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## **Towards whole-of-system action to promote physical activity – a cross-sectoral analysis of physical activity policy in Australia**

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### **ABSTRACT**

**Background:** The value of a systems thinking (ST) approach to tackling population physical inactivity is increasingly recognised. This study used conceptual ST to develop a cognitive map for physical activity (PA) influences and intervention points, which informed a standardised approach to the coding and notation of PA-related policies in Australia.

**Methods:** Policies were identified through desktop searches and input from 33 nominated government representatives attending two national PA policy workshops. Documents were audited using pre-defined criteria spanning policy development, strategic approaches to PA, implementation processes and evaluation. Data were analysed using descriptive statistics.

**Results:** The audit included 110 policies, mainly led by the health or planning/infrastructure sectors (n=54, 49%). Most policies purporting to promote PA did so as a co-benefit of another objective that was not focused on PA (n=63, 57%). An intention to monitor progress was indicated in most (n=94, 85%), however fewer than half (n=52, 47%) contained evaluable goals/actions relevant to PA. Descriptions of resourcing/funding arrangements were generally absent or lacked specific commitment (n=67, 61%).

**Conclusions:** This study describes current PA-relevant policy in Australia, and identifies opportunities for improving coordination, implementation and evaluation to strengthen a whole-of-system and cross-agency approach to increasing population PA.

## 1 INTRODUCTION

2 As the global burden of non-communicable disease (NCD) continues to rise, so does the importance of  
3 tackling physical inactivity which is a common and modifiable NCD risk factor. Evidence about the  
4 contribution that inactivity makes to avoidable morbidity and mortality is well established,<sup>1</sup> and the  
5 accumulated economic case for reducing this risk factor is also compelling.<sup>2,3</sup> Yet, despite extensive  
6 international research efforts and the identification of an array of effective interventions,<sup>4,5</sup> available trend  
7 data show that the prevalence of physical inactivity has mostly remained stable over the past 15 years  
8 worldwide,<sup>6</sup> and over 22 years in Australia.<sup>7</sup> National governments have been urged to prioritise this issue  
9 and commit to multifaceted policies and programs that address the socio-ecological determinants of  
10 inactivity.<sup>8,9</sup> The World Health Organization's Global Action Plan on Physical Activity (GAPPA)<sup>10</sup> has  
11 stipulated 4 strategic objectives including 'active societies', 'active environments', 'active people' and  
12 'active systems', whilst identifying explicit policy actions to guide the comprehensive approach required to  
13 tackle inactivity within populations.

14 The engagement of diverse sectors (such as health, sport, transport and planning) has been identified as  
15 essential to delivering the broad scope of policy action required to address the multiple determinants of  
16 physical activity (PA).<sup>11</sup> Whilst such a broad field for policy development offers substantial opportunities,  
17 it also holds potential risks, inherent within the challenge of achieving and maintaining a coordinated  
18 response across Australia's federated system of independent national, State and Territory governments.<sup>12</sup>  
19 Typically, these risks present themselves as uncoordinated policy actions, piecemeal planning and patchy  
20 implementation. The necessary mitigation strategies involve strengthening communications across  
21 jurisdictions and forging a common strategic approach based on cross-sectoral partnerships that can enable  
22 the institutionalisation of sustainable policy actions within the routine business of stakeholder  
23 organisations.<sup>13</sup> Aspirations to achieve coordinated, embedded actions to address physical inactivity will  
24 be more likely to succeed if this issue is understood as a policy development task that has health and social  
25 implications, as well as political, organisational, economic and cultural challenges.<sup>14</sup>

26 Systematic policy analysis studies have been conducted nationally and internationally to examine the  
27 nature, quality and implementation of PA promotion policies, and to identify factors requiring further  
28 attention. A study in Finland reported on the policies of different sectors (i.e., health, education, transport)  
29 that had enabled a shift from a primary focus on sports participation to a broader approach to health-  
30 enhancing PA, and identified the political, social and economic forces that contributed to this.<sup>15</sup> Craig<sup>16</sup>  
31 examined the evolution of PA policy in Canada and recognised the prominent role of provincial coalitions  
32 and multi-strategic approaches, coupled with community development initiatives to support program  
33 delivery. One of the early comparative studies which presented case studies of PA policy in Switzerland,  
34 England and Finland, found differences attributable to cultural and political factors in each country and  
35 common barriers of resource limitations and competing priorities.<sup>17</sup> Several other international studies  
36 have used structured audit tools to assess the characteristics and differences in PA related-policies across  
37 nations.<sup>18-22</sup> These generally observed cross-sectoral engagement in the development of PA policies but  
38 noted that there was scope for this to be broadened and better coordinated in policy implementation. A lack  
39 of measurable indicators and clear plans for policy evaluation was a commonly reported weakness.

40 The adoption of systems thinking (ST) to public health, together with the critical analysis of required  
41 strategic interventions, has increased the perceived need for the application of ST to PA policy analysis  
42 and brought a fresh lens to guide how this is done. From a systems perspective, population levels of PA are  
43 an emergent product of the combined impact of multiple policies. At one level this highlights the  
44 importance of understanding and operationalising a whole-of-system approach to tackling physical  
45 inactivity<sup>23</sup>, and at another level it draws attention to questions of policy coordination, alignment and  
46 interdependence.<sup>24,25</sup> Recognising the dynamic nature of the relationship between policies and their  
47 influence on PA, including the potential for feedback loops and systemic adaptations, a systems approach  
48 generates interest in strategic policy levers that will maximise change.<sup>26</sup> Methodologically, it places value  
49 upon inductive, practice- based insights concerning the nature and operation of policy systems, that can be  
50 obtained through studies undertaken collaboratively by researchers and policy makers.<sup>27,28</sup>

51 Australian Systems Approach to Physical Activity (ASAPa) is a national project that supports the  
52 development and alignment of policies, programs and surveillance addressing PA at the population level.  
53 The first stage of this project is an audit and analysis of policies that promote PA across sectors and  
54 jurisdictions (State, Territory and Federal), conducted with input from policy makers. Recognising that  
55 there is a continuum of systems science applications from simple cognitive mapping through to more  
56 complex dynamic modelling,<sup>29,30</sup> this study is located within the conceptual, ST end of the systems science  
57 continuum (rather than the dynamic modelling end). This paper reports the findings of the audit and  
58 reveals how PA has been addressed and embedded within the policies of different sectors and jurisdictions.  
59 Based on this, it is possible to determine the extent to which the broad mix of policy actions prescribed by  
60 GAPPA are in place in Australia. Further, an examination of policy content, leadership, resourcing,  
61 governance and monitoring, allows identification of opportunities to strengthen the alignment,  
62 implementation and impact of policies to address population physical inactivity.

## 63 **METHODS**

### 64 **Scope of policies included in audit**

65 Documents were included in the audit if they were policies relevant to PA. Policies were defined as written  
66 documents representing a commitment to a course of action, adopted by government or non-government  
67 agencies that contain goals/objectives, and priorities, strategies and/or actions for achieving those  
68 goals.<sup>19,22</sup> Documents that did not meet this definition were excluded, which were mainly resources and  
69 guides. Policies that impact on population level PA may be located in diverse sectors and may seek to  
70 specifically promote PA or more indirectly support PA by influencing the environments in which people  
71 work, commute, and spend their recreation. For the purposes of this audit, policies were considered  
72 relevant to PA if they explicitly described an intent or recognised the potential, of the policy to impact PA.  
73 To ascertain this, in-text searches were conducted for references to PA and related words such as ‘active’,  
74 ‘cycling’, ‘walking’, ‘walkable’, ‘sport’, ‘exercise’, ‘mobility’, ‘liveable’ and ‘chronic disease’, and then  
75 read for surrounding context to determine whether such intent or recognition was being expressed. Policies

76 applying only to children and adults less than 18 years were excluded, as PA and related indicators for this  
77 age group are already monitored under a separate, policy-informing initiative known as ‘Active Healthy  
78 Kids Australia’.<sup>31</sup> As a result, education policies were largely excluded from this audit, although PA  
79 actions relevant to adults could still be addressed by other policies in the education domain (e.g., by  
80 promoting shared use planning of education institutions and their sports or PA-related facilities, or  
81 incorporating PA education into pre-service training for medical professionals).

82 In Australia, a 3-tiered system of government applies, meaning that policies relating to PA may be  
83 developed at the national (Federal), state (6 States and 2 Territories) and local level (comprising over 500  
84 local governments).<sup>32,33</sup> For the purposes of this audit, the plethora of policies developed at the local  
85 government level were excluded to focus on policies with a regional or national focus. Policies developed  
86 at the State level but with only sub-State applicability were similarly excluded unless they covered a large  
87 metropolitan area, addressed multiple sub-regions, or were developed in accordance with an overarching  
88 policy (in which case, that overarching policy was audited). Other documents excluded were those that  
89 were in draft form, no longer current, or were classified as departmental strategic plans.

## 90 **Identification of documents**

91 The process for the identification of PA-relevant policies comprised 3 stages: initial identification by  
92 government representatives at information gathering workshops, desktop searches, and a final verification  
93 and further identification of relevant documents by government representatives.

### 94 *Stage 1: Initial identification*

95 Two workshops, each of one day’s duration, were held in May and August 2018 to elicit information from  
96 government agencies about PA-related policies and programs in their jurisdiction. Invitations to the  
97 workshops were extended to members of the National Physical Activity Network (NPAN) (an Australian  
98 physical activity policy alliance), senior public servants recognised as directly involved in PA policy  
99 making, and (for the second workshop) advocates from major health-focused non-government

100 organisations (NGOs). A total of 33 government representatives attended the workshops, representing each  
101 of the State, Territory and Commonwealth jurisdictions in Australia, and health (n=14), sport (n=12) and  
102 planning/transport (n=7) sectors. Nine representatives from 8 NGOs attended the August workshop.  
103 Government representatives described and shared information about policies and large-scale programs  
104 relevant to PA, that were applicable to adults 18 years and over, and in force within their jurisdictions in  
105 the last 5 years. This was through presentations delivered by the Government representatives and an  
106 interactive, small groups exercise requiring participants to identify and map the current policy actions and  
107 programs to promote population PA in their jurisdictions, against the 8 domains comprising the '7 Best  
108 Investments for Physical Activity'<sup>34</sup> and the workplace setting.<sup>35</sup> Documents identified from the workshops  
109 were collated into a spreadsheet, and internet searches conducted to locate copies of the target documents.  
110 Where a document could not be located, it was recorded and noted for follow up under Stage 3. Websites  
111 of represented NGOs were also reviewed for PA-relevant policies. NGO policies were included in the  
112 audit if they were formally adopted by the NGO (as opposed to providing a blueprint for others, or  
113 designed to be an advocacy tool), and the NGO had resources to implement the policy actions proposed.

#### 114 *Stage 2: Desktop searches*

115 Other potentially relevant policies were identified based on other documents named in PA-relevant  
116 government policies from Stage 1 as forming part of their policy context, the Appendices of a recent report  
117 mapping transport, planning and infrastructure policies against liveability domains in 4 Australian States,<sup>36</sup>  
118 recent commentary reporting on developments in healthy planning policy in New South Wales,<sup>37</sup> and the  
119 database of PA policies relevant to Aboriginal Australians located at *HealthInfoNet*.<sup>38</sup> Internet searches  
120 were conducted to locate copies of these policies, and a record kept of those documents unable to be  
121 located that appeared to be PA-relevant. Where other policies were discovered incidentally in the process  
122 of conducting these searches, they were also considered for inclusion. Additional keyword internet  
123 searches were conducted in policy areas or for subject matter that could reasonably be expected to address  
124 PA (e.g., searches for State and Territory level sport and active recreation plans were prompted by the

125 existence of a National framework<sup>39</sup> requiring each State and Territory jurisdiction to develop such plans;  
126 searches for infrastructure-related policies in some jurisdictions were prompted by the existence of PA-  
127 relevant infrastructure policies in other jurisdictions, similarly searches for policies specific to particular  
128 subpopulation groups such as those with a disability, older people and women were prompted by the  
129 identification of PA-relevant policies for these groups in some jurisdictions). Keyword searches generally  
130 comprised searching the name of a particular State and Territory jurisdiction, and relevant keywords (in  
131 relation to the aforementioned examples, these included keywords such as ‘sport and active recreation  
132 plan’, ‘infrastructure strategy’ and ‘disability/ageing/women strategy’). Statutory instruments were  
133 excluded from consideration in Stage 2.

#### 134 *Stage 3: Consolidation and validation*

135 All PA-relevant policies identified from Stages 1 and 2 were consolidated for each jurisdiction and  
136 mapped against the policy areas of Health, Transport, Environment, Sport, Planning/Infrastructure,  
137 Education, Priority Groups and Other. In August 2018, government representatives from the workshops  
138 were emailed a copy of the spreadsheet and requested to review the list of policies that had been included  
139 for their jurisdiction, and to identify any other policies relevant to PA, seeking the advice of other  
140 government departments where necessary. These representatives were also asked to supply a copy of those  
141 documents which could not be located using internet searches, or to otherwise advise on their status.  
142 Responses from all jurisdictions were received by October 2018.

#### 143 **Audit process**

144 An audit tool was developed to identify policy content in a systematic and consistent manner, according to  
145 a defined set of criteria. Criteria were based on elements identified as relevant for effective PA or public  
146 health-related policy<sup>19,34,40,41</sup> and aimed to inform an overall understanding of the current PA policy  
147 landscape in Australia with regard to the broad mix of themes and actions in GAPP. <sup>10</sup> The tool  
148 comprised general criteria relating to the policy overall, and more specific criteria relating to the PA-



149 relevant components (Supplementary Table 1; available online). Audit fields and categories were refined  
150 through discussion across the authors to resolve ambiguities in application of the tool, and the modified  
151 criteria were re-applied to documents already audited. The policy audit was primarily conducted by  
152 [Blinded for review]. Where related documents were available in direct connection with the primary  
153 document (e.g., an action plan or monitoring framework), these documents were analysed along with the  
154 parent document as one policy. When assessing the agencies involved in policy development, documents  
155 developed vertically (i.e. by agencies from the same sector but across different levels of government) or  
156 between a State government department and local government, were categorised as ‘Other’ rather than  
157 ‘Whole-of-government’. An inter-rater agreement exercise was undertaken to determine percent  
158 agreement<sup>38</sup> in respect of the policy domain and policy mechanism fields, for a sample of 40 documents  
159 selected to represent a range of jurisdictions and sector leads. Inter-rater agreement was 80% for the policy  
160 domain fields and 82% for the mechanism fields. Audit data were analysed using IBM SPSS Statistics 24.

## 161 **RESULTS**

### 162 **Overview of included documents**

163 A summary of documents identified and screened for the policy mapping audit is presented in Figure 1.  
164 Overall, 110 documents were included as PA-relevant policies and 48 excluded for reasons shown. Table 1  
165 shows that most of these policies were developed at the State or Territory level (n=94, 86%), noting that  
166 this comprises 8 jurisdictions and local government policies were excluded from this audit. Most policies  
167 specified a timeframe of 3 or more years (n=72, 65%) although 31% (n=34) failed to specify a timeframe.  
168 Based on their stated goals and strategies, most policies (n=75, 68%) were aimed primarily at the whole-  
169 of-population level and targeted general health and wellbeing (n=93, 85%), with few dedicated to specific  
170 subgroups or particular chronic conditions (Table 1). Although all documents included in the audit were  
171 ‘policies’ for the purposes of this study, few used the word ‘Policy’ in their title (n=8, 7%), with other  
172 documents variously labelled as a ‘Plan’ (n=37, 34%), ‘Strategy’ (n=36, 33%) or ‘Framework’ (n=20,  
173 18%).

**174 Policy development**

175 Table 2 shows the main sectors involved and coordination/leadership approaches used in the development  
176 of PA-relevant policy. Many documents (n=45, 41%) were developed by a single agency, whilst a cross-  
177 agency or whole-of-government approach was apparent in 46% of documents (n=51). The health sector led  
178 the development of the greatest number of PA-relevant policies (n=30, 27%) followed by the  
179 planning/infrastructure sector (n=24, 22%).

**180 Approaches to addressing PA**

181 As shown in Table 4, a small proportion of documents (n=17, 16%) included a primary objective with a  
182 specific focus on increasing PA (e.g., to be the most active State), which was mainly the case in policies  
183 led by the sport sector. Most policies facilitated PA as a co-benefit of achieving another objective that was  
184 not focused on PA (n=63, 57%) (e.g., to enhance liveability; achieve a safer road system), which was  
185 mainly evident in planning, environment and transport sector-led policies. PA was a contributory factor  
186 towards achieving the policy's primary objective in the remaining documents (n=30, 27%) (e.g., to prevent  
187 obesity; reduce cardiovascular morbidity and mortality), which was mainly the case in health sector-led  
188 policies. Very few defined PA (n=3, 3%) or referred to the national guidelines on PA (n=19, 17%).

189 The target groups of PA-relevant policy actions were mainly providers (e.g., other policy makers,  
190 clinicians, practitioners) (n=96, 87%), and the general population (and/or a specific subgroup) (n=81,  
191 74%). Forty-six documents contained PA-relevant policy actions aimed at one or more population  
192 subgroups, such as Aboriginal populations, those with a disability, older adults, and women. Fewer  
193 documents contained PA-relevant actions aimed at individuals/families (n=23, 21%) and peak bodies  
194 (representative agencies for members with allied interests, such as advocacy groups, industry bodies, and  
195 sporting or professional associations) (n=40, 36%).

196 PA-relevant policy actions were classified according to which of 8 PA policy domains they addressed.  
197 Domains were derived from the '7 Best Investments for Physical Activity' identified by the International

198 Society for Physical Activity and Health (ISPAH),<sup>34</sup> and from the GAPP, <sup>10</sup> and included the workplace  
199 setting in recognition of the evidence supporting its inclusion as an additional policy domain.<sup>35</sup> As shown  
200 in Table 2, the policy domains most commonly included within our classification were urban design and  
201 infrastructure, and transport and environment, with over 50% of policies addressing either or both of these  
202 domains. The least frequently addressed domains were workplace, primary and secondary healthcare, and  
203 education. Most of the policies directed at the primary and secondary healthcare domain were led by the  
204 health sector (n=20; 77%), with few policies led outside the health-sector contributing to this domain. In  
205 contrast, the main contributors to the urban design and infrastructure domain included policies that were  
206 led by the planning and infrastructure sector (n=24, 36%), as well as other sectors such as transport (n=14,  
207 21%) and health (n=10, 15%). Other key domains addressed in policies led by the health sector included  
208 mass media and public education (n=17, 57%), workplaces (n=14, 47%) and community-wide programs  
209 (n=14, 47%). PA-relevant actions were classified according to the underlying mechanisms for their  
210 implementation, but could not be discerned in some instances due to imprecise descriptors (e.g., ‘develop  
211 and implement actions to address racism in sport and recreation’, ‘develop and support opportunities for  
212 sport and recreation’), or because they were framed as scoping measures (e.g., ‘investigate and consider  
213 fiscal policies with the potential to remove barriers to participation’, ‘review existing fare structure to  
214 make public transport more convenient’) or as broad strategic directions. Examples are provided in  
215 Supplementary Table 2 (available online) to illustrate the types of actions described by documents, which  
216 were regarded as addressing particular domains or using certain mechanisms. Supplementary Table 3  
217 (available online) contains examples of PA-relevant policies in Australia, mapped against the GAPP  
218 actions and the key domains to which they relate. It has been supplemented with additional examples of  
219 programs, including those applicable to children and young adults less than 18 years, as identified from the  
220 2018 Active Healthy Kids Report Card<sup>31</sup> and PA programs identified by stakeholders at the national  
221 workshops.

## 222 **Implementation and evaluation**

223 Shared responsibility, such as where lead and partner agencies were specified, was the most commonly  
224 identified approach to implementation (n=45, 41%; Table 3). Where implementation was broadly  
225 described as ‘shared’ without delineating specific responsibilities, this was classified as ‘None specified’.  
226 Adequate delineation of responsibility for the PA-relevant goals or actions of the policy, was noted in 63%  
227 of audited documents.

228 Over half of the documents described some form of coordination body for implementation and/or  
229 monitoring, with functions such as providing oversight, advice, support, and/or leadership. The most  
230 common of these arrangements was a governance committee (n=34, 31%), membership of which was  
231 generally described as including cross-agency representation and in some cases also representation among  
232 external stakeholders (e.g., peak bodies, NGOs, private sector, community members). Few documents  
233 described independent governance committees, where governance was through non-government  
234 stakeholders or a body with statutory independence (n=5, 5%).

235 Most documents indicated some form of commitment or intention to monitor and/or report on the progress  
236 of implementation and/or outcomes (Table 3), although in many cases, the processes for monitoring were  
237 still to be developed or were not described in detail. Verification of the implementation of intended  
238 monitoring processes was out of scope for this project. Eleven documents were regarded as having  
239 regulatory enforceability (e.g., where monitoring, implementation and/or reporting was or is mandated by  
240 governing legislation).

241 Documents were assessed for the evaluability of their PA-relevant goals or actions. Goals/actions were  
242 determined to be evaluable if they were described with sufficient specificity to render them amenable to  
243 evaluation. This could be established by referencing relevant data sources or indicators even if those  
244 indicators did not specify the desired direction of change or target. Examples of evaluable goals/actions  
245 included those which referenced indicators such as: the proportion of adults who are sufficiently physically  
246 active; increases in the number, frequency and diversity of people cycling for transport; and percentage of  
247 the population living within 30 minutes by public transport of a city or major metropolitan centre. Less

248 than half of the documents were considered to contain evaluable PA-relevant goals/actions (Table 3).

249 Goals/actions that were not considered evaluable included: those where indicators were still to be

250 developed or were not publicly available or provided for review; indicators that were not specific to the

251 policy but referenced those of other policies towards which the policy was intended to contribute; or those

252 that only contained implementation indicators without any associated reach and/or impact or outcome

253 measures.

254 The majority of policies (n=67, 61%; Table 4) did not describe any resourcing or funding arrangements or

255 only expressed a general statement of intent to resource the policy, such as by using wording to the

256 following effect: 'investment decisions will be guided by policy priorities'; 'financial commitment will be

257 commensurate with need'; 'implementation will occur within the agency's resource capability'; 'funding

258 allocation will be the subject of further analysis and budgetary consideration'. A commitment to funding

259 was expressed if, for example: a dollar amount was allocated to one or more of the policy actions; an

260 amount had been budgeted for implementation of the policy overall; the policy contained actions to

261 procure funding; or reference was made to pre-existing arrangements or sources for funding. The

262 sustainability, availability or sufficiency of funding for the duration of the policy or implementation of

263 policy actions, was not ascertained.

264 Table 4 shows the level of resourcing commitment described by policies, according to the relationship of

265 the policy's primary objectives to PA, and by the type of sector leading development of that policy. The

266 findings indicate a general lack of consideration or explicit commitment to funding/resourcing, across

267 sectors regardless of the importance of PA to the document in terms of its relationship to the policy's

268 primary objectives. Notably, 11 out of 17 policies which had a primary objective of increasing PA either

269 did not describe any resourcing or funding, or only expressed a general statement of intent to resource the

270 policy (Table 4). Most of the policies led by the key sectors for PA-relevant policy development (Table 1)

271 also lacked express consideration of or commitment to funding/resourcing (Table 4).

272 **DISCUSSION**

273 GAPPa calls for jurisdictions worldwide to employ a coordinated, whole-of-system approach to ensure  
274 effective implementation of its recommended actions at national and subnational levels.<sup>10</sup> In Australia, no  
275 formal national policy framework or governance system currently exists to coordinate a comprehensive  
276 approach to PA. A considerable challenge to achieving the desired outcomes in Australia (and countries  
277 such as Canada and Germany), is its federated government structure which comprises separate central and  
278 regional governments. It is perhaps revealing of the nature of this challenge, that few policies in this audit  
279 (while relevant to PA) referred to the national guidelines on PA which have been in place since 2014.  
280 Nonetheless, and despite the fact that most policies in this audit predated the release of GAPPa, this study  
281 found indications of cross-sectoral approaches to developing PA-relevant policy at State/Territory and  
282 Federal levels, and consideration of multi-strategic policy interventions (addressing multiple domains  
283 and/or mechanisms) that are consistent with criteria for successful PA policy.<sup>18,20,42</sup> These findings  
284 suggests a level of appreciation across jurisdictions and sectors about some of the co-benefits associated  
285 with addressing PA within other agendas, and existing linkages that can be leveraged to develop the  
286 comprehensive and integrated approach to PA that is essential for impactful policy development and  
287 implementation.

288 Perhaps the clearest sign of the integration of PA into the policies of other sectors is in relation to the built  
289 environment. Evidence of this is shown by the leadership demonstrated by the planning and transport  
290 sectors in developing PA-relevant policy, coverage of ‘urban design and infrastructure’ and ‘transport and  
291 environment’ as key policy domains and use of infrastructure/service delivery as one of the main policy  
292 mechanisms. These provide positive indications of a policy focus geared towards supporting active  
293 environments, which is one of the core components of GAPPa<sup>10</sup> and an important means to achieving  
294 scale in PA interventions and population reach.<sup>43-45</sup> Analyses conducted internationally have similarly  
295 revealed evidence of integration of PA into multiple agendas such as education, sport and health, but more  
296 limited evidence of integration in the areas of transport and urban planning.<sup>19,20,46</sup> The prominence of  
297 supportive PA policy in the transport and urban planning domains in Australia can be attributed to

298 developments over the course of more than a decade, which has seen the emergence of a common agenda  
299 and language that has appeared to resonate with these sectors, supported by partnerships with the health  
300 sector, a growing evidence base, and advocacy and capacity building efforts by the National Heart  
301 Foundation to promote the integration of active living principles in planning and transport policy.<sup>47</sup>

302 Despite these promising developments, a major uncertainty lies in the degree to which many of the  
303 identified PA-relevant policies are truly being implemented. Fundamental criteria for successful policy  
304 implementation include adequate resourcing, clear delineation of roles and responsibilities and  
305 independent evaluation.<sup>18,48</sup> The importance of securing financing for sustained implementation is  
306 highlighted in GAPPA as one of the recommended actions for developing ‘active systems’,<sup>10</sup> however  
307 previous analyses have consistently revealed a lack of express resource allocation for PA-relevant  
308 policy.<sup>18,19,46</sup> Similar shortcomings were found in this audit, with almost two-thirds lacking a clear  
309 commitment to funding. Where included, coordination structures for governance or oversight over  
310 implementation and/or monitoring, were rarely independent. In addition, it was not always clear how PA-  
311 relevant actions were to be implemented or evaluated, with most policies lacking in specific indicators or  
312 data sources to support their evaluation, a limitation that has also been found in previously conducted  
313 international policy assessments.<sup>19,20</sup>

314 Across policies, the dominant mechanism for the achievement of PA-relevant objectives was informational  
315 in nature, for example through public education and awareness raising or through communication of  
316 guidance to assist policy makers and other providers. While most policies described the use of 2 or more  
317 mechanisms, there is scope for policy makers to use a wider range of mechanisms consistent with  
318 recommended approaches for addressing other public health concerns such as obesity and unhealthy  
319 eating.<sup>41,43</sup> Given the limited effectiveness of information-only approaches for increasing population PA,<sup>49</sup>  
320 a wide range of mechanisms is likely to be needed to promote PA for different population groups and  
321 stages of change of behaviour, which may also help maximise the synergistic impact of interventions (e.g.,  
322 fiscal incentives to promote use of new active transport infrastructure may also improve uptake among

323 those exposed to public education and awareness raising).<sup>50</sup> Efforts to achieve greater breadth in the range  
324 of implementation mechanisms adopted, may need to be underpinned by extensive prior dissemination of  
325 evidence about the impact or efficacy of different policy actions on PA and how they can be combined for  
326 optimal effects.<sup>44</sup>

327 Other potential opportunities for improvement, can be seen in the degree of attention given in policies to  
328 support activity among adults in key settings that include healthcare, workplace and education. This is  
329 closely aligned with the ‘active people’ objective of GAPPA.<sup>10</sup> Under this objective, actions are  
330 recommended to support activity among adults in key settings that include healthcare, workplace and  
331 education.<sup>10</sup> Healthcare and workplaces were among the least addressed domains in this audit (education  
332 policies being largely excluded due to the focus on adult-related policies), which suggests scope for further  
333 actions consistent with GAPPA, and ISPAH’s ‘7 Best Investments’ combined with the evidence  
334 supporting the workplace setting as an additional policy domain.<sup>10,34,35</sup> GAPPA also emphasises the need  
335 for focused efforts to improve PA among specific groups identified as being less active.<sup>10</sup> In this audit,  
336 most policies were primarily aimed at the whole-of-population level, with few standalone policies for  
337 priority groups such as Aboriginal Australians and older adults. While initial efforts at policy development  
338 are appropriately conceptualised on a whole-of-population level to shift population level of activity,<sup>46</sup> there  
339 is a risk of widening inequalities in the absence of targeted strategies (consistent with principles of  
340 proportional universality) to promote PA among inactive sub-groups, particularly those who are socially  
341 disadvantaged.<sup>10,46,51</sup>

342 A systems approach to PA considers not only the breadth and mix of policies, but also the interactions  
343 between them which may reinforce or attenuate actions in different parts of the system and across the  
344 system as a whole.<sup>52</sup> A comprehensive understanding of all agencies, their interrelationships, and how their  
345 interactions can support a policy system for PA is therefore necessary, which could be facilitated by the  
346 creation of a national governance group with an imprimatur for cross-sectoral coordination and supported  
347 by a cross-jurisdictional communications network together with measures to ensure effective policy



348 governance, coordination and accountability.<sup>8,13</sup> Internationally, some countries have developed national  
349 PA strategies that pursue the PA agenda in concert with other policies across sectors (e.g., England’s  
350 ‘Everybody Active Every Day’<sup>53</sup>, and Finland’s ‘On the Move National strategy for physical activity  
351 promoting health and wellbeing 2020’<sup>54</sup>). In Australia, there are historical precedents of state-based PA  
352 frameworks and taskforces/multi-sector coalitions that may provide models for the development of a  
353 national framework and coordination structure (e.g., NSW’s ‘Simply Active Every Day: A plan to promote  
354 physical activity in NSW 1998-2002’ which was led by the Premier’s NSW Physical Activity Task Force,  
355 and WA’s ‘Active Living for all Framework’ led by the WA Physical Activity Taskforce<sup>55</sup>). Australia’s  
356 federal system also lends itself to various cooperative arrangements that may be suitable for facilitating  
357 whole-of-government action on PA (e.g., cooperative legislative schemes, framework laws,  
358 intergovernmental arrangements, ministerial councils),<sup>32</sup> some of which were evident from the audit as  
359 being employed to support nationwide coordinated action on issues such as disability and road safety. By  
360 building on the lessons learnt from past experiences and harnessing the existing capabilities and linkages  
361 within the PA system, a national strategy (properly resourced and governed) could accelerate Australia’s  
362 progress towards a stronger, whole-of-system approach to increasing PA in the population.<sup>18,43,46,56</sup> It is  
363 important to emphasise the need for proper resourcing and governance to support the success of a whole-  
364 of-system approach to PA; cross-government, intersectoral action alone (even with the selection of the  
365 right suite of policy actions) will not be sufficient to prevent the common types of strategic failure that  
366 have impeded progress towards addressing PA and obesity in Australia and around the world.<sup>48,57</sup> The  
367 existence of a cross-government policy platform (e.g. an Intergovernmental Committee or Task Force on  
368 PA) is a positive step, but it does not guarantee meeting the criteria for effective policy governance<sup>48</sup> or  
369 consider what a whole-of-system perspective in that governance implies.<sup>58</sup>

370 This study has some limitations. Due to the existing, policy-informing work of Active Healthy Kids  
371 Australia,<sup>31</sup> policies that were not applicable to adults were intentionally excluded, meaning that education  
372 policies were largely absent from this audit. Local government documents were also outside of scope,

373 although an audit previously conducted by one Australian jurisdiction of their local government policies in  
374 respect of active living<sup>59</sup> demonstrated the potential value of local community efforts to support PA. In  
375 addition, while relevant legislation and other statutory instruments were included in the audit if they were  
376 specified by the jurisdictional representatives, desktop searches were not undertaken to obtain a more  
377 comprehensive capture. Further identification and analysis of relevant legislation (e.g., planning  
378 regulations) may be of value in future research. Other policies were not captured because they did not  
379 specifically mention PA, although they may still be relevant to PA. For example, while many jurisdictions  
380 have adopted a road safety policy incorporating safe systems principles which help support active  
381 environments,<sup>10</sup> not all specifically referred to PA. Policies and policy actions that undermine PA or  
382 promote inactivity were also outside the scope of this review. Finally, our analysis was limited to policies  
383 in force at the time of completing the final phase of identifying relevant documents for this audit (i.e.  
384 August to October 2018) and a review of policy content. It is possible that some of the limitations  
385 identified in this audit are being addressed in new or updated policies that are not yet available, and that  
386 some steps relating to evaluation and funding of PA policy actions are occurring in practice  
387 notwithstanding a lack of detail in policy documentation.

## 388 CONCLUSIONS

389 This study reveals a level of awareness about, and appreciation of, the relevance and importance of  
390 addressing PA within the policy agendas of multiple sectors. Encouragingly it has found substantial  
391 evidence of policies that align with the ‘active environments’ objective in GAPPA, however, it identified  
392 fewer examples of policy addressing the ‘active people’ objective, particularly in relation to high needs  
393 groups and PA promotion through healthcare and workplace settings. The analysis highlights areas of  
394 policy governance, coordination, financing and evaluation that need strengthening, which shows there is  
395 considerable progress yet to be made in relation to the ‘active system’ objective of GAPPA.  
396 Notwithstanding the challenges inherent in Australia’s federated structure of government, it is essential to  
397 be working towards an integrated, whole-of-system approach to increasing PA. This study presents an

398 example of policy research that can guide these efforts, to support the strategic, cross-sectoral action  
399 required to meet the global targets adopted by Australia to achieve a 15% reduction in population levels of  
400 physical inactivity by 2030.

401

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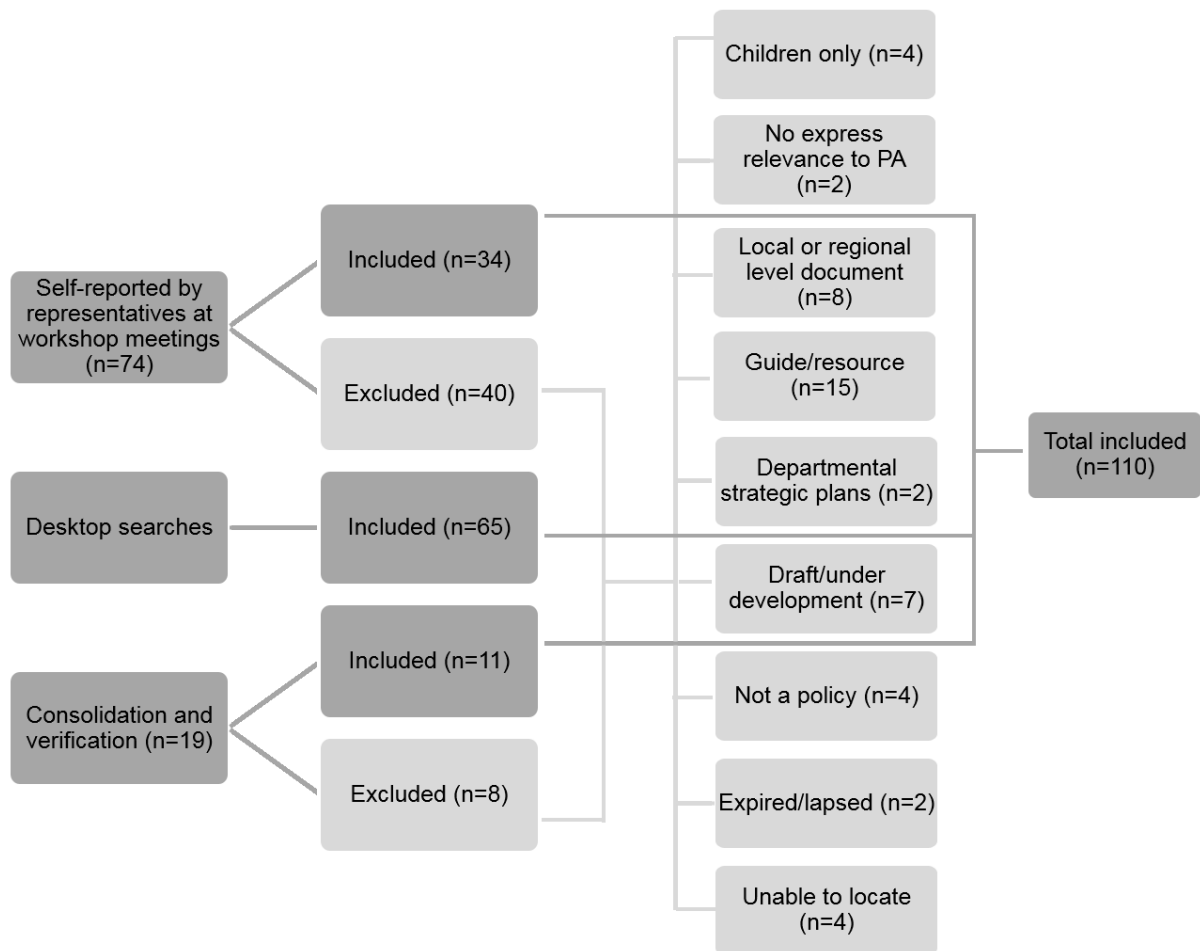


Figure 1. Overview of documents identified and screened.

**Table 1.** Overview of documents included in audit analysis (N=110)

|                                 |   | No. | %  |
|---------------------------------|---|-----|----|
| <b>Policy level</b>             | Federal                                   | 13  | 12 |
|                                 | State or Territory                        | 94  | 86 |
|                                 | Organisation                              | 3   | 3  |
| <b>Duration</b>                 | Up to 3 years                             | 4   | 4  |
|                                 | 3-5 years                                 | 32  | 29 |
|                                 | More than 5 years                         | 40  | 36 |
|                                 | No timeframe specified                    | 34  | 31 |
| <b>Primary target group</b>     | Whole-of-population                       | 75  | 68 |
|                                 | People with a disability                  | 10  | 9  |
|                                 | Women                                     | 9   | 8  |
|                                 | Aboriginal                                | 7   | 6  |
|                                 | Older adults                              | 4   | 4  |
|                                 | Other                                     | 5   | 5  |
|                                 |   |     |    |
| <b>Primary target condition</b> | General health and wellbeing              | 93  | 85 |
|                                 | Overweight and obesity                    | 2   | 2  |
|                                 | Specific chronic condition                | 7   | 6  |
|                                 | Other                                     | 8   | 7  |
| <b>Agencies involved</b>        | Single agency                             | 45  | 41 |
|                                 | Whole-of-government (with lead agency)    | 35  | 32 |
|                                 | Whole-of-government (without lead agency) | 9   | 8  |
|                                 | Two to four agencies                      | 7   | 6  |
|                                 | Other <sup>a</sup>                        | 14  | 13 |
| <b>Sector lead</b>              | Health                                    | 30  | 27 |
|                                 | Planning / infrastructure                 | 24  | 22 |
|                                 | Transport                                 | 14  | 13 |
|                                 | Sport                                     | 11  | 10 |
|                                 | Cross-sectoral (no identifiable lead)     | 10  | 9  |
|                                 | Community services                        | 9   | 8  |
|                                 | Environment                               | 6   | 6  |
|                                 | NGO                                       | 3   | 3  |
|                                 | Other                                     | 2   | 2  |
|                                 | Private                                   | 1   | 1  |

<sup>a</sup> Where policies were developed by agencies from the same sector across different levels of government, this was classified as 'Other' rather than 'Whole of government'.

**Table 2.** PA policy domains and mechanisms (N=110)

|   |  | No. | %  |
|---|--|-----|----|
| <b>PA policy domains</b>                |  |     |    |
| <i>Domains addressed</i>                | Urban design and infrastructure                    | 67  | 61 |
|   | Transport and environment                          | 58  | 53 |
|   | Sport and recreation                               | 48  | 44 |
|   | Community wide program                             | 36  | 33 |
|   | Mass media and public education                    | 34  | 31 |
|   | Workplace  | 28  | 26 |
|   | Primary and secondary healthcare                   | 26  | 24 |
|   | Education  | 18  | 16 |
| <i>No. of domains covered</i>           | 0-1  | 29  | 26 |
|   | 2-3  | 46  | 42 |
|   | 4 or more  | 35  | 32 |
| <b>PA mechanisms</b>                    |  |     |    |
| <i>Mechanisms described or apparent</i> | Communication or policy dissemination <sup>a</sup> | 89  | 81 |
|   | Organisation or coordination <sup>b</sup>          | 59  | 54 |
|   | Infrastructure or service delivery                 | 46  | 42 |
|   | Fiscal measures <sup>c</sup>                       | 33  | 30 |
|   | Industry regulation                                | 25  | 23 |
|   | Industry quality standards <sup>d</sup>            | 21  | 19 |
|   | Procurement standards <sup>e</sup>                 | 5   | 5  |
|   | Registration, certification or licensing           | 1   | 1  |
|   | Marketing, advertising or sponsorship standards    | 0   | 0  |
| <i>No. of mechanisms</i>                | 0-1  | 30  | 27 |
|   | 2-3  | 56  | 51 |
|   | 4 or more  | 24  | 22 |

<sup>a</sup> ‘Communication or policy dissemination’ included community education and awareness raising initiatives, and dissemination of guidance for implementation by other policy makers/practitioners.

<sup>b</sup> ‘Organisation and coordination’ included development of collaborative mechanisms, and capacity building of external stakeholders.

<sup>c</sup> ‘Fiscal measures’ included funding/investment schemes, and tax incentives.

<sup>d</sup> Unlike ‘Industry regulation’, ‘Industry quality standards’ were not legally enforceable, and included development and incorporation of best practice guidelines or principles.

<sup>e</sup> ‘Procurement standards’ included gender targets for equality in governance in sport and recreation organisations.

**Table 3.** Overview of implementation and evaluation approaches (N=110)

|   | No. | %  |
|---|-----|----|
| <b>Allocation of responsibility</b>                 |     |    |
| <i>For the document overall</i>                     |     |    |
| Shared responsibility                               | 45  | 41 |
| Lead agency   | 24  | 22 |
| Nominated position                                  | 3   | 3  |
| Other   | 8   | 7  |
| None specified <sup>a</sup>                         | 30  | 27 |
| <i>Responsibility specified for PA components</i>   |     |    |
| Yes   | 69  | 63 |
| No  | 41  | 37 |
| <b>Coordination mechanisms</b>                      |     |    |
| Independent governance committee <sup>b</sup>       | 5   | 5  |
| Governance committee                                | 34  | 31 |
| Other <sup>c</sup>                                  | 22  | 20 |
| None specified                                      | 49  | 45 |
| <b>Monitoring mechanisms specified<sup>d</sup></b>  |     |    |
| Monitoring framework                                | 83  | 75 |
| Regulatory enforceability                           | 9   | 8  |
| Other   | 2   | 2  |
| None specified                                      | 16  | 15 |
| <b>Evaluability of PA goals/actions<sup>e</sup></b> |     |    |
| Yes   | 52  | 47 |
| No  | 58  | 53 |

<sup>a</sup> Where implementation was described as ‘shared’ or by the ‘Government’ without delineating responsibilities of specific agencies, sectors or levels of government, this was classified as ‘None’.

<sup>b</sup> Governance committees were regarded as independent if they were only comprised of external (i.e. non-government) stakeholders or were established as an independent body.

<sup>c</sup> ‘Other’ included where coordination was by an existing department (e.g., the lead agency, Department of Premiers and Cabinet), or if the independent or non-independent nature of the coordinating body could not be determined from publicly available information.

<sup>d</sup> Indications of an intention to monitor and/or report on progress was sufficient to amount to specification of monitoring mechanisms.

<sup>e</sup> Goals/actions were determined to be evaluable if described with sufficient specificity to render them amenable to evaluation, or where intended data sources/tools for evaluation were referenced.

**Table 4.** Description of resourcing commitment

|   | N   | None specified<br>No. (%) | General statement<br>of intent No. (%) | Commitment to fund policy <sup>a</sup><br>(not PA-specific) No. (%) | Commitment to fund PA<br>components No. (%) |
|---|-----|---------------------------|--|---|---|
| All policies                                    | 110 | 36 (33)                   | 31 (28)                                | 15 (14)   | 28 (26)                                     |
| <b>Relationship of PA to primary objectives</b> |     |                           |  |   |   |
| Primary objective                               | 17  | 9 (53)                    | 2 (12)                                 | 0   | 6 (35)                                      |
| Contributory factor                             | 30  | 9 (30)                    | 11 (37)                                | 5 (17)  | 5 (17)                                      |
| Facilitated through primary objective           | 63  | 18 (29)                   | 18 (29)                                | 10 (16)   | 17 (27)                                     |
| <b>Sector lead</b>                              |     |                           |  |   |   |
| Health  | 30  | 9 (30)                    | 12 (40)                                | 4 (13)  | 5 (17)                                      |
| Sport   | 11  | 4 (36)                    | 3 (27)                                 | 0   | 4 (36)                                      |
| Transport                                       | 14  | 1 (7)                     | 4 (29)                                 | 3 (21)  | 6 (43)                                      |
| Planning  | 24  | 7 (29)                    | 7 (29)                                 | 1 (4)   | 9 (38)                                      |
| Environment                                     | 6   | 2 (33)                    | 2 (33)                                 | 2 (33)  | 0   |
| Community                                       | 9   | 6 (67)                    | 1 (11)                                 | 1 (11)  | 1 (11)                                      |
| Cross sectoral (no clear lead)                  | 10  | 4 (40)                    | 1 (10)                                 | 4 (40)  | 1 (10)                                      |
| NGO   | 3   | 2 (67)                    | 1 (33)                                 | 0   | 0   |
| Private   | 1   | 0                         | 0                                      | 0   | 1 (100)                                     |

<sup>a</sup> A commitment to funding was generally considered to be demonstrated if a monetary amount was allocated to one or more of the policy actions; an amount had been budgeted for overall policy implementation; the policy contained actions to procure funding; or reference was made to pre-existing funding arrangements or sources.