

Bright spots, physical activity investments that work: Beat the Street

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Programme card

- Country/locality
 - United Kingdom, Europe (Austria, Greece, Ireland, Italy & Poland), United States, Canada, and Shanghai.
- Target population
 - Primary focus: the physically inactive and those from socioeconomically disadvantaged groups. However, the programme is open to all members of the public.
- What modes/types/domains of physical activity does the programme promote?
 - Walking, cycling and running through active travel, recreation and exploration of the local, outdoor environment.
- Which of the seven best investments the programme addresses?
 - Four of the seven best investments: communication and public education; education; community-wide programs and sport and recreation.
- What sectors does it involve?
 - NHS, public health, transport, education, physical activity and sport, workforce and nature. The aim is to get the whole community engaged.
- Estimated programme reach
 - Since 2011, the programme has engaged 877,409 participants, with over 300,000 people taking part in consecutive years in 2016 and 2017.
- What is special about this programme?
 - The programme uses online, print and face to face engagement to affect behaviour change and help people sustain that change.
- Key contacts: Marc Harris (marc.harris@intelligenthealth.co.uk) and Dr William Bird (william.bird@intelligenthealth.co.uk).
- Programme website: <http://www.intelligenthealth.co.uk/>

Background

In the United Kingdom, total adult physical activity has fallen from 216 MET-hours per week in 1961 to 173 MET-hours per week in 2005 (a 20% decline).¹ If current trends continue, 35% of people living in the UK will be less active by 2030.² The World Health Organisation's Global Action Plan on Physical Activity aims to reduce inactivity by 10% in 2025 and 15% by 2030 and community-wide approaches offer the potential to help meet these targets by engaging substantial portions of the community.³

Key programme features

The programme uses Radio-frequency identification (RFID) technology to create a real-life game that makes physical activity visible and accessible and connects both adults and children to their local environment.

The programme is delivered by Intelligent Health, an organisation based in Reading, England, who aim to get people more physically active and socially connected via several programmes and initiatives. The Beat the Street intervention is managed centrally and locally by Intelligent Health, however successful implementation requires support from local stakeholders, including the National Health Service, public health, transport, education, physical activity and sport, workforce and nature.

Beat the Street is delivered as a 12-month programme with a 6-week gamification period at its core (Figure 1). During the **Preparation** phase, Intelligent Health work with schools, local businesses, community groups, local authorities, general practices and local media to build anticipation, excitement and ensure the correct legal permissions have been granted to be able to deliver the game. During the **Experience** phase, physical RFID scanners called 'Beat Boxes' are placed on lampposts and in green and blue spaces at half-mile intervals throughout the locality. Players earn 10 points each time 2 consecutive boxes are touched with a RFID card in under an hour and highest scoring schools, community groups and individuals are rewarded with prizes (such as sports equipment) and 'lucky tap' prizes of £50 offer instant gratification. The gamification period is followed by the **Sustain** phase, whereby players are segmented based on behaviour change and demographic breakdown and are guided into long-term provision through targeted marketing and sign-posting.

Indicators of the programme's success

Evaluation is a core component of each intervention delivered. All players are encouraged to register online prior to the game period which allows them to select a team to join. Follow-up surveys are sent out immediately and six months post-intervention and pre-test/post-test analyses are completed based on survey responses to a number of behavioural measures (such as physical activity and active travel). Specific interventions are also used to study the potential impact of the intervention on a wider range of biopsychosocial outcomes.

On average, across 18 interventions delivered in the United Kingdom in 2017, the intervention over-represented females (71% of participants) and residents living in the highest two deciles of multiple deprivation (30% of participants). There was a 10% increase in the proportion of adults undertaking 150 minutes of physical activity per week, a 7% decrease in levels of inactivity and a 12% increase in the proportion of people using active modes of transport for 10+ minutes on five or more days per week. Two recent studies have shown an average 2point increase in mental wellbeing (WEMWBS⁴) for participants in Stranraer, Scotland, and increased physical activity across varying intensities for participants in Wolverhampton, England, post-intervention.^{6,7} Whilst controlled trials with long-term follow-ups are yet to be undertaken, data comparing physical activity levels for individuals who participated in the intervention in consecutive years shows increases in activity may be sustained 12 months post-intervention. Across 7 interventions which were delivered for a second consecutive year in 2017, participants who were undertaking zero to one day of activity pre-intervention in 2016 were undertaking an average of 3 days pre-intervention in 2017 (Figure 2).

Lessons learned for future programmes

Successful delivery requires collaboration from multiple stakeholders across different sectors, including health-care, education, sport and physical activity and nature. Without ample buy-in from these implementation partners, it can be difficult to generate enough exposure to reach enough individuals for the intervention to be cost-effective and there may not be sufficient exit routes for participants who changed their behaviour during the intervention to remain active. As with any technology-based intervention, the underlying hardware and software must be reliable and significant investment must be made to ensure these systems are fit for purpose. The **Anticipation** period is critical to the success of the intervention and without plentiful lead-in time prior to the gamification phase the intervention may fail to generate the excitement needed to capture the attention and enthuse the whole-community. This latter requirement demonstrates the difficulties whereby requirements of successful implementation meets real-world barriers such as short-term public health funding cycles.

References

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⁴ Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., ... & Stewart-Brown, S. The Warwick-Edinburgh mental well-being scale (WEMWBS): development and UK validation. *Health and Quality of life Outcomes* 2007;5:63-76

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⁶ Source: Harris, M. A. Beat the Street: A Pilot Evaluation of a Community-Wide Gamification-Based Physical Activity Intervention. *Games for Health* 2018;7:1-5

List of Figures:

Fig. 1 Beat the Street implementation model

Fig. 2: Days of physical activity for inactive participants (zero to one day) 12-months post-intervention