Low Birth Weight

Summary points

- 2.6% of term births were of low birth weight in Bristol in 2022, a statistically similar proportion to the England average (2.9%).
- This proportion is among the lowest of the Core Cities group of 8 local authorities with which Bristol is often compared (only Liverpool reported a lower statistic in 2022, 2.5%).
- Within Bristol during 2021-23 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 the risk of low birth weight in Bristol during 2021-23 was lower for mothers aged 30 to 39 years of age.
- Bristol resident mothers of Asian ethnicity were the most likely on average to have a low birth weight baby, at full term or prematurely, during 2021-23.

Summary

Low birth weight is defined by the World Health Organisation as a birth weight less than 2500 grams[1]. 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 disease[2].

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 problem[3].

Low birth weight in Bristol

In 2022, 2.6% of term births (i.e. those born after 37 weeks of pregnancy) were of low birth weight in Bristol (Figure 1). This is statistically similar to the England average (2.9% in 2022).

Babies born prematurely (i.e. before 37 weeks of pregnancy) are much more likely to be of low birth weight. In 2022 5.1% of all Bristol births (premature and term) had a 'low birth weight', down from 6.1% in 2019 (Figure 2). Bristol's statistic for 2022 births is significantly lower than the England average (7.0%).

[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

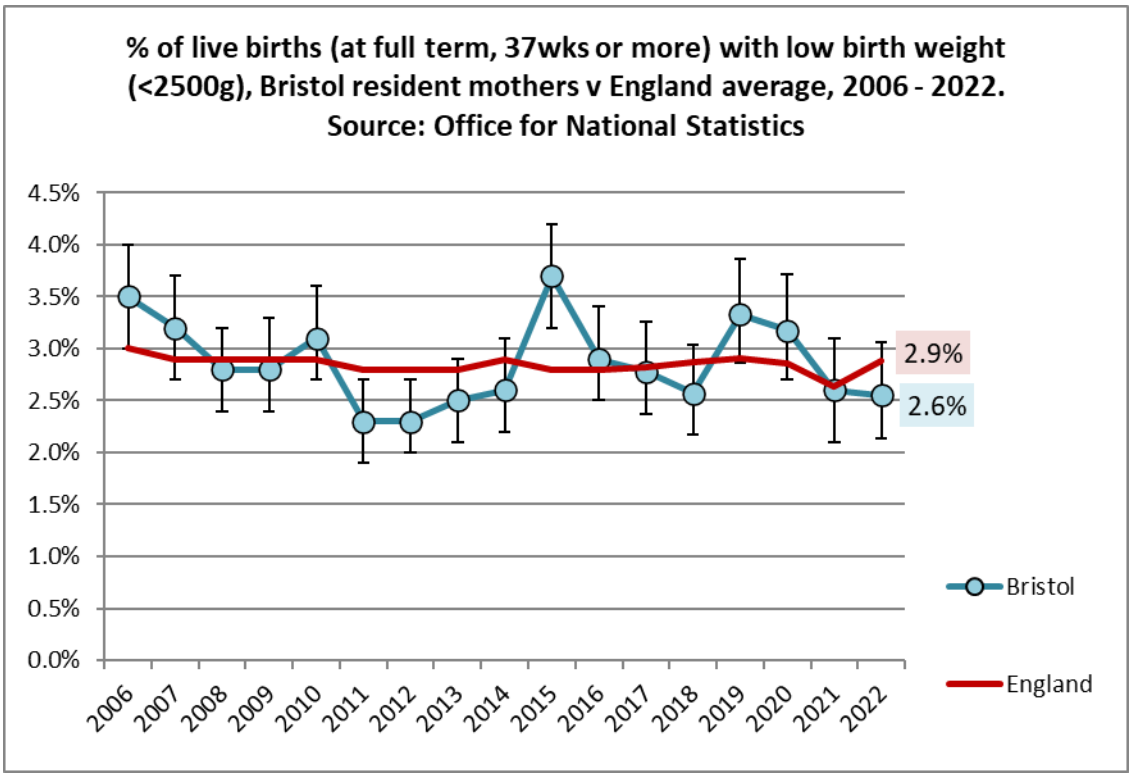

Figure 1: Trends in low birth weight (for term deliveries), 2006 – 2022, Bristol and national average

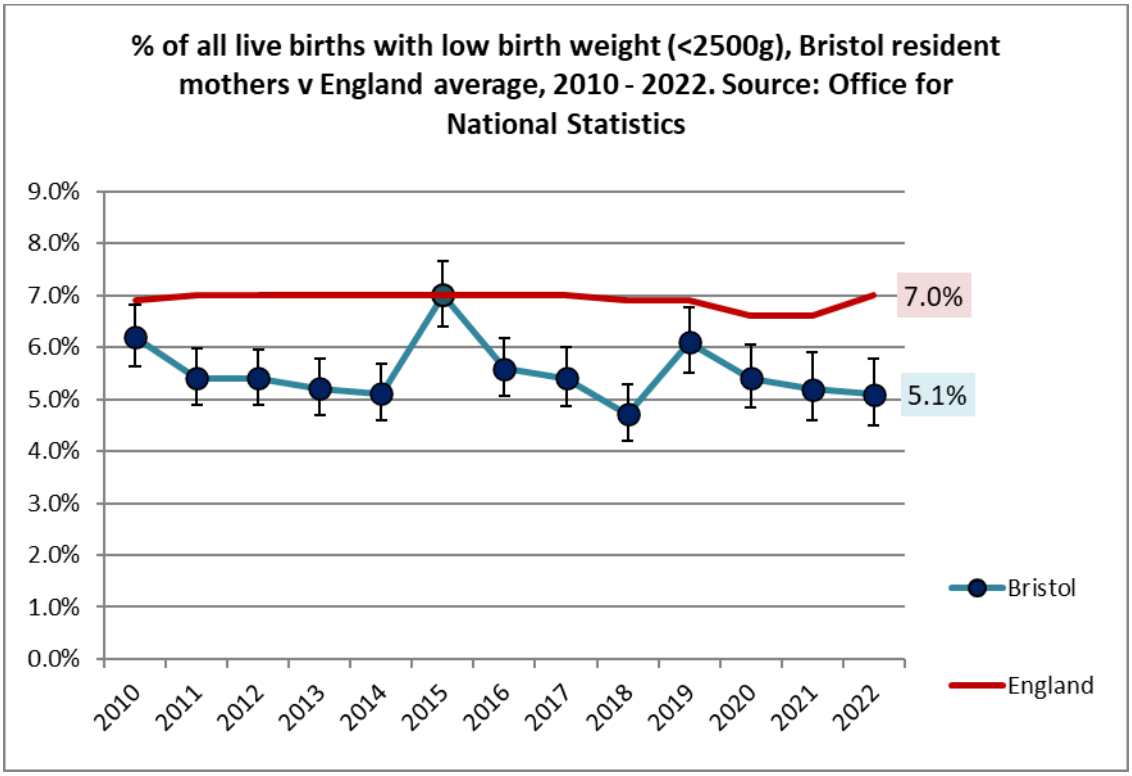

Figure 2: Trends in low birth weight (for all births), 2010 – 2022, Bristol and national average

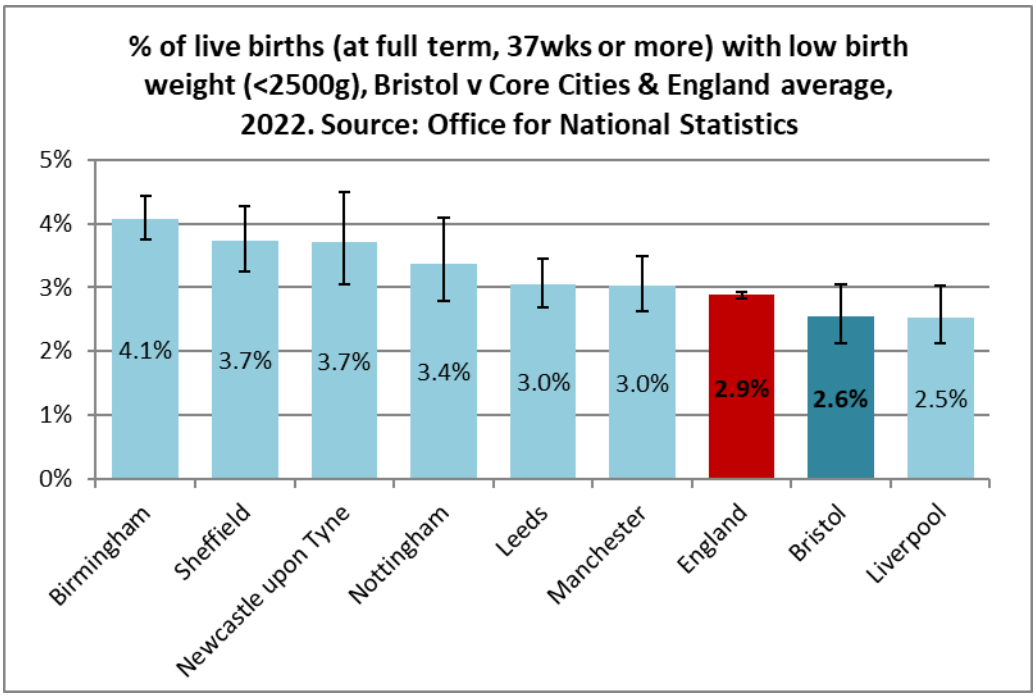

Figure 3: % of babies born with low birth weight, 2022: Bristol, Core Cities and national average

Equalities data:

The prevalence of low birth weight varies in association with socio-economic status. 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 2021-23 the proportion of all babies born with a low birth weight in the most deprived areas (born at term: 3.5%, all babies: 8.3%) was more than double the proportion in the least deprived areas (born at term; 1.6%, all babies; 3.9%).

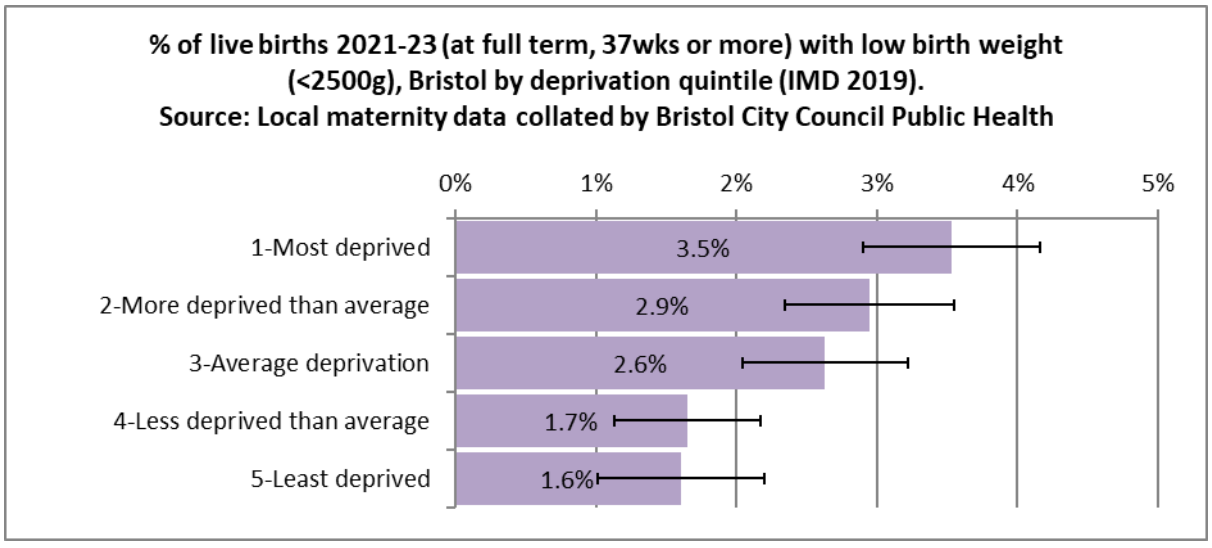

Figure 4: % of babies born with low birth weight 2021-23 (term deliveries only) by deprivation quintile (IMD 2019): Bristol residents.

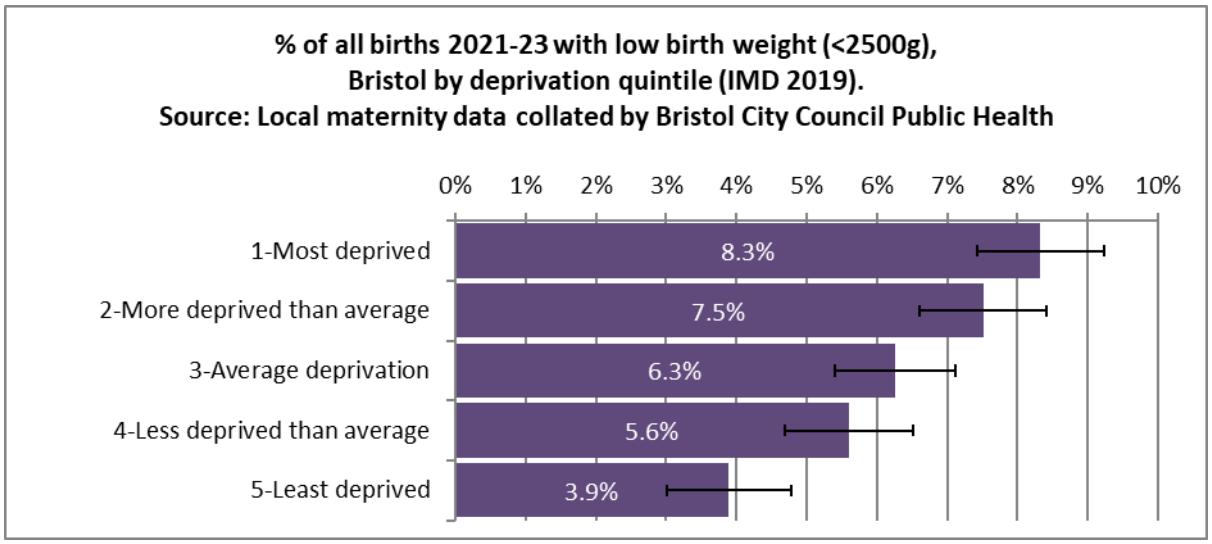

Figure 5: % of babies born with low birth weight 2021-23 (all births) by deprivation quintile (IMD 2019): Bristol residents.

Overall, younger mothers in Bristol during 2021-23, were more likely to have a low birth weight baby, when comparisons are made for all live births or just full term deliveries. If we aggregate the births into just two maternal age-groups (those under 30 at delivery and those 30 or older), then there are statistically significant differences to be seen between the proportion of low birth weight babies born to mothers aged 30 or above compared to those born to mothers aged under 30, for all term births (2.3% vs 3.3%) and all live births (6.0% vs 8.3%).

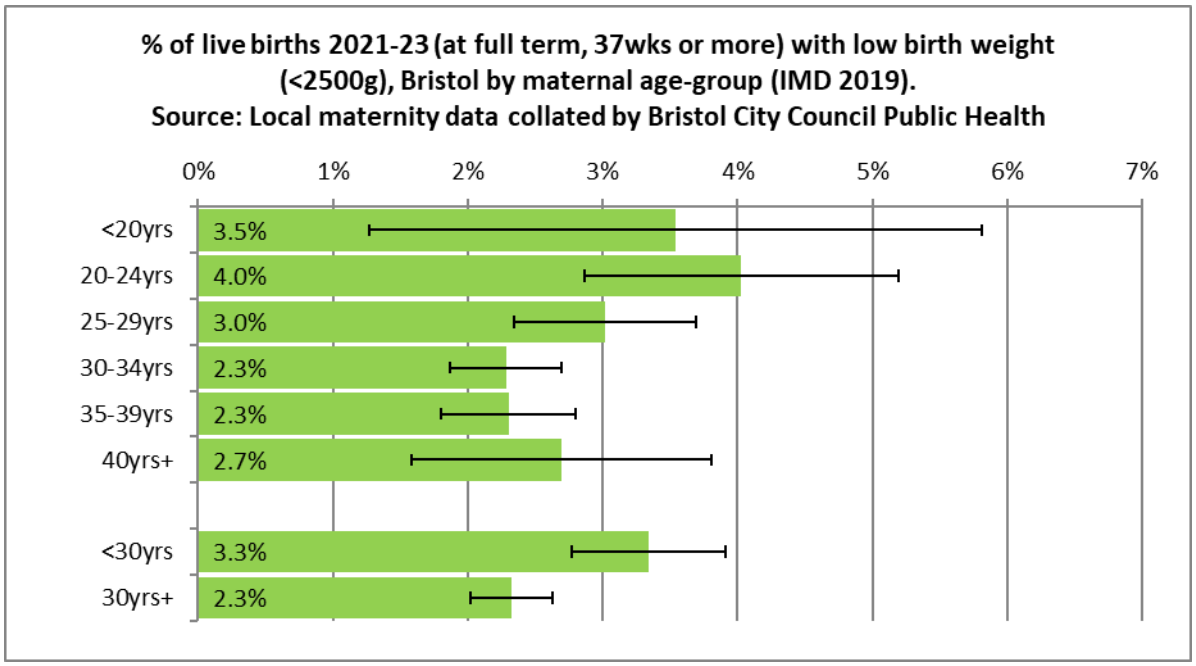

Figure 6: % of babies born with low birth weight 2021-23 (term deliveries only) by maternal age-group: Bristol residents.

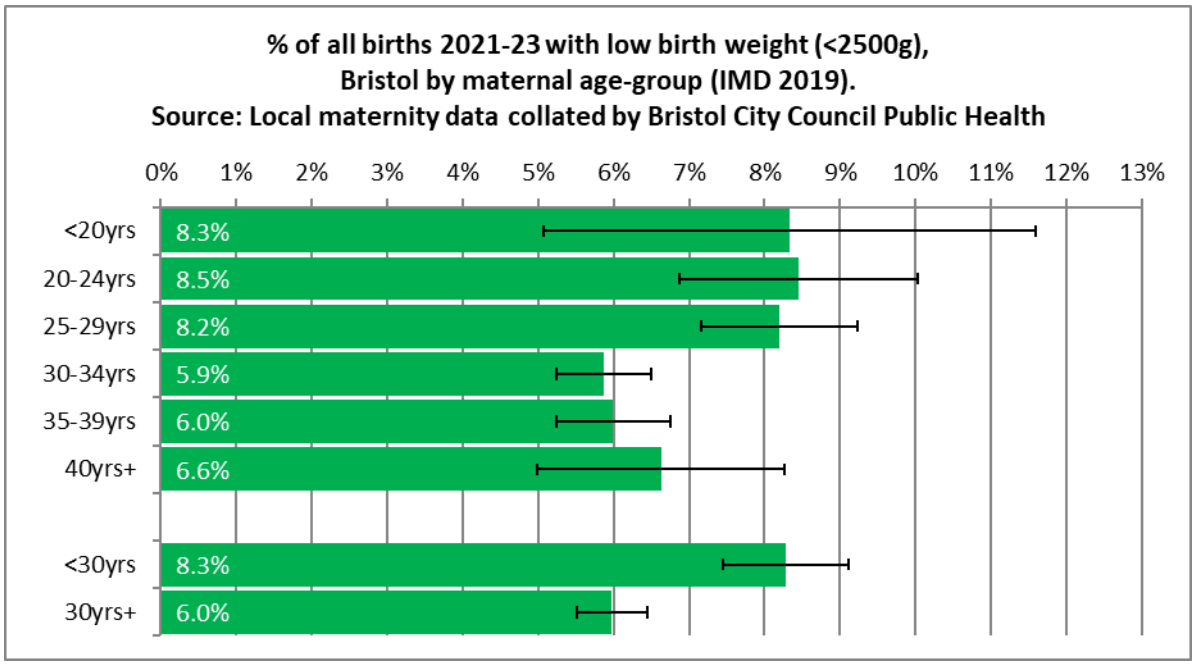

Figure 7: % of babies born with low birth weight 2021-23 (all births) by maternal age-group, Bristol residents.

In Bristol during 2021-23, mothers of Asian ethnicity were on average significantly more likely to deliver a low birth weight baby (all live births), compared to the equivalent statistics for mothers of white ethnicity (figures 8 and 9).

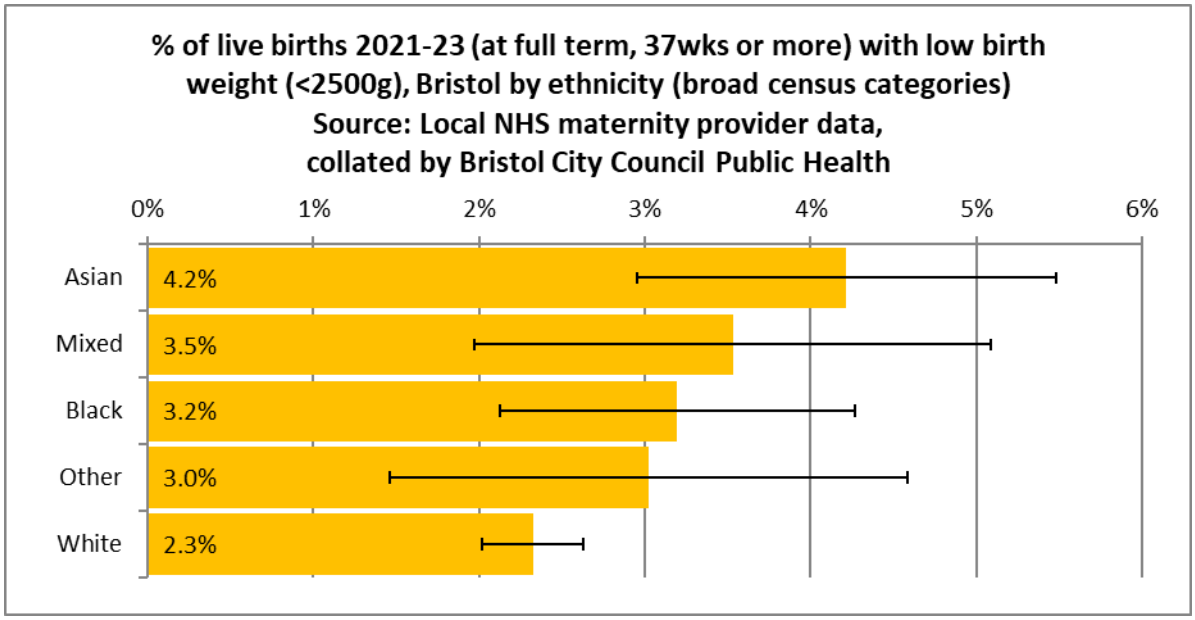

Figure 8: % of babies born with low birth weight 2021-23 (term deliveries only) by ethnicity (broad categories), Bristol residents.

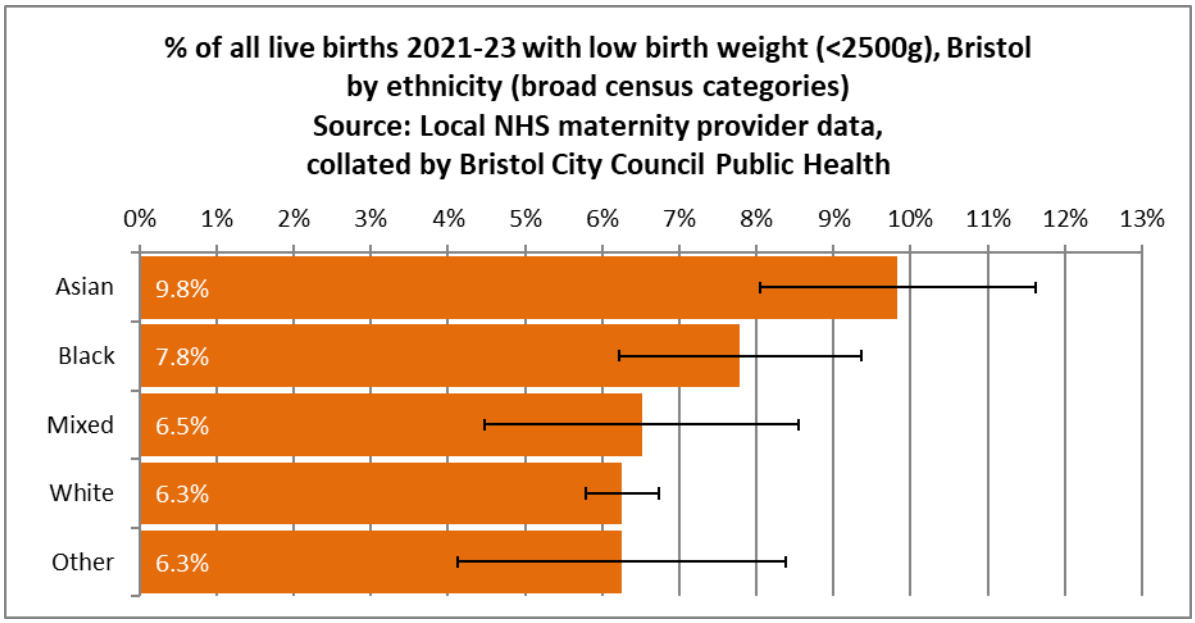

Figure 9: % of babies born with low birth weight 2021-23 (all births) by ethnicity (broad categories), Bristol residents.

Figure 10 below 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 (2013-2023), and therefore adjusts partially for the influence of deprivation, the relative risk between ethnicities changes. Mothers of Asian ethnicity remain at the highest risk of a low birth weight delivery compared to mothers of other ethnicities living with a similar level of deprivation in this analysis, indicating that for this group ethnicity likely increases this risk independent of deprivation.

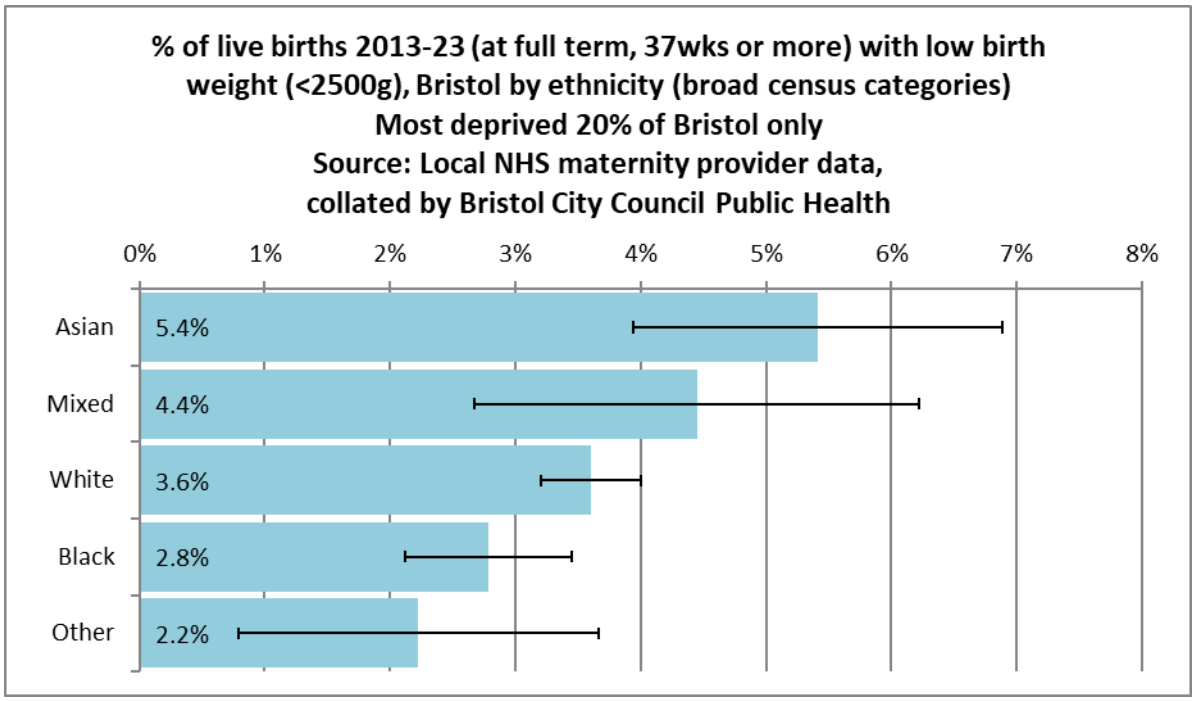

Figure 10: % of babies born with low birth weight 2013-23 (term deliveries only) by ethnicity (broad categories), Bristol residents – Most deprived 20% of Bristol only.

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.

Further data / links / consultations:

- Office for Health Improvement & Disparities Pregnancy and Birth Indicators
- Bristol North Somerset and South Gloucestershire Maternity Health Equity Audit 2021

Date updated: May 2024 **Next Update Due:** May 2025