

Access to and participation in parkrun events in England – Analysis and policy recommendations for the next 200 events.

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Background

parkrun hosts free, weekly 5 km running events in public green spaces across England.

The events have been widely praised for being inclusive and for encouraging previously physically inactive people to participate.

Recently, parkrun received funding to establish 200 new events across England – specifically targeted at deprived communities.

Objectives

- 1) To study the geographic and socioeconomic disparities in the access to and the participation in parkrun events
- 2) To identify future event locations to maximise participation from deprived communities

Methods

Setting: England, 2018, ecological spatial analysis

Data: 32,844 census areas 455 parkrun event locations, and 2,842 green spaces

Analysis: The effects of access and deprivation on participation rates at the level of census areas was studied using Poisson regression

Optimal Locations: Model estimates were incorporated into a greedy location-allocation analysis to identify 200 optimal green spaces for setting up new parkrun events

Maximand: $\sum participation * deprivation^2$

Every week, about 83,000 people attend parkrun's 5k running events in England.

Participants mostly come from affluent areas – despite equal access, participation from deprived areas are markedly lower.

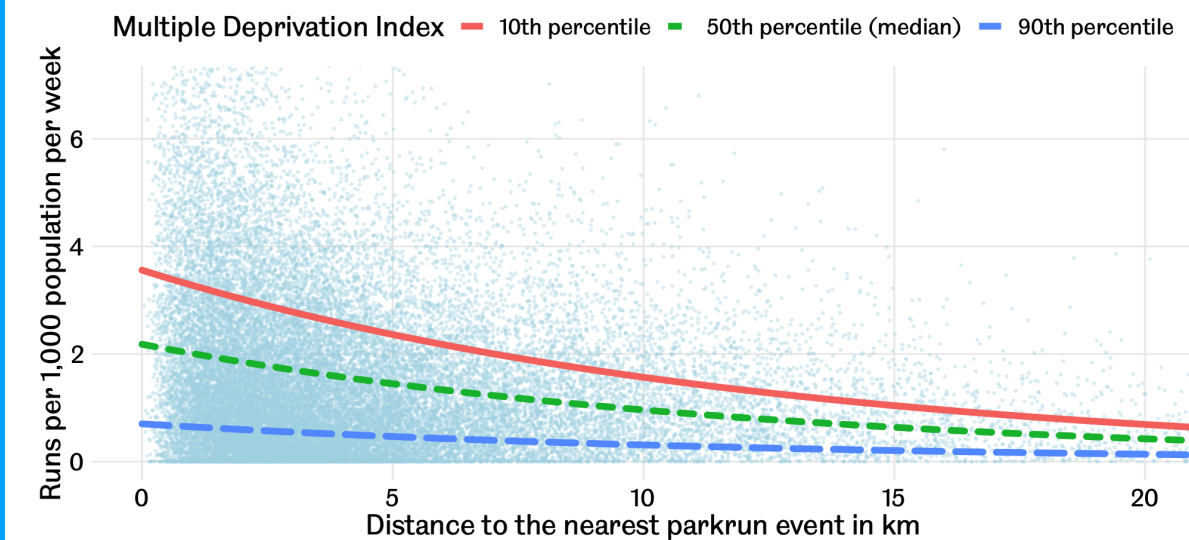
We make recommendations for 200 future parkrun event locations, to maximise deprivation-weighted participation.

Our findings show, the creation of new events alone is unlikely to be an effective strategy and might even worsen inequalities.

Results

- The median distance between the 32,844 census areas and the nearest parkrun was 3.5 km (IQR=2.0–6.0 km)
- Median participation was 1.1 / 1,000 pop. (IQR=0.4–2.2)
- Distance and deprivation were strong predictors of participation rates (see figure below):

- ▶ An increase in distance by 1km was associated with a 7.9% lower parkrun participation rate
- ▶ A one-unit increase in the deprivation score (range 1-80) was associated with a 6.1% lower participation rate



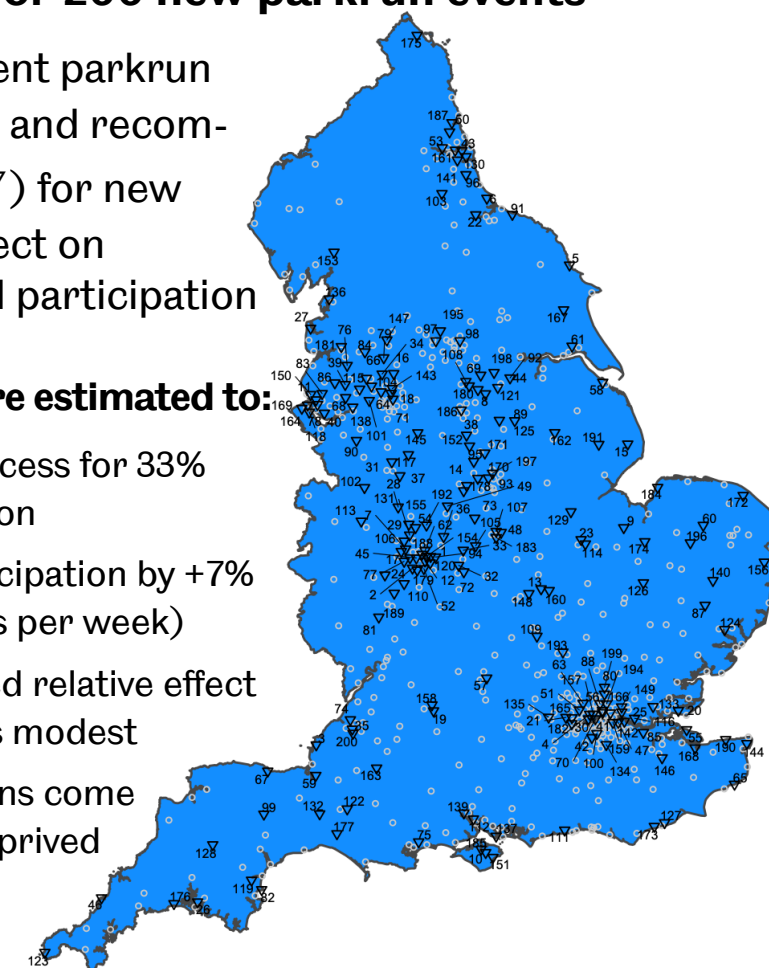
Relationship between distance to nearest parkrun event and participation. Points show the observed rates for census areas (n=32,844). Lines show estimates for different deprivation levels (least, median, most deprived).

Optimal locations for 200 new parkrun events

The map shows current parkrun events (○) in England and recommended locations (▽) for new events, ranked by effect on deprivation-weighted participation

The 200 new events are estimated to:

- improve geographic access for 33% of the English population
- increase parkrun participation by +7% (= 5,682 additional runs per week)
- However, the estimated relative effect on deprived areas was modest
- Only 4% of the new runs come from the 10% most deprived areas



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Interactive Online map
Schneider PP, Smith RA, Bullas AM, Bayley T, Haake SSJ, Brennan A, Goyder E. Identifying optimal locations and maximising access to parkrun. Interactive online map. 2019. <http://iol-map.shef.ac.uk/>



Preprint
Schneider PP, Smith RA, Bullas AM, Bayley T, Haake SS, Brennan A, Goyder E. Where should new parkrun events be located? medRxiv. 2019. Preprint. <https://doi.org/10.1101/19004143>

