

Submission to the inquiry into physical activity of children and young people

Professor Simon Murphy

Centre for the Development and Evaluation of Complex Interventions for Public Health Improvement (DECIPHer), Cardiff University

What do we know about physical activity levels in children in Wales? How robust is the data on this issue?

1. The School Health Research Network (SHRN) collects data biennially on physical activity levels in secondary school aged children. SHRN is a partnership between Welsh Government, Public Health Wales, Cancer Research UK and Cardiff University. It aims to improve young people's health and wellbeing by (i) providing robust health and wellbeing data for school, regional and national stakeholders; (ii) working with policy-makers and practitioners from health, education and social care to co-produce high quality, school based health and wellbeing research for Wales; and (iii) helping schools, and those who support schools, to understand health research evidence and how it can be used in schools. Schools serving secondary school aged students in Wales make up the Network's membership, which currently stands at 99% of eligible maintained schools.
2. Every two years SHRN member schools undertake a Student Health and Wellbeing Survey and complete a School Environment Questionnaire. The student survey is based on the World Health Organization's (WHO) international Health Behaviour in School-aged Children Survey (HBSC), which Wales has participated in since the 1980s and is now delivered through the SHRN infrastructure. In 2015 the student survey included approximately 35,000 11-16 year olds from 87 schools. A school environment questionnaire was completed in 100 schools. Both the schools and the students within them were representative of all schools and of all 11-16 year olds in Wales respectively. Currently 192 schools have registered to take part in the Student Health and Wellbeing Survey in 2017/18, so the estimated student sample for 2017 is 90 - 100,000.
3. In 2015 a number of measures relevant to this Inquiry were included in the Student Health and Wellbeing Survey:
 - a. Number of days in the past 7 days on which the student was moderate-to-vigorously physically active (MVPA) for at least 60 minutes per day
 - b. Frequency of engaging in vigorous physical activity (VPA) outside of school hours
 - c. Time spent in a typical week in the last 6 months in sports or clubs that involve physical activity, both in school and out of school

- d. Usual activity during the school lunch break
- e. Use of a mode of active travel to school
- f. Hours spent in sedentary screen time per day on weekdays outside of school

4. All of the above measures, bar c and d, were also included in the 2013 HBSC survey. This also collected hours per week spent in VPA, active travel from school and journey time, and weekend sedentary screen time.

5. Government Social Research publish data from the Welsh 2013 HBSC survey. We are actively seeking funding to analyse the above measures from the 2015 Student Health and Wellbeing Survey and suggest that supporting analysis of this valuable resource should be a Government priority.

6. Measures relevant to this Inquiry included in the 2017 Student Health and Wellbeing Survey are:

- a. Number of days in the past 7 days on which the student was moderate-to-vigorously physically active for at least 60 minutes per day
- b. Frequency of engaging in VPA outside of school hours
- c. Frequency of engaging in VPA in the last summer holidays
- d. Participation in sports or clubs that involve physical activity, both in school and out of school
- e. Use of a mode of active travel to and from school
- f. Journey time to school
- g. Hours spent sitting per day on weekdays and at weekends, outside of school

This data will be available in Spring 2018.

7. All of the measures are self-reported. Most of the measures come from the HBSC survey which details their reliability and validity. The MVPA measure has been validated in accelerometer studies and undergone test-retest reliability studies; it has subsequently been recommended as a brief surveillance measure with reasonable validity and moderate reliability. The VPA frequency measure has been found to be reliable in various international studies; it has also been validated against fitness criterion measures, but not against an objective measure of physical activity. An important point to note is that the MVPA measure has been used in the HBSC survey since 2001/2002 and the VPA measure since 1997/1998, so data on these variables is available for Wales across a 15-20 year period. Whilst the self-reported nature of the measures can be criticised, this nationally representative, long-term data on trends in young people's physical activity levels is highly informative and will continue to be built on through the Student Health and Wellbeing Survey.

8. The School Environment Questionnaire (SEQ) collects information on

school policies and practices pertaining to health and wellbeing, including physical activity. In 2015 these included:

- a. Hours of timetabled physical education (PE)
- b. Availability of extracurricular PE
- c. Facilities available for physical activity
- d. Number of Sport Wales Ambassadors
- e. Promotion of active travel
- f. Presence of partnerships to promote and maintain physical activity
- g. Lunch break length
- h. School prioritisation of health.

9. Combining SEQ data with student survey data enables investigation of school level influences on physical activity. SHRN's partnership with Welsh Government enabled analysis of physical activity data from the 2013 HBSC survey and SEQ. This investigated predictors of physical activity in 11-16 year olds and considered gender, ethnicity, affluence, active travel and school characteristics such as lunch break length. Both a summary of the key findings (9a) and the full paper (9b) are available:

- a. http://www.shrn.org.uk/wp-content/uploads/2016/09/Morgan_Predictors-of-PA_final.pdf
- b. <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-016-3213-8>

10. Other cross-sectional analyses have investigated whether school- and family-level affluence have independent and combined influences on physical activity. These found that students from more affluent families were more likely to meet the physical activity target of 60 minutes of MVPA per day. They also found that family and school affluence (measured by percentage of students entitled to free school meals (FSM)) interacted, suggesting that the difference in physical activity levels between students from more and less affluent homes is greater in more affluent schools (those with low levels of FSM entitlement), i.e. that income-related inequalities in physical activity are wider in more affluent schools.

- a. <http://onlinelibrary.wiley.com/doi/10.1002/berj.3265/full>
- b. <http://onlinelibrary.wiley.com/doi/10.1111/josh.12242/full>

11. The 2017/18 Student Health and Wellbeing Survey is piloting collecting identifying information from students to enable their data to be used for data linkage and longitudinal research. Establishing a longitudinal cohort within SHRN offers a means to track student-level changes in physical activity through adolescence and identify student- and school-level factors that influence increases and decreases in physical activity. Data linkage research, where Student Health and Wellbeing Survey data would be linked to routinely collected data, offers the means to analyse current and longer term health outcomes related to physical activity in adolescence and to investigate

the relationship between physical activity and academic attainment.

Barriers to increasing the levels of physical activity among children in Wales, and examples of good practice in achieving increases in physical activity, and in engagement with hard to reach groups, within Wales, the UK and internationally.

12. The WHO suggests that ‘role models’ could provide a mechanism for inspiring young girls to become active with the availability of community links to ensure activity levels are sustainable. Last year a pilot project (CHARMING), aiming to identify active role models for young girls (aged 9-11 years) involved two purposively sampled primary schools within Wales, one with a high proportion of children from a BME background (87% of children) and the other a high proportion of children eligible for free-school meals (e.g. 20-30%+). The study identified that 29% of girls were unsure of- or did not have a role model who inspired them to be physically active. Gathering data on facilitators to being active within the community, the study found that; the types of sports on offer, opportunities to be active with friends and having more free time were the greatest facilitators to help girls become more active. This study has completed its initial stages and is now seeking further funding to develop an active role model programme in Wales. More information can be found here: <http://decipher.uk.net/wp-content/uploads/2017/09/CHARMING-Report.pdf>

13. Our study found that the provision of structured sport and physical activity opportunities for girls (aged 9-11) in these communities was limited. Many of the local teams and clubs did not provide sessions for girls aged 9-11. One of the most challenging aspects of the project was identifying local opportunities that the girls could be signposted towards, with many resources containing outdated contact details.

14. We also draw the Inquiry’s attention to the ‘Sport, Physical activity and Eating behaviour: Environmental Determinants in Young people’ (SPEEDY) cohort study in England. This study started in 2007 with over 2000 9-10 year olds and has collected both longitudinal and qualitative data on barriers to and determinants of physical activity in young people. <http://www.cedar.iph.cam.ac.uk/research/directory/speedy/>

Measurement, evaluation and effectiveness of the Welsh Government’s programmes and schemes aimed at promoting physical activity of children.

15. Through its biennial surveys SHRN offers Welsh Government a cost-effective data infrastructure that can underpin policy and programme monitoring and evaluation. Although it has not yet been used for this in relation to physical activity, baseline data is already in place for future evaluations of population-based approaches to increasing physical activity in

young people. Randomised controlled trials to evaluate new physical activity policies could also be undertaken at low cost using the SHRN infrastructure, as different areas of the country could be randomly allocated to implement a new policy. It could then be evaluated before a decision regarding national roll-out is taken.

16. The large and representative sample of students within SHRN also means that the impact of programmes and schemes on sub-groups within the population can be evaluated. For example, programmes that seek to increase physical activity in young people from minority ethnic backgrounds can be evaluated. Negative impacts of programmes, such as inadvertently widening inequalities in physical activity, can also be assessed.

The role of schools, parents and peers in encouraging physical activity, and the role of Sport Wales, NHS Wales and Public Health Wales in improving levels of physical activity.

17. Schools have an important role in promoting physical activity, both within the curriculum and through extra-curricular activities and active travel. WHO's Health Promoting School (HPS) framework, a settings based approach which recognises the influence of the school environment (policies, practices, physical environment and culture) on student health, has been adopted globally, including Wales. Nearly all maintained schools in Wales are members of the Welsh Network of Healthy School Schemes, which supports them to improve student and staff physical, mental and social health by acting in four areas: curriculum, ethos, physical environment and community relations. A recent Cochrane Library systematic review found some evidence of a positive impact of the HPS approach on physical activity and fitness.

18. In the primary school context, findings from our focus groups with preadolescent girls in the CHARMING project indicated that primarily girls' role models consisted of family members including parents, siblings, cousins and aunties. When asked specifically about role models for physical activity, a number of them also identified family members. Teacher interviews highlighted some of the challenges schools face in providing sport and physical activity for young girls. These included a lack of school resources, such as the availability of teaching staff and facilities. The costs associated with organising and running sporting and physical activity clubs within schools were also seen as a barrier. Teachers also discussed the limited links with local sports clubs and the difficulties they faced accessing external providers to deliver active sessions in their school. Community partners involved in the research also discussed the limited links between schools and clubs and that there were no current resources to raise awareness of physical activity and sport in the community.

19. Schools can be key innovators of approaches to increasing physical

activity in young people and through its surveys and school engagement activities SHRN offers a system to identify and capture promising secondary school-level innovations, explore why they work in a particular school context and evaluate their potential for wider adoption.