

# An assessment of Australian school physical activity and nutrition policies

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There is robust evidence that physical activity (PA) participation and healthy eating are associated with physical, psychological, cognitive and other benefits in children and young people.<sup>1-4</sup> These two factors are also central when considering the prevention and management of overweight and obesity, which is a national health concern for children and young people in many Western countries, including Australia and New Zealand.<sup>5,6</sup> Accordingly, in Australia, which is the focus of this study, the government has developed relevant guidelines to promote optimal health and wellbeing in children and young people.<sup>2,7</sup> However, the majority of Australian children and young people are not meeting the daily Australian PA guidelines or the national dietary guidelines, particularly in relation to vegetable, saturated fat and sugar intake.<sup>5,8,9</sup>

Schools have been identified by organisations worldwide as a key site for the promotion of healthy behaviours, such as PA participation and healthy eating.<sup>10-12</sup> Schools provide the opportunity to reach the majority of children and young people, regardless of socioeconomic status, and can therefore help ensure equitable outcomes. In addition, children and young people spend a substantial amount of time in school; more than in any other setting beyond their home for most of their first 18 years. Further, schools often have the necessary resources (i.e. facilities, equipment) for the promotion of healthy behaviours, and personnel who are qualified or can be trained to promote healthy eating and PA participation.

As part of its *Global Strategy on Diet, Physical Activity and Health*, the World Health

## Abstract

**Objective:** This study's objective was to identify and assess existing physical activity and nutrition policies for Australian schools.

**Methods:** Policies were identified through a search of the websites of national and state/territory education departments and school associations, and were subsequently assessed against specific criteria.

**Results:** Policies were identified for government schools, but only for one non-government school association. Physical activity policies were identified at the national level and for six of eight state/territories. The national policy was mandated, and most state/territory physical activity policies were mandated and consistent with the national policy. Several physical activity policies did not meet expert recommendations for time and instructor qualifications. Nutrition policies were identified at the national level and all eight states/territories. The national policy was not mandated, but all state/territory nutrition policies were mandated and consistent with the national policy and relevant guidelines. Most physical activity and nutrition policies lacked information about implementation monitoring.

**Conclusions:** To improve school practices, policies are needed that are mandated and consistent with expert recommendations, use clear language, and specify monitoring and accountability mechanisms.

**Implications for public health:** Improvements in school policies can promote physical activity and healthy eating behaviours to positively influence student outcomes across Australia.

**Key words:** physical activity, nutrition, school, policy

Organization (WHO) has called for the development and implementation of school policies that promote PA and healthy eating.<sup>11</sup> Accordingly, WHO developed a school policy framework to help guide policy makers in developing and implementing such policies.<sup>12</sup> According to WHO, embedding interventions and strategies that target healthy and active living behaviours into existing systems, such as schools, can help ensure sustainability and success.<sup>4</sup>

Research examining the implementation of PA and nutrition policies in schools suggests that such policies are often positively associated with school practices and/or

student behaviours. In terms of PA, study findings support that school policies are associated with school physical education (PE) and/or recess practices,<sup>13,14</sup> as well as with students' PA behaviours.<sup>15,16</sup> According to a review that examined the evaluation of school-based PA policies for youth over a period of 10 years, such policies can affect health outcomes, specifically by increasing levels of PA.<sup>17</sup>

In the area of nutrition, two recent systematic reviews suggest that modifying the school food environment through policy changes can positively influence children and adolescent eating behaviours.<sup>18,19</sup>

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Reported outcomes, including reductions in the energy density of food and drinks consumed, decreases in sugar-sweetened beverage consumption, and reduced access to 'discretionary' foods, are all attributable to decreases in within-school food and/or beverage consumption, which were guided by policy changes.<sup>18,19</sup> Beyond influences on eating behaviours, available evidence indicates that state-wide school canteen policies can also affect the attitudes of key stakeholders, including parents.<sup>20</sup>

Given the central role of the school setting in the promotion of healthy behaviours and the available evidence suggesting that school policies can influence school practices and student behaviours, the aim of this study was to identify and assess existing PA and nutrition policies for Australian schools. For the purpose of this study, policies included laws, requirements, recommendations or frameworks/strategic plans that related to the provision of PA opportunities and nutrition in schools and were adopted by relevant authorities. The findings of this study will highlight strengths and limitations of available policies, and help identify avenues for improvement to ensure the continued creation of healthy, active school environments in Australia.

## Methods

### Focus of the study

This study focused on policies targeting PA and nutrition in school environments in Australia. This included policies at both the national and state/territory levels, as well as policies for government (i.e. public) and non-government schools, the latter including Catholic and independent schools.

### Identification of policies

Relevant policies were identified through an extensive search strategy that included the websites of all relevant national and state/territory education departments as well as school associations (for independent and Catholic schools). The search typically started within the policy sections of the websites (if available), followed by sections related to PA, sport, healthy eating, canteens or tuckshops, or health. Every search was concluded using the search function of reviewed websites (if available) using the terms PA, physical education (PE), sport, healthy eating, canteen, tuckshop, food and nutrition. The search was conducted twice between September

and December 2016 by the two authors to minimise the possibility of missing any relevant policies.

### Assessment

The assessment focused initially on whether policies could be identified or not. If policies were identified, they were assessed according to the criteria below for PA and nutrition, respectively. The assessment was conducted by the two authors and disagreements were discussed until consensus was reached.

#### Physical activity

PA policies were divided into general PA policies and policies specific to the subject of health and physical education (HPE), a subject that typically provides opportunities for students to be active. Several of the criteria that general PA policies were assessed against had originated from the Active Healthy Kids Australia (AHKA) 2014 and 2016 Report Cards on PA for children and adolescents.<sup>8,9</sup> AHKA is a collaboration among Australian researchers in the areas of children's PA and health, and its purpose is to advocate for actions to increase the PA levels among Australian children, using the PA Report Card as the core monitoring metric. Given that the latest (2016) Report Card was only published in 2016, a few months before this study was conducted, we chose to focus on both the 2014 and 2016 metrics for general PA.

Specifically, general PA policies at both the state/territory and national levels were assessed against the following criteria: a) whether they provided definitions of PA or information about how the PA time requirements/recommendations should be met; b) the AHKA recommendations of at least 120 minutes (2014 PA Report Card)<sup>8</sup> and 150 minutes (2016 PA Report card)<sup>9</sup> per week of scheduled PE classes and organised school sport activities for all students; c) the AHKA recommendation of having a tertiary qualified PE specialist teacher deliver all scheduled PE classes and organised school sport activities for all students;<sup>8,9</sup> d) the AHKA recommendation of providing 60 minutes per day for lunchtime and recess;<sup>8</sup> e) whether policies were mandatory or not (i.e. whether states or schools are required to adhere to the policies or not); and f) whether they provided information about the monitoring of the policy implementation. General PA policies at the state level were also evaluated against the relevant national policy (i.e. whether they met time requirements/recommendations).

Policies specific to the subject of HPE at both the state/territory and national levels were evaluated as to whether they were mandatory or not. State/territory HPE policies were also evaluated against the relevant national policy (i.e. whether they met time requirements/recommendations). The criteria described here, including the time recommendations for PE and sport as well as lunchtime and recess play, are the same for primary and secondary schools.

#### Nutrition

Nutrition policies were classified as either general or specific. General policies aimed to promote the supply of nutritious foods in schools and covered a range of food and drinks, and specific policies addressed a particular food or drink category (within the context of the relevant state/territory general nutrition policy). All nutrition policies were assessed against the following criteria: a) policy aim and content, including food supply areas targeted, food and/or drinks classification system, food and/or drinks bans, and implementation guides or tools; b) whether the content aligned with both the *Australian Dietary Guidelines* (ADG)<sup>2</sup> and the *Australian Guide to Healthy Eating* (AGHE);<sup>21</sup> c) whether they were mandatory or not (i.e. whether states or schools are required to adhere to the policies or not); and d) whether they provided information about the monitoring of the policy implementation. Policies at the state/territory level were also compared to the national policy.

## Results

A total of 28 school documents (15 PA and 13 nutrition) were identified through the search. The documents identified were assigned different names, including Acts, policies, requirements, recommendations, guidelines, strategies and procedures. For consistency purposes, however, all of these will be collectively referred to as policies.

### Physical activity

PA policies are predominantly focused on time allocations recommended or required for PA during the school week, and include general PA policies (including HPE, sport, etc) and policies specific to the subject of HPE (or otherwise named). A summary of these policies can be found in Table 1 of the Supplementary file.

*General PA policies – National level*

One general school PA policy was identified at the national level (*Schools Assistance Act 2004 – Sect 14*), which ties state/territory funding for government schools to a commitment from each state/territory to provide primary education and junior secondary education students with at least two hours of PA every week. This is a required policy, and it is aligned with the AHKA 2014<sup>7</sup> recommendation of at least 120 minutes per week of scheduled PE classes and organised school sport activities, but it falls short of the AHKA 2016<sup>8</sup> recommendation of at least 150 minutes of scheduled PA per week. It does not provide any definitions of PA or any information about how the PA time requirements should be met and, similarly, it provides no information about the qualifications of individuals delivering PA in schools.

*General PA policies – State/territory level*

At the state/territory level, general PA policies were identified only for government schools. No policies were identified on the websites of any Catholic or Independent School Associations. General PA policies were identified for government schools in six of the eight states and territories (except Queensland and South Australia [SA]). In four of these states and territories (New South Wales [NSW], Victoria, Northern Territory [NT], Australian Capital Territory [ACT]), actual policy documents were identified with relatively comprehensive information (definitions, time requirements, responsibilities, etc). The policy for Tasmania was located in a curriculum document and only provided information about time requirements. Finally, the policy for Western Australia (WA) was located under 'Student health and wellbeing', and included information about time commitment as well as some general information about HPE and sport.

*General PA policies – Terminology/ definitions of PA*

Five of the six general PA policies identified at the state/territory level provided definitions of PA or information about how the PA time requirements/recommendations should be met. In four of these states/territories (NSW, Victoria, ACT, WA), PA requirements/recommendations can be met through planned PE and sport programs. The NT policy recommends that PA requirements

be met through a PE program, and the Tasmanian policy does not provide any definitions or details beyond the term PA. Although a PA policy for Queensland could not be identified, the Queensland Department of Education provides some information about PA in schools, including what forms it can take.

*General PA policies – PA time requirements/ recommendations*

Among the six states/territories with PA policies for state schools, three (WA, NT, Tasmania) adhere to the national policy (*Schools Assistance Act 2004 – Sect 14*) requirement and the AHKA 2014<sup>8</sup> recommendation to provide at least two hours of PA per week, two (NSW, ACT) exceed the specific amount, and one (Victoria) exceeds the specific amount for Years P-6 but does not meet the amount for Years 7–10. When considering these policies relative to the AHKA 2016<sup>8</sup> recommendation, three states/territories (WA, Tasmania, NT) are falling short of requiring/recommending at least 150 minutes per week of scheduled PA, one state (NSW) meets the recommendation, one state (ACT) meets the recommendation for some year levels (7–10) but falls short of it for other year levels (K-6), and one territory (Victoria) exceeds the recommendation for some year levels (4–6) but falls short of it for other year levels (P–3, 7–10). Finally, none of the identified policies include aspects related to recess and lunchtime PA.

*General PA policies – Mandatory vs. recommended*

General PA policies for government schools are mandatory up to Year 10 in five (NSW, Victoria, NT, Tasmania, ACT) of the six states/territories for which such policies could be identified. Based on the language used ('committed'), it is unclear whether the last PA policy (WA) is mandatory or not.

*General PA policies – Qualifications for instructors of PA*

Among the general PA policies identified, only one policy (ACT) included information about the qualifications for instructors of PA (PE and sport). According to this policy, "Suitably qualified teacher or sports leader is formally qualified in a particular sport or has demonstrated experience in a particular sport to the satisfaction of the principal". This policy does not meet the AHKA<sup>8,9</sup> recommendation of having a tertiary-qualified PE specialist teacher deliver all scheduled PE classes

and organised school sport activities for all students.

*General PA policies – Policy implementation monitoring*

Of the existing PA policies, the national policy specifies a consequence of failing to meet the policy, but does not specify who is responsible to oversee policy implementation. Of the state/territory policies, only three (NSW, ACT, NT) address the issue of implementation monitoring. Two of them (ACT, NT) specify that the principal is responsible to ensure time requirements are met, and the third (NSW) specifies both who is responsible for monitoring policy implementation at the local level (school sport unit, specialist programs) and who they need to report to (executive director, learning and leadership).

*HPE policies – National level*

At the national level, one policy concerning time allocation for the subject of HPE was identified. Specifically, the indicative (i.e. not mandatory) time allocation for HPE in the national curriculum is two hours per week.

*HPE Policies – State/territory level*

All states/territories identified HPE as a core subject of the curriculum according to the Australian curriculum. However, no policies regarding HPE time allocation in the curriculum could be identified for three states/territories (Tasmania, WA, ACT). Three more states/territories (Queensland, SA, NT) adopt the indicative time allocation for HPE in Years F–10 included in the national curriculum (80 hours/year or 2 hours/week) as a recommendation (not a mandate). NSW and Victoria are the only two states with mandatory policies around HPE, although only for some year levels. Specifically, NSW has a policy of 300 hours of Personal Development, Health and Physical Education (PDHPE) per year for Years 7–10, which exceeds the indicative time allocation in the national curriculum, but it has no similar policy for other year levels. Victoria has a policy of 20–30 minutes of PE a day for Years P–3, which may be falling short or exceeding the indicative time allocation in the national curriculum, and at least 90 minutes of PE per week for Years 4–6, which is below the national curriculum recommendation. However, Victoria has no specific policy for PE time allocation for years 7–10 (it is combined with sport).

## Nutrition

A total of 13 nutrition policies were identified from the search; 12 related to government schools and one related to non-government schools. The majority of these policies were general ( $n=11$ ), addressing a range of food and drinks, and two were specific, addressing a particular food or drink category. A summary of the national and state/territory nutrition policies can be found in Table 2 of the Supplementary file.

### National and state/territory level policies

One national policy was identified – the *National Healthy School Canteens Guidelines*. All states/territories have at least one published general nutrition policy for government schools, with NSW and Victoria having three and two policies, respectively. Only one nutrition policy was identified for non-government schools – the ‘Healthy Food and Drink Choices’ policy from Catholic Education of WA.

### Policy aim and content – General nutrition policies

Each identified policy focuses on the provision of food and drinks within the school setting, with the intention of creating a supportive environment that promotes a healthy lifestyle. In addition to this, the *National Healthy School Canteens Guidelines* intend to provide national guidance and training to canteen managers across Australia to help improve the school canteen food supply. All general policies also provide copies of, or links to, detailed resources with the intention of upskilling and supporting canteen managers and staff.

All general policies reflect and refer to the ADG<sup>2</sup> and the AGHE.<sup>21</sup> They all cover the provision of food and drinks from school canteens and tuckshops; items found in vending machines; food and drink items provided on school camps, excursions, fundraising events and other events; and food used in curriculum activities. A ‘traffic light’ system forms the foundation for food and drink classification within all general policies. Within this system, the green ‘have plenty’ category represents foods and drinks that should be encouraged and promoted for consumption on a regular basis; food and drinks in the orange ‘select carefully’ category should not dominate choices and large serve sizes should be avoided; and the food and drinks in the red ‘occasional’ category should

be limited in terms of their availability, and are generally not recommended. These categories reflect the five food groups and healthy eating concepts for children and adolescents as outlined in the ADG<sup>2</sup> and the AGHE.<sup>21</sup> Additionally, all general state/territory nutrition policies are consistent with the content of the *National Healthy School Canteen Guidelines*. Only four general policies detail the requirements of nutrition education and link this to the curriculum from Years P–10 (NSW, Victoria); Years P–7 (SA); or primary and middle schools (NT).

### Policy aim and content – Specific nutrition policies

The *Sugar Sweetened Drink Ban for NSW Government Schools* and the *School Confectionary Guidelines* from Victoria detail strict instructions regarding the sale of sugar sweetened beverages and confectionary respectively. By addressing particular food and drink categories, these specific policies have banned the items.

### Mandatory vs recommended

The implementation of the national guidelines is at the discretion of each state or territory, therefore the national policy is not the overriding mandatory policy. Except for the general nutrition policy in Tasmania, all state/territory general and specific nutrition policies are mandatory for all government schools. Policies in NSW and SA are also mandatory for preschools. The one policy identified for non-government schools in WA is mandatory for all Catholic schools and early learning centres.

### Policy implementation monitoring

Four of the general nutrition policies (NSW, ACT, WA and NT) explicitly state that the school principal is responsible for ensuring implementation of the policy within the school environment. NSW details further levels of responsibility at the local level (directors, public schools) and state level (executive director, learning and engagement). Four general policies imply that it is either the principal (Tasmania, SA and WA policy for Catholic schools) or school council (Victoria) who hold the responsibility, although this is not explicitly stated. The national general policy and that of Queensland do not state who holds responsibility for implementation.

## Discussion

Considering the central role of schools in promoting healthy behaviours, this paper focused on the PA and nutrition policies targeting Australian government and non-government schools, both at the national and state/territory level. Following a search for relevant policies, identified policies were assessed against specific criteria.

In the case of PA policies for government schools, a noteworthy finding includes the lack of such policies (at least that are publically available) for two states (Queensland, SA). Additionally, while all states and territories with general PA policies except one meet or exceed the national policy requirement and the AHKA 2014<sup>8</sup> recommendation of at least two hours of PA per week, several of the state policies fall short of the AHKA 2016<sup>9</sup> recommendation of providing at least 150 minutes per week of scheduled PA (PE classes and organised sport) for all students. Further, only one state policy (ACT) included information about the qualifications for instructors of PA and none of the identified policies meet the AHKA<sup>8,9</sup> recommendation of having a tertiary-qualified PE specialist teacher deliver all scheduled PE classes and organised school sport activities for all students. Also worth noting is that no states have policies related to the amount of time allocated for students to be active at recess and lunchtime, although AHKA<sup>9</sup> recommends an allocation of 60 minutes per day for this. This is concerning, as research suggests that children can accumulate substantial amounts of PA during recess time, and that recess PA can have learning benefits for students.<sup>22,23</sup> In addition, multi-component approaches, including PE, recess and other elements (e.g. classroom PA, active transport to/from school, before/after school PA programs, infrastructure, etc.) have been identified as a promising approach to increasing children and adolescents’ PA.<sup>24,25</sup> Identified PA policies, however, exclusively focused on PE and sport, which is something that should be addressed in the future. At the same time, it should be noted that the recommendation of 150 minutes per week of scheduled PA as well as the time recommendation for recess and lunchtime play were only introduced in the second AHKA PA Report Card in late 2016, and it may therefore take some time for these recommendations to be reflected into school PA policies.

A major factor that emerges when considering the nutrition policies centres on consistency, in both the approach to healthy eating and messages conveyed, and in the food classification system. The content of all policies is guided by national, evidence-based guidelines – the ADG<sup>2</sup> and the AGHE,<sup>21</sup> both of which aim to promote optimal health and wellbeing, and reduce the risk of diet-related chronic health problems including obesity. The use of the traffic light system across all general policies once again reinforces the fact that the policies are guiding a nationally consistent approach to healthy eating. All general policies adopt the defined serving sizes from the AGHE<sup>21</sup> to assist with implementation, and the majority provide nutrition information (such as how to read a food label) as well as a wide range of other resources to assist with compliance. Given the strong focus on consistency, it is surprising that the *National Healthy School Canteens Guidelines* only build on and support the state and territory policies but are not mandatory, as this might assist with policy implementation.

One finding common across both PA and nutrition areas was the lack of relevant policies among non-government school organisations. Schools that do not belong to the public education system do not abide by the rules and regulations of government education authorities; in this case, PA and nutrition policies. However, a substantial number of students attend Catholic and independent schools in Australia (1.3 million students in 2015, while 2.5 million attended government schools in the same year),<sup>26</sup> and presumably these students face the same health challenges as their peers in government schools. It is worth considering, therefore, whether national and state/territory policies related to health and wellbeing should be extended to non-government schools to increase the likelihood that all children and adolescents, regardless of what type of school they attend, will be exposed to an environment that promotes positive health behaviours.

It was evident in our findings that the content of identified state/territory policies was for the most part consistent with national policies; although, in the area of PA, both national and state/territory policies did not meet expert recommendations. The national general PA policy links state/territory funding for government schools to a commitment from each state/territory to provide a

specific amount of PA to students attending government schools. Neither nutrition nor HPE policies do this; however, while linking funding with the policy can be seen as a positive accountability measure, it can be argued that the language used in the specific policy ('commitment') is ambiguous, which can negatively influence the implementation and enforcement of the policy.<sup>27</sup> Further, the national nutrition policy was more comprehensive and better developed than the national general PA policy, providing an evidence basis to inform the development and assessment of state policies. On the contrary, for the assessment of general PA policies, we primarily used AHKA criteria<sup>8,9</sup> because of a gap in relevant government policy. Finally, most identified nutrition and PA (but not HPE) policies were mandated, but at the same time there is a general lack of accountability information embedded in the policies, including how the policy is monitored and consequences associated with lack of implementation. Our findings are aligned with those of similar studies internationally, highlighting issues related with weak wording and vague language, a lack of appropriate monitoring/evaluation strategies,<sup>27,28</sup> and a lack of evidence base elements,<sup>29</sup> all of which compromise the potential for policies to impact schools' practices and, in turn, student behaviours. While aspects other than policies (e.g. funding, training, etc.) are also necessary for improvements in school practices and healthy behaviours, developing strong policies is an essential step towards realising the potential of schools in this area.

This study has some limitations, including the possibility of having missed relevant policies in our search. Further, while this study used specific criteria to assess identified policies, there are other policy-related aspects that could be assessed in the future, such as the inclusion of evidence-based implementation strategies. Future research should regularly monitor changes in expert recommendations in the areas of school PA and nutrition, as well as the extent to which relevant school policies are being updated to align with current expert recommendations.

## Conclusion

Regular participation in PA and healthy eating are associated with multiple health and even academic benefits in children and young people.<sup>1-4,30</sup> Schools represent an ideal setting

for the promotion of PA and healthy eating behaviours, and policies can help schools realise their potential in this area.<sup>13-20</sup> However, there seems to be a policy gap in the area of school PA at the national/government level. Further, while most Australian states have PA and nutrition policies for government schools, these policies often do not meet expert recommendations, use vague language and/or fail to specify detailed monitoring and accountability mechanisms, all of which can negatively affect their implementation in schools. It is important to recognise that schools operate in a crowded policy space, and in many instances experience clashes between educational and public health policy agendas. As a result, they often privilege educational outcomes at the expense of health-oriented experiences and outcomes. Policy makers can help improve schools' PA and nutrition practices by developing robust and comprehensive policies that are consistent with expert recommendations, use clear language, provide specific evidence-based implementation strategies and use strong accountability mechanisms.

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## Supporting Information

Additional supporting information may be found in the online version of this article:

**Supplementary Table 1:** Physical Activity Policies.

**Supplementary Table 2:** Nutrition Policies.