

PARLIAMENTARY COMMISSION ON PHYSICAL ACTIVITY: OPEN CALL FOR EVIDENCE

Deadline: 31st December 2013

The Parliamentary Commission on Physical Activity has been established to look at ways of urgently tackling declining levels of physical activity and make direct, policy-based recommendations to tackle the crisis in the UK.

The terms of reference of the Commission are to consider and report on:

- a) the evidence relating to the impacts of physical (in)activity;
- b) lessons to be learned from best practice around the UK and across the globe in relation to increasing levels of physical activity;

and to make recommendations for legislative and other action.

The Commission would welcome responses from interested organisations and individuals to the following initial questions:

1. How can we encourage more people to be physically active, on a regular basis?
2. What fundamental policy changes need to be made to increase the levels of physical activity across the UK?
3. What existing best practice is being delivered in or across Sport, Health, Transport/Urban planning and Education which addresses the issue of physical inactivity? How and why are these examples successful?
4. What are some examples of excellent initiatives that have failed and why have they been unsuccessful or not lasted?
5. In a world with limited financial resources what are the most cost-effective approaches and how can existing resources be realigned to have the greatest impact?

Making a submission

A copy of the submission should be sent by e-mail to physicalactivityevidence@fleishman.com and marked “Physical Activity Commission” then “Your Organisation”, for example: *Physical Activity Commission: The Young Foundation*

Written evidence submitted should be no longer than 2,000 words in length and

- Have numbered paragraphs
- Be provided electronically in MS Word, Open Office or Rich Text format (No PDFs)
- Include (where relevant) a full, numbered list of attachments
- Contain your full contact details
- Must be submitted in the attached template. An editable version of the document is also available from www.pcopa.com

Please also note that:

- Material already published elsewhere should not form the basis of a submission, but may be referred to within a proposed memorandum, in which case an attachment of the published work should be included.
- Once submitted, evidence is the property of the Commission. The Commission will normally, though not always, choose to make public the written evidence it receives, by publishing it on the internet (where it will be searchable), by printing it or by making it available through the Parliamentary Archives.
- If there is any information you do not want to be published please let us know and we will not publish it.
- Please also note that the Commission may contact you with news, updates and information as appropriate using the email address from which you have submitted evidence.

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Are you responding on behalf of (please tick one)

- ☐ Private individual
- ☐ Private sector organisation
- ☒ **Academic institution**
- ☐ Public sector organisation
- ☐ Third sector organisation
- ☐ MP or political organisation
- ☐ Other (please write in) _____

Contact details

Please provide your contact details.

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If responding on behalf of an organisation, please indicate its primary area of work

- ☐ Health and social care
- ☐ Education
- ☐ Sports and physical activity/ leisure and recreation
- ☐ Urban planning and design/ architecture
- ☐ Transport
- ☐ Local/ city/ town council
- ☐ National politics
- ☐ Consultancy - please write in: _____
- ☒ **Other – please describe:** Dietary and physical activity academic research

Q1 How can we encourage more people to be physically active, on a regular basis?

We are interested in suggestions across all policy areas, including those not traditionally associated with 'physical activity'.

People underestimate their physical activity

- 1.1 Encouraging people to be sufficiently active (as determined by national guidelines) requires an awareness of current levels of activity. However, both adults and children overestimate the amount of physical activity they undertake, when comparing it with objective measures of physical activity. In the ProActive Study of adults in Cambridgeshire, nearly half of inactive adults considered themselves active. Those with a lower BMI, younger age at completion of full-time education and higher general health perception were more likely to overestimate their physical activity. [1]
- 1.2 In the SPEEDY study of children in Norfolk 40% of inactive children overestimated their physical activity level. [2] This effect is also found in adolescents, with 65% of inactive girls and 60% of inactive boys inaccurately rating themselves as active in the ROOTS study.[3] Furthermore, parents are unaware of the activity levels of their children. In the SPEEDY study, 80% of parents of inactive children wrongly thought that their child was sufficiently active. This increased to almost 90% for parents of pre-school children in the Southampton Women's Survey (a UK population-based study).[4]
- 1.3 This would indicate that to encourage regular physical activity, it is necessary to find ways to make people more aware of the intensity and amount of physical activity needed, and offer them ways of assessing their activity levels against these guidelines.
- 1.4 There is some indication that the act of monitoring and measurement in itself can increase the level of physical activity. The ProActive Study is one of the most rigorously evaluated and thorough individual-level physical activity interventions conducted, and yet it showed no difference between the control and intervention groups.[5] However, there was an increase in objectively measured physical activity equivalent to 20 minutes of brisk walking per day across *both* groups, compared to baseline levels, which suggests that simply being measured may increase physical activity. In the subsequent FAB Study of adults in Cambridgeshire, providing feedback on people's levels of physical activity had no effect on objectively measured physical activity or intention to increase physical activity. However, it did increase participants' awareness of their level of physical activity.[6]
- 1.5 This 'measurement effect' suggests that the rise in physical activity self-monitoring tools and mobile apps represents a promising opportunity to support people in trying to achieve more regular physical activity. It also underlines the importance of continued education and information about recommended physical activity levels.

Different ways to be active

- 1.6 There are many different ways to be active, all of which can contribute to increased overall activity. But different types of physical activity may need to be encouraged in different ways, with interventions to promote walking likely to differ from those encouraging sports participation. In addition, activities at the other end of the intensity spectrum, i.e. sedentary behaviours such watching TV, computer use, driving etc, may be independently bad for people's health, possibly more so if performed uninterrupted.[7] Again, interventions tackling these behaviours will have their own distinguishing features.

Q2 What fundamental policy changes need to be made to increase the levels of physical activity across the UK?

We are interested in suggestions across all policy areas, including those not traditionally associated with ‘physical activity’. You may also wish to consider how different populations within the UK can effectively be reached through policy change.

Promoting physical activity beyond PE and sports

2.1 Physical activity is often substituted by ‘exercise’ in media coverage and frequently conflated with ‘sport’. However, as recognised by the national physical activity guidelines, physical activity can encompass a range of activities. This may be particularly important in reframing the promotion of physical activities in schools. The SPEEDY study assessed adolescent preference for physical activity type, co-participants, timing and location: 94% of adolescents in the study wanted to increase participation in more than one type of physical activity. However, whilst gym use and team sports were popular with around half of respondents, girls were more likely to select non-traditional forms of physical activity such as dancing. Participation during school time was less popular among girls and more popular among participants with low socioeconomic status. Overweight/obese adolescents were less likely to choose participation with friends.[8] This suggests that schools need to promote physical activity beyond physical education and sports, considering how to offer adolescents a choice in the types of activities they engage in. This has implications for the Department for Education as well as other departments, agencies and bodies tasked with increasing participation in sport and physical activity. (For a full discussion of encouraging physical activity in children, see Q6.)

Q3 What existing best practice is being delivered in or across sport, health, transport, urban planning and education which addresses the issue of physical inactivity? How and why are these examples successful?

You may wish to consider factors such skills, attitudes to risk and change, rules such as procurement, incentives and the degree of integration with existing or other services.

You may also choose to consider initiatives from outside these sectors which have led to an increase in physical activity (as a direct or indirect impact).

Q4 What are some examples of initiatives that have failed and why have they been unsuccessful or not lasted?

- 4.1 Family-based programmes have tended to fail because they frequently only recruit a small proportion of the families they are targeting. Moreover, session attendance can be a problem, most likely due to requirements of attendance at specific times in out-of-home locations.[9]
- 4.2 Whole school programmes have promise to be effective for both children and adolescents[9, 10], although the size of effect is small and their effect on overall physical activity needs to be assessed in more detail. A lack of effective engagement of actors outside of the school environment (family, non-school peers, community leaders, sports clubs etc) is a likely explanation for this.

Q5 In a world with limited financial resources what are the most cost-effective approaches and how can existing resources be realigned to have the greatest impact?

- 5.1 Evidence to answer the comparative question about which approaches in physical activity promotion are the *most* cost-effective is lacking. However, as a general point, efforts that aim to shift the population distribution of physical activity rather than just targeting high risk individuals (as outlined by Geoffrey Rose[11]) are likely to be more cost-effective overall. (i.e. strategies that involve infrastructure, policies and interventions that have the potential to reach large sections of the general population.) Time is also a limited resource and any intervention which can encourage individuals to substitute inactive pursuits for active ones could have a large effect on the population level, e.g. choosing an active mode of transport for an element of regular journeys. (See 6.7 onwards.)

Q6 How can young people be encouraged to take part in more physical activity? We are interested in ideas and examples which cover before, during and after school, as well as time in weekends and holidays.

Adolescent physical activity decline

6.1 Physically activity declines from childhood to adolescence, and is replaced by sedentary behaviour. The Norfolk-based SPEEDY Study, using objective accelerometer data, found that 10 minutes of daily physical activity is replaced by sedentary time every year from the age of 10. Moderate to vigorous physical activity (MVPA) declined most steeply among boys, although girls were less active at all ages. Rural individuals also experienced greater declines.[12] Some of this decline is likely to be a natural part of growing up, but it is likely to be exasperated by the increase in the opportunities for sedentary behaviours. Rather than aiming for unrealistic increases in physical activity, effective strategies for physical activity promotion in adolescents might more realistically aim to maintain earlier activity levels, and show awareness how specific groups may need to be targeted differently.

School environment

- 6.2 Physical activity behaviours are complex and influenced by a combination of factors related to the individual, their social relationships, community, wider society and the environment. This is known as the socio-ecological model and is relevant to all considerations of how we encourage more people to be physically active on a regular basis. Based on evidence review, CEDAR researchers have developed a framework for understanding the influences of the school environment on childhood obesity, including physical activity.[13] It underlines that consideration should be given to the wider context of schools' physical and social environment when attempting to encourage sustainable behaviour changes.
- 6.3 Nevertheless, research has identified specific characteristics of the school and surrounding environment which may be supportive of physical activity:
- Children are more active if school grounds are more supportive (playground markings, playground equipment, marked sports pitches and tracks, wildlife garden etc.) [14]
 - There is evidence that break-time play contributes to overall activity levels in children. Having a longer morning school break may be important: children attending schools with a break of over 15 minutes maintained their physical activity levels better over a 1-year period.[15]
 - Rainfall is associated with less physical activity in primary school children: providing indoor physical activities in wet weather may help children maintain physical activity levels irrespective of the weather.[16]

Family and community environment

- 6.4 Next to the school environment, the family and community environment are key for young people's behaviour and for promoting physical activity. The decline of physical activity in adolescents in the SPEEDY study was particularly pronounced at weekends when compared to weekdays. (A decline of 6.7 minutes per day each year on weekends compared to 2.8 minutes per day a year on weekdays.) [12]
- 6.5 In the above study, participants who reported greater parental support for physical activity experienced less of a decline at weekends. This support could include encouragement, and logistical or practical support. By contrast, it was participants who reported greater peer support who experienced less of a decline in weekday physical activity.[17] Family support appears to be similarly effective across ethnicity groups[18] and for different ages and sexes.[19,20,21] In the CHASE study of UK children of South Asian, black African-Caribbean and white European origin, children who had a pet dog spent more time in physical activity.[22]

6.7 Provision of safe streets or natural and challenging outdoor environments for children to engage in activity is associated with more physical activity. This does not necessarily have to be formal 'playgrounds', and the activity does not need to be organised. In SPEEDY, research using GPS data found that children who spent more time outside the home were more active.[23] This suggests the importance of the provision of urban gardens and green spaces, and the maintenance of safe street environments as places for children to be active. In this study children tended to be active close to home, with the majority of physical activity occurring inside neighbourhoods, although boys and rural children were more likely to roam outside their neighbourhood. It is important, therefore, to help children and their parents manage risks perceived to be associated with activity, for instance teaching physical and coping skills and courses such as cycling proficiency.

Active travel

6.8 Active travel has an important role in the physical activity of children, and we draw the Commission's attention to *All Party Physical Activity Commission – CEDAR/MRC Epidemiology Unit submission 2: Active Travel*. Some specific findings with regard to children's active travel are as follows.

6.9 In the SPEEDY Study of children in Norfolk, 47% of children walked or cycled to school and these children were more physically active overall [24], suggesting that children who travel actively do not compensate by being less active at other times.[25] Similarly, in the Bristol based ALSPAC study, children who regularly walked to school were more active during the week than those travelling by car, with those travelling further experiencing more of the benefits.[26] The CHASE study found that these benefits were achieved by children from different ethnic backgrounds, with car travellers increasing their physical activity levels by 9% if they were to be physically active at the level of active travellers.[27] This association of active travel is not just confined to the school journey, as increased physical activity was also found if children walked or cycled to destinations other than schools.[28]

6.10 As with adults, distance is a key predictor of active travel for children, but as with adults it will be possible to integrate an element of active travel within a longer journey. Moreover 30% of children living within 2km from school in SPEEDY were driven to school, indicating a potentially large number who could walk or cycle instead.[29]

6.11 Factors that have been found to be associated with more active travel and/or physical activity in children include:

- reducing the convenience of the car and improving the convenience of active modes, and improving the safety of routes to school [30]
- cycling infrastructure, crossing guards (lollipop people), and safe places for children to cross the road.[15]
- availability of a 'Park and Stride' schemes, and provision of pedestrian training (found in boys only in this study) [31]
- increasing support from parents and friends, and living in a supportive environment [30]

Q6[2] If there are any relevant **papers** that have been generated by, or useful to your organisation in adopting innovations, please attach them as part of your response, or give links in the box below

All references are Open Access, and accessible at the links below. (Or where not Open Access, attached with the submission – as indicated)

1. Watkinson C et al, IJPNPA 2009. *Overestimation of physical activity level is associated with lower BMI: a cross-sectional analysis* <http://www.ijbnpa.org/content/7/1/68>
2. Corder et al, AJPM 2010. *Perception versus reality: awareness of physical activity levels of British children.* <http://europepmc.org/articles/PMC3746297>
3. Corder et al; Arch Ped Adol Med, 2011. *Physical activity awareness of British adolescents* <http://europepmc.org/articles/PMC3812705>
4. Hesketh et al, BMC PH 2013. *Maternal awareness of young children's physical activity: levels and cross-sectional correlates of overestimation.* <http://dx.doi.org/10.1186/1471-2458-13-924>
5. Kinmonth et al, Lancet 2008. *Efficacy of a theory-based behavioural intervention to increase physical activity in an at-risk group in primary care (ProActive UK): a randomised trial.* www.sciencedirect.com/science/article/pii/S0140673608600707 [Not open access – attached with submission]
6. Godino, JG et al; PLOSOne 2013. *Impact of Personalised Feedback about Physical Activity on Change in Objectively Measured Physical Activity (the FAB Study): A Randomised Controlled Trial* www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0075398
7. Wijndaele, K et al; Int J Epidemiol 2010. *Television viewing time independently predicts all-cause and cardiovascular mortality: the EPIC Norfolk Study* <http://ije.oxfordjournals.org/content/40/1/150.full>
8. Corder, K et al; BMC Public Health 2013. *What do adolescents want in order to become more active?* www.biomedcentral.com/1471-2458/13/718
9. van Sluijs et al; BMJ 2007. *Effectiveness of interventions to promote physical activity in children and adolescents: systematic review of controlled trials* <http://europepmc.org/articles/PMC2001088>
10. Kriemler S et al; Br J Sports Med. 2011 *Effect of school-based interventions on physical activity and fitness in children and adolescents: a review of reviews and systematic update* <http://europepmc.org/articles/PMC3841814>
11. Int J Epidemiol 2009. *Rose's Strategy of Preventive Medicine.* Geoffrey Rose with commentary by Kay-Tee Khaw and Michael Marmot. <http://ije.oxfordjournals.org/content/38/6/1743.full.pdf>
12. Corder et al; BJSM 2013. *Change in objectively measured physical activity during the transition to adolescence* <http://bjsm.bmj.com/content/early/2013/11/22/bjsports-2013-093190.full>
13. Harrison F, Jones AP; Health & Place 2012. *A framework for understanding school based physical environmental influences on childhood obesity* www.cedar.iph.cam.ac.uk/publications/publication/diet-activity-school-framework/
14. Jones N et al; Health & Place 2010. *School environments and physical activity: The development and testing of an audit tool.* <http://europepmc.org/articles/PMC3820999>
15. Mantjes et al; IJBPNA 2012. *School related factors and 1yr change in physical activity amongst 9–11 year old English schoolchildren* www.ijbnpa.org/content/9/1/153
16. Harrison F et al; IJBPNA 2011. *The impact of rainfall and school break time policies on physical activity in 9-10 year old British children: a repeated measures study* www.ijbnpa.org/content/8/1/47/
17. Corder K/Craggs C et al; IJBNPA 2013; *Predictors of change differ for moderate and vigorous intensity physical activity and for weekdays and weekends: a longitudinal analysis* www.ijbnpa.org/content/10/1/69
18. McMinn et al; IJBNPA 2011. *Family and home correlates of children's physical activity in a multi-ethnic population: the cross-sectional child heart and health study in England (CHASE)* www.ijbnpa.org/content/8/1/11
19. McMinn et al Eur J Public Health 2013. *Family and home influences on children's after-school and weekend physical activity.* <http://europepmc.org/articles/PMC3784797>

20. van Sluijs EMF et al; PLOS One 2013. *Correlates of Light and Moderate-to-Vigorous Objectively Measured Physical Activity in Four-Year-Old Children* www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0074934
21. Craggs C et al; AJPM 2011. *Determinants of Change in Physical Activity in Children and Adolescents: A Systematic Review* <http://europepmc.org/articles/PMC3100507>
22. Owen C et al; Am J Public Health 2010. *Family Dog Ownership and Levels of Physical Activity in Childhood: Findings From the Child Heart and Health Study in England.* <http://europepmc.org/articles/PMC2920992>
23. Jones AP et al; IJBNPA 2009. *Environmental supportiveness for physical activity in English schoolchildren: a study using Global Positioning Systems* www.ijbnpa.org/content/6/1/42
24. Panter J et al; Pediatric Exercise Sciences, 2011. *The influence of distance to school on the associations between active commuting and physical activity* www.cedar.iph.cam.ac.uk/publications/files/2011/02/Panter-et-al-The-influence-of-distance-to-school-on-the-associations-between-active-commuting-and-physical-activity.pdf
25. Smith L et al; IJBNPA 2012. *Is a change in mode of travel to school associated with a change in overall physical activity levels in children? Longitudinal results from the SPEEDY study* www.ijbnpa.org/content/9/1/134
26. van Sluijs et al; Prev Med 2009. *The contribution of active travel to children's physical activity levels: cross-sectional results from the ALSPAC study.* <http://europepmc.org/articles/PMC3839265>
27. Owen C et al; PLOS One. *Travel to School and Physical Activity Levels in 9–10 Year-Old UK Children of Different Ethnic Origin; Child Heart and Health Study in England (CHASE)* www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0030932
28. Smith L et al; Prev Med 2012. *Is active travel to non-school destinations associated with physical activity in primary school children?* <http://europepmc.org/articles/PMC3856476>
29. Panter J et al; J Epidemiol Community Health 2010. *Attitudes, social support and environmental perceptions as predictors of active commuting behaviour in school children* <http://europepmc.org/articles/PMC3703574>
30. Panter J et al; IJBNPA 2013. *Individual, socio-cultural and environmental predictors of uptake and maintenance of active commuting in children: longitudinal results from the SPEEDY study* <http://www.ijbnpa.org/content/10/1/83>
31. van Sluijs et al; Int J Pediatr Obes 2010. *School-level correlates of physical activity intensity in 10-year old children* <http://europepmc.org/articles/PMC3839262>

Q7 Any further comments?