

Born in Bradford: 10 Key Findings for Policy and Practice



Background:

Born in Bradford is tracking the lives of over 30,000 Bradfordians to find out what influences their health and wellbeing. We use the information we get to develop ways to work with families and with all those professionals whose work can impact on health so that together we can improve the health and wellbeing of our communities.

Our findings are of relevance not only to Bradford, but to other areas with similar communities elsewhere in the UK and around the world. Below are ten recommendations that come from the research we have done and that we are confident will make Bradford a healthier and happier place to live.

1: Reduce air pollution to improve the health of our children

What have we found?

- Exposure to polluted air (Particulate Matter and Nitrogen Dioxide) during pregnancy increases the risk of babies being born with a low birth weight, and a smaller head circumference. Both of these are predictors of later ill-health.
- In Bradford, up to 687 of annual childhood asthma cases may be attributable to air pollution (38% of the total amount).
- In Bradford, 55% of the population are exposed to levels of air pollution above EU exposure guidelines; this exposure accounts for around 17 preventable deaths each year.

Implications for policy and practice

- Interventions to improve air quality should focus on structural and community level changes (for example, reducing demand for diesel vehicles, improving public transport, greening taxi and bus fleets in pollution hotspots, traffic management and access control measures).
- These should be supported by suitable active travel interventions which aim to encourage walking and cycling, and encourage shifts away from single person car use.
- Focusing efforts to reduce pollution around schools (e.g. school super zones) is likely to have maximum impact on health for families.



2: Improve access and availability to high quality green spaces to enhance physical and mental health



What have we found?

- Greater availability of green spaces such as parks, play areas and gardens is associated with healthier birthweight amongst babies, reduced risk of depression amongst pregnant mothers, and improved mental wellbeing amongst young children.
- The beneficial effects of green space are stronger for more deprived groups.
- Families living in deprived parts of Bradford have less access to quality green spaces, and are less satisfied with their local green spaces. Lack of access to green space contributes to around 16 preventable deaths every year.
- Fears about safety and antisocial behaviour are key barriers to using local greenspaces.

Implications for policy and practice

- Improving the quality of local green spaces is likely to have a beneficial effect on the health and wellbeing of families living in the most deprived parts of the city.
- Structural interventions to improve quality of local green spaces should be accompanied by sustained efforts to encourage families to use green spaces.
- Service providers could consider whether elements of their service could be delivered outdoors to maximise added benefits of being in a green environment.
- Empowering communities to reclaim ownership of local green spaces will be key in overcoming fears about using these places.

3: Improve the identification and treatment of mental ill-health in parents to reduce the risk of mental ill-health in our children

What have we found?

- Poor maternal mental health increases the risk of poor child mental health at age 3.
- Up to 40% of our pregnant mums report low mood, but very few cases are reported in our current data systems (Midwives report 5%; GPs report 11% and Health Visitors report 17%) meaning that women may not be getting the support they need.
- Pakistani women are more at risk of mental ill health, but are half as likely to have a diagnosis recorded with their GP than White British women in the three years after child birth (10% vs. 20%). When diagnosis is recorded, Pakistani and other ethnic minority groups are half as likely to receive treatment or other support.



Implications for policy and practice

- Changing the data capture systems used by Midwives and Health Visitors to improve the recording of mental health will help to identify women in need of support.
- Changing the pathways and processes in universal services will make the identification and treatment of mental health more effective.
- A focus on improving the pathways to treatment are needed for ethnic minority groups.
- These issues should be overseen by the Joint Mental Health Commissioning Board and the Health and Wellbeing Board and strategies to address these problems included in the next iteration of the mental wellbeing strategy (currently spanning 2017-2021).



4: Health and welfare services should be provided in areas of high deprivation to reduce financial insecurity and food insecurity both of which are harmful to physical and mental health



What have we found?

- Financial stress was a key contributor to increased smoking rates due to the 2008-2010 recession. Pregnant women who were exposed to the recession were more likely to smoke than those who were pregnant before it, despite the long-term UK trend of declining rates of smoking in pregnancy. Financial stress was a key contributor to increased smoking rates due to the recession.
- The use of foodbanks has risen sharply since the start of the 2008 recession. We found 14% of women reported food insecurity when their infant was 1 year old; amongst women receiving income support this figure rises to 33%. More White British women reported being food insecure (18%) than Pakistani women (10%).
- The use of foodbanks is closely associated with reported shortcomings in welfare support mechanisms, including delayed payments.
- Food insecure mothers are more likely to be overweight, with dietary intakes of poorer quality including fewer vegetables and more sugar sweetened beverages.
- As well as structural causes of food insecurity and shortcomings in service delivery there is also a link between food insecurity and poor mental health among mothers: food insecurity may be preceded by mental distress and may also be a cause of such distress.

Implications for policy and practice

- Health inequalities in smoking during pregnancy are affected by economic recession, as those who are most likely to smoke are also most likely to experience the financial stress resulting from economic recession. The same relationship is likely to exist for other inequalities.
- Socioeconomic conditions at both the societal and individual level are important targets when aiming to reduce rates of smoking during pregnancy.
- Health, welfare and food aid services should be co-located in areas of high deprivation to make it easier for families to access the help they need.

5: Reduce chemicals in the food chain to improve our health

What we have found?

- Acrylamide is chemical which can be formed when starchy foods are cooked or fried at very high temperatures (for example, crisps and chips).
- We found that acrylamide can cross the placenta, and exposure during pregnancy can lead to lower birth weight and small head circumference in babies.
- Evidence from BiB has led to recommendations in international guidelines for how exposure can be lowered.
- There has been a huge increase in chemicals from industry in our environment that are contaminating our food, water and air. BiB has worked with other European cohorts to show how chemicals from pesticides and cosmetics have become embedded in our food chains.
- Eating fish more than 3-4 times a week can lead to an increase in persistent organic pollutants and heavy metals detected in blood samples of children and mothers.

Implications for policy and practice

- There should be clearer warnings about the risks from acrylamide in our food. Advice should be to avoid overcooking starchy foods (golden yellow chips rather than golden brown). Food manufacturers should blanch potatoes or soak in glycine or water before frying.
- Compliance with recommended fish intake (2-3 times per week) reduces exposure to toxic chemicals and heavy metals.
- Consuming organic fruit may reduce exposure to pesticides.



6: To reduce childhood obesity, we should intervene early with pregnant mums (and in preconception), and in the first 1001 days of life

What we have found?

- Up to 40% of childhood obesity can be explained by maternal overweight and obesity, highlighting the importance of maintaining healthy weight prior to conception.
- In addition to maternal body mass index, smoking and parenting styles also impact on children's risk of obesity at age 3.
- We found White British mums in Bradford were more likely to smoke during pregnancy, breastfeed their infants for less time, and wean earlier compared to mums of South Asian origin.
- South Asian mums were less physically active and had higher rates of gestational diabetes (the sort of diabetes that develops in pregnancy).

Implications for policy and practice

- A focus on promoting a healthy maternal weight both preconception and during pregnancy is important to tackle childhood obesity.
- Parenting programmes which combine information and advice about effective parenting in addition to promotion of healthy lifestyles should be offered to prospective parents during the antenatal and early postnatal period.



7: Children's data should be linked across services (e.g. health and education) to help identify children in need of additional support

What we have found?

- Early diagnosis of autism is associated with better health and education outcomes; there is a potential issue with under-diagnosis of autism in children from more deprived areas. We found Routine Early Years Foundation Stage assessments were associated with later diagnosis of autism, and can thus be an important early indicator of autism. We are piloting the use of routine educational data as a first stage in screening for autism in primary schools, as a way of improving the pathway to autism assessment.
- Children's fine motor skills are associated with educational outcomes, including mathematics, and we found evidence that intervention to improve fine motor skills has positive outcomes for children's handwriting accuracy and speed.
- There are links between child health status, health care use, and education outcomes. For example, we found children who were born premature had worse educational outcomes, particularly if the premature birth resulted in the child starting school a year earlier than they would have if born full term.
- Early literacy outcomes are associated with visual acuity; children who adhere to spectacle wear improve their visual acuity which is then associated with improved literacy in early childhood. We are undertaking a new study called 'Glasses in Classes'. The study will be aimed at 4-5 year children who will all receive a vision screening assessment in reception class; we will test whether providing an additional pair of glasses, which are kept in school, leads to improved educational outcomes for pupils.

Implications for policy and practice

- Shared unique identifiers should be implemented across services (i.e. NHS number for all pre-school children; Unique Pupil Number for school aged children) and should also include a family ID (i.e. to link parents to children) to allow us to harness the potential of linked health and education data.
- Data Sharing Agreements should be in place that allow sharing of key information across all services who support children and families (i.e. health, education, early help, police, housing etc.).
- Future data systems should only be procured if they can 'talk' to other existing systems to allow electronic sharing of information.
- The Bradford Opportunity Area, along with other key stakeholders, should continue to explore associations with health and education outcomes, using routine linked data. This will help to identify opportunities to improve diagnosis of health issues affecting attainment, and drive the development of innovative practices to help children, teachers and other professionals address these issues.



8: The understanding of genetic risks needs to be promoted to reduce recessive disorders



What have we found?

- Rates of infant mortality linked to recessive disorders in children of Pakistani origin in Bradford were considerably higher than children of White British origin.
- Consanguinity is the only significant factor increasing risks of recessive disorders in offspring of Pakistani couples. Maternal age (>34 years) is significant in White British mothers.
- The risk of the baby having a recessive disorder doubled for consanguinous couples, to 6% of births.

Implications for policy and practice

- Our findings provide robust evidence to aid Public Health in implementing strategies to pursue their 'Every Child Matters' target of reducing infant mortality: specifically via targeting public information in a way that increases the level of genetic literacy and informs evidence based choice in families.
- We have developed and tested ways of talking about genetic risk in communities that lay people and health professionals have found useful.
- We have provided reliable figures on prevalence and on health care need that aids commissioners and providers to plan services for children with recessive disorders and their families accordingly.

9: Deprived areas need improved provision of services and healthy environments

What have we found?

- GP consultation rates are lower among women living in more deprived neighbourhoods; Pakistani women were less like to consult GPs than White British Women
- There are fewer GPs per 1000 patients in more deprived areas of Bradford
- More deprived areas in Bradford have less access to high quality green spaces, are more polluted, and have a greater density of fast food outlets.
- 95% of families live within 500m of a fast food outlet.
- Social capital, a sense of being connected to family, neighbours and community, can exert a positive impact on health and wellbeing.

Implications for policy and practice

- Health services should be equitably distributed, and located in areas of deprivation
- Planning should restrict density of fast food outlets, particularly in deprived areas.
- Services should be planned and delivered in ways that draw on and augment existing patterns of support in communities.



10: A city of research infrastructure can act as a spring board for investment

BiB has attracted over £30 million in research grants into the city and built an international network of leading scientists working together to support a healthier city. Our research infrastructure has enabled us to work with key health, education and voluntary sector partners in the city to attract substantial additional investment including flagship projects such as

'Better Start Bradford' (£49 million to improve outcomes for pregnant mums and children under 4), 'Bradford Opportunity Area (securing £1.5 million to develop the Centre for Applied Education Research), and the 'Active Bradford' Sport England Local Delivery pilot (up to £9 million to find innovative ways of promoting physical activity amongst young people).

