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## Exploring stakeholders' perceptions of the acceptability, usability, and dissemination of the Australian 24-hour movement guidelines for the early years

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# Exploring stakeholders' perceptions of the acceptability, usability, and dissemination of the Australian 24-hour movement guidelines for the early years

## Abstract

Background: Australian 24-Hour Movement Guidelines for the Early Years were recently developed. To maximize the uptake of the guidelines, perceptions of key stakeholders were sought. Methods: Thirty-five stakeholders (11% Aboriginal or Torres Strait Islander descent) participated in focus groups or key informant interviews. Stakeholders included parents of children aged 0-5 years, early childhood educators, and health and policy professionals, recruited using convenience and snowballing techniques. Focus groups and interviews were audio-recorded and transcribed verbatim. Data were analyzed inductively using thematic analysis. Results: There was general acceptance of the Movement Guidelines. The stakeholders suggested that the Guidelines were highly aspirational and needed to be carefully messaged, so parents did not feel guilty if their child was not meeting them. Stakeholders identified that the messaging needed to be culturally appropriate and visually appealing. Dissemination strategies differed depending on the stakeholder. Conclusion: Seeking stakeholder perceptions is an important process in the development of national Movement Guidelines. This study successfully examined stakeholders' perceptions regarding the acceptability, usability, and dissemination of the Australian 24-Hour Movement Guidelines. Effective and innovative strategies for maximizing compliance and uptake of the Guidelines should be prioritized.

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3

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1 **ABSTRACT**

2 Background: Australian 24-hour Movement Guidelines for the Early Years were  
3 recently developed. To maximise uptake of the guidelines, perceptions of key  
4 stakeholders were sought.

5

6 Methods: 35 stakeholders (11% Aboriginal or Torres Strait Islander descent)  
7 participated in focus groups or key informant interviews. Stakeholders included  
8 parents of children aged 0-5 years, early childhood educators, and health and policy  
9 professionals, recruited using convenience and snowballing techniques. Focus groups  
10 and interviews were audio-recorded and transcribed verbatim. Data were analysed  
11 inductively using thematic analysis.

12

13 Results: There was general acceptance of the Movement Guidelines. The stakeholders  
14 suggested that the Movement Guidelines were highly aspirational and needed to be  
15 carefully messaged so parents did not feel guilty if their child was not meeting them.  
16 Stakeholders identified that the messaging needed to be culturally appropriate and  
17 visually appealing. Dissemination strategies differed depending on the stakeholder.

18

19 Conclusions: Seeking stakeholder perceptions is an important process in the  
20 development of national Movement Guidelines. This study successfully examined  
21 stakeholders' perceptions regarding the acceptability, usability and dissemination of  
22 the Australian 24-hour Movement Guidelines. Effective and innovative strategies for  
23 maximising compliance and uptake of the Movement Guidelines should be  
24 prioritised.

25

26

1 **BACKGROUND**

2 There is considerable evidence demonstrating the benefits of adequate physical  
3 activity, low levels of sedentary behaviour and adequate sleep for health among  
4 children, including young children (birth to 5 years) (referred to here as the Early  
5 Years) <sup>1-3</sup>. In recent years, there has been a shift away from exploring these  
6 behaviours independently to examining the continuum of movement behaviours  
7 across a 24-hour period <sup>2,4,5</sup>. This shift acknowledges the importance of movement  
8 behaviours across a whole day and how these behaviours integrate with each other to  
9 influence health and developmental outcomes for children <sup>4</sup>. In 2017, Canada and  
10 Australia developed and co-released 24-hour Movement Guidelines for the Early  
11 Years <sup>6</sup>. New Zealand, South Africa, and the WHO used a 24-hour approach in the  
12 development of their guidelines which were released 2017, 2018, and 2019,  
13 respectively<sup>7-9</sup>. Other countries, such as USA and UK have recently released similar  
14 guidelines for the early years, however these only provide guidance on physical  
15 activity.

16  
17 Despite the known importance of public health related guidelines, such guidelines are  
18 only effective if key stakeholders are aware of and use them <sup>10</sup>. Therefore, one of the  
19 key steps in the development of the Australian 24-hour Movement Guidelines was to  
20 engage key stakeholders in the evaluation of the appropriateness of the Movement  
21 Guidelines and identification of knowledge translation strategies <sup>10-12</sup>. Understanding  
22 the needs of key stakeholders can help with maximising compliance and uptake of the  
23 Movement Guidelines <sup>13,14</sup> and ultimately the health of the target population <sup>10,15</sup>.

24

1 Only a few studies have reported consultations with stakeholders to explore needs,  
2 values or recommended dissemination strategies for public health related guidelines,  
3 <sup>15,16,17</sup>, however only one study has focused on the early years<sup>17</sup>. Therefore, the aim of  
4 this study was to examine stakeholders' perceptions of the Australian 24-hour  
5 Movement Guidelines for the Early Years, specifically their acceptability, usability  
6 and dissemination strategies during the development stage and prior to release of the  
7 Guidelines.

8

## 9 **METHODS**

### 10 *Stakeholders*

11 Thirty-five individuals participated in five focus groups (3-9 stakeholders per focus  
12 group) and five key informant interviews (1 participant per interview). The average  
13 age of stakeholders was 35.1 years (range: 17 – 56 years; SD = 9.1) and 33 of the 35  
14 stakeholders identified as female. The majority of stakeholders (97%) reported  
15 English as their predominant language spoken at home, 89% had completed a post-  
16 secondary education and 11% self-identified as being of Aboriginal or Torres Strait  
17 Islander descent.

18

19 Stakeholders in the focus groups consisted of parents/caregivers from diverse  
20 socioeconomic and cultural backgrounds (e.g. high and low socio economic status  
21 (SES), Indigenous populations, culturally and linguistic diverse populations), and  
22 early childhood educators and health workers (including those who work with  
23 children with additional needs). Each focus group comprised stakeholders of similar  
24 backgrounds (e.g. parents and educators who identified as Indigenous n=5, health  
25 professionals who worked with families and children with additional needs n=3,

1 parents from low SES communities, n=3, parents from mid to high SES communities  
2 n=9, parents from culturally and linguistically diverse communities n=10). Key  
3 informant interviews were held with a paediatrician, a general practitioner with a  
4 diploma in Child Health, a paediatric physiotherapist, a representative of the  
5 organisation leading the implementation of the National Quality Framework for early  
6 childhood education and care services in Australia, and a representative of a not-for-  
7 profit organisation representing long-day care owners and operators.

8

9 Key stakeholders were recruited through existing networks of the Guideline  
10 Development Group for the Australian 24-hour Movement Guidelines for the Early  
11 Years (referred from here as Movement Guidelines), as well as through snowballing  
12 techniques<sup>18</sup>. Informed consent was obtained at the beginning of the interviews and  
13 focus groups, followed by a short demographic questionnaire. This study received  
14 ethical approval from the University of Wollongong Human Research Ethics  
15 Committee (HE 2017/164).

16

### 17 *Data collection*

18 Data were collected through semi-structured one-on-one telephone interviews and  
19 face-to-face focus groups. Each stakeholder was given a plain-text printed copy of the  
20 draft Movement Guidelines, which included the preamble and the guideline document  
21<sup>19</sup>, and were asked to read and familiarise themselves with the documents prior to  
22 the discussion. The open-ended discussions focused on: (i) acceptability of the  
23 Movement Guidelines; (ii) perceived importance and clarity of the Movement  
24 Guidelines and preamble; (iii) facilitators and barriers to implementation and  
25 dissemination; and (iv) dissemination and implementation strategies<sup>16,17</sup>. Focus

1 groups and key informant interviews were conducted from late-May to mid-  
2 September 2017 across three States in Australia: New South Wales (NSW), Victoria  
3 (Vic) and Western Australia (WA). Focus groups and interviews lasted on average 40  
4 minutes and were conducted by four researchers (RMS, RAJ, HC and JS). Data were  
5 collected until saturation was perceived by the research team, that is, no new  
6 information emerged from the final two interviews <sup>20</sup>.

7

### 8 *Analysis*

9 The audio-recordings from the interviews and focus groups were transcribed  
10 verbatim. To maintain confidentiality, stakeholder names were replaced using the  
11 terms Parent, Educator, Health Professional, Policy Professional and Researcher,  
12 along with the key informant interview (Int) or focus group (FG) number and  
13 corresponding Australian State (NSW, WA, Vic) in which the discussion group was  
14 held (e.g. Parent, FG1, NSW). Stakeholders are referred-to by these codes below. In  
15 line with the aims of this study, acceptability, usability, and dissemination were  
16 identified *a priori* as the key areas of focus. Then, for each of these aspects, the  
17 transcripts were analysed inductively using thematic analysis <sup>21</sup>. This process  
18 followed the six phases recommended by Braun et al. <sup>21</sup>: (i) familiarisation with the  
19 data; (ii) deriving codes from the data (i.e., succinct labels that captured key analytical  
20 ideas); (iii) searching for themes (i.e., clusters of similar codes which make up a  
21 broader level of meaning); (iv) reviewing themes; and (v) defining and naming  
22 themes, before (vi) producing the report (see below).

23

24 Strategies were implemented to ensure trustworthiness (e.g., quality and rigour) of the  
25 analysis. Peer debrief <sup>22</sup> was conducted throughout the study via regular formal and



1 informal meetings between the lead researcher and each member of the research team  
2 (collectively and individually). Furthermore, a team approach to analysis was  
3 adopted, which enabled two co-authors to act as ‘critical friends’<sup>23</sup>. That is, the lead  
4 researcher (RMS) and two co-authors (RAJ and CS) read each transcript  
5 independently. Then, all three authors shared their interpretations, and offered critical  
6 feedback to the lead researcher (RMS), in order to encourage reflexivity, explore  
7 multiple/alternative interpretations, and ultimately enhance plausibility of the  
8 resulting analysis<sup>23</sup>.

9

## 10 **Results**

11 Three broad themes were identified in the analysis of the focus group and key  
12 informant interview transcripts: (1) acceptability, (2) usability and (3) dissemination.

13

### 14 *Acceptability*

15 There was a general acceptance among all stakeholders that the Movement Guidelines  
16 were easy to understand and follow. All stakeholders favourably supported the  
17 integration of behaviours (i.e. physical activity, sedentary behaviour and sleep) and  
18 the division of the behaviours based on ages (i.e., infants, toddlers and pre-schoolers).  
19 Educators and other professionals suggested that allocating a ‘time’ length to each  
20 behaviour (e.g., three hours of physical activity and less than one hour of sedentary  
21 behaviour) was also beneficial as “this would provide a clear guide for parents”  
22 (Policy Professional, Int1, NSW). Stakeholders who were professionals suggested that  
23 the Movement Guidelines filled a gap in the information currently available and  
24 provided an opportunity to guide practice where guidelines and policy on early  
25 movement behaviour was currently limited. As one professional suggested:

1           “...They [early childhood (ECEC) educators] need something like this  
2           because they’re not thinking about physical activity. They’re thinking about  
3           sleep certainly, and they’re thinking about the types of food children are  
4           eating and how much time they’re spending outside, but they’re not thinking  
5           about that holistically with regards to physical activity.” (Policy Professional,  
6           Int2, WA)

7

8   Despite an overall acceptance of the Movement Guidelines, there were a few key  
9   areas that stakeholders suggested needed to be refined to ensure optimal uptake. The  
10   first area was the removal of movement behaviour-related jargon (e.g., ‘energetic  
11   play’, ‘cognitive development’, ‘cardiorespiratory’, ‘sleep hygiene’ etc). All  
12   stakeholders (including the health and policy professionals) suggested that such words  
13   may be difficult to understand for the general population. Stakeholders were  
14   particularly concerned about the understanding of such words for those from lower  
15   socio-economic backgrounds or those whose first language was not English:

16           ...So I just think the language is really [hard], [it] runs the risk of people  
17           switching off and not even paying [attention], like not being able to  
18           understand it, avoiding going on with it...they’ll read down that preamble and  
19           get to some of that stuff, some of the language and just go ‘oh, I don’t even  
20           understand this’ and just put it away.... or not read on anymore... (Policy  
21           Professional, Int1, NSW)

22

23   The second area of refinement identified by the stakeholders was the visual appeal of  
24   the Movement Guidelines. For the purposes of the consultations, stakeholders were  
25   provided with a plain-text draft of the Movement Guidelines as a black and white

1 Word document. Stakeholders understood that this was a draft document, however  
2 they were eager to stress that the layout of the final document was critically important  
3 for uptake and application in practice. Stakeholders suggested that the presentation of  
4 the Movement Guidelines needed to be appealing, inviting and culturally appropriate  
5 and have an emphasis on artwork and visuals rather than the text. Those from the  
6 lower socio-economic or Indigenous groups specifically emphasised this concern and  
7 suggested that parents would not be interested in such a document unless the  
8 presentation was prioritised. One parent clearly summarised this sentiment: “...but to  
9 give them a pamphlet like that, honestly, I don’t even think it would get read; they’d  
10 just look at it and go, “Hm, whatever...” (Parent, FG1, NSW)

11

12 Although all stakeholders suggested that the times allocated to the different  
13 behaviours were helpful as a guide, parents and educators were concerned that the  
14 prescription of such behaviours may result in parents feeling guilty if they could not  
15 meet the recommended times; and not meeting the guidelines could reflect poorly on  
16 their parenting style. Although all parent and educator stakeholders expressed these  
17 concerns, they were predominantly expressed by Indigenous parents or parents from  
18 lower socio-economic demographics:

19 *“Oh my God, get to sleep, what am I doing wrong?”*, and they’ll take it  
20 *personally, and go to all these different places and be like “Oh my God, what*  
21 *am I doing wrong, they’re not sleeping for the minimum of 10 hours” (Parent,*  
22 *FG2, WA)*

23

24 *Sometimes they might not know how, like they feel like “What can I do? I’ve*  
25 *got to work, and I’ve got to do this, like I need that time to cook the dinner, I*

1           *need time”, you know, they might feel a bit helpless as to how they’re going to*  
2           *achieve that (Parent, FG2, WA)*

3

4   *Usability*

5   The Movement Guidelines were developed for Early Years stakeholders, with the  
6   primary end users being parents and early childhood educators. Parents accepted the  
7   content of the Movement Guidelines, however they suggested a number of barriers  
8   that were likely to impede their usability. Time and poor weather were common  
9   barriers mentioned. Competing interests of older siblings was also mentioned as a  
10   potential barrier. For example, parents suggested that it would be more difficult for  
11   children from larger families to participate in the prescribed movement behaviours as  
12   younger children in such families are often driven around to other extra curricula  
13   activities and often provided with a piece of technology to occupy themselves while  
14   the activity was taking place: *“They [the older children] go to gymnastics and you*  
15   *can’t let them run around, you’ve got to sit. So we have to do iPad, which is fine, he*  
16   *[younger child not involved in gymnastics] loves it.” (Parent, FG3, NSW)*

17

18   The availability of technology-based devices within the home environment was also  
19   suggested to be a significant confounder in terms of usability of the Movement  
20   Guidelines. Parents suggested that technology is often the first point of entertainment  
21   for young children and is regularly used as an ‘electronic babysitter’, rather than  
22   involving children in other activities such as energetic play. A parent from the high  
23   socio-economic focus group succinctly summarised these barriers:

24           *Enough time in the day. I think the biggest challenge now is time, well a lot of*  
25           *families are both working parents. Times are changing and everyone’s*

1           *running in the door and in and out. There's so much sport and outside stuff of*  
2           *school...I think for our family it's the competing needs of various members of*  
3           *the family. That is an issue (Parent, FG3, VIC)*

4

5    To aid the usability of the Movement Guidelines, parents suggested providing detailed  
6    examples of what these behaviours looked like in practice, for example, “what  
7    energetic play looked like” and “examples of how to reduce screen time” (Parent,  
8    FG1, NSW). Many parents had incorrect misconceptions of the movement  
9    behaviours. For example, a number of parents suggested that physical activity should  
10   involve children participating in costly structured physical activity, organised games  
11   or “making children running laps around an oval” (Parent, FG1, NSW). The provision  
12   of specific and detailed examples could potentially alleviate such misconceptions  
13   related to the movement behaviours.

14

15   In alignment with the suggestions from parents, early childhood educators also  
16   suggested that the usability of the Movement Guidelines would be influenced by the  
17   weather and time. Educators suggested that their time was limited due to the high  
18   demands of administration within ECEC settings, which often resulted in other  
19   activities being compensated. In addition, educators suggested that the usability of the  
20   Movement Guidelines would be significantly influenced by the underpinning  
21   philosophy of the ECEC setting. In Australia, ECEC services are guided by a number  
22   of different philosophies and curriculums, many of which prioritise the cognitive and  
23   social/emotional key learning domains rather than the physical domain: “...*And for*  
24   *the childcare centres, I know they have certain parts of the curriculum they need to*

1 *adhere to, and if the curriculum's demanding, then they put more focus on academic*  
2 *rather than physical activity" (Educator, Int, NSW)*

3

4 Similar to parents, early childhood educators suggested that the addition of several  
5 broad reaching examples would be helpful in optimising usability, for example, use of  
6 music and flashcards. Specific examples of how the movement behaviours could  
7 realistically be incorporated in their day to day planning as well as integrated into  
8 other curriculum areas was also thought to be critical for maximising the usability.

9 Some educators suggested that being accountable for implementation of the  
10 movement behaviours would be helpful, and thus practical ideas of how to include  
11 these behaviours in their planning was suggested to be important. As one educator  
12 suggested: *"My way of thinking with this is that if we were to put this in our QIP*  
13 *[Quality Improvement Plan], and they come through and they say "Well, how are you*  
14 *doing that?... we've got no documentation."* (Educator, FG4, WA)

15

16 Meaningful collaborations between parents and their children, parents/families and  
17 educators and between educators and the children in their care were identified as  
18 being critical for high usability. Professionals and parents involved in the stakeholder  
19 consultations suggested that the usability of the Movement Guidelines would be  
20 enhanced if parents were intentional in 'role modelling' the correct behaviours and  
21 being 'play partners' (i.e., joining in). One parent explained the impact of this on her  
22 family:

23 *Michael\* and I joined in the other night. During family time, for 20 minutes,*  
24 *Simon's\* rule was that we had to run, George's\* rule was that we had to run*  
25 *laps around the house, holding our card and see who the winner was. And we*

1           *had a ball, Michael\* and I, running. And I got breathless. It was vigorous.*

2           *(Parent, FG3, VIC)\* Names are pseudonyms*

3

4 Educators emphasised the importance of consistent messaging between the ECEC  
5 environment and the family environment. Ongoing education and awareness from  
6 both early childhood educators and parents of the importance and application of the  
7 movement behaviours was highlighted as necessary. There was concern from the  
8 stakeholders that it may be easier to educate educators in this regard but harder to  
9 educate families, for example:

10           *But there needs to be more education around it. It's easy to educate*  
11           *professionals who work with young children, but it's harder to educate*  
12           *families obviously. (Policy professional, Int, WA)*

13

14           *"...it would be harder to try and get the parents on board with it..."*  
15           *(Educator, FG4, WA)*

16

17

18    *Dissemination*

19 Stakeholders identified a range of dissemination options. These were largely group-  
20 specific (i.e., dissemination options for parents were different from those for  
21 educators and professionals), however, there were some similar dissemination  
22 avenues across all groups. Parents suggested it would be most appropriate to receive  
23 information about the Movement Guidelines from health professionals and health  
24 services (such as child health nurses, support services). They suggested that they  
25 regularly consult with such professionals and would be willing to receive information

1 from such people. They also suggested that social media, apps/websites (e.g. Raising  
2 Children’s Network) and community groups (e.g., mother’s groups and play-based  
3 groups) would be key places for dissemination. Parents from the Indigenous parent  
4 group suggested face-to-face communication and discussions (e.g., yarn groups: small  
5 groups of people who gather to talk (or yarn) about a certain issue) would be helpful  
6 as these are culturally appropriate strategies for communicating information. As one  
7 parent suggested: “*yes...have a yarn-up and communicate.*”

8  
9 Educators and professionals suggested that dissemination through evidenced-based  
10 websites and social media would be appropriate. Professionals suggested that they  
11 often referred to online resources for additional information and suggested that the  
12 information pertaining to the Movement Guidelines would be helpful to have online.  
13 Educators suggested that further education pertaining to the Movement Guidelines  
14 could be best disseminated through staff meetings whilst professionals suggested that  
15 receiving information about the Movement Guidelines through their specific  
16 professional societies, in-service courses and conferences would be most helpful.

17

## 18 **DISCUSSION**

19 This study explored the perceptions of key stakeholders and end users (parents, early  
20 childhood educators, policy and health professionals) regarding the acceptability,  
21 usability and dissemination of the Australian 24-hour Movement Guidelines for the  
22 Early Years (birth to 5 years). In summary, there was general acceptance of the  
23 Movement Guidelines among all stakeholders, however views relating to usability  
24 and dissemination varied between stakeholder groups. The general acceptance of the  
25 integrated behaviour model from all stakeholders was similar to that reported by the



1 stakeholder consultations for the Canadian 24-hour Movement Guidelines for the  
2 Early Years <sup>17</sup>. This finding is significant since high acceptability underpins the  
3 quality of the content and in turn the potential impact of guidelines <sup>10,24</sup>.

4  
5 In this study there was a discourse between professionals, educators and parents in  
6 relation to the usability of the Movement Guidelines. This was particularly noticeable  
7 in relation to the prescribed durations (e.g., 60 minutes of energetic play for preschool  
8 aged children etc.) for the behaviours. The health professionals, on the whole,  
9 suggested that the times were appropriate and recognised that such amounts would be  
10 needed for positive child health-related outcomes. In contrast, parents and educators,  
11 especially parents from lower socio-economic and Indigenous groups, suggested that  
12 the messaging around the recommended times children should spend in each  
13 behaviour could stimulate “feelings of guilt”. The reasons provided (e.g., time, work/  
14 family commitments) for not being able to achieve the Movement Guidelines are  
15 similar to those previously identified as key barriers to health behaviour change  
16 among Indigenous and low socio-economic populations <sup>17,25</sup>. These findings are of  
17 concern as it was suggested that the parent guilt could potentially result in families not  
18 trying to adhere to the Movement Guidelines. To alleviate such potential feelings of  
19 guilt it is important that the preceding messaging and advertising associated with the  
20 Movement Guidelines is appropriate and clearly highlights that the recommendations  
21 in the Movement Guidelines are a guide, with the main message being that for greater  
22 health, 24 hours should include some screen time and lots of physical activity and  
23 even more sleep <sup>19</sup>.

24

1 The discourse between parents, early childhood educators and professionals did not  
2 seem to be as definitive in the 24-hour Movement Guideline Canadian stakeholder  
3 consultations. The Canadian stakeholder consultations similarly involved a diverse  
4 group of stakeholders of whom the majority had completed post-secondary education  
5 <sup>17</sup>. However, the current study included more Indigenous perspectives compared to  
6 the Canadian sample <sup>17</sup>. The higher ratio of Indigenous parents and those from lower  
7 socio-economic backgrounds in the current study may have resulted in the more  
8 obvious discourse. With a growing demographic of families and early childhood  
9 educators from culturally and linguistically diverse backgrounds in Australia <sup>26</sup>,  
10 language, wording and design considerations should be a priority.

11

12 Stakeholders in the current study identified a comprehensive list of potential  
13 dissemination resources, avenues and key messengers. However, these suggestions  
14 may only be effective if they are acted upon as part of a comprehensive knowledge  
15 translation and dissemination strategy. There may be little point in investing in the  
16 development of new guidelines or even having public health related guidelines if they  
17 are not done in conjunction with a well-resourced and longer term dissemination and  
18 implementation plan. Therefore resources should be made available for involving key  
19 stakeholders in the design and implementation of the Movement Guidelines  
20 dissemination strategies, otherwise efforts to maximise guideline reach and uptake  
21 may be limited <sup>17</sup>. The development and dissemination of simple infographics may  
22 provide an appropriate and effective initial first step.

23

24 Irrespective of dissemination method/s appropriate dissemination should be  
25 underpinned by consistent messaging and include a collaborative approach. That is,

1 parents/caregivers should be exposed to the same consistent message from different  
2 sources, multiple times throughout their child's Early Years. Effective dissemination  
3 needs to involve parents/caregivers hearing, seeing and discussing the Movement  
4 Guidelines regularly, for example, in the day-to-day life of the family, in social/peer  
5 networks, at ECEC settings, when interacting with health and other professionals  
6 face-to-face and online. Given that parents of young children are one of the largest  
7 users of social media <sup>27</sup>, innovative social media messages maybe an appropriate and  
8 effective dissemination avenue. Population level effective social marketing can be  
9 expensive; however, given the breadth of social marketing options available to date,  
10 some innovative social marketing strategies may be effective and not require  
11 extensive resources.

12  
13 It is critical that parents, early childhood educators and health professionals, advocate  
14 for the dissemination of the Movement Guidelines. Collaborations between  
15 stakeholders are needed for effective dissemination and in turn effective uptake of the  
16 Movement Guidelines. It was beyond the scope of this study to further investigate  
17 how such collaborations could be established and developed to ensure effective  
18 dissemination and implementation, however this is an important area to consider in  
19 future research on implementation of the Movement Guidelines among the public. If a  
20 coordinated approach is applied <sup>17</sup>, then it is more likely to result in positive  
21 modification of young children's movement behaviours <sup>28,29</sup>.

22

### 23 **Strengths and limitations**

24 This study successfully captured the perceptions of a diverse range of stakeholders  
25 including Indigenous groups and low socio economic groups. Stakeholders were

1 recruited from three states across Australia. While attempts were made to include  
2 stakeholders from other areas in Australia (e.g., Queensland and Northern Territory)  
3 this was not possible in the given timeframe. Additionally, the sample size for this  
4 study was lower than Canadian Stakeholder consultations yet included a greater  
5 number of Indigenous stakeholders. Despite not having all States and Territories  
6 represented and the sample size being smaller, saturation of themes was reached. The  
7 number of participants recruited to some of the focus groups was low. This may have  
8 impacted the diversity in group ideas and themes, More resources and a longer period  
9 for data collection would have been beneficial for maximising optimal participant  
10 numbers in each focus group.

11

## 12 **CONCLUSION**

13 This was the first study to engage stakeholders in the development of the Australian  
14 24-hour Movement Guidelines for the Early Years. The study successfully examined  
15 stakeholders' perceptions regarding the acceptability, usability and dissemination of  
16 these 24-hour Movement Guidelines. A number of key elements were identified,  
17 which, if considered would significantly impact the usability of the Movement  
18 Guidelines. If the 24-hour Movement Guidelines for the Early Years are appropriately  
19 integrated and uptake is maximised, such Movement Guidelines have significant  
20 potential to change the physical activity, health and development trajectory of young  
21 children.

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