

Oral health survey of three-year-old children, 2020

Monitoring report for Leicester City Council



Oral health survey of three-year-old children, 2020
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Division of Public Health
Leicester City Council
www.Leicester.gov.uk/



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1. About the Oral health survey of three year olds

Public Health England's (PHE) National Dental Epidemiology Programme (NDEP) includes the examination of a random sample of 3-year-old children, 2019 to 2020.

The results presented here are from the data collection during the 2019/2020 academic year across local authorities in England.

This is the second PHE NDEP oral health survey of 3-year-old children, since its inception in 2013.

The aim of the survey is to measure the prevalence and severity of dental caries among 3-year-old children and information can be used to:

- Inform the local oral health improvement strategy and health needs assessment, particularly joint strategic needs assessments
- Provide comparisons with children of the same age in previous years
- Identify oral health inequalities

This report also includes information on the 2018/19 5 year old survey in relation to ethnicity and deprivation to give some insight into inequalities in oral health. This information is not available for the 3 year old data.

2. Implications of COVID-19 on data collection

Data collection was curtailed by the outbreak of the coronavirus and the subsequent closure (except to children of key workers) of all schools and nurseries in England in March 2020. Therefore the survey had to be terminated and the final 3 months of data collection were lost. This meant 20 of 151 upper tier and 67 of 314 lower-tier local authorities were unable to return useable data. Additionally 30 upper-tier local authorities did not commission the survey. Very few areas reached the minimum sample size of 250 children and the results should be interpreted with caution, particularly when making comparisons with other surveys.

3. Participation in the survey

- Estimates were available for 101 out of 151 upper-tier local authorities.
- From the national sample, 3% of the population were examined (19,479); a considerable drop in sample size from 2013 when 8% of the population were examined (53,814). In Leicester, a total of 286 children from maintained schools across Leicester were examined, a participation rate of 38% of the sample. This represents 6% of all 3-year-olds attending mainstream city schools.
- Not all of Leicester's comparator authorities had sufficient numbers for estimates or participated in the survey. This included many of the child comparator authorities such as:
 - Blackburn with Darwen
 - Birmingham
 - Southampton
 - Slough
 - Sandwell
 - Coventry
 - Hillingdon
 - Walsall
 - Wolverhampton
- For this reason, this analysis includes comparisons against Leicester's adult and child comparator areas, where possible. These include: Nottingham, Bradford, Luton (adult) and Hounslow (child).

4. Limitations of the survey

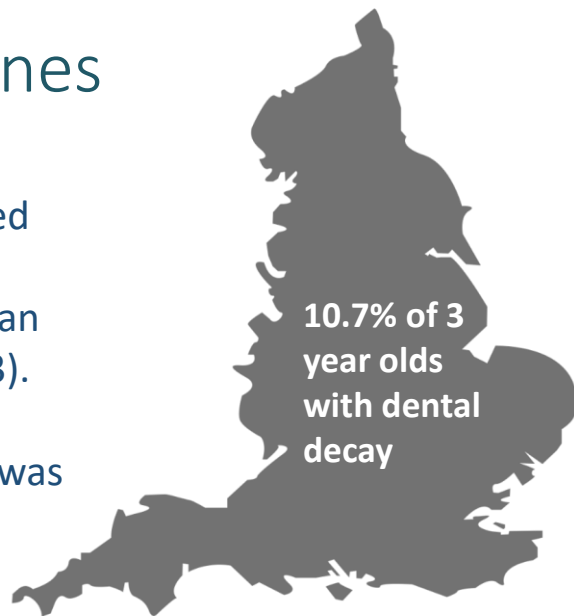
- The numbers of children examined were markedly lower than in 2013 due to both COVID-19 and 20% of upper tier local authorities opting not to commission the survey. For Leicester's comparator authorities, estimates are based on a fairly small number of examined children. Sample sizes for the authorities analysed in this report include:
 - 286 (Leicester)
 - 54 (Nottingham)
 - 66 (Luton)
 - 63 (Hounslow)
 - 169 (Bradford)
- The survey only measured experience of dental decay at the threshold of visually obvious dentinal decay. This is a later stage of decay where intervention would involve filling or removing the tooth.
- The survey employed positive consent. Positive consent has been shown to adversely affect participation rates and consent rates may be lower in those with higher levels of dental decay experience and those living in more deprived areas.
- Note: While subnational comparisons should be undertaken with great caution due to markedly different sample sizes and participation rates, at a national level the data was broadly representative in terms of deprivation and ethnicity. The larger national sample size lends more confidence to national comparisons.

5. National headlines

Overall, 10.7% of 3-year-old children surveyed had experience of dental decay.

In children with experience of decay, the mean number of affected teeth was 3 (CI 2.81-3.03).

A 1% decrease in national decay experience was observed between 2013 (11.7%) and 2020.



5.1 Variation by geography, ethnicity and deprivation

- Decay experience varied by region, with the highest prevalence concentrated in Northern England; children living in Yorkshire and The Humber were more than twice as likely to have experience of dental decay (14.7%) than children living in the East of England (6.7%). Between Local Authority areas, Salford observed the highest proportion of decay amongst 3-year-olds (27.5%) and Sheffield observed the least (0.9%).
- The prevalence of experience of dental decay was higher in children from more deprived areas (16.6%) than in children from less deprived areas (5.9%).
- There was variation in prevalence of experience of dental decay by ethnic group and was highest in the 'Other' ethnic groups (20.9%) and the Asian and Asian British population (18.4%).
- Within ethnic groups, in the White group, children from Gypsy or Irish traveller (26.5%) and White other (16.3%) ethnic groups had a greater prevalence of experience of dental decay than children from the White British ethnic group (8.4%). In the Asian ethnic group, children from the Pakistani ethnic group (22.2%) had a greater prevalence of dental decay than children from the Indian group (14.5%).

5.2 Leicester decay experience

Overall, 16.1% of 3-year-old children in Leicester had experience of dental decay, this is significantly higher than the national (10.7%) and East Midlands (9.7%) rate.

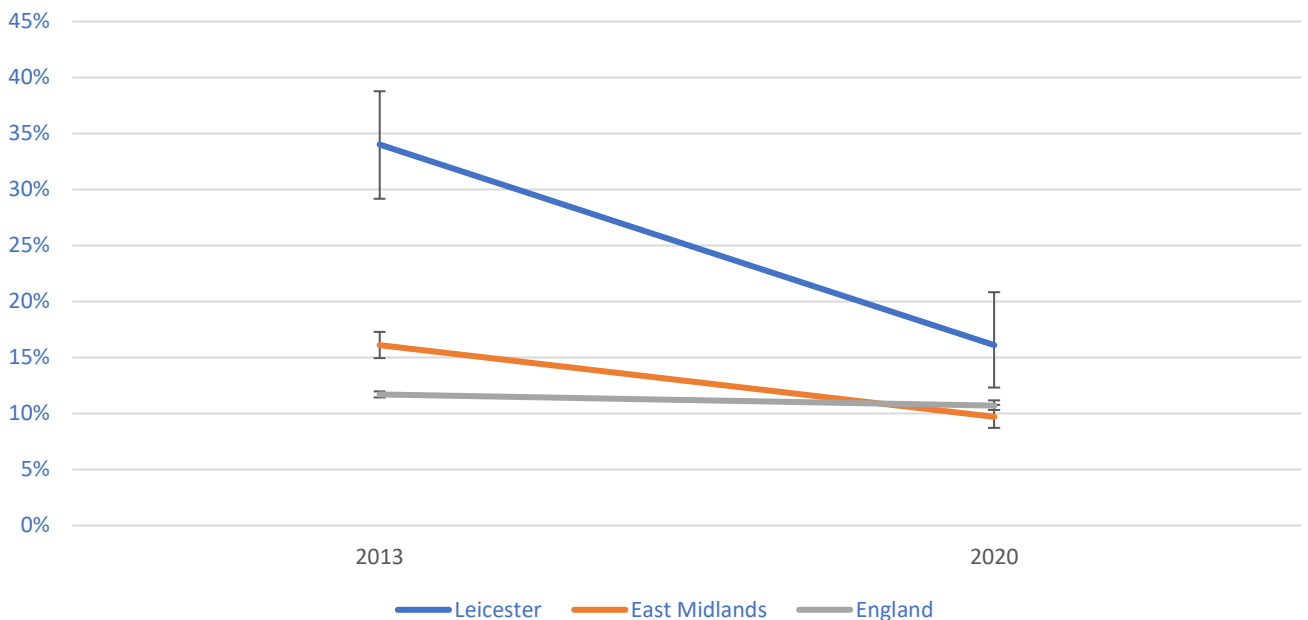
When compared to all local authorities, Leicester observes the 19th highest rate.

Table 1: Percentage with decayed, missing or filled teeth

Upper-Tier LA Name	% d3mft > 0
Leicester	16.1
East Midlands	9.7
England	10.7

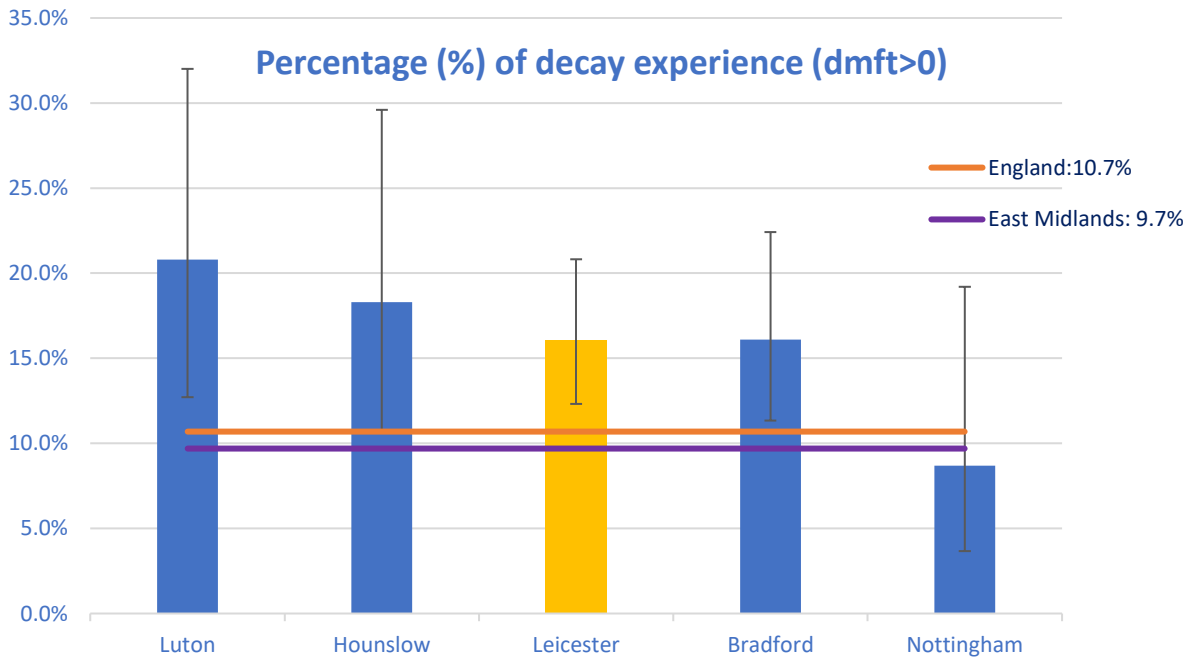
While for England overall there has been little change in dental decay experience since the previous survey in 2013, data for Leicester indicates a substantial reduction the burden of decay experience (18% decrease). However, confidence in these findings are limited by the small number of Leicester children examined in the survey. Further analysis of examined children is required to better understand decay experience across the City.

Percentage (%) of 3-year-olds with experience of dental decay, 2013 and 2020

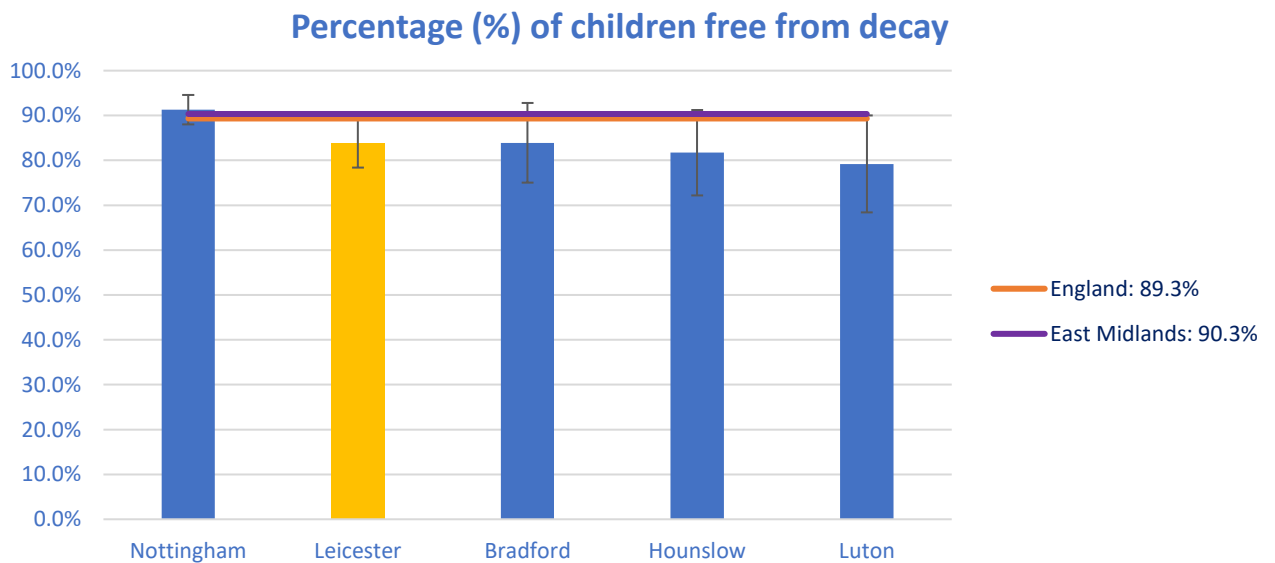


5.3 Percentage of decay experience

Leicester experiences a similar percentage of dental decay to its peer comparator authorities.

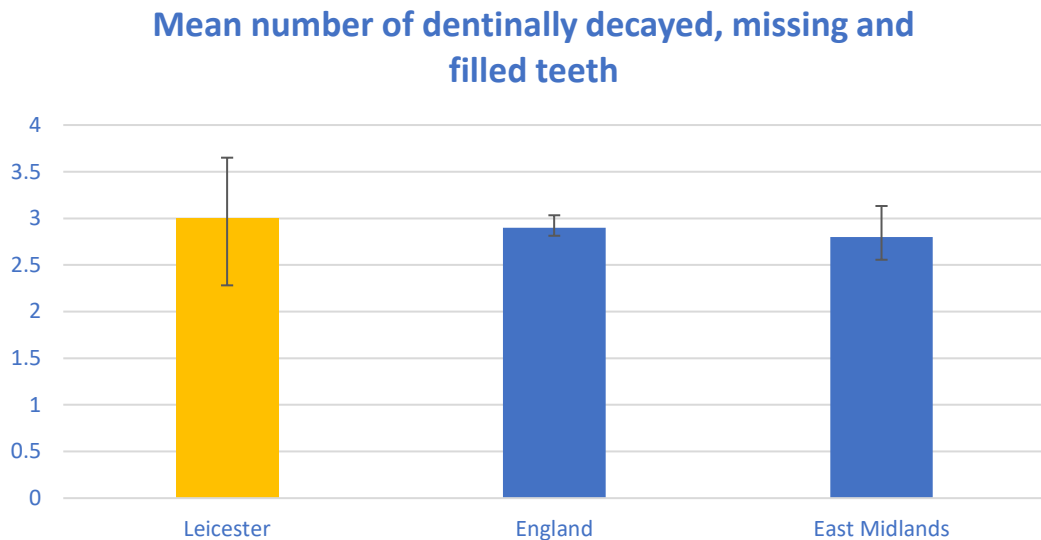


83.9% of 3- year- old children in Leicester are free from tooth decay. This is significantly less than the national average (89.3%) and the East Midlands overall (90.3%). When compared with comparator authorities, there are modest differences but these are not significant.



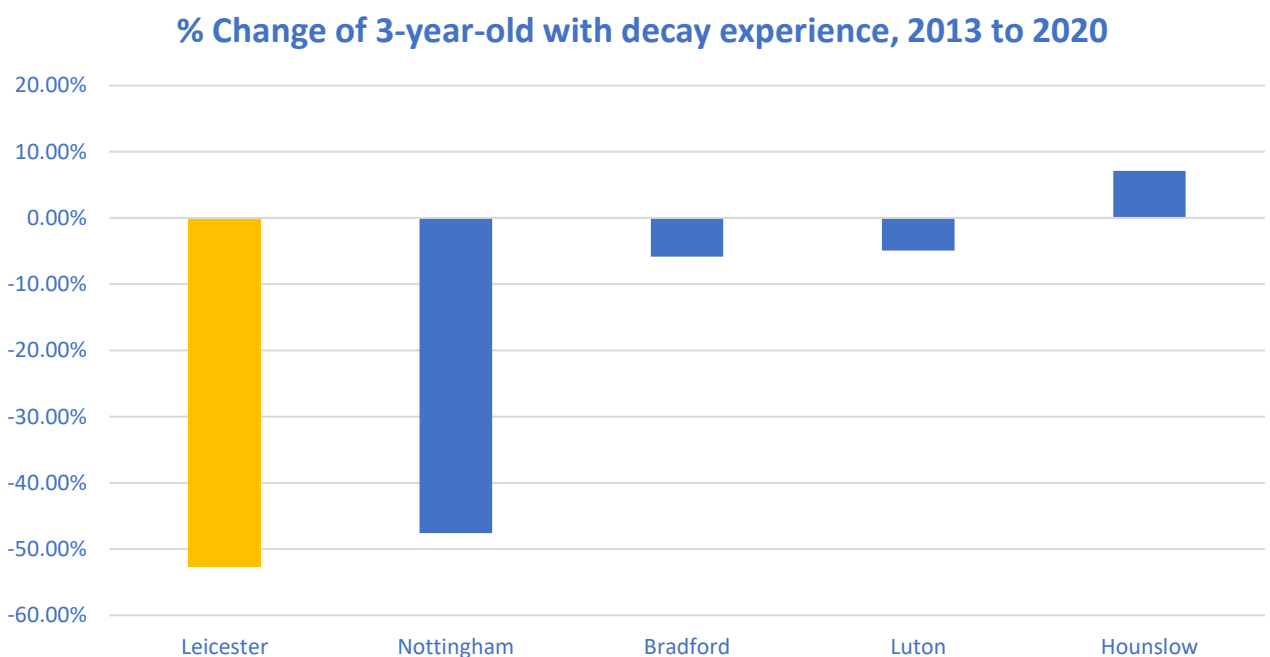
5.4 Average number of decayed teeth for children with decay experience

Among the children with decay experience, the average number of decayed, missing (due to decay) or filled in England and the East Midlands was 3. The average for Leicester was also 3.



5.5 Change in decay experience by comparators

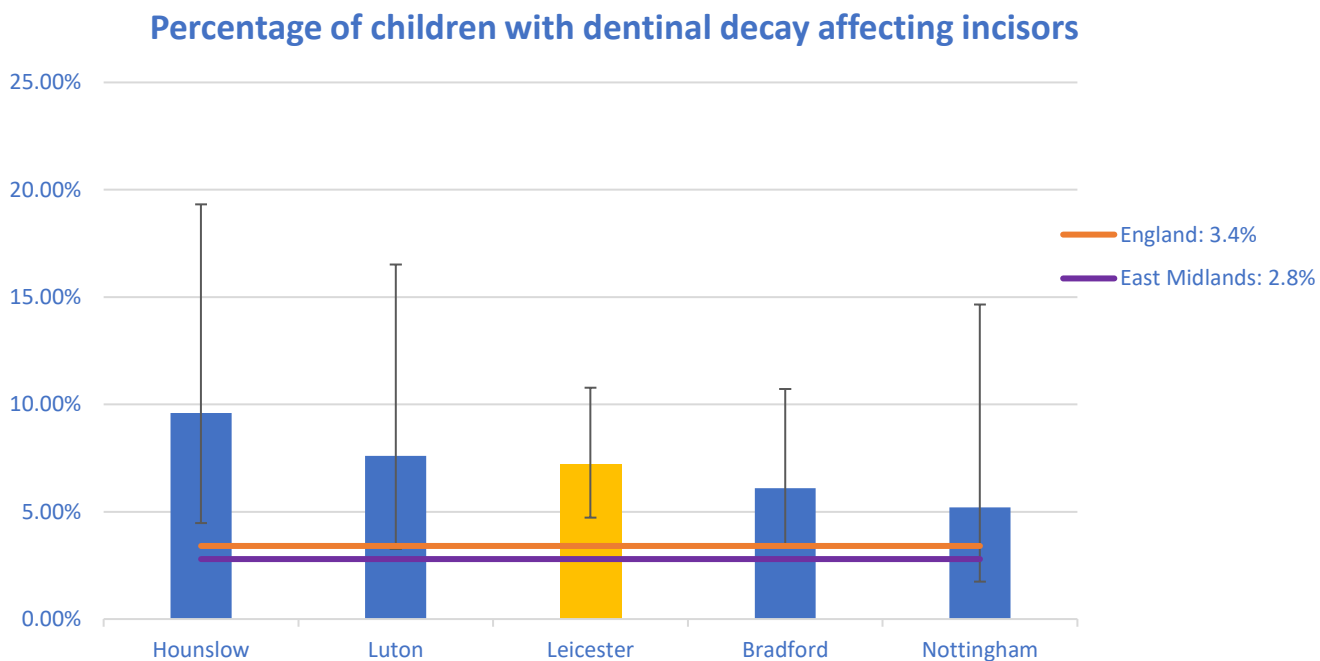
Leicester has observed one of the highest percentage decreases in the proportion of three year olds with tooth decay, since 2013.



5.6 Decay affecting incisor teeth

It is useful to know what proportion of children had dental decay affecting one or more of their incisor (front) teeth. This type of decay is usually associated with long-term bottle use with sugar-sweetened drinks, especially when these are given overnight or for long periods during the day.

Overall, the prevalence of incisor decay was 3.4% and 2.8% at national and regional level, respectively.

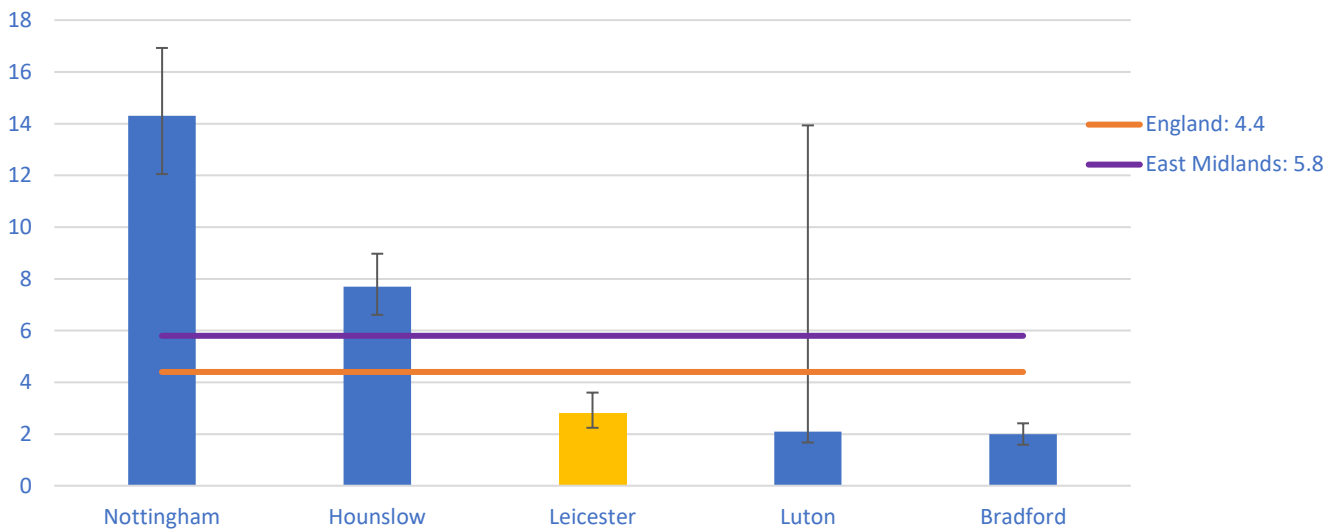


- In Leicester 7.2% of 3-year-old children had dental decay affecting one or more of their incisor teeth, which is significantly higher than for England overall.

5.7 Care index

The Care Index gives an indication of the restorative activity of dentists in each area. It is the percentage of teeth with decay experience that have been treated by filling (ft/d3mft).

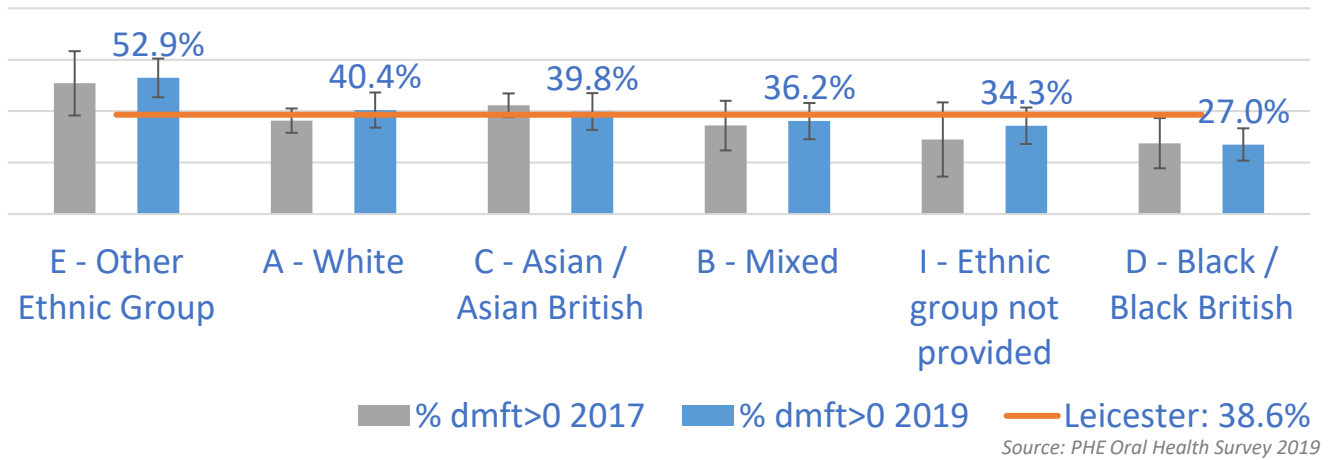
Proportion of d3mft score relating to treatment by filling (ft/d3mft)



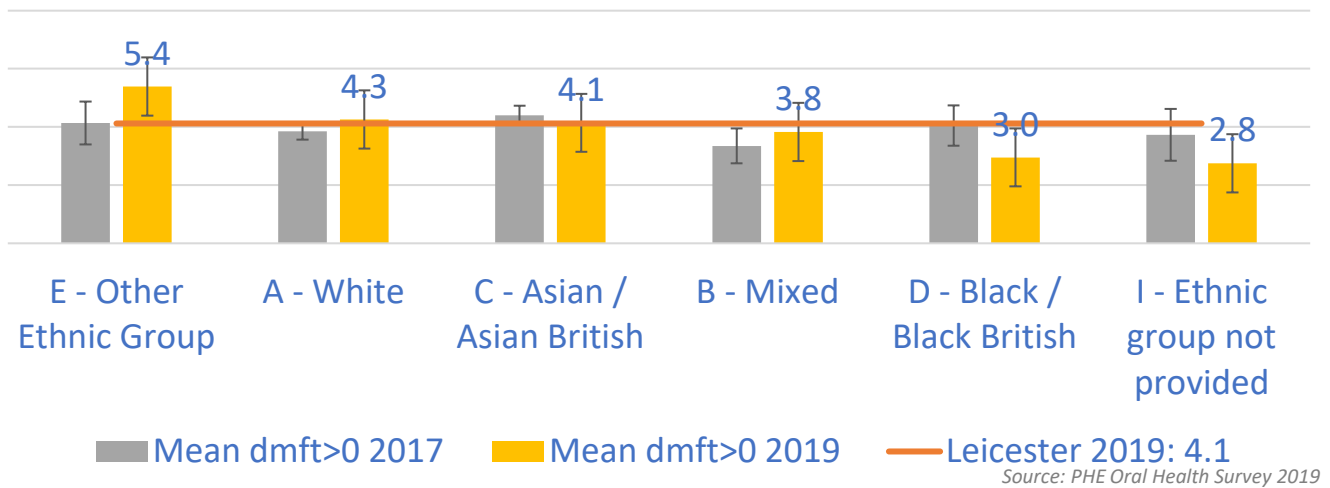
- The proportion of decayed teeth that were filled was 4.4% across England as a whole and 5.8% for the East Midlands. In Leicester, the proportion is significantly lower at 2.8%.

5.8 Ethnicity results for 5 year olds

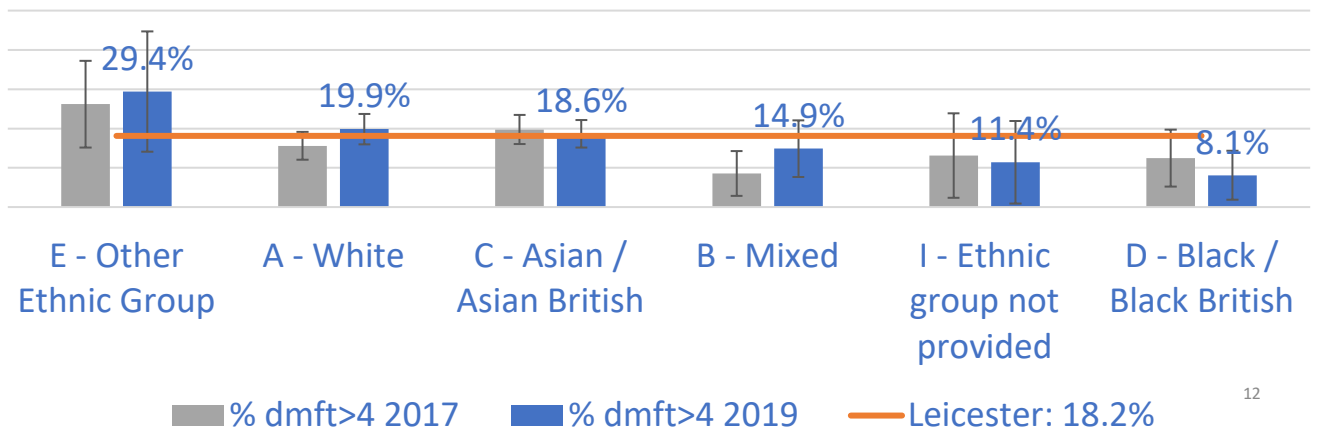
Percentage of 5 year olds with decay experience (dmft>0), 2019



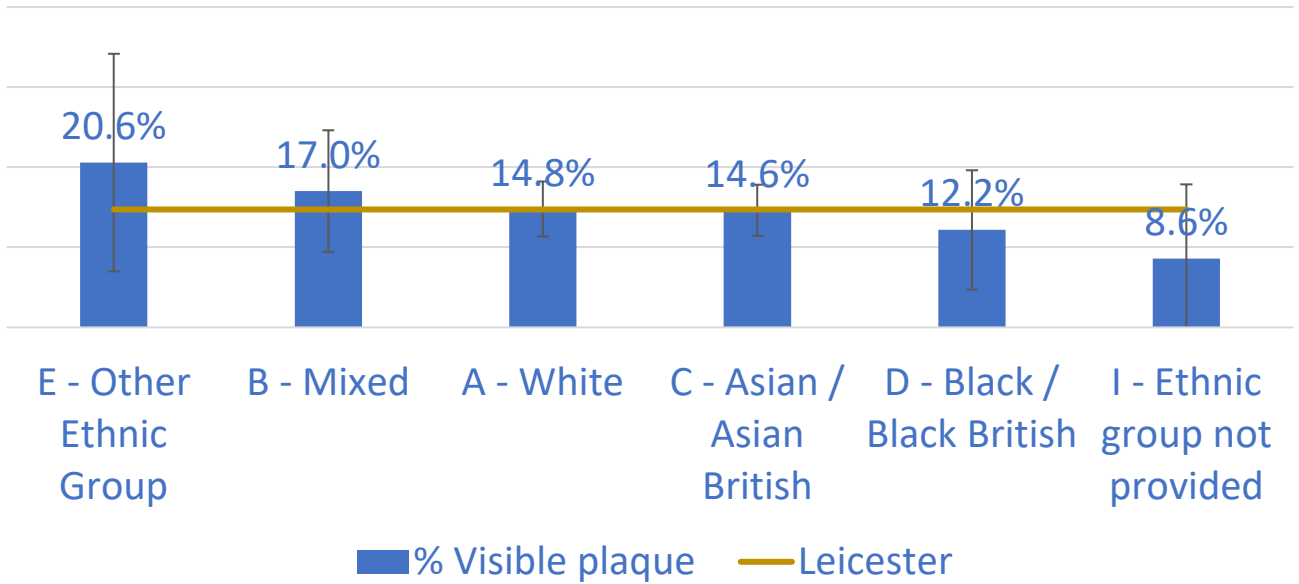
Of those with tooth decay (dmft>0)...Mean number of decayed, missing and filled teeth per child



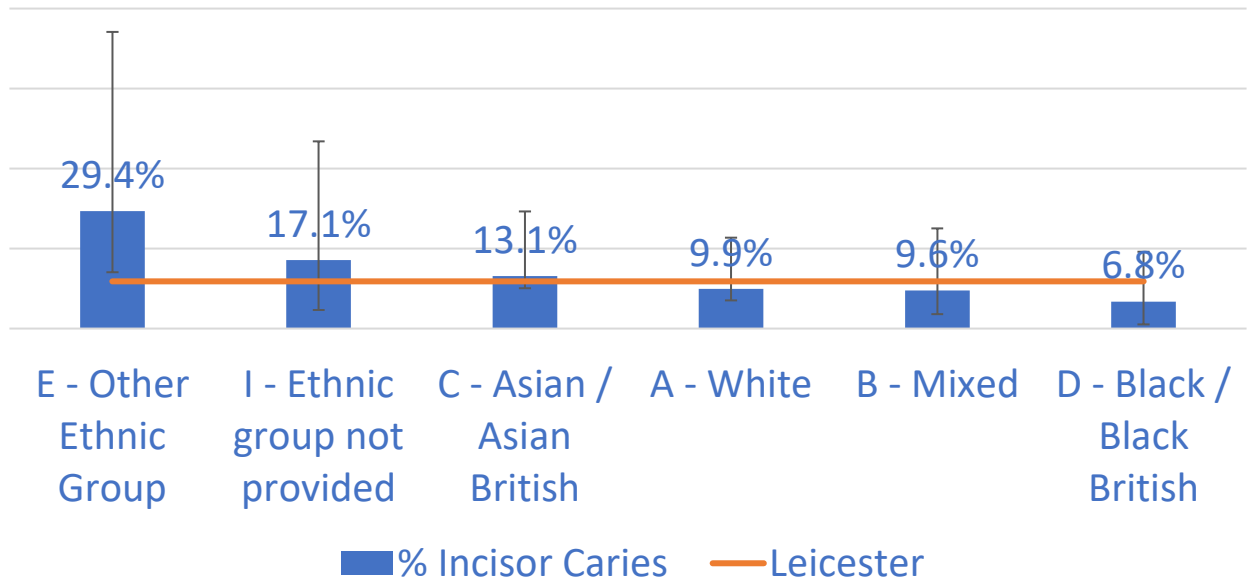
Percentage of 5 year olds with severe decay experience (dmft 4+), 2019



Percentage of 5 year olds with visible plaque, 2019

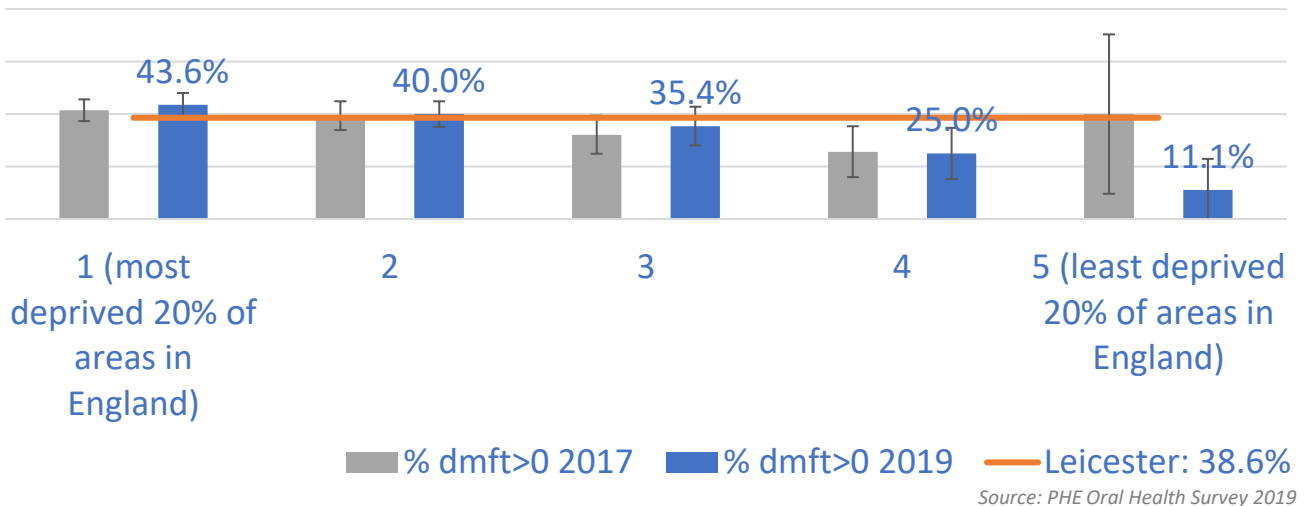


Percentage of 5 year olds with incisor caries, 2019

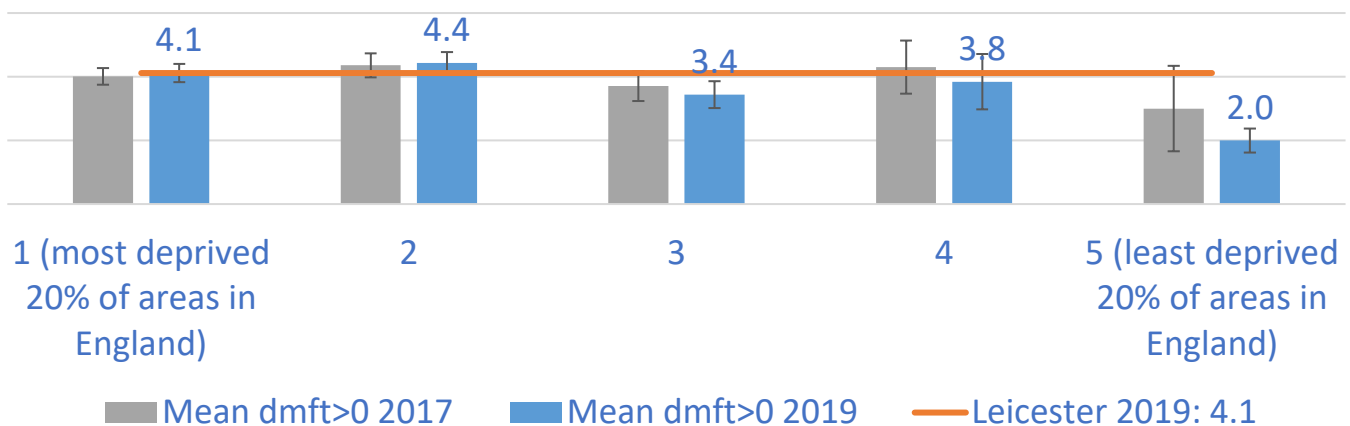


5.9 Deprivation results for 5 year olds

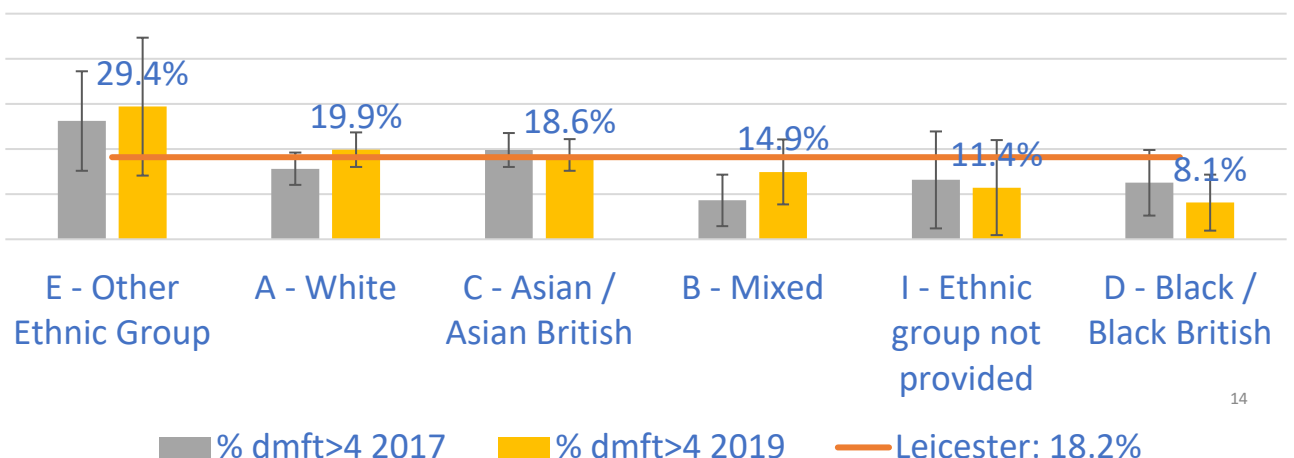
Percentage of 5 year olds with decay experience (dmft>0), 2019



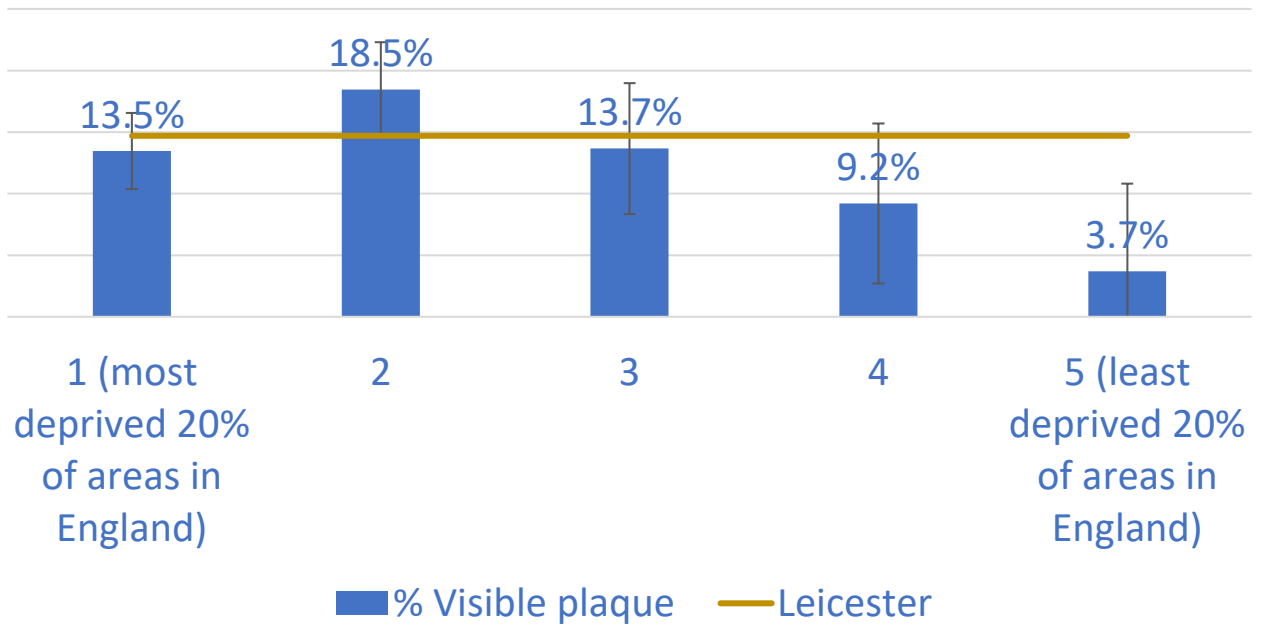
Of those with tooth decay (dmft>0)...Mean number of decayed, missing and filled teeth per child



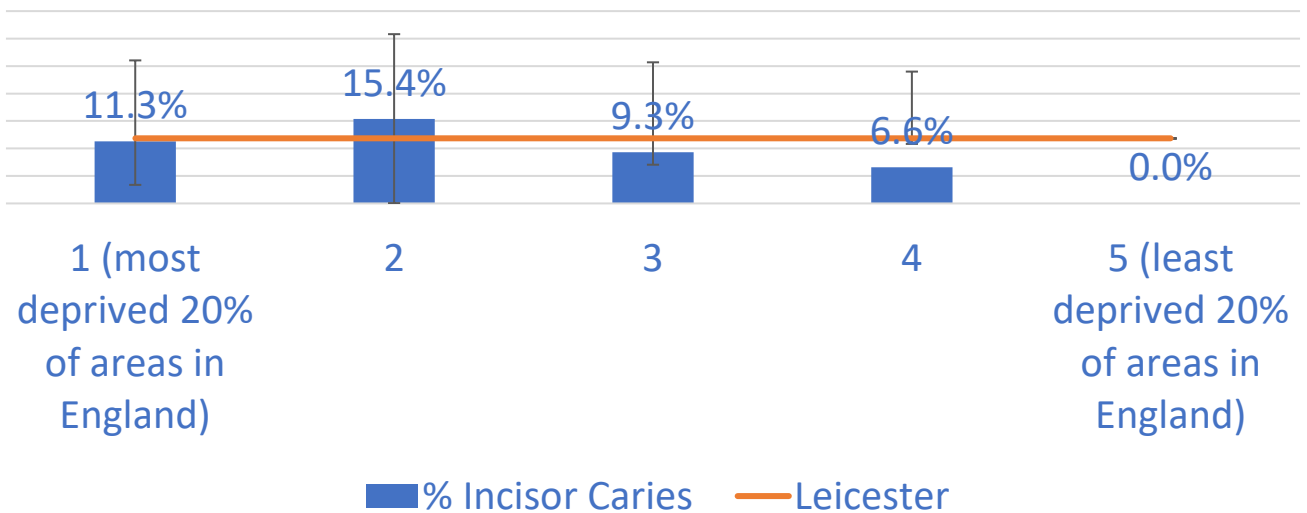
Percentage of 5 year olds with severe decay experience (dmft 4+), 2019



Percentage of 5 year olds with visible plaque, 2019



Percentage of 5 year olds with incisor caries, 2019



6. Further information

National data and reporting is available here:

[Oral health survey of 3 year old children 2020 - GOV.UK
\(www.gov.uk\)](https://www.gov.uk)

Local information and oral health guidance is available here:

<https://www.leicester.gov.uk/health-and-social-care/public-health/get-oral-health-advice/healthy-teeth-happy-smiles/>

Further analysis will be completed on the local dataset to identify oral health inequalities across the city.



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