

JSNA Health and Wellbeing Profile 2022/23

Low Birth Weight

Summary points

- 3.3% of term births were of low birth weight in Bristol in 2021, a significantly higher proportion than the England average (2.8%).
- This proportion is fairly typical of the Core Cities group of local authorities with which Bristol is often compared (very similar to Manchester and Nottingham for instance).
- Within Bristol during 2020-22 mothers living in areas of higher deprivation were more likely to have a low birth weight baby, at full term or prematurely.
- The association between maternal age and low birth weight is not consistent across the maternal age-range, but generally overall the risk of low birth weight in Bristol during 2020-22 was lower for older mothers (30 to 39 years of age).
- Bristol resident mothers of Asian or Black ethnicity were more likely to have a low birth weight baby, at full term or prematurely, during 2020-22. This apparent association is confounded by deprivation, but it is likely that ethnicity operates as an independent predictor of the risk of low birth weight regardless of the influence of deprivation for some groups.

Summary

Low birth weight is defined by the World Health Organisation as a birth weight less than 2500 grams¹. In the UK and other developed countries, it is a major cause of infant mortality. Low birth weight is also associated with health problems in adulthood such as neuro-cognitive and pulmonary morbidity and other long-term health difficulties including deficits in growth, cognitive development, diabetes and heart disease².

Low birth weight babies are more likely to need additional health, education and social care support during childhood. Reasons for low birth weight may include (i) conditions during pregnancy, e.g. poor health in the mother, smoking, drinking or drugs during pregnancy, or crowding (e.g. twins or triplets) and/or (ii) having a developmental or congenital problem³.

Low birth weight in Bristol

In 2021, 3.3% of term births (i.e. those born after 37 weeks of pregnancy) were of low birth weight in Bristol (Figure 1). This is a significantly higher proportion than the England average (2.8% in 2021).

Babies born prematurely (i.e. before 37 weeks of pregnancy) are much more likely to be of low birth weight. In 2021 5.5% of all Bristol births (premature and term) had a 'low birth weight', down from 7.6% in 2015 (Figure 2). Bristol's statistic for 2021 births is significantly lower than the England average (6.8%).

¹ https://www.who.int/nutrition/topics/globaltargets_lowbirthweight_policybrief.pdf

² <https://digital.nhs.uk/data-and-information/national-indicator-library/low-birth-weight-term-babies>

³ <https://www.ncbi.nlm.nih.gov/pubmed/7543353>

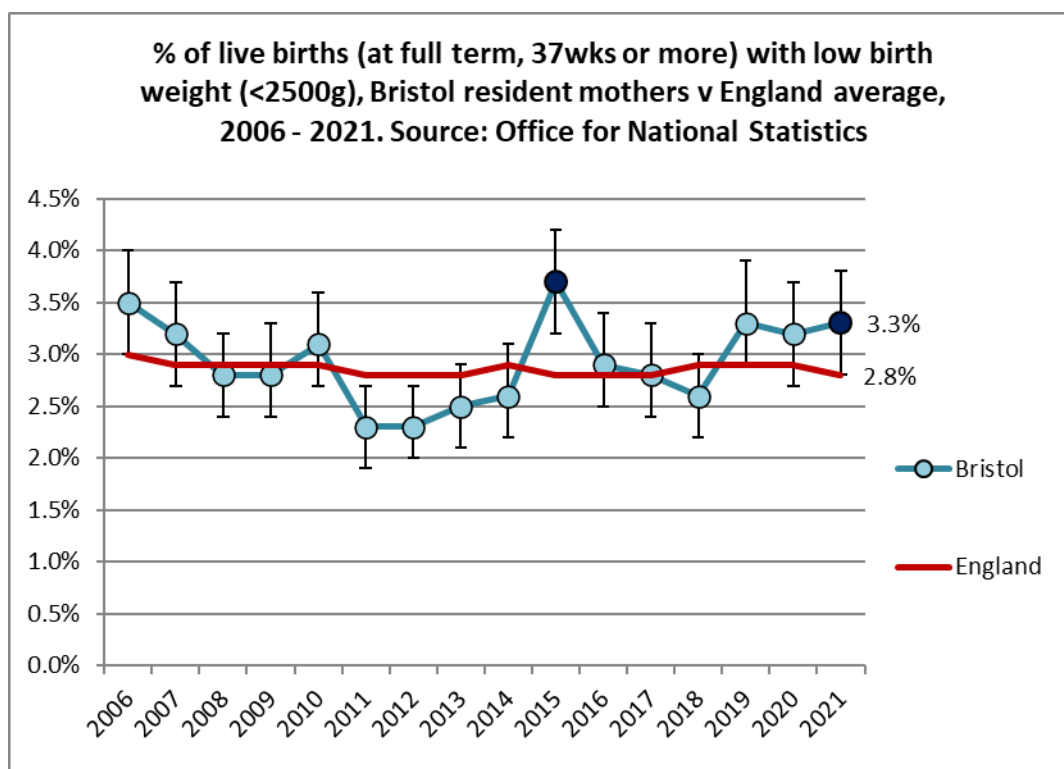


Figure 1: Trends in low birth weight (for term deliveries), 2006 – 2021, Bristol and national average

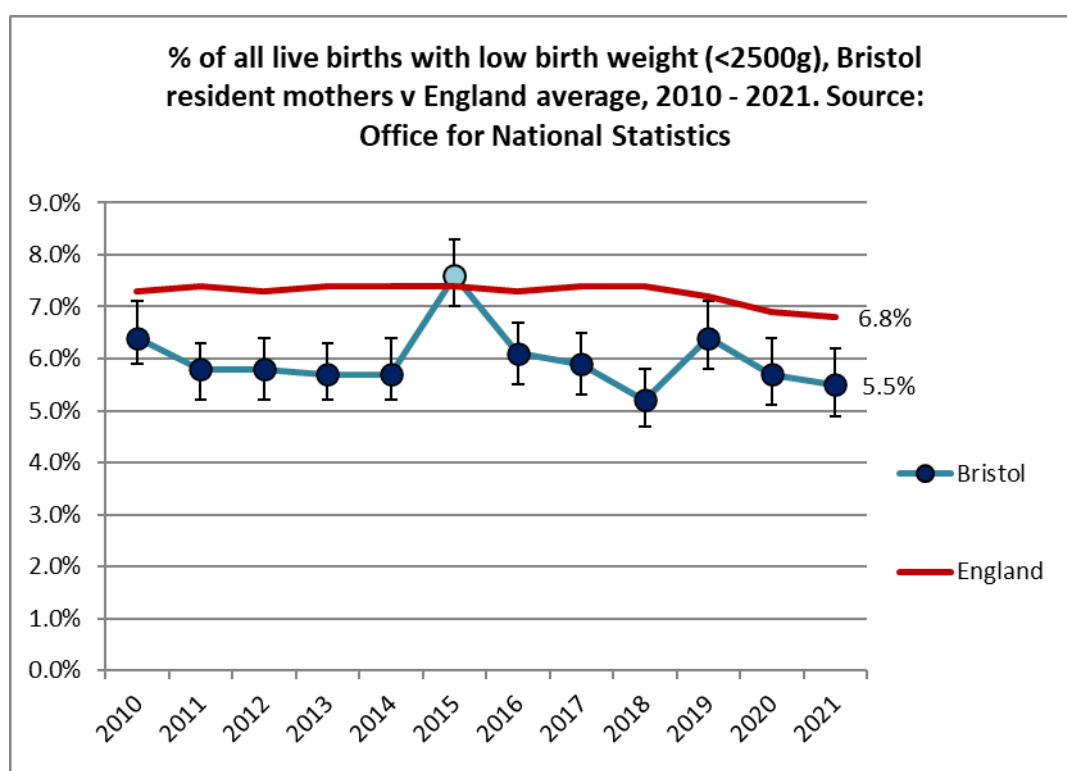


Figure 2: Trends in low birth weight (for all births), 2010 – 2021, Bristol and national average

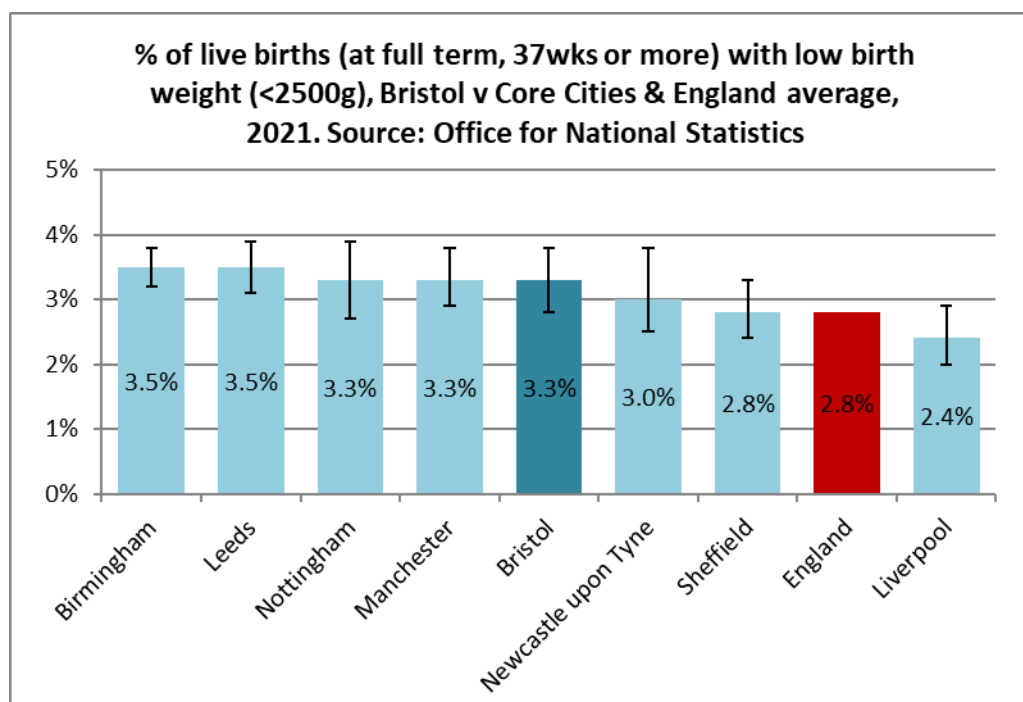


Figure 3: % of babies born with low birth weight, 2021: Bristol, Core Cities and national average

Equalities data:

At a population level there are inequalities in low birth weight⁴. The prevalence of low birth weight varies in association with socio-economic status, with a higher percentage of low birth weight babies born in more deprived areas. The prevalence is also higher among babies born to women under 20 and Black and Asian women. However, as a greater proportion of these mothers live in more deprived areas of the city it can be hard to unpick which of these factors is more important. They are all interrelated but important predictors in themselves. Reducing the proportion of low birth weight infants is, therefore, of public health importance in relation to the reduction of health inequality. In 2021, 3.3% of term babies were born with a low birth weight in the most deprived areas of England compared to 2.4% in the least deprived areas.

In Bristol between 2020-22 3.3% of term babies were born with a low birth weight in the most deprived areas compared to 1.7% of babies in the least deprived areas (Figure 4). During 2020-22 the proportion of all babies born with a low birth weight in the most deprived areas (7.8%) was more than double the proportion in the least deprived areas (3.6%).

⁴ <https://www.nhs.uk/Scorecard/Pages/IndicatorFacts.aspx?MetricId=8308>

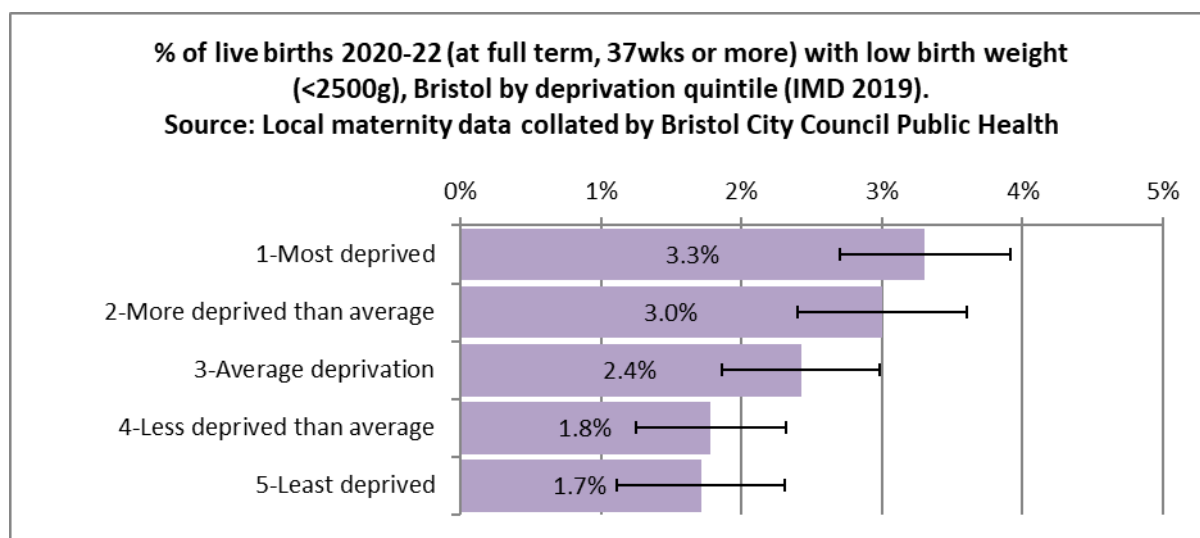


Figure 4: % of babies born with low birth weight 2020-22 (term deliveries only) by deprivation quintile (IMD 2019): Bristol residents.

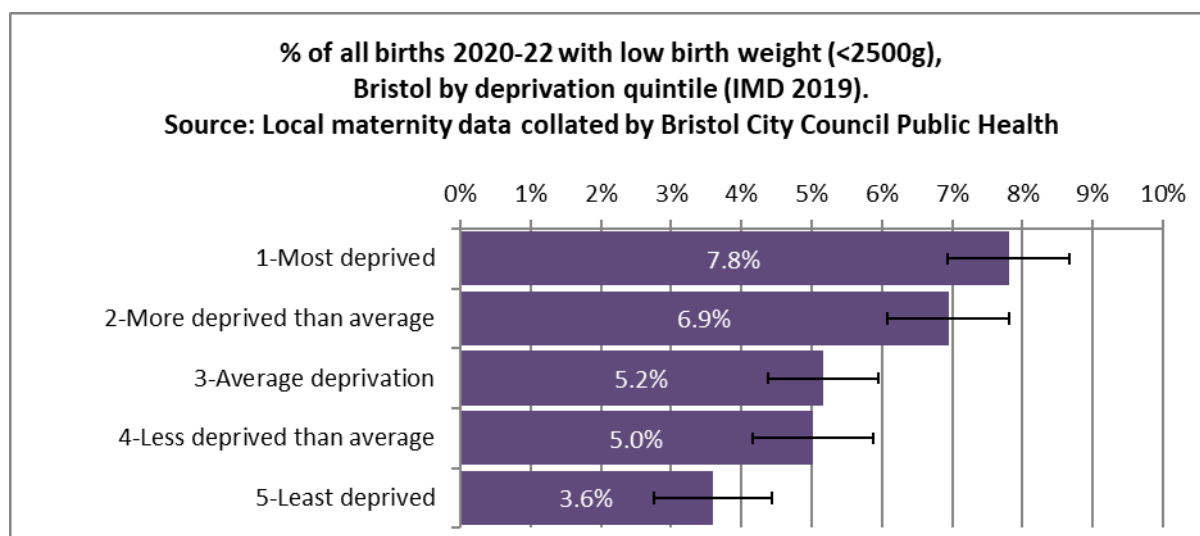


Figure 5: % of babies born with low birth weight 2020-22 (all births) by deprivation quintile (IMD 2019): Bristol residents.

Overall, younger mothers in Bristol during 2020-22, were more likely to have a low birth weight baby, at term or regardless of gestational length. However, the variation by maternal age is not significant or consistent when analysed by the age-groups shown in figures 6 and 7 overleaf. The variation is more significant for all live births (regardless of gestation); the proportion of babies born to Bristol resident mothers aged 30 or above at delivery during 2020-22, that were low birth weight was 5.3%, significantly lower than the equivalent proportion for younger mothers during the same period (7.6%).

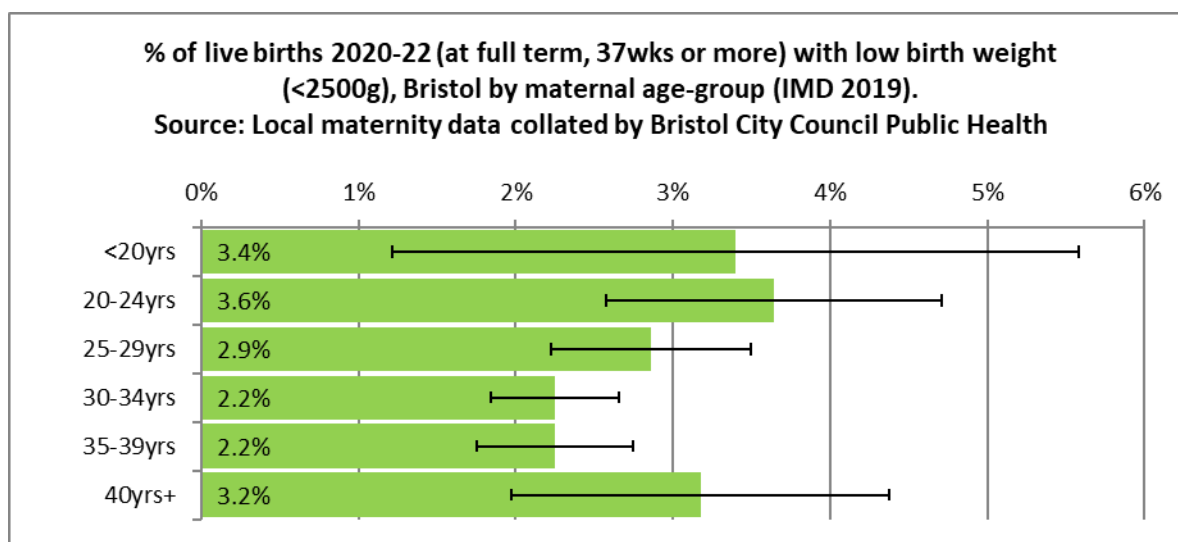


Figure 6: % of babies born with low birth weight 2020-22 (term deliveries only) by maternal age-group: Bristol residents.

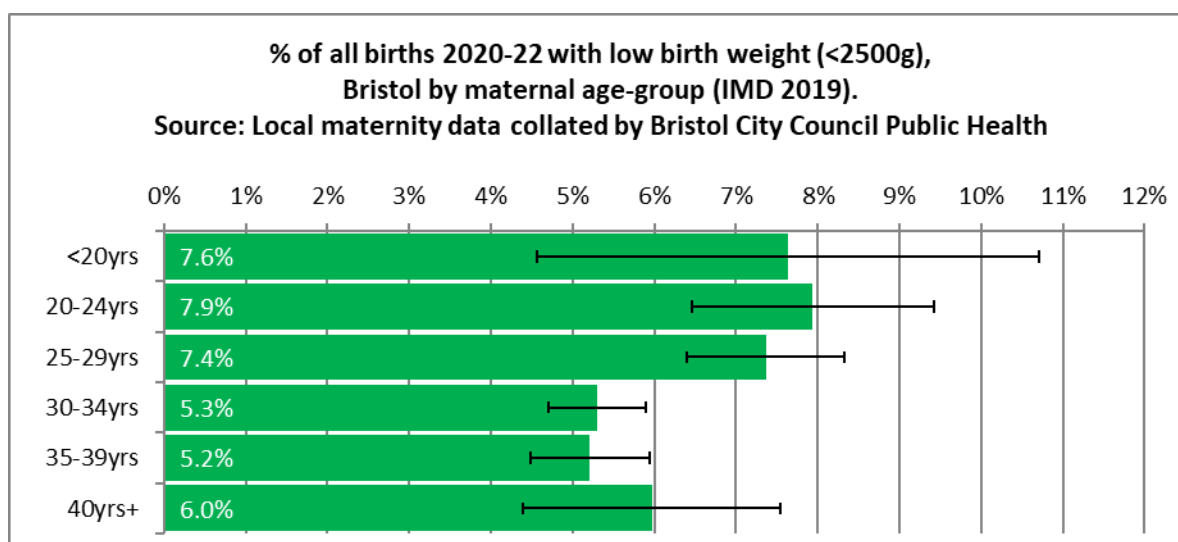


Figure 7: % of babies born with low birth weight 2020-22 (all births) by maternal age-group, Bristol residents.

In Bristol during 2020-22, mothers of Asian or Black ethnicity were on average significantly more likely to deliver a low birth weight baby, at term or regardless of gestational length, compared to the equivalent statistics for mothers of white ethnicity (figures 8 and 9). The variation in these statistics by ethnicity is confounded to some degree by the associations already described between age, deprivation and low birth weight, and vice-versa. But these factors operate independently and together as predictors of a higher risk of low birth weight.

Figure 10 shows that if the analysis of variation in low birth weight (for term deliveries) by ethnicity is repeated for just the most deprived 20% of Bristol (2013-2022), and therefore adjusts partially for the influence of deprivation, the relative risk between ethnicities changes. Mothers of Asian ethnicity remain at a significantly higher risk of a low birth weight delivery than mothers of white ethnicity living with a similar level of deprivation in this analysis indicating that for this group ethnicity likely increases this risk independent of deprivation.

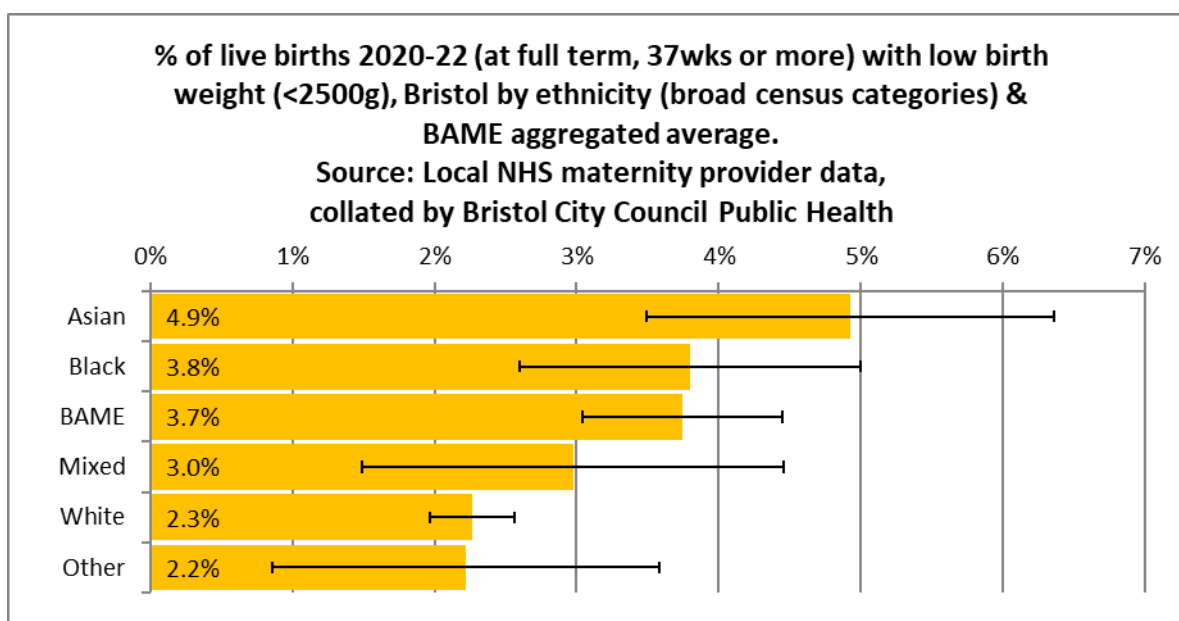


Figure 8: % of babies born with low birth weight 2020-22 (term deliveries only) by ethnicity (broad categories and BAME aggregated group), Bristol residents.

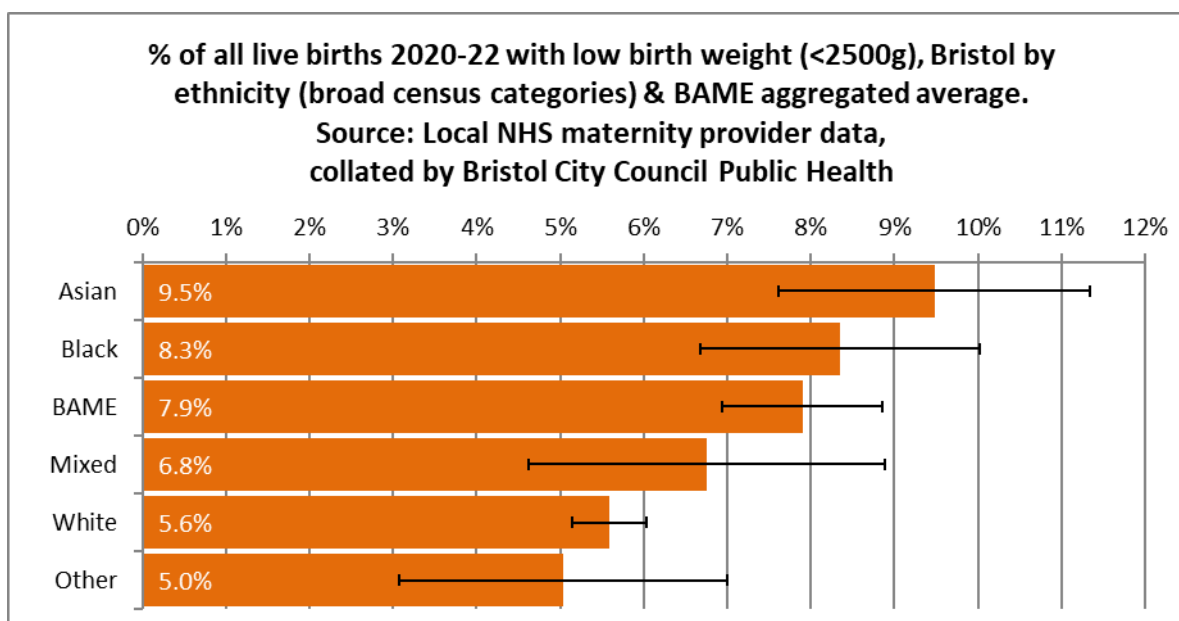


Figure 9: % of babies born with low birth weight 2020-22 (all births) by ethnicity (broad categories and BAME aggregated group), Bristol residents.

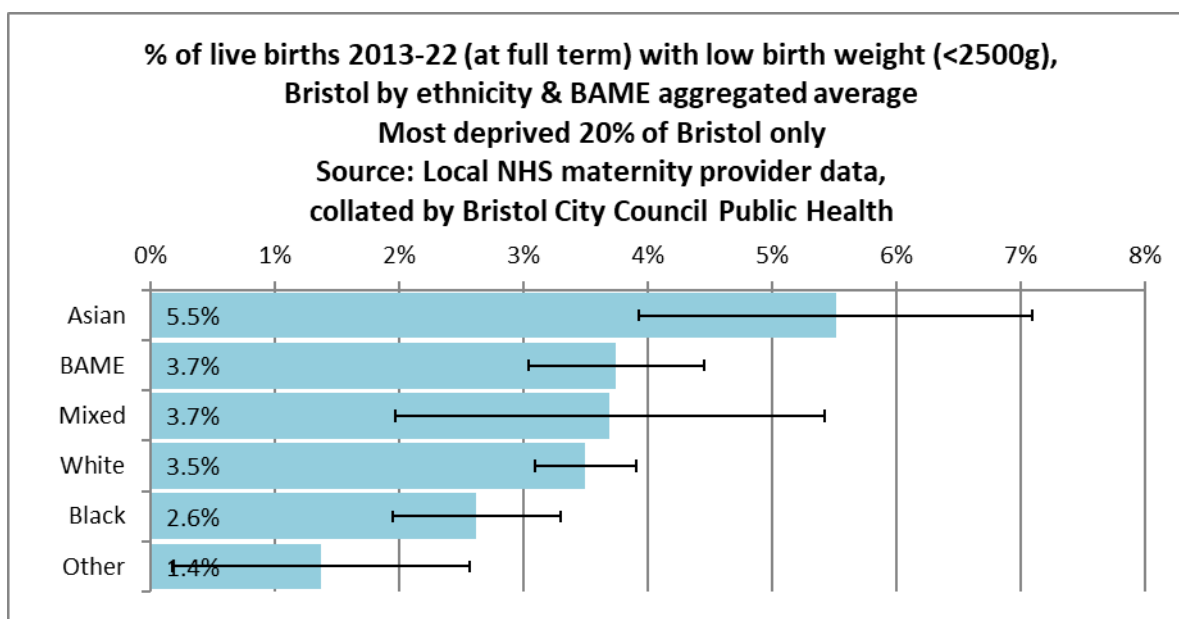


Figure 10: % of babies born with low birth weight 2013-22 (term deliveries only) by ethnicity (broad categories and BAME aggregated group), Bristol residents – Most deprived 20% of Bristol only

Further data / links / consultations:

- Public Health England [Pregnancy and Birth Profile](#)
- Bristol North Somerset and South Gloucestershire Maternity Health Equity Audit 2021

Covid-19 impact:

The Covid-19 pandemic has had widespread impacts on many aspects of health and wellbeing, both directly on the health of those infected and indirectly because of the impact on many determinants of health (such as access to services, work and education, lifestyles and social support networks). There are no obvious impacts on the statistics relating to low birth weight presented in this JSNA. But like much of the Covid-19 impact, the full picture is yet to emerge and may take a few more years of data to become apparent.

Date updated: March 2023

Next Update Due: March 2024