

Expert Working Group Working Paper

Communication and Surveillance

UK physical activity guidelines: developing options for future communication and surveillance

October 2018

Authors: Nanette Mutrie¹ (Chair), Martyn Standage², Andy Pringle³, Bob Laventure⁴, Laura Smith⁵, Tessa Strain⁶, Paul Kelly⁷, Philippa Dall⁸, Karen Milton⁹, Sarah Ruane, Anna Chalkley¹⁰, Nick Colledge¹¹

UK Expert Committee for Physical Activity Chair: Dr Charlie Foster¹²

Central Review Team Research Associate: Kate Banfield¹²

1 Physical Activity for Health Research Centre (PAHRC), Institute for Sport, Physical Education and Health Sciences (ISPEHS), The University of Edinburgh

2 Centre for Motivation and Health Behaviour Change, Department of Health, University of Bath

3 Institute of Sport, Physical Activity & Leisure, Leeds Beckett University

4 Later Life Training

5 Headington Prep School

6 MRC Epidemiology Unit, University of Cambridge

7 Institute for Sport, Physical Education and Health Sciences (ISPEHS), The University of Edinburgh

8 School for Health and Life Sciences, Glasgow Caledonian University

9 Norwich Medical School, University of East Anglia

10 School of Sport, Exercise and Health Sciences, Loughborough University

11 'Strong and balanced offer' project

12 Centre for Exercise, Nutrition & Health Sciences, School for Policy Studies, University of Bristol

13. Sport England

Background

Communication and surveillance issues have not been dealt with in the publication of previous CMO guidance. Without adequate communication to appropriate groups then the guidelines could remain 'on the shelf' and unused. Without relevant changes to surveillance we will not be measuring the correct parameters for effective monitoring of physical activity (PA) levels.

Having a commentary on communication and surveillance will allow the four home countries to have the opportunity to harmonise their approaches, potentially making a stronger message and even saving costs for communication and survey teams.

Past Communication of CMO Guidelines

Milton and Bauman have described the communication of PA guidelines as one of the "corner stones" of successful national policy (1). Communication should not only focus on the public but also related professional organisations and members who are responsible for PA promotion across many contexts. Examples of past and current mass media communication campaigns include in 1996 ACTIVE for LIFE, in 2009 Change4Life and in 2017 ACTIVE10, with other national agencies focusing on target groups, eg, in 2016 older adults *Let's Get Moving!* Recently efforts have focused on communication of guidelines to health professionals and other key groups working with age groups within the population through the development and publication of age appropriate infographics. Other media to support communication of UK guidelines have included apps, posters, TV, social media and radio adverts. These campaigns have not appeared to result in changes in population levels of PA and it would be unfair to expect these campaigns to have any impact unless sustained over longer periods of time and well resourced. Other nations have followed longer and more sustained efforts to change social norms and behaviour and the success of these initiatives reflect what can be possible for the UK CMO PA guidelines in the long term (2, 3).

Key questions

There were twelve specific questions that this EWG was asked to consider in relation to communication and surveillance. These questions arose from the national consultation and the previous update of the UK guidelines in 2011. For each of these questions, a summary statement of the expert response was outlined in our draft report in May 2018.

However, after consensus meetings and consultation we have agreed that the four topics to make recommendations about are:

- 1) **Who** needs to know the CMO guidelines?
- 2) **How** should the guidelines be disseminated to these various groups?
- 3) **What** are the issues for messaging?
- 4) **What** are the issues for surveillance?

Question 1: Who needs to know the CMO guidelines?

Previous CMO guidelines, and the infographics associated with the 2011 guidance, were targeted to Health Care Professionals (HCPs). However, through the consensus and consultation processes we have arrived at a strong body of opinion that there are many more people who need to know this guidance. Indeed there is an argument that primary prevention of inactivity happens via ‘upstream’ groups such as the public, parents, teachers, sport/PA and leisure professionals, social workers, business managers and transport designers. HCPs are further ‘downstream’ in this process. We therefore strongly recommend dissemination is not restricted to or dominated by the approach needed for HCPs.

Question 2: How should the guidelines be disseminated to these various groups?

- a) This dissemination activity needs a clear plan. Going forwards we suggest an expert panel with a social marketing presence to write a coherent plan of action for dissemination – in short a communication plan is needed and this has been missing from earlier versions of PA guidance. Each group may need different dissemination plans (e.g. the public, GPs, nurses or teachers might need a differentiated approach) based on the audience the group is trying to engage.

Communication of the PA recommendations needs to be supported with resources that help practitioners to action PA messages. Evenson et al. (4) suggests ‘tools to communicate with partners outside of public health, web-based platforms, social media, marketing materials, exemplars of how to action the PA messages and bite sized chunked summaries of PA plans’. Here we provide three examples of very different approaches that might be needed for different groups who we believe need to know about the guidelines.

- **For public facing dissemination** – There is a need for research on the interpretation, targeting and tailoring of messages for all lifespan groups – children to older adults. Media campaigns that are supported and funded from all four home countries may be the best approach here, as suggested by the WHO ‘best buys’ in Physical Activity (5). The campaigns needs to be sustained over time. The knowledge gained from ‘This Girl Can’ and “Active 10” will be important here.
- **For professional facing dissemination** – There is a need for co-operation of higher education institutions to allow inclusion of this topic within professional curricula (medical, health, sport and exercise science, ageing, wellbeing, transport engineers, etc) for initial and continuing education as well as short courses and online professional development. Professional bodies, such as Royal Colleges, are needed to support this endeavour.
- **Engagement with local communities and employers:** Health improvement policy increasingly calls for community centred approaches to health improvement. Harnessing local community involvement has long been called for in the health improvement literature and a community asset approach/assessment offers another channel for PA messaging.

Question 3: What are the issues for messaging?

Here we have benefitted from funding obtained by the University of Edinburgh to undertake a scoping review of what is known about messaging in PA and where there are gaps in our knowledge. The preliminary evidence (a full report will be available soon) suggests four key themes for consideration:

1. Content: What should the message contain?
2. Delivery mode: How should the message be delivered, and in what dose?
3. Theory: What theories can guide successful messaging approaches?
4. Evaluation: How can messaging be evaluated?

On this last point, we recommend that the evaluation begins during the planning phase of any messaging activities. There is a need for a prospective logic model, and a set of stated activities and objectives so that process, impact and outcome indicators can be evaluated.

Question 4: What are the issues for surveillance?

- There are implications for surveillance (and trend data) of any changes to the guidelines.
- We have reviewed all the surveys in use in the UK for the ability to monitor adherence to all aspects of the current guidance. This is available as a separate report.

- There is an opportunity to maximise the knowledge and expertise on surveillance and PA by creating a network of stakeholders involved in the UK surveillance of PA and sedentary behaviour. We believe a long term goal of this group would be to harmonise surveillance for the key indicator(s) of PA and sedentary behaviour across the four home countries and give consideration to objective measurements for future surveys.
- A fuller report from the surveillance group is below and includes a set of questions for other expert working groups to consider.

Surveillance report

Chair: Nanette Mutrie

Members: Tessa Strain, Philippa Dall, Karen Milton, Martyn Standage

Description of work undertaken

In February 2018, the members of the Surveillance sub-group of the Expert Working Group (EWG) for Communication and Surveillance were tasked with identifying the similarities and differences between England, Northern Ireland, Scotland, and Wales in the current surveillance methods for the 2011 PA recommendations. We also summarised methods used by other nations. This draft report was submitted in April 2018 and was available to the other EWGs and those attending the scientific consensus meetings in June and July. We have subsequently expanded on the information presented in this report to form an article focussing on UK surveillance that will be submitted to a journal in October 2018. A short summary is included below.

We have looked at the proposed updates to the PA recommendations and identified where further clarification will be necessary to develop appropriate surveillance methods (see Appendix 1 for list of questions submitted to EWG chairs). In this document, we set out our vision of what is needed going forward.

Summary of current UK surveillance of physical activity and sedentary behaviour

There are nine different surveys that repeatedly monitor and report on compliance to at least one of the 2011 UK PA recommendations: three in each of England and Northern Ireland, one each in Scotland and Wales, and one that covers England, Scotland, and Wales. There is considerable variation in the questionnaires and methods used by the surveys meaning that there is no part of the recommendations for which comparable estimates can be calculated across all home nations. No surveys have regularly used objective measures.

The most commonly monitored recommendation is child moderate-to-vigorous physical activity (MVPA) (seven surveys), followed by adult and older adult MVPA (five surveys). Three surveys assess muscle strengthening in adults and older adults, and balance and coordination in older adults. Three surveys monitor adult sedentary behaviour and five in children. Only one survey reports on the under 5s PA recommendation. None assess muscle strengthening in children.

The future of UK physical activity and sedentary behaviour surveillance

1. Why change?

There are three reasons why one might want to make changes to the current UK surveillance methods: to adapt to any new recommendations; to harmonise methods between surveys allowing meaningful comparisons; and to consider the use of objective measures. These could be divided into short-term (adaptation to new recommendations) and medium to long-term (harmonisation and consideration of objective measures). However, as a primary aim of surveillance is to generate trend data, we should not consider these tasks entirely in isolation as continual changes will be disruptive.

2. Proposed action

We recommend the creation of a network of stakeholders involved in the UK surveillance of PA and sedentary behaviour. This is likely to include: survey funders, survey contractors, policy-makers, and academics. There is currently no organised way of communicating between these groups, or in some cases, between individuals within groups. This may have been a contributing factor to the 'patchwork quilt' nature of the UK surveillance landscape described above.

The aim of this network would be to improve UK surveillance of PA and sedentary behaviour focussing on three objectives: adapting current methods to the new recommendations, increasing comparability between surveys, and consideration of objective measures.

We suggest that this network is setup and meets in 2019 after the guidelines are published.

Action is required by the CMOs to suggest this as part of the implementation of the new guidelines.

The first task would be to focus on adaptation to the new recommendations such that prevalence figures can be generated as soon as possible. We have identified some areas that have the potential to be 'quick wins' as they would not require major questionnaire changes (at least for some surveys):

- Using the same definitions for children and adults as the UK PA guidelines (i.e., 5-18 years children, 19+ years adults). Currently many of the national health surveys ask the adult questionnaire of those aged 16+ years, and include them as adults in prevalence estimates.
- Altering the data analysis of child MVPA to monitor the proportion achieving an *average* of 60 minutes each day rather than those achieving a daily minimum of 60 minutes.

Other surveys and/or recommendations may require greater adaptation which the network would work together to achieve. It is, however, important to stress that the decision over what methods to use ultimately will lie with the survey funders and contractors and we note that our role as academics will be advisory.

The longer-term aim would be to consider what methods, or parts of methods, could be harmonised between surveys. This may involve using one of the questionnaires already in use, or one used by many nations internationally, such as the Global Physical Activity Questionnaire (GPAQ) (6). The choice of questionnaire however requires careful consideration, as many international tools do not measure muscle strengthening or balance activities. Discussion over whether objective measures should or could be introduced is also needed. This has been done by nations such as the U.S., Finland, Canada, and Norway, but how this would work in the UK surveillance context needs to be established (7-10). The advantage of undertaking this task as part of the network means that all the stakeholder groups' considerations could be heard, such as (but not exclusively): the fieldwork practicalities, the available budgets, the options for data interpretation relative to recommendations derived from self-reported methods, what device is optimal for PA and/or sedentary behaviour, and what information is still optimally assessed through self-reported measures. Having this discussion through the proposed network also introduces the possibility of harmonisation of the objective measures. This may negate the need for harmonisation of self-reported measures. Furthermore, measures of fitness such as hand-grip strength could be considered, although this would be a shift away from behavioural measurement which is the basis for the UK PA recommendations.

Conclusion

We have detailed the current surveillance of PA and sedentary behaviour landscape in the UK. Based on this, we suggest the development of a network of stakeholders that would aim to improve surveillance through: adapting to new recommendations, harmonising methods to increase comparability, and considering the introduction of objective measures.

References

1. Milton K, Bauman A. A critical analysis of the cycles of physical activity policy in England. *Int J Behav Nutr Phys Act.* 2015;12:8. Epub 2015/02/02.
2. Bauman A, McLean G, Hurdle D, Walker S, Boyd J, van Aalst I, et al. Evaluation of the national 'Push Play' campaign in New Zealand--creating population awareness of physical activity. *N Z Med J.* 2003;116(1179):U535. Epub 2003/09/27.
3. Bauman A, Chau J. The Role of Media in Promoting Physical Activity. *J Phys Act Health.* 2009;6(s2):S196-S210. Epub 2009/11/01.
4. Evenson KR, Satinsky SB, Valko C, Gustat J, Healy I, Litt JS, et al. In-depth interviews with state public health practitioners on the United States National Physical Activity Plan. *Int J Behav Nutr Phys Act.* 2013;10:72. Epub 2013/06/05.
5. Organisation WH. Tackling NCDs: best buys and other recommended interventions for the prevention and control of noncommunicable diseases. Geneva: 2017.
6. Bull FC, Maslin TS, Armstrong T. Global physical activity questionnaire (GPAQ): nine country reliability and validity study. *J Phys Act Health.* 2009;6(6):790-804.
7. Hansen BH, Kolle E, Steene-Johannessen J, Dalene KE, Ekelund U, Anderssen SA. Monitoring population levels of physical activity and sedentary time in Norway across the lifespan. *Scand J Med Sci Sports.* 2018.
8. Husu P, Suni J, Vaha-Yppya H, Sievanen H, Tokola K, Valkeinen H, et al. Objectively measured sedentary behavior and physical activity in a sample of Finnish adults: a cross-sectional study. *BMC Public Health.* 2016;16:920.
9. Statistics Canada. Ten years of measuring physical activity—What have we learned? 2017; Available from: https://www.statcan.gc.ca/eng/blog/cs/physical_activity Archived at: <http://www.webcitation.org/73M4IXUuS>.
10. Troiano RP, Berrigan D, Dodd KW, Masse LC, Tilert T, McDowell M. Physical activity in the United States measured by accelerometer. *Med Sci Sports Exerc.* 2008;40(1):181-8.

Appendix 1

Questions from the Surveillance Expert Working Group (sent on 5th October 2018)

Tessa Strain, Philippa Dall, Karen Milton, Martyn Standage, Nanette Mutrie

Having read the proposed 2018 PA recommendations, the surveillance Expert Working Group (EWG) has identified a number of items (listed below) that would require clarification and/or decisions to allow them to be effectively assessed in national surveillance. We believe the best people to make a judgement on these items are the Expert Groups that produced the recommendations.

We appreciate that the EWGs created the recommendations according to the level of evidence available. However, in the absence of clarification from the EWGs, some decision will be made when incorporating them into surveillance, potentially by the individual surveys. Therefore, we strongly encourage the EWGs to provide a 'surveillance level' answer, based on the best available evidence, even if this evidence is not sufficient to be included in the recommendations. Specifically, we require clarification in the form of clear statements that are quantifiable.

The intention is for the Surveillance EWG to communicate the national surveys in the months following the publication of the guidelines. We would use this information during that dialogue. If the responses to these questions are made public at any stage, there will be clear statements indicating that these are surveillance clarifications, and not recommendations.

Under 5s

- What is the optimal method for 24-hour measurement of the behaviours mentioned (tummy-time, crawling, sedentary time, sleep) that should be considered long term?
- If self-report items were added to a survey in the interim, what would be recommended?
- Is it important for surveillance to monitor and report on screen-time and other sedentary behaviour examples given such as reading or story telling separately?

Children

- Recommendation 2:
 - Is there a frequency or duration requirement?
 - If so, is there a frequency/duration requirement for each of: (i) movement skills, (ii) muscular fitness, (iii) bone strength?
 - Does one have to do a certain amount of (i)-(iii) to meet the recommendation, or is doing just one sufficient?
 - What types of activity should count towards (i)-(iii)?

- Can one activity count towards all of (i)-(iii) (and MVPA)?
- Should surveys report on the prevalence of meeting the recommendations separately or combined?
- Do all recommendations have equal weighting? If not, what is the order of priority?

Adults and older adults

- Recommendation 1:
 - High intensity activity is distinguished from vigorous intensity. How should surveys identify high intensity activities?
 - The previous recommendation provided a 'scaling factor' to allow surveys to factor in the additional health benefits of vigorous intensity compared to moderate intensity activity (vigorous counted double). What factor should be used for vigorous in this recommendation and what factor should be used for high intensity activity?
- Recommendation 2:
 - Is there any need to include a minimum bout length for any activity?
- Recommendation 4:
 - Does this recommendation need to be two different days, or is two sessions a sufficient approximation?
 - Do individuals need to undertake 2 days for each of: (i) high intensity activity, (ii) impact exercise, and (iii) balance training for all adults, and (iv) flexibility for older adults? Or is 2 days of any of (i)-(iv)?
 - Can activities count towards more than one of (i)-(iv) (and MVPA)?
- Do all of the recommendations have equal weighting? If not what is the order of priority?
- Should adults and older adults be monitored and/or reported separately?

Sedentary Behaviour

- Is there a reasonable value of total SB that could be used to gauge adherence to recommendations for surveillance?