GREEN SPACES: IMPROVING ACCESS - AND HEALTH BENEFITS - AT A GLANCE





5th – largest district in England





12,500 – mothers in our cohort



13,500 – children in our cohort **16,000** – primary school children in survey

40+ – focus group interviews



40+ green spaces audited

31% – children without local park



13% – children with no garden

40+ – green spaces improved by Better Start Bradford Better Place team





EVIDENCE BRIEFING **GREEN SPACE AND HEALTH:** EVIDENCE AND INTERVENTIONS



·

KEY CONTACT

Rosie McEachan rosie.mceachan@bthft.nhs.uk

WHAT IS THE PROBLEM

Bradford is the **fifth largest** metropolitan district in England, and home to over **530,000 residents**.

Bradford is a **city of parks and urban green spaces** which offer city residents vital spaces to **relax and unwind**. The links between **green space and health** are well-established, but unfortunately provision of the green spaces within our population is **not equal**.

Families living in **more deprived** areas have **less access** to high quality green spaces and the **health benefits** they confer.

WHAT HAVE WE FOUND?

Born in Bradford has conducted **extensive research** into the links between green spaces and health.

Our studies have included **large scale population surveys** using the Born in Bradford cohort (a total of **12,500 mothers**, and **13,500 children**), children aged 7-11 in primary school settings (~16,000), bespoke **qualitative data collection** with families living within multi-ethnic areas across Bradford (over 40 interviews and focus groups), and quality assessments of green space using the standardised Natural Environment Scoring tool (over 40 local green spaces audited).

We have mapped provision of healthy environments, including green space across the **entire city**.

We have found that green space is linked to health and wellbeing of adults and children

Families living in **greener areas**, measured by a satellitederived measure of green space called NDVI, have children born with **healthier births weights**, ^[1] have **reduced risks of depression** in pregnant women,^[2] and have **better mental wellbeing** in children aged 4.^[3]





The impact of green space on health tends to be **stronger** within **more deprived groups**,^[1,2] indicating that **interventions** which aim to improve quality and / or use of green space in more deprived areas may **reduce health inequalities**.

We have found that green space provision and use in Bradford is not equal

- Deprived parts of our city have poorer environments than less deprived areas, with more pollution, less access to green space, and greater noise ^[4].
- South Asian families tend to have fewer green spaces in their local environment,^[1, 2] and what there is tends to be of poorer quality.^[5]
- South Asian families are **less satisfied** with their local green spaces than White British Families.^[3]
- South Asian children spend **less time** playing in green spaces that White British children.^[3]
- Access to green space is limited in a survey of 16,000 primary school children in Bradford recruited between 2016-2019; 31% reported not having a park near their home where they could play, and 13% don't have a garden at home.^[6]

We have found that it's quality not quantity that matters

Satisfaction with local green spaces is important for explaining **positive health outcomes**:

- In Bradford we found that four-year-old children had greater levels of mental wellbeing when their parents were satisfied with their local green spaces.^[3]
- Satisfaction with local green spaces is dependent on both structural features^[7] of the park and the wider social context^[8], including the behaviour of other groups who are using the park.

Park characteristics with the **greatest impact on satisfaction** were:

- **High levels of amenities within the park** (e.g. seating, litter bins, shelters, picnic tables, drinking fountains and public toilets)
- Low evidence of anti-social behaviour (e.g. vandalism, littering, dog mess).^[7]

3

There are many barriers which stop families using green spaces

Individual (e.g. skills and confident), **interpersonal** (e.g. community influences) and **structural factors** (e.g. park amenities) influence whether families with young children use local green spaces.^[8]

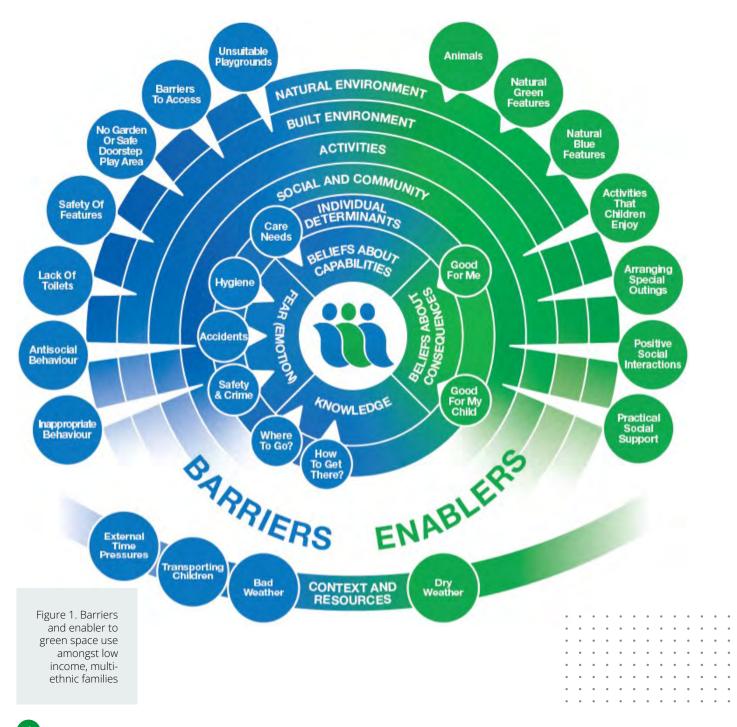
Different factors influence whether green spaces are used everyday (where proximity to home is important) or for special trips and outings. **Key barriers** and enablers of green space are outlined in Figure 1.

We have found that improving green spaces may encourage greater use^[9]

There is evidence to suggest that **improving the quality** of local green spaces can **increase use** of these spaces.

Successful interventions tend to include multiple components including **making changes to physical environments** (e.g. refurbishment), **introducing prompts or cues to encourage use of the refurbished areas** (e.g. signage, walking trails) combined with **group activities to encourage their use**.

Successful interventions also tend to include **local communities in co-designing local spaces**.



WHAT HAS CHANGED AS A RESULT

Our findings have helped make the case for **millions of pounds of investment** into improve urban green spaces across the city.

This includes the **Better Start Bradford Better Place** project, which has made improvements to **over 40 green spaces** in **three deprived wards** of Bradford in the south of the city, and the **Join Us: Move Play** project working in deprived wards in the north of the City.





RECOMMENDATIONS FOR POLICY MAKERS BASED ON OUR EVIDENCE

- That structural interventions to improve local green spaces focus on making spaces safe and attractive for families with young children to visit
- That a sustained set of targeted communications and activities is implemented which aims to encourage families to use their local green spaces. These should focus on addressing the key barriers identified above, and should also include:
 - Providing families with information on where local green space are, how to get to them, and what relevant activities can be engaged in with young children in these spaces
 - Leading and / or facilitating community events in local green spaces to encourage social support and increase community ownership of local green spaces

- That consideration is given as to how all interventions will impact on, or be impacted by, crime and anti-social behaviour and how interventions will impact on the needs of our different park user groups, including young people (adolescents and young adults).
- That interventions and activities are coproduced with members of the local community in order to ensure acceptability and that key barriers as identified above are addressed.



REFERENCES

- 1. Dadvand P, Wright J, Martinez D, Basagaña X, McEachan RRC, Cirach M, *et al.* Inequality, green spaces, and pregnant women: Roles of ethnicity and individual and neighbourhood socioeconomic status. Environ Int. 2014;71.
- McEachan RRC, Prady SL, Smith G, Fairley L, Cabieses B, Gidlow C, *et al.* The association between green space and depressive symptoms in pregnant women: Moderating roles of socioeconomic status and physical activity. J Epidemiol Community Health. 2016;70.
- 3. McEachan RRC, Yang TC, Roberts H, Pickett KE, Arseneau-Powell D, Gidlow CJ, *et al.* Availability, use of, and satisfaction with green space, and children's mental wellbeing at age 4 years in a multicultural, deprived, urban area: results from the Born in Bradford cohort study. Lancet Planet Heal. 2018;2.
- Mueller N, Rojas-Rueda D, Khreis H, Cirach M, Milà C, Espinosa A, et al. Socioeconomic inequalities in urban and transport planning related exposures and mortality: A health impact assessment study for Bradford, UK. Environ Int. 2018.
- Ferguson M, Roberts HE, McEachan RRC, Dallimer M. Contrasting distributions of urban green infrastructure across social and ethno-racial groups. Landsc Urban Plan. 2018;175:136–48. doi:https://doi.org/10.1016/j.landurbplan.2018.03.020.

- Pickett KE, Ajebon M, Hou B, Kelly B, Bird PK, Dickerson J, et al. Vulnerabilities in child wellbeing among primary school children: a cross-sectional study in Bradford, UK. medRxiv. 2021;2021.01.10.21249538. doi:10.1101/2021.01.10.2124953 8.
- Roberts H, Kellar I, Conner M, Gidlow C, Kelly B, Nieuwenhuijsen M, et al. Associations between park features, park satisfaction and park use in a multi-ethnic deprived urban area. Urban For Urban Green. 2019;46.
- Cronin-de-Chavez A, Islam S, McEachan RRC. Not a level playing field: A qualitative study exploring structural, community and individual determinants of greenspace use amongst low-income multi-ethnic families. Heal Place. 2019;56.
- Roberts H, McEachan R, Margary T, Conner M, Kellar I. Identifying Effective Behavior Change Techniques in Built Environment Interventions to Increase Use of Green Space: A Systematic Review. Environ Behav. 2018;50.

January 2023, v1

