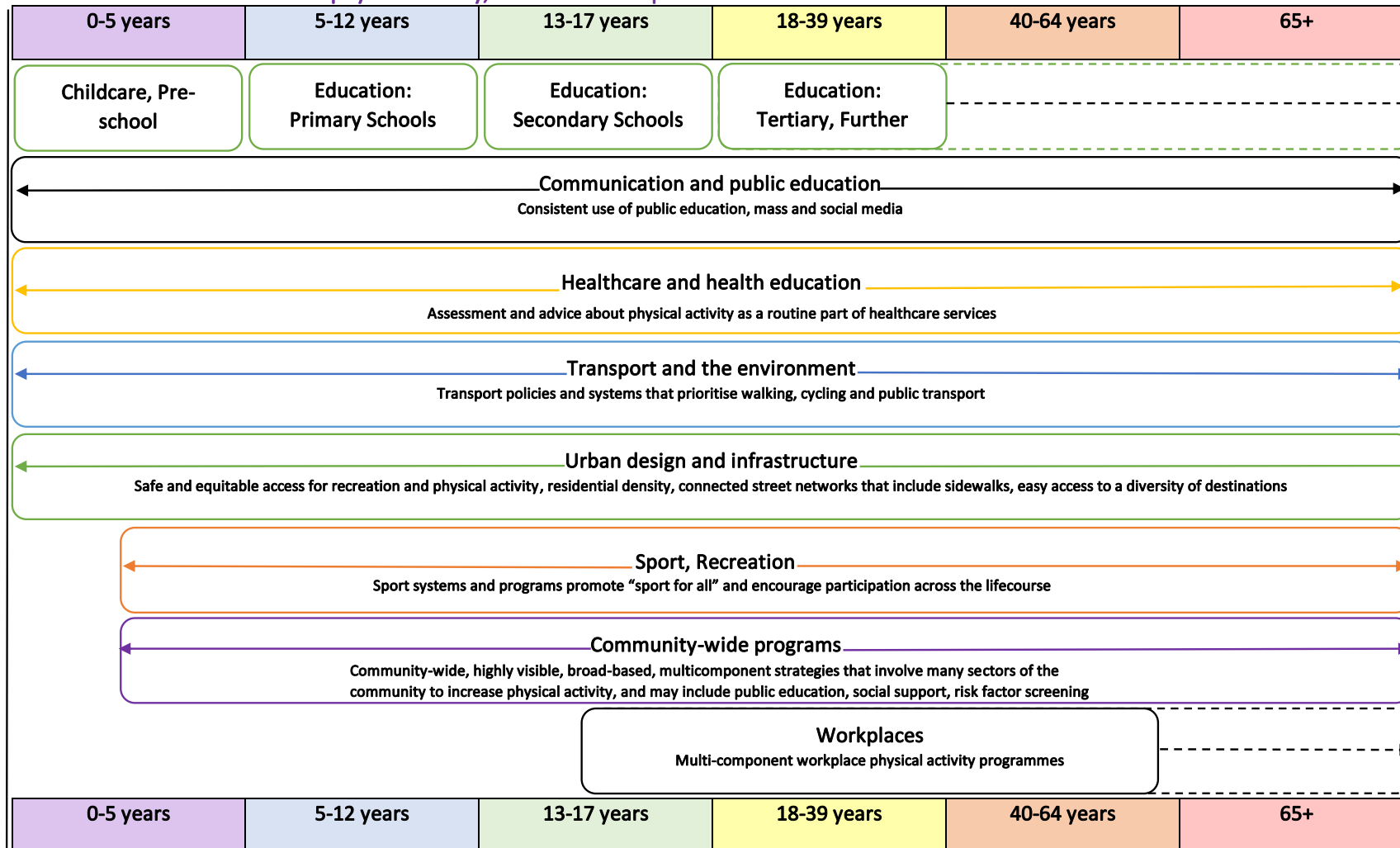


Table 9 Domains of investment for physical activity, sport and recreation across the lifecourse

What strategies across the lifecourse stages have the strongest evidence of effectiveness?

0-5 Years

In the early years of life the strongest evidence was for:

- teacher-led interventions targeting Fundamental Movement Skills [FMS] in pre-schoolers; and
- built environment policy approaches.

Programs such as *Ready Steady Go Kids*, which is designed to introduce pre-schoolers to the fundamentals of 10 different sports (soccer, tennis, basketball, hockey, golf, AFL, rugby, athletics, cricket and T-ball) has a promising design, but the review did not locate any evaluation data so that this may be suitable for an innovation strategy matched with good evaluation. (Jiyang, Robbins, Fujun, & Wei, 2015; LeBlanc et al., 2012; Logan, Kipling Webster, Getchell, Pfeiffer, & Robinson, 2015; RSGK Sports Pty Ltd., 2017; Timmons et al., 2012)

5-12 Years

In children aged 5-12 the strongest evidence was for:

- 'enhanced' school-based physical education (PE);
- home/family-based interventions that include one or more of goal-setting tools and skills; reinforcement of positive behaviour, organized physical activity sessions (e.g. instructor-led opportunities for active games), and intervention to reduce screen time.
- social marketing/mass media campaigns using multiple channels, combined with the distribution of free or reduced-price PA-related products/services; targeting movement-disadvantaged communities with a higher 'dose'/ intensity of marketing activities and sustaining those activities over time;
- active travel to school programs, providing they are (i) high-intensity, (ii) use infrastructural and behavioural interventions, (iii) are gender-specific, (iv) address car dependency, and (v) focus on travel home from school initially;
- voucher schemes, where there is strong evidence that creating or enhancing access to places for physical activity and providing informational outreach is effective and may achieve up to a 25% relative increase in the proportion of the population who are physically active at least three times per week (but assessed as moderate strength evidence more specifically). This is a 'de facto' intervention for NSW but the review notes a lack of evidence for the longer-term impact and recommends longitudinal research as a high priority.

There is promising evidence for integrating standing desks into the classroom environment, but more suited to an innovation program than immediate scaled up implementation.

(Brown, 2016; Larouche, 2014; Macdonald-Wallis, Jago, & Sterne, 2012; Martin & Murtagh, 2017; Minges et al., 2016; Naylor et al., 2015; S. Schoeppe, Duncan, M. J., Badland, H., Oliver, M., Curtis, C., 2013; Sullivan et al., 2017; Sun et al., 2013; US Department of Health and Human Services Community Preventive Services Task Force, 2014; van Sluijs, 2011)

13-17 Years

In young people aged 13-17 the strongest evidence was for:

- 'enhanced' school-based physical education (PE), noting that extra efforts are required to support secondary schools in disadvantaged areas;
- tailored (customised) sport offerings which consider the preferences and interests of adolescents;
- built environment/ active travel policies; adolescents benefit even more than younger children from these approaches. For active travel to school, distance of approximately 2 km is associated with the best physical activity outcomes;
- social marketing/mass media campaigns using multiple channels, combined with the distribution of free or reduced-price PA-related products/services (for example, voucher schemes);

There is promising evidence for (a) integrating standing desks into the classroom environment; and (b) adding or increasing access to facilities, and adding multiple recreational programs for increasing student engagement in PA these but more suited to an innovation program than immediate scaled up implementation.

(Berkowitz, Huhman, & Nolin, 2008; Brown, 2016; M. J. Duncan, Brown, Mummery, & Vandelanotte, 2017; S. Duncan et al., 2016; Hunter et al., 2016; Hynynen, 2016; Keall, 2015; Larouche, 2014; Marques, Gómez, Martins, Catunda, & Sarmento, 2017; Martin & Murtagh, 2017; Minges et al., 2016; Robinson, 2014; S. Schoeppe, Duncan, M. J., Badland, H., Oliver, M., Curtis, C., 2013; US Department of Health and Human Services - Community Preventive Services Task Force, 2011a; US Department of Health and Human Services Community Preventive Services Task Force, 2014; Wakefield, 2010; Wanner, Gotschi, Martin-Diener, Kahlmeier, & Martin, 2012; Yun, 2017)

18-39 Years

In young adults aged 18-39 the strongest evidence was for:

- community-wide (whole-of-community) campaigns using highly visible, broad-based, multicomponent strategies; these may be distinguished from mass-reach social marketing/mass media campaigns in that they may incorporate:
 - (a) delivery of messages that promote PA by using **local** television, radio, newspaper columns and inserts, and trailers in cinemas/DVDs;
 - (b) individually focused efforts such as support and self-help groups;
 - (c) physical activity counselling, risk factor screening and education at worksites, schools, and/or community health fairs; and
 - (d) locally focussed environmental activities such as community events and the creation of walking trails (perhaps led by local government and/or voluntary groups);
- interventions and information through Primary Health Care and Health Services (more effective and cost-effective as a 'treatment' modality for high-risk populations, who are more likely to be in the 40+ age category);
- built environment / active travel policies that combine (a) one or more interventions to improve pedestrian or bicycle transportation systems with (b) one or more land use and environmental design interventions;

- social marketing/ mass media campaigns using multiple channels (one of which *must* be mass media), combined with the distribution of free or reduced-price PA-related products/services are effective. The products/services should be designed to:
 - (a) Facilitate adoption and/or maintenance of health-promoting behaviours (i.e., increased physical activity through pedometer distribution combined with walking campaigns).
 - (b) Facilitate and/or help to sustain cessation of harmful behaviours (inactivity, prolonged sitting);
- Point-of-decision prompts (motivational signs placed in or near stairwells or at the base of elevators and escalators) are effective in encouraging individuals to use stairs (evidence supports the effectiveness of stair interventions in public settings but is less established for worksite settings).

(Byrne, 2017; Cohen, 2016; Denison, Vist, Underland, & Berg, 2014; M. J. Duncan et al., 2017; Garrett, 2011; Huijg et al., 2015; Jennings, 2017; Morgan et al., 2016; Patnode, 2017; Sarmiento, 2016; Umstattd Meyer et al., 2016; US Department of Health and Human Services - Community Preventive Services Task Force, 2014a, 2014b, 2014d, 2017c; Yun, 2017) (US Department of Health and Human Services - Community Preventive Services Task Force, 2011a, 2014d; Yuan, Deshpande, & Bonates, 2016)

40-64 Years

In adults aged 40-64, the strongest evidence was for:

- community-wide (whole-of-community) campaigns using highly visible, broad-based, multicomponent strategies (see also age 18-39 above);
- supervised *resistance* and/or aerobic training;
- interventions and information through Primary Health Care and Health Services (mainly as a 'treatment' modality for high-risk populations);
- built environment / active travel policies (see age 18-39 above);
- social marketing/ mass media campaigns using multiple channels (see age 18-39 above);
- Point-of-decision prompts (see age 18-39 above).

(Aguiar, Morgan, Collins, Plotnikoff, & Callister, 2014; Baker, Francis, Soares, Weightman, & Foster, 2015; Bakker et al., 2017; Bock, 2014; M. J. Duncan et al., 2017; Ferreira et al., 2012; Sarmiento, 2016; Smith, 2016; US Department of Health and Human Services - Community Preventive Services Task Force, 2014a, 2014b; van Sluijs, 2011; Yun, 2017)

65+ Years

In Adults aged 65+ the strongest evidence was for:

- community-wide (whole-of-community) campaigns (as above);
- supervised *resistance* and/or aerobic training – especially so for the more frail elderly; participating in resistance exercise, even less than 1 hour per week, lowers risk of developing metabolic syndrome, independent of aerobic exercise;
- built environment / active travel policies (as above);
- social marketing/ mass media campaigns using multiple channels (as above);
- Point-of-decision prompts (as above).

(Baker et al., 2015; Barker, Bird, & Talevski, 2015; Barnett, Guell, & Ogilvie, 2012; Bock, 2014; Borde, Hortobagyi, & Granacher, 2015; Bouaziz et al., 2017; Bridle, Spanjers, Patel, Atherton, & Lamb, 2012; Byrne, 2017; Chase, Phillips, & Brown, 2017; M. J. Duncan et al., 2017; Loureiro et al., 2015; Smith, 2016; US Department of Health and Human Services - Community Preventive Services Task Force, 2014a, 2014b; Yun, 2017)

4 Towards best practice: strategies for success

The review identifies two concepts which are especially important for policymakers to note. These are (i) physical literacy and (ii) “movement minutes” - a common core performance metric for the physical activity sector. Physical literacy (the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for the lifecourse) provides the “building blocks” of human movement required to participate in physical activity and sport. This is emerging as a pivotal strategic concepts because (a) early competency of movement skills appears to encourage greater participation in sport and lifelong physical activity - evidence links physical literacy to outcomes such as cardiovascular fitness, strength, motor skill, and obesity/overweight status; and (b) it has the potential to provide a common schema for all human movement, for all ages & abilities that can work across the sport, physical activity and recreation sector. Further confirmatory research evidence is needed before more definitive statements can be made. “Movement minutes” is a proposed common core measurement tool or metric; its advantage is that it offers a standardised way of measuring the success of policy actions – for all ages, for all abilities, for all forms of physical activity/sport/recreation and across all sector agencies and organisations.

NSW Participation strategies

To enhance the breadth and relevance of this review for the NSW population, a state wide process was undertaken to identify projects and programs that are currently being delivered to increase participation in physical activity and sport. This piece of work addressed the knowledge gap between programme and projects throughout the state in order to aid understanding of which local programmes deliver measurable results. It should help spotlight best practice programmes, irrespective of size and scale, but will also stretch across traditional sports considering any kind of programme that helps get people, of all ages, more active.

Key stakeholders in the physical activity, active recreation, and sport sector, were invited to submit projects and programmes to contribute to this review. Responses are found below in the table below.

Key findings

In total, 23 projects and programs were identified by stakeholders, that were aimed at increasing sport and physical activity levels. Whilst the programs included range in size and scale, it was reassuring to see that collectively the programs spread across the lifecourse and adopted a broad range of intervention models delivered across multiple sectors. It is likely that a mix of all these approaches are needed for ‘best practice’.

An observation from the selection of programs included, was that each sector interpreted ‘participation’ differently with no projects identifying a specific and measurable participation target. No program expressed a link with an existing data source nor an explicit target they were trying to achieve. Each project did articulate a clear target population which in select cases is aligned with the existing base on priority target groups highlighted throughout this review, for example the NSW Girls get active program or the NSW disability program. Whilst all programs attempted to outline the key success indicators for each program, none outlined the measurement tools used, with the majority listing key outputs for programs, highlighting that success focused on short term outputs rather than long term impact and behaviour change of the target population. There was a clear lack of consistency and comparability across the projects in relation to the outputs and outcomes collected based upon the breadth of the programs included. Interestingly, several of the sport based programs focused on capability building across the sector, for example the upskilling of coaches which is a critical component of supporting growth in participation.

Critically this table highlights the breadth of activity being delivered in the participation space by multi-sector organisations with a lack of co-ordination. This does present an opportunity for the NSW Office of Sport, to fulfil a leadership role through establishing a clear goal and target for increasing participation, that clarifies roles and contribution from multi government departments and critically provides a transparent framework with which to measure success. Utilising the reach and skill mix across the breadth of the sector is essential.

Area/region, name of programme, dates	Strategic goals, objectives	Partners including governance lead	Funding	Target population	Success Metrics	Results and Key learning	Key Documents & URLs
NSW wide Make Healthy Normal social marketing campaign, 2015-2017 ongoing	Campaign aims to challenge the normalisation of overweight and obesity and motivating individuals to reassess their lifestyle choices, including physical activity.	NSW Ministry of Health – lead. Local health districts, government agencies and NGOs.	\$3.5m - 2014-15. \$4.2m – 2015-16. \$5.7m – 2016-17. \$7m – 2017-18.	Phase 1 – all adults in NSW Phase 2 – families with children aged 5-12 years; males aged 35-54; Aboriginal; CALD; low SES; rural and remote.	Campaign recognition, key message take-out, campaign diagnostics, intentions to increase physical activity, registrations to support services and website visits. Three cross-sectional surveys for families and males; qualitative research for CALD and Aboriginal audiences.	Need to maintain appropriate investment in campaign to achieve behaviour change. Promoting referral to evidence-based support programs will support sustained behaviour change. Campaign needs to continue efforts to include a range of supporting strategies such as partnerships, community engagement, and digital tools.(Phase 1 Evaluation Report).	(Peer review publication under review) Other reports available on request.
NSW Stepping On	Reduce participants' risk of falling.	Office of Preventive Health – lead.		Adults over the age of 65	Project reach. Falls risk (Timed up and go, Sit to	Since 2009 over 23,000 participants have completed the program.	http://www.preventivehealth.net

<p>2009 ongoing</p>	<p>- A free seven week program for adults over 65, which includes balance and strength exercises.</p>	<p>Local health districts.</p>		<p>(who have had a fall or are fearful of falling) .</p>	<p>Stand, Tandem Near Stance).</p>	<p>Preliminary analysis showed that participants had improved mobility, leg strength and balance as a result of participating in the program.</p> <p>Recent study results show an increase in strength/balance exercise participation between baseline and 6mths after Stepping On (24 per cent vs. 75 per cent, p<0.001)</p> <ul style="list-style-type: none"> • 53 per cent home based program • 31 per cent group based program • 16 per cent combination of both <p>And more people using safe walking strategies (48 per cent vs. 78 per cent, p<0.001).</p>	<p>t.au/stepping-on.html</p>
<p>NSW Staying Active 2013 ongoing</p>	<p>- Tackling physical inactivity by increasing physical activity opportunities</p>	<p>Office of Preventive Health – lead. Aquatic and Recreation Institute.</p>		<p>Adults over the age of 50 years.</p>	<p>Project reach & sustainability.</p>	<p>Last year saw over 5,000 monthly visits to new Staying Active classes at 23 sites. Demographic information was recorded for over 30,000 participants, with</p>	<p>http://arinsw.com.au/staying-active/</p>

	for adults over the age of 50.					20 per cent being new to exercise. The program was first piloted in 2013-2014, with 67 sites now being involved. A May 2017 audit showed an increase of 24 per cent in over 50s classes at the sites that received funding in 2013-2014, and a 58 per cent increase in classes at the sites that received funding in 2015-2016. This demonstrates the ongoing sustainability of the program post-funding.	
NSW Active & Healthy Website 2009 - ongoing	Assist health professionals and older adults to find evidence-based fall prevention programs and activities across NSW.	Office of Preventive Health - lead. USYD.		Adults over the age of 50 years.	The number of physical activity programs registered and the number of new users.	Website was updated to include general physical activity programs and improve user access. There are currently 877 programs on the website. Since January 2017 over 40,000 users accessed the website, with 70 per cent being new users.	https://www.activeandhealthy.nsw.gov.au/
Live Life Well@School	Primary prevention –	Office of Preventive Health - lead.		Primary school aged children.	Program reach and adoption of organisation	To June 30, 2017 83 per cent (2126) of all primary schools in NSW	https://www.healthylife.nsw.gov.au/teachers-

	childhood obesity comprehensive health promoting school approach which includes fundamental movement skills and opportunities for PA.	Local health districts, Department of Education, Association of Independent Schools Catholic Schools NSW.			practices including encouraging active travel, 12-150 minutes per week of curriculum linked PA, environments that support physical activity e.g. colourful playground markings, teaching fundamental movement skills.	participating with 75 per cent of these schools adopting the program to a high standard.	childcare/live-life-well-at-school.aspx
Munch & Move	Primary prevention – childhood obesity comprehensive health promotion approach fundamental movement skills and opportunities for PA.	Office of Preventive Health - lead. Local health districts, Department of Education, early childhood sector.		Children in centre-based early childhood services and family day care.	Program reach and adoption of organisation practices e.g. opportunities for active play, teaching fundamental movement skills.	To June 30, 2017 92 per cent (3320) of all primary schools in NSW participating with 75 per cent of these services adopting the program to a high standard.	https://www.healthykids.nsw.gov.au/campaigns-programs/about-munch-move.aspx

Go4Fun	Secondary prevention – community based obesity treatment program.	Office of Preventive Health - lead. Local Health Districts and Better Health Company (Service Provider).		Children aged 7-13 years above a healthy weight and their families.	Program reach, participant outcomes including time spent in physical activity.	To June 30, 2017 over 9600 families have participated in the program. On average children report increasing time spent in physical activity by around 4 hours per week.	https://go4fun.com.au/
Get Healthy Information and Coaching	Adult obesity and chronic disease prevention program delivered via telephone based coaching to lead to healthy lifestyle changes.	Office of Preventive Health - lead. Healthways (Service Provider till 15 th December 2017) and local health districts .		NSW adults aged 16 years and above.	Referral, enrolments and completion rates of participants as well as self-reported biometric and anthropometric outcomes including reporting physical activity levels.	Since 2009, over 45,000 have engaged in the free telephone-based coaching service, with those successfully completing the 6 month service reporting increasing their physical activity levels including time spent walking or doing moderate or vigorous activity.	www.gethealthy.nsw.com.au
Football Club Coach Coordinator (CCC) Program pilot Victoria	1. Improve coach behavior 2. Improve club culture 3. Improve player experience	FFA, FFV, ASC	ASC: \$10,000 FFV: \$17,000	Community level coaches	Before and after surveys on coaches, CCCs and parents	<ul style="list-style-type: none"> Improved coach quality Improved coach retention Improved parental support <p>Research strongly indicates that these factors all lead to increased participant</p>	https://www.ausport.gov.au/participating/coachofficial/coach_developer_pilot/case_studies/football_federation

2015	<p>4.Improve parent/guardian understanding of good coach behavior and positive club culture</p> <p>And therefore</p> <ul style="list-style-type: none"> • Improve participant retention 					<p>retention – poor quality coaching is a major factor in participant dropout (quality and retention) and parents have a large influence on a child’s continuing participation / dropout.</p> <ul style="list-style-type: none"> • Program now rolled out across the country. • CCC Handbook developed • CCC promo videos produced 	<p>ctoria coach developer pilot</p>
<p>Putting the Bounce back into West Australian Cricket</p> <p>WA 2016</p>	<ul style="list-style-type: none"> • improve coaching techniques • improve player retention • transition coaching techniques to the new formats of cricket. 	CA, WACA, ASC	<p>ASC: \$10,000 CA/WACA: In kind support</p>	Community level coaches	Before and after surveys on coaches, CCCs and parents	<ul style="list-style-type: none"> • Increased coach retention • Increased player retention • Improved club-to-club relationships <p>Program now rolled out across WA, with CA considering plans for other states.</p>	<p>https://www.australia.gov.au/participating/coach-developer-pilot/case-studies/cricket-australia-coach-developer-pilot</p>
<p>Hockey Australia Coach Developer Pilot</p>	<ul style="list-style-type: none"> • Improve coach retention • Improve coach quality <p>And therefore</p>	HA, HWA, ASC	<p>ASC: \$10,000 HA/HWA: In kind support</p>	Community to sub-elite level coaches	Before and after surveys on coaches, CCCs and parents	<ul style="list-style-type: none"> • Coach retention rate improved to 100% • Improved coach quality 	<p>https://www.australia.gov.au/participating/coach-developer-pilot/case-studies/hockey</p>

WA 2016	<ul style="list-style-type: none"> • Improve participant retention 					Program being rolled out to regional areas of WA and to other states.	y australia coach developer pilot2
Netball Australia Coach Developer Pilot Victoria 2016	<ul style="list-style-type: none"> • Improve coach quality by incorporating a face to face component of development level coach accreditation • Improve participant retention <p>And therefore</p>	NA, NVic, ASC	ASC: \$10,000 NA: Development of online course	Community level coaches	Uptake and feedback on the new course	<ul style="list-style-type: none"> • The previous course was primarily 'lecture style'. It is well known that this delivery mode is of limited value. Shifting the 'what' of coaching online and focussing on the 'how' to coach in the face to face component is a major step towards improving learning and therefore coach quality and ultimately player retention 	https://www.ausport.gov.au/participating/coach-developer-pilot/case-studies/netball-australia-coach-developer-pilot
Gymnastics Australia Coach Developer Pilot Tasmania 2016	<ul style="list-style-type: none"> • Improve coach quality by incorporating ongoing support from senior coaches in coach developer roles <p>And therefore</p>	GA, TasG, ASC	ASC: \$10,000 GA/TasG: In kind support	Sub-elite level coaches	Before and after surveys on coaches, CDs and parents	<ul style="list-style-type: none"> • Improved coach quality • Approach being rolled out in other states 	Case study under preparation

	<ul style="list-style-type: none"> • Improve participant retention 						
Gold Coast Coach Developer pilot Qld 2016/17	<ul style="list-style-type: none"> • Improve coach retention • Improve coach quality <p>And therefore</p> <ul style="list-style-type: none"> • Improve participant retention 	Gold Coast Council, ASC	ASC: \$40,000. Gold Coast Council: In kind support	Community level coaches	Before and after surveys on coaches, CDs and parents	<ul style="list-style-type: none"> • Increased coach retention • Increased player retention • Improved club-to-club relationships • Succession planning for CDs • Cross-sport collaboration 	Case study under preparation
Coach Developer resources	<ul style="list-style-type: none"> • Build capacity in sporting organisations to train Coach Developers 	National	ASC, various National Sporting Organisations	All levels of coaches	Sports that implement Coach Developer principles and programs	<ul style="list-style-type: none"> • Many sports now implementing Coach Developer principles and programs • Sports sing the ASC generic resources to produce resources specific to their needs 	https://www.ausport.gov.au/participating/coachofficial/coach_developer_pilot
Australia: Development of a Physical Literacy definition and Draft Australian Physical Literacy Standard	Support a consistent understanding of physical literacy and how it can be developed so that all Australians can use it, including children,	A panel was created to inform the development of the definition and standard including ASC, Sport, Education, Academic partners. See link below for details.		All Australians		Development of an agreed definition of Physical Literacy Development of a standard that has 4 elements that contribute to Physical Literacy: Cognitive, Physical, Psychological, social	https://www.ausport.gov.au/_data/assets/pdf_file/0008/663443/Draft_Australian_Physical_Literacy_Standard_-_Explaining_the_Standard.pdf

	parents, coaches and educators.	https://www.ausport.gov.au/_data/assets/pdf_file/0008/658079/ASC_34651_Physical_Literacy_Consensus_Statement_FA2.pdf					
	Australia: Physical Literacy Pilot Program	The program seeks to connect a range of sport, education and health partners to co-design and test physical literacy approaches across a range of participation environments.	Range of organisations (TBC) from Health, Sport, Education, NGO and related areas	ASC/Government Funded	All States and Territories. Number of sites seeking to cover: <ul style="list-style-type: none"> • Organised social and competitive sport • Education - Early childhood to tertiary • Active recreation, informal sport and physical activity • Fitness, health and wellbeing 	Pilots seek to unearth and exemplify best practices approaches to: <ul style="list-style-type: none"> - Development/Enhance/Advance Physical Literacy - Measurement of groups and individuals against the Australian PL Standard 	https://www.ausport.gov.au/_data/assets/pdf_file/0008/663443/Draft_Australian_Physical_Literacy_Standard_-_Explaining_the_Standard.pdf

					<ul style="list-style-type: none"> • High performance - professional and amateur 		
Australia: Sporting Schools	Sporting Schools is committed to helping sport, schools and communities to increase sport delivery and participation in schools. It provides funding to engage NSOs to deliver activity to primary schools and a targeted program for Year 7 and 8 students in secondary schools.	ASC 32 NSOs School Sector	\$40 Million p.a	Primary Students Year 7-8	4750 Australian Primary Schools funded (Dec 2018 target) 300 funded Secondary Schools re (July 2017 target) 1.1 Million Participants attendance	<ul style="list-style-type: none"> • Increased physical activity in areas with large cohorts of inactive students • Access to tailored sporting resources • Connections between sport deliverers and schools/ local communities • Upskill of teachers to deliver activity 	https://sportingschools.gov.au/about/primary-schools
Australia: Parent Engagement project (TBC)	To effect positive change in the behaviours of parents to	TBC		Parents of children aged 0-13 living in Australia	TBC	Understand complex nature of parents and the practice of parenting. Use behaviour change theories and models.	

	support their children's development and participation in sport and physical activity.					Use audience insights. Develop partnerships with key influencers of parents. Design behaviour change interventions. Measure behaviour change and impact. Provide behaviour change support. Scale up what works.	
Australia: Planning support (Drivers of Sport Participation)	The Drivers of Sports Participation were developed to support industry stakeholders in the delivery of stronger participation outcomes. The Drivers of Sports Participation provide the framework to develop a suite of resources that support capability building and	Australian Sports Commission Consultancy provided by Nielsen Sport		All Australians	Percentage of targeted sports that achieve year on year own source revenue increase Percentage growth in organisational capability of NSOs Number of partnerships developed which satisfy participation outcome based/capability criteria	The Drivers of Sports Participation and accompanying resources are still in draft.	Not yet published

	participation planning.				% of targeted cohort meeting physical activity guidelines		
NSW, Girls Get Active, 2016 onwards	Exposing young girls (12-16 years) to high achieving sportswomen and new sports with a view to inspiring them to participate.	Run by Sport NSW, currently no external partners.	Nil specifically for this program. Sport NSW receive \$250,000 per annum from Office of Sport.	Girls aged 12-16	Girls who have participated in the program continuing their participation in sport or taking up a new sport.	Surveys administered to the participants show that the girls have been inspired by the high achieving sportswomen and by having the opportunity to try new sports. Anecdotally, this has led to girls seeking out participation opportunities.	https://s3-ap-southeast-2.amazonaws.com/piano.revolutionise.com.au/cups/sportnsw/files/ryrryz9nnld2cfko.docx
NSW, Activate Inclusion Sports Days, 2017 onwards	To expose young people with a disability to the range of sporting opportunities which exist and enable them to try these sports in a safe, inclusive and appropriate way. Sports are	Run by Sport NSW, partnering with Variety, the Children's Charity NSW.	\$30,000 per annum	Young people (10-18) with a disability.	<ul style="list-style-type: none"> - Participants choosing to pursue the sport or activity they tried on the day outside of a school setting. - Talent identification of athletes with a disability. 	Excellent engagement with the participants, teachers, carers and parents however there has been difficulty in obtaining follow-up participation data.	https://www.sportnsw.com.au/sport-for-all/activate-inclusion-sports-days/

	adapted for the range of intellectual and physical disabilities.				- Development of inclusion leagues in various sports.		
NSW, Knowledge Exchange Inclusion Program, 2017 onwards	Education of teachers, coaches and carers on teaching sport to people across the disability spectrum and how to adapt sports for people with disabilities.	Run by Sport NSW, currently no external partners.	Nil specifically for this program. Sport NSW receive \$120,000 per annum from Dept of Family & Community Services.	Anyone teaching or coaching sport to people with a disability.	The program is a success if people walk away with an increased level of competence and confidence in teaching or coaching people with a disability how to play and enjoy a sport.	Program is relatively new, but has been well received. Key learning is that the best group to target are the development officers and participation managers of the various State Sporting Organisations.	https://www.sportnsw.com.au/sport-for-all/knowledge-exchange-inclusion-program/

Glossary of terms

Physical activity	Physical activity is any bodily movement performed by skeletal muscles that result in an increase in energy expenditure. Walking, running, dancing, swimming, yoga, and gardening are a few examples of physical activity being forms of movement that work muscles and require more energy than resting.
Sedentary activity	Physical activity that results in almost no increase in energy expenditure, and usually involves sitting or lying down.
Active recreation	Activities that are engaged in by an individual for the purpose of relaxation, health and wellbeing or enjoyment; with the primary activity requiring energy expenditure and the primary focus on human activity.
Exercise	Exercise denotes any structured and/or repetitive physical activity performed or practiced where the main intention is to achieve improved physical fitness. This may include ineffective exercise, where individuals intend to achieve a fitness benefit, but do not.
Active Play	Active play among young children is defined as a form of gross motor or total body movement in which young children exert energy in a freely chosen, fun, and unstructured manner
Active Play	A physical activity which uses gross motor or total body movement and is imaginative, intrinsically motivated, freely chosen, fun, and unorganised.
METS	Metabolic Equivalent (METS) is a metric of the intensity of physical activity. METS are multiples of a person's resting oxygen uptake (1 MET) and can be applied to estimate the amount of oxygen used by the body during physical activity. Moderate intensity physical activity has an intensity of 3 - 6 METS
Making Every Contact Count [MECC]	Making Every Contact Count (MECC) is an approach to behaviour change that utilises the millions of day-to-day interactions that organisations and individuals have with other people to support them in making positive changes to their physical and mental health and wellbeing. MECC enables the opportunistic delivery of consistent and concise healthy lifestyle information and enables individuals to engage in conversations about their health at scale across organisations and populations.
Determinant of participation	Determinants are most appropriately defined as causal factors, and variations in these factors are followed systematically by variations in physical activity behaviour

Strong evidence	'Strong evidence ' indicates high confidence that the evidence reflects the true effect and further research is very unlikely to change our confidence in the estimate of the effect
Moderate evidence	'Moderate evidence' indicates moderate confidence and further research may change our confidence and the estimate
Weak evidence	'Weak evidence' indicates low confidence and further research is likely to change our confidence and the estimate
Insufficient evidence	'Insufficient' indicates that either a body of evidence is unavailable or there was a paucity of studies of reliable quality for the setting / strategy in question
NCDs	Non-communicable diseases (NCDs), also known as chronic diseases, encompass cardiovascular diseases (like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma) and diabetes.
Health	Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.
Physical fitness	A set of health (i.e. cardiorespiratory endurance, muscle strength, flexibility) and performance related (i.e. skill, speed, dexterity, mental concentration) attributes that people have in relation to their ability to perform physical activity.
Physical literacy	The motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life.
Sport for All	Refers to the systematic provision of physical activities which are accessible to everybody.
Outcomes	The effects of an activity, plan, program, policy or process which can be measured over time. They may be short-, mid- or long-term.
The sector	Refers to the sport and active recreation sector and system. This includes but is not limited to, sports fans, participants and volunteers in sport and active recreation; elite athletes and professional sporting groups; State, national and international sporting organisations and peak sport bodies; Clubs, Associations, and community sport and recreational groups; venue and facility tenants; sport and active recreation businesses and service providers; and State, national and international event organisations.
Participation	defined as playing a sport or physically undertaking an activity.

Engagement	The interaction or engagement with one or more components of the sport sector. This involves spectating and service delivery, both in paid and voluntary capacities.
Athlete	A person who is proficient in sports and other forms of physical exercise.
Spectator	A person who watches a show, game or event. This can occur in-person or through the use of technology.
Volunteer	A person who works without being paid.
Legacy	Is all planned and unplanned, positive and negative, tangible and intangible structures created for and by a sport event that remain longer than the event itself.
Life course	A sequence of major transitions an individual enacts over time. This includes women before, during and after pregnancy, and of newborns, children, adolescents, and older people, taking into account environmental risks, social determinants of health, gender, equity, and human rights.
Primary Health care service	Health care provided in the community for people making an initial approach to a medical practitioner or clinic for advice on prevention and management of diseases. It is the first point of contact for someone when they contract an illness, suffer an injury or experience symptoms that are new to them.
Secondary health care service	Health care that is provided by a specialist or facility upon referral by a primary care provider and that requires more specialized knowledge, skill, or equipment than the primary care practitioner can provide.
Economic value	The economic concept of value has been broadly defined as any net change in the welfare of society. This concept does not restrict environmental values to benefits from the direct use of a resource. For example, the benefits received from environmental resources (such as enjoyment of national parks and clean air) add to an individual's well-being, as do the benefits obtained from the consumption of goods. The benefits that individuals obtain in satisfying altruistic desires that arise from their own moral beliefs also have economic value. From an economic perspective, values can be associated equally with the consumption of goods and services purchased in markets and with the services from environmental amenities for which no payments are made. In this sense, anything from which an individual gains satisfaction is deemed to be of value, so long as the individual is willing to give up scarce resources for it.
Socio-economic value	Socio-Economic Value builds on the foundation of Economic Value creation by attempting to quantify and incorporate certain elements of social value. An entity creates Socio-Economic Value by making use of

resources, inputs, or processes; increasing the value of these inputs, and by then generating cost savings for the public system or environment of which the entity is a part. These cost savings are potentially realized in decreased public dollar expenditures and partially in increased revenues to the public sector. Value creation in this arena can be measured using a social return on investment metric (SROI), social earnings calculations and other evolving metrics.

Innovation

Is the invention and implementation of a new or significant improvement in, for example, a product (good or service), process, new marketing method or a new organisational method in business practices, workplace organisation or external relations.

Grey Literature

Written material, resources or information that is unpublished or not published commercially.

Appendices

Appendix 1 – Research Methods

Search strategy

Searches focussed on higher-quality evidence reviews (meta-analyses and systematic reviews of randomised trials or of longitudinal studies) published in the English language in the last 5 years (since the first Lancet Series on Physical Activity, released in July 2012) up to the end of June 2017. We took particular care to search for evidence from countries comparable with Australia in terms of the likelihood of transferability of findings. Thus, New Zealand, Canada and the UK were of particular interest even though the search was global. We implemented a comprehensive search strategy using electronic databases (i.e., Medline, Pre Medline, Cochrane database of systematic reviews, PubMed, NHS Economic Evaluation Database, Health Technology Assessment, and Scopus). This was supplemented with a search of papers that had cited any of the identified relevant papers. We also searched Google/Google Scholar for relevant reports reviews, primary studies, and commentaries. Search terms used were consistent with the US National Library Medical Subject Headings (MeSH®) Thesaurus (with modifications as required for specific databases). For grey literature, searches were undertaken using selected key words within the advanced search functions of Google / Google Scholar; the search was limited to a maximum of the first 200 results, in keeping with guidance (Haddaway, Collins, Coughlin, & Kirk, 2015). Additionally, a specifically targeted literature and policy review was undertaken of the international evidence base to identify evidence of large scale, national policy or frameworks that focused on increasing participation in physical activity, recreation or sport. Government and non-government websites were reviewed, with definitions of physical activity, recreation and sport also collated and reviewed.

Eligibility criteria

- **Study type:** meta-analyses and systematic reviews of randomised trials or of longitudinal studies [second order study type: other Reviews, relevant 'value-adding' later RCTs/longitudinal studies]
- **Publication date:** published in English since July 2012
- **Population of interest: whole of life course**
 - children aged 0-4; children aged 5-12
 - young people aged 13-18
 - adults aged 18-64 [where possible and appropriate, separately for 18-39, 40-64]
 - adults aged 65+
- **Reviewed research study aims:** to be included studies needed to report/ assess evidence of effectiveness (i.e. evaluation of intervention/programmatic impacts and outcomes).
- **Impacts and outcomes:** to be included studies needed to report
 - Objectively or subjectively measured physical activity. Physical activity-related outcomes could include intensity levels, duration of physical activity, frequency of physical activity or sedentary behaviour (e.g. screen time), or related knowledge in these.
 - Objectively or subjectively measured participation in physical activity, sport and active recreation.

Screening and appraisal of evidence

The search strategy focussed on higher quality evidence reviews (meta-analyses and systematic reviews of randomised trials or of longitudinal studies). All systematic reviews used as the basis for key findings or conclusions of this rapid review were independently assessed for relevance and quality by at least two researchers

Appendix 2 Global Strategic Overview - Review of international policies designed to increase participation in Sport, recreation, and physical activity

Area/region; Name of program; Dates	Strategic goals, objectives	Partners/ Governance Lead	Target population(s)	Success Metrics	Results and Key learning	Key Documents / URLs
World Health Organisation (WHO) - Global Action Plan for the prevention and control of NCDs 2013-2020	- Adopt and implement national guidelines - multi-sectoral committee - Promote all-encompassing movement	WHO – lead	Life course approach at the population level	- 10% reduction in physical inactivity - WHO global recommendations for physical activity and health. - Global monitoring framework, including 25 indicators and a set of nine voluntary global targets. - 25% reduction in deaths from NCD	Multiple countries have adopted this target within their national plans.	www.who.int/nmh/events/ncd_action_plan/en/ http://apps.who.int/iris/bitstream/10665/94384/1/9789241506236_eng.pdf?ua=1
WHO Global action plan for physical activity DRAFT 2017	- One million more active by 2030: active society; active environments; creating active lives; creating active systems - Principles: life course approach; equity; empowerment of people; families and communities; human rights based approach; evidence based; cross sectoral engagement & partnerships; policy coherence; universal health coverage	Member states; secretariat; international and national partners	Global population	Participation against global physical activity guidelines	Results from consultation not announced	Currently under development following consultation and cannot be cited or included.
Europe Finland, Italy, Netherlands, Norway, Portugal, Slovenia and Switzerland.	<i>Finland</i> Resolution concerning the development of health enhancing physical activity and diet, 2008. Increase PA for health and decrease the number of those physically inactive. <i>Italy</i> None specified <i>The Netherlands</i> - Time for Sport (2005) ☑ Youths (12–17 years old) who meet the exercise standard will increase from 35% in 2004 to 40% by 2010	Ministry of Health the frequent key leader of policy	Limited specification of specific target groups.	In the sports sector, examples of legislation covered the creation of the National Olympic Committee (Italy), the establishment of a National Sports Institute (Portugal), the endorsement of physical activity guidelines (Portugal), the delivery of national sports programmes (Slovenia) and funding for sport (Sustainability of funding was reported as a key challenge - related to changes in political commitment (change in government).	Whilst recognition of the importance of evaluation was high, only Norway has a formal independent external evaluation; Evaluation frequently undertaken at specific programme level with inconsistent methods and quality standards applied; working in partnership with stakeholders. Although recognised 'in theory', most countries reported that this was not effective across all levels of policy development and implementation.	Bull F, Milton K, Kahlmeier S, et al. Br J Sports Med 2015;49: 749–756.

Area/region; Name of program; Dates	Strategic goals, objectives	Partners/ Governance Lead	Target population(s)	Success Metrics	Results and Key learning	Key Documents / URLs
	<p>☑ By 2010, 65% (2004, 60%) of the adult population will meet the int. exercise standard</p> <p>Power of sport (2008)</p> <p>☑ In 2012, at least 70% of adults (18+) meet recommended PA (2005, 63%)</p> <p>☑ In 2012, at least 50% of young people meet recommended PA (2005, 40%)</p> <p>☑ In 2012, no more than 5% of adults in the Netherlands are inactive (2005, 6%)</p> <p><i>Norway</i></p> <p>- The Action Plan on Physical Activity, 2005–2009</p> <p>☑ An increase in the number of children and youth who meet 60 min PA/day</p> <p>☑ An increase in the number of adults and elderly people who are moderately physically active for at least 30 min/day</p> <p><i>Portugal</i></p> <p>- National Health Plan, 2004–2010</p> <p>Decrease sedentary behaviour:</p> <p>☑ 15–24 years: 45.5–15% in men and 64.2–16% in women</p> <p>☑ 35–44 years: from 67.5% to 34% in men and 77% to 39% in women</p> <p>☑ 55–64 years: 70–35% in men and 83.2–42% in women</p> <p>☑ 65–74 years: from 75.5% to 38% in men and from 87% to 44% in women</p> <p><i>Slovenia</i></p> <p>- HEPA Strategy, 2007–2012</p> <p>☑ Increasing youth undertaking at least 1 h PA every day by 30%</p>					

Area/region; Name of program; Dates	Strategic goals, objectives	Partners/ Governance Lead	Target population(s)	Success Metrics	Results and Key learning	Key Documents / URLs
	<ul style="list-style-type: none"> ☑ decrease no. of children who spend 4 h a day sitting in front of the tele. or computer by 30% ☑ Reduce physically inactive adults by 30% ☑ Decrease no. of adults who spend 4 h a day on tv or comp. by 30% ☑ Increasing the share of adults who are sufficiently active by 20% ☑ Reducing the share of physically completely inactive over-65s by 20% ☑ Reducing no. of over-65s who spend 4 h a day on tv or computer by 20% ☑ Increasing the share of over-65s who are sufficiently active by 20% ☑ Increasing the share of participation of pregnant women in PA prog. by 40% <p>National Prog. of Sport, 2000–2010</p> <ul style="list-style-type: none"> ☑ 2.5% Annual increase of people practising sports regularly and 1% increase of (currently non) active citizens <p><i>Switzerland</i></p> <ul style="list-style-type: none"> - Sport Policy, 2003–2006: ☑ First stabilising and then increasing by 1% per year PA in adults - Sport Policy, 2007–2010: ☑ Increase of physically active people 					
Canada						
Active Canada 20/20 National PA plan	Create a culture of an active nation; Reverse the decline in population OA levels and the rise of sedentary behaviours.	Advisory groups of ParticpACTION	National population	Areas of focus include: community design; Policy development change and implementation; targeted information and public education; high quality, accessible programs and services.		https://journal.cpha.ca/index.php/cjp/article/viewFile/5041/3278

Area/region; Name of program; Dates	Strategic goals, objectives	Partners/ Governance Lead	Target population(s)	Success Metrics	Results and Key learning	Key Documents / URLs
<p>A framework for recreation in Canada: pathways to wellbeing.</p> <p>Clear alignment with IndigenACTION (2010)</p>	<p>Active living; Inclusion and access; connecting people and nature; supportive environments; recreation capacity</p>	<p>Joint initiative of the Interprovincial sports and recreation council and the Canadian parks and recreation association.</p>	<p>Everyone engaged in meaningful, accessible recreation experiences.</p>	<p>Individual wellbeing; community wellbeing and the wellbeing of natural and built environments.</p>	<p>- Re-defined Recreation</p> <p>Principles of operation:</p> <ul style="list-style-type: none"> - Outcome driven - Quality and relevance - Evidence-based - Partnerships - Innovation 	<p>www2.gnb.ca/content/dam/gnb/Departments/thc-tpc/pdf/ActiveCommunities-CommunautesActives/2015FrameworkForRecreationInCanada.pdf</p>
<p>Canadian Sport Policy</p> <p>2012 – 2022</p> <p>Aligns with: “Actively engaged: a policy on sport for women and girls; for persons with a disability”</p>	<p>The number and diversity of Canadians participating in sport will increase over the timeframe of 2012-2022.</p> <p>Introduction to sport Recreational Sport Competitive Sport High performance Sport Sport for Development</p>	<p>Sport Information Resource Centre (SIRC). Endorsed by Federal, Provincial and Territorial ministers.</p>	<p>Population-level</p>	<p>Recreational Sport: Canadians have the opportunity to participate in sport for fun, health, social interaction and relaxation”. Participants are introduced to the fundamentals of sport through programs delivered primarily by clubs, schools and local recreation departments. Participants develop sport-specific skills with an emphasis on fun, a positive attitude, healthy human development and remaining active for life.</p>	<ul style="list-style-type: none"> - Evaluation Framework – Excellence, Capacity, Interaction, and participation. - Participation remains a weakness. - Independent Evaluation report (2010). Mixed method, database and document review with stakeholder interviews. Insufficient financial resources. - Adult sport participation declined from 34% 1998 to 20% in 2008. - Sport participation strongly related to household income, declining from a high of 47% among households with annual incomes of \$80,000 to just 26% of households with incomes under \$30,000. - Unknown in disabilities, ethno-cultural groups and Aboriginal people. 	<p>http://www.mtc.gov.on.ca/en/sport/sport/CSPEvaluationFinalReport.pdf</p>

Area/region; Name of program; Dates	Strategic goals, objectives	Partners/ Governance Lead	Target population(s)	Success Metrics	Results and Key learning	Key Documents / URLs
Sport Canada's policy on aboriginal people participation in sport. 2005	<ul style="list-style-type: none"> - Enhanced participation - Enhanced Excellence - Enhanced Capacity - Enhanced Interaction 	Aboriginal Sport community; all-levels of Government; national sport organisations; multisport service organisations	Ensure inclusiveness; sport for all including aboriginal peoples living in Canada.	Reductions in activity amongst Canadians by 10% by 2003.	Youth defined as < 24yrs.	N/A
Canadian Sport for Life Collaboration: sport, rec., education, health and business sectors.	<ul style="list-style-type: none"> - Create cross-sectoral partnerships between sport, education, recreation and health, while aligning community, provincial, and national sport and physical activity programming. - Improve the health, wellness, and sporting experiences of all Canadians by advancing physical literacy, improving performance, and increasing life-long participation. 	Links sport, education, recreation and health, and aligns community, provincial and national programming	N/A	N/A	N/A	http://sportforlife.ca/sport-frameworks/

Area/region; Name of program; Dates	Strategic goals, objectives	Partners/ Governance Lead	Target population(s)	Success Metrics	Results and Key learning	Key Documents / URLs
<p>ParticipACTION Concluded in 2001 and re- born in 2007.</p> <p>Not for profit organisation led. 2015 - 2020</p>	<p>10% more Canadians sitting less and moving more. Support WHO 10% reduction in global inactivity. Goals on competence, motivation and opportunities.</p>	<p>Government, non-government, not for profit organisations</p>	<p>Inactive Canadians of all ages.</p>	<p>Move 63-73% adults acclimating 15mins of PA at least one day per week. Move 44%- 54% of children to meet 60mins PA 3 X a week. Decrease adult sedentary time from 9.5 to 8.5 hours per day. Decrease child sedentary time from 8.6 to 7.6 hours per day. Decrease 30% to 20% adults considered inactive.</p>	<p>Importance of theoretical underpinning in relation to design. Benefits of independent evaluation including PA participation (self-report and objective) as well as evaluation of mass marketing campaign.</p> <p>Canadians remain aware and those who are, are more likely to hold positive beliefs about PA.</p> <p>Knowledge and awareness of campaign influenced by level of education and household income. Future strategies should include specific strategies to target different segments of the population including those living in deprived communities.</p>	<p>https://www.participation.com/sites/default/files/downloads/Participation-StrategicPlan-MovingForward2015_0.pdf</p> <p>https://ijbnpa.biomedcentral.com/articles/10.1186/1479-5868-6-85</p> <p>Bauman A, Madill J, Craig CL, Salmon A. ParticipACTION: this mouse roared, but did it get the cheese? Can J Public Health.</p>
<p>Japan</p>						

Area/region; Name of program; Dates	Strategic goals, objectives	Partners/ Governance Lead	Target population(s)	Success Metrics	Results and Key learning	Key Documents / URLs
<p>New X</p> <p>2012</p> <p>Promote environments enabling participation for all aligned with interests and aptitudes, regardless of age, gender or disabilities.</p>	<p>- Develop the infrastructure; nurture coaches; sports facilities; enriching PE in schools and promoting int. exchanges and contributions; sports promotion in the local community and events, and enhances competition standards.</p> <p>- Increase sport opportunities for children at schools and in communities; life-source sport; supportive environments; training human resources and increased international competitiveness; Promotion of international exchanges and competition hosting; Transparency in anti-doping and arbitration.</p>	<p>Central education council, Minister education, sports, science, technology (MEXT)</p>	<p>Population, life course approach</p>	<p>Organised sport participation; Physical activity; active transportation; weight status; Physical Fitness; Family and Peer influence; school; community and peer influence; government strategies and investments.</p>	<p>- PA report card for children and youth. Participation in sport was reported by 27% to 92% of 6- to 17-year-olds by the national physical fitness survey. Age and gender differences in sport participation, lower among younger children, and lower among girls.</p> <p>- Moderate levels of organised sport participation and recreational screen time which develop into low levels of sport participation, and high obesity into adulthood. Active Transport to school high when compared internationally. 28% pre-school; 93% 6-11yrs old; 88% 12-14yrs and 65% high school.</p>	<p>http://journals.humankinetics.com/doi/pdf/10.1123/jpah.2016-0296</p>
<p>Healthy Japan 21 (1st and 2nd Phase)</p> <p>2000 – 2013</p>	<p>- 9 target areas – Diet, Physical activity, mental health, smoking, alcohol, dental health, Diabetes, CVD, Cancer)</p> <p>- 10-year goal to increase the number of steps by approximately 1000 steps per day.</p> <p>- Increase the number of steps; increase the percentage of people who exercise on a regular basis and increase the municipalities that facilitate exercise and physical activity.</p>	<p>education, sports, science, technology (MEXT)</p> <p>Ministry of Health, Labour and Welfare</p>	<p>The goals for physical activity in HJ21–1st were to increase walking steps and increase the percentage of adults engaged in regular exercise.</p>	<p>Daily Step count – increase number of steps in adults between 2013 – 2022. For males aged 20 to 64 years, the target behaviour is an increase in the number of steps per day from 7841 to 9000 and, for females, from 6883 to 8500. For males over 65 years of age, the goal is to increase the number of steps per day from 5628 to 7000 and, for females, from 4584 to 6000.</p> <p>Physical Activity level - increase the number of adults with regular exercise habits by 10% in 10 years.</p>	<p>- Mean number of steps has decreased by approximately 1000 steps per day 10 years after baseline. The % of working population between 20 and 60 years undertaking regular exercise has decreased, but increased for >60.</p> <p>- The action plan for physical activity promotion existed in all prefectures within several years after the national policy was enforced. Amount of population physical activity did not increase nationwide. Speculated that there are problems in the process of developing a national policy and implementing action plans in each municipality.</p>	<p>www.aspetar.com/journal/upload/PDF/2015610112750.pdf</p> <p>Ministry of Health, Labour and Welfare. 2011. “Healthy Japan 21” final evaluation. (in Japanese) www.mhlw.go.jp/stf/houdou/2r9852000001r5gc-att/2r9852000001r5np.pdf.</p>

Area/region; Name of program; Dates	Strategic goals, objectives	Partners/ Governance Lead	Target population(s)	Success Metrics	Results and Key learning	Key Documents / URLs
New Zealand						
Community Sport strategy, Sport New Zealand 2015 – 2020	<ul style="list-style-type: none"> - Insights: Segmentation; research; analysis; benchmarking; best practice; case studies; sharing; innovation. - People: Coaches; teachers; parents; volunteers; young leaders - Spaces and Places: Planning; Design; partnering; programming. - Partners/providers: Sports hubs, community sport capability, delivery networks, planning; local delivery. - Pathways: Physical literacy; life stage learning; competitions; talent development; pathway to podium. 		<ul style="list-style-type: none"> - School aged children (5-18yrs) - Low participation communities - Competitive sport (talent identification) 	<ul style="list-style-type: none"> - Increase in children taking part in 3 hour or more of organised/informal sport a week in schools by 2020. - 3% increase in participation in supported projects by 2020. - Increase in high engagement participation reported from target sports by 2020 	Participant focused; Increased diversity	N/A
Sport NZ Strategic plan 2015 – 2020 “World’s most successful sporting nation.”	<ul style="list-style-type: none"> - Participant focused; system led; performance driven. - Championing the value of sport; system connectivity; system capability; system funding major and mega events; facilities and group efficiency and effectiveness. 	Sport NZ; community sport and High Performance Sport NZ.	Youth in low participation communities; competitive Sport; high performance.	<ul style="list-style-type: none"> - 90% of young people doing at least three hours of organised and/or informal sport each week. - Increase in adult participation - Increase in volunteering. 	N/A	N/A
Moving Waikato 2025 “A healthy, vibrant physically active and successful sporting region.”	<p>A strategy to grow participation in sport, recreation and physical activity in the Waikato region.</p> <p>Our people Building communities Regional leadership</p>	Sport Waikato; NSO, RSO, education and health board, population health providers, local government agencies, sport NZ department of conversation.	Life course approach; Young people; women and girls; Māori; rural; aged populations (65yrs+).	<ul style="list-style-type: none"> - More adults, more children out there and active. - Age group targets for PA participation against government guidelines. - Greater sector understanding and decision making. Perception of Waikato as a sporting region. 	Priority settings: local sport delivery; education, recreation and physical activity, delivery in Māori settings.	http://www.sport-waikato.org.nz/get-media/2cb9643a-c3c4-4cdf-aa63-70ac5e45976b/MovingWaikato2025consultation_finaldocument-BOOKLET_WEB.pdf
United States of America (USA)						

Area/region; Name of program; Dates	Strategic goals, objectives	Partners/ Governance Lead	Target population(s)	Success Metrics	Results and Key learning	Key Documents / URLs
National Physical Activity Plan 2016 - 2010 National PA plan alliance - not for profit organisation with engagement across 9 sectors.	- Use sport as a vehicle to increase levels of PA and to promote health. - Comprehensive surveillance system; national PA report card; PA policy development; National PA campaign; State and local PA plans; Increased funding for PA initiatives. - Sport specific objectives: policy change; infrastructure; access for all; improved safety and care; elevated surveillance; more knowledgeable and purposeful roles by key professionals as well as parents/caregivers; enlarged innovation and technology.	Business; Industry; Community Rec., Fitness; Parks; Education; Faith-Based Settings; Healthcare; Mass Media; Public Health; Sport; Transportation, Land use	Population	- Call for a national sports plan that emphasises role of sport in population PA. Establish an entity as central resource to unify stakeholders. - Multiple sectors should expand access to rec. spaces and quality sports programs - focusing on disparities in access based on race, ethnicity, gender, disability, SES, geography. - develop a comprehensive surveillance systems. - Use tech. to enhance the quality of sporting experiences.	- Grounded in socio-ecological theory. - Specific sport theme within the 2016 national physical activity plan. Strategies reflect an integrated approach to using sport as a vehicle for increasing PA and promote health.	www.physicalactivityplan.org/index.html
Designed to move: A Physical Activity Action Agenda	- Increase population physical activity - Create early positive experiences for children. - Integrate physical activity into everyday life.	Designed to move.org.	Population-level approach	- Universal access; age appropriate dosage and duration; fun; incentives and motivation; feedback to kids; teach/coach/mentor; community engagement; multi sector collaboration; accessibility/safety as baseline determinants of usage; maximised use of space; monitoring and evaluation.	- Capture baseline data and track and report population physical activity levels. - Measure impact and outcomes.	http://e13c7a4144957cea5013-f2f5ab26d5e83af3ea377013dd602911.r77.cf5.rackcdn.com/resources/pdf/en/full-report.pdf
United Kingdom (UK)						
Sport England Towards an active nation 2016 – 2021	- More people from every background regularly and meaningfully taking part in sport and physical activity. - Inactive people becoming active. - More resilient habits. - Target young people.	Government agencies; UK sport; Department of health; cross-ministerial	Inactive (from sport) people older than 5 years; women and girls; disabled people,	- Active lives survey. - Increase % of the population taking part in sport and PA at least twice in the last month. - Decrease the % of people physically inactive.	Clear line of sight to achieve sporting future; ensure funding benefits under-represented groups; use behaviour change to make investment choices. Get maximum value from all sport England resources, not just cash; review	https://www.sportengland.org/media/10629/sport-england-towards-an-active-nation.pdf

Area/region; Name of program; Dates	Strategic goals, objectives	Partners/ Governance Lead	Target population(s)	Success Metrics	Results and Key learning	Key Documents / URLs
	<ul style="list-style-type: none"> - More diverse volunteers. - Improved inclusion in talent development. - A more productive sustainable and responsible sport sector. 	committee; county sport partnerships.	low SES; older people.	- Physical wellbeing; mental wellbeing; individual development; social and community development and economic development.	investment portfolio regularly and remove funding if an investment is failing and cannot be rescued.	
Public Health England "Everybody Active Everyday" 2016	"Everyone Active Everyday" 4 national and local areas: <ul style="list-style-type: none"> - Active Society - Moving Professionals - Moving at Scale - Active Environments 	Minister for public health; Chair of Olympic committee, ministerial subcommittee on PA, local sport orgs, district councils	Population-level	Proportion of people achieving CMO guidelines for physical activity. Health survey for England, Active People Survey, National Travel survey, labour force survey.	Public health outcomes framework. <ul style="list-style-type: none"> - A significant 1% increase in the proportion of the UK population that achieve 150 minutes of moderate intensity physical activity per week. Half a million more people who health and wellbeing is benefitting and 60% of local authorities have seen an improvement. 	https://www.gov.uk/government/publications/everybody-active-every-day-2-year-update
HM government (DCMS) Sporting Future: A New strategy for an active nation 2015	Promote sport for wider social good. Tackle inactivity in 5 years older. 3 outputs: Engagement in sport and physical activity; sporting success; strong and resilient sport sector.	<ul style="list-style-type: none"> - National 'Sport cabinet' group to unite Scotland, Wales, Northern Ireland, and England. - Inter-ministerial committee: Dep. of culture, media and sport, health and education. - Local gov., UK sport, Sport England, Public Health England, county sport partnerships 	Inactive people who tend not to take part in sport; women and girls; disabled people, low SES; older people.	Active lives survey. <ul style="list-style-type: none"> - Physical wellbeing; mental wellbeing; individual development; social and community development and economic development. - Mental Wellbeing: % population reporting positive subjective wellbeing. - Individual Development: % population reporting positive self-efficacy. - Social/community development: % of population reporting positive self-trust. 	<ul style="list-style-type: none"> - Clear target audience; outcome focused approach; common appraisal, evaluation approach and framework; Re-defined meaning of Sport to encompass all movement to target inactive people for health. - The <u>Active lives survey</u> from November 2015 onwards and expanded to children. - Public health England conducted annual implementation reviews - 1 year on 60% adults meet 150mins a week, 25% are classified as inactive (less than 30mins a week) 15% 30-150mins a week. - Complements relevant data collection by partner organisations. 	https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/590578/Sporting_Future_-_first_annual_report_final.pdf
UK active Blueprint for an active Britain 1991 - 2016	More people, more active, more often. System wide approach to promoting PA for everyone, a partnership approach to prevent the debilitating spread of physical inactivity.	Support government, local authorities, business and activity providers	Target groups (inactive, low SES, BME communities)	Population physical activity levels measured through Health Survey for England; Active Lives.	<ul style="list-style-type: none"> - PA a stand-alone public health issue and recognise action is now needed. - Expand social marketing practices specifically around PA within target populations. 	http://www.ukactive.com/downloads/managed/ukactives_Blueprint_for_

Area/region; Name of program; Dates	Strategic goals, objectives	Partners/ Governance Lead	Target population(s)	Success Metrics	Results and Key learning	Key Documents / URLs
	10 objectives; embed PA in NHS;	to – re-embed activity into daily life.		Strategic outputs, national marketing campaigns and evidence of cross-agency working.	- Independent PA network to develop a new independent network to help employers contribute to policy and best practice.	an_Active_Britain_-_online.pdf
Dep. of Health Childhood obesity: a plan for action (physical activity focus) 2017	- Increase Population PA levels. Early year's foundation stage framework – priority active play: Primary PE and Sport premium until 2020. To improve and broaden sports provision, increase participation and tackle childhood obesity.	HM Government Department of Health	Overweight and obese populations	- Support all children to enjoy an hour of school each day. 30mins inside school and 30 mins outside school. - Reduce England rate of obesity within the next 10 years.	Concerted, whole system approach needed with focus on tackling the Inequality gap which is currently widening. PA interventions should target inactive, people living in most deprived areas.	https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/546588/Childhood_obesity_2016_2_acc.pdf
HM Gov. - National Centre for Sport and Exercise medicine (NCSEM) "Sheffield Move more"	Create a culture of PA resulting in Sheffield becoming the most active city by 2020. 6 priority outcomes: - Empowered communities; Active Environments, Active people and families, physical activity as medicine, active schools and active pupils; active workplaces and an active workforce	Planning, transport, health, sport, education, workforces.	Sheffield 550,000 population.	Most active UK city by 2020 assessed using routinely collected data (Public health outcomes framework data, active people's survey, health survey for England). Objective measurement of PA in Sheffield.	Bottom up approach; reduce inequality in participation; inclusive approach; connect people with PA; whole system approach; make physical activity the easy choice; create a physical activity habit; make it fun; consistent communication; make it visible; work together; evidence and evaluation.	https://www.move-sheffield.com/Media/Default/Documents/move-more-plan.pdf
Creating an Active Wales 2009 Welsh Assembly Government - Climbing higher was previous strategy in 2005.	- Increase activity through supportive environments alongside targeted programs supporting behaviour change. - Active Environments; active children and young people; active adults; sport for all - Sport sector priorities: Sustained sport participation throughout life; strengthen sport infrastructure; high quality coaching; maximise legacy opportunities of major events.	Increase proportion of Welsh population who meet 5 X 30 and 5 X 60.	Focus on Sex, age, SES and equality groups.	- Contribute to Assembly government target of 3% reduction in green gas emissions by 2011. - Adults: Shift the average point of activity from 2.4 to 3.4 by 2020. Children: Shift average point 11-16yrs of from 3.9 – 4.9 by 2020.	Measured through Welsh Health Survey and Health in school-aged children study. - Sport plays a key role in physical activity for all.	N/A
Sport Wales Community Strategy	- Thriving Clubs – creating opportunities through enterprise and innovation.	Nations sport sector, all governing bodies	Population-level (Wales)	- Participation: Children and young people of school age – 3 X a	- Not available at time of writing. - Strategy explicitly outlines tools to measure success.	http://sport.wales/media/929351/english_pdf.pdf

Area/region; Name of program; Dates	Strategic goals, objectives	Partners/ Governance Lead	Target population(s)	Success Metrics	Results and Key learning	Key Documents / URLs
2017	<ul style="list-style-type: none"> - Local decisions – creating opportunities by meeting local demand. - Quality education – creating opportunities by developing skills, enjoyment and confidence. - Committed workforce – creating opportunities by attracting and investing in the right people in the right places. - Appropriate facilities – creating opportunities through inspirational environments and programming. 	of sport, each local authority.		<ul style="list-style-type: none"> week in extracurricular/wider community settings. - Young adults – 16-24 3X Sport sessions per week. - Adults 3 X Sport sessions per week. - 10% Welsh population volunteering (currently 5%). 	<ul style="list-style-type: none"> - The Pathway tool (Readiness Factors, Basic Skills, Participation, Workforce) - Segmentation - Population Surveys - Promotion 	
Healthy Ireland 2013 – 2025 Get Ireland Active! The National Physical Activity plan for Ireland.	<ul style="list-style-type: none"> - Increased opportunities for people to be active - Remove barriers to participation Enhance cross-sector cooperation at national, local and community level Encourage a supportive environment normalising PA Promote good models of participation. 	Cross-sector agencies.	Population-level	<ul style="list-style-type: none"> - Increase proportion of population across each life stage undertaking regular physical activity by 1% per year. - Target measured again CSPPA, Irish Sports Monitor and Tilda report. - Participation levels appear stable with adults around 31%. 	<ul style="list-style-type: none"> -- ‘Participation’ pillar within Sport Ireland interim strategy 2016 and Get Ireland Walking Strategy and Action Plan 2017 -2020 - Recognizes the “crucial role” of sporting organizations such as the NGBs, LSPs and sports clubs in providing sports participation opportunities in every community across Ireland. 	www.getirelandactive.ie/Professionals/National-PA-Plan.pdf
Physical Activity Implementation Plan: A more Active Scotland. 2014	The people of Scotland enjoy a more active and healthier life	Scottish government; local authorities; NHS health boards; NHS Health Scotland; education; environment; Sport; transport bodies	Population-level	<ul style="list-style-type: none"> - Develop national strategy. 150 Community sports hubs by 2016. - More children and adults routinely playing in PA or sport 	Currently under review	Let’s Make Scotland More Active – A strategy for PA, Scottish Government 2003 Scotland Performs – The national performance framework, Scottish Gov. 2007

Area/region; Name of program; Dates	Strategic goals, objectives	Partners/ Governance Lead	Target population(s)	Success Metrics	Results and Key learning	Key Documents / URLs
"Sport Matters" Northern Ireland Strategy for Sport and Physical Rec. 2009 – 2019	A culture of lifelong enjoyment and success in sport.	N/A	Target groups: Females, low SES, disabled and older adults.	- Increase regular participation in children and adults - By 2019 deliver (2011 baseline): 3 %-point increase adults sport and rec participation rates; 6% women's rates; 6% low SES; 6% increase in those with a disability 6% increase in older people.	N/A	N/A

References

- Abu-Omar, K., et al. (2017). "The cost-effectiveness of physical activity interventions: A systematic review of reviews." Preventive Medicine Reports.
- Active Canada 2020 _ Finale May 2012.pdf. (n.d.). Retrieved September 29, 2017, from <https://docs.google.com/a/activecanada2020.ca/viewer?a=v&pid=sites&srcid=YWN0aXZIY2FuYWRRhMjAyMCSjYXxwYWdlMXxneDozNjEyNjViMjNkZmlwYTA>
- Active, B., & Australia. (2005). Be Active Australia A Framework for Health Sector Action for Physical Activity. Retrieved from [http://www.hnehealth.nsw.gov.au/hneph/physical activity/Documents/be-active-australia.pdf](http://www.hnehealth.nsw.gov.au/hneph/physical%20activity/Documents/be-active-australia.pdf)
- Aguiar, E. J., et al. (2014). "Efficacy of interventions that include diet, aerobic and resistance training components for type 2 diabetes prevention: a systematic review with meta-analysis." International Journal of Behavioral Nutrition & Physical Activity **11**: 2.
- Anderson, L. M., et al. (2009) The effectiveness of worksite nutrition and physical activity interventions for controlling employee overweight and obesity: a systematic review. Am J Prev Med **37**, 340-357 DOI: 10.1016/j.amepre.2009.07.003
- Anderson, L. M., et al. (2009) The effectiveness of worksite nutrition and physical activity interventions for controlling employee overweight and obesity: a systematic review. Am J Prev Med **37**, 340-357 DOI: 10.1016/j.amepre.2009.07.003
- Australian Government Department of Health (2014) Australia's Physical Activity and Sedentary Behaviour Guidelines.
- Australian Government Department of Social Services (2017) Strong and Resilient Communities [web portal].
- Australian Sports Commission (2017) Physical Literacy: Informing a Definition and Standard for Australia.
- Australian Sports Commission 2015–19 Corporate Plan. (n.d.).
- Australian Government Department of Health. (2016). Physical Activity and Sedentary Behaviour. *Victorian Health Promotion Foundation*, 36, 2011–2014. <https://doi.org/10.3389/fpubh.2014.00020>.
- Australian Sport Commission. (n.d.). *Australia's Winning Edge 2112-2022*. Retrieved from https://www.clearinghouseforsport.gov.au/Library/archive/digital_archive/australian_sports_policy/australias_winning_edge/Australias_Winning_Edge.pdf
- Australian Sports Commission Corporate Plan 2017-21. (n.d.). Retrieved from https://www.ausport.gov.au/__data/assets/pdf_file/0011/663419/34806_ASC_Corporate_Plan_2017_web.pdf
- Australian Sports Commission. (n.d.). *Play. Sport. Australia. The Australian Sports Commission's participation game plan*. Retrieved from http://static.ausport.gov.au/play_sport_australia/files/inc/be0c2c14ad.pdf
- Baker, P. R., et al. (2015). "Community wide interventions for increasing physical activity." Cochrane Database of Systematic Reviews **1**: CD008366.

Bakker, E. A., et al. (2017) Association of Resistance Exercise, Independent of and Combined With Aerobic Exercise, With the Incidence of Metabolic Syndrome. Mayo Clinic Proceedings DOI: 10.1016/j.mayocp.2017.02.018

Balk, E. M., et al. (2015). "Combined Diet and Physical Activity Promotion Programs to Prevent Type 2 Diabetes Among Persons at Increased Risk: A Systematic Review for the Community Preventive Services Task Force." Ann Intern Med **163**(6): 437-451.

Bancroft, C., et al. (2015). "Association of proximity and density of parks and objectively measured physical activity in the United States: A systematic review." Social Science & Medicine **138**: 22-30.

Barker, A. L., et al. (2015). "Effect of pilates exercise for improving balance in older adults: a systematic review with meta-analysis." Archives of Physical Medicine & Rehabilitation **96**(4): 715-723.

Barnett, I., et al. (2012). "The experience of physical activity and the transition to retirement: a systematic review and integrative synthesis of qualitative and quantitative evidence." Int J Behav Nutr Phys Act **9**: 97.

Bauman, A., Bellew, B., Vita, P., Brown, W., & Owen, N. (2002). getting Australia active Towards better practice for the promotion of physical activity. Retrieved from http://www.hnehealth.nsw.gov.au/hneph/physical_activity/Documents/getting-australia-active.pdf

Bauman, A., Bellew, B. (2011) A review of evaluation and market research into mass media and social marketing campaigns focussed on healthy eating, physical activity and healthy weight. Heart Foundation (Western Australia).

Beale, S. J., et al. (2012). "Should we invest in environmental interventions to encourage physical activity in England? An economic appraisal." Eur J Public Health **22**(6): 869-873.

Bellew, B., Young, S. Voucher schemes to promote increased participation in Sport and Active Recreation: Rapid Evidence Review for the NSW Office of Sport. SPRINTER Group. The University of Sydney. (2017) Voucher schemes to promote increased participation in Sport and Active Recreation.

Bellew, B., Schöeppe, S., Bull, F. C., & Bauman, A. (2008). The rise and fall of Australian physical activity policy 1996 - 2006: a national review framed in an international context. *Australia and New Zealand Health Policy*, 5, 18. <https://doi.org/10.1186/1743-8462-5-18>

Bellew, B., Schöeppe, S., Bull, F. C., & Bauman, A. (2008). The rise and fall of Australian physical activity policy 1996 - 2006: a national review framed in an international context. *Australia and New Zealand Health Policy*, 5, 18. <https://doi.org/10.1186/1743-8462-5-18>

Berg, B.K., Warner, S., Das, B. (2015). What about sport? A public health perspective on leisure-time physical activity. *Sport Management Review*. 18: 20-31

Berkowitz, J. M., et al. (2008). "Did augmenting the VERB campaign advertising in select communities have an effect on awareness, attitudes, and physical activity?" Am J Prev Med **34**(6 Suppl): S257-266.

Bird, E. L., et al. (2013). "Behavior change techniques used to promote walking and cycling: a systematic review." Health Psychology **32**(8): 829-838.

Bock, C., Jarczok, M. N., Litaker, D. (2014) Community-based efforts to promote physical activity: a systematic review of interventions considering mode of delivery, study quality and population subgroups. J Sci Med Sport **17**, 276-282 DOI: 10.1016/j.jsams.2013.04.009

Borde, R., et al. (2015). "Dose-Response Relationships of Resistance Training in Healthy Old Adults: A Systematic Review and Meta-Analysis." Sports Medicine **45**(12): 1693-1720.

Bouaziz, W., et al. (2017). "Health benefits of aerobic training programs in adults aged 70 and over: a systematic review." Archives of Gerontology & Geriatrics **69**: 110-127.

Bridle, C., et al. (2012). "Effect of exercise on depression severity in older people: systematic review and meta-analysis of randomised controlled trials." British Journal of Psychiatry **201**(3): 180-185.

Brown, V., Diomedi, B. Z., Moodie, M., Veerman, J. L., Carter, R. (2016). "A systematic review of economic analyses of active transport interventions that include physical activity benefits." Transport Policy **45**: 190-208.

Buck, C., Tkaczick, T., Pitsiladis, Y., De Bourdehaudhuij, I., Reisch, L., Ahrens, W., Pigeot, I. (2015) Objective measures of the built environment and physical activity in children: from walkability to moveability. J Urban Health **92**, 24-38 DOI: 10.1007/s11524-014-9915-2

Buck, C., Tkaczick, T., Pitsiladis, Y., De Bourdehaudhuij, I., Reisch, L., Ahrens, W., Pigeot, I. (2015) Objective measures of the built environment and physical activity in children: from walkability to moveability. J Urban Health **92**, 24-38 DOI: 10.1007/s11524-014-9915-2

Bull, F. (2017). Translating science to inform global policy on physical activity. Journal of Sport and Health Science. <https://doi.org/10.1016/j.jshs.2017.10.005>

Bull, F. C., Bellew, B., Schöppe, S., & Bauman, A. E. (2004). Developments in National Physical Activity Policy: an international review and recommendations towards better practice. Journal of Science and Medicine in Sport, 7(1), 93–104. [https://doi.org/10.1016/S1440-2440\(04\)80283-4](https://doi.org/10.1016/S1440-2440(04)80283-4)

Bull, F., Milton, K., Kahlmeier, S., Arlotti, A., Juričan, A. B., Belander, O., ... Vlasveld, A. (2015). Turning the tide: national policy approaches to increasing physical activity in seven European countries. British Journal of Sports Medicine, 49(11), 749–756. <https://doi.org/10.1136/bjsports-2013-093200>

Byrne, L., Ogden, K., Fell, J., Watson, G., Lee, S., Ahuja, K., Bauman, A. (2017). "The effects of a community-wide, multi-strategy intervention on physical activity participation in Launceston, Tasmania." J Sci Med Sport **20**: e120-e121.

Calogiuri, G. and S. Chroni (2014). "The impact of the natural environment on the promotion of active living: an integrative systematic review." BMC Public Health **14**: 873.

Campbell, F., Holmes, M., Everson-Hock, E., Davis, S., Buckley Woods, H., Anokye, N., Tappenden, P., Kaltenthaler, E. (2015). "A systematic review and economic evaluation of exercise referral schemes in primary care: a short report." Health Technol Assess **19**(60): 1-110.

Canadian Society for Exercise Physiology (CSEP) (2011) Canadian Physical Activity Guidelines and Canadian Sedentary Behaviour Guidelines

Casey, M. M., et al. (2017). "The influence of a Healthy Welcoming Environment on participation in club sport by adolescent girls: a longitudinal study." BMC Sports Science, Medicine & Rehabilitation **9**.

Casey MM, Payne WR and Eime RM. Building the health promotion capacity of sport and recreation organisations: a case study of regional sports assemblies. *Managing Leisure* 2009;14:112–25.

Casey, M.M., Payne, W.R., Brown, S.J. and Eime, R.M., 2009. Engaging community sport and recreation organisations in population health interventions: Factors affecting the formation, implementation, and institutionalisation of partnerships efforts. *Annals of leisure research*, *12*(2), pp.129-147.

Cassidy, A. (2011) Health Policy Brief: Community Development and Health, Health Affairs, November 10.

Cavill, N., Richardson, Foster, C. British Heart Foundation Health Promotion Research Group Improving Health Through Participation in Sport: a review of research and practice. (2012). Retrieved from <https://www.sportengland.org/media/3047/inactivity-and-sport-report.pdf>

Cavill, N., roberts, K., rutter, H., Swanston, D., Cooper, ashley, Foster, J., ... Stonebrook, P. (2012). Standard Evaluation Framework for physical activity interventions Authors (NOO) Editor (NOO). Retrieved from <http://www.getirelandactive.ie/Professionals/BuiltEnvironment/Resources/Evaluating-Physical-Activity-.pdf>

Charlie Foster, Trevor Shilton, Lucy Westerman, Justin Varney, and F. B. (n.d.). World Health Organisation to develop Global Action Plan to Promote Physical Activity. Retrieved October 9, 2017, from <http://blogs.bmj.com/bjism/2017/05/22/world-health-organisation-develop-global-action-plan-promote-physical-activity/>

Chase, J.-A. D., et al. (2017). "Physical Activity Intervention Effects on Physical Function Among Community-Dwelling Older Adults: A Systematic Review and Meta-Analysis." Journal of Aging & Physical Activity **25**(1): 149-170.

Cohen, D., Han, B., Derose, K. P., Williamson, S., Paley, A., Batteate, C. (2016) CicLAvia: Evaluation of participation, physical activity and cost of an open streets event in Los Angeles. Prev Med **90**, 26-33 DOI: 10.1016/j.ypmed.2016.06.009

Crawford, 2009. The future of Australian Sport. Commonwealth of Australia.2009

Dahlgren, G., & Whitehead, M. (n.d.). WHOLIS E89384 World Health Organization Regional Office for Europe Scherfi gvej 8, DK-2100 Copenhagen Ø, Denmark European strategies for tackling social inequities in health: Levelling up Part 2. Retrieved from http://www.euro.who.int/_data/assets/pdf_file/0018/103824/E89384.pdf

Dallat, M. A., Soerjomataram, I., Hunter, R. F., Tully, M. A., Cairns, K. J., Kee, F. (2014) Urban greenways have the potential to increase physical activity levels cost-effectively. Eur J Public Health **24**, 190-195 DOI: 10.1093/eurpub/ckt035

de Nazelle, A., Nieuwenhuijsen, M.J., Antó, J.M., Brauer, M., Briggs, D., Braun-Fahrlander, C., Cavill, N., Cooper, A.R., Desqueyroux, H., Fruin, S., Hoek, G. Panis, L., Janssen, N., Jerrett, M., Joffe, M., Andersen, Z.J., van Kempen, E., Kingham, S., Kubesch, N., Leyden, K., Marshall, J.D., Matamala, J., Mellios, G., Mendez, M., Nassif, H., Ogilvie, D., Peiró, R., Pérez, K., Rabl, A., Ragettli, M., Rodríguez, D., Rojas, D., Ruiz, P., Sallis, J.F., Terwoert, J., Toussaint, J., Tuomisto, J., Zurbier, M., Lebet, E. (2011). "Improving health through policies that promote active travel: A review of evidence to support integrated health impact assessment." Environment International **37**(4): 766-777.

de Vries, H. J., et al. (2016). "Do activity monitors increase physical activity in adults with overweight or obesity? A systematic review and meta-analysis." *Obesity (19307381)* **24**(10): 2078-2091.

Denison, E., et al. (2014). "Interventions aimed at increasing the level of physical activity by including organised follow-up: a systematic review of effect." *BMC Family Practice* **15**: 120.

DESIGNED TO MOVE A Physical Activity Action Agenda. (n.d.). Retrieved from <http://www.sportsthinktank.com/uploads/created-to-move-full-report.pdf>

DESIGNED TO MOVE ACTIVE CITIES A GUIDE FOR CITY LEADERS. (n.d.). Retrieved from <http://e13c7a4144957cea5013-f2f5ab26d5e83af3ea377013dd602911.r77.cf5.rackcdn.com/resources/pdf/en/active-cities-full-report.pdf>

Developments in National Physical Activity Policy: an international review and recommendations towards better practice. (2004). *Journal of Science and Medicine in Sport*, **7**(1), 93–104. [https://doi.org/10.1016/S1440-2440\(04\)80283-4](https://doi.org/10.1016/S1440-2440(04)80283-4)

Draft WHO global action plan on physical activity 2018 -2030 INTRODUCTION Background. (n.d.). Retrieved from http://www.who.int/ncds/governance/gappa_version_4August2017.pdf

Duncan, M. J., et al. (2017). "10,000 Steps Australia: a community-wide eHealth physical activity promotion programme." *Br J Sports Med*.

Duncan, S., et al. (2016). "Active Transport, Physical Activity, and Distance Between Home and School in Children and Adolescents." *J Phys Act Health* **13**(4): 447-453.

Edwards, L., et al. (2017). "Definitions, Foundations and Associations of Physical Literacy: A Systematic Review." *Sports Medicine* **47**(1): 113-126.

Eime et al. (2015). The Contribution of sport participation to overall health enhancing physical activity levels in Australia: A population based study. *BMC Public Health* (2015) **15**:806

Eime, R. a. H., Jack. (2015). "How healthy is Australian sport? ." *Australasian Epidemiologist* **22**(1): 9-10.

Eime, R. M., et al. (2015). "The contribution of sport participation to overall health enhancing physical activity levels in Australia: a population-based study." *BMC Public Health* **15**.

Eime, R. M., Harvey, J. T., Charity, M. J., & Payne, W. R. (2016). Population levels of sport participation: implications for sport policy. *BMC Public Health*, **16**(1), 752. <https://doi.org/10.1186/s12889-016-3463-5>

Eime, R. M., Payne, W. R., & Harvey, J. T. (2008). Making sporting clubs healthy and welcoming environments: A strategy to increase participation. *Journal of Science and Medicine in Sport*, **11**(2), 146-54 Retrieved from <http://ezproxy.library.usyd.edu.au/login?url=https://search.proquest.com/docview/216674330?accountid=14757>

Eime, R. M. and W. R. Payne (2009). "Linking participants in school-based sport programs to community clubs." *J Sci Med Sport* **12**(2): 293-299.

Eime, R. M., et al. (2013). "A systematic review of the psychological and social benefits of participation in sport for adults: informing development of a conceptual model of health through sport." *International Journal of Behavioral Nutrition and Physical Activity* **10**(1): 135.

- Eime, R., Sawyer, N., Harvey, J., Casey, M., Westerbeek, H., Payne, W., (2015). Integrating public and sport management: Sport participation trends 2001 – 2010. *Sport Management Review*. 207-217.
- Escalante, Y., et al. (2014). "Playground Designs to Increase Physical Activity Levels During School Recess: A Systematic Review." *Health Education & Behavior* **41**(2): 138-144.
- Ferreira, M. L., et al. (2012). "Physical activity improves strength, balance and endurance in adults aged 40-65 years: a systematic review." *Journal of Physiotherapy* **58**(3): 145-156.
- Framework for Recreation in Canada – CPRA Update on Implementation Activity Across Canada. (2017). Retrieved from <https://static1.squarespace.com/static/57a2167acd0f68183878e305/t/58dac0c2893fc0210c385e20/1490731205728/PT+Implementation+of+Framework+EN+Feb+2017.pdf>
- Garrett, S., Elley, C. R., Rose, S. B., O'Dea, D., Lawton, B. A., Dowell, A. C. (2011). "Are physical activity interventions in primary care and the community cost-effective? A systematic review of the evidence." *Br J Gen Pract* **61**(584): e125-133.
- Gc, V., Wilson, E. C., Suhrcke, M., Hardeman, W., Sutton, S. (2016). "Are brief interventions to increase physical activity cost-effective? A systematic review." *Br J Sports Med* **50**(7): 408-417.
- Geidne, S., Quennerstedt, M., and Eriksson, C. 2013. The youth sports club as a health-promoting setting: an integrative review of research. *Scandinavian Journal of Public Health*. 41: 269-283
- Government of Western Australia. (2012). Active Living for All: A Framework for Physical Activity in Western Australia 2012-2016 4 Active Living for All: A Framework for Physical Activity in Western. Retrieved from <http://beactive.dsr.wa.gov.au/assets/files/Framework Document-On-Line Version.pdf>
- Government of Western Australia. (2012). Healthy Active by Design A Western Australian project to designing places for active and healthy living Project Overview What? Retrieved from <http://www.beactive.wa.gov.au/assets/files/Policy and legislation/33623 DSR Healthy Active by Design summary document - UPDATED MAY 2012 V3.pdf>
- Government of Western Australia. (n.d.). Physical Activity Plans A Guide for Local Government How to: Physical Activity Plans How to: Physical Activity Plans I A Guide for Local Government. Retrieved from <http://www.beactive.wa.gov.au/assets/files/Local Government/PA Plans/LAG resourcesHow To Physical Activity Plans Guide 2008.pdf>
- Government, N. (2013). NSW Healthy Eating and Active Living Strategy. Retrieved from <http://www.health.nsw.gov.au/health/Publications/nsw-healthy-eating-strategy.pdf>
- Haddaway, N., et al. (2015) The Role of Google Scholar in Evidence Reviews and Its Applicability to Grey Literature Searching. *PLoS One* **10**, e0138237
- Hajkowicz, S., Cook, H., Wilhelmseder, L., & Boughen, N. (2013). The future of Australian sport Megatrends shaping the sports sector over coming decades. Retrieved from https://www.clearinghouseforsport.gov.au/__data/assets/pdf_file/0007/564073/The_Future_of_Australian_Sport_-_Full_Report.pdf
- Hakala, S., et al. (2017). "Effectiveness of technology-based distance interventions promoting physical activity: Systematic review, meta-analysis and meta-regression." *Journal of Rehabilitation Medicine* **49**(2): 97-105.
- Hallal, P. C., Andersen, L. B., Bull, F. C., Guthold, R., Haskell, W., Ekelund, U., Lancet Physical Activity Series Working Group. (2012) Global physical activity levels: surveillance progress, pitfalls, and prospects. *Lancet* **380**, 247-257 DOI: 10.1016/S0140-6736(12)60646-1

Hamer, M., Aggio, D., Knock, G., Kipps, C., Shankar, A., Smith, L (2017) Effect of major school playground reconstruction on physical activity and sedentary behaviour: Camden active spaces. BMC Public Health **17**, 552 DOI: 10.1186/s12889-017-4483-5

Hardy, L., Mihrshahi, S., Drayton, B., Bauman, A. (2016) NSW Schools Physical Activity and Nutrition Survey (SPANS) 2015: Full Report. 2016 Sydney: NSW Department of Health.

Heath, G. W., et al. (2012). "Evidence-based intervention in physical activity: lessons from around the world." Lancet (London, England) **380**(9838): 272-281.

Health Organization, W., & Office for Europe, R. (n.d.). Nutrition, Physical Activity and Obesity United Kingdom of Great Britain and Northern Ireland. *Source: WHO Global Health Observatory Data Repository*, (1). Retrieved from <http://www.sportsthinktank.com/uploads/world-health-organisation-nutrition-physical-activity-and-obesity-united-kingdom-of-great-britain-and-northern-ireland-january-2013-5.pdf>

Healthy Ireland. (2013). A FRAMEWORK FOR IMPROVED HEALTH AND WELLBEING. Retrieved from <http://www.hse.ie/eng/services/publications/corporate/hieng.pdf>

Henderson, K. A. (n.d.). A paradox of sport management and physical activity interventions. <https://doi.org/10.1016/j.smr.2008.12.004>

Hoye, R & Nicholson, M (2009) Social Capital And Sport Policies In Australia, *Public Management Review*, 11:4, 441-460, DOI: 10.1080/14719030902989524

Huijg, J., et al. (2015). "Factors Influencing Primary Health Care Professionals' Physical Activity Promotion Behaviors: A Systematic Review." International Journal of Behavioral Medicine **22**(1): 32-50.

Hunter, S., et al. (2016). "A quasi-experimental examination of how school-based physical activity changes impact secondary school student moderate- to vigorous- intensity physical activity over time in the COMPASS study." Int J Behav Nutr Phys Act **13**: 86.

Hynynen, S. T., Van Stralen, M. M., Sniehotta, F. F., Araújo-Soares, V., Hardeman, W., Chinapaw, M. J. M., Vasankari, T., Hankonen, N. (2016). "A systematic review of school-based interventions targeting physical activity and sedentary behaviour among older adolescents." International Review of Sport and Exercise Psychology **9**(1): 22-44.

Intergenerational Review of Australian Sport 2017. (2017). *Intergenerational Review of Australian Sport*. Retrieved from https://www.ausport.gov.au/nationalsportplan/home/second_row_content/resources/Intergenerational_Review_of_Australian_Sport_2017.pdf

Investments that Work for Physical Activity. (n.d.). Retrieved from http://www.web.uwa.edu.au/_data/assets/pdf_file/0010/1456426/GAPA_PA-InvestmentsWork_FINAL.pdf

Jennings, C. A., Yun, L., Loitz, C. C., Lee, E. Y., Mummery, W. K. (2017) A Systematic Review of Interventions to Increase Stair Use. Am J Prev Med **52**, 106-114 DOI: 10.1016/j.amepre.2016.08.014

Jiying, L., et al. (2015). "Interventions to Increase Physical Activity in Children Aged 2-5 Years: A Systematic Review." Pediatric Exercise Science **27**(3): 314-333.

Keall, M., Chapman, R., Howden-Chapman, P., Witten, K., Abrahamse, W., Woodward, A. (2015). "Increasing active travel: results of a quasi-experimental study of an intervention to encourage walking and cycling." J Epidemiol Community Health **69**(12): 1184-1190.

Kelly, B., et al. (2014). "Identifying important and feasible policies and actions for health at community sports clubs: A consensus-generating approach." J Sci Med Sport **17**(1): 61-66.

Kingsland, M., et al. (2016). "Interventions in sports settings to reduce risky alcohol consumption and alcohol-related harm: a systematic review." Systematic Reviews **5**: 12.

Kokko S, Kannas L and Villberg J. The health promoting sports club in Finland—a challenge for the settings-based approach. Health Prom Int 2006;21:219–29.

Lai, S., et al. (2014). "Do School-Based Interventions Focusing on Physical Activity, Fitness, or Fundamental Movement Skill Competency Produce a Sustained Impact in These Outcomes in Children and Adolescents? A Systematic Review of Follow-Up Studies." Sports Medicine **44**(1): 67-79.

Laine, J., Kuvaja-Kollner, V., Pietila, E., Koivuneva, M., Valtonen, H., Kankaanpaa, E. (2014) Cost-effectiveness of population-level physical activity interventions: a systematic review. Am J Health Promot **29**, 71-80 DOI: 10.4278/ajhp.131210-LIT-622

Lamming, L., et al. (2017). "What do we know about brief interventions for physical activity that could be delivered in primary care consultations? A systematic review of reviews." Preventive Medicine **99**: 152-163.

Larouche, R., Saunders, T. J., Faulkner, G. E. J., Colley, R. Tremblay, M. (2014) Associations between active school transport and physical activity, body composition, and cardiovascular fitness: A systematic review of 68 studies. Journal of Physical Activity and Health **11**, 206-227 DOI: 10.1123/jpah.2011-0345

LeBlanc, A. G., et al. (2012). "Systematic review of sedentary behaviour and health indicators in the early years (aged 0-4 years)." Applied Physiology, Nutrition, & Metabolism = Physiologie Appliquee, Nutrition et Metabolisme **37**(4): 753-772.

Logan, S. W., et al. (2015). "Relationship Between Fundamental Motor Skill Competence and Physical Activity During Childhood and Adolescence: A Systematic Review." Kinesiology Review **4**(4): 416-426.

Logan City Council. (2016). *Active Logan Strategy 2016 - 2028*. Retrieved from http://www.logan.qld.gov.au/__data/assets/pdf_file/0008/407096/Active-Logan-Strategy-2016-2028.pdf

Logan City Council. (2016). *Active Logan Strategy 2016 - 2028*. Retrieved from http://www.logan.qld.gov.au/_data/assets/pdf_file/0008/407096/Active-Logan-Strategy-2016-2028.pdf

Lonsdale, C., et al. (2017). "An internet-supported school physical activity intervention in low socioeconomic status communities: results from the Activity and Motivation in Physical Education (AMPED) cluster randomised controlled trial." Br J Sports Med.

- Loureiro, H., et al. (2015). "The experience of programs to promote health in retirement: a systematic review of qualitative evidence." JBI Database System Rev Implement Rep **13**(4): 276-294.
- Macdonald-Wallis, K., et al. (2012). "Social network analysis of childhood and youth physical activity: a systematic review." American Journal of Preventive Medicine **43**(6): 636-642.
- Mansfield, L & Piggitt, J. (2016) Sport, physical activity and public health, International Journal of Sport Policy and Politics, 8:4, 533-537, DOI: 10.1080/19406940.2016.1254666
- Marques, A., et al. (2017). "Association between physical education, school-based physical activity, and academic performance: a systematic review. / Asociación entre la educación física, la actividad física en la escuela, y el rendimiento académico: una revisión sistemática." Retos: Nuevas Perspectivas de Educación Física, Deporte y Recreación **31**: 316-320.
- Martin, R. and E. M. Murtagh (2017). "Effect of Active Lessons on Physical Activity, Academic, and Health Outcomes: A Systematic Review." Research Quarterly for Exercise & Sport **88**(2): 149-168.
- Mears, R. and R. Jago (2016). "Effectiveness of after-school interventions at increasing moderate-to-vigorous physical activity levels in 5- to 18-year olds: a systematic review and meta-analysis." Br J Sports Med.
- Minges, K. E., et al. (2016). "Classroom Standing Desks and Sedentary Behavior: A Systematic Review." Pediatrics **137**(2): e20153087.
- Milio N. Glossary: healthy public policy. Journal of Epidemiology & Community Health 2001;**55**:622-623.
- Morgan, F., et al. (2016). "Adherence to exercise referral schemes by participants - what do providers and commissioners need to know? A systematic review of barriers and facilitators." BMC Public Health **16**: 227.
- Morton, K. L., et al. (2016). "The school environment and adolescent physical activity and sedentary behaviour: a mixed-studies systematic review." Obesity Reviews **17**(2): 142-158.
- Moving More, Living More The Physical Activity Olympic and Paralympic Legacy for the Nation. (2014).
- Muller, A. M., et al. (2016). "The effectiveness of e- & mHealth interventions to promote physical activity and healthy diets in developing countries: A systematic review." International Journal of Behavioral Nutrition & Physical Activity **13**(1): 109.
- Murphy, N. M. and A. Bauman (2007). "Mass sporting and physical activity events--are they "bread and circuses" or public health interventions to increase population levels of physical activity?" J Phys Act Health **4**(2): 193-202.
- Mueller, N., Rojas-Rueda, D., Cole-Hunter, T., de Nazelle, A., Dons, E., Gerike, R., Gotschi, T., Int Panis, L., Kahlmeier, S., Nieuwenhuijsen, M. (2015) Health impact assessment of active transportation: A systematic review. Prev Med **76**, 103-114 DOI: 10.1016/j.ypmed.2015.04.010
- National Heart Foundation of Australia. (2014). Blueprint for an active Australia Second edition Government and community actions to increase population levels of physical activity and reduce sedentary behaviour in Australia. Retrieved from <https://www.heartfoundation.org.au/images/uploads/publications/Blueprint-for-an-active-Australia-second-edition.pdf>

National Institute for Clinical Excellence (NICE) (2007) Behaviour change: : general approaches. Public Health Guideline PH6.

National Institute for Clinical Excellence (NICE) (2008). Physical Activity in the Workplace NICE Guideline. N. I. f. C. E. (NICE).

Naylor, P. J., et al. (2015). "Implementation of school based physical activity interventions: a systematic review." Preventive Medicine **72**: 95-115.

Nicholson, M., Hoyer, R., Sherry, E., Dyson, S., & Brown, K. (2013). Healthy Sporting Environments Demonstration Project. Retrieved from <https://www.vichealth.vic.gov.au/media-and-resources/publications/healthy-sporting-environments-demonstration-project-evaluation-highlights>

NORTHERN TERRITORY GOVERNMENT, & Department of Sport and Recreation. (n.d.). SPORT AND ACTIVE RECREATION MASTER PLAN. Retrieved from https://dttc.nt.gov.au/_data/assets/pdf_file/0010/373258/Sport-and-Active-Recreation-Master-Plan-High-Res.pdf

NSW Premier's Council for Active Living. (n.d.). Community Strategic Plan - Integrated Planning and Reporting Framework. Retrieved September 29, 2017, from <https://www.nswpcalipr.com.au/the-integrated-planning-and-reporting-ipr-framework/community-strategic-plan/>

NSW Government Department of Family and Community Services (FACS) (2017) Community Builders [web portal].

Office of Recreation and Sport South Australia. (2011). Trends in Recreation and Sport.

O'Hara, B. J., et al. (2017). "Weight-Related Goal Setting in a Telephone-Based Preventive Health-Coaching Program: Demonstration of Effectiveness." Am J Health Promot **31**(6): 491-501.

O'Hara, B. J., et al. (2013). "Effectiveness of Australia's Get Healthy Information and Coaching Service: maintenance of self-reported anthropometric and behavioural changes after program completion." BMC Public Health **13**: 175.

Ooms, L., Veenhof, C., Schipper-van Veldhoven, N., & de Bakker, D. H. (2015). Sporting programs for inactive population groups: factors influencing implementation in the organized sports setting. *BMC sports science, medicine and rehabilitation*, *7*(1), 12.

Parnell, D., et al. (2013). "Football in the community schemes: exploring the effectiveness of an intervention in promoting healthful behaviour change." Soccer & Society **14**(1): 35-51.

ParticipACTION. (2015). The ParticipACTION Report Card on Physical Activity for Children and Youth. Retrieved from https://www.participaction.com/sites/default/files/downloads/Participaction-2015ReportCard-FullReport_4.pdf

ParticipACTION. (2016). Impact Report: Moving with the Times.

Participaction. (n.d.). *2017 Participaction Impact Report*. Retrieved from [https://www.participaction.com/sites/default/files/downloads/2017 ParticipACTION Impact Report English.pdf](https://www.participaction.com/sites/default/files/downloads/2017%20ParticipACTION%20Impact%20Report%20English.pdf)

Pate, R. R., Trilk, J. L., Byun, W., & Wang, J. (2011). POLICIES TO INCREASE PHYSICAL ACTIVITY IN CHILDREN AND YOUTH. *J Exerc Sci Fit @BULLET*, *9*(1), 1-14. [https://doi.org/10.1016/S1728-869X\(11\)60001-4](https://doi.org/10.1016/S1728-869X(11)60001-4)

Patnode, C. D., Evans, C. V., Senger, C. A., Redmond, N., Lin, J. S. (2017) Behavioral Counseling to Promote a Healthful Diet and Physical Activity for Cardiovascular Disease Prevention in Adults Without Known Cardiovascular Disease Risk Factors: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. *JAMA* **318**, 175-193 DOI: 10.1001/jama.2017.3303

Physical activity vs Noncommunicable diseases [NCDs]: An assessment of Global, Regional and National context for physical activity policy development, implementation and evaluation. (2014). *Journal of Science and Medicine in Sport*, 18, e6. <https://doi.org/10.1016/J.JSAMS.2014.11.023>

Plotnikoff, R. C., Costigan, S. A., Williams, R. L., Hutchesson, M. J., Kennedy, S. G., Robards, S. L., Allen, J., Collins, C. E., Callister, R., Germov, J. (2015) Effectiveness of interventions targeting physical activity, nutrition and healthy weight for university and college students: a systematic review and meta-analysis. *Int J Behav Nutr Phys Act* **12**, 45 DOI: 10.1186/s12966-015-0203-7

Pratt, M., Salvo, D., Cavill, N., Giles-Corti, B., McCue, P., Reis, R. S., ... & Foster, C. (2016). An international perspective on the nexus of physical activity research and policy. *Environment and Behavior*, *48*(1), 37-54.

Pronk, N. P., et al. (2015). "Combined Diet and Physical Activity Promotion Programs for Prevention of Diabetes: Community Preventive Services Task Force Recommendation Statement." *Ann Intern Med* **163**(6): 465-468.

Priest, N., Armstrong, R., Doyle, J., & Waters, E. (2008). Interventions implemented through sporting organisations for increasing participation in sport. In N. Priest (Ed.), *Cochrane Database of Systematic Reviews*. Chichester, UK: John Wiley & Sons, Ltd.
<https://doi.org/10.1002/14651858.CD004812.pub3>

Promoting physical activity in a public health context. (2017). *Journal of Sport and Health Science*.
<https://doi.org/10.1016/J.JSHS.2017.10.004>

Public Health England (2016) Making Every Contact Count (MECC): Consensus statement. Produced by Public Health England, NHS England and Health Education England.

Public Health England. (2014). Everybody active, every day. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/366113/Evidence_layout_23_Oct.pdf

Public Health England. (2014). Identifying what works for local physical inactivity interventions. Retrieved from www.gov.uk/phe

Ramchandani, G., Coleman, R., Christy, E. (2017) The sport participation legacy of major events in the UK. *Health Promot Int* DOI: 10.1093/heapro/dax061

Reis, A. C., Frawley, Stephen, Hodgetts, Danya, Thomson, Alana, Hughes, Kate (2017) Sport Participation Legacy and the Olympic Games: The Case of Sydney 2000, London 2012, and Rio 2016. *Event Management* **21**, 139-158 DOI: 10.3727/152599517X14878772869568

Richards, J., et al. (2013). "Face-to-face interventions for promoting physical activity." *Cochrane Database of Systematic Reviews*(9): Cd010392.

Riso, E.-M., et al. (2014). "OBJECTIVELY MEASURED SCHOOL-BASED PHYSICAL ACTIVITY INTERVENTIONS FOR 6-12-YEAR-OLD CHILDREN IN 2009-2014: A SYSTEMATIC REVIEW." *Acta Kinesiologiae Universitatis Tartuensis* **20**: 9-24.

Roberts, K., Cavill, N., Rutter, H., Hywell, L. E., Consultees, D., Adamson, A., ... Bauman, R. A. (2009). Standard Evaluation Framework for weight management interventions. Retrieved from

[http://www.getmoving.tas.gov.au/_data/assets/pdf_file/0006/263175/2009_National_Obesity_Observatory - Evaluation Framework.pdf](http://www.getmoving.tas.gov.au/_data/assets/pdf_file/0006/263175/2009_National_Obesity_Observatory_-_Evaluation_Framework.pdf)

Robertson-Wilson, J., et al. (2016). "Dance Interventions to Increase Physical Activity Among Youth: A Systematic Review." Kinesiology Review **5**(3): 170-188.

Robinson, M. N., Tansil, K. A., Elder, R. W., Soler, R. E., Labre, M. P., Mercer, S. L., Eroglu, D., Baur, C., Lyon-Daniel, K., Fridinger, F., Sokler, L. A., Green, L. W., Miller, T., Dearing, J. W., Evans, W. D., Snyder, L. B., Kasisomayajula Viswanath, K., Beistle, D. M., Chervin, D. D., Bernhardt, J. M., Rimer, B. K. (2014) Mass media health communication campaigns combined with health-related product distribution: a community guide systematic review. Community Preventive Services Task, Force. Am J Prev Med **47**, 360-371 DOI: 10.1016/j.amepre.2014.05.034

Rowe, K., Shilbury, D., Ferkins, L., & Hinckson, E. (2013). Sport development and physical activity promotion: An integrated model to enhance collaboration and understanding. <https://doi.org/10.1016/j.smr.2012.12.003>

Rowe, N. F. (2015). Sporting capital: a theoretical and empirical analysis of sport participation determinants and its application to sports development policy and practice. International Journal of Sport Policy, **7**(1), 43–61. <https://doi.org/10.1080/19406940.2014.915228>

Rojas-Rueda, D., de Nazelle, A., Andersen, Z. J., Braun-Fahrlander, C., Bruha, J., Bruhova-Foltynova, H., Desqueyroux, H., Praznocy, C., Ragettli, M. S., Tainio, M., Nieuwenhuijsen, M. J. (2016). "Health Impacts of Active Transportation in Europe." PLoS One **11**(3): e0149990.

RSGK Sports Pty Ltd. (2017) Ready Steady Go Kids (RSGK). Multi-sports for 1.5 to 6-year-olds [Web Portal].

Sarmiento, O. L., Diaz Del Castillo, A., Triana, C. A., Acevedo, M. J., Gonzalez, S. A., Pratt, M. (2016). "Reclaiming the streets for people: Insights from Ciclovias Recreativas in Latin America." Prev Med.

Schoeppe, S., Duncan, M. J., Badland, H., Oliver, M., Curtis, C. (2013). "Associations of children's independent mobility and active travel with physical activity, sedentary behaviour and weight status: A systematic review." J Sci Med Sport **16**(4): 312-319.

Schoeppe, S., et al. (2016). "Efficacy of interventions that use apps to improve diet, physical activity and sedentary behaviour: a systematic review." International Journal of Behavioral Nutrition & Physical Activity **13**(1): 127.

Shu, S., Batteate, C., Cole, B., Froines, J., Zhu, Y. (2016). "Air quality impacts of a CicLAvia event in Downtown Los Angeles, CA." Environ Pollut **208**(Pt A): 170-176.

Smith, B. J., Thomas, M., Batras, D. (2016) Overcoming disparities in organized physical activity: findings from Australian community strategies. Health Promot Int **31**, 572-581 DOI: 10.1093/heapro/dav042

South Australian Office for recreation and Sport. (n.d.). *Strategic plan 2017-21*. Retrieved from http://ors.sa.gov.au/_data/assets/pdf_file/0004/326407/ORS_Strategic_Plan_Flyer_2017-2021.pdf

Sport and recreation Alliance. (n.d.). *FUTURE TRENDS INNOVATING TO GROW PARTICIPATION IN SPORT*. Retrieved from <http://www.sportsthinktank.com/uploads/sport-and-recreation-alliance-future-trends.pdf>

Sport England. (2016). *Sport England: Towards and Active Nation Strategy 2016-2021*. Retrieved from <https://www.sportengland.org/media/10629/sport-england-towards-an-active-nation.pdf>

Sport England. (2017). *REVIEW OF EVIDENCE ON THE OUTCOMES OF SPORT AND PHYSICAL ACTIVITY - Rapid Evidence Review*. Retrieved from <https://www.sportengland.org/media/11719/sport-outcomes-evidence-review-report.pdf>

Sport Matters. (n.d.). *Sport 2.0: Towards A New Era in Canadian Sport*. Retrieved from http://sportmatters.ca/sites/default/files/content/sport_2.0_towards_a_new_era_2.0_smg.pdf

Sport New Zealand. (2016). *SPORT AND ACTIVE RECREATION IN THE LIVES OF AUCKLAND ADULTS*. Retrieved from <https://www.srknowledge.org.nz/wp-content/uploads/2016/02/2013-14-Regional-Profile-Auckland-FINAL-1.pdf>

Sport New Zealand. (n.d.). *Play. Sport Overview*. Retrieved from <http://www.sportnz.org.nz/assets/Uploads/2016-SportNZ-Play-Sport-Overview.pdf>

Sport New Zealand. (n.d.). *Community Sport Strategy 2015–20*. Retrieved from <http://www.sportnz.org.nz/assets/Uploads/attachments/About-us/Com-Sport-Strategic-Plan.pdf>

Sports and Active Recreation Strategy. (2016). Retrieved from http://www.tunbridgewells.gov.uk/__data/assets/pdf_file/0015/130074/Sports-Strategy-2016-final.pdf

Sports-Based Health Interventions. (n.d.). Retrieved from <https://link-springer-com.ezproxy1.library.usyd.edu.au/content/pdf/10.1007%2F978-1-4614-5996-5.pdf>

Strategy, A. (2014). *Sport & Active recreation STRATEGY 2014-19*, (November).

Sullivan, R. A., et al. (2017). "The Association of Physical Activity and Academic Behavior: A Systematic Review." *Journal of School Health* **87**(5): 388-398.

Sun, C., et al. (2013). "Effects of school-based interventions for direct delivery of physical activity on fitness and cardiometabolic markers in children and adolescents: a systematic review of randomized controlled trials." *Obesity Reviews* **14**(10): 818-838.

Sutherland, R., Reeves, P., Campbell, E., Lubans, D. R., Morgan, P. J., Nathan, N., Wolfenden, L., Okely, A. D., Gillham, K., Davies, L., Wiggers, J. (2016) Cost effectiveness of a multi-component school-based physical activity intervention targeting adolescents: the 'Physical Activity 4 Everyone' cluster randomized trial. *Int J Behav Nutr Phys Act* **13**, 94 DOI: 10.1186/s12966-016-0418-2

Sutherland, R., Campbell, E., Lubans, D. R., Morgan, P. J., Okely, A. D., Nathan, N., Gillham, K., Lecathelinais, C., Wiggers, J. (2016) Physical education in secondary schools located in low-income communities: Physical activity levels, lesson context and teacher interaction. *J Sci Med Sport* **19**, 135-141 DOI: 10.1016/j.jsams.2014.12.003

Syme, S. L., Ritterman, M.L. (2009) The Importance of Community Development For Health and Well-Being. *Community Development Investment Review*, Federal Reserve Bank of San Francisco, Volume 5, no. 3.

Tainio, M., Monsivais, P., Jones, N. R., Brand, C., Woodcock, J. (2017) Mortality, greenhouse gas emissions and consumer cost impacts of combined diet and physical activity scenarios: a health impact assessment study. *BMJ Open* 7, e014199 DOI: 10.1136/bmjopen-2016-014199

Tasmanian Government. (2011). Tasmania's Plan for Physical acTiViTy. Retrieved from http://www.getmoving.tas.gov.au/data/assets/pdf_file/0006/259224/TPPA_A4_LOW_RESMAY14.pdf

Timmons, B. W., et al. (2012). "Systematic review of physical activity and health in the early years (aged 0-4 years)." *Applied Physiology, Nutrition, & Metabolism = Physiologie Appliquee, Nutrition et Metabolisme* 37(4): 773-792.

The role of sport in community capacity building: An examination of sport for development research and practice. (2015). *Sport Management Review*, 18(1), 6–19.
<https://doi.org/10.1016/J.SMR.2013.08.008>

The Sport Basic Plan The Sport Basic Plan Activating Japan through Sport! Activating Japan through Sport! Establishment of the Sport Basic Plan Basic Act on Sport. (n.d.). Retrieved from http://www.mext.go.jp/component/a_menu/sports/detail/__icsFiles/afieldfile/2012/08/08/1319359_5_2_1.pdf

Towards a research agenda in collaborative sport governance. (2016). *Sport Management Review*, 19(5), 479–491. <https://doi.org/10.1016/J.SMR.2016.04.004>

UK Government - Public Health England (2016). "Making Every Contact Count (MECC): practical resources [Web portal]."

Umstattd Meyer, M. R., et al. (2016). "Physical Activity-Related Policy and Environmental Strategies to Prevent Obesity in Rural Communities: A Systematic Review of the Literature, 2002-2013." *Preventing Chronic Disease* 13: E03.

US Centers for Disease Control and Prevention (CDC) (2011) Strategies to Prevent Obesity and Other Chronic Diseases: The CDC Guide to Strategies to Increase Physical Activity in the Community, Atlanta: U.S. Department of Health and Human Services.

US Department of Health and Human Services (2008) 2008 Physical Activity Guidelines for Americans.

US Department of Health and Human Services - Community Preventive Services Task Force (2011) Health Communication and Social Marketing: Health Communication Campaigns That Include Mass Media and Health-Related Product Distribution: Task Force Finding and Rationale Statement.

US Department of Health and Human Services - Community Preventive Services Task Force (2011) Health Communication and Social Marketing: Health Communication Campaigns That Include Mass Media and Health-Related Product Distribution: Task Force Finding and Rational Statement.

US Department of Health and Human Services - Community Preventive Services Task Force (2013) Obesity Prevention and Control: Worksite Programs. Task Force Finding and Rationale Statement.

US Department of Health and Human Services - Community Preventive Services Task Force (2014) Campaigns and Informational Approaches to Increase Physical Activity: Community-wide campaigns. Task Force Finding.

US Department of Health and Human Services - Community Preventive Services Task Force (2014) Behavioral and Social Approaches to Increase Physical Activity: Social Support Interventions in Community Settings.

US Department of Health and Human Services - Community Preventive Services Task Force (2014) Environmental and Policy Approaches to Increase Physical Activity: Creation of or Enhanced Access to Places for Physical Activity Combined with Informational Outreach Activities. Task Force Finding and Rationale Statement.

US Department of Health and Human Services - Community Preventive Services Task Force (2014) Environmental and Policy Approaches to Increase Physical Activity: Point-of-Decision prompts to encourage use of stairs. Task Force Finding.

US Department of Health and Human Services - Community Preventive Services Task Force (2014) Individually-Adapted Health Behavior Change Programs. Task Force Finding and Rationale Statement.

US Department of Health and Human Services - Community Preventive Services Task Force (2014) Environmental and Policy Approaches to Increase Physical Activity: Point-of-Decision prompts to encourage use of stairs. Task Force Finding.

US Department of Health and Human Services - Community Preventive Services Task Force (2017) Physical Activity: Built Environment Approaches Combining Transportation System Interventions with Land Use and Environmental Design: Task Force Finding and Rationale Statement Ratified December 2016

US Department of Health and Human Services - Community Preventive Services Task Force (2017) The Community Guide: Family-Based Interventions for Physical Activity. Rationale and Task Force Finding.

US Department of Health and Human Services - Community Preventive Services Task Force (2017) Physical Activity: Interventions Including Activity Monitors for Adults with Overweight or Obesity. Community Preventive Services Task Force Finding and Rationale Statement.

US Department of Health and Human Services - Community Preventive Services Task Force (2017) Comprehensive Telehealth Interventions to Improve Diet Among Patients with Chronic Diseases. Task Force Finding and Rationale Statement.

US Department of Health and Human Services Community Preventive Services Task Force (2014) Behavioral and Social Approaches to Increase Physical Activity: Enhanced School-based Physical Education; Task Force Finding and Rationale Statement.

van Sluijs, E., Kriemler, S., McMinn, A. (2011) The effect of community and family interventions on young people's physical activity levels: a review of reviews and updated systematic review. *Br J Sports Med* **45**, 914-922 DOI: 10.1136/bjsports-2011-090187

- Van De Goor, I., Hämmäläinen, R.-M., Syed, A., Lau, C. J., Sandu, P., Spitters, H., ... Aro, A. R. (2017). Determinants of evidence use in public health policy making: Results from a study across six EU countries on behalf of the REPOPA consortium 1. *Health Policy*, 121(121), 273–281. <https://doi.org/10.1016/j.healthpol.2017.01.003>
- Varney, J., Brannan, M., Supported, G. A., Cavill, N., King, S., & Guerra, L. (2014). An evidence-based approach to physical activity. Retrieved from www.gov.uk/phe
- Vic Health. (n.d.). Promoting physical activity through local community programs. Retrieved September 28, 2017, from <https://www.vichealth.vic.gov.au/media-and-resources/publications/community-activation>
- Vic Health. (n.d.). Promoting physical activity through local community programs. Retrieved September 28, 2017, from <https://www.vichealth.vic.gov.au/media-and-resources/publications/community-activation>
- Vic Health. (n.d.). VicHealth Action Agenda for Health Promotion: 2016 update. Retrieved September 29, 2017, from <https://www.vichealth.vic.gov.au/media-and-resources/publications/2016-action-agenda>
- VicHealth. (2012). Increasing participation in physical activity, (3), 1–2. Retrieved from https://www.google.com.au/url?sa=t&rct=j&q=&escr=s&source=web&cd=3&ved=0CC8QFjAC&url=https://www.vichealth.vic.gov.au/~media/indicators/overview_sheets/10/vh_lg_guides_physical_activity_web.ashx&ei=ZVFQVdD9O4bDmwXfyoCADw&usq=AFQjCNGkouXghgAyl6Vem2D
- VicHealth. (2014). Physical activity, sport and walking: VicHealth's Investment Plan (2014-2018), 2.
- Victoria Health. (2015). *More Than Just Sport*. <https://doi.org/10.1016/B978-0-240-81471-1.10011-6>
- Victoria Health. (n.d.). *Sport Vouchers*.
- Victoria Health. (n.d.). Sports Vouchers - Office for Recreation and Sport. Retrieved March 22, 2017, from <http://www.sportvouchers.sa.gov.au/>
- Wakefield, M. A., Loken, B., Hornik, R. C. (2010). "Use of mass media campaigns to change health behaviour." *Lancet* 376(9748): 1261-1271.
- Wanner, M., et al. (2012). "Active transport, physical activity, and body weight in adults: a systematic review." *Am J Prev Med* 42(5): 493-502.
- Weed, M., et al. (2012). "Developing a physical activity legacy from the London 2012 Olympic and Paralympic Games: a policy-led systematic review." *Perspectives in Public Health* 132(2): 75-80.
- What about sport? A public health perspective on leisure-time physical activity. (2015). *Sport Management Review*, 18(1), 20–31. <https://doi.org/10.1016/J.SMR.2014.09.005>
- WHO Regional Office for Europe. (n.d.). Promoting sport and enhancing health in European Union countries: a policy content analysis to support action. Retrieved from http://www.euro.who.int/_data/assets/pdf_file/0006/147237/e95168.pdf
- WHO Regional Office for Europe (2017) Urban green space interventions and health: a review of impacts and effectiveness. Copenhagen: WHO Regional Office for Europe.

World Health Organization (2008) The world health report 2008 : primary health care now more than ever.

World Health Organization (2010). "Global recommendations on Physical Activity for Health."

World Health Organization (2017) WHO Global Action Plan on Physical Activity 2018 - 2030 (draft version, 01 August).

World Health Organization (2017) Tackling NCDs: 'Best buys' and other recommended interventions for the prevention and control of noncommunicable disease. The updated Appendix 3 of the WHO Global NCD Action Plan 2013-2020.

Wu, S., Cohen, D., Shi, Y., Pearson, M., Sturm, R. (2011) Economic analysis of physical activity interventions. Am J Prev Med **40**, 149-158 DOI: 10.1016/j.amepre.2010.10.029

World Health Organization. (2001). Ottawa Charter for Health Promotion. Geneva: WHO, 1986.

Yuan, X., et al. (2016). "Effectiveness of Social Marketing Interventions to Promote Physical Activity Among Adults: A Systematic Review." Journal of Physical Activity & Health **13**(11): 1263-1274.

Yun, L., Ori, E. M., Lee, Y., Sivak, A., Berry, T. R. (2017) A Systematic Review of Community-wide Media Physical Activity Campaigns: an Update from 2010. J Phys Act Health 1-44 DOI: 10.1123/jpah.2016-0616