

**Department of Health and Social Care – Major Conditions Strategy
Evidence Submitted by Intelligent Health
June 2023**

About Intelligent Health

Intelligent Health was founded and is led, by Dr William Bird MBE a practicing GP and an honorary professor at the University of Exeter. Intelligent Health has engaged over **1.7 million** people in the UK from the most deprived communities to enable them to be more physically active, help them to connect with their place and their community and in turn, improve their wellbeing using ONS4.¹ This has been delivered through our community engagement and insight programme Beat the Street which gets 10 per cent of a population taking part. The benefits continue well beyond the intervention, lasting at least two years and possibly longer.

Intelligent Health's mission is to create resilience and improve health by connecting people to each other, their communities and their environment. We do this through engagement of communities at scale, sharing knowledge of the foundations of good health, and by using data and evaluation to deliver actionable insight. The vision is simple; to transform people's health through small changes that make a big difference.

Cardiovascular disease

In your opinion, which of these areas would you like to see prioritised for CVD?

1. Intelligent Health would like to see preventing the onset of CVD through population-wide action on risk factors and wider influences on health prioritised. As will be iterated throughout this evidence submission, the prevention of ill health in factors that can be influenced is imperative in improving health outcomes.

How can we successfully identify, engage and treat groups at high risk of developing CVD through delivery of services that target clinical risk factors (atrial fibrillation, high blood pressure and high cholesterol)?

2. Intelligent Health works predominantly with those living in areas of deprivation who have the highest likelihood of these risk factors yet rarely have contact with the NHS until symptoms arise. Government should work closely with community leaders in order to identify, engage and treat groups at high risk of developing CVD. Through our programme Beat the Street we have mass reach into communities and typically engage 10 per cent of the population reflecting the local demographic. Players are asked to complete health surveys before, during and following the game. This data includes deprivation, demographics, long-term illnesses, physical activity level and any disabilities amongst others. This can be mapped down to an LSOA ward level enabling prioritisation of areas of highest need.

¹ Rees, E. (2018) Personal well-being user guidance, Personal well-being user guidance - Office for National Statistics. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/methodologies/personalwellbeingsurveyuserguide> (Accessed: 13 June 2023).

3. To identify, engage and treat these groups, the government should consider adopting the campaign tactics administered through 'Covid Community Champions'.² Cross-government departments should ensure that they build on learnings from the pandemic to engage with underserved groups. In this context, underserved groups refer to those at greater risk of CVD by ethnicity (South Asian, Black African and Black Caribbean)³ and those living in higher levels of deprivation due to associations between low socioeconomic status and increased risk of CVD in high-income countries such as the UK.⁴ The Community Champions initiative was adopted to engage with marginalised communities where traditional forms of communicating the message of covid vaccination was proving challenging. Those within these marginalised groups being targeted through the Champions programme were those at greater risk of Covid, including disabled people, ethnically diverse communities, the elderly and faith groups.⁵
4. Community Champions in this context are community groups, with the knowledge and understanding of local issues and those facing them. These individuals and groups were recruited on the basis of their ability to build trust and to then disseminate factual information about public health advice in ways that resonated. Analysis conducted by Public Health England found that these models had high relevance in the reduction of health inequalities during the pandemic response and in the recovery period following.⁶ Considering the impact these initiatives had under the circumstances of the pandemic, we believe these could have similar impact in identifying, engaging and treating groups at risk of developing CVD.

Chronic respiratory diseases

In your opinion, which of these areas would you like to see prioritised for CRD?

5. Intelligent Health would like to see preventing the onset of CRDs through population-wide action on risk factors and wider influences on health prioritised.

Dementia

In your opinion, which of these areas would you like to see prioritised for dementia?

² Community champions to give covid-19 vaccine advice and boost take up (2021) GOV.UK. Available at: <https://www.gov.uk/government/news/community-champions-to-give-covid-19-vaccine-advice-and-boost-take-up> (Accessed: 13 June 2023).

³ How your ethnic background affects your risk of heart and circulatory diseases (2021) British Heart Foundation. Available at: <https://www.bhf.org.uk/what-we-do/our-research/research-successes/ethnicity-and-heart-disease> (Accessed: 13 June 2023).

⁴ Rosengren, A. et al. (2019) 'Socioeconomic status and risk of cardiovascular disease in 20 low-income, middle-income, and high-income countries: The Prospective Urban Rural Epidemiologic (pure) study', *The Lancet Global Health*, 7(6). doi:10.1016/s2214-109x(19)30045-2.

⁵ Unit, D. (2021) What is the Community Champions Scheme and how is it supporting local communities?, The Disability Unit. Available at: <https://disabilityunit.blog.gov.uk/2021/05/25/what-is-the-community-champions-scheme-and-how-is-it-supporting-local-communities/> (Accessed: 13 June 2023).

⁶ Public Health England. (2021) Community champions: A rapid scoping review of community champion approaches for the pandemic response and recovery. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1011854/A_rapid_scoping_review_of_community_champion_approaches_for_the_pandemic_response_and_recovery_V8.pdf (Accessed: 13 June 2023).

6. Intelligent Health would like to see preventing the onset of dementia through population-wide action on risk factors and wider influences on health prioritised.

Musculoskeletal conditions

In your opinion, which of these areas would you like to see prioritised for MSK?

7. Intelligent Health would like to see preventing the onset of MSK through population-wide action on risk factors and wider influences on health prioritised.

Tackling the risk factors for ill health

Do you have any suggestions on how we can support people to tackle these risk factors?

8. Yes, Intelligent Health does have suggestions on how we collectively can support people to tackle these risk factors. In the following paragraph we shall discuss how to tackle physical inactivity, social cohesion, nature-connectedness, resilience and wellbeing at scale.

How can we support people to tackle these risk factors?

9. Collectively we should identify and support inactive people to be more physically active to tackle these risk factors. We recognise that 1 in 6 deaths are attributable to physical inactivity in the UK annually.⁷ A way in which this can be targeted is through whole system approaches including activation of communities at scale. Intelligent Health pioneered Beat the Street, a mass physical activity programme that utilises gamification to encourage longer-term behaviour change. This programme has been delivered in its current format since 2013 in over 160 places across the UK, mostly areas of high deprivation. The game creates social norms by incentivising walking, wheeling and cycling through an accessible means (participation is free), with behaviour change continuing up to two years in the period following the six-week game (physical inactivity decreased from 18 per cent at baseline to 5 per cent at two years post-intervention).⁸ In 2022, 56 per cent of adult Beat the Street participants who registered as inactive before the game reported as physically active after. Further, we typically engage around 10 per cent of the population (games operate from whole counties, to boroughs, cities, towns and down to specific ward areas). Strikingly, many of these players fall into IMD deciles 1-4. In early 2023, 35 per cent of players lived in areas of high deprivation, matching the local demographics in Walsall, Clacton, Merton and Swadlincote.
10. We would urge that the government must work with partners to enable delivery of preventative health physical activity programmes such as Beat the Street to engage communities at scale. Not only does this programme improve physical activity levels in the most deprived communities, but in turn also improves participants fitness levels as measured by metabolic equivalent (METs) which is defined as the caloric consumption of an active

⁷ Physical activity: Applying all our health (2022) GOV.UK. Available at: <https://www.gov.uk/government/publications/physical-activity-applying-all-our-health/physical-activity-applying-all-our-health> (Accessed: 14 June 2023).

⁸ Harris, M.A. (2019) 'Maintenance of behaviour change following a community-wide gamification based Physical Activity Intervention', Preventive Medicine Reports, 13, pp. 37–40. doi:10.1016/j.pmedr.2018.11.009.

individual compared with the resting basal metabolic rate at rest.⁹ This is also used to describe the intensity of exercise and can be used to estimate the amount of calories burned. The World Health Organisation advises that adults should engage in 150 to 300 minutes of moderate-intensity aerobic physical activity each week or 75 to 150 minutes of vigorous-intensity, attributing to improved muscular and cardiorespiratory fitness, improved bone and functional health and reduced risk of many NCDs.¹⁰ One of our studies on Beat the Street (2017) found that on average, participants increased their MET from a median of 2772 METs at baseline (during registration for Beat the Street) to 4266 METs at follow up (postgame).¹¹

Mental health

How can we better support those with mental ill health?

11. Intelligent Health would advocate for a greater focus on the benefits of accessible social programmes on improving mental ill health. Poor mental health is cited as the greatest single source of disease burden in the UK and is associated with many disparities including deprivation.¹² In 2022, Mental Health Foundation published a report that found that mental health problems currently cost the UK at least £117.9 billion a year, the same report also cited that investment in 'exercise' as an example of a cost-effective intervention to prevent mental health problems.¹³ It did state that research on this is limited. However, we have conducted both our own research and commissioned independent studies into the effectiveness of Beat the Street on improved mental wellbeing, considering physical activity interventions as a preventative health measure. The programme uses physical activity as a means to connect people to each other and where they live.

12. In 2018 we conducted a study on a Beat the Street game in Stranraer, Scotland with a focus on the correlation between physical activity and improved mental wellbeing where participants were previously inactive. Parts of Stranraer are among the 10 per cent most deprived areas in Scotland.¹⁴ High levels of deprivation typically correlate with high levels of physical inactivity. This study found that following the intervention, average days of physical activity increased from 4.59 day to 5.39 days and the average mental wellbeing score increased from 51.05 to 53.28.¹⁵ To conclude, this study found there to be a strong, positive correlation between physical activity and mental wellbeing (with Beat the Street as the vehicle

⁹ Bocalandro, F. (2010) 'Exercise stress testing', *Cardiology Secrets*, pp. 54–59. doi:10.1016/b978-0-323-04525-4.00007-1.

¹⁰ Physical activity (2022) World Health Organisation. Available at: <https://www.who.int/news-room/fact-sheets/detail/physical-activity> (Accessed: 14 June 2023).

¹¹ Harris, M.A. (2018) 'Beat the street: A pilot evaluation of a community-wide gamification-based Physical Activity Intervention', *Games for Health Journal*, 7(3), pp. 208–212. doi:10.1089/g4h.2017.0179.

¹² Bhugra, D. (2010) No health without public mental health. Available at: https://www.rcpsych.ac.uk/pdf/PS04_2010.pdf (Accessed: 16 June 2023).

¹³ Mental Health Foundation. (2022) The economic case for investing in the prevention of mental health. Available at: <https://www.mentalhealth.org.uk/sites/default/files/2022-06/MHF-Investing-in-Prevention-Report-Summary.pdf> (Accessed: 16 June 2023).

¹⁴ Reid, F. (2020) 'Poverty hotspots revealed', *DNG24*, 28 January. Available at: <https://www.dng24.co.uk/poverty-hotspots-revealed/#:~:text=PARTS%20of%20Dumfries%20and%20Stranraer,different%20aspects%20of%20their%20lives.> (Accessed: 16 June 2023).

¹⁵ Harris, M.A. (2018b) 'The relationship between physical inactivity and mental wellbeing: Findings from a gamification-based community-wide physical activity intervention', *Health Psychology Open*, 5(1), p. 205510291775385. doi:10.1177/2055102917753853.

to achieve this) supporting the evidence base of the relationship between active lifestyles and improved mental wellbeing.

13. State of Life conducted an independent study into the social and economic value of Beat the Street, this report found that for every £1 invested in Beat the Street, £30 in social and economic value is generated. The findings taken from seven delivery areas in 2022 indicated a 0.31-point increase in life satisfaction from a sample size of 1,992 participants following Beat the Street and that the game is potentially almost six times as effective as the NHS in generating one QALY (quality adjusted life year).¹⁶
14. Intelligent Health responded to the Department's call for evidence for the Mental Health and Wellbeing Plan in Summer 2022. This submission provides further detail on this matter.¹⁷

¹⁶ State of Life. (2023) The social and economic value of Beat the Street - full report. Available at: <https://docs.google.com/document/d/19bNbSHSuC6lTo0XWYyvZUKZvRZJBxiMd/edit> (Accessed: 16 June 2023).

¹⁷ Carter, E. (2022) Mental Health and Wellbeing Plan Written evidence submitted by Intelligent Health and Sport in Mind, Department of Health and Social Care: Mental Health and Wellbeing Plan. Available at: <https://www.intelligenthealth.co.uk/wp-content/uploads/2023/01/A-National-Plan-for-Mental-Health-and-Wellbeing-Evidence-Submitted-by-Intelligent-Health-and-Sport-in-Mind-July-22.pdf> (Accessed: 16 June 2023).