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Children and Young People's (CYP) Chapter 2: Early years (0-4 yrs)

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1.0 INTRODUCTION

This second chapter of the Children and Young People's JSNA follows on from the first chapter on demographics, health and child poverty, and provides a more detailed look at the early years of life (0-4 yrs). This includes the first 1001 days (0-2 yrs), childhood vaccinations, measures of child development, oral health and hospital admissions.

2.0 CRITICAL 1001 DAYS (0-2 YRS)

The first 1001 days, from conception to two years of age is a considerable window of time for growth and development, and sets the foundation for adulthood. With rapid brain development during this time, a baby is particularly responsive to their environment. Certain behaviours such as the cessation of smoking, alcohol and drugs during pregnancy, breastfeeding and vaccination post-birth can offer substantial benefits to child health which can ward off adverse health and increase the opportunity for a child reaching their developmental potential.[1]

The exposures and experiences a child faces during their first two years can determine school readiness, and child physical and mental health, all of which can influence adult health and productivity. Investing in the first two years is a critical preventative measure and requires strong, supportive policy frameworks that offer each child an equal opportunity.[2]

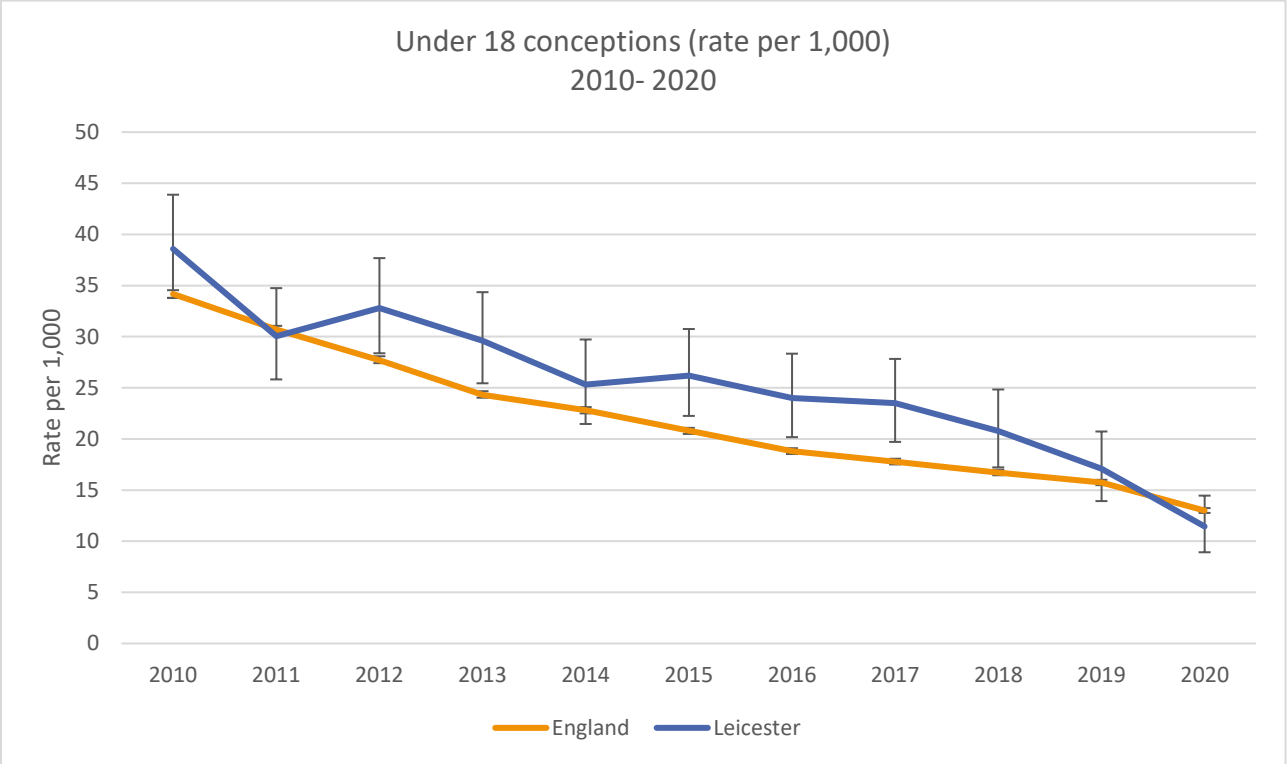
2.1.1 TEENAGE PREGNANCY

Evidence shows that teenage pregnancies (<18 years) have a greater risk of poor health outcomes for both the mother and the baby, largely attributed to lifestyle factors. Babies born to teenage mothers have approximately 60% higher rates of infant mortality, are less likely to breastfeed and are also at increased risk of having a child of low birthweight, which can impact the child's long-term health. In addition to this, a teenage mother is at greater risk of poor post-natal health for around 3-years after birth.

In 1999, the UK Labour Government launched a 10-year Teenage Pregnancy Strategy in England to address the high rates of pregnancy in under 18s. The goal was to halve teenage pregnancy rates by 2010. Although few areas achieved a 50% reduction in rates by 2010 (England rates reduced by 24% and Leicester by 35%), rates have further continued to fall.

In Leicester, over 100 girls aged between 12-17 years become pregnant in a given year. Over the past decade, Leicester has seen a significant decline in teenage pregnancies, falling from 38 per 1,000 in 2010 to 11 per 1,000 in 2020. The teenage pregnancy rate for Leicester is now not significantly different to England overall.

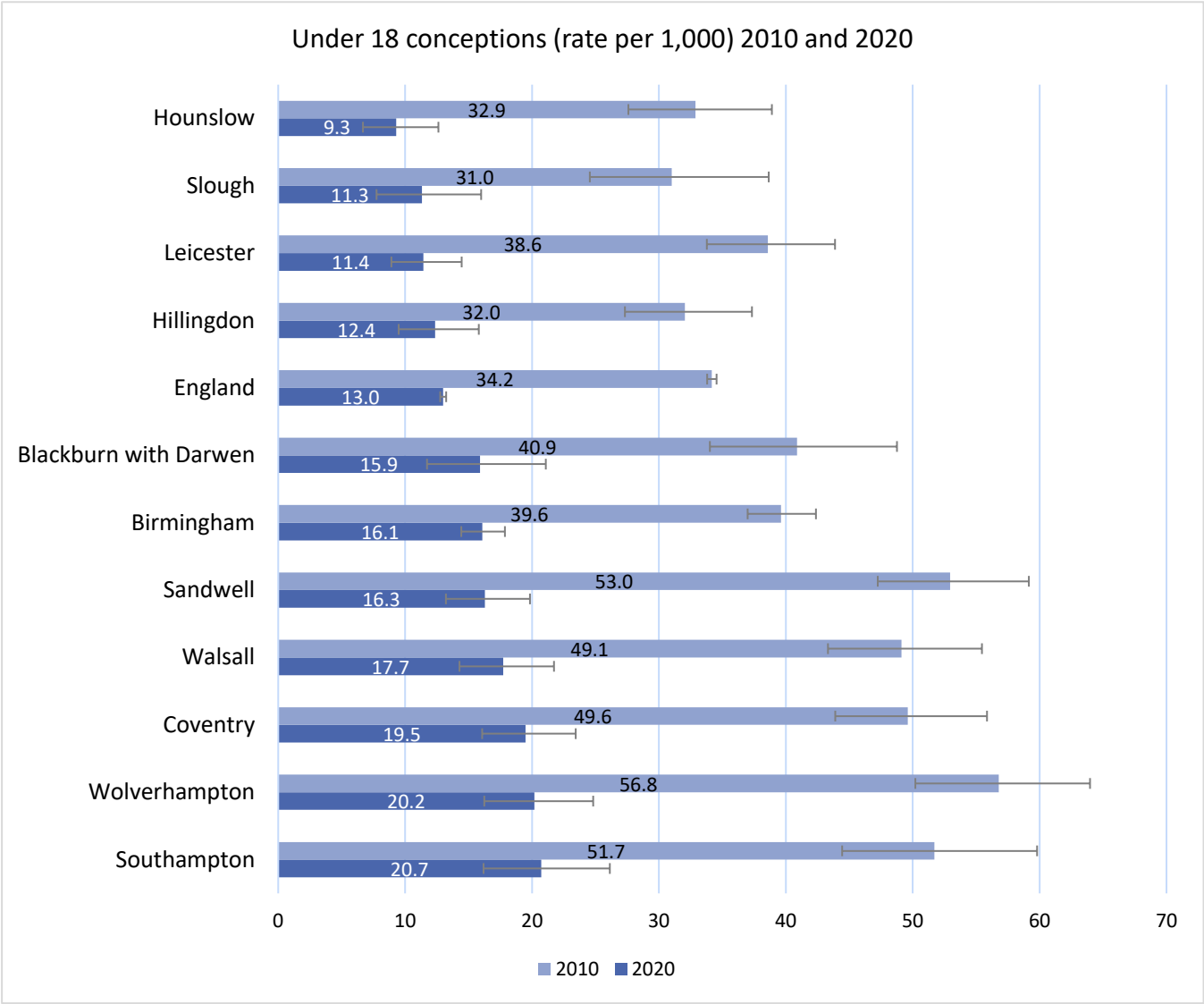
Figure 1. Under 18 conception rate, Leicester and England, 2010- 2020



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 2[3] shows the reduction in conception rate for under 18s between 2010 and 2020. All comparator areas have seen a reduction of at least 60% by 2020. Leicester has the third lowest rate for conceptions among those aged under 18 years and has seen one of the highest reductions in the teenage pregnancy, with a reduction of 70%. England saw a reduction of 62% for the same period.

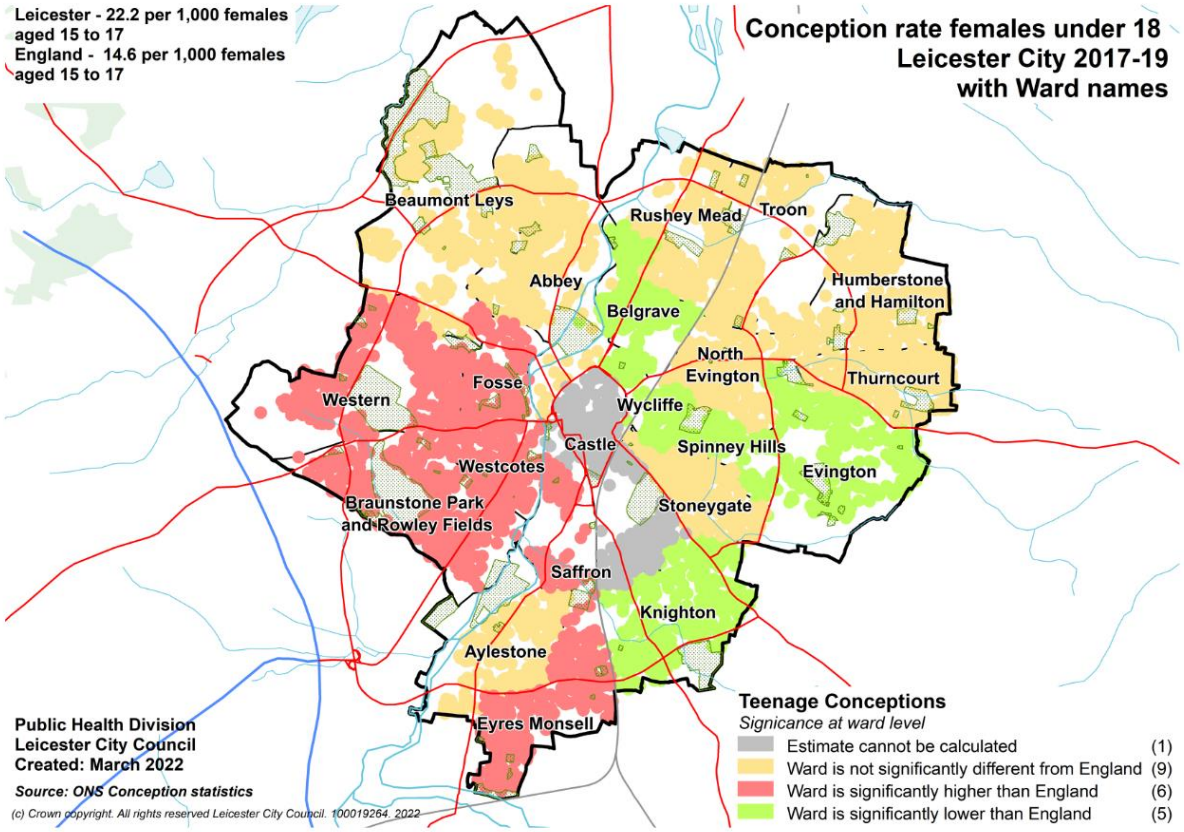
Figure 2. Conception rate among those aged under 18, 2010 and 2020



Source: Office for Health Improvement and Disparities (OHID https://fingertips.phe.org.uk/

Rates in teenage conceptions vary across the city. There is a higher conception rate in the West of the city, which is significantly higher than for Leicester overall. By contrast, the conception rate in the East is significantly lower than for Leicester overall (Figure 3).

Figure 3. Conception rate of females under 18 years, by ward, 2017-19



Source: ONS Conception Statistics

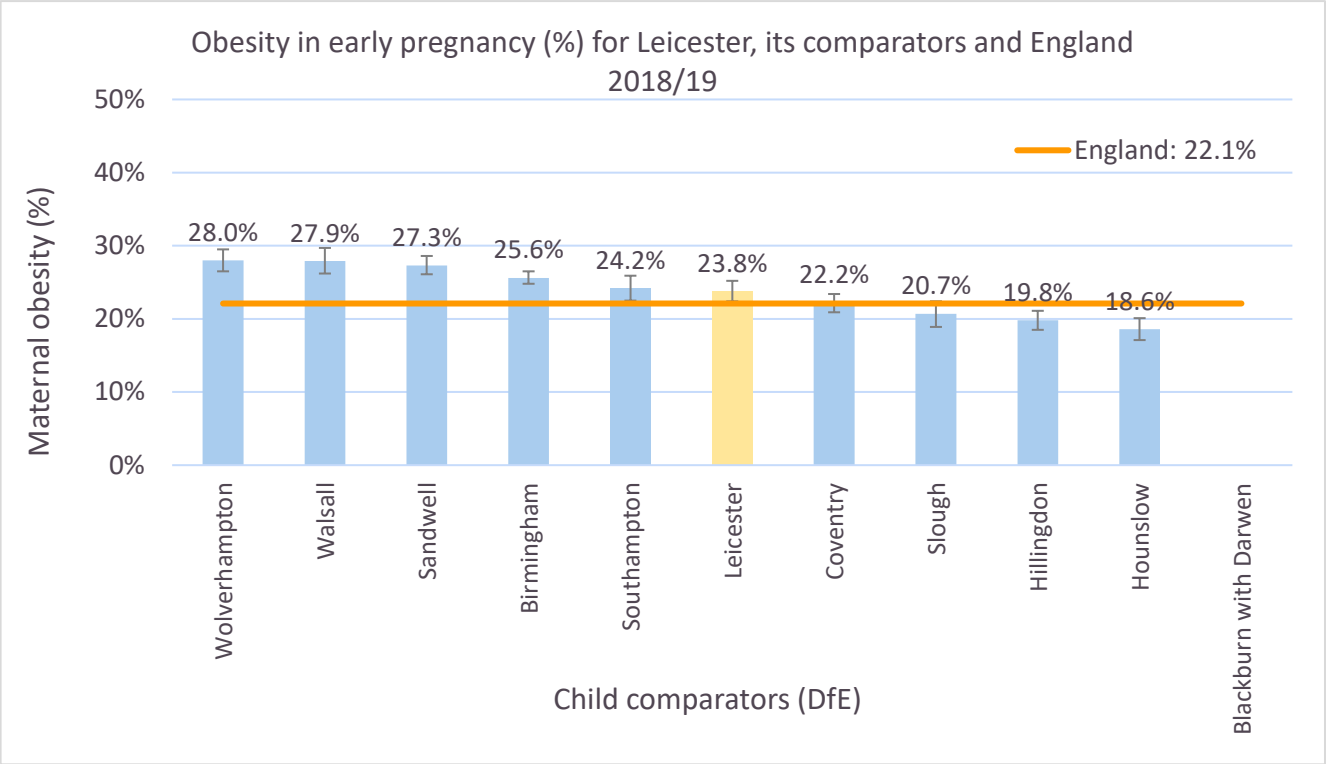
2.1.2 MATERNAL EXCESS WEIGHT

Mother and child are at higher risk of developing health conditions during and after pregnancy if the mother carries excess weight. Babies born to mothers with severe excess weight are significantly more likely to experience excess weight into adulthood, caused by biological changes that occur during pregnancy. Moreover, women who have severe excess weight are more at risk of stillbirth and complications during pregnancy and/or labour.[4]

Nationally, around half of women of childbearing age currently have excess weight and this proportion has been increasing steadily over recent years. Research indicates that excess weight in new mothers increases with age, deprivation and is also more common among those of Black ethnicity.[5]

In Leicester, the percentage of pregnant women who were obese (BMI>=30kg/m^2) at the time of booking an appointment with a midwife was 23.8% in 2018/19, which is significantly worse than the National average (22.1%). Overall, Leicester had the 6th highest percentage of pregnant women who were obese in early pregnancy when compared to its 10* child DfE comparators (Figure 4).

Figure 4. Maternal obesity in early pregnancy, 2018/19



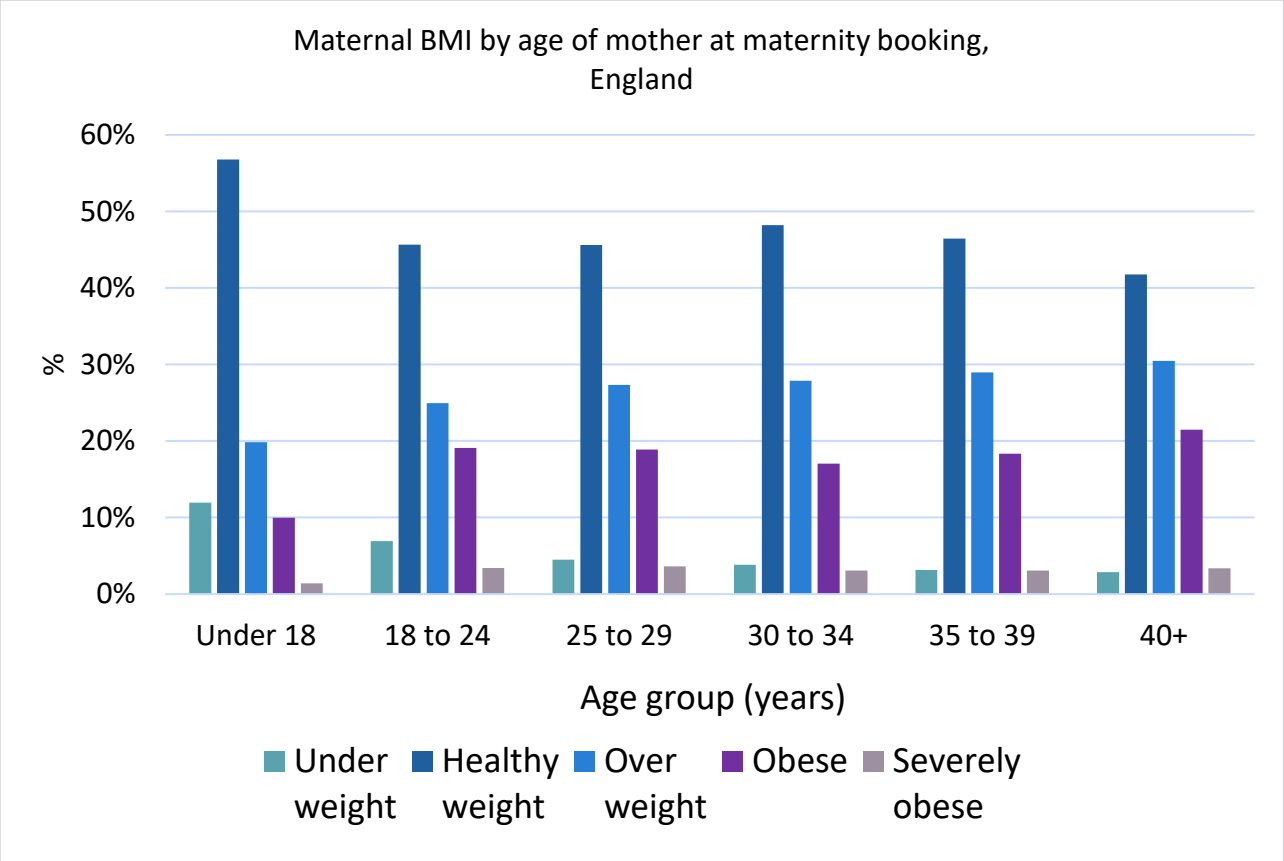
Note*: The value for Blackburn with Darwen was suppressed due to incomplete source data.

Source: Office for Health Improvement and Disparities https://fingertips.phe.org.uk/

National analysis of the maternity services dataset revealed that 540,630 women had information recorded about their BMI. Of these women, 148,265 (27.4%) were classified as overweight, 98,760 (18.3%) were obese and 17,765 (3.3%) were severely obese.

There is a correlation between a woman's age and her BMI status, with the likelihood of her being overweight or obese increasing as she gets older. Younger women were more likely to be underweight at their booking appointment, with 1 in 8 (12.0%) young women aged under 18 underweight at their booking appointment. Almost a third (31.3%) of pregnant women aged under 18 were classified as overweight or obese (including those categorised as severely obese) in early pregnancy, rising gradually with age to over a half of pregnant women (55.4%) aged 40 or over being overweight or obese (Figure 5).

Figure 5. Maternal BMI by age of mother: maternity booking appointments, 2019



Note: calculated as a proportion of total in age group

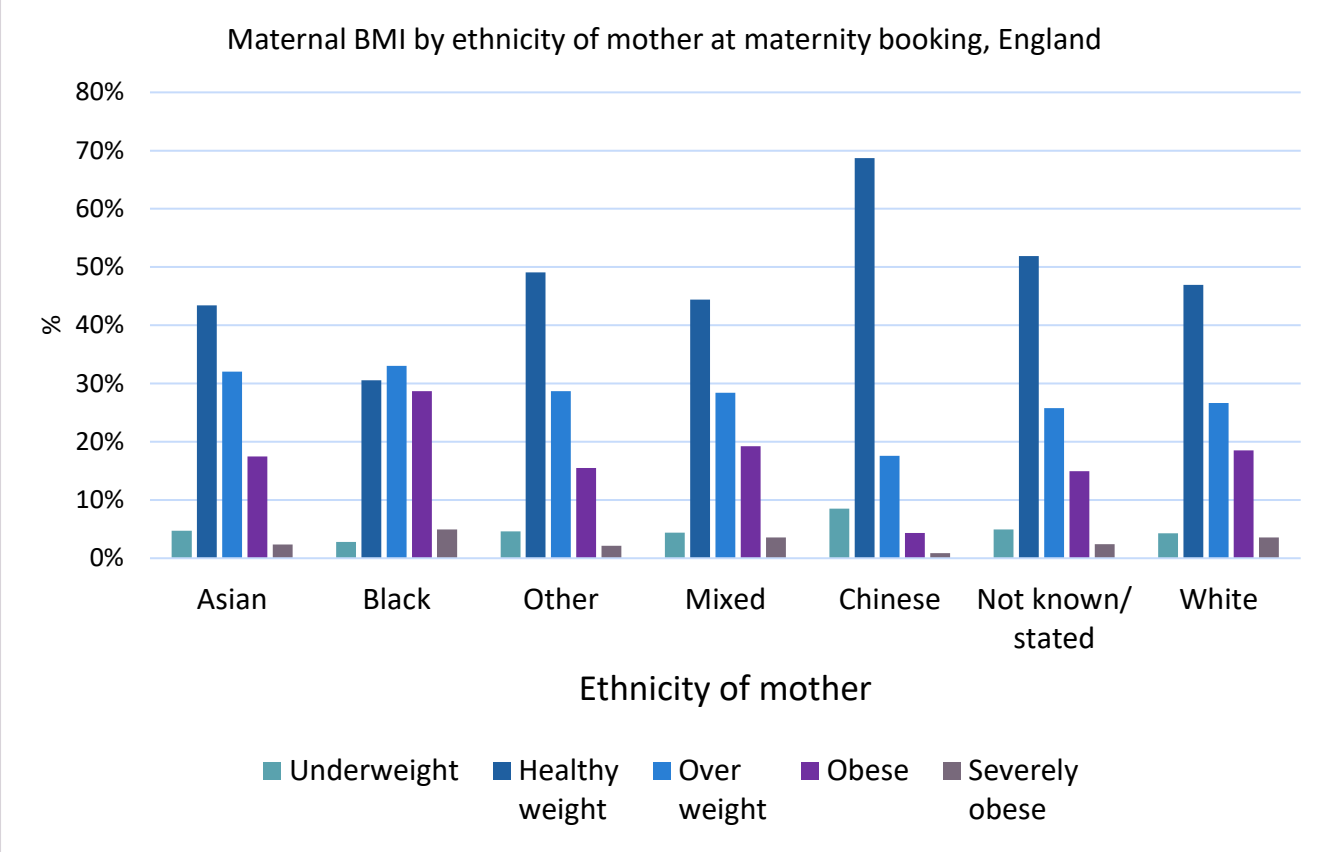
Source: Public Health England

When looking at women classified as obese or severely obese, the highest proportion were aged 40 or over where 21.5% were classified as obese and a further 3.4% of women were classified as severely obese, closely followed by women aged 25 to 29 where 18.9% were classified as obese and 3.6% were severely obese.

Variation between ethnic groups is noticeable when looking at BMI status. Two-thirds (66.6%) of black women were overweight or obese, compared to 22.8% of women with Chinese ethnicity. Women of Asian (51.8%), mixed (51.2%) and white (48.6%) ethnicities also had high

rates of being overweight and obese. A slightly higher proportion of women with Chinese ethnicity (8.5%) were underweight at their booking appointment when compared to other ethnic groups (Figure 6).[6]

Figure 6. Maternal BMI by ethnicity: maternity booking appointments, 2019



Note: calculated as a proportion of total in ethnic group

Source: Public Health England

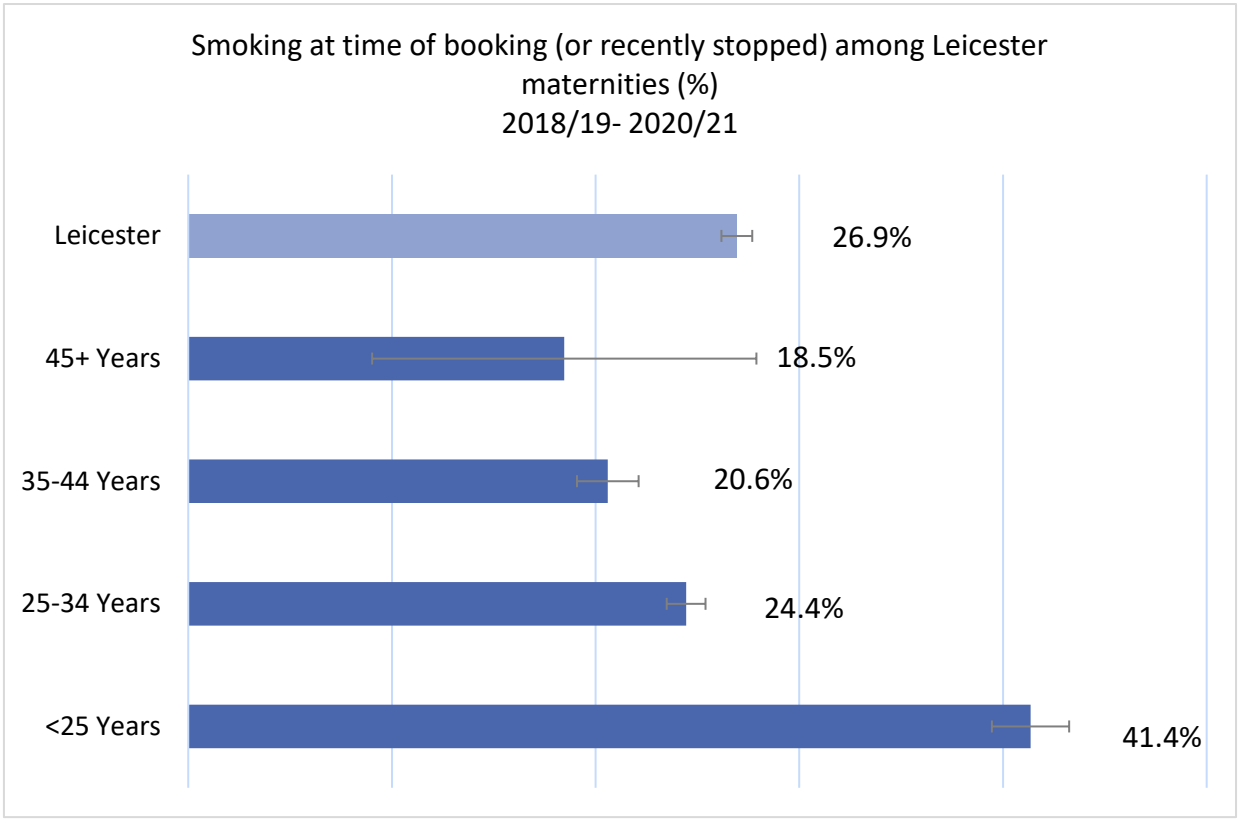
2.1.3 SMOKING AT TIME OF BOOKING (SATOB)

Smoking during pregnancy can severely impact the growth and development of the baby but can also adversely affect the health of the mother. Smokers typically experience more complications during pregnancy and labour, which in some instances can be fatal. Quitting smoking during pregnancy is encouraged and may help the mother abstain from smoking thereafter, providing lasting health benefits for the mother while also reducing health complications for the child from 'second-hand', passive smoking.[7]

Smoking at time of booking (SATOB) refers to maternities whereby the mother is a current or recent smoker at the time of booking (8-12 weeks). Those who are smoking at their booking appointment will be advised to stop smoking under the guidance of their medical practitioner.

In Leicester, 27% of Leicester-resident mothers were current or recent smokers at the time of their booking appointment. Further analysis of this local dataset shows that of the 27% smoking maternities, around half (49%) stop at time of booking. Older maternities were less likely to be smoking, whereas 2 in 5 aged under 25 years were smoking at the time of booking (41%), which is significantly higher than the Leicester average (Figure 7).

Figure 7. Smoking at time of booking (or recently stopped), 2018/19-2020/21

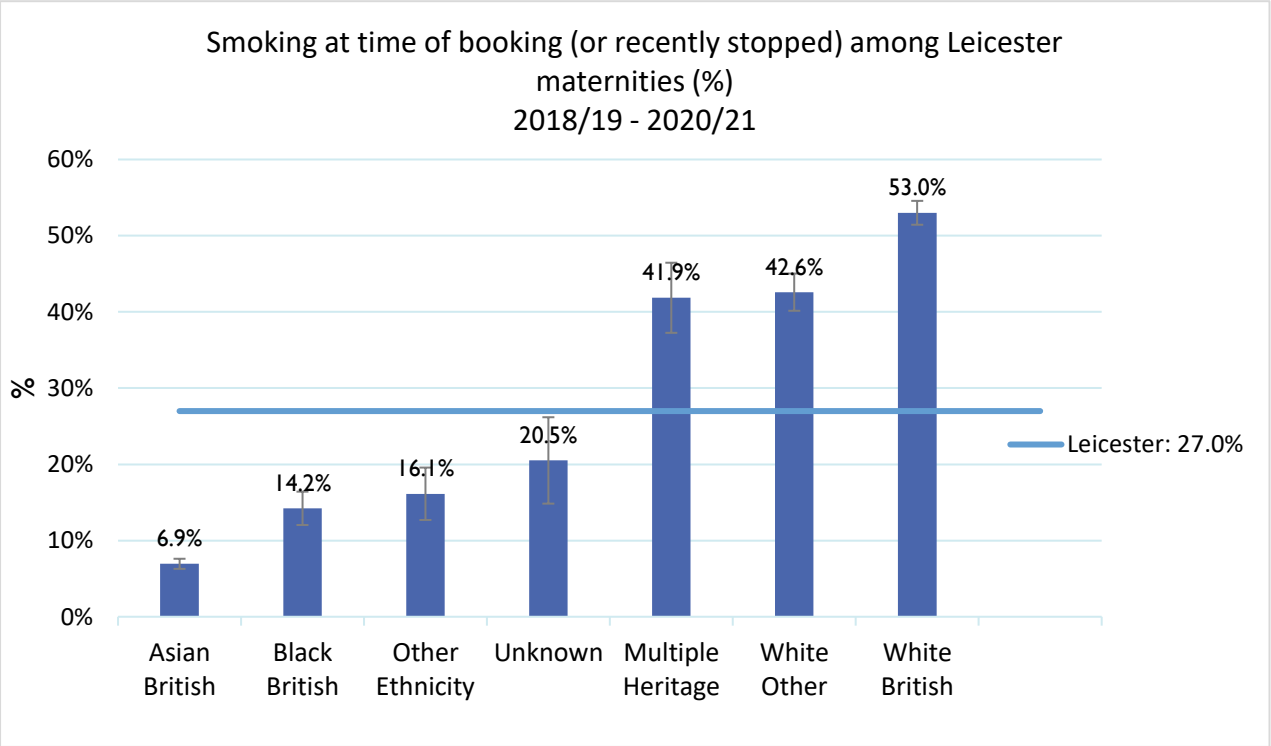


Source: University Hospitals Leicester (UHL)

Older smoking maternities are also more likely to immediately stop and younger smoking maternities are more likely to continue to smoke.

Ethnic groups that are significantly more likely to be smoking at time of booking include White British, White Other and Multiple Heritage. There is also variation in the Black British community with those of Black Caribbean ethnicity reporting higher rates of SATOB (Figure 8).

Figure 8. Smoking at time of booking (or recently stopped)

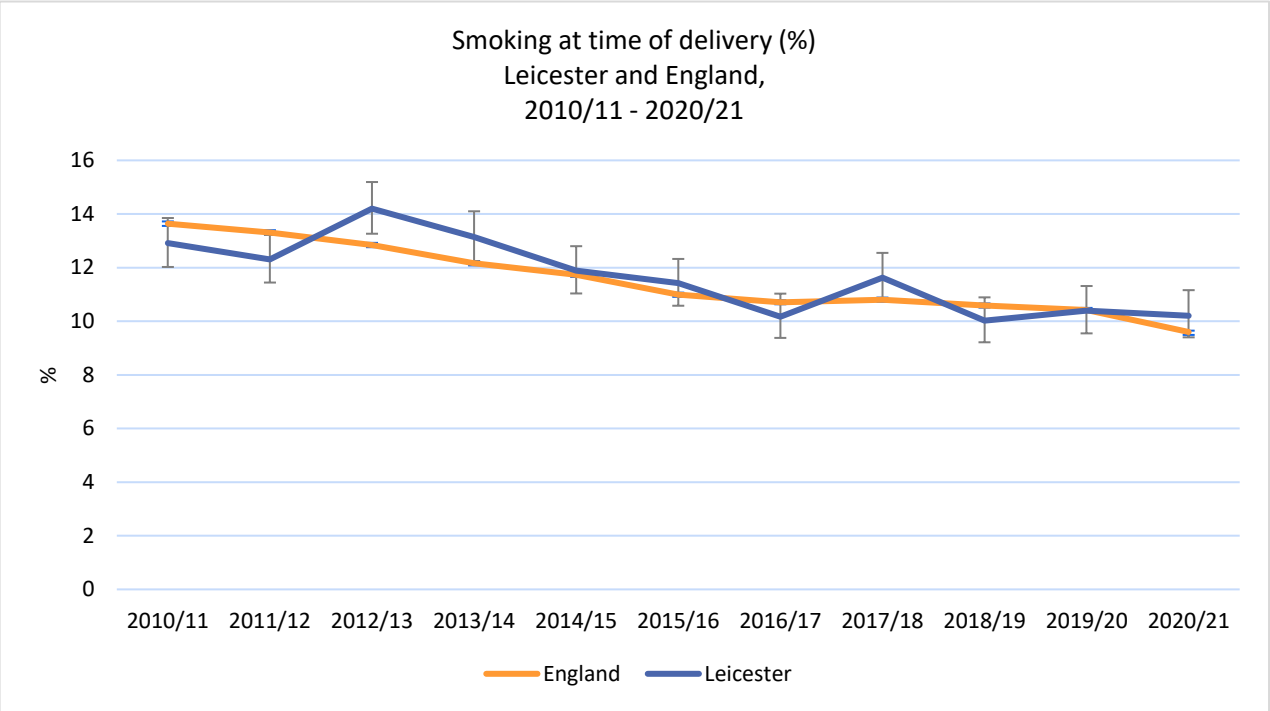


Source: *University Hospitals Leicester (UHL)*

2.1.4 SMOKING AT TIME OF DELIVERY (SATOD)

Smoking at time of delivery (SATOD) is indicative of continued smoking from time of booking, through to delivery. Over the past decade, we have seen a decrease in SATOD, but in recent years, this has begun to plateau. In Leicester, around 1 in 10 new mothers are smoking at time of delivery, which is similar to the national average (Figure 9).

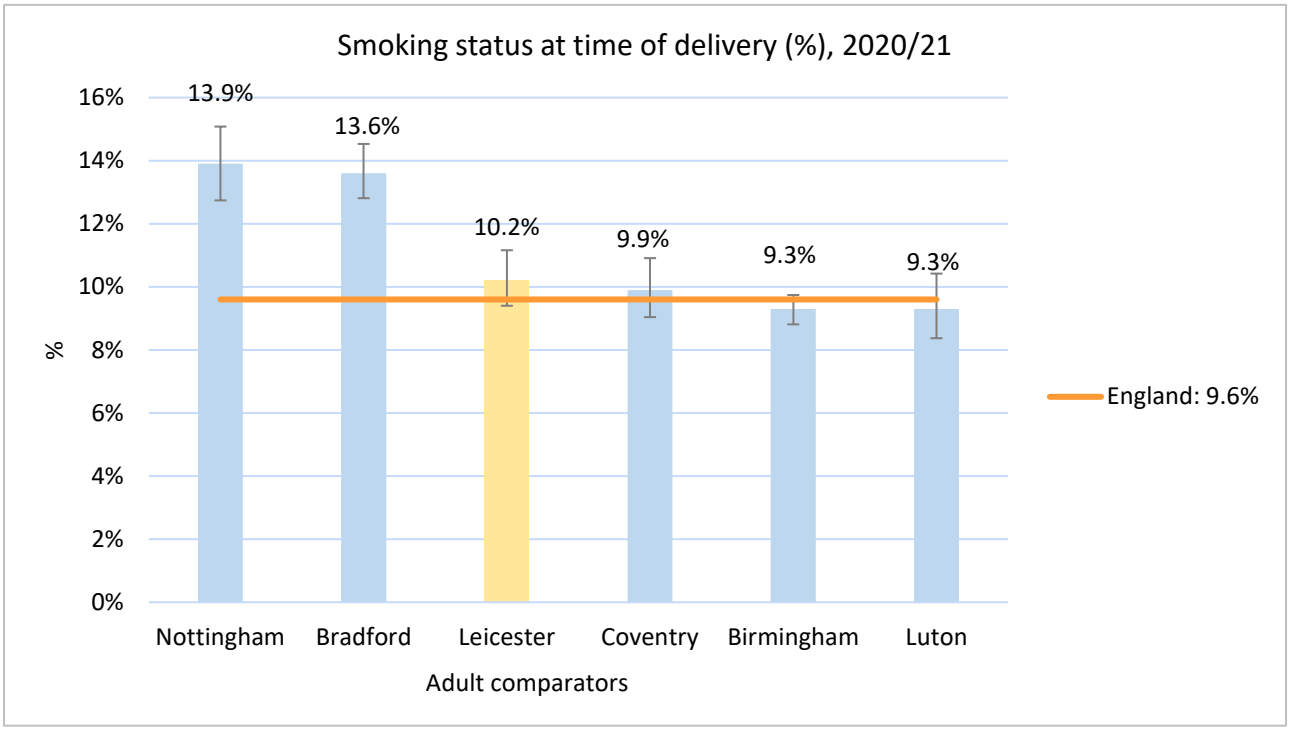
Figure 9. Smoking at time of delivery (%), Leicester and England, 2010/11 - 2020/21



Source: Office for Health Improvement and Disparities https://fingertips.phe.org.uk/

Amongst comparator areas, Leicester has the third highest proportion of maternities smoking at delivery but is statistically similar to England overall (Figure 10).

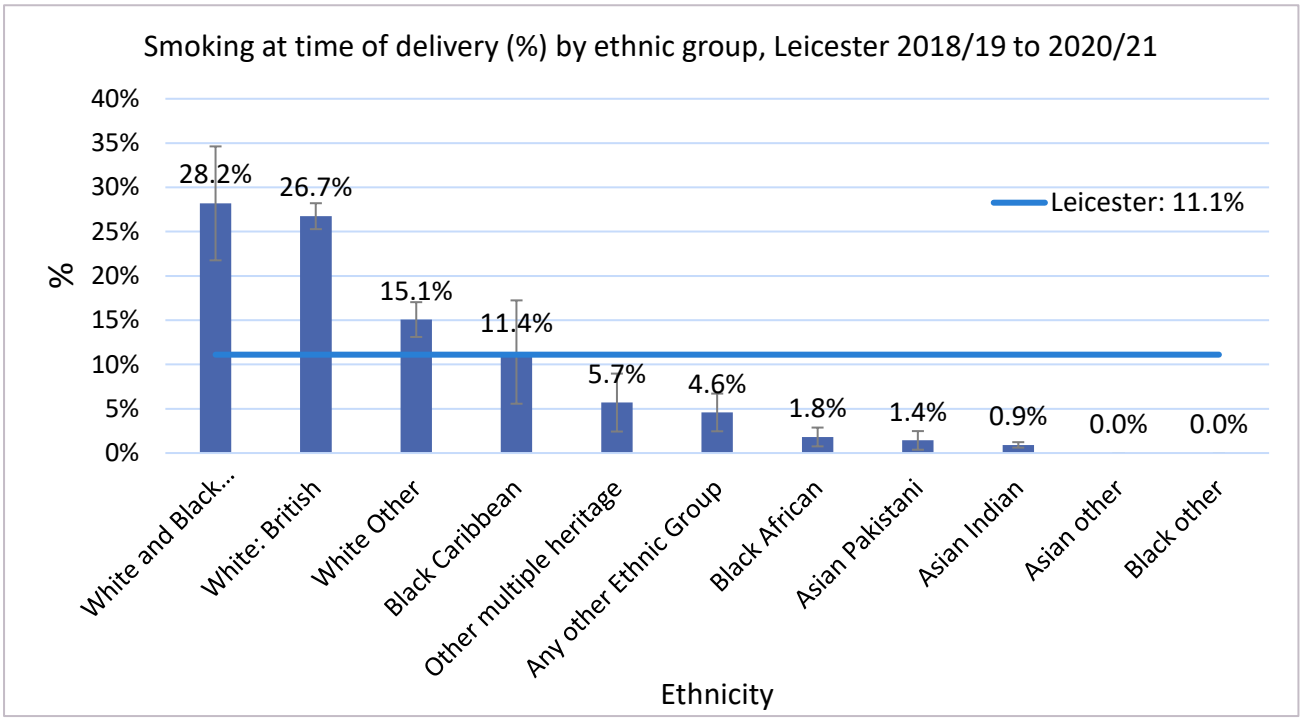
Figure 10. Smoking status at time of delivery (%), 2020/21



Source: Office for Health Improvement and Disparities https://fingertips.phe.org.uk/

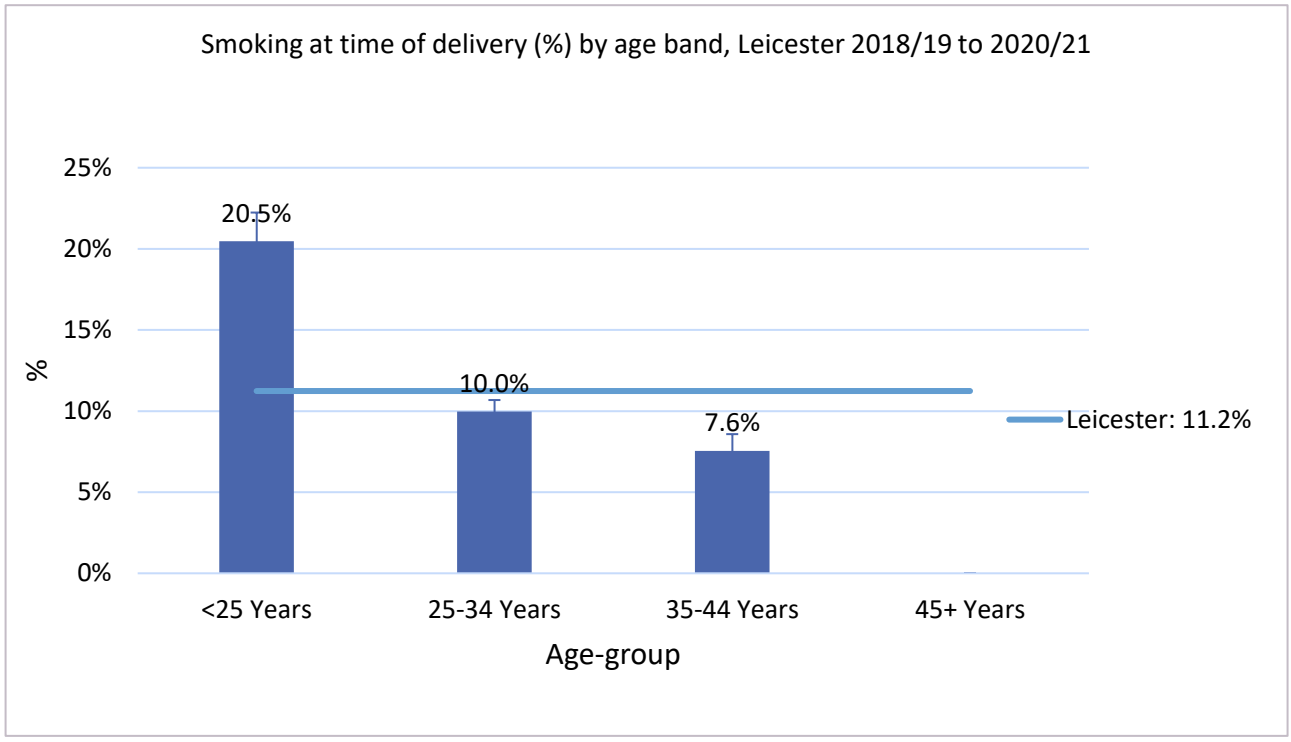
However, local data shows there is variation across age groups, ethnic groups and areas of the City. Those under 25 years, White and some Mixed heritage communities report significantly higher rates (Figures 11 and 12).[8]

Figure 11. Smoking at time of delivery by ethnic group, 2018/19- 2020/21



Source: University Hospitals Leicester (UHL)

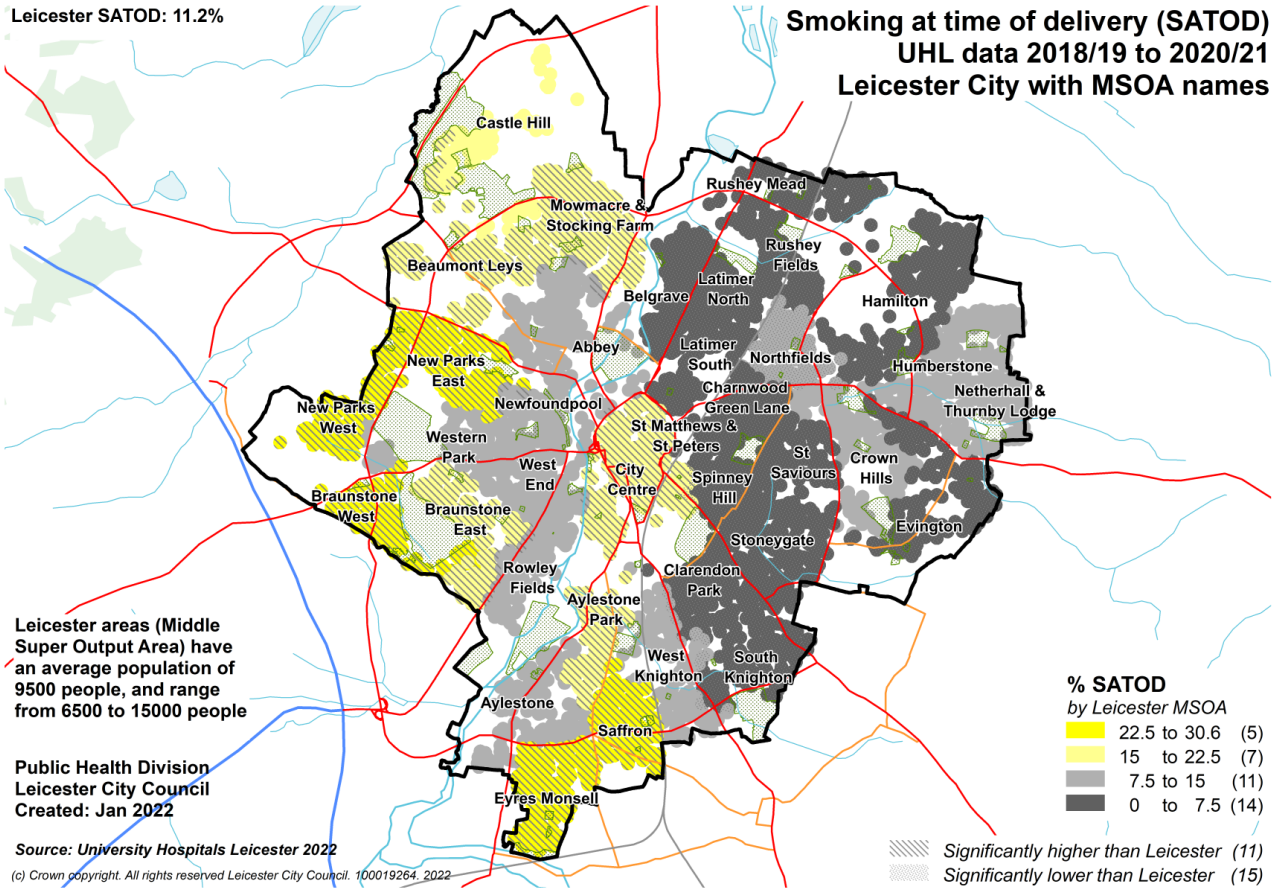
Figure 12. Smoking at time of delivery, by age band, 2018/19 – 2020/21



Source: University Hospitals Leicester (UHL)

Across the city, smoking at time of delivery seems to be much lower in the East and North East of the city and higher in the South, West and North West (Figure 13).

Figure 13. Smoking at time of delivery, 2018/19 - 2010/21 (3-year combined data)



Source: University Hospitals Leicester (UHL)

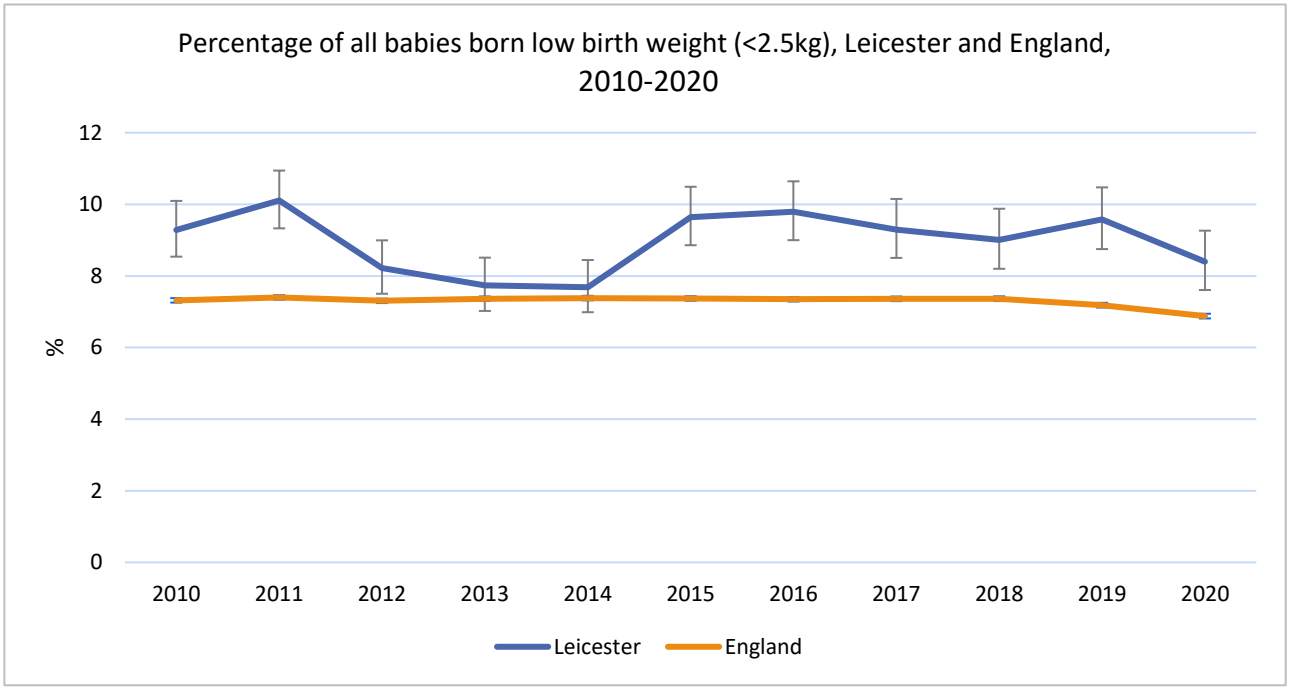
SATOD shows a similar picture to SATOB, whereby younger maternities are smoking at time of delivery, as is also the case at time of booking. This suggests that if a maternity is smoking at booking, they are likely to continue smoking until delivery.

2.1.5 BIRTH WEIGHT

Birth weight is a proxy marker for foetal nutrition, and development, and is a strong predictor for health outcomes in adulthood. Research shows that babies born at a low birth weight (<2.5kg) have greater risk of adverse health into adulthood. This includes increased risk of excess weight and cardiovascular disease.[9] Risk factors for low birth weight include smoking during pregnancy, substance and alcohol misuse, undernutrition, and younger age of mother.[10]

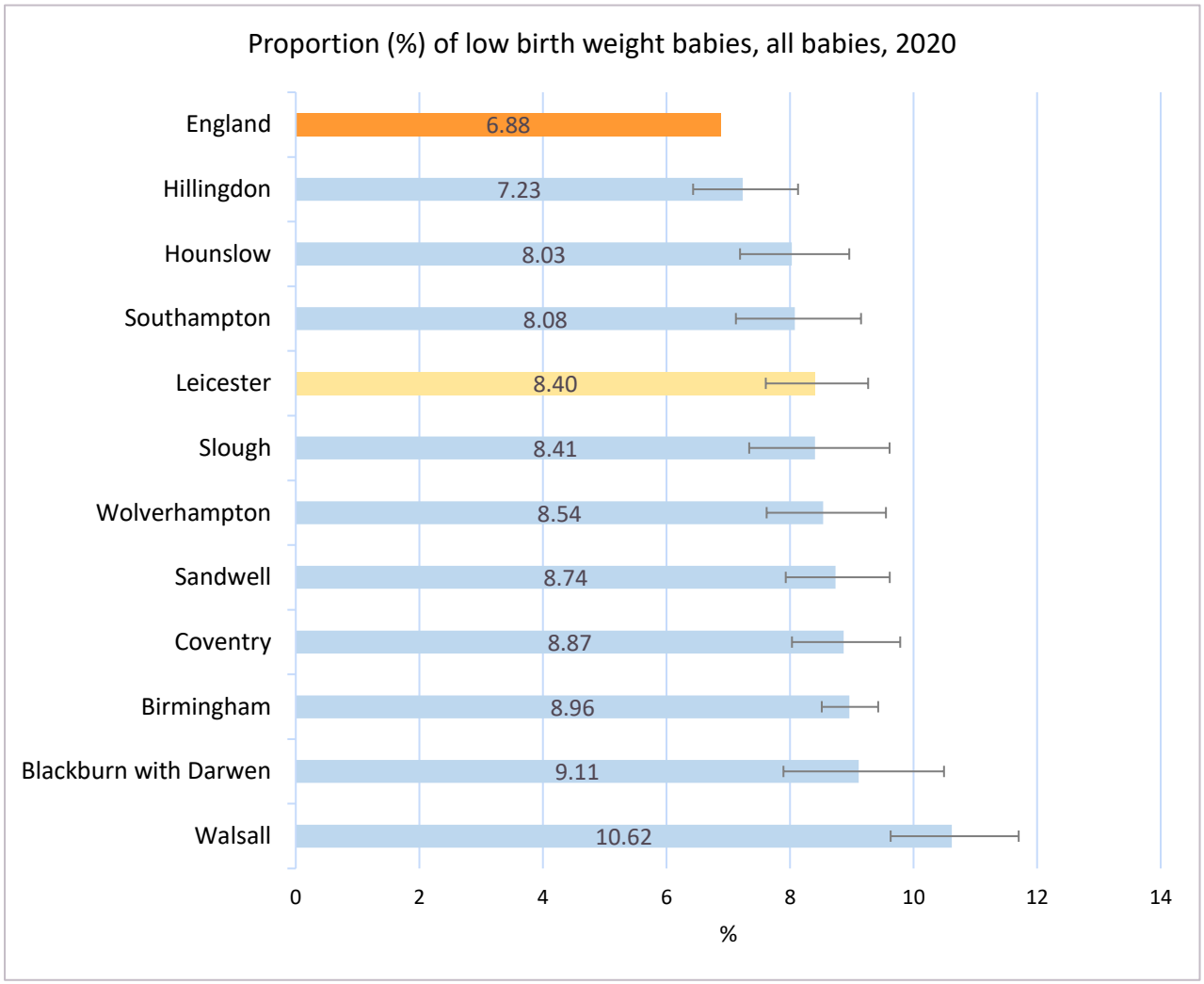
Leicester has a significantly higher rate of babies born at a low birth weight than the national average, and this has been consistently observed over the last decade (Figure 14). Moreover, around 8% of Leicester new-borns are of a low-birth weight, and while this is similar to Leicester's child comparator authorities (Figure 15), it is significantly higher than the national average.[11]

Figure 14. Low birth weight (<2.5kg) babies, Leicester and England, 2010-2020



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 15. Low birth weight of all babies, 2020



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

There is evidence to suggest South Asian mothers are more predisposed to deliver a baby of low birth weight (LBW). Leicester has a large Asian community, with 43% of residents of Asian ethnicity reported in the 2021 Census, which may partially explain the higher proportion of babies born at a low birth weight. The reasons for this are not entirely clear but are thought to be related to maternities whereby the mother is underweight, nutrition, deprivation, gestational age at delivery, maternal country of birth and between generations.[1213] There is also some emerging evidence to suggest race discrimination during pregnancy may also play a role.[14]

2.1.6 BREASTFEEDING

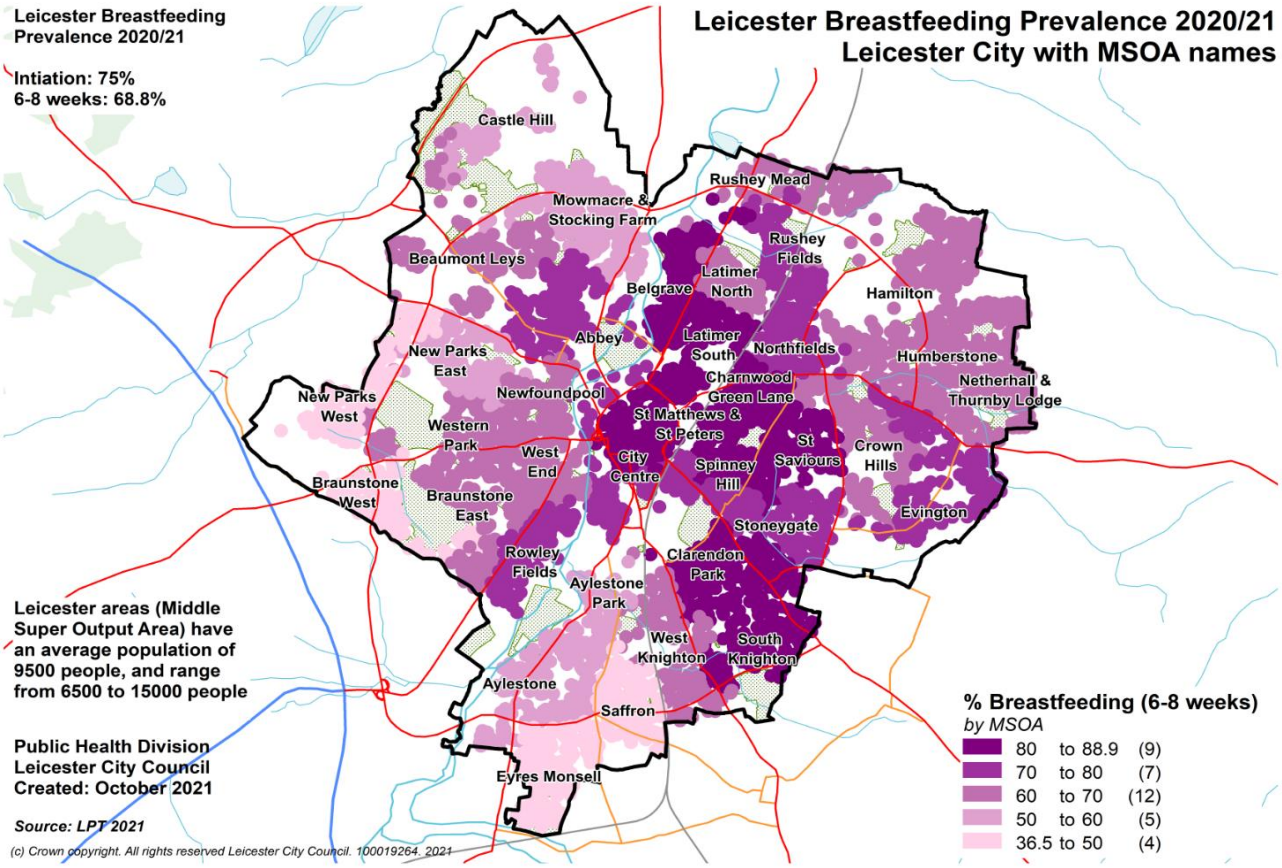
The World Health Organisation (WHO) encourages that all babies are breastfed exclusively (without any other food or drinks) for 6 months, if the mother and baby are physically able. It is considered the most optimal food for a new-born, providing all the essential energy and nutrients to meet their needs. Breastmilk provides additional protection compared to bottle-feeding by also providing antibodies from the mother, which offers temporary immunity to the child while their immune system is still developing.[15]

Breastfeeding also offers healthy benefits to the mother by supporting a healthy maternal weight post-pregnancy, with those breastfeeding more likely to return to their baseline pre-maternity weight than those not. There is also evidence to indicate that breastfeeding reduces the risk of various cancers in the mother.[1617]

Breastfeeding prevalence is measured at birth, at discharge 10-14 days post-delivery and 6-8 weeks post-delivery. Engagement in breastfeeding is higher in the first 10-14 days, with 75% of Leicester City mothers breastfeeding their new-born; this typically begins to drop the longer the time has elapsed since birth. Breastfeeding at 6-8 weeks is the preferred time-point for clinicians to capture 'sustained' breastfeeding.

Breastfeeding is higher in the Centre and East of the city and lower in the West and parts of the South (Figure 16).

Figure 16. Breastfeeding prevalence at 6-8 weeks, 2020/21

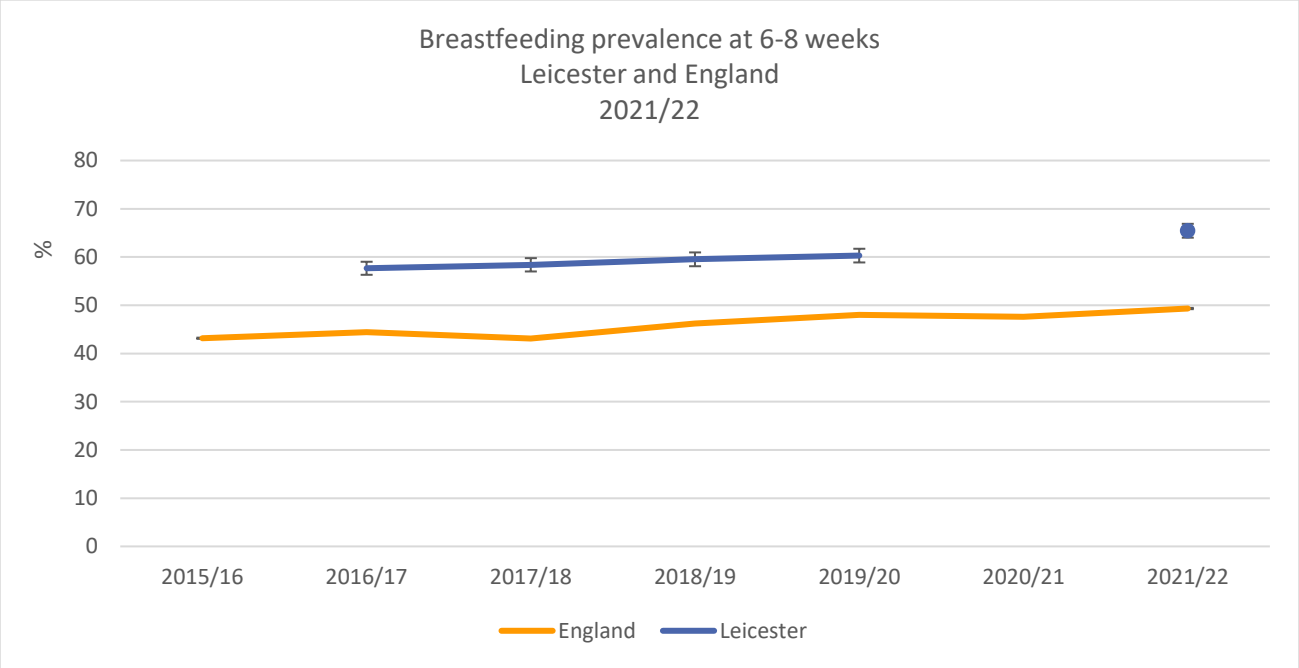


Note: Map above shows data for 2020/21, which may reflect different findings to the trend and comparator charts below.

Source: University Hospitals Leicester (UHL)

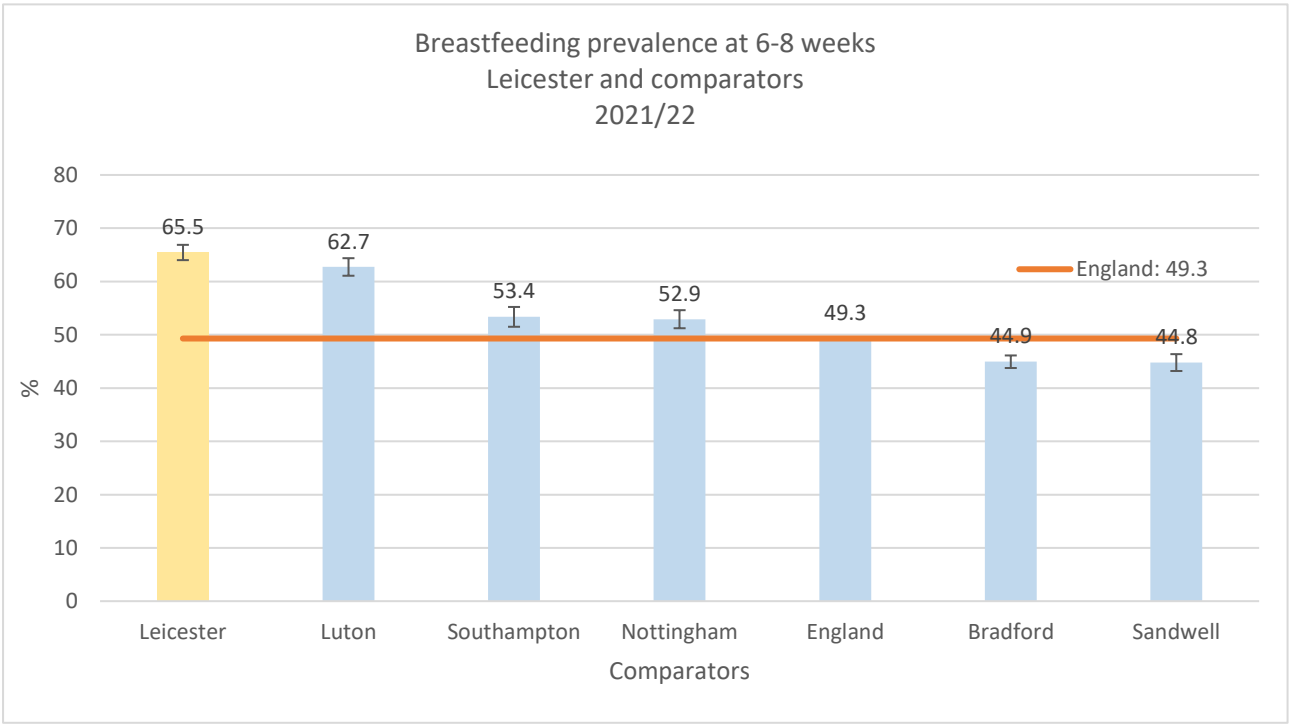
Breastfeeding prevalence at 6-8 weeks in Leicester has increased by almost 10% between the years 2016/17 and 2021/22, and has remained consistently higher than the national average (Figure 17). And while breastfeeding at 6-8 weeks is lower than the initial 10-14 days post-birth, it is significantly higher in Leicester than the national average and that of comparators, with 66% of mothers breastfeeding at 6-8 weeks after birth in 2021/22 (Figure 18).

Figure 17. Breastfeeding prevalence at 6-8 weeks, 2015/16- 2021/22



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 18. Breastfeeding prevalence at 6-8 weeks, 2021/22



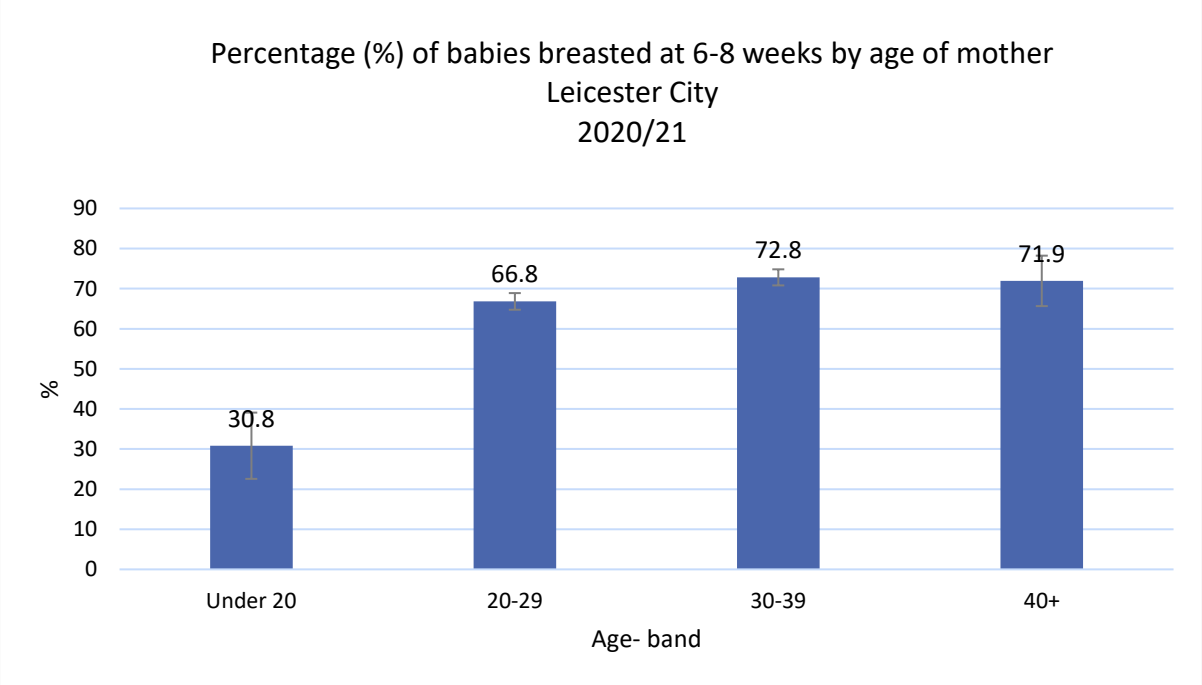
***Note:** a mix of child and adult comparators presented for benchmarking purposes, but data is not available for all adult or child comparators

Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Local data from University Hospitals of Leicester shows that breastfeeding prevalence is directly proportional to age, with breastfeeding prevalence increasing with the age of the mother. Ethnicity of the mother also has an impact on engagement with breastfeeding, with those of White British ethnicity less likely to breastfeed (Figures 19 and 20).

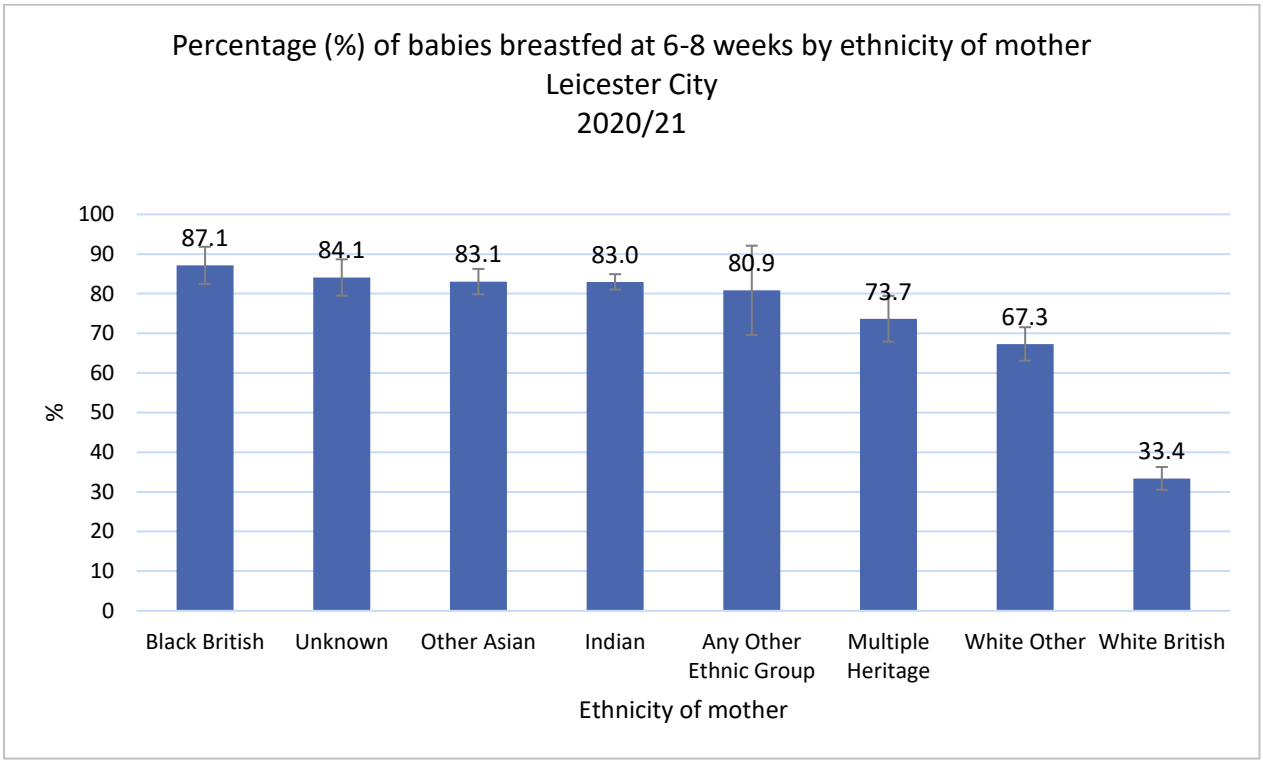
The relationship between age of the mother, ethnicity and breastfeeding prevalence is not just observed locally but also a relationship observed nationally[18]. It is likely related to additional lifestyle factors such as education and occupation status, with higher maternal education shown to increase breastfeeding prevalence, as well as having a flexible work schedule. [619]

Figure 19. Percentage of babies breastfed at 6-8 weeks, by age of mother, 2020/21



Source: University Hospitals Leicester (UHL)

Figure 20. Percentage of babies breastfed at 6-8 weeks by ethnicity of mother, 2020/21



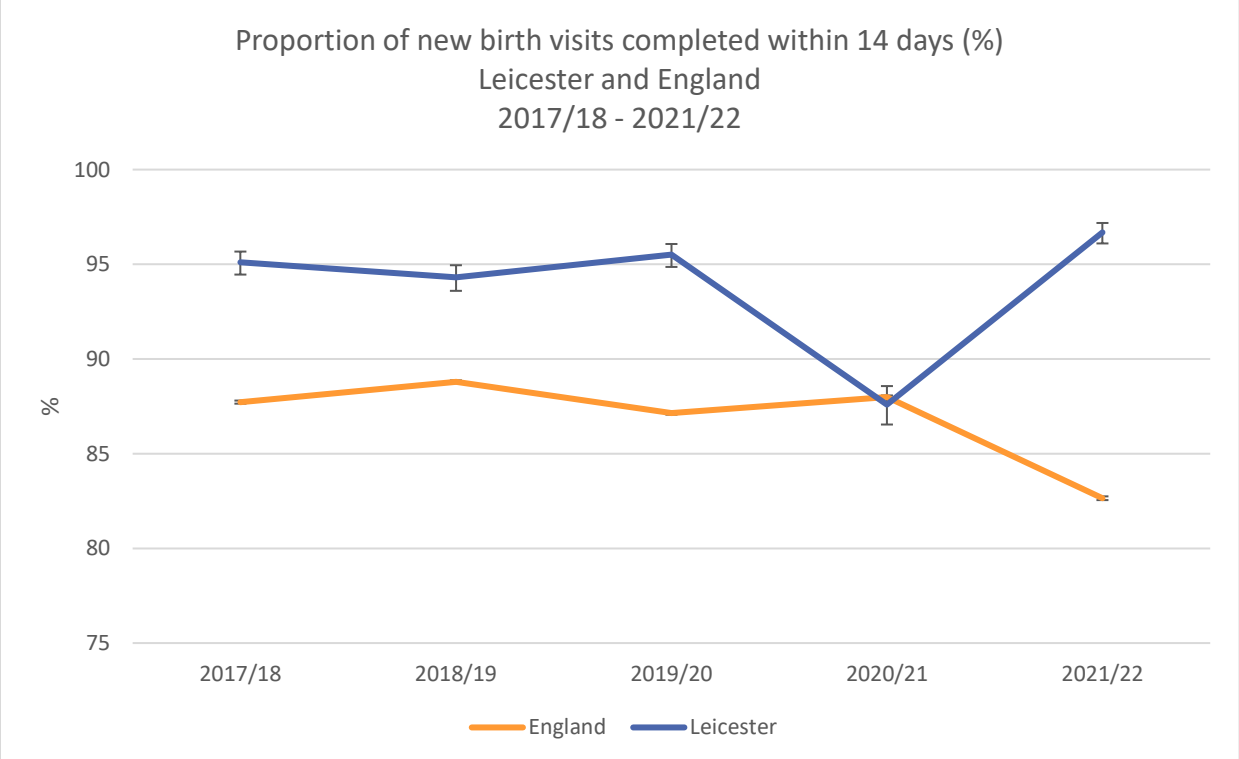
Source: University Hospitals Leicester (UHL)

2.1.7 NEW BIRTH VISITS

All new-borns are eligible for a new birth visit from a health visitor within the first 2 weeks following birth. This visit is important for identifying any development issues with the infant (including early referral to a specialist team where needed), to promote sensitive parenting, to provide safe sleeping advice, to support feeding and to discuss concerns and worries, including maternal mental health, and to ensure a continuum of support is available following on from the new birth visit.

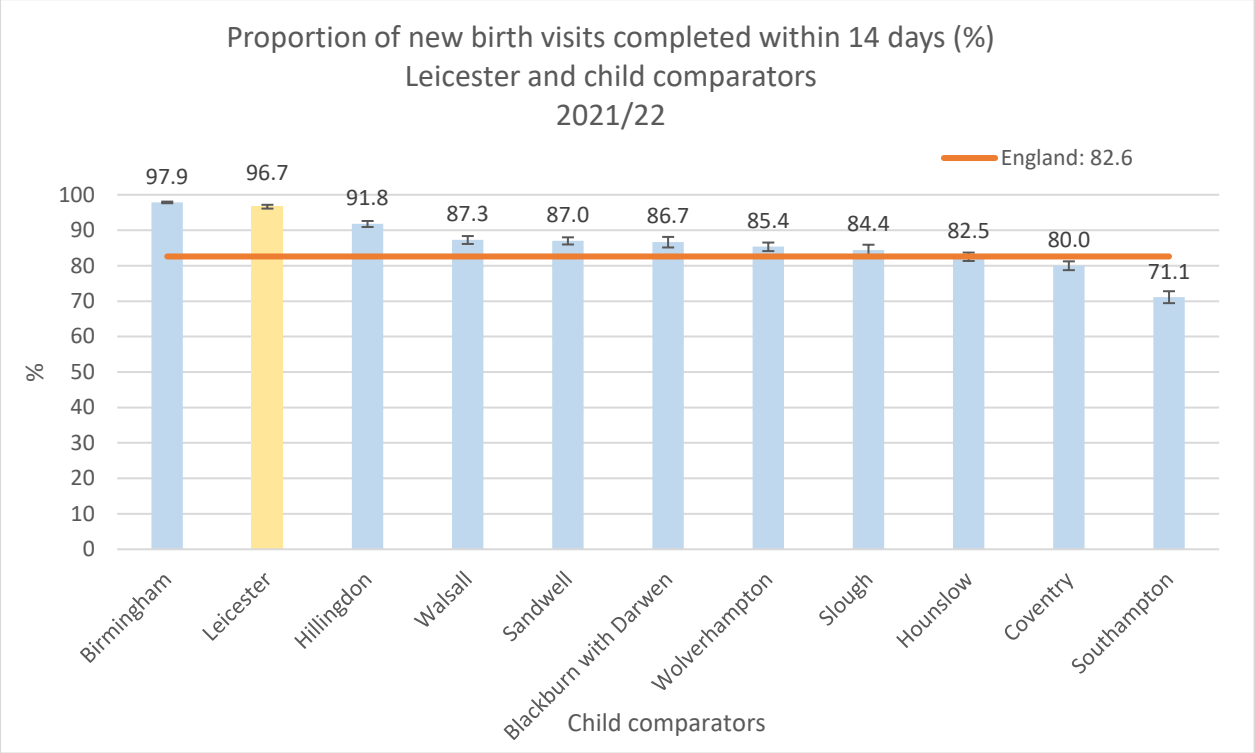
Leicester has routinely completed a higher proportion of new birth visits than the National average since 2017/18 (Figure 21). In 2021/22, nearly all new-borns in Leicester (97%) received a new birth visit; around a 10% increase from the year prior when fewer visits were carried out during the Covid-19 pandemic. This is significantly higher than the national average and all comparators except for Birmingham (Figure 22).[20]

Figure 21. Proportion of new birth visits completed within 14 days (%), Leicester and England, 2017/18- 2021/22



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 22. Proportion of new birth visits completed within 14 days (%), Leicester and child DfE comparators, 2021/22



Source: Office for Health Improvement and Disparities (OHID), https://fingertips.phe.org.uk/

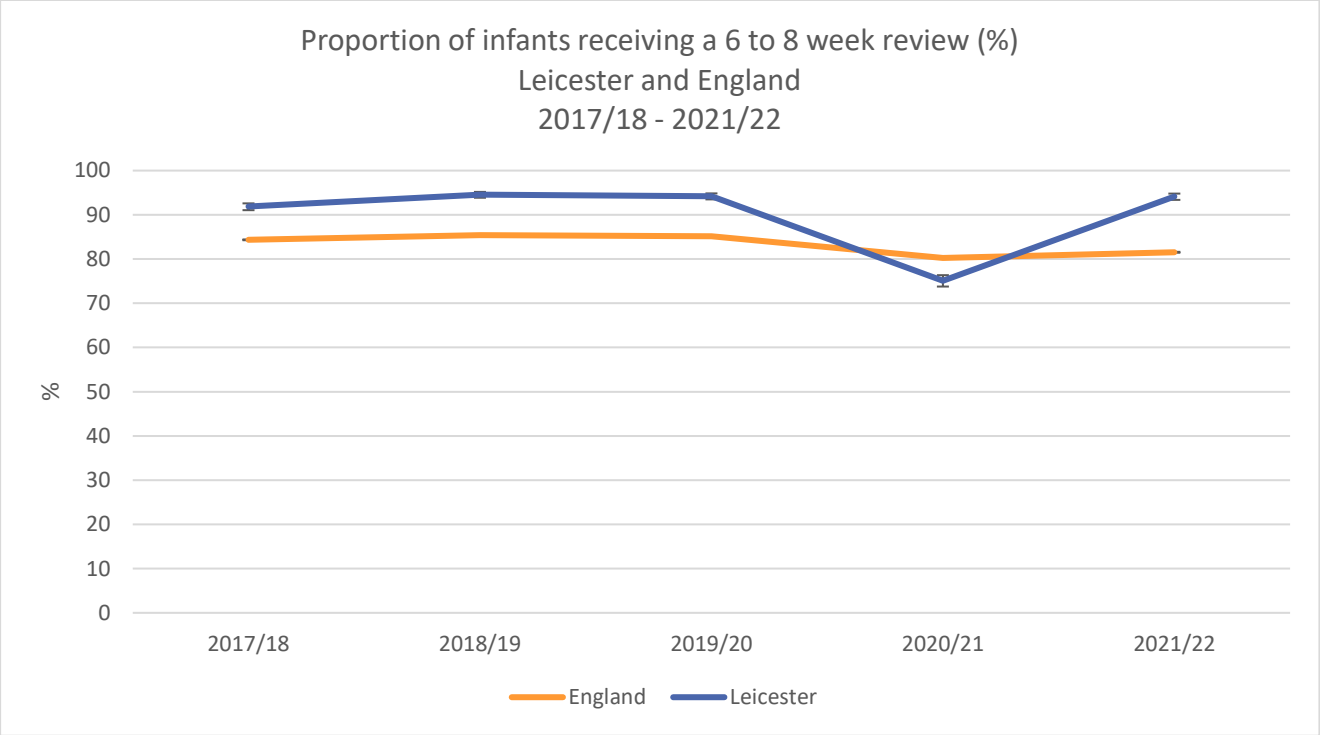
2.1.8 6-8 WEEK REVIEWS

The 6-8-week postnatal review is a later opportunity for support with breastfeeding if required, and allows an assessment of the mother's mental health, as well as reinforcing the discussions and messages from the new birth visit. It is an opportunity to ensure the mother has had a six-week postnatal check, and that the infant has received a mandated physical examination, as well as a reminder of the importance of the vaccinations that take place in the first few months. Any difficulties the mother has had in receiving benefits she is entitled to can be discussed and support offered.

In 2021/22, around 9 in 10 new-borns (94%) in Leicester received a 6- 8-week review; restored to pre-pandemic levels following a 20% decrease in 2020/21. This is significantly higher than the national average.

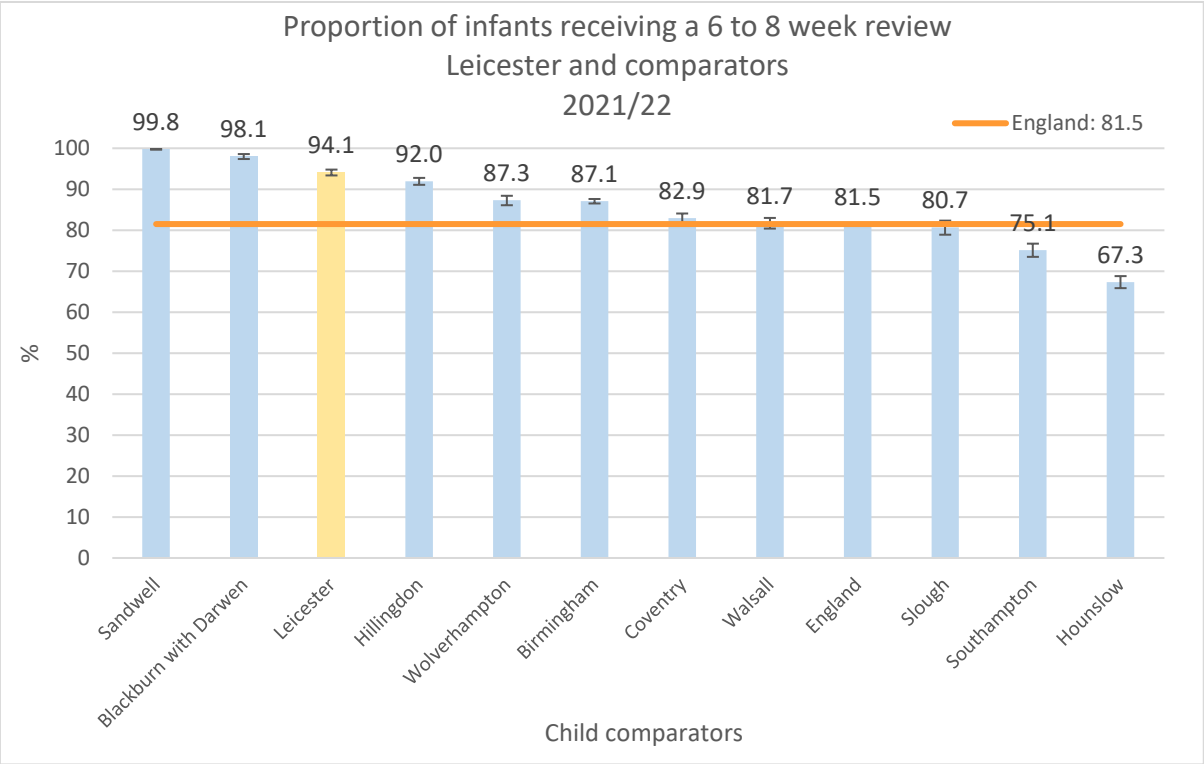
Leicester has routinely had a higher provision of 6- 8 week reviews than the national average, although a decline in 2020/21 saw Leicester fall below the national average for the first time since 2017/18 (Figure 23). In 2021/22, around 9 in 10 new-borns (94%) in Leicester received a 6- 8-week review; restored to pre-pandemic levels following a 20% decrease in 2020/21. This is significantly higher than the national average and the third highest amongst Leicester's 10 child DfE comparators (Figure 24).

Figure 23. Proportion of infants receiving a 6-8 week review (%), Leicester and England, 2017/18 - 2021/22



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 24. Proportion of infants receiving a 6-8 week review, Leicester and comparators, 2021/22



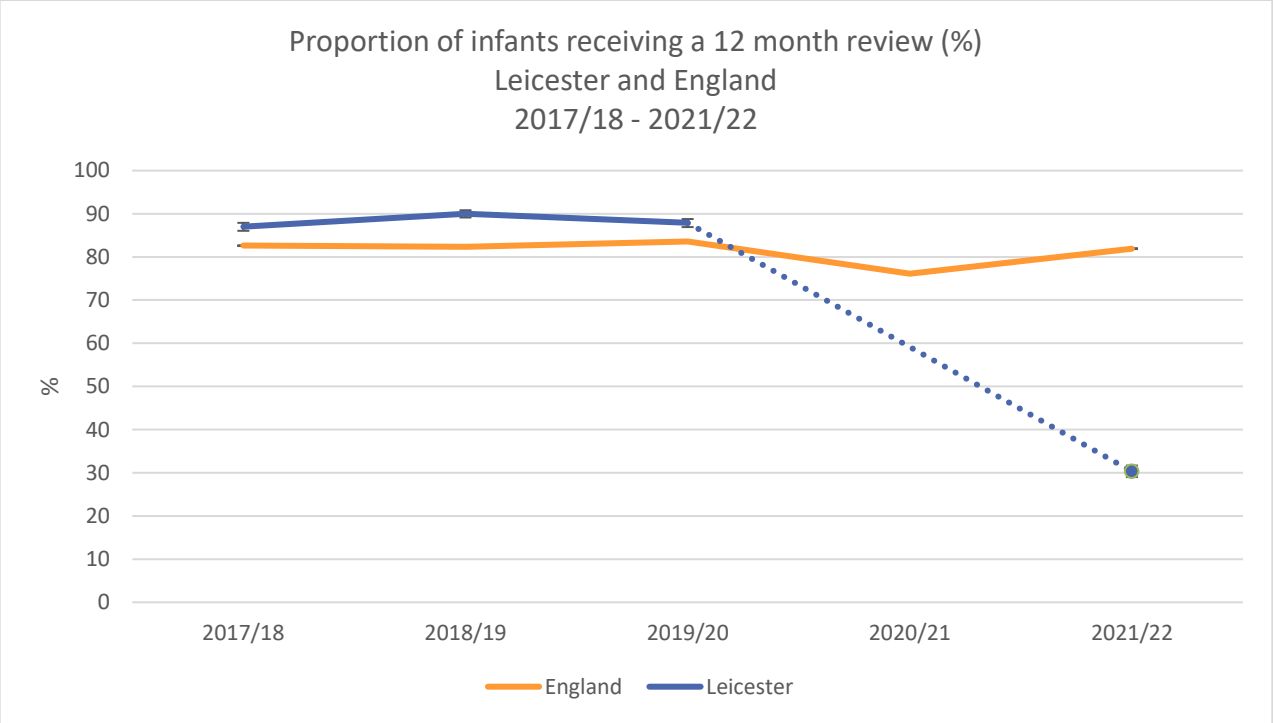
Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

2.1.9 12-MONTH REVIEW

All children should ideally receive a review by a health visitor-led team shortly before their first birthday. The 12-month assessment measures the infant's physical, emotional and social needs in the context of their family, including predictive risk factors, and provides an opportunity for both parents to talk about any concerns, as well as provide a reminder of the importance of the vaccinations at around 1 year. A review at this time ensures any issues can be identified early and referrals made as appropriate. Although some of these reviews may not be timely (post 12 months), they are still considered to be of value.

Pre-pandemic, Leicester was achieving over 85%. The service was subsequently reduced during the pandemic and is now recovering (Figure 25). In 2021/22, only 30% of infants were receiving a 12-month review, which is significantly lower than the national average and Leicester's 10 DfE child comparators (Figure 26).[21]

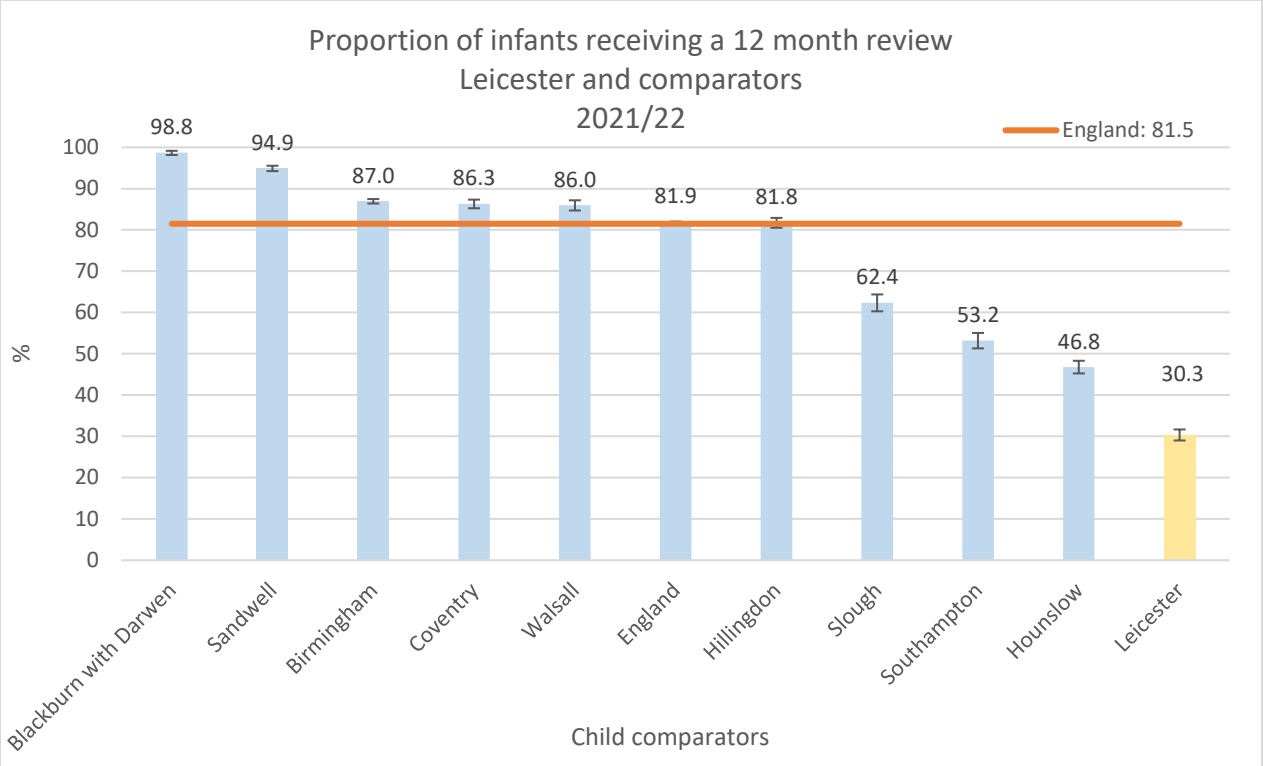
Figure 25. Proportion receiving a 12-month review, Leicester and England, 2017/18- 2021/22



***Note:** No data available for 2020/21; dotted line to indicate approximate trend.

Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 26. Proportion of infants receiving a 12 month review, 2021/22



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

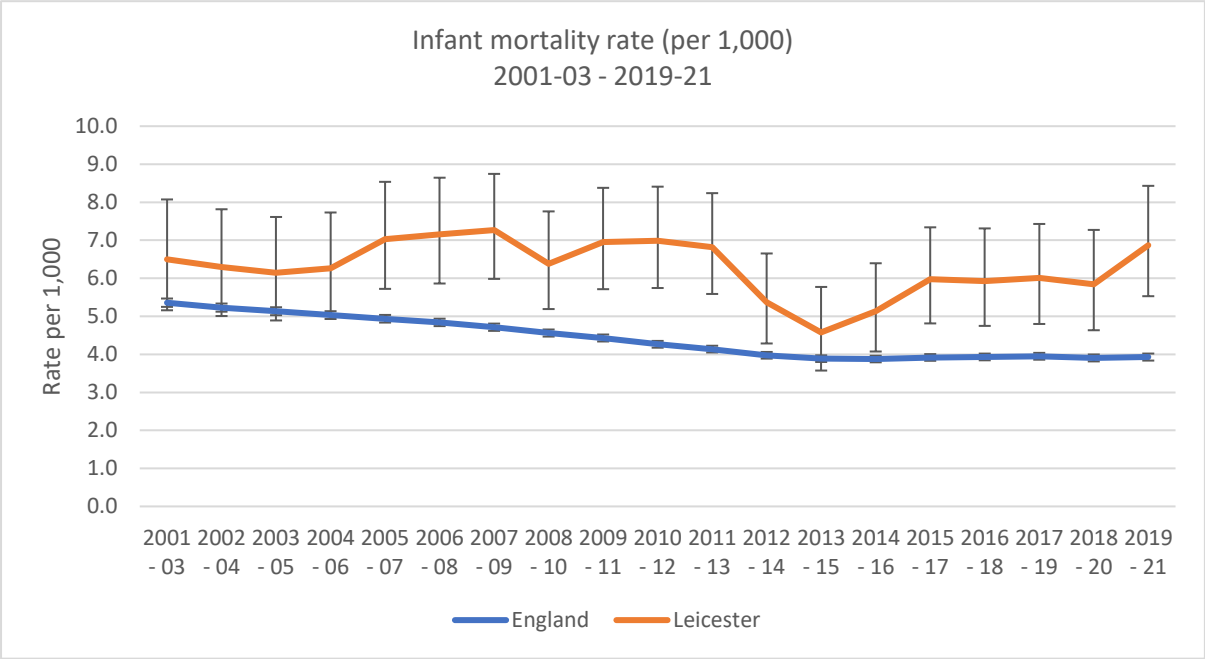
2.2.0 INFANT MORTALITY

Infant mortality provides an indication of the general health of an entire population. It reflects the relationship between causes of infant mortality and upstream determinants of population health such as economic, social and environmental conditions. The main causes of death in infants are due to perinatal/neonatal events and chromosomal/congenital anomalies.

Infant mortality rates are shown as the number of deaths in infants under 1 year old per 1,000 live births. Figure 21 shows how the infant mortality rate has fallen over time in England, while locally, rates in Leicester remain relatively unchanged. The infant mortality rate in Leicester is significantly higher than nationally and the gap between Leicester and England is widening.

Between 2019-2021 there were on average 91 infant deaths in Leicester; as a rate this is 6.9 per 1,000 births. Small changes in the number of deaths causes fluctuations in rates.

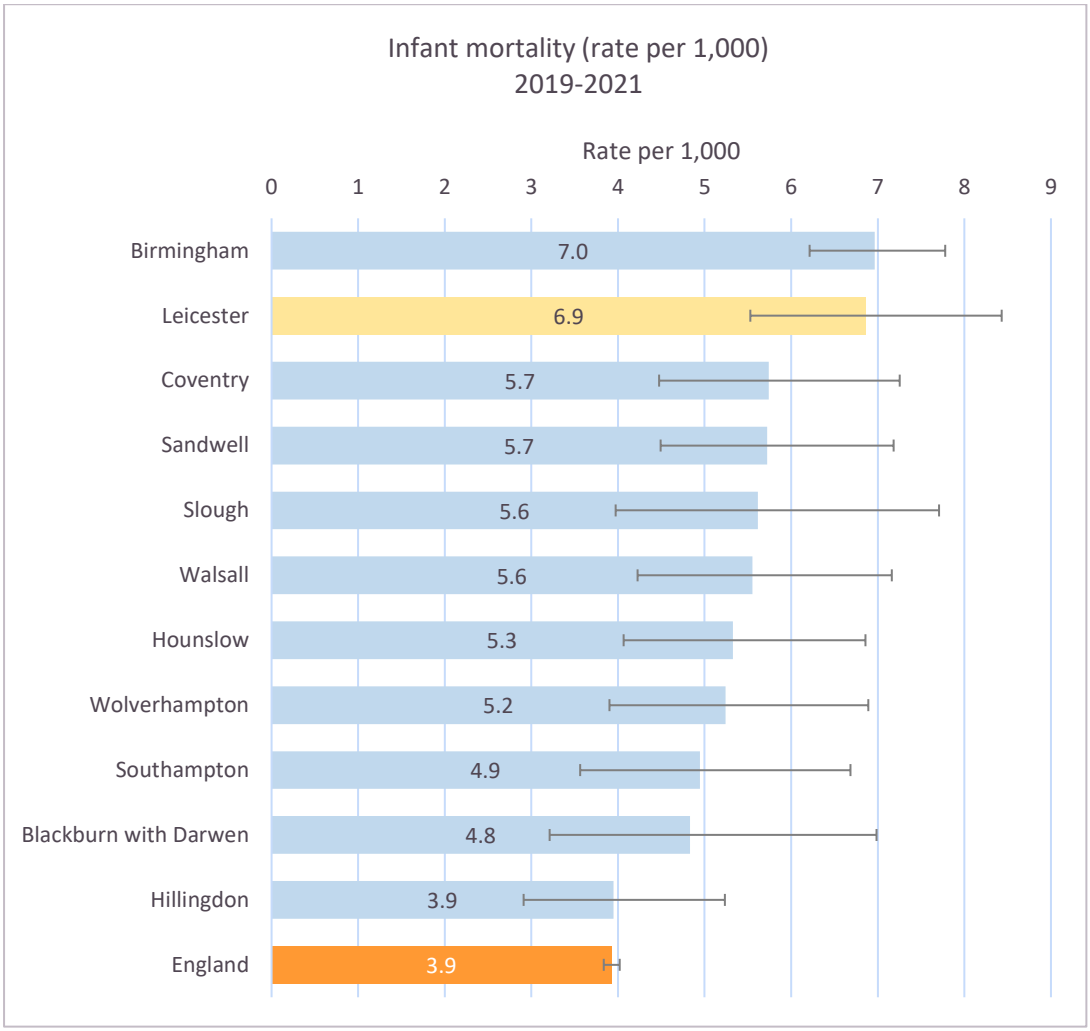
Figure 27. Infant mortality, 2001-03 and 2019-21



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

In the time period 2019-2021, Leicester had the second highest infant mortality rate when compared to its 10 child DfE comparators. Most of Leicester's DfE child comparators report a similar rate.

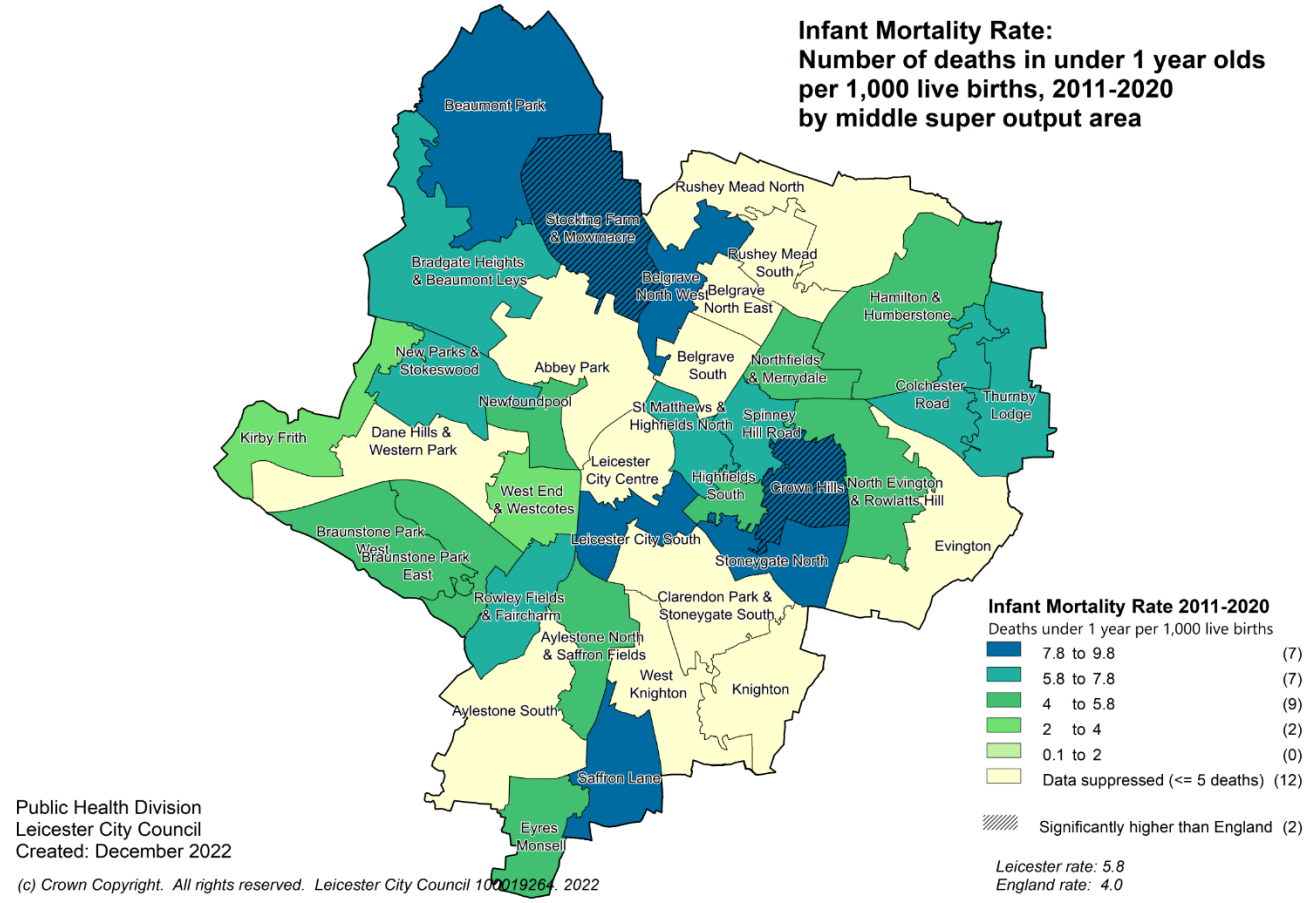
Figure 28. Infant mortality, 2019-2021



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

With less than 30 infant deaths per year in Leicester, numbers at local areas will be very small. Figure 29 shows infant mortality rates by middle super output areas (MSOAs), aggregated over 10 years between 2011 and 2020. There are 12 MSOAs with data suppressed (with ≤5 infant deaths over the 10-year period). Only 2 areas, Stocking Farm/ Mowmacre and Crown Hills have an infant mortality rate higher than the England average.

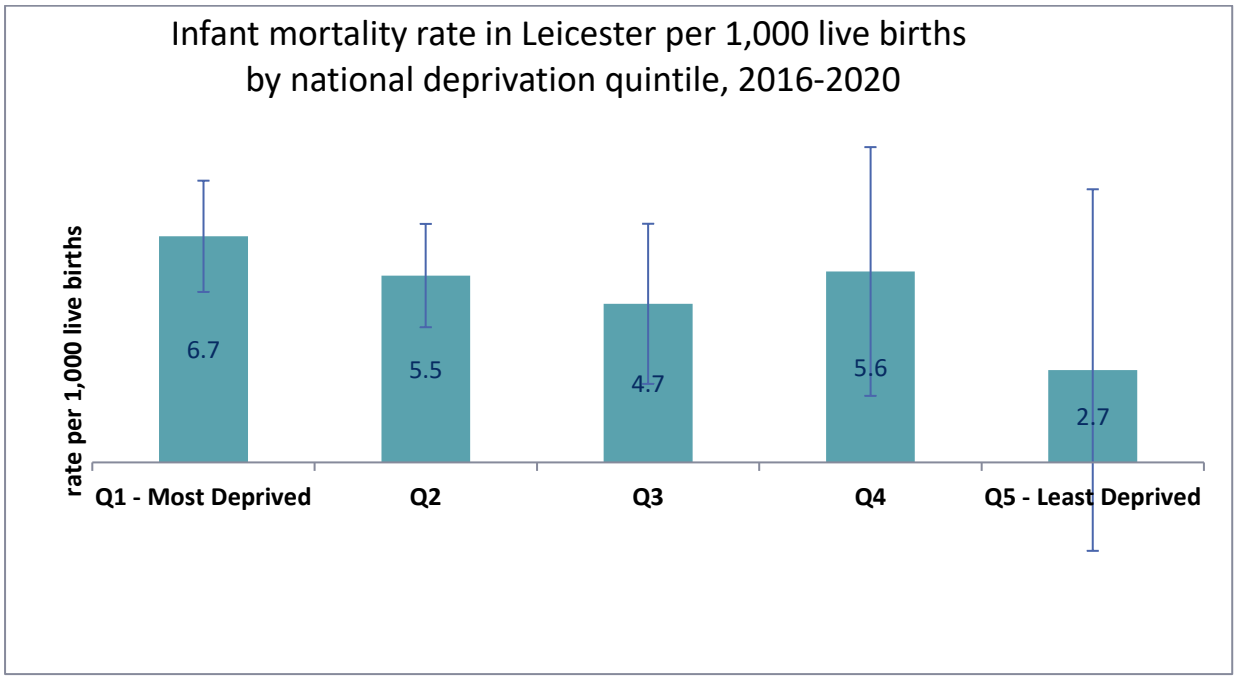
Figure 29. Rate of Infant Mortalities, by MSOA, 2011 – 2020



Source: ONS Mortality and Births

On a national level, infant mortality is closely associated with deprivation, with higher rates among most deprived areas. In Leicester, the relationship between infant mortality and deprivation is less clear (Figure 30).

Figure 30. Infant mortality rates in Leicester by deprivation, 2016-20



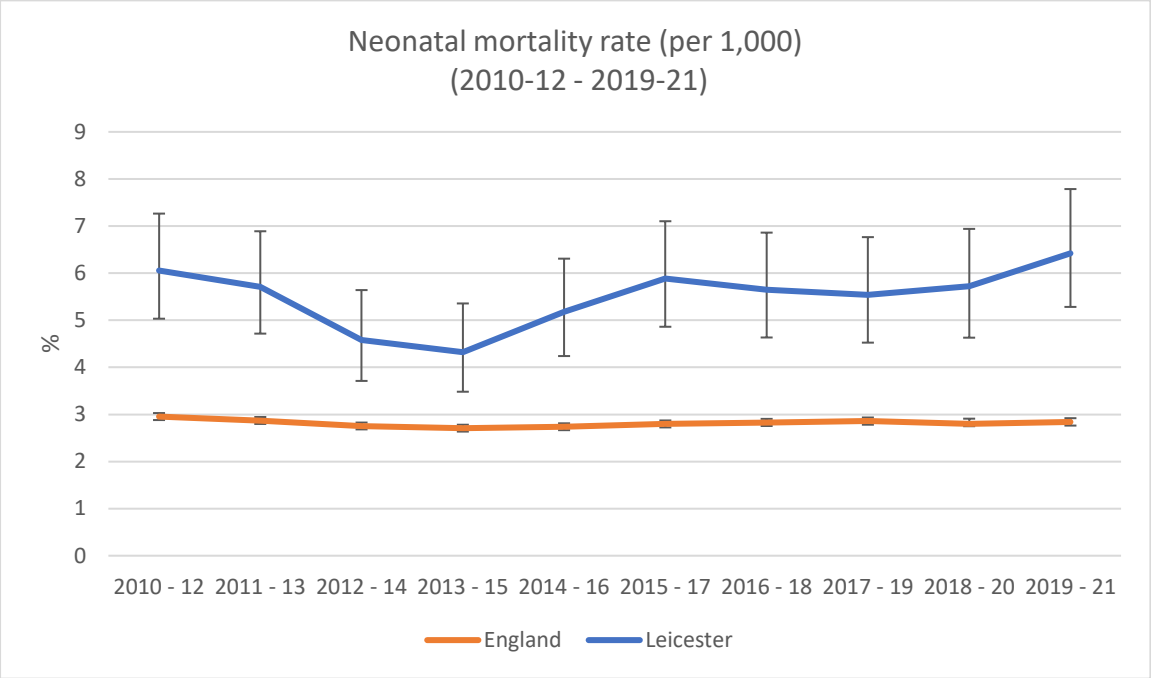
Source: ONS mortality and births

2.2.1 NEONATAL MORTALITY

The first 28 days of life – the neonatal period – represents the most vulnerable time for a child's survival, and deaths during this time are considered to reflect the health and care of both mother and new-born. Deaths occurring between the first 28 days and first year of life are called post-neonatal mortality. Smoking is a major risk factor associated with both infant mortality and neonatal mortality/ stillbirth. [22]

Between 2019 and 2021, the latest time period captured, there were 67 reported neonatal deaths in Leicester. As a rate, this is 5.1 per 1,000. While the neonatal mortality rate has remained stable nationally, the local rate in Leicester has fluctuated over time. The neonatal mortality rate in Leicester is significantly higher than the national average and has been since the time period 2014-2016 (Figure 31).

Figure 31. Neonatal and stillbirth mortality, 2010-12 – 2019-21, Leicester and England



Source: Office for Health Improvement and Disparities (OHID) *https://fingertips.phe.org.uk/*

In the 2019-2021 time period, Leicester had the second highest neonatal mortality rate when compared to its 10 child DfE comparators. Most of Leicester's DfE child comparators report a similar rate (Figure 32).

Figure 32. Rate of neonatal and still birth mortality, 2019-21

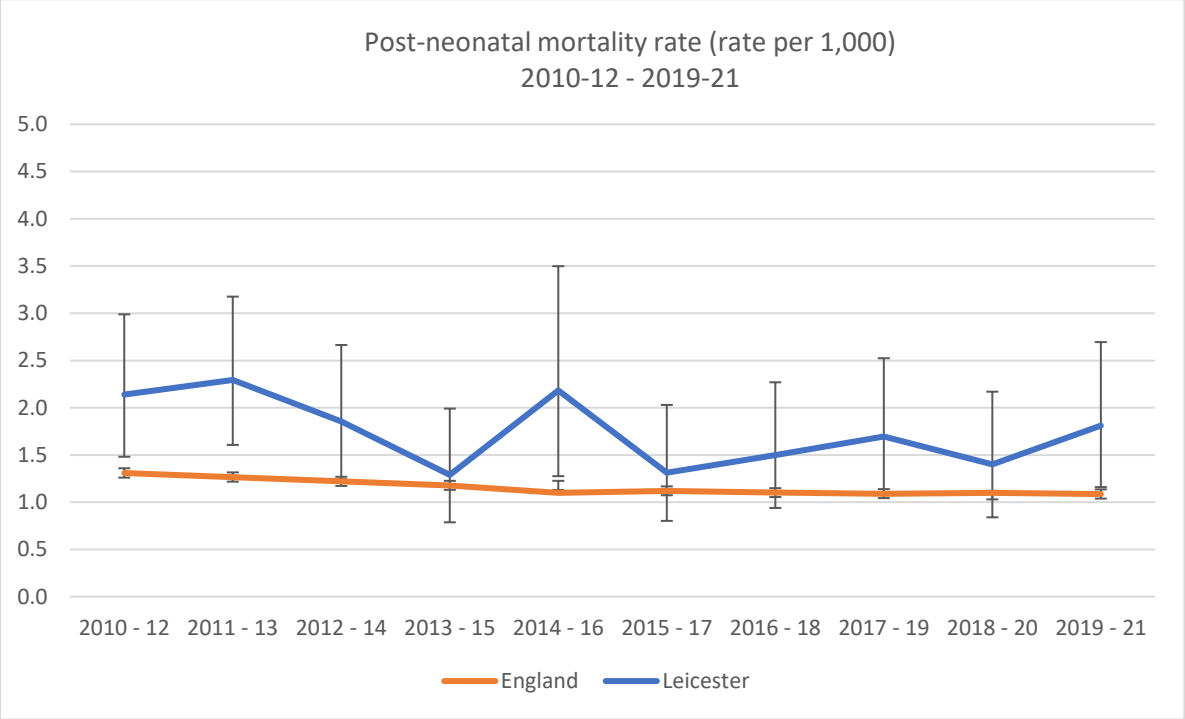
Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

2.2.2 POST-NEONATAL MORTALITY

Post-neonatal mortality reports deaths occurring in infants aged between 28 days and 1 year.

Between 2019 and 2021, the latest time period captured, there were 24 reported neonatal deaths in Leicester. As a rate, this is 1.8 per 1,000. Between 2013-2015 and 2018-2020, the post-neonatal rate in Leicester was not significantly different to the national average. However, for the latest time period 2019-2021, the post-neonatal mortality rate in Leicester is significantly higher than the national average (Figure 33).

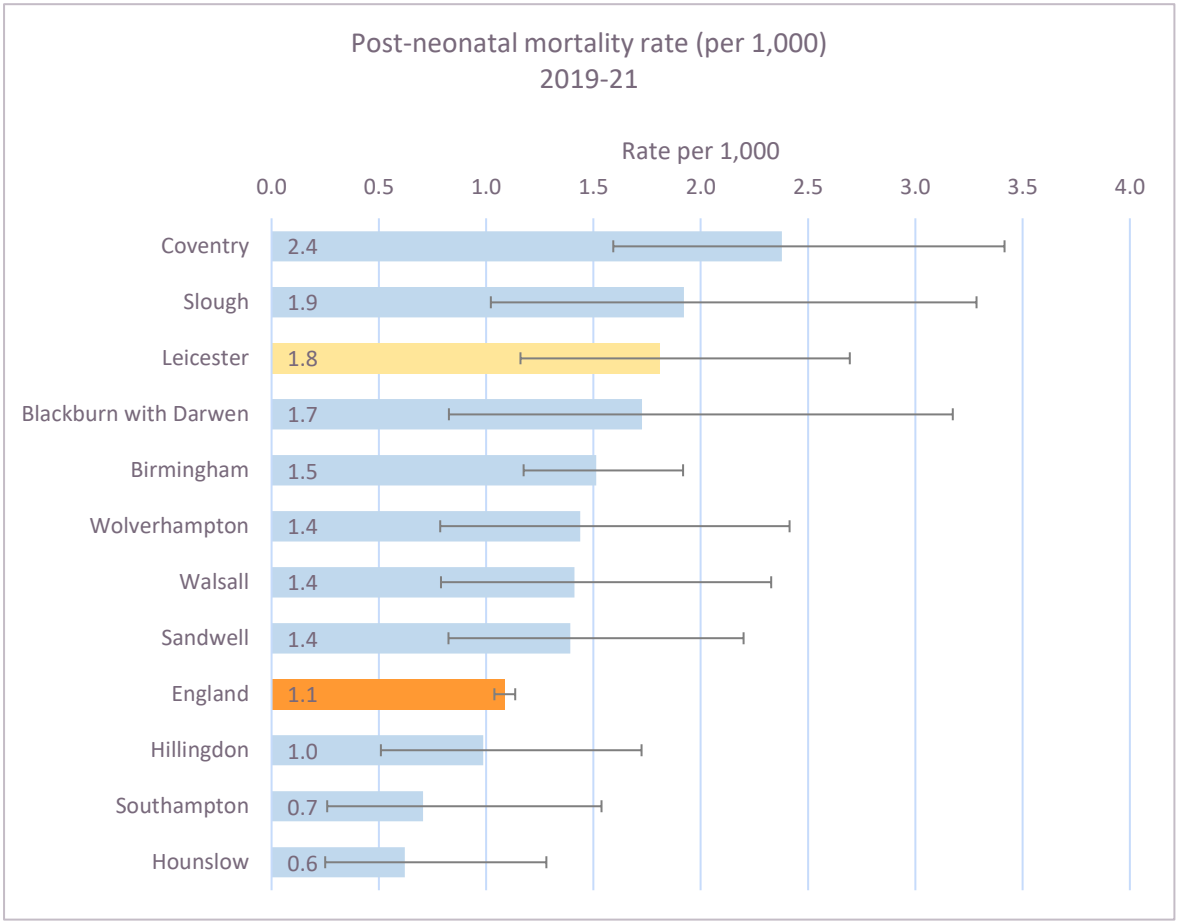
Figure 33. Post-neonatal mortality, 2010-12 - 2019-21, Leicester and England



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

In the 2019-2021 time period, Leicester had the third highest post-neonatal mortality rate when compared to its 10 child DfE comparators. Most of Leicester's DfE child comparators report a similar rate; only Hillingdon, Southampton and Hounslow report a lower rate than England, but the differences are not significant (Figure 34).

Figure 34. Post-neonatal mortality, 2019-21



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

3.0 CHILDHOOD VACCINATIONS

3.1 CHILDHOOD VACCINATION PROGRAMME (COVER) (0-5 YRS)

Childhood vaccinations are especially important to prevent serious infection while a child's immune system is developing. These offer more long-term protection, and in some cases lifetime protection, compared to the protection offered from breastfeeding, which typically provides interim protection. Vaccines offer a safe and effective way of acquiring immunity against a number of infectious agents which may otherwise make the child seriously unwell had they not had any protection.

The best measure of protection a population has against vaccine- preventable communicable diseases is vaccination coverage. Coverage is closely correlated with disease incidence and is therefore closely monitored to prevent any decline in immunity giving way to disease outbreak.

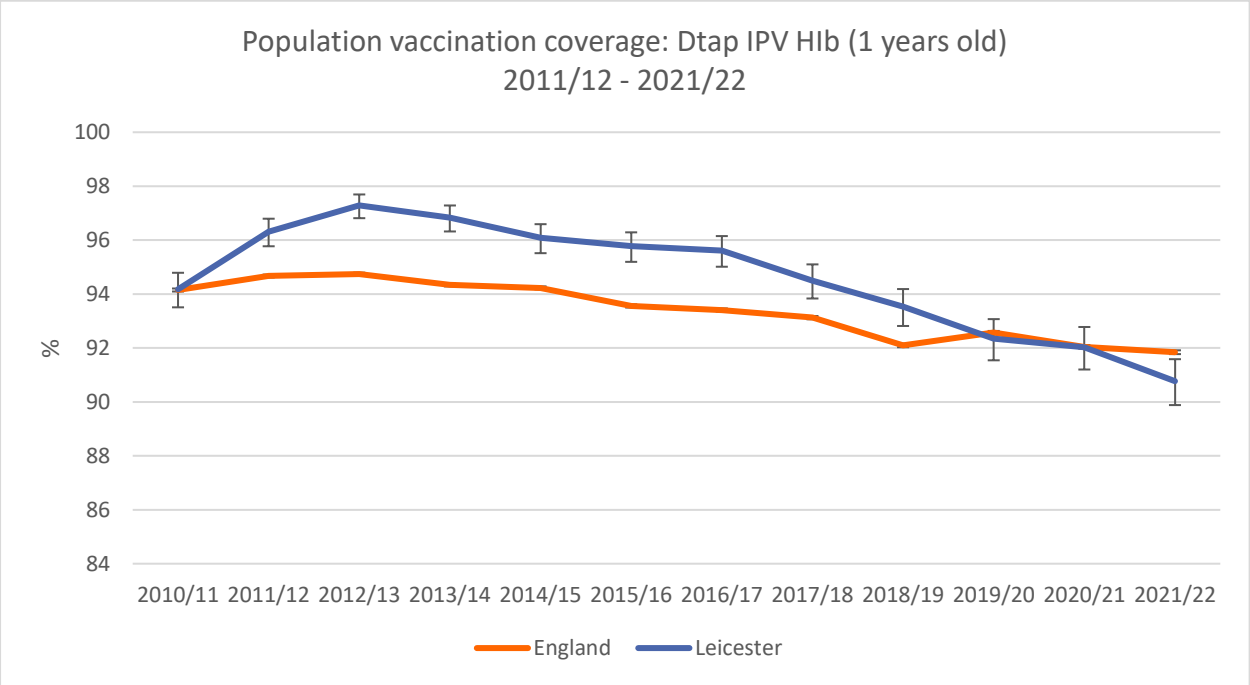
All children in England under the age of 5 years are offered routine vaccinations under the mandated childhood vaccination programme COVER (Cover of Vaccination Evaluated Rapidly). The following details some of the main vaccinations offered to children under 5 years. Previous evidence shows that highlighting the progress of vaccination programmes encourages improvements in uptake levels.

3.2 VACCINATIONS AT 1-YEAR

The combined DTaP/IPV/Hib is the first in a course of vaccines offered to babies to protect them against diphtheria, pertussis (whooping cough), tetanus, Haemophilus influenzae type b (an important cause of childhood meningitis and pneumonia) and polio (IPV is inactivated polio vaccine). The vaccine is offered when babies are two, three and four months old. There is an expectation that all UK routine childhood immunisations that are evaluated up to five years of age to achieve the 95% coverage in line with the World Health Orgainsation (WHO) target.[23]

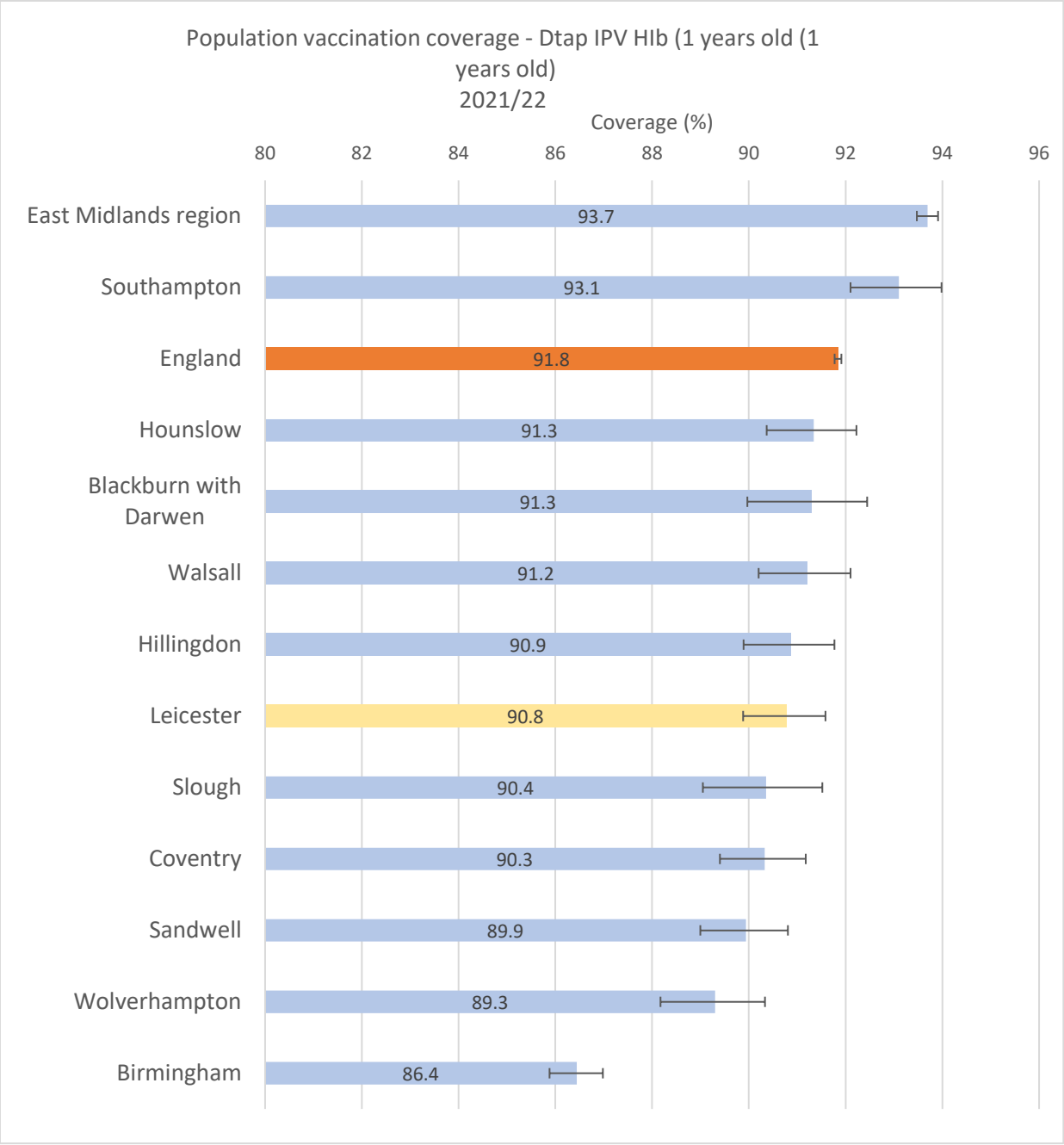
Vaccination coverage of the combined DTaP/IPV/Hib in Leicester has fallen over the last decade, and most recently was 91% in 2021/22 (Figure 35), falling below WHO's target of 95%. Coverage in Leicester is similar to comparator areas and in line with the National average (Figure 36).[24]

Figure 35. Population vaccination coverage of Dtap/IPV/Hib among 1 year olds, trend data, 2011/12- 2021/22



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 36. Population vaccination coverage of Dtap/IPV/Hib among 1 year olds, 2021/22



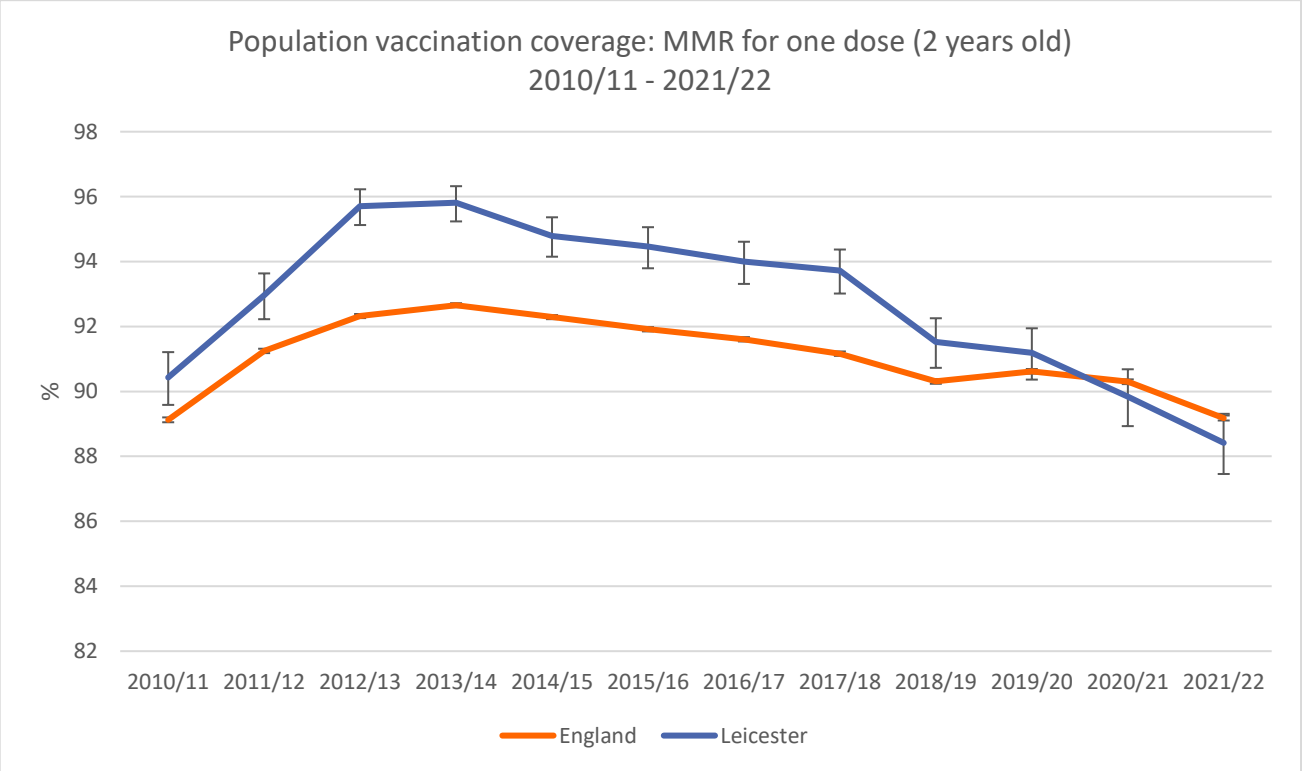
Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

3.3 VACCINATIONS AT 2-YEARS

MMR is the combined vaccine that protects against measles, mumps and rubella. Measles, mumps and rubella are highly infectious, common conditions that can have serious complications, including meningitis, swelling of the brain (encephalitis) and deafness. They can also lead to complications in pregnancy that affect the unborn baby and can lead to miscarriage. With a very high transmission rate, measles is highly contagious and a small drop in vaccination coverage can cause a spike in new cases.

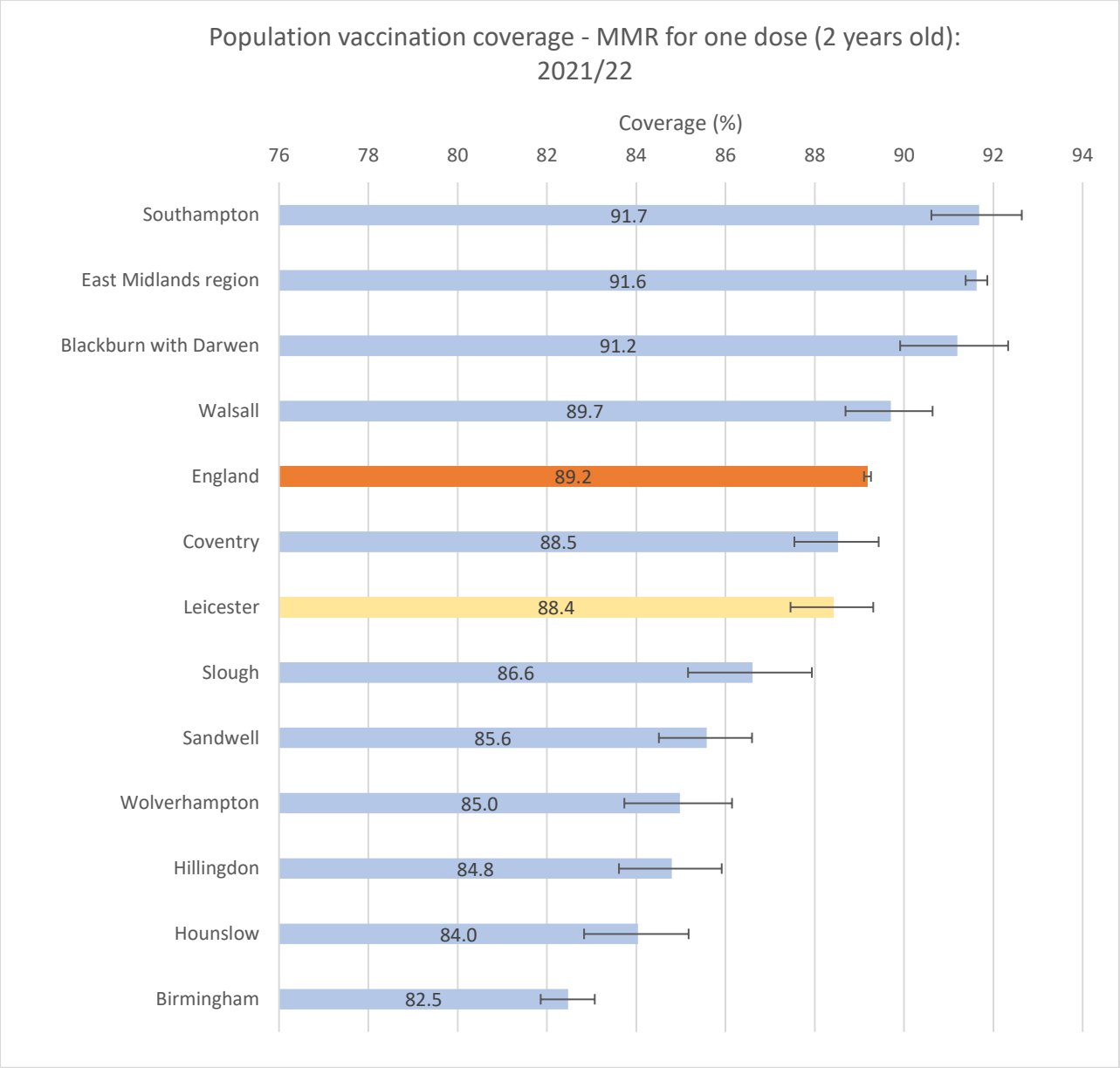
The first MMR vaccine is given to children as part of the routine vaccination schedule, usually within a month of their first birthday. Children are then given a booster dose before starting school, which is usually between three and five years of age. In Leicester, vaccination coverage for MMR has also decreased over the last decade, and most recently was just under 88% in 2021/22 (Figure 37). Leicester is similar to many comparators but does not meet WHO's target for 95% coverage and is significantly below the national average (Figure 38).[25]

Figure 37. Population vaccination coverage of MMR among 2 year olds, 2010/11- 2021/22



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 38. Population vaccination coverage of MMR among 2 year olds, 2021/22

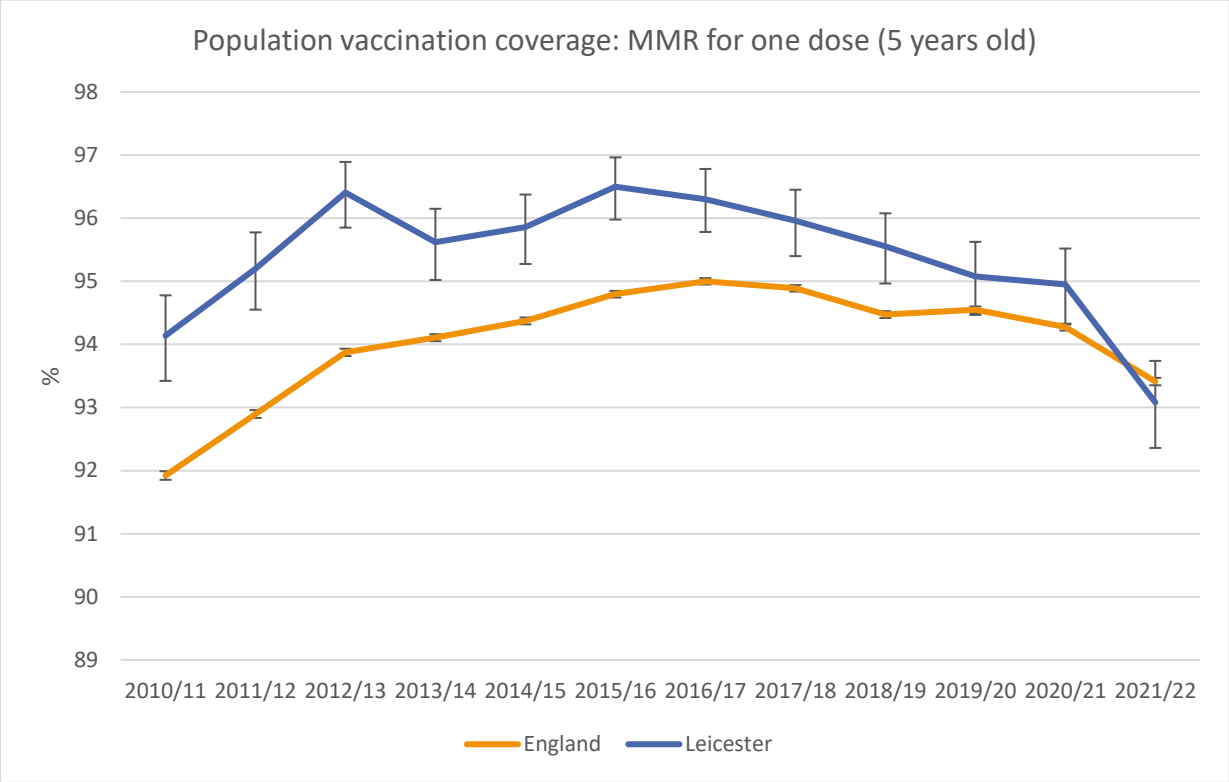


Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

3.4 VACCINATIONS AT 5-YEARS

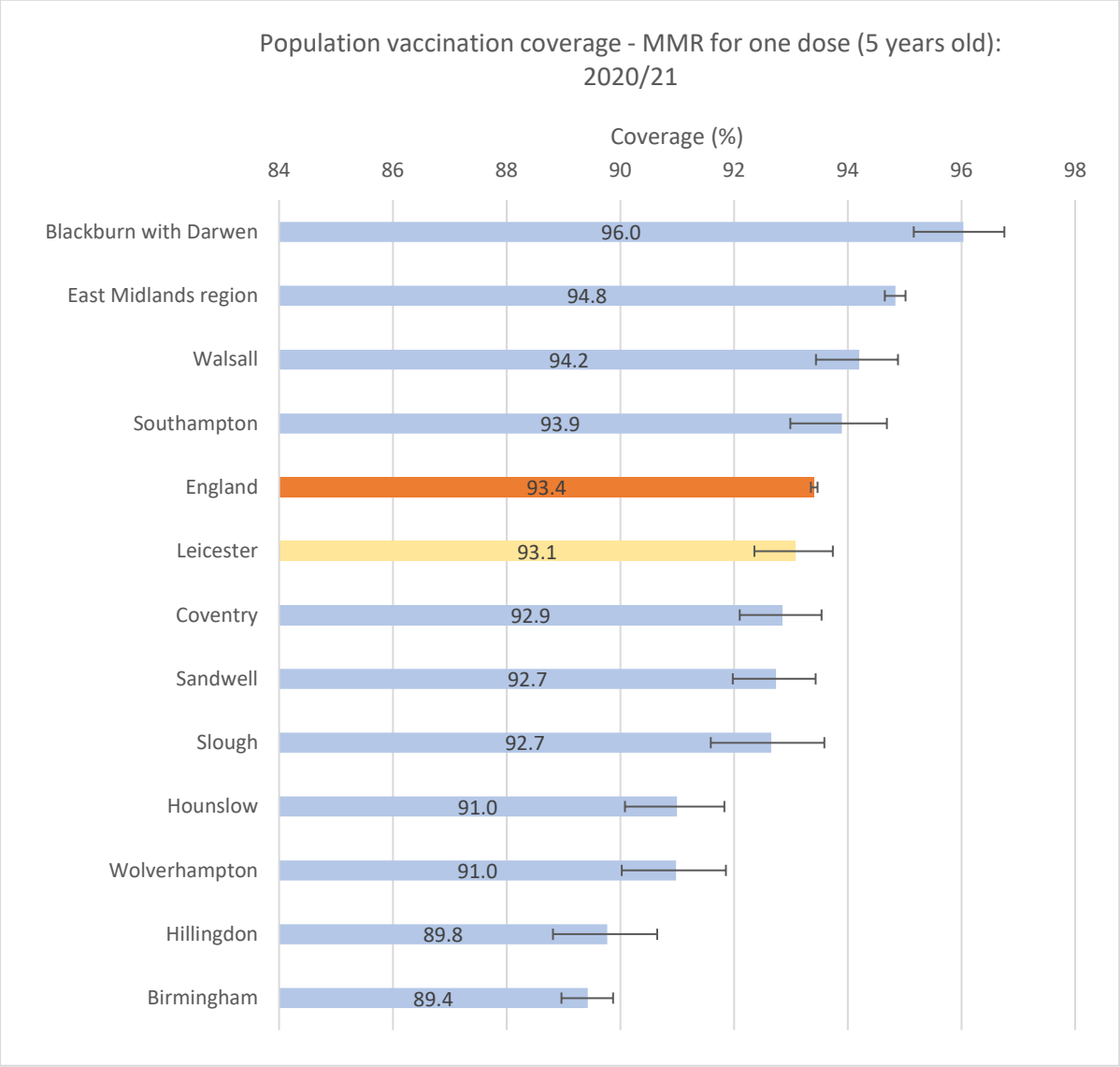
Vaccination coverage for the MMR booster vaccine given before the fifth birthday has also decreased over the last decade, and most recently was 93% in 2021/22, which is just slightly below WHO's target for 95% coverage, is similar to comparators, and is not significantly below the national average (Figures 39 and 40).

Figure 39. Population vaccination coverage of MMR among 5 year olds, 2010/11- 2021/22



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 40. Population vaccination coverage of MMR among 5 year olds, 2021/22



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

4.0 MEASURES OF CHILD DEVELOPMENT

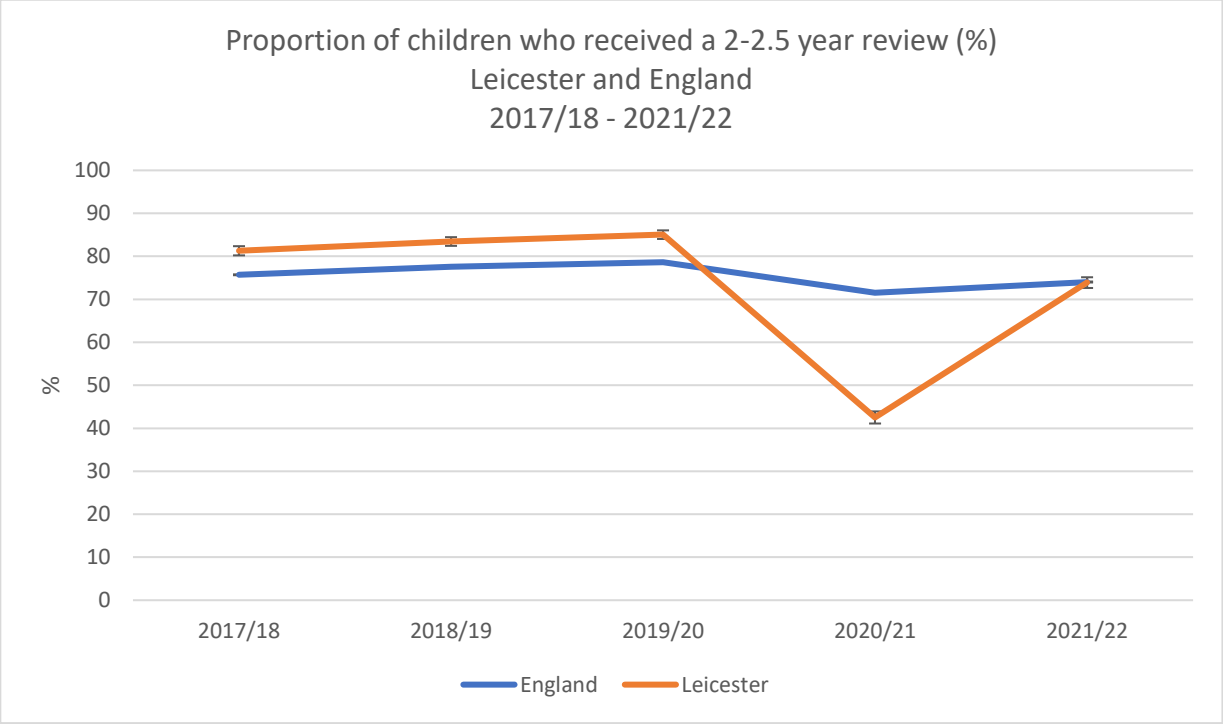
The rate at which a child is developing is subject to wider external influences and reveals much about the environment in which a child is growing. Children from poorer backgrounds are more at risk of poorer development and research has shown that differences by social background emerge early in life.[26]

4.1 2-2.5 YEAR REVIEW

All children and families should receive a review when the child reaches 2-2.5 years. This allows for an integrated review of the health and development and presents an opportunity to support the parents and remind them of the importance of pre-school immunisations.

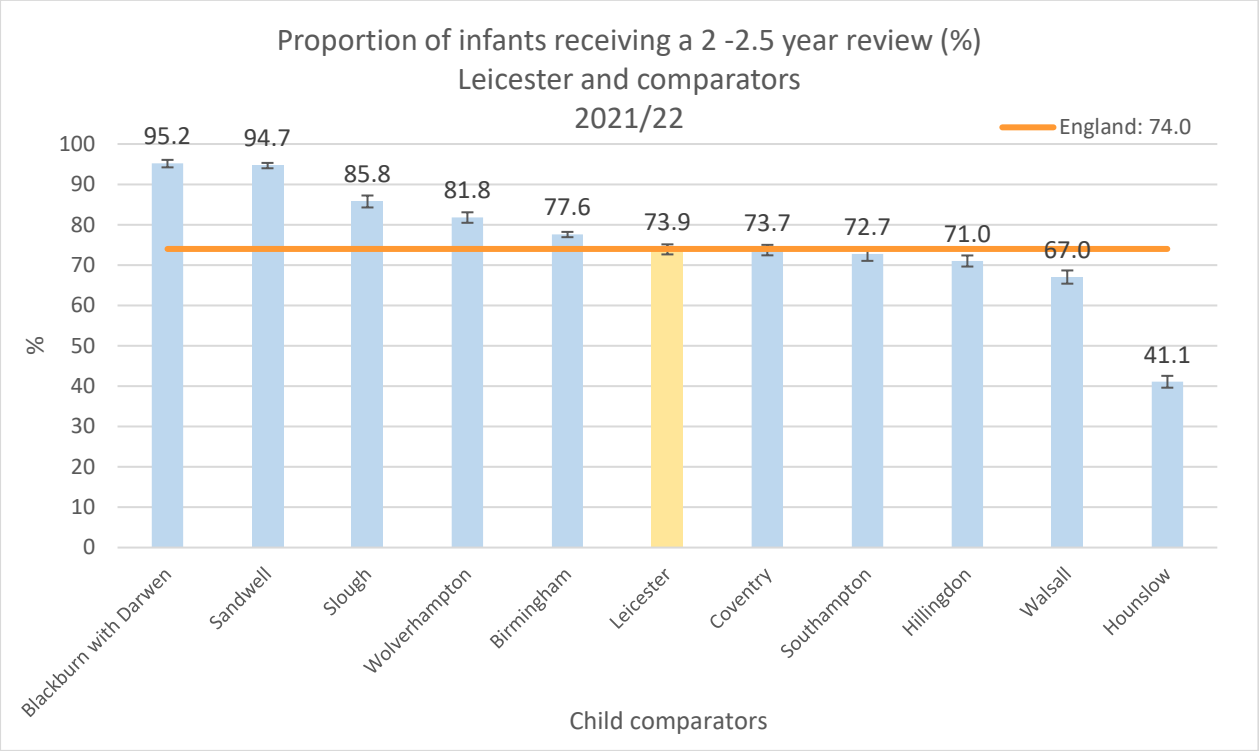
Leicester also saw a marked decrease in the proportion of children receiving a health and development review at 2-2.5 years in 2020/21. In 2021/22, it has since increased to around 74% but still falls short of pre-pandemic provision where Leicester was achieving 85%[27] (Figure 41). In 2021/22, Leicester had the sixth lowest proportion of infants receiving a health and development review at 2- 2.5 years, when compared to its 10 child DfE comparators (Figure 42).

Figure 41. Proportion of children who received a 2- 2.5 year review, Leicester and England, 2017/18 - 2021/22



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 42. Proportion of infants receiving a 2- 2.5 year review (%), Leicester and comparators, 2021/22

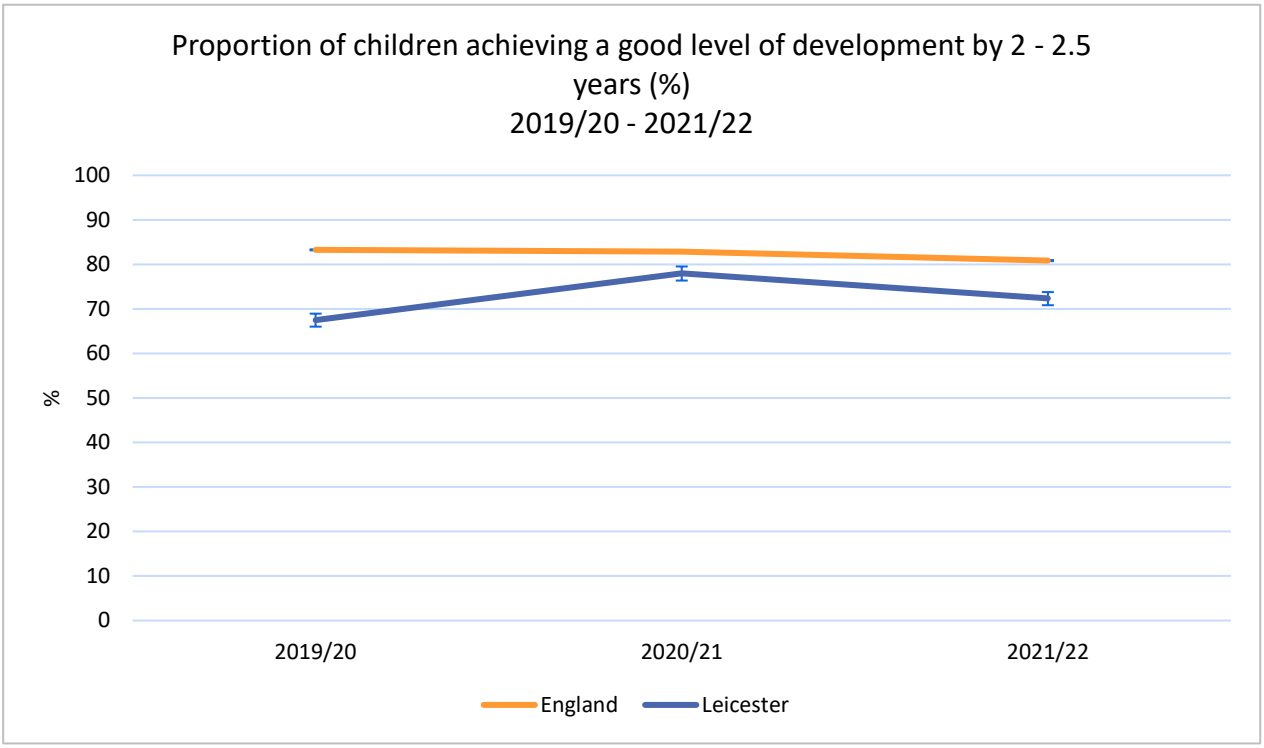


Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

4.2 CHILD DEVELOPMENT AT 2-2.5 YEARS

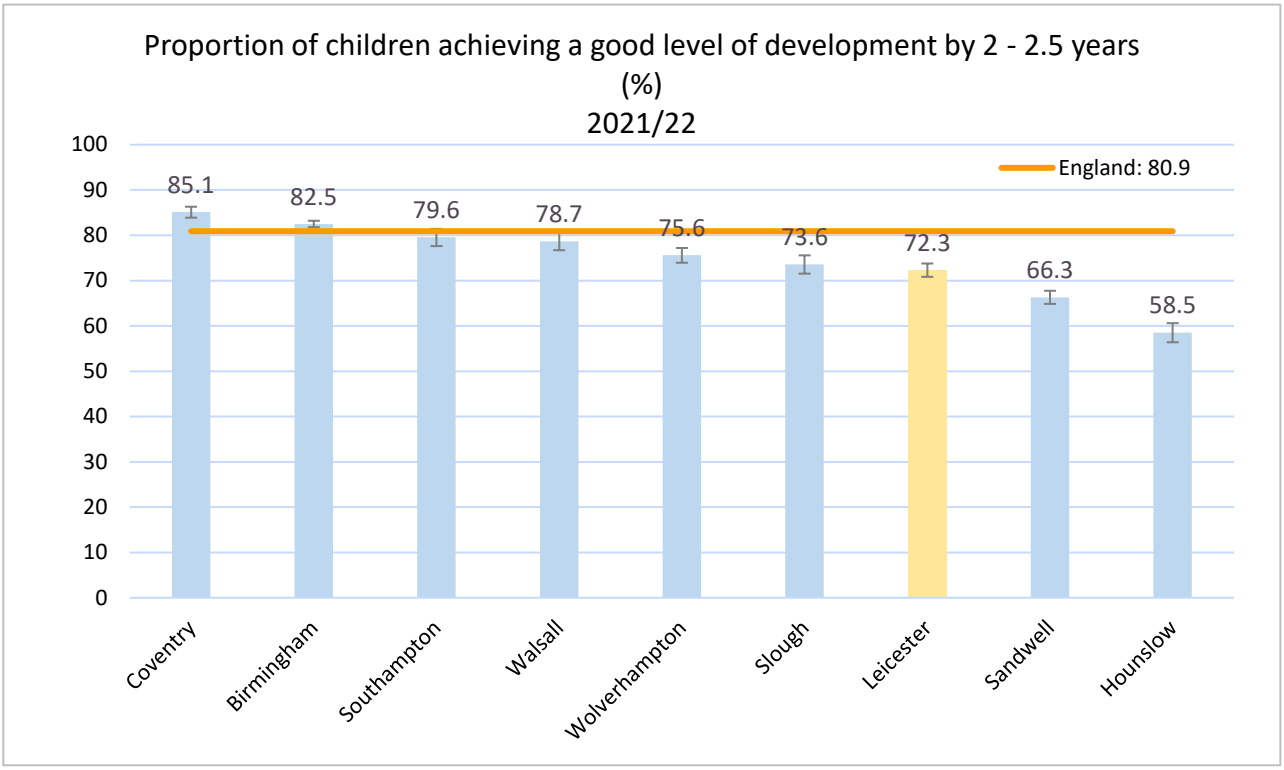
Around 7 in 10 children (72%) in Leicester achieving a good level of development at 2- 2.5 years, which remains below the national average (Figure 43). Compared to child comparators, Leicester has the third lowest proportion of children achieving a good level of development a 2- 2.5 year review (Figure 43).

Figure 43. Proportion of children who received a 2- 2.5 year review (%), Leicester and England, 2019/20- 2021/22



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 44. Child development at 2-2.5 years, 2021/22



***Note:** No data available for Blackburn with Darwen and Hillingdon

Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

4.3 THE AGES AND STAGES QUESTIONNAIRE-3 (ASQ-3)

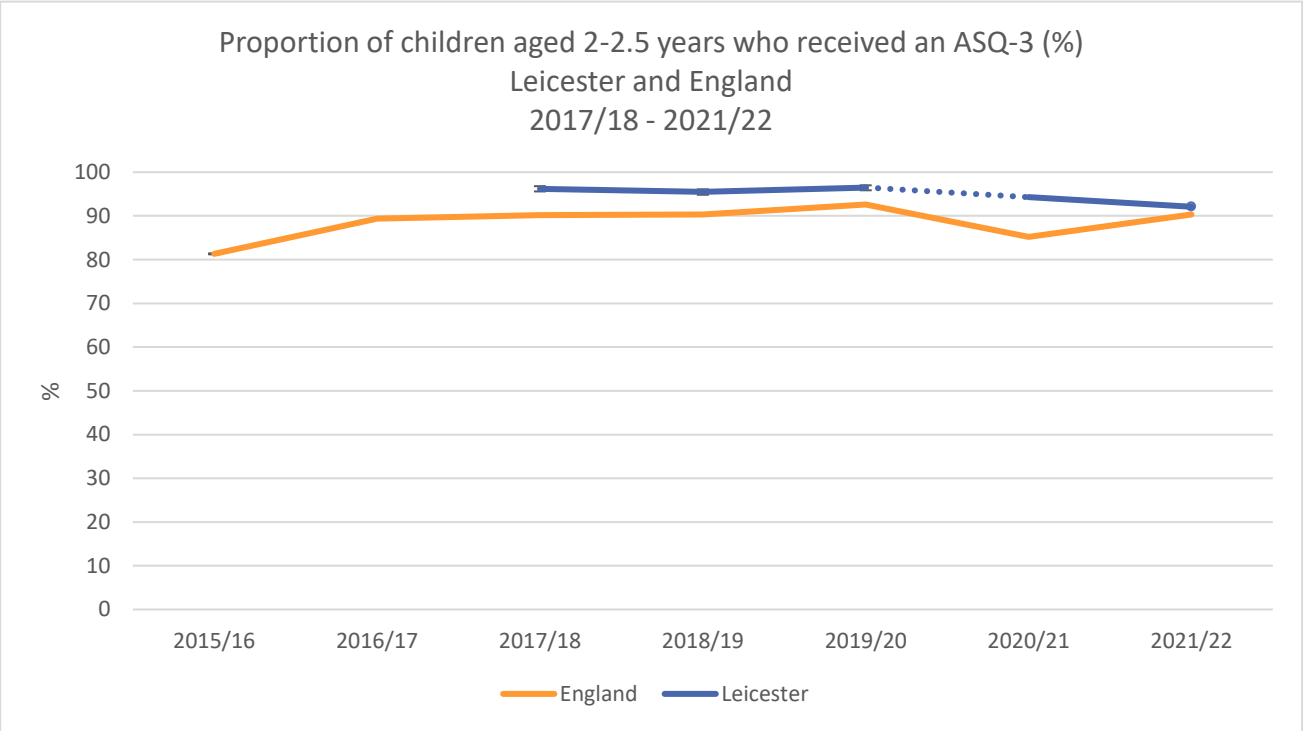
Within the child development review at 2-2.5 years, data is captured via an Ages and Stages Questionnaire.

The Ages and Stages Questionnaire-3 (ASQ-3) covers five domains of child development: communication, gross motor skills, fine motor skills, problem solving and personal-social development. Health visiting teams should have been using ASQ-3 as part of Healthy Child Programme (HCP) 2-year reviews from April 2015. This indicator shows the proportion of children who completed an ASQ-3 as part of their 2-2.5-year review. This measure will help monitor child development across England in order to observe changes in population health

from year to year, and potentially also use the data to track children's outcomes as they grow up.

Similar to other metrics, Leicester saw no provision of 2 – 2.5 year reviews using the ASQ-3 in 2020/21, attributed to the pandemic. However, provision has now recovered to pre-pandemic levels (Figure 45) and in 2021/22, 92% of children received a 2- 2.5 year review using the ASQ-3, which is significantly higher than the national average. Compared to peer comparators, Leicester had the fourth lowest proportion of 2- 2.5 years receiving an ASQ-3 (Figure 46).[28]

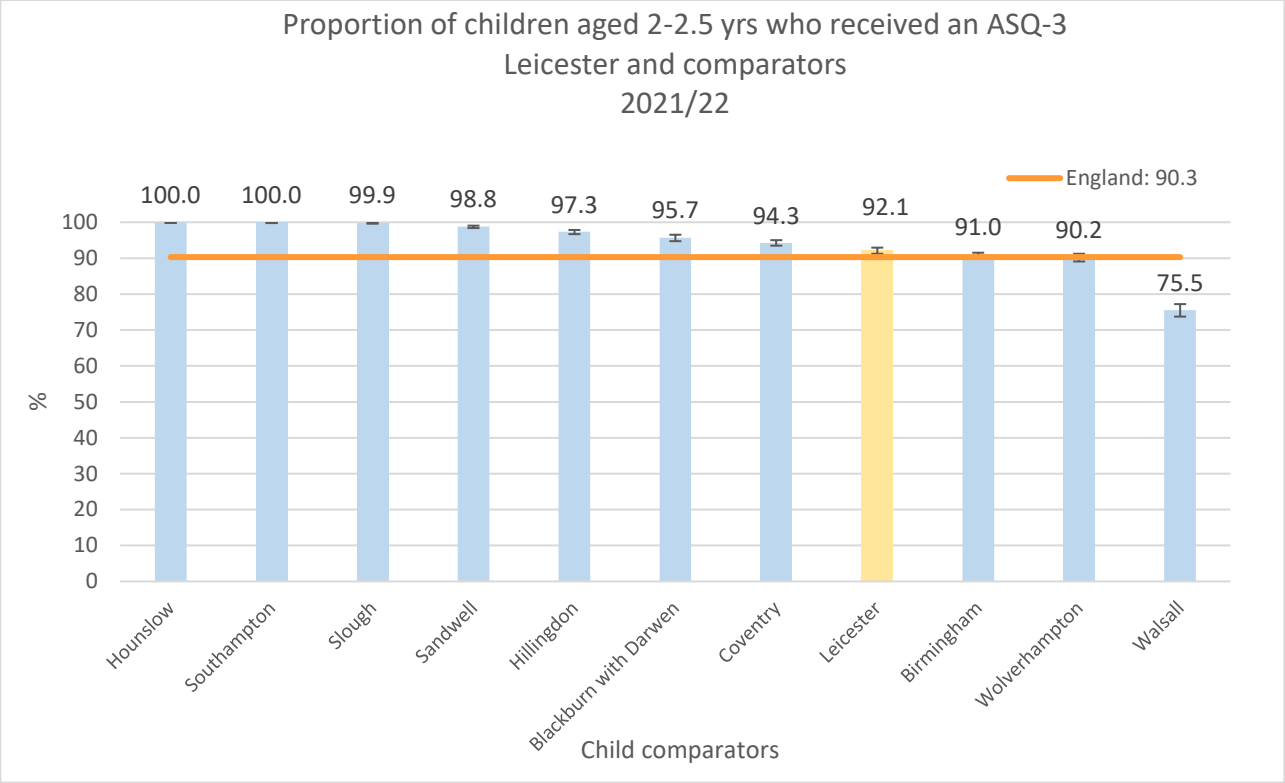
Figure 45. Percentage of children receiving an ASQ-3 (%), trend data, 2017/18 -2021/22



Note: No data available for 2020/21; dotted line to indicate approximate trend.

Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 46. Proportion of children aged 2- 2.5 years receiving ASQ-3, Leicester and comparators, 2021/22



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

In the ASQ-3 review, children in Leicester performed significantly worse than the national average across all 5- domains in 2021/22 (Table 1).

Table 1. Child development, as measured by the 5-domains in the ASQ-3, 2021/22

Measure of child development as measured in the ASQ-3	England	Leicester
Child development: percentage of children achieving the expected level in communication skills at 2 to 2.5 years	86.2	80.8
Child development: percentage of children achieving the expected level in fine motor skills at 2-2.5 years	92.9	86.8
Child development: percentage of children achieving the expected level in gross motor skills at 2-2.5 years	93.1	91.8
Child development: percentage of children achieving the expected level in personal social skills at 2 to 2.5 years	90.8	87.3
Child development: percentage of children achieving the expected level in problem solving skills at 2-2.5 years	92.4	89.3

Note: Red box indicates significantly worse than national average.

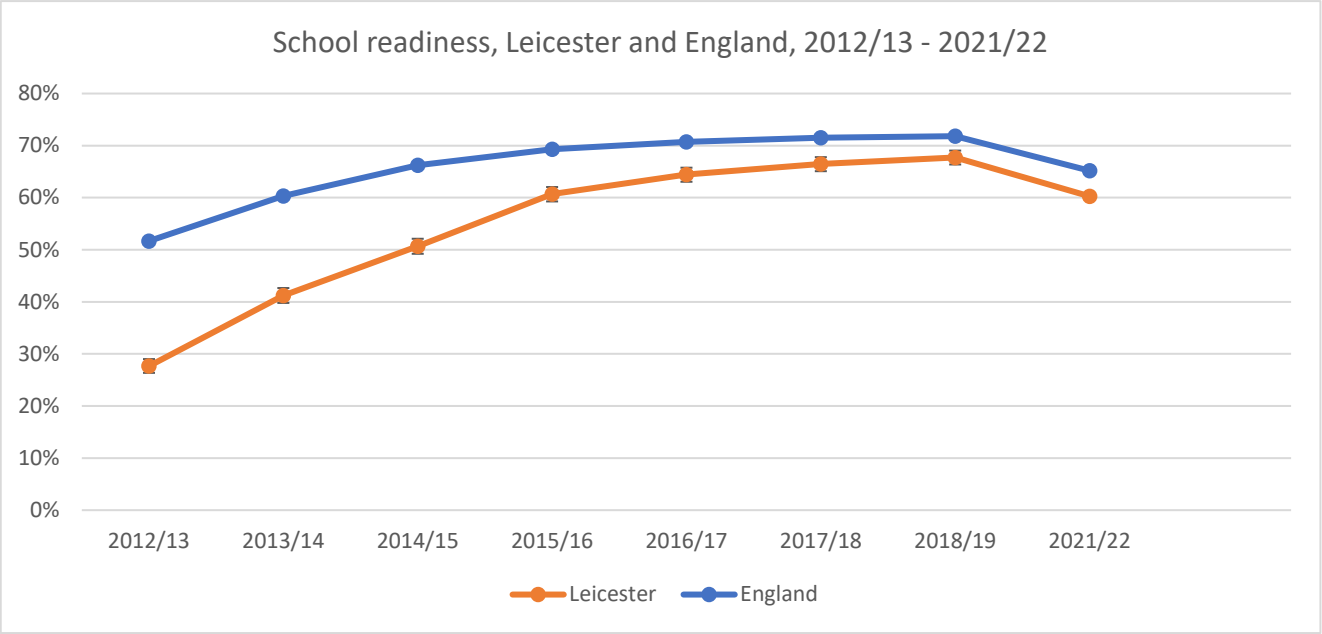
4.4 SCHOOL READINESS

Another measure of child development is school readiness; children defined as having reached a good level of development at the end of the Early Years Foundation Stage (EYFS) as a percentage of all eligible children. This is a key measure of early years development across a wide range of developmental areas including personal, social and emotional development, physical development, communication and language and in the early learning goals of numeracy and literacy.

The proportion of children achieving a good level of development at the end of Reception, in preparation for the next academic year was below 70% (67.7%). Over the past decade, the proportion of children who achieve a good level of development by the end of Reception, ahead of the next academic year, has been consistently increasing. In 2012/13, Leicester had a significantly lower proportion of children who were 'school ready' compared to England overall but Leicester has now successfully closed the gap, with only 3% difference between Leicester and England overall. It now appears to be plateauing (Figure 47).

Levels of school readiness in Leicester are significantly below the National average, with 60% of children reaching a good level of development by the end of Reception. Compared to Leicester's 10 DfE child comparators, it is the third lowest with regards to school readiness (Figure 48).[29]

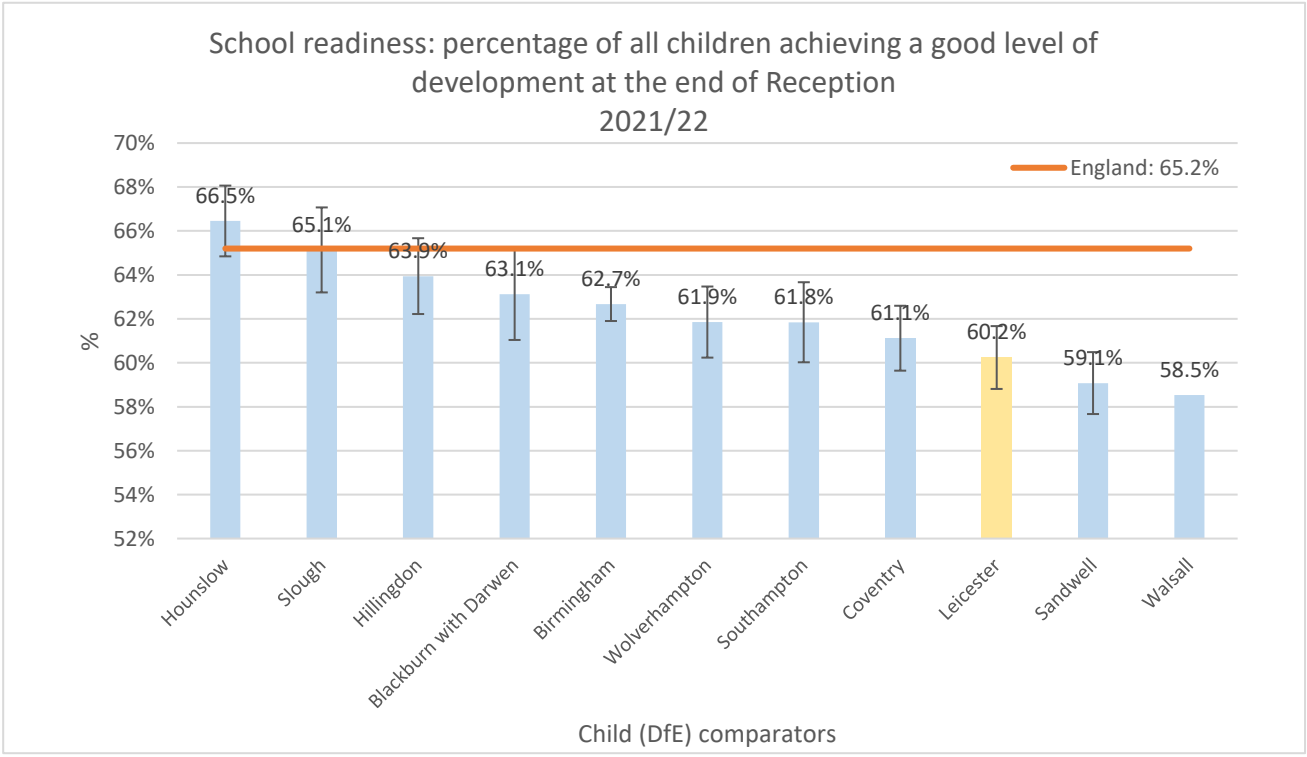
Figure 47. School readiness, Leicester and England, 2012/13 – 2021/22



Note: No data available for 2019/20 and 2020/21. Figures for the latest year may reflect the impact of the pandemic.

Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 48. School readiness at the end of Reception year, 2021/22



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Factors thought to influence child development and school readiness are maternal mental health, learning activities including speaking, playing and reading with your child, engaging in physical activity, parenting support programmes and high-quality early education.[30]

5.0 ORAL HEALTH

Oral health is a fundamental part of an individual's health and wellbeing; dental decay and untreated cavities can cause pain and infections that may lead to problems with eating, speaking, playing, and learning; children may become withdrawn socially or lose concentration during school due to pain and infection. Each episode of dental extraction under general anaesthesia (if required) would also require at least three days of school absence with parents/carers also being obliged to take time off work. Adding to this, certain foods may become difficult to eat and children may make restrictive food choices. These factors can all disrupt a child's ability to grow and develop.[31] For this reason, good oral health among children is particularly encouraged.

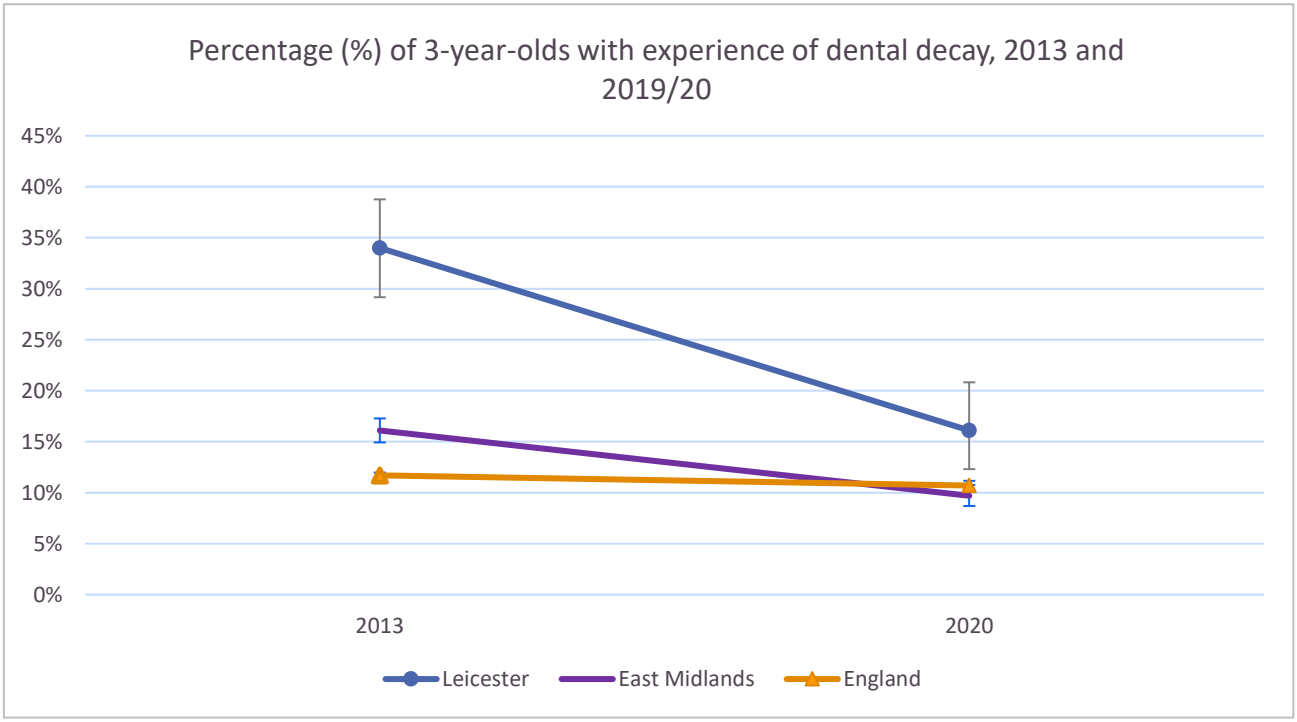
The National Dental Epidemiology Programme (NDEP) undertakes a survey on three and five-year olds to capture the oral health among these age groups at a Local Authority level. The survey among 3-year olds is less routinely undertaken compared to the five-year old survey which is undertaken annually. The results from the survey have shown that oral health among children has been consistently worse in Leicester than for England overall.

5.1 ORAL HEALTH AMONG 3-YEAR OLDS

The latest survey of three-year olds was undertaken in the 2019/2020 academic year across local authorities in England. This is the second Public Health England NDEP oral health survey of 3-year-old children since its inception in 2013.

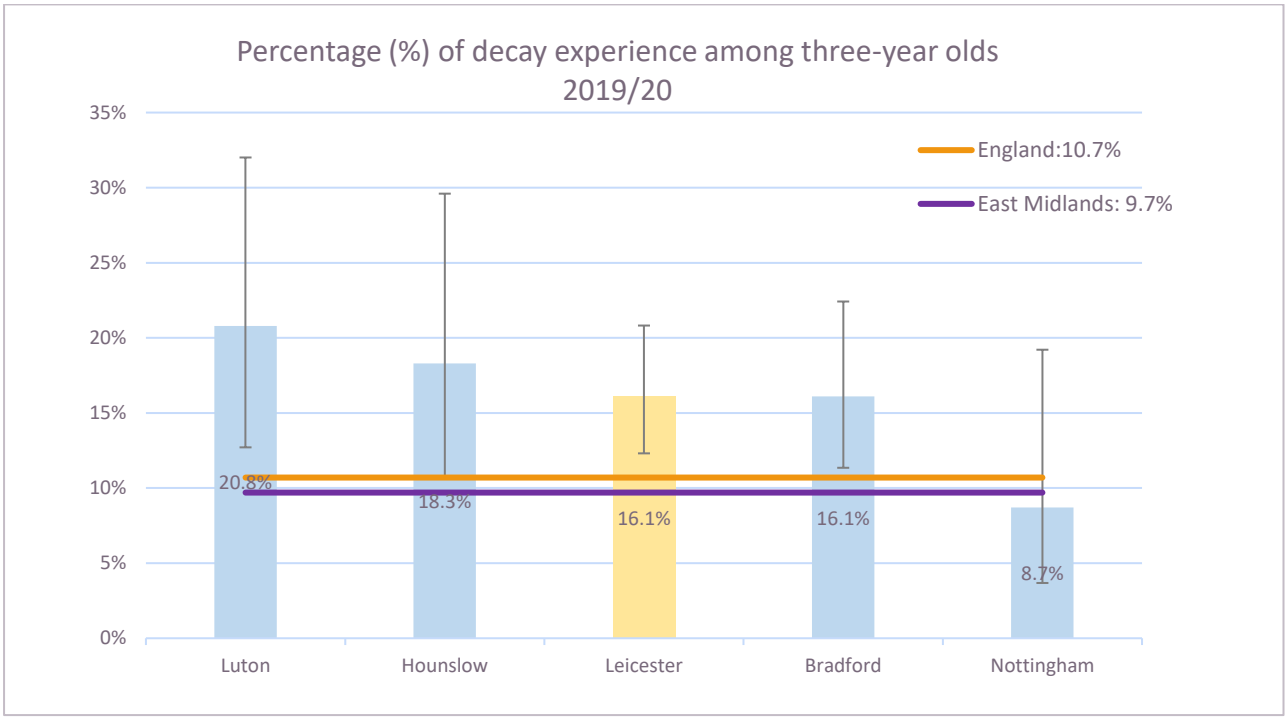
The latest estimates from 2019/20 reveal that 16% of three-year olds in Leicester had visible dental decay, which is around 5% higher than for England. However, this is a substantial improvement since 2013 (Figure 48). Compared to ONS comparator areas, Leicester has the third highest prevalence of visible dental decay (Figure 49).[32]

Figure 48. Percentage of visible decay among three-year olds, 2013- 2019/20



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 49. Percentage of visible decay among three-year olds, 2019/20

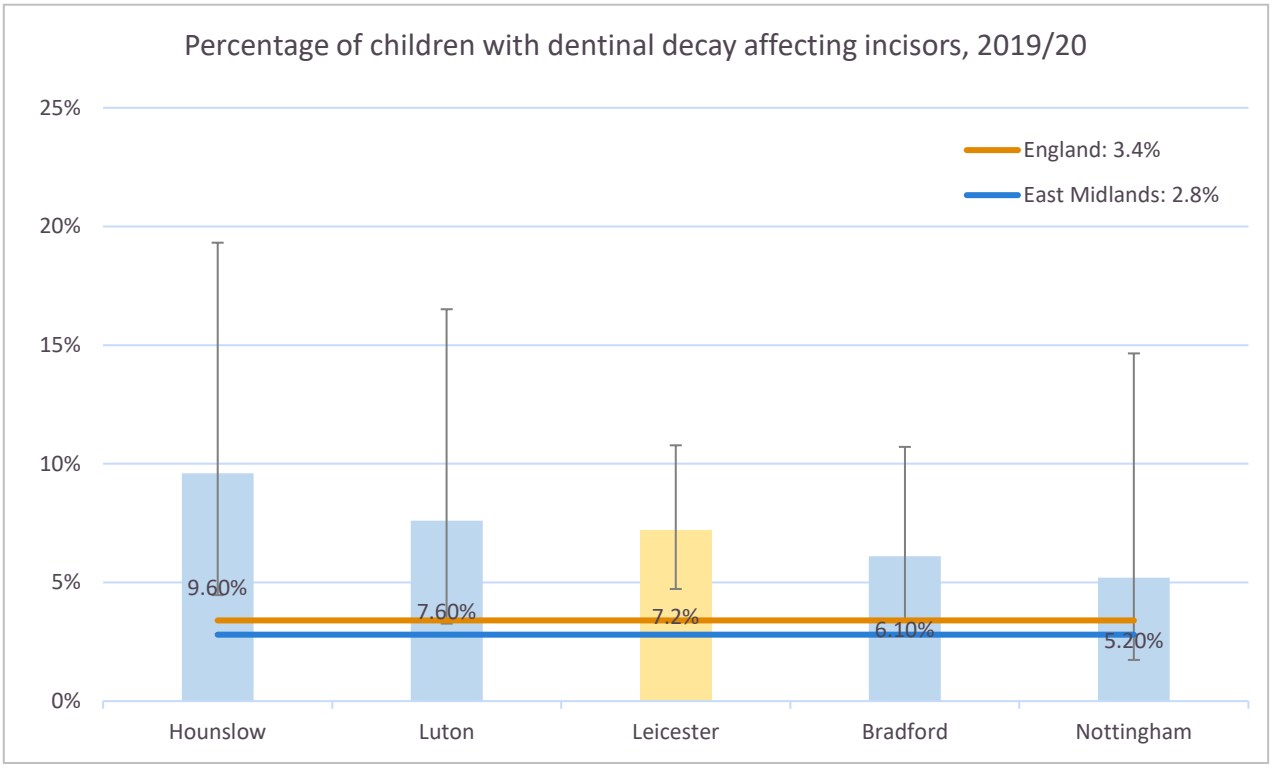


Note: Data not available for all child comparators - some adult comparators also included for benchmarking purposes. Interpret with caution.

Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Dental decay affecting incisors is usually an indication of long-term bottle use with sugar-laden drinks, especially when these are given overnight or for long periods during the day. In Leicester, the proportion of three-year olds with incisor decay was 7.2%, which is similar to comparators, although this is significantly higher than the East Midlands and National average (Figure 50).

Figure 50. Dental decay affecting incisors among three-year olds, 2019/20



Note: Data not available all multiple child comparators - some adult comparators also included for benchmarking purposes. Interpret with caution.

Source: Office for Health Improvement and Disparities (OHID) *https://fingertips.phe.org.uk/*

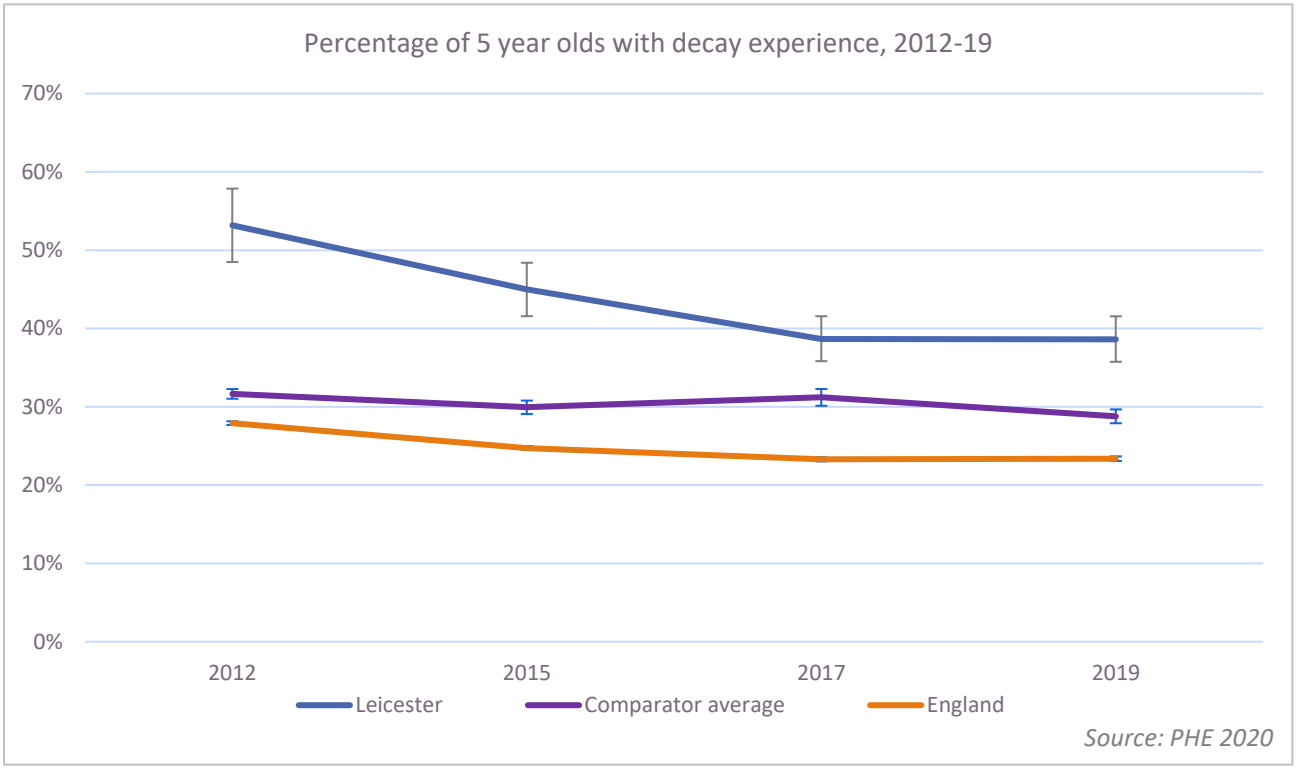
5.2 ORAL HEALTH AMONG 5-YEAR OLDS

The following details findings from the fifth PHE NDEP oral health survey of 5-year-old children.

Overall, 38.6% of 5-year-old children in Leicester had experience of dental decay in 2018/19, which is significantly higher than the national rate (23.4%) and the second highest amongst child DfE comparators (Figure 52). Those annotated "F" are supplied with community water fluoridation schemes. It can be seen that children living in Sandwell, Birmingham, Walsall, Wolverhampton and Coventry (West Midlands) have community water fluoridation schemes which may reduce levels of dental decay experience.

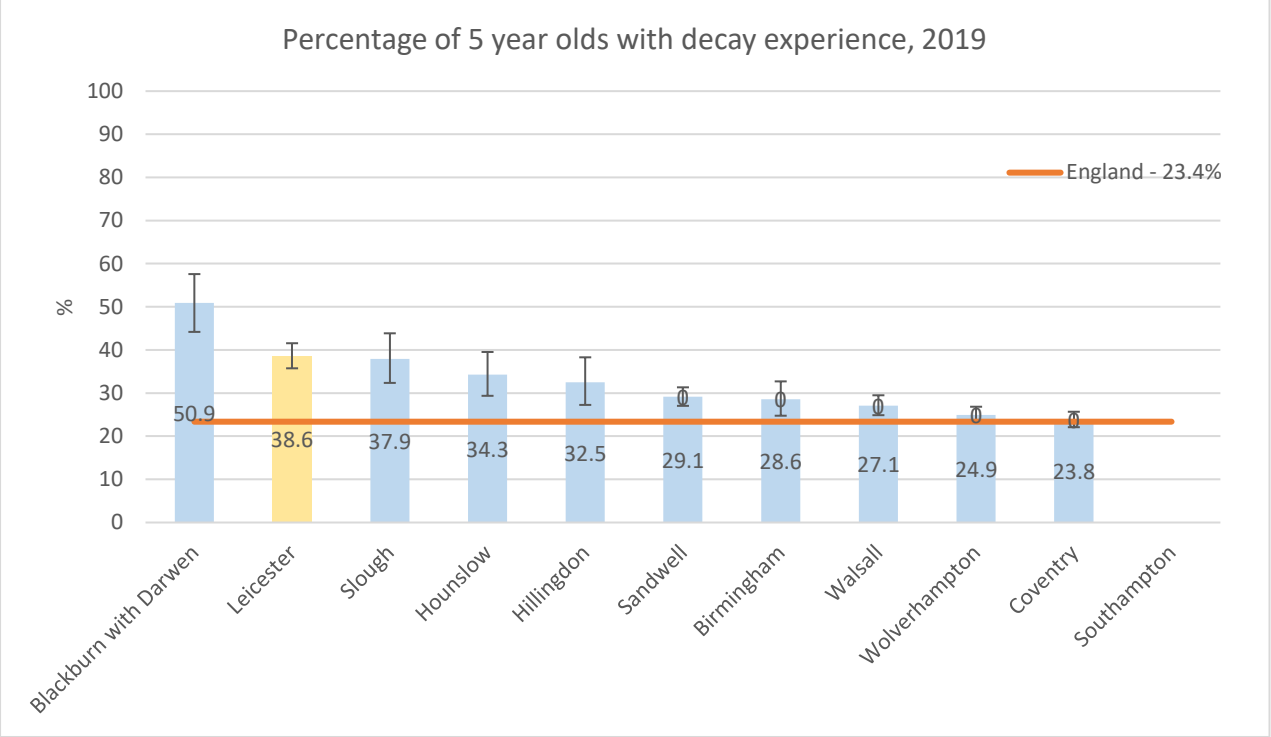
Leicester has also experienced a significant improvement in the proportion of 5-year-olds with decay experience over time); between the years 2012 and 2019 whereby the proportion of 5-year old children with decay experience fell from 53.8% to 38.6%. Although, from 2017 decay experience in Leicester has since plateaued, with the inequality gap between comparators actually revealing signs of an increase between 2017 and 2019 (Figure 51).

Figure 51. Percentage of 5 year olds with decay experience, 2012-2019



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 52. Percentage of five-year olds with visible decay, 2019

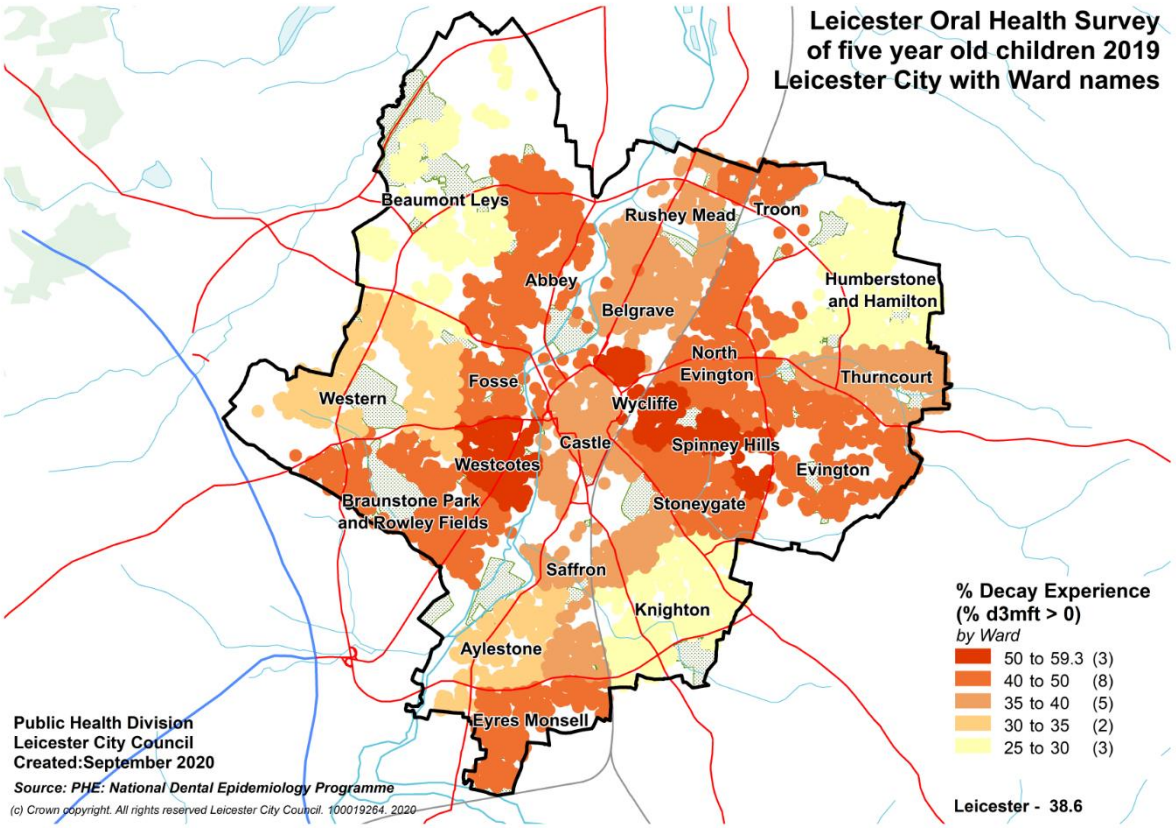


Note: Data not available for Southampton

Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 53 demonstrates oral health inequalities across the city. The highest level of dental decay experience is concentrated in the wards of Spinney Hills, Wycliffe and Westcotes. In these areas, over 50% of children have decay experience. Children living in Humberstone and Hamilton, Beaumont Leys and Knighton, having the lowest burden of dental decay across the city, with under 30% of children having decay experience.

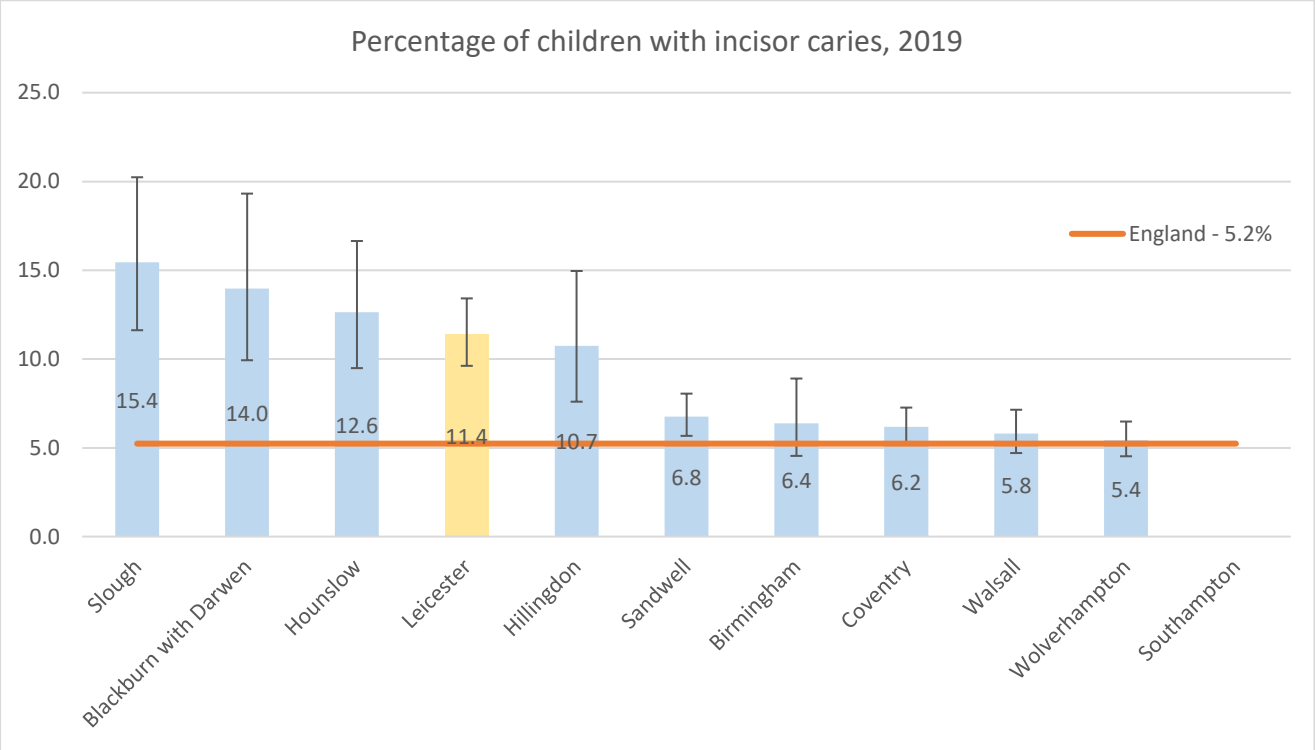
Figure 53. Five-year old children with decay, by ward, 2019



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Figure 54 shows the percentage of 5-year old children with dental decay affecting incisors against its peer comparators. Across England, 5.2% of five-year-old children showed signs of dental decay affecting incisors, by comparison 11.4% of five-year-old children in Leicester observed incisor caries in 2019. This is significantly higher than nationally.

Figure 54. Percentage of five-year olds with incisor caries, 2019



Note: Data not available for Southampton

Source: Office for Health Improvement and Disparities (OHID) *https://fingertips.phe.org.uk/*

5.3 SERVICES TO SUPPORT CHILD ORAL HEALTH

Available services to support children (and young people's) oral health in Leicester includes the Oral Health Promotion Service which provides free-multiagency oral health training sessions for the health and care workforces, an all-year city-wide baby bottle swap scheme to target incisor caries and a universal supervised toothbrushing programme in pre-school and foundation years in primary school settings. Oral health champions in Children, Young People and Families Centres, in dental practices and the community are supported to promote oral health in the city.

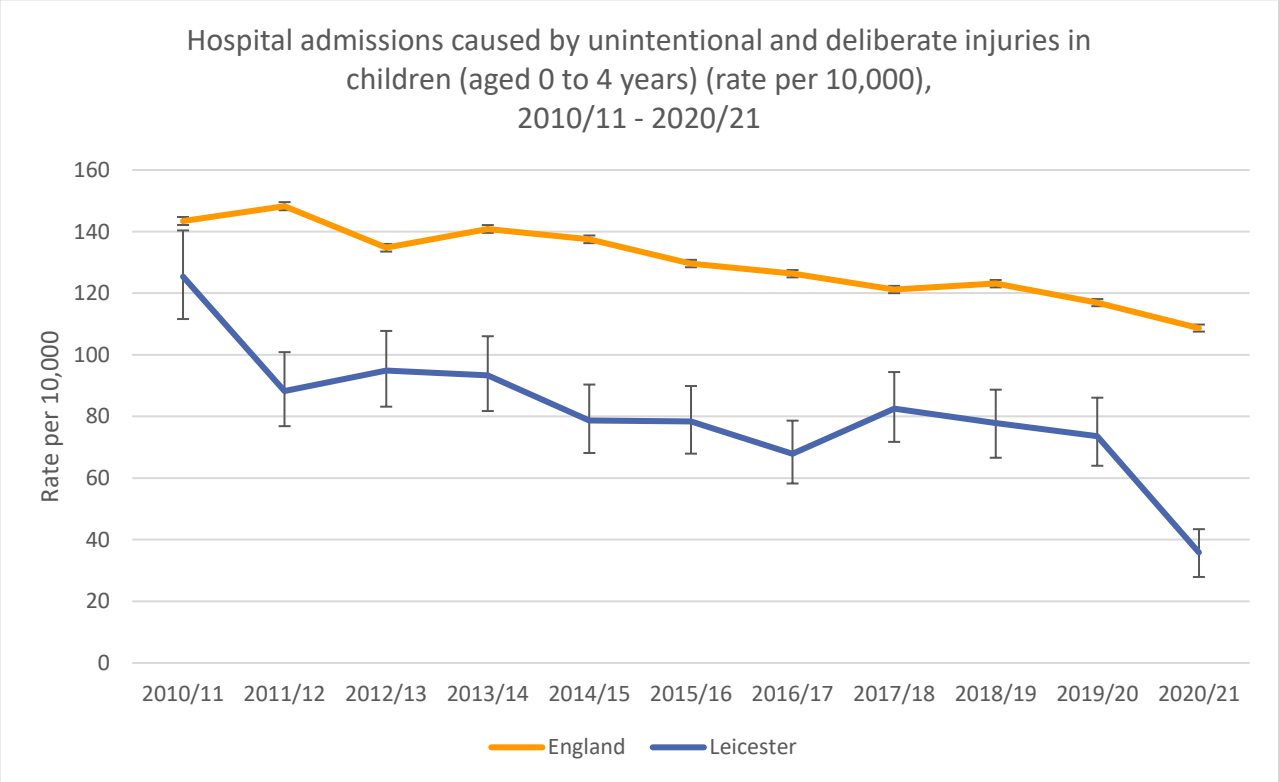
Moreover, the Healthy Child Programme (HCP) available in Leicester facilitates the provision of 4 oral health packs in the first 5-years of life. This provides fluoride toothpaste, a toothbrush, and information on key messages and the importance of oral health. As part of the HCP, an oral health pathway is included, which ensures evidence-based oral health communication is delivered to parents and carers at mandated contracts.

6.0 HOSPITAL ADMISSIONS

6.1 A&E ATTENDANCES (0-4 YRS)

A&E attendances in children aged under five years are often preventable, and commonly caused by accidental injury or by minor illnesses which could have been treated in primary care.[33] Injuries are a leading cause of hospitalisation and represent a major cause of premature mortality for children and young people.[34] Support for such vulnerable infants and families should be provided alongside preventative health care in primary and community care settings. Leicester continues to report a lower rate than nationally and has seen a substantial fall since pre-pandemic years. This will likely be related to fewer people attending hospital during this time (Figure 55).

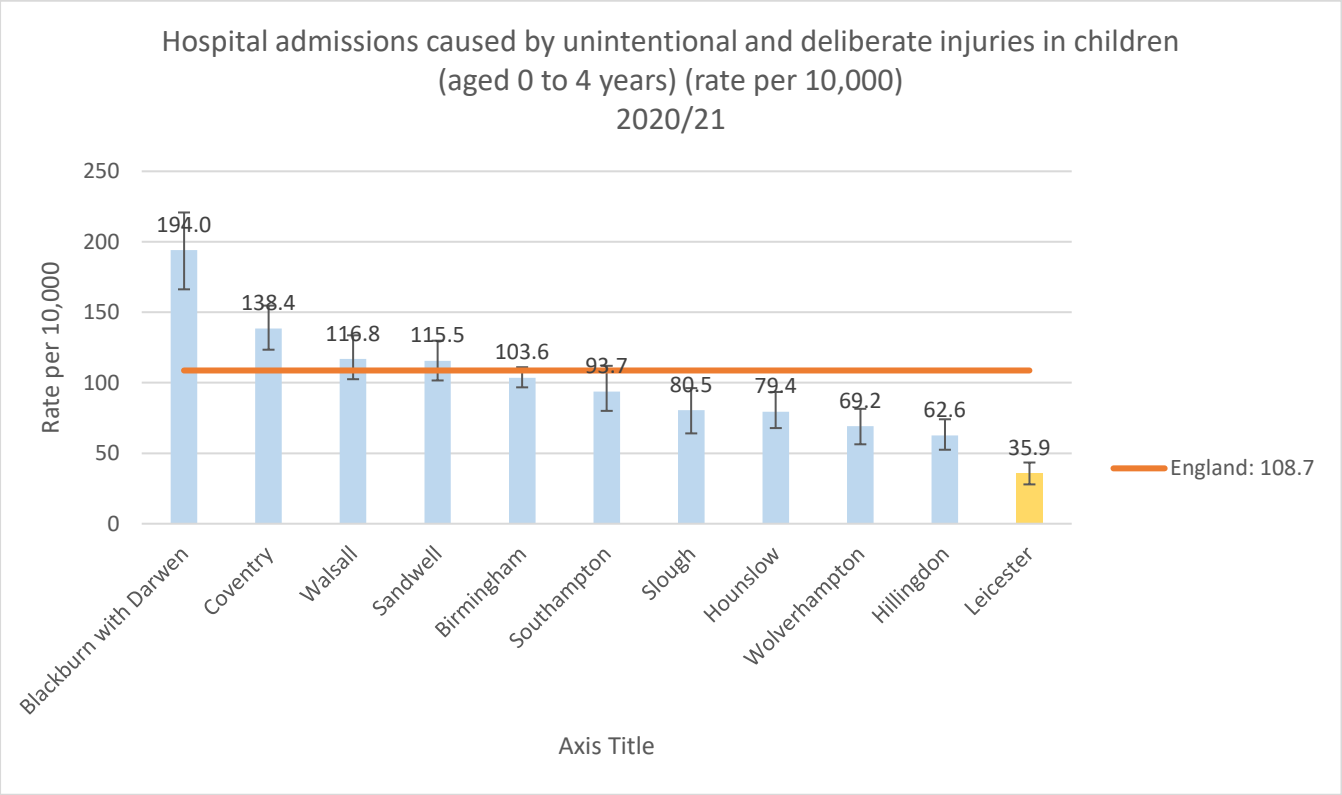
Figure 55. Hospital admissions caused by unintentional and deliberate injuries in children (0-4 yrs), 2010/11 - 2020/21



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

Leicester reports the lowest rate for hospital admissions caused by injury among children aged 0-4 years when compared to its 10 DfE child comparators (Figure 56). In 2020/21, Leicester had a rate of 36 per 10,000, significantly lower than all comparators and the national average.

Figure 56. Hospital admissions caused by unintentional and deliberate injuries in children (aged 0-4yrs), 2020/21

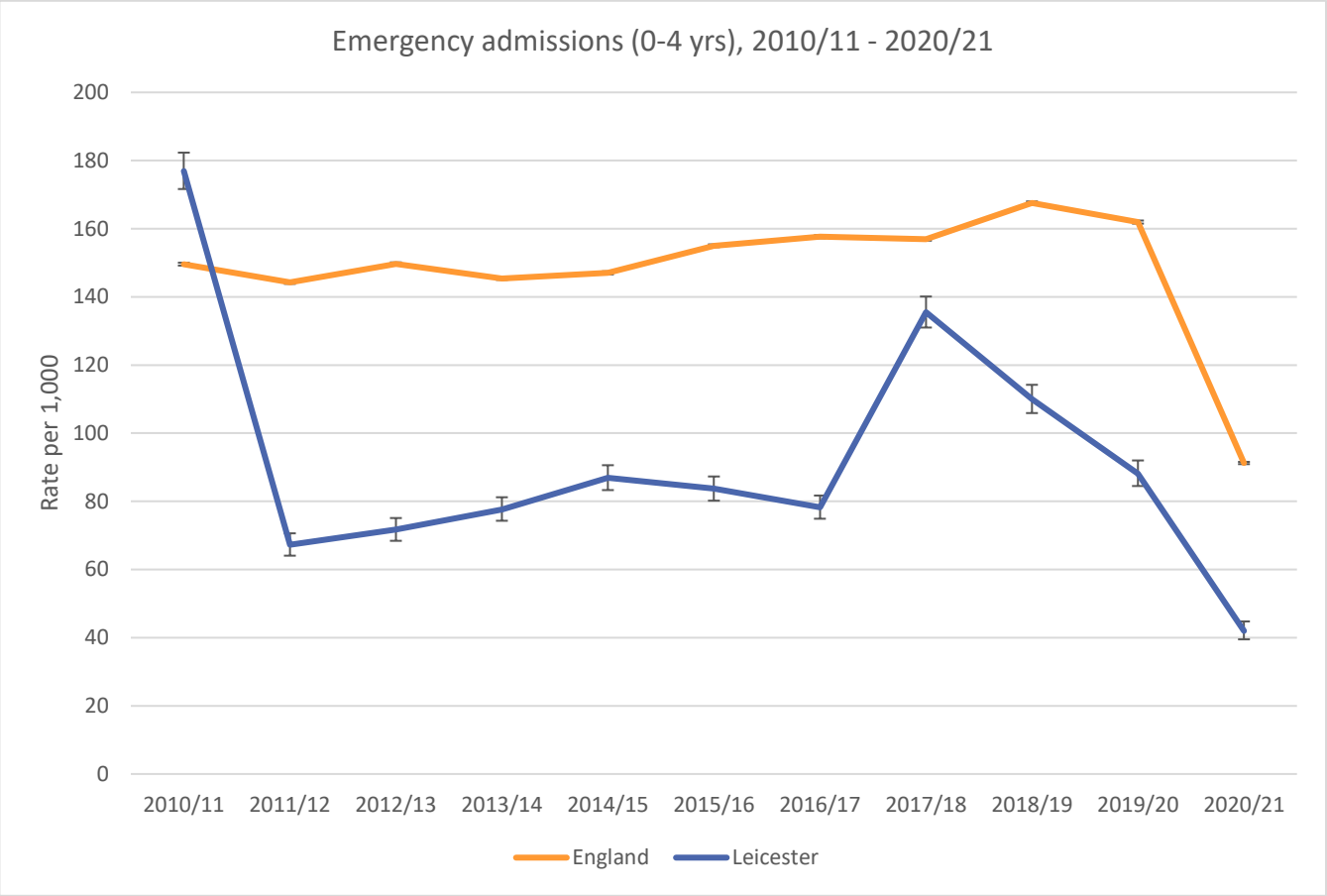


Source: Office for Health Improvement and Disparities (OHID) *https://fingertips.phe.org.uk/*

6.2 EMERGENCY A&E ATTENDANCES (<5 YRS)

Over the past decade, Leicester has had some fluctuation in the number of emergency admissions in those under 5 years, with a sharp decline since 2017/18, similar to the national profile. It further decreased between 2019/20 and 2020/21 during the pandemic. Overall, Leicester continues to have significantly fewer emergency admissions among those under 5 years, compared to the national average (Figure 57).

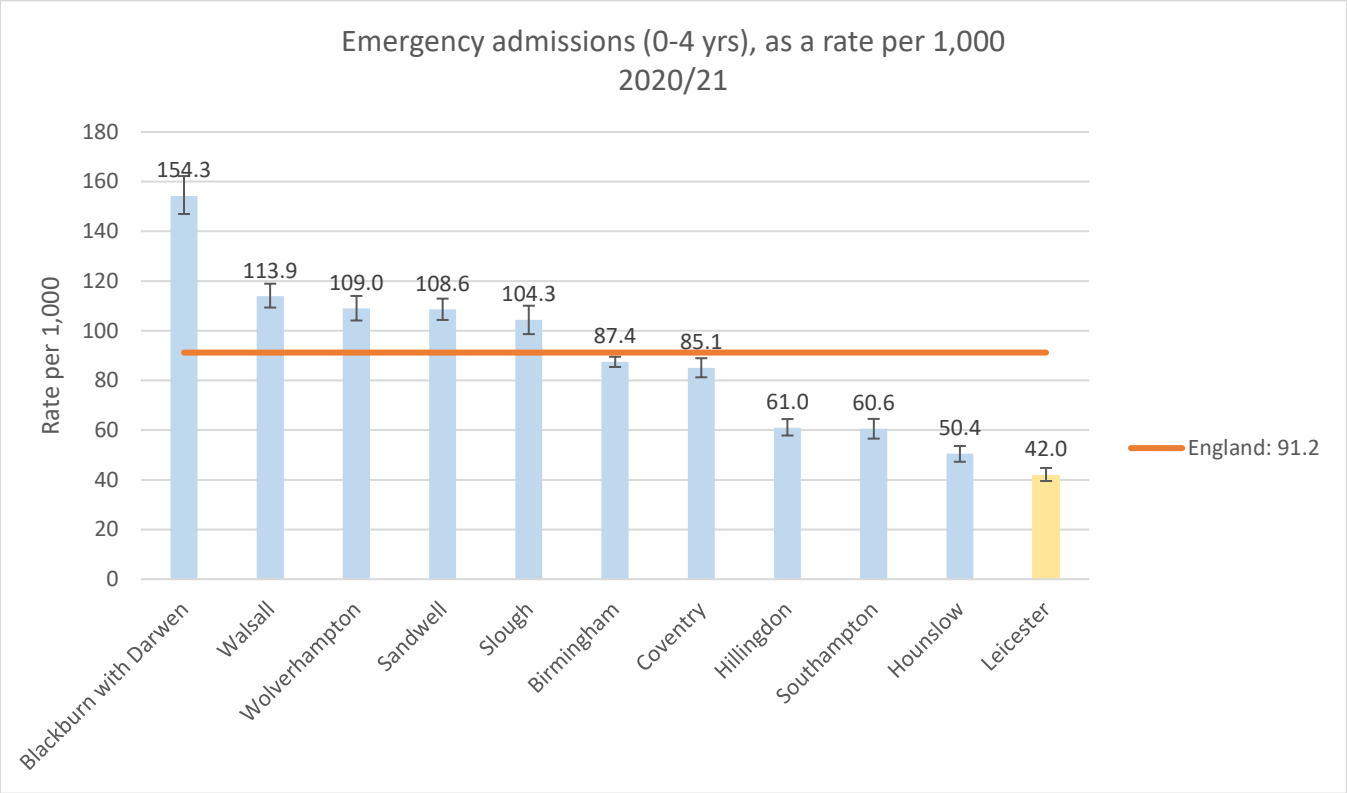
Figure 57. Emergency admissions (0-4yrs), 2010/11- 2020/21



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

In 2020/21, Leicester had the lowest rate of emergency admissions for children under 5 years when compared to its 10 child DfE comparators, with a rate of 42 per 1,000. This was also significantly lower than the national average (Figure 58).

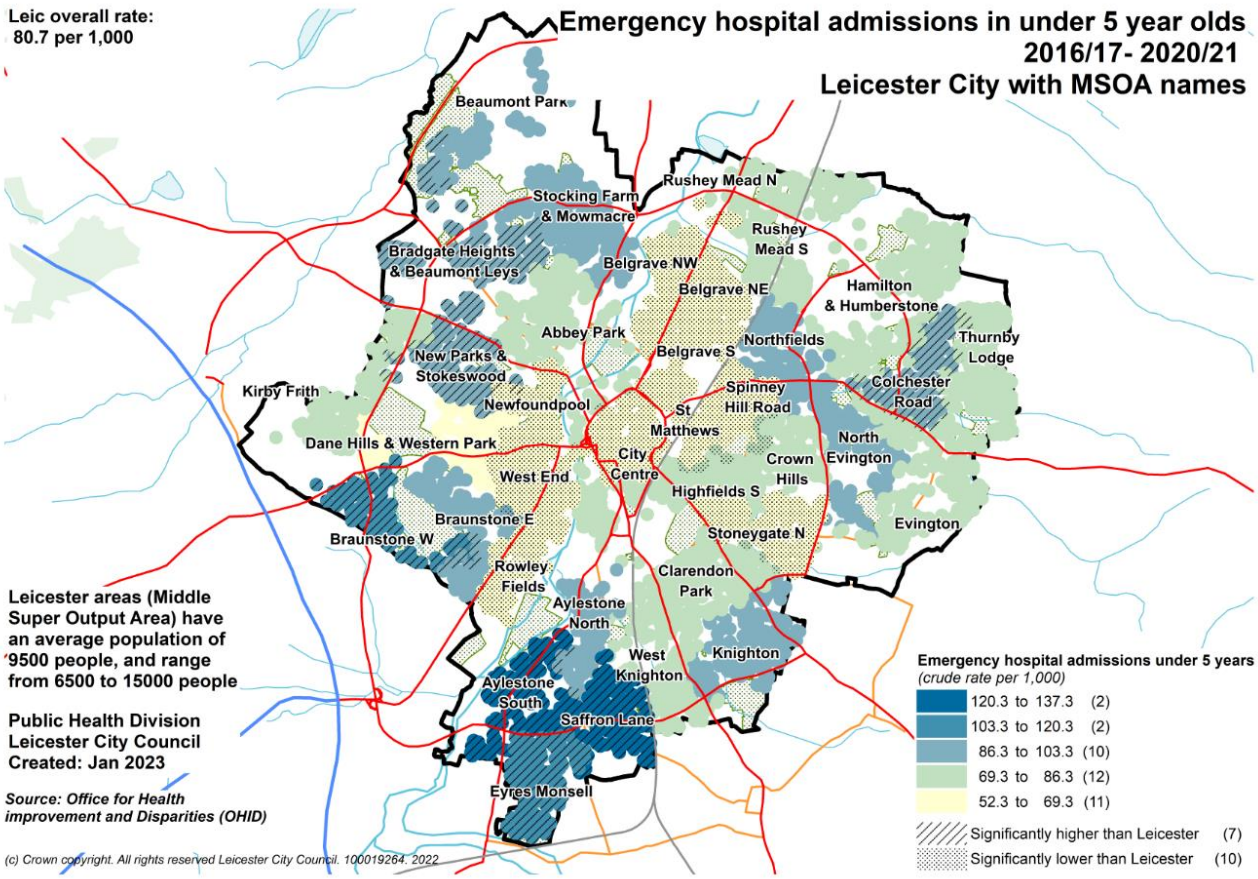
Figure 58. Emergency admissions (0-4 yrs) as a rate per 1,000, 2020/21



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

When looking at emergency hospital admissions by MSOA, Aylestone South, Saffron Lane and Braunstone Park West had the highest rate of emergency hospital admissions in those <5 years. By contrast, Leicester City Centre, Spinney Hill road and Belgrave South had the lowest rates (Figure 59).

Figure 59. Emergency hospital admissions in under 5 year olds, 2016/17- 2020/21



Source: Office for Health Improvement and Disparities (OHID) https://fingertips.phe.org.uk/

KEY CONTACTS

Helen Reeve, Senior Intelligence Manager: Helen.Reeve@leicester.gov.uk

Gurjeet Rajania, Principal Public Health Intelligence Analyst, Gurjeet.Rajania@leicester.gov.uk

Hannah Stammers, Public Health Intelligence Analyst, Hannah.Stammers@leicester.gov.uk

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