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Reducing socioeconomic inequalities in access to and participation in community-based running and walking activities: a longitudinal ecological study of parkrun events 2010 to 2019[⋆],[⋆⋆]

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ABSTRACT

Objectives: To conduct a longitudinal ecological analysis of the geographic access to and participation in free weekly outdoor physical activity events ("parkrun") in England from 2010 to 2019, and related socioeconomic and ethnic inequalities, to inform policies to support participation in physically active community events.

Methods: We use distance to the nearest parkrun event as a proxy for geographic access, and calculate this for each English Lower Layer Super Output Area (LSOA) each month from January 2010 to December 2019. We then report the trends in geographical access to and participation in parkrun by Index of Multiple Deprivation quintile. We also report trends in the Relative Index of Inequality (RII) by deprivation for participation and access. We go on to investigate trends in LSOA level determinants (e.g. deprivation and ethnic density) of parkrun participation between 2010 and 2019, using multivariable Poisson regression models.

Results: Mean distance to the nearest parkrun event decreased from 34.1 km in 2010, to 4.9 km in 2018. Throughout the period, parkrun events tend to be situated closer to deprived areas compared to less deprived areas . Participation rates increased superlinearly (greater than linear increase) from 2010 to 2013 before slowing to linear growth. Participation over the period exhibits a clear socioeconomic gradient, with people from deprived areas having consistently lower participation rates over the period. parkrun participation rates became more equitable between 2010 to 2013 (RII improved from 189 to 39), before stabilising at an RII between 32.9 and 39.6 from 2014 to 2019. The results of the Poisson regression model validate this finding; the coefficients on IMD score initially increased from -0.050 in 2010 to -0.038 in 2013, and then remained relatively stable to 2019 (-0.035).

Conclusions: Access to and participation in parkrun events has increased over the past 10 years. The period can be split into two distinct phases: from 2010 to 2013 increases in participation and improvements in access were super-linear, and inequality in participation fell dramatically. From 2013 to 2019 increases in participation were linear, and inequality in participation remained stable. Despite parkrun's ambitions of creating inclusive events and engaging with deprived communities, the socioeconomic gradient in participation rates remained high and stable since 2013. Gaining a better understanding of the reasons why parkrun grew so quickly may be useful for other physical activity movements, while further analysis of the relatively lower participation rates in areas with higher socioeconomic deprivation is important for developing initiatives to encourage physical activity in these communities.

CRediT authorship contribution statement

Robert A. Smith: Conceptualization, Data Curation, Formal Analysis, Investigation, Methodology, Project Administration, Software, Visualization, Writing 1–Original Draft Preparation, Writing 1–Review & Editing. **Paul P. Schneider:** Conceptualization, Data Curation, Formal Analysis, Investigation, Methodology, Project Administration, Software, Visualization, Writing 1–Original Draft Preparation, Writing 1–Review & Editing. **Rami Cosulich:** Validation, Writing 1–Review & Editing, Writing 1–Original Draft Preparation. **Helen Quirk:** Writing 1–Review & Editing, Writing 1–Original Draft Preparation. **Alice M. Bullas:** Project Administration, Resources. **Steve J. Haake:** Project Administration, Resources, Writing 1–Review & Editing. **Elizabeth Goyder:** Supervision, Writing 1–Review & Editing.