
Oral Health Survey of 5-year-olds (2021/22)

Public Health and Health Integration Scrutiny Commission

Date of meeting: 16/04/2024

Lead director/officer: Rob Howard

Useful information

- Ward(s) affected: All
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- Report version number: 1

1. Summary

- To share the latest results from the 2021/22 National Dental Epidemiology Programme (NDEP) Oral Health Survey of 5-year-old children.
- To present the national findings for Leicester as a Local Authority, with trend analysis and comparison with Leicester's DfE (Department for Education) child comparator local authorities, and the national average.
- To present the Leicester local data from the survey and analysis by lower geography, Index of Multiple Deprivation (IMD) and ethnicity.

2. Recommended actions/decision

Public Health and Health Integration Scrutiny Commission are invited to:

- note the content of this report
- note the issues surrounding dental access and impacts on dental health

3. Scrutiny / stakeholder engagement

- This report has been presented to the Divisional Management Team Meeting, the Oral Health Partnership Board, Lead Member Briefing and City Mayor Briefing. Further steps involve incorporating it into the forward plan for presentation at the Health and Wellbeing Board.

4. Background and options with supporting evidence

4.1 Background information

The Office for Health Improvement and Disparities (OHID; formerly PHE) National Dental Epidemiology Programme (NDEP) completes the examination of a random sample of 5-year-old children attending state-funded mainstream schools. The results presented here are from data collection during the 2021/22 academic year across local authorities in England. The survey routinely takes place every 2 years but was delayed from 2020 to 2021 by the COVID-19 pandemic. This is the sixth OHID NDEP oral health survey of 5-year-old children.

The aim of the survey is to measure the prevalence and severity of dental caries among 5-year-old children. This data is then used to:

- Inform the local oral health improvement strategy and health needs assessment, particularly Joint Strategic Needs Assessments.
- To track the change over time, and between surveys (2012, 2015, 2017 and 2019).
- Identify oral health inequalities.

For the first time in this series of 5-year-old surveys, the prevalence of children with enamel decay is presented. This is an important threshold to highlight the proportion of children who are found to have early-stage decay who would ordinarily be considered among those being free of obvious decay.

Local data was also requested for Leicester to explore the data by demographics. The local data was based on a sample of 873 children. It includes data by local geography (LSOA, MSOA, Ward), deprivation, and ethnicity. Where possible, the 2021/22 findings for Leicester by each indicator are benchmarked against the previous 2019 survey findings for Leicester. Where numbers are below 15, data is suppressed, which has restricted analysis to Ward specific data, and broad ethnic groups (not allowing for reporting by LSOA/MSOA and detailed ethnic groups).

4.2 Participation

132 out of 152 upper-tier local authorities took part in the survey. From the drawn national sample, 61% of children were examined; this response varied from 52% in Yorkshire and The Humber to 62% in the East Midlands.

In Leicester, a total of 866 children from maintained schools across Leicester were examined, a participation rate of 73%, of the sample. This represents 17% of all 5-year-olds attending mainstream city schools. This is a lower proportion than in 2019, where 1,076 five-year-old children were examined in Leicester, representing 23% of all 5-year-olds attending mainstream city schools. However, the 2021/22 sample size and participation rate is not dissimilar to earlier years, while 2018/19 was a particularly large sample. The 2021/22 sample is broadly representative of the Leicester 5-year-old population in terms of geography, ethnicity, and deprivation.

4.3 Summary results

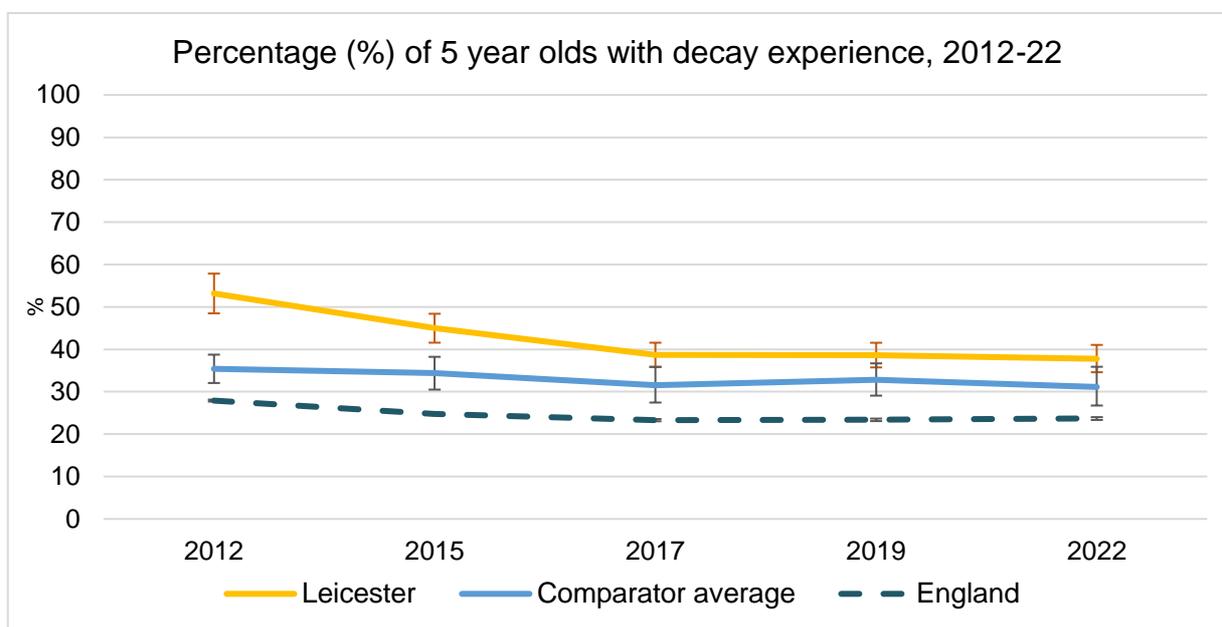
Dental decay experience (% d3mft>0)

- In 2021/22, 37.8% of 5-year-olds in Leicester had dental decay, which is significantly higher than the national average of 23.3%.
- Leicester currently ranks 9th highest among 132 upper-tier local authorities for dental decay.
- The prevalence of dental decay has remained stable in Leicester since 2017 (Figure 1).
- When compared against DfE comparator authorities, Leicester has the 2nd highest prevalence of decay experience amongst its 5-year-olds.
- The presence of water fluoridation schemes in some local authority areas, even with similar deprivation profiles to Leicester such as Wolverhampton (23.4%), Birmingham (23.8%), and Walsall (24.8%), appears to offer a protective advantage over dental decay.

Local analysis – geography and ethnicity (% d3mft>0)

- The prevalence of decay was highest in the north and north east of the city centre, with significantly higher prevalence in North Evington (52.5%).
- Lower prevalence was found in the south and east of the city, with significantly lower prevalence in Knighton (8.3%) and Humberstone and Hamilton (22%).
- 5-year-old children of 'Asian' ethnicity had the highest prevalence of decay experience (44%). Those of 'Black' ethnicity had the lowest proportion with decay experience compared to any other ethnic group (26%).
- Within ethnic group analysis revealed that those of 'White British' had a lower proportion of decay experience (29%) when compared to those of 'White Other' ethnicity (38%), although this was not significant.

Figure 1. Proportion of 5-year-olds children with decay experience, 2012-2022



Source: National Dental Epidemiology Programme (NDEP)

Enamel decay

- The prevalence of enamel decay and/or any dental caries was measured for the first time in this series. Identifying those with enamel decay is important as with preventative measures, it may help halt the progression of enamel decay to dentinal decay, preventing the need for invasive dentistry to restore loss of tooth structure in the future.
- In Leicester, the prevalence of enamel decay and/or any dental caries was 46.8%, which is significantly higher than the national average of 29.3%, and many DfE comparator authorities.

Local analysis – geography and ethnicity (enamel decay)

- Prevalence of enamel decay and/or any dental caries was highest in the north, north east and north west of the city centre, with the highest prevalence across Wycliffe (59%), North Evington (59%), Stoneygate (58%), and Belgrave (58%), although this was not significant.

- Lower prevalence was found in the south of the city, with significantly lower prevalence in Knighton (16.7%).
- 5-year-old children of 'Asian' ethnicity had the highest prevalence of enamel decay and/or dental caries (52%). Those of Black and White ethnicity (43% and 40%, respectively) had the lowest.
- Within ethnic group analysis revealed that those of 'White British' had a lower proportion of enamel decay and/or dental caries (39%) when compared to those of 'White Other' ethnicity (46%), although this was not significant.

Additional results (key findings)

- Among the children with decay experience, the average (mean) number of decayed, missing or filled teeth (due to decay) in England was 3.5. The East Midlands average was also 3.5. The average for Leicester was 4.1, significantly worse than the national and regional average, but not significantly different from many DfE comparator authorities.
- The care index was 7.4% across England as a whole, revealing that just under a tenth of decayed teeth are treated by filling them. The care index in Leicester was 6.3% in 2012 and this has fluctuated over time, with a sharp increase in 2017 to 13.4% followed by a sharp decrease to 3.2% by 2021/22. This is significantly below the national average of 7.4% and Leicester's DfE comparator authority average. It is very likely that the impact of COVID-19 on dental practice activity and service provision was a factor in the decrease.

4.4 Access to dental care: triangulating with the Oral Health Needs Assessment (OHNA)

- As of February 2022, out of 85 NHS dental practices in and near Leicester, 82% of dental practices weren't accepting new NHS patients, and only 18% accepted children (<18s). Limited access was notable in the north-west, west, and south, especially in deprived areas. While most city areas are close to dental practices (~15 minutes), some in the west, east, and north-west require longer travel.
- In 2021/22, Leicester residents (<18 yrs) showed lower band 1 (basic treatment) activity but higher band 2 (additional procedures e.g., fillings etc) and urgent (immediate intervention) activity compared to the national average, indicating higher need.
- In 2021/22, urgent dental activity was notably high in deprived areas like Saffron and New Parks, but also West End, and Newfoundpool, which are areas with higher Eastern European populations, which may suggest potential issues with preventive care or access, leading to unaddressed emergencies.
- In 2020/21, Leicester had significantly higher claims for fluoride varnish but lower rates for fissure sealants compared to the national average. Extraction claims are also significantly lower than the national average and comparators.

4.5 Implications for oral health services in Leicester

While the latest data shows that there have been significant improvements compared to a decade ago, it does highlight the modest improvements that have been made since 2017, and reinforces the ongoing need for continued dedicated dental public health programmes for city children.

4.6 Next steps

(to indicate progress made since)*

- Use the Ward-specific data to inform the allocation of resources, with a focus on areas that exhibit the highest levels of need (i.e. the north and north east), and to further understand the success behind some areas with lower decay experience (i.e. Knighton and Humberstone and Hamilton). This approach extends to various services, such as dental care and oral health promotion, allowing us to adapt service delivery to match the specific requirements in different parts of the city.
- To continue to commission and deliver the supervised toothbrushing programme and the provision of toothbrushing packs, delivered by health visitors, whereby there is a strong evidence base to support their implementation.
- To consider the strategies and interventions employed by other LAs which have seen a significant decrease in the burden of decay among 5-year-olds, to use as potential models of success.
- Gather information to inform future efforts to advocate for and promote water fluoridation across LLR. *
- Find out what action was taken if enamel decay was identified - understanding standard operating procedure for Community Dental Services (CDS) during data input - whether these early lesions being treated/prevented/referred to local primary dental services. **
- Use the above findings, in combination with those of the Children's Health and Wellbeing Survey and Leicester Partnership Trust Digital Health Contact information, to identify Leicester schools associated with the greatest caries risk and oral health need and who may therefore benefit most from a proposed targeted community fluoride varnish programme. Preliminary analysis has indicated that schools in North Evington, Belgrave, Westcotes and Braunston Park and Rowley Fields should be prioritised. ***
- Work with the LLR ICB to improve access to NHS Dentistry and ascertain their oral health promotion activities.

** Public Health colleagues are liaising with Nottingham and Nottinghamshire to discuss how they are advocating for water fluoridation, to inform the approach we take for Leicester, Leicestershire, and Rutland.*

***Further information regarding the processes taken when enamel decay is identified in children has been obtained. Letters are disseminated to the homes of children according to the level of enamel decay observed; there are 4 generic letters that are used as part of this process:*

- **Letter A** - *to inform of healthy teeth upon review,*
- **Letter B** - *to inform of lower- grade enamel decay being observed, with a recommendation for closer inspection,*
- **Letter C** – *to inform of higher-grade enamel decay being observed, with a recommendation for a full dental examination and possible treatment,*
- **Letter D** – *to inform that the child was not co-operating and therefore a review of enamel decay was not feasible.*

A potential recommendation may include the review and refinement of the content of the 4 letters to enhance their efficacy as a preventative oral health promotion activity.

**** Using the 3 sources of data, schools have been identified based on evidence to suggest their higher need, highlighting these as the most suitable candidates for the community fluoride varnish programme locally. This separate paper was brought to LMB on the 27.11.23 and has been formally signed off.*

5. Detailed report

* OH5YO 21/22 pdf analysis report

6. Financial, legal, equalities, climate emergency and other implications

6.1 Financial implications

No financial implications.

Provided by Yogesh Patel on the 30/11/23.

6.2 Legal implications

No legal implications.

Provided by Tracey Wakelam on the 30/11/23.

6.3 Equalities implications

Under the Equality Act 2010, public authorities have a Public Sector Equality Duty (PSED) which means that, in carrying out their functions, they have a statutory duty to pay due regard to the need to eliminate unlawful discrimination, harassment, victimisation and any other conduct prohibited by the Act, to advance equality of opportunity between people who share a protected characteristic and those who don't and to foster good relations between people who share a protected characteristic and those who don't.

Protected Characteristics under the Equality Act 2010 are age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, sexual orientation.

The aim of the survey is to measure the prevalence and severity of tooth decay among 5-year-old children. Oral health is an important aspect of a child's overall health status and school readiness. Poor oral health can affect children and young people's ability to sleep, eat, speak, play and socialise with other children. Other impacts include pain, infections, poor diet, and impaired nutrition and growth. The survey information can inform the local oral health improvement strategy and health needs assessment, and provide comparisons with children of the same age in previous years and also identify oral health inequalities. Achieving good oral health as part of good overall health and wellbeing is a vital aspect of helping people live well.

Inequalities in oral health continue to exist with children in deprived communities having poorer oral health than those living in more affluent communities, there are differences also in relation to ethnicity with certain oral diseases higher in some ethnic groups.

Provided by Surinder Singh on the 01/11/2023.

6.4 Climate Emergency implications

No climate emergency implications.

Provided by Aidan Davis on the 30/11/23.

6.5 Other implications (You will need to have considered other implications in preparing this report. Please indicate which ones apply?)

N/A

7. Background information and other papers:

[National Dental Epidemiology Programme \(NDEP\) for England: oral health survey of 5 year old children 2022 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/national-dental-epidemiology-programme-ndeep-for-england-oral-health-survey-of-5-year-old-children-2022)

8. Summary of appendices:

*PDF detailed report

* Powerpoint of Public Health and Health Integration Scrutiny Commission summary presentation

9. Is this a private report (If so, please indicate the reasons and state why it is not in the public interest to be dealt with publicly)?

N/A

10. Is this a “key decision”? If so, why?

N/A