


# Infographic. Communicate physical activity guidelines for disabled children and disabled young people

Brett Smith <sup>1</sup>, Jake Netherway,<sup>1</sup> Patrick Jachyra,<sup>1</sup> Lydia Bone,<sup>2</sup> Beelin Baxter,<sup>3</sup> Jamie Blackshaw,<sup>3</sup> Charlie Foster<sup>4</sup>

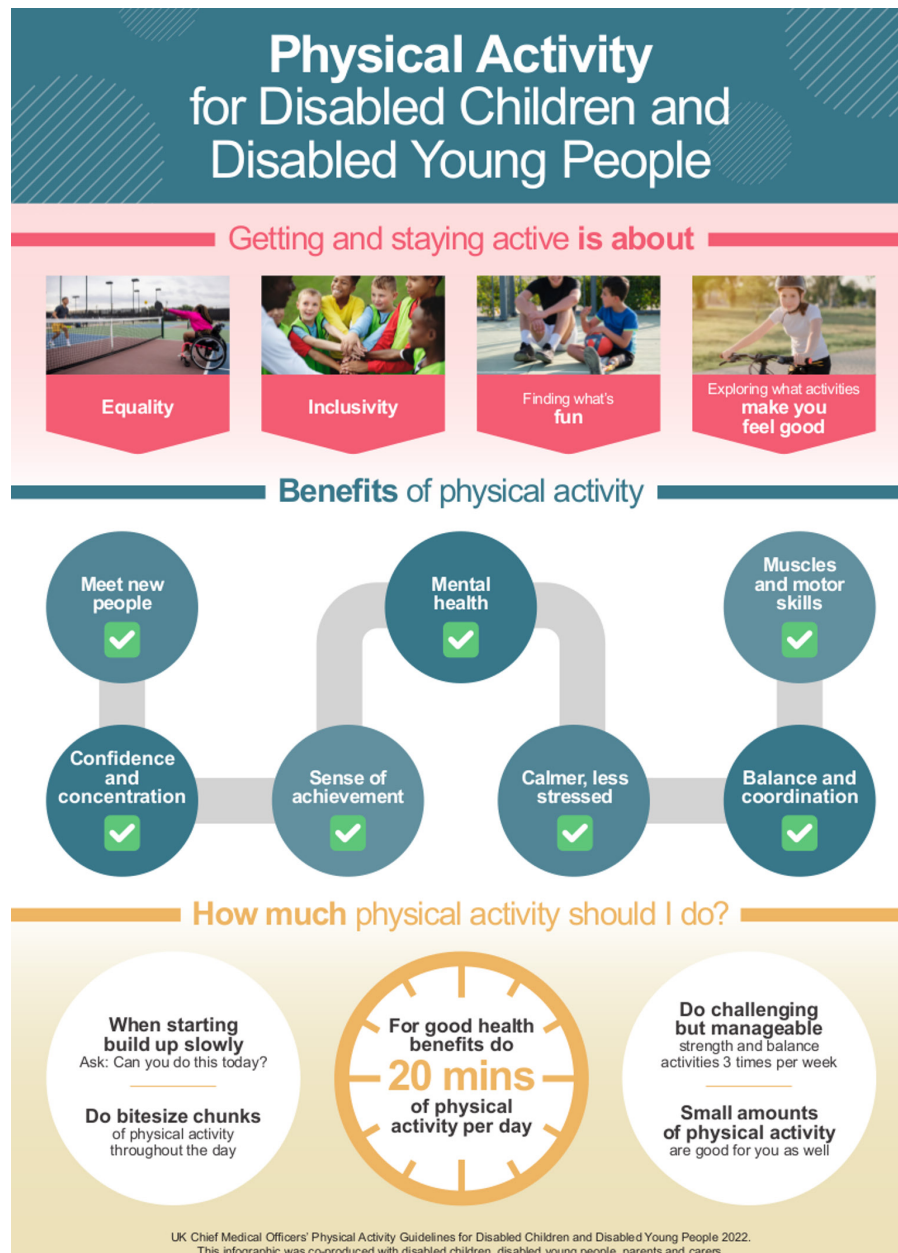
## BACKGROUND

In 2019, the UK Chief Medical Officers' (CMOs) physical activity guidelines were updated.<sup>1</sup> These new guidelines provided physical activity recommendations for non-disabled and disabled adults, older adults aged 65 years and over, women during pregnancy and during postpartum, individuals aged under 5 years, and non-disabled children and young people. However, there was no review of the physical activity evidence for disabled children and disabled young people in the 2019 UK guidelines. This gap was recognised and it was recommended that specific public health guidelines needed to be developed for this group.<sup>1</sup> In 2021, the UK Government Department of Health and Social Care (on behalf of the CMOs) tasked us to review the evidence on physical activity pertaining to disabled children and disabled young people aged between 5 and 17 and, if sufficient evidence, communicate the guidelines appropriately.<sup>2</sup>

Our review found no evidence to show that physical activity is unsafe for disabled children and disabled young people, while also indicating various benefits of physical activity for this population who can participate in active physical activities.<sup>3</sup> We also recommended that disabled children and disabled young people should do challenging strength and balance-focused activities on average three times per week.<sup>3</sup> There was evidence that some physical activity is better than nothing, and that even small amounts can bring health benefits. Our review identified that substantial health gains were likely for disabled children and disabled young people if they participated in 120–180 min of mostly aerobic physical activity per week, at a moderate-to-vigorous intensity.<sup>3</sup> This could be achieved in different ways (eg, 20 min per day or 40 min three times per week). There was little evidence to support the WHO recommendation of a weekly average of 60 min per day of physical activity for disabled children and disabled young people.<sup>4</sup>

## AN EQUITABLE AND EXPERIENTIALLY INFORMED COPRODUCED APPROACH

Following the review, an infographic was coproduced to communicate the evidence-based guidelines. Although there



are various types of coproduced research such as integrated knowledge translation,<sup>5</sup> an equitable and experientially informed coproduced approach<sup>5</sup> was used to ensure lived experience was central. As detailed in online supplemental material, we worked with 233 children and disabled young people who represented a diverse range of disabilities, 73 parents/carers, 7 teachers, 4 national disability sport

organisations, a national disability organisation, a national sport organisation, and 33 education, health and social care professionals to coproduce an infographic grounded in available scientific evidence, experiential knowledge and messaging literature.<sup>2</sup> Several formats for communicating the UK CMOs physical activity guidelines were identified as priorities early in the coproduction process. One

key format was an animation, which was later created (see [https://www.youtube.com/watch?v=N1t6fD\\_LGWU](https://www.youtube.com/watch?v=N1t6fD_LGWU)). Another format prioritised was an infographic. The final infographic is presented here. A Braille version is also available (<https://www.gov.uk/government/publications/physical-activity-guidelines-disabled-children-and-disabled-young-people>).

## COPRODUCING PHYSICAL ACTIVITY MESSAGES

How the infographic was coproduced is detailed in online supplemental material. This material highlights why various messages were included and why certain messages were not. For example, messages revolving around 'snacking' (eg, snack on physical activity throughout the day, exercise snacks or the bringing together of words like snack and tivity<sup>6</sup>) were not included. That is because these were unanimously deemed irrelevant, unacceptable, and meaningless messages by the disabled children, disabled young people, parents, carers and teachers. The message they instead produced and accepted as most relevant, relatable, useful and usable to break up sedentary behaviour and encourage small, but frequent, doses of regular physical activity was 'Do bitesize chunks of physical activity throughout the day'. In online supplemental material, the importance of inclusivity, fun and pleasure/finding what makes you feel good for public health and physical activity promotion is highlighted. It details why no intensity message was included. The rationale for a '20 min per day' message is described in detail too in online supplemental material. Briefly, the available evidence<sup>3</sup> for how much physical activity is good for the health of disabled children and disabled young people (eg, 120–180 min per week, 150 min per week, 40 min three times per week or 20 min per day) was shared and discussed with the disabled children, disabled young people, and parents or carers during the co-production process. They unanimously chose the '20 min' message partly because it was more memorable. It was also chosen because it best communicated an achievable and

motivating target, especially for those who are mostly inactive.

To our knowledge, this is the first coproduced infographic to communicate evidence-based public health physical activity recommendations for children and disabled young people with a range of disabilities. It has also been approved by the UK Department of Health and Social Care and endorsed by the UK CMOs. Along with the animation, we hope the infographic is shared widely, displayed, and used to help promote physical activity across the life course and challenge inequalities.

<sup>1</sup>Sport and Exercise Sciences, University of Durham, Durham, UK

<sup>2</sup>Disability Rights, London, UK

<sup>3</sup>United Kingdom Department of Health and Social Care, London, UK

<sup>4</sup>Centre for Exercise, Nutrition and Health Sciences, University of Bristol Centre, Bristol, UK

**Correspondence to** Professor Brett Smith, Sport and Exercise Sciences, Durham University, Durham DH1 3HN, UK; [brett.smith@durham.ac.uk](mailto:brett.smith@durham.ac.uk)

**Twitter** Brett Smith @BrettSmithProf and Charlie Foster @FosteratBristol

**Acknowledgements** Thank you to Ben Rigby for his leadership and scholarship during the review phase. Thank you also to all who participated in co-producing this research infographic. These included Abbot's Lea School (Liverpool), Bishop Barrington Academy (Bishop Auckland), British Blind Sport, Cerebral Palsy Sport, Clare Mount Specialist Sports College (Wirral), Durham Trinity School (Durham), Get Ahead, Disability Rights UK, LimbPower, Mill Water School (East Devon), North East Autism Society, UK Deaf Sport, SPARC, Sport England, Sport for Confidence, St Vincent's School: A Specialist School for Sensory Impairment and Other Needs (Liverpool), Thornhill Park School (Sunderland), and Youth Sport Trust.

**Contributors** BS led the project with support from CF, BS, JN, PJ and LB managed the coproduction process. BS and CF outlined the manuscript and supplementary material. All authors contributed to the development and writing of the work.

**Funding** Department of Health and Social Care and the Economic and Social Research Council (Durham University Impact Acceleration Account).

**Competing interests** LB reports as the Get Yourself Active Programme Manager of Disability Rights UK. Disability Rights UK is the leading charity of its kind in the UK. We are run by and for people with lived experience of disability or health conditions. BB and JB report as employers for the Department of Health and Social Care.

**Patient consent for publication** Not applicable.

**Ethics approval** This study involves human participants and was approved by University of Durham

SPORT-2020-02-18T17. Participants gave informed consent to participate in the study before taking part.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Supplemental material** This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines, terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

© Author(s) (or their employer(s)) 2022. No commercial re-use. See rights and permissions. Published by BMJ.

► Additional supplemental material is published online only. To view, please visit the journal online (<http://dx.doi.org/10.1136/bjsports-2022-105411>).



**To cite** Smith B, Netherway J, Jachyra P, et al. *Br J Sports Med* 2022;**56**:588–589.

Accepted 21 February 2022  
Published Online First 4 March 2022

*Br J Sports Med* 2022;**56**:588–589.  
doi:10.1136/bjsports-2022-105411

## ORCID iD

Brett Smith <http://orcid.org/0000-0001-7137-2889>

## REFERENCES

- 1 Department of Health and Social Care. *UK Chief Medical Officers' physical activity guidelines*. London: Department of Health and Social Care, 2019.
- 2 Williamson C, Baker G, Tomasone JR, et al. The physical activity messaging framework (PAMF) and checklist (PAMC): international consensus statement and user guide. *Int J Behav Nutr Phys Act* 2021;**18**:164.
- 3 Smith B, Rigby B, Netherway J, et al. *Physical activity for general health in disabled children and disabled young people: summary of a rapid evidence review for the UK Chief Medical Officers' update of the physical activity guidelines*. London, UK: Department of Health and Social Care, 2022.
- 4 Carty C, van der Ploeg HP, Biddle SJH, et al. The first global physical activity and sedentary behavior guidelines for people living with disability. *J Phys Act Health* 2021;**18**:86–93.
- 5 Smith B, Williams O, Bone L, the Moving Social Work Co-production Collective. Co-production: a resource to guide co-producing research in the sport, exercise, and health sciences. *Qual Res in Sport, Exer Health* 2022.
- 6 Sanders JP, Biddle SJH, Gokal K, et al. 'Snackitivity™' to increase physical activity: time to try something different? *Prev Med* 2021;**153**:106851.

