2022

JSNA

LEICESTER CITY COUNCIL

Oral Health Needs Assessment 2022

Leicester City Council

CONTENTS

1.0 EXECUTIVE SUMMARY

1.1 DENTAL ACCESS

The ability to access dental practices in Leicester is increasingly difficult. Following an audit in February 2022 of Leicester dental practices listed on the NHS website only 8 were accepting new adult NHS patients and a further 7 were accepting under 18's only. Some of these dental practices accepting new patients are not located in the city but in a neighbouring district. This will have significant implications for all Leicester residents seeking a new NHS Dental practice.

Further information can be found under 5.2 General Dental Service.

1.2 ORAL CANCER

Leicester has significantly higher incidence and mortality rates for oral cancer compared to England, and the rate in Leicester has increased significantly from 2008 to 2019. The most recent local authority data reports Leicester with one of the highest incidence rates and the highest Local Authority mortality rate from oral cancer in the country. The high oral cancer mortality rate may indicate that patients could be presenting and/or being diagnosed late, as earlier diagnosis with cancer reduces the risk of mortality.

Further investigation of oral cancer related admissions at a local area level reveals neighbourhoods with higher rates include Belgrave, Abbey Park, Spinney Hill and Beaumont Park. There could be several reasons for this, including issues with late presentation and/or diagnosis, higher than average use of tobacco (smoking and smokeless) and alcohol consumption or issues with the quality of treatment. Therefore, continued efforts in raising awareness of risk factors are required, particularly for males, ensuring dentists routinely screen for oral cancer and cascade messages regarding use of alcohol and tobacco.

Further information can be found in 4.3.3 Oral Cancer.

1.3 DENTAL ATTENDANCE – ADULTS AND CHILDREN

The COVID-19 lockdown and additional prevention control measures has had a significant impact on the number of children and adults attending the dentist. While there are signs of recovery there remains many children and adults who have not attended a dentist following the COVID-19 lockdowns.

In Leicester we would expect a much higher percentage of people to be accessing NHS dentists than nationally due to the deprivation profile, however for adults Leicester attendance is lower than national. For 18-64 year olds access to NHS Dentistry is significantly lower for those residing in the City Centre, West End, Newfoundpool, Rowley Fields and Clarendon Park. For children (0 to 17) about a third attended a dentist in the 6

months to December 2021. Areas to the West and North including Braunstone, New Parks, Newfoundpool, West End, and Belgrave have reported very low rates of dental attendance in the six months to December 2021. Access rates for LAC seem to be good but there is anecdotal evidence from carers that successfully getting an appointment is challenging.

Further information can be found in the 5.3 Child Dental Access *and 5.5 Adults Dental* Access *sections.*

1.4 CHILD ORAL HEALTH

Although the oral health of 5 year old children in Leicester has significantly improved since 2012, Leicester continues to have a significantly higher percentage of children with decay experience compared to England and some comparator areas. There are also significant inequalities across the city and the burden of dental decay remains higher in areas of deprivation with Braunstone Park and Rowley Fields, Wycliffe, Spinney Hill, and Westcotes wards having the highest percentage of decay.

5 year old children in Central and North West areas of the city are more likely to have incisor caries, suggesting there may be an issue with prolonged bottle feeding and oral hygiene compared to other areas in the city. Therefore, it may be advantageous to have a concerted effort on promoting the bottle swap scheme and supervised toothbrushing programme in these areas.

Rates of dental sepsis (abscess) in 5 year olds remain high compared to the national and some comparator areas suggesting an issue with children presenting late to the dentist with decay, or not completing treatment.

There is a lack of up to date information on decay rates in older children, the last 12-year-old dental epidemiology survey was carried out in 2008. Due to Leicester not benefiting from public water fluoridation and the deprivation profile in the city we would expect oral health for this age group to mirror the results seen for 3 and 5 year old children in Leicester and be worse than the national picture.

The impact the pandemic has had upon children's oral health in the city is not fully understood. The number of children who have had an application of fluoride varnish at the dentist has fallen. Public Health prevention programmes such as the Supervised Tooth Brushing programme in schools and nurseries have also been majorly disrupted. These two factors alongside others could result in an increase in decay and other oral health problems amongst Leicester children.

Further information can be found in the 4.2 Children oral health Needs *section.*

1.5 CHILD DENTAL ACTIVITY

Leicester child dental activity data shows an increase in urgent and band 2 dental activity compared to the national profile. There are higher rates of urgent activity in some of the more deprived areas of the city including Saffron, and New Parks. The West End and Newfoundpool also report high rates of urgent activity. These areas are diverse and include a large Eastern European population.

The rate for fluoride varnish in the city is significantly higher than the England average, local dentists continue to prioritise the application of fluoride varnish on Leicester children given the burden of oral health disease and the wider deprivation profile of Leicester. Generally, children in the West of the city are receiving lower fluoride varnish applications. We are especially concerned about New Parks and Newfoundpool as they are amongst the most deprived areas and therefore children are more likely to be at high risk of tooth decay.

Further information is available in the 5.4 Child Dental Activity *section.*

1.6 ADULT DENTAL ACTIVITY

Adult dental activity data shows an higher urgent and band 2 dental activity compared to the national profile for both paying and non-paying adults in Leicester. There are higher rates of urgent activity in some of the more deprived areas of the city including New Parks, Braunstone, Eyres Monsell and Saffron. Urgent activity for the 65+ population has been higher in the more diverse Belgrave, Spinney Hill, and Highfields.

Further information is available in the 5.6 Adult Dental Activity *section.*

1.7 OLDER PEOPLE

The COVID-19 lockdown and additional prevention control measures has had a significant impact on the number of adults attending the dentist, and it is possible that older adults who have been more at risk from COVID-19 have been less likely to visit a dentist over the pandemic. For older people (aged over 65), there are several areas with significantly lower access than the England average. This highlights Thurnby Lodge, Clarendon Park, Eyres Monsell, Saffron, Braunstone, New Parks, Stocking Farm and Mowmacre, and Northfields. It is possible that some of these patients are accessing private treatment.

National reports have also documented the challenges older people in care homes face accessing appropriate oral health care, and these are likely to have been further exacerbated following the pandemic.

Further information is available in the 4.3.2 Older People and Mildly dependent Older people *section.*

RECOMMENDATIONS FOR CONSIDERATION BY COMMISSIONERS

Recommendations for NHS England - Midlands:

- Include the following requirements for dental providers within service specifications:
    - to provide a holistic approach to patient centred care by engagement of all members of the dental team in the Making Every Contact Count agenda
    - to ensure accuracy of dental practice information on the NHS website
    - to undertake annual audits on antimicrobial resistance and Delivering Better Oral Health
- Monitor dental access rates for those residing in the city, especially North West, West and South Leicester
- Investigate reasons for and work with the Local Dental Network on improving the following:
    - low fluoride varnish application rates for children living in New Parks and Newfoundpool
    - low fissure sealant application rates throughout the city
    - low patient satisfaction with NHS dental services delivery in Leicester
    - access to dentistry for Children in Care beyond the urgent care pathway
- Report outcomes of Starting Well programme to the Oral Health Promotion Partnership Board
- Promote NHS Low Income Scheme and FP17 recording for those who are homeless, asylum seekers/refugees or other adults who are vulnerable, especially if they are at risk of oral cancer
- Ensure equity of access for older people (including mildly dependant older adults living in supported housing, care and residential homes) with a particular focus on Thurnby Lodge, Clarendon Park, Eyres Monsell, Saffron, Braunstone, New Parks, Stocking Farm and Mowmacre, and Northfields
- Increase ethnicity data recording to allow for further analysis by ethnic group. NHS Business Services Authority data for Leicester from April 2021 to January 2022 reveals 42% of 0 to 17 year olds, 37% of 18 to 64 year olds, and 35% of 65+ year olds have no known ethnicity recorded.

Recommendations for Leicester City Council:

- Prioritise efforts on supervised toothbrushing recovery at early years and primary school settings in Westcotes, Wycliffe and Spinney Hills.
- Seek to understand any specific cultural feeding practices which could be leading to an increased prevalence of incisor caries in the Central, North West and West of the city.
- Work with early years settings and primary schools to deliver activities and lesson plans from nationally produced teaching resources and Healthy Teeth, Happy Smiles! educational resource packs on healthy eating and oral health.

- As corporate parent, ensure children in care receive access to dentistry and enhanced prevention e.g. fluoride varnish applications four times a year, high concentration fluoride toothpaste etc.
- Ensure a targeted focus on marginalized groups e.g. refugees, travellers, homeless, those in hospices, learning disabilities, etc including promotion of NHS Low Income Scheme
- Work through community engagement pathways being developed in Public Health to engage communities around their needs and want for their oral health
- Provide training for dental workforce in Making Every Contact Count
- Lead a multi-agency partnership approach to reducing oral cancer

Recommendations for Healthwatch:

- Monitor the dental access issues that the OHNA has highlighted
- Carry out projects on vulnerable groups experiences with dental services and recommend changes to partners including NHS E and dental practices

Recommendations for Health Education England:

- Support the recovery of dentistry and increasing access for Leicester residents through foundation dentist training and programmes
- Following the recommendations of the Advancing Dental Care Review, provide opportunities training for a multi-professional approach to reducing oral health inequalities, new routes into oral health careers and distribution of trainees in relation to population and deprivation need

Recommendations for OHPPB:

- Work collaboratively to work on a programme to address the high oral cancer mortality rate in Leicester
- Partnership work to recognise how cost of living crisis will impact on oral health and how we need to work to ensure those in increasing financial debt and pressure are able to access services (this will include provision of oral health packs to foodbanks, funded by NHS E)
- Advocate for and support the integration of oral health improvement and dental care into the Integrated Care Systems (ICS) to and general health pathways e.g. frailty, diabetes etc. ensuring collaborations involve the local dental providers
- Work collaboratively to ensure that all children in care receive access to dentistry and enhanced prevention e.g. fluoride varnish applications four times a year, high concentration fluoride toothpaste etc.

2.0 INTRODUCTION AND OVERVIEW

Oral Health is defined as the:

> '*standard of the oral and related tissues which enables an individual to eat, speak and socialise without active disease, discomfort or embarrassment and which contributes to general wellbeing*'[1]

Put simply, this means good oral health is an important aspect of overall health. The long-term impacts of poor oral health cannot be underestimated, particularly when considering quality of life. Poor oral health can have a negative impact throughout life and can cause pain and infection, leading to difficulties with eating, sleeping, socialising and wellbeing. Amongst adults, it can result in time off work due to pain or for treatment.

Poor oral health in children can also affect school readiness and educational attainment by loss of concentration in class due to pain and infection. Furthermore, each episode of dental extraction under general anaesthesia (if required) would also necessitate at least three days of school absence with parents/carers also being obliged to take time off work. Limited function of the dentition may also restrict food choices compromising nutritional status.

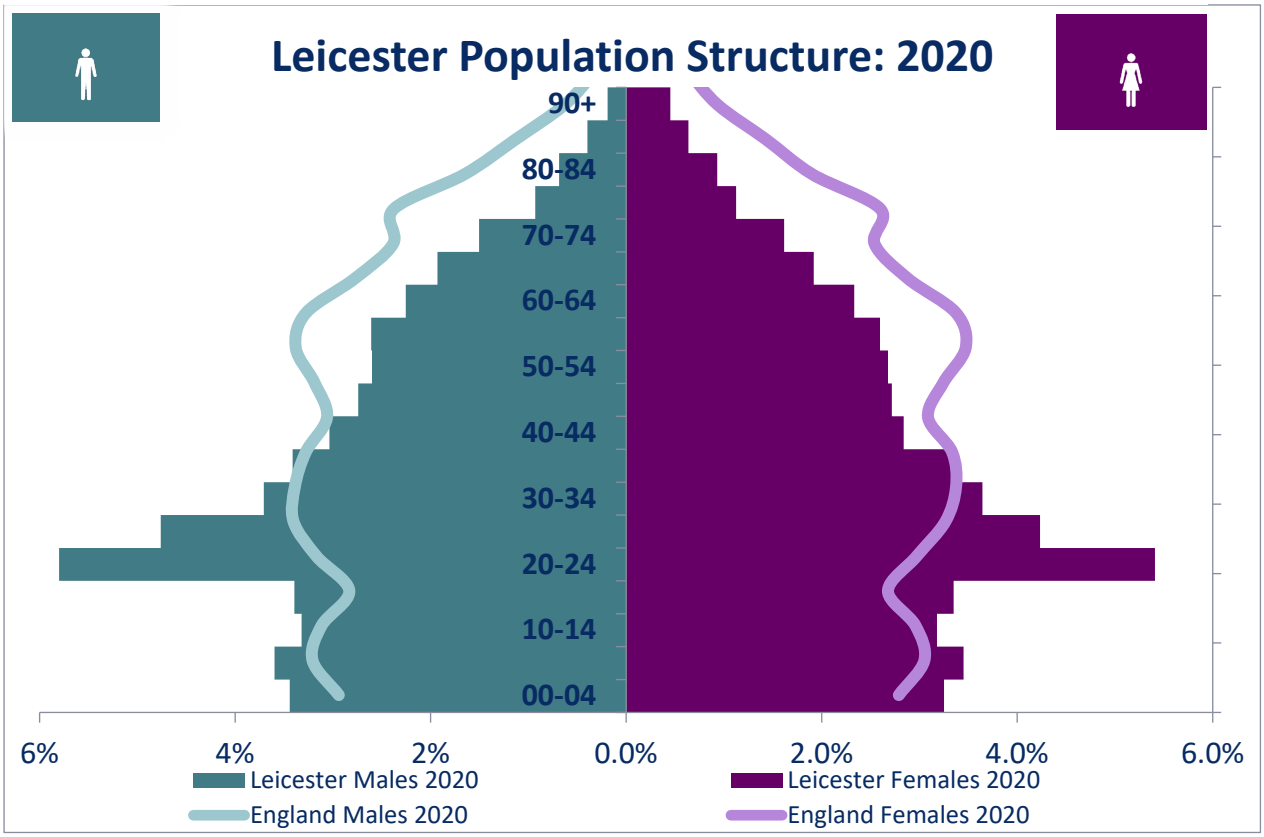
Tooth decay is still the most common reason for hospital admissions in the 6 to 10 year old age group. In 2019 to 2020 there were 35,190 hospital procedures for extraction of carious teeth in children aged 0 to 19 years old in England[2]. This means that around 102 children a day, some just a year old, are having teeth removed in hospital. [3] Extraction of teeth with general anaesthetic is often a child's first introduction to dental care and can lead to fear and anxiety with lifetime consequences.

Oral diseases, including tooth decay, are largely preventable; but remain a major public health problem. As with other diseases, the greatest burden of poor oral health typically falls on disadvantaged and socially marginalized populations.

2.1 OVERVIEW OF LEICESTER POPULATION

With around 354,036 residents, Leicester is the ninth largest city in England and the most populous urban centre in the East Midlands. Leicester's population is relatively young compared with England (see Figure 1 below); a third of all city households include dependent children, 20% of Leicester's population (71,539) are aged 20-29 years old (13% in England) and 12% of the population (43,602) are aged over 65 (19% in England). [4]

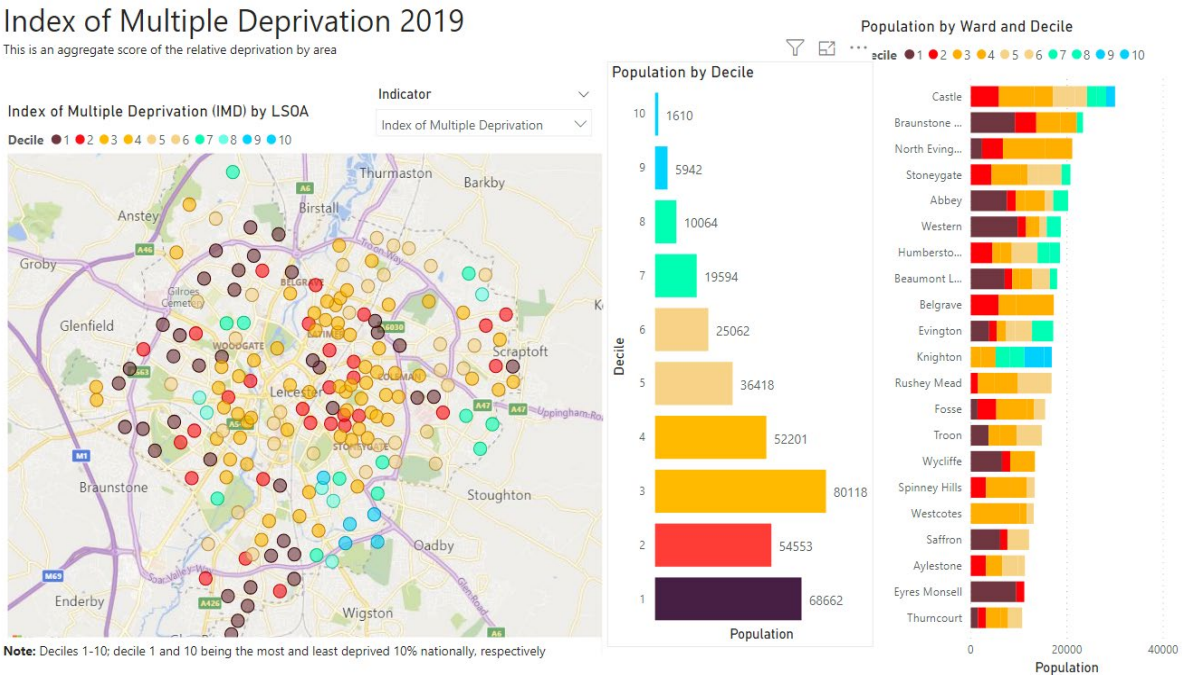
Figure 1: Population structure in Leicester and England by age and sex (ONS 2020)



Leicester is home to a diverse range of faiths and communities. Leicester residents come from over 50 different countries. Around a third of Leicester residents were born outside of the UK. Almost half of Leicester's residents classify themselves as belonging to an ethnic group that is not White. Leicester has one of the country's largest Asian communities (37% of the population), with 28% of all residents defining themselves as of Indian heritage.[5] The city is a National Asylum Seeker Service (NASS) designated dispersal city and is host to about 1,000 of the 2,500 asylum seekers resident in the East Midlands.[6]

Leicester includes areas that experience high levels of deprivation, and it is ranked 32nd out of 317 local authority areas in England on the 2019 national Index of Deprivation (where 1 is the most deprived). In Leicester an estimated 120,000 residents or 35% of the population live in the most deprived 20% of areas in England, and a further 37% live in the 20-40% most deprived areas. About 2% of the Leicester population live in 20% least deprived areas nationally. Figure 2 below shows deprivation across the city and by Leicester ward.[7]

Figure 2: Index of Multiple Deprivation in Leicester (IMD 2019)



Note: Deciles 1-10; decile 1 and 10 being the most and least deprived 10% nationally, respectively

3.0 WHO IS AT RISK AND WHY?

Although oral health has been improving over the past 30 years in the UK, persistent inequalities remain, particularly in Leicester. Understanding the structure of the local population will assist in planning and commissioning as oral health needs differ between age, cultural and socio-economic groups. Inequalities in oral health reflect broader health differences across the population, both in terms of pattern and cause. Socio- economic and cultural factors are recognised as being key determinants of oral health inequalities. Figure 3 below identifies different groups within the population that are at risk of poor oral health.

Figure 3: Who is at risk in the population and why?

Cohort in the Population	Rationale
Those living in deprivation	People living in areas of higher deprivation are more likely to experience poor oral health and least likely to access dental services.[8] Unemployed homeless people are more likely to experience oral discomfort due to health and psychosocial factors associated with being homeless.[9]
Children	Tooth decay remains the most common reason for hospital admission for children aged 5 to 9 years-old and the sixth most common procedure in hospital for children aged 4 years and under.[10] Children in care experience issues with the provision of care and the perceived lack of authority of foster carers in enforcing oral health related behaviour.[11]
Adults	Pregnant women: Increased risk of oral/dental disease and low usage of dental services.[12] Men are less likely to see a dentist regularly than females and more likely to attend only when experiencing problems.[13] Irregular dental attenders are more likely to experience tooth loss and increased dental disease experience[9,14]
Vulnerable older people	Multiple medications causing dry mouth; reduced manual dexterity causing reduced ability to maintain oral hygiene; Dementia sufferers are less likely to maintain oral hygiene and visit dental services; previous dental disease leading to lack of functional dentition.[15] Care home residents have greater difficulty accessing dental care due to infrequent visits to care homes by dentists and oral health not being prioritised in care homes.[16]
Black and Minority Ethnic groups	Those of non-white backgrounds have lower use of dental services. Children from Chinese and Eastern European backgrounds have higher prevalence, severity and extent of dental decay than other ethnic groups.[17,18]
Those with a poor diet	Children and adults are more at risk of developing tooth decay if they are eating a diet with high and frequent consumption of sugar.[10]
Those living with long term conditions and illness	People with diabetes are more prone to periodontal (gum) disease and premature loss of teeth.[19] Those with mental illness have poorer oral health.[20] Hospice patients are at risk of poor oral health due to the under delivery of oral care for the terminally ill.[21]
Substance misusers	Illegal drugs can cause sugar cravings or dry mouth, increasing the risk of decay. Some cause clenching and grinding, leading to tooth wear. Illegal drug use is also associated with reduced compliance with oral hygiene regimes.[22,23] Use of smoked and smokeless tobacco is one of the most important risk factors for oral cancer, periodontal disease, mucosal lesions and dental implant failure.[24]

Substance misusers	Alcohol consumption increases the risk of oral cancer and dental erosion. Those who consume tobacco and alcohol have a greatly increased risk of developing oral cancer. Excessive alcohol consumption is also linked with orofacial trauma and reduced dental attendance.[25,26]
Those with disabilities	Disabled groups, including those with learning disabilities, autism and other neurodiverse conditions, have poorer levels of oral health, and experience barriers to maintaining oral health and accessing dental services.[27]
Marginalised groups	Homeless people tend to have greater experience of dental disease and access dental services less than the general population.[9] Those living in secure settings tend to have worse oral health than those in the general population.[28] Gypsies/travellers have a high level of unmet need, low dental attendance levels and make little use of preventative services.[29] Those living in supported accommodation have poorer oral health and restricted in their ability to attend a dental practice.[30]
Refugees and asylum seekers	Asylum seekers and refugees tend to have poorer oral health, and face barriers to access services including difficulty accessing translation support. A survey of those in vulnerable persons resettlement scheme (VPRS) reveals that refugees and asylum seekers are at higher risk of poor oral health. This is because they are less likely to brush regularly, diet and higher smoking prevalence.[31]
People with limited English or health literacy	Those with limited English or health literacy, have barriers to the uptake of preventative treatment, as do children whose parents lack health literacy.[32]

3.1 ORAL HEALTH AND DEPRIVATION

The 2019 Health Survey for England explored oral health themes for adults and children. It demonstrated an improvement in most of the indicators of oral health and disease nationally. However, evidence continues to highlight serious underlying social inequalities, particularly between poverty and oral health.[33]

Headlines for England include:

- 6% of children aged under 16 had time off nursery or school in the last six months because of problems with their teeth, mouth or gums, but for most (4%) this was on only one occasion.
- 4% of mothers and 3% of fathers reported that they had taken time off work in the last six months because of problems with their child's teeth, mouth or gums.
- Very few adults (3%) in England do not have any natural teeth. This reveals a continued fall from the 6% recorded in the Adult Dental Health Survey in 2009, and a dramatic generational fall from 37% in 1968.

- Those without natural teeth are largely to be found among adults aged 75 and over, 19% of whom are edentate.
- More than four fifths of adults (84%) have 20 or more natural teeth, the number considered to represent functional dentition.

The two figures below show results from the survey by deprivation. It reveals:

- Adults in lower income households and in more deprived areas are more likely to have no natural teeth and therefore less likely to have functional dentition.
- Children resident in more deprived circumstances take more time off school or nursery because of oral health problems.

Figure 4: Functional dentition for adults by deprivation (HSE 2019)

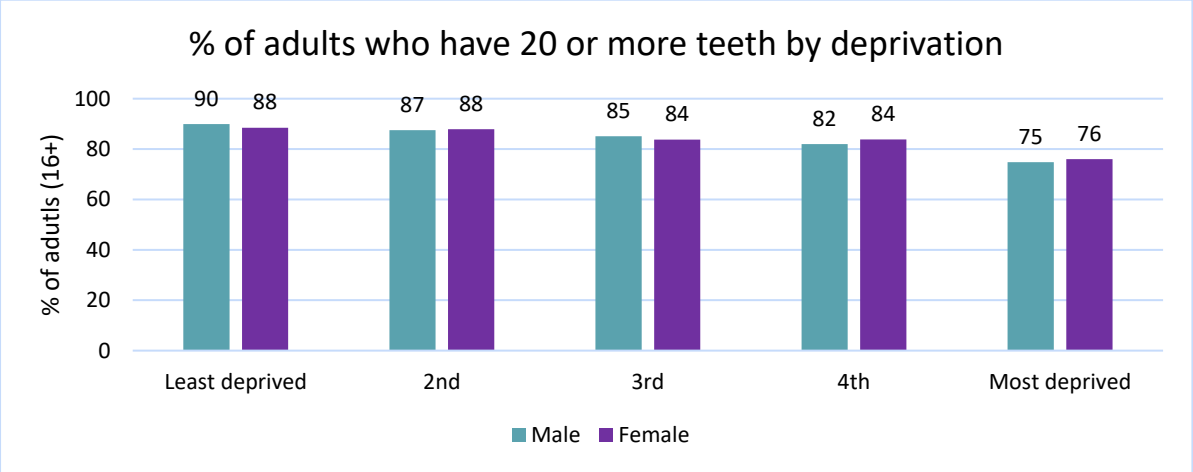
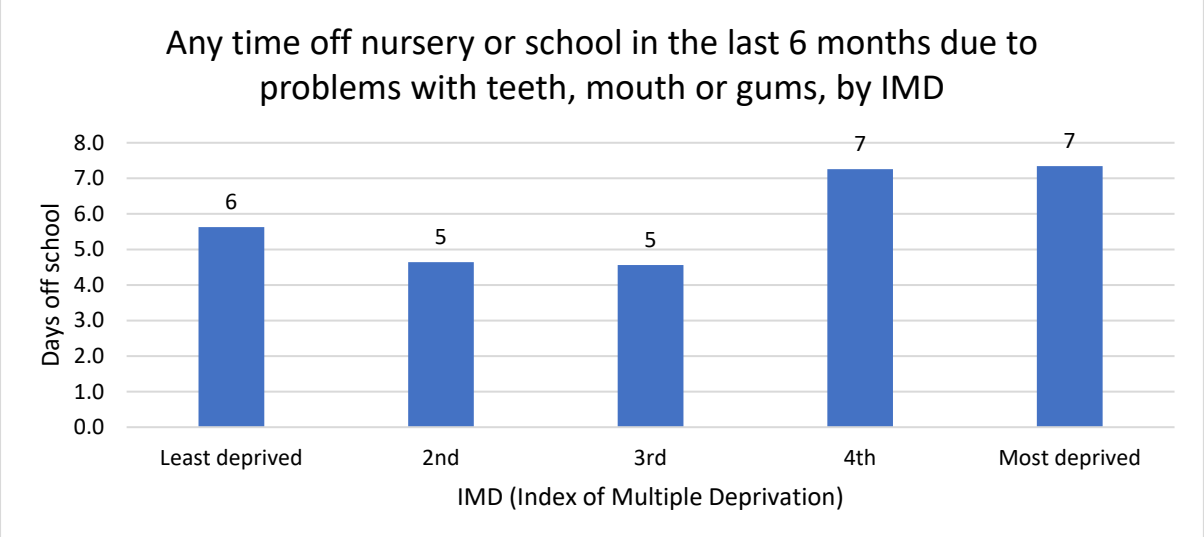


Figure 5: Time off for school/nursery because of Oral Health problems by deprivation (HSE 2019)



Furthermore the following table shows tooth extraction Hospital Episode Statistics data from 2018 to 2019 for children aged 0 to 19. There were a total of 37,406 extractions and the rate of extractions per 100,000 population varied between area-level socioeconomic groups. The highest rates are seen in the most deprived populations with the rate in the most deprived quintile over 3 times that of the least deprived quintile. Trend data show that while the overall extraction rate has decreased between 2014 to 2015 and 2018 to 2019, the pattern with respect to deprivation has not changed and inequalities persist.

Figure 6: Tooth extractions for children aged 0 to 19 (PHE 2020)

Index of Multiple Deprivation England Quintile	Carious tooth extractions	Quintile population	Tooth extraction rate per 100,000 population
1 (most deprived)	14653	3143218	466.18
2	8950	2747615	325.74
3	6080	2504350	242.78
4	4479	2391983	187.25
5 (least deprived)	3244	2454121	132.19
England	**37406**	**13241287**	**282.50**

4.0 THE LEVEL OF NEED IN THE POPULATION

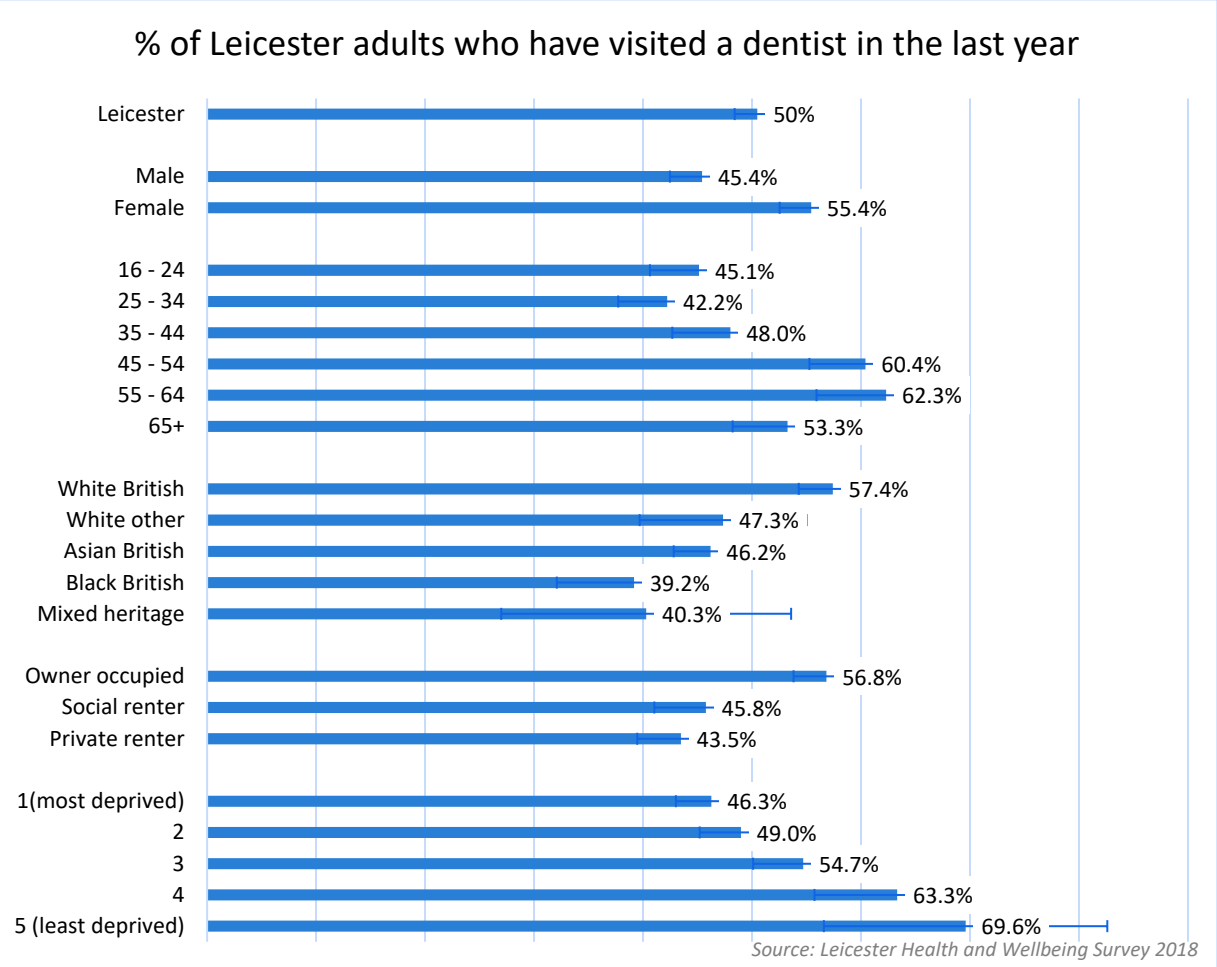
4.1 LOCAL SURVEY INTELLIGENCE- ADULTS AND CHILDREN

Leicester City Council have commissioned health and wellbeing surveys for both adults (2018) and children (2016/17). These surveys have asked about dentist attendance and frequency of tooth brushing (for children). They reveal significant differences by gender, age, ethnicity, and deprivation. While the pandemic has detrimentally impacted upon attendance to dental practices the pattern of groups more or less likely to attend dental practices is likely to be similar.

For Leicester adults:

- Males are significantly less likely to have visited a dentist in the last year.
- Younger adults are significantly less likely to have visited a dentist in the last year, and adults aged 45 to 64 are significantly more likely to have visited the dentist in the last year.
- By ethnicity White British residents are significantly more likely to have visited a dentist, while Black British residents are less likely.
- Residents in less deprived areas are more likely to have visited a dentist in the last year. [34]

Figure 7: Dental attendance in the last 12 months for Leicester adults (LHWBS 2018)



For children aged between 10 to 15 years:

- More than four-fifths (85%) say they clean their teeth at least twice a day.
- Nearly four-fifths (79%) say they usually visit the dentist for a check-up.
- Children and young people are more likely to say they have never been to the dentist if from the North area of the city or if they are Asian.
- Children who are less likely to brush their teeth twice a day include those aged 10 to 11 years, males and those from Asian ethnicity. [35]

4.2 CHILDREN ORAL HEALTH NEEDS

The National Dental Epidemiology Programme (NDEP) includes the examination of oral health needs amongst children. The examinations are taken from a random sample attending government funded academies and Local Authority maintained schools. The aim of the surveys is to measure the prevalence and severity of dental caries among young children, and to inform the local oral health improvement strategy and health needs

assessments, establish change over time, and identify oral health inequalities. There have been recent NDEP surveys of three year old and five year old children.[36]

Children in Leicester have a high level of oral health need. Table 2 demonstrates that Leicester is significantly worse than England for several oral health indicators.

Figure 8: Leicester and England Child Oral Health comparisons (OHID 2022)

Oral health indicators	Leicester	England
Percentage of three-year olds with dental decay (2019/20)	***16.1%***	10.7%
Percentage of five-year old children with dental decay (2018/19)	***38.6%***	23.4%
Percentage of twelve-year olds with dental decay (2008/09)	***55.7%***	33.6%

Significantly worse than England	***Similar to England***	***Significantly better than England***

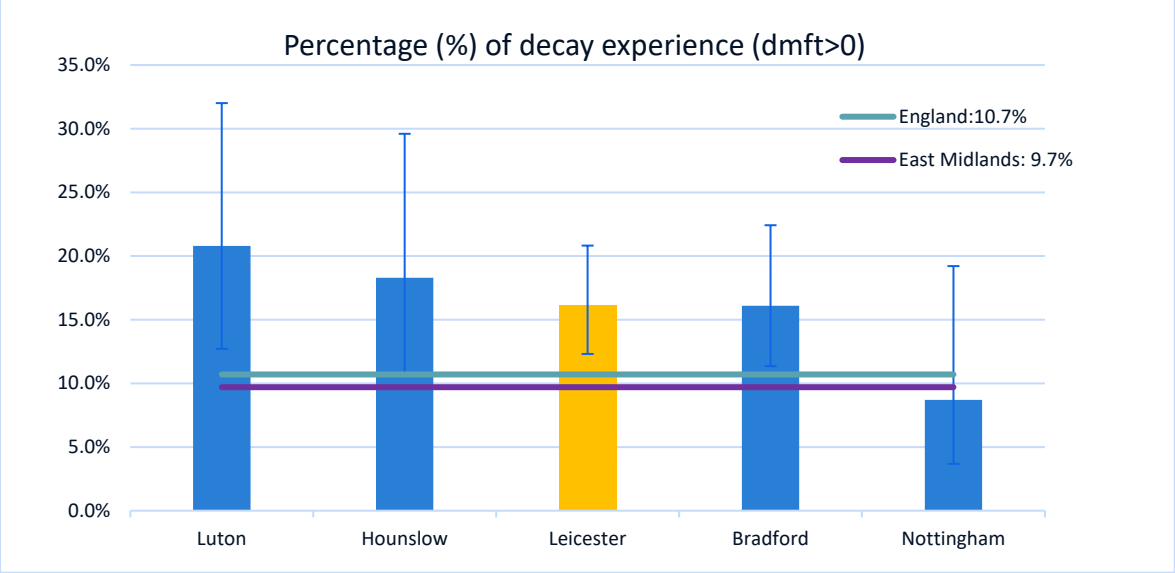
4.2.1 EXPERIENCE OF DENTAL DECAY IN CHILDREN AGED 3

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.[37]

Data collection for the 3-year-old survey 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. For this reason, 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. 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).

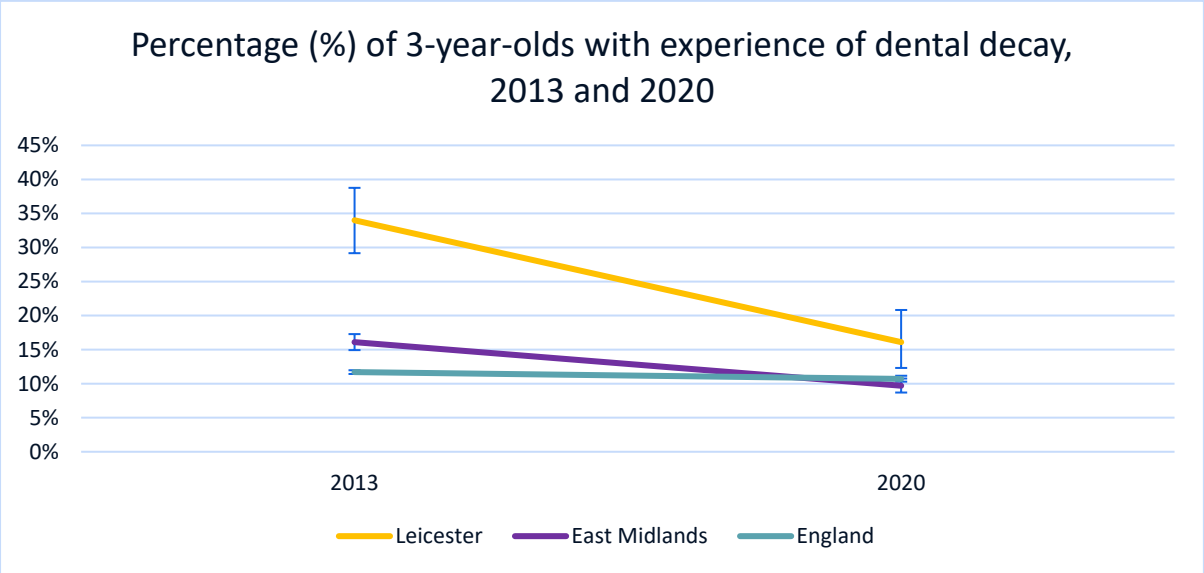
Overall, 16.1% of 3-year-old children in Leicester had experience of dental decay, this is significantly higher than the national (10.7%) and East Midlands (9.7%) rate. When compared to ONS comparators, Leicester has the third highest prevalence (Figure 9).

Figure 9: Percentage of three-year-old children with decay experience (NDEP 2020)



Overall, 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 (Figure 10).

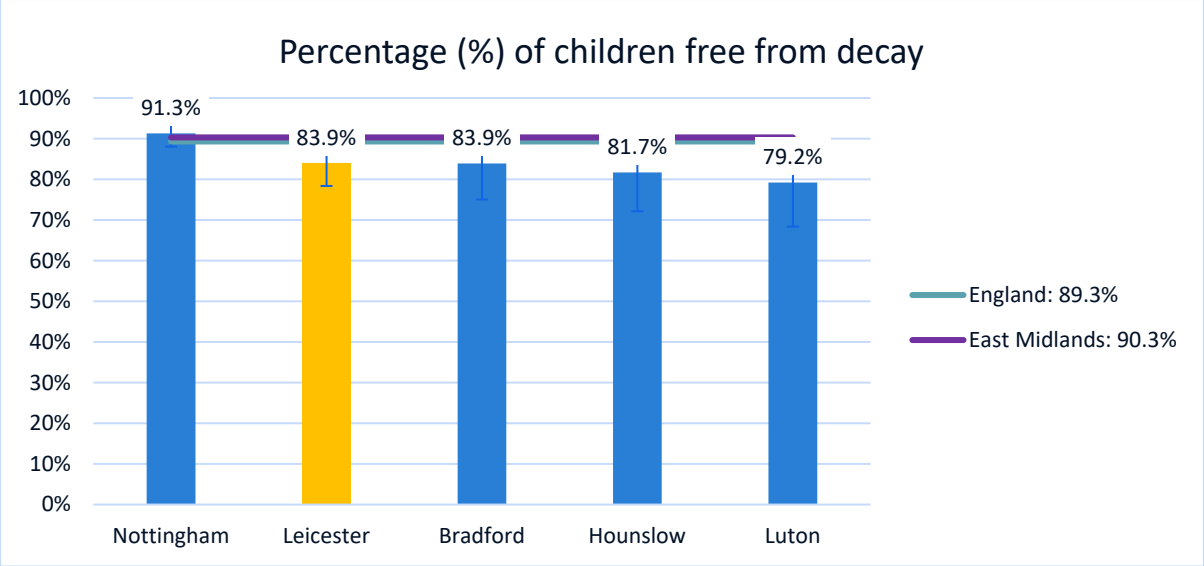
Figure 10: Percentage of three-year-old children with decay experience (NDEP 2013 to 2020)



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

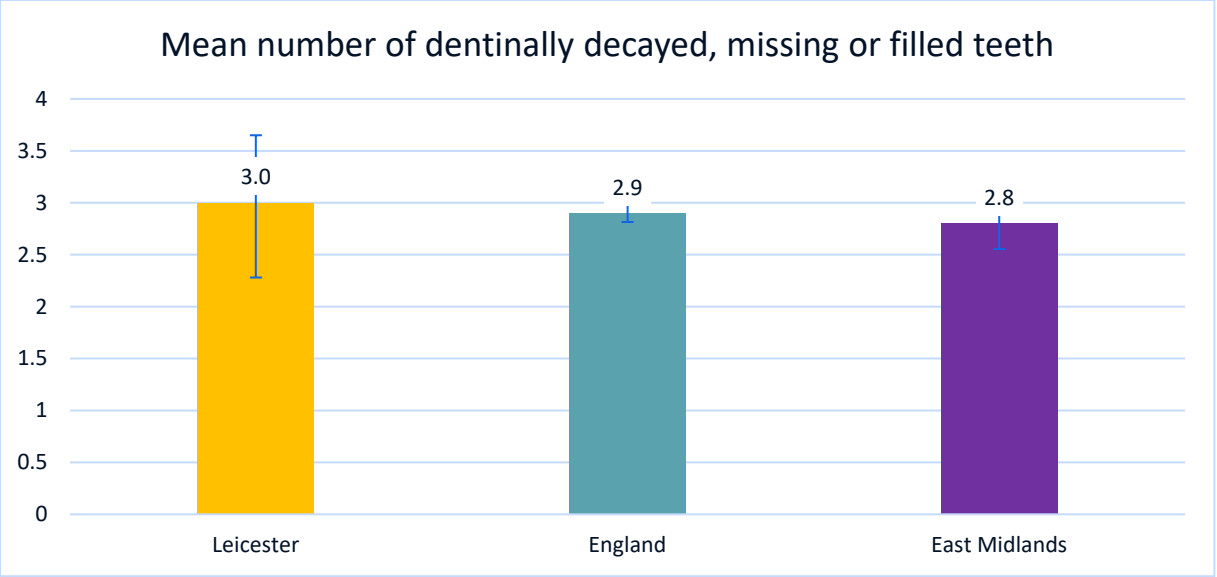
decay experience (18% decrease). However, confidence in these findings is limited by the small number of Leicester children examined in the survey. Further analysis of examined children is required to better understand decay experience across the city.

Figure 11: Percentage of three-year-old children free from tooth decay (NDEP 2020)



Among the children with decay experience, the average number of decayed, missing (due to decay) or filled in for England and the East Midlands was 3. The average for Leicester was also 3 (Figure 12).

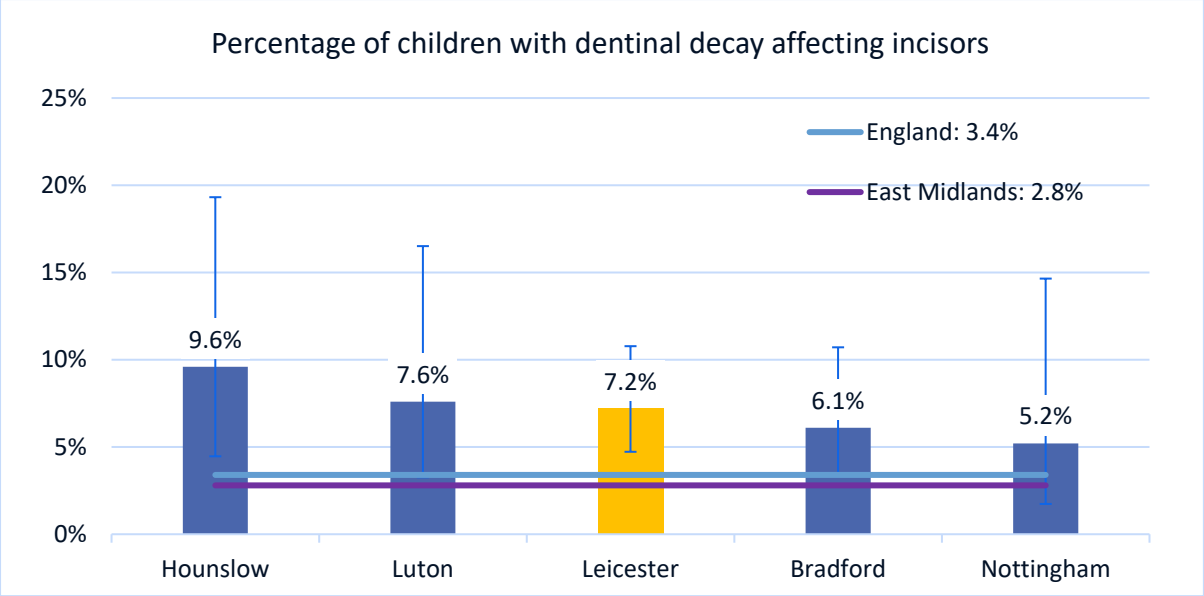
Figure 12: Mean number of dentinally decayed, missing or filled teeth (NDEP 2020)



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 – with Leicester's prevalence being significantly higher.

Figure 13: Percentage of three-year-old with dentinal decay affecting incisors (NDEP 2020)



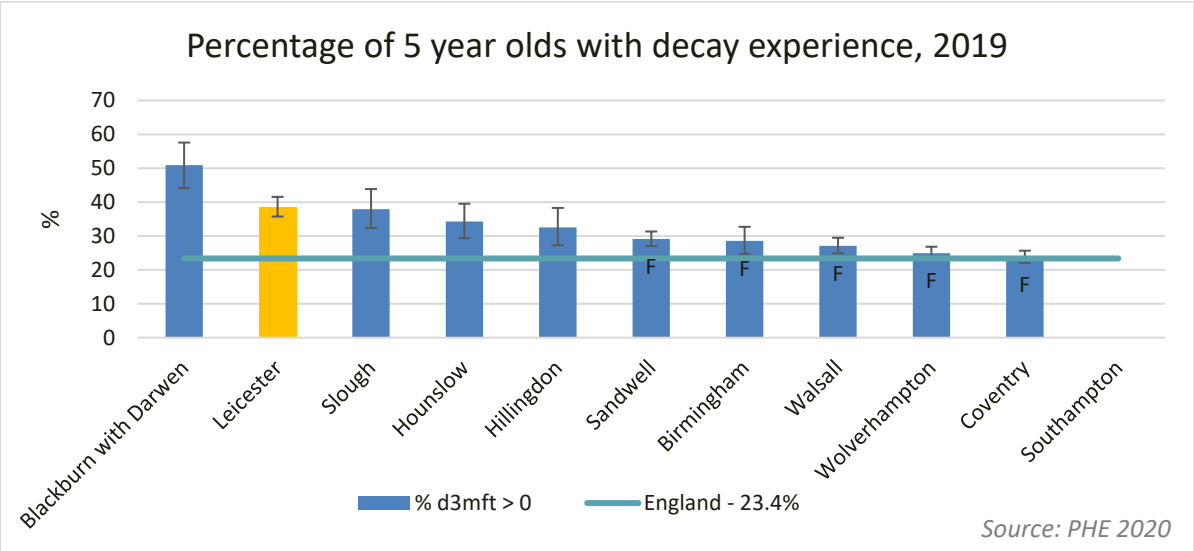
4.2.2 EXPERIENCE OF DENTAL DECAY IN CHILDREN AGED 5

The following details findings from the fifth PHE NDEP oral health survey of 5-year-old children.[38] Data for Leicester is benchmarked against Local Authority children's comparators, which have a statistically similar population and demographic profile (Note that Southampton did not take part in the survey).

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 comparators (Figure 13)*. 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.

Figure 14 (below) shows that Leicester is ranked 2nd highest amongst its peer comparators for the average number of decayed, missing of filled teeth for those children with tooth decay, having a significantly higher average in comparison to Wolverhampton, Coventry, Birmingham and Sandwell, all of which have community water fluoridation schemes in operation.

Figure 14: Percentage of five-year-old children with decay experience (NDEP 2019)



Despite this, trend data reveals that Leicester has experienced a significant improvement in the proportion of 5-year olds with decay experience (Figure 15); between the years 2012 and 2019, the proportion of 5-year old children with decay experience fell from 53.8% to 38.6%. However, there has not been any further reduction between 2017 and 2019.

Figure 15 shows that 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 15: Percentage of five-year-old children with decay experience (NDEP 2012 to 2019)

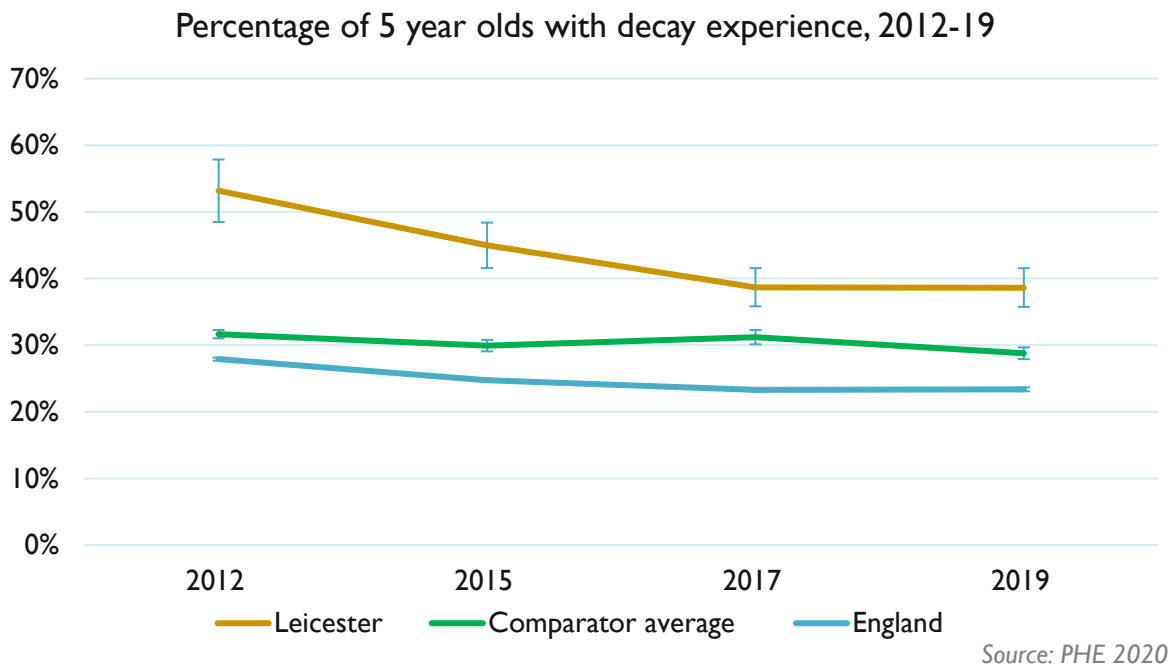
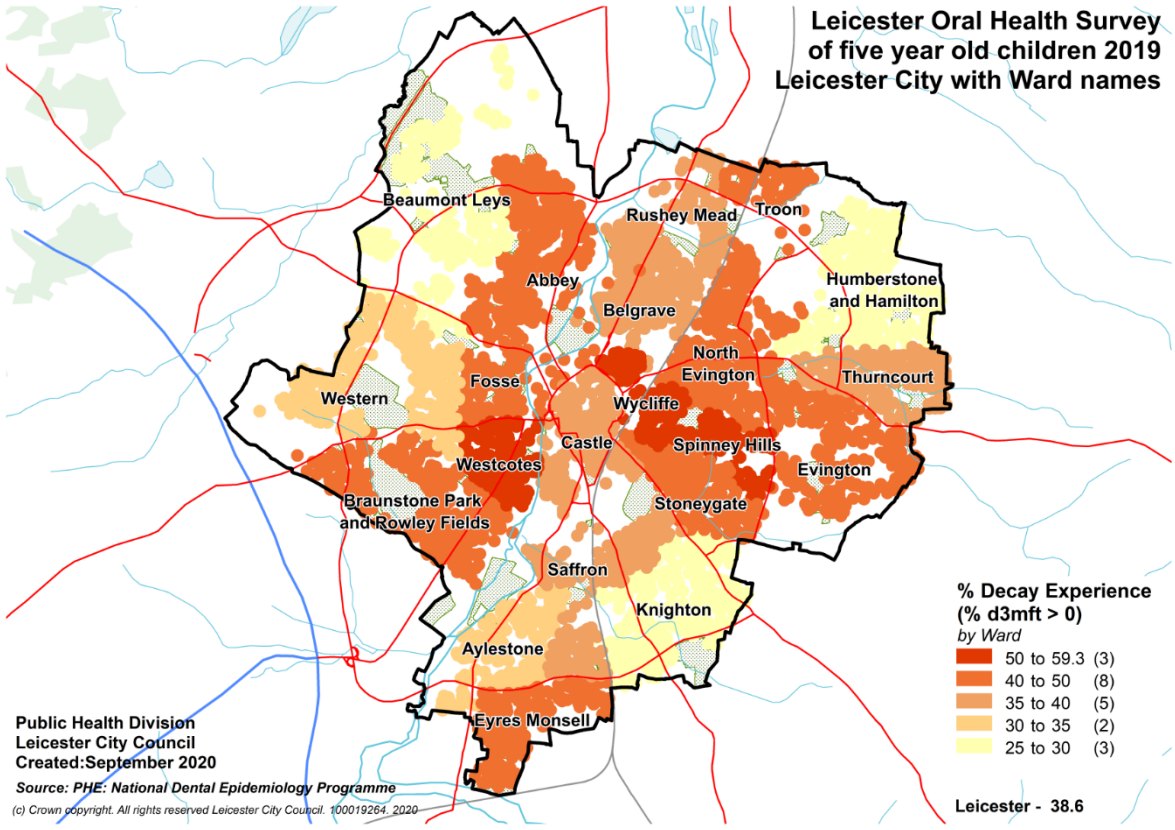


Figure 16 demonstrates oral health inequalities across the city. It can be seen that the highest level of dental decay experience is concentrated in the wards of Spinney Hills,

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 16: Dental decay experience for five-year -old children by ward (NDEP 2019)

%



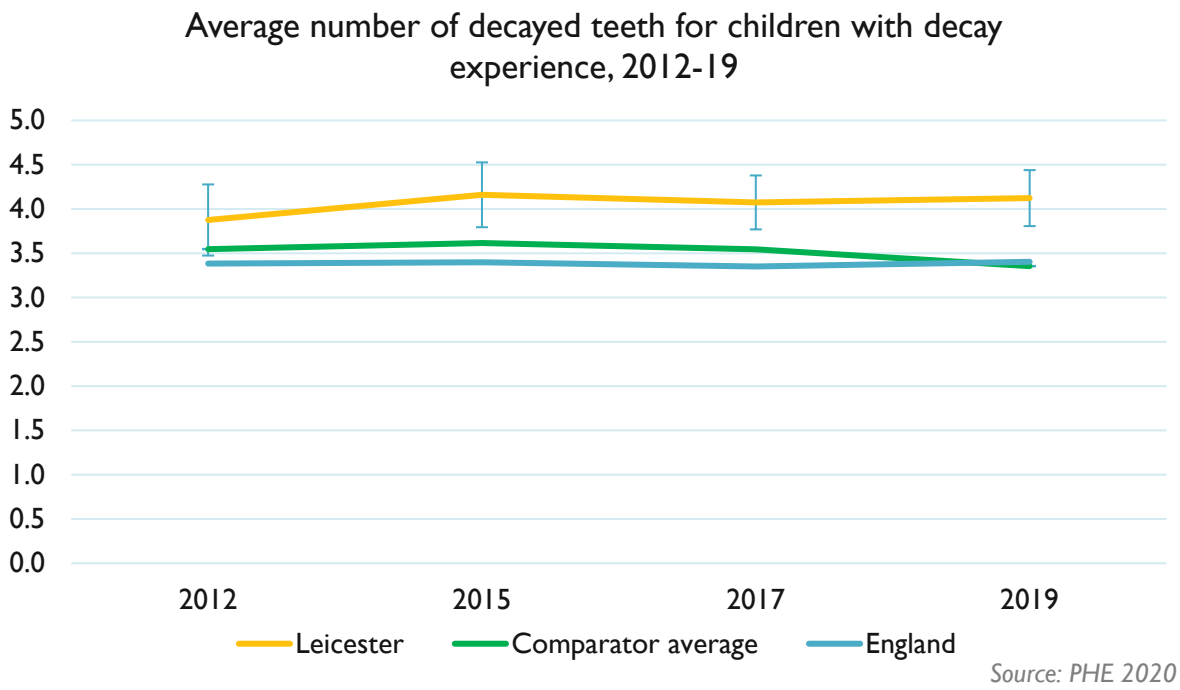
SEVERITY OF DENTAL DECAY IN CHILDREN AGED 5

In 2019, more than half (61.4%) of the children living in Leicester were free from tooth decay. For the remaining 38.6% with tooth decay, calculation of the average number of decayed, missing or filled teeth allows us to understand more about the extent of disease in the mouths of children who are affected. A five-year old child normally has 20 primary teeth. The average number of decayed, missing (due to decay) or filled teeth of children in Leicester was 4.1 compared to 3.4 nationally.

Figure 17 shows the mean number of decayed, missing and filled teeth in children with decay experience in Leicester, the average of its comparator local authority areas and England. Although there is some indication that the severity of dental disease in Leicester is worsening, the differences over time or between Leicester and the comparator or national averages are not statistically significant. In this way, these findings may suggest that while the overall prevalence of dental decay is reducing, those experiencing severe decay may be

neglected, which may be widening inequalities.

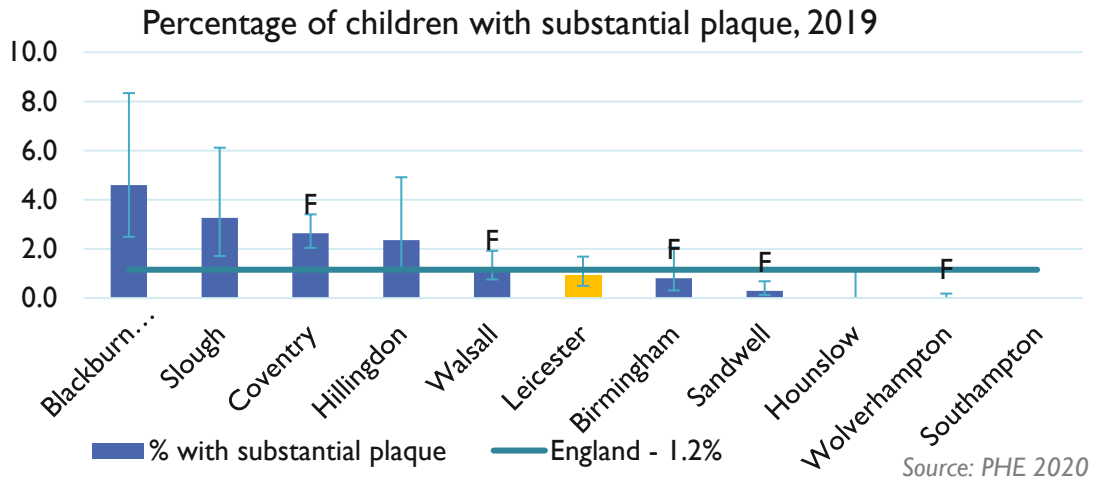
Figure 17: Average number of decayed teeth for children with decay experience (NDEP 2012 to 2019)



PERCENTAGE OF CHILDREN AGED 5 WITH SUBSTANTIAL PLAQUE

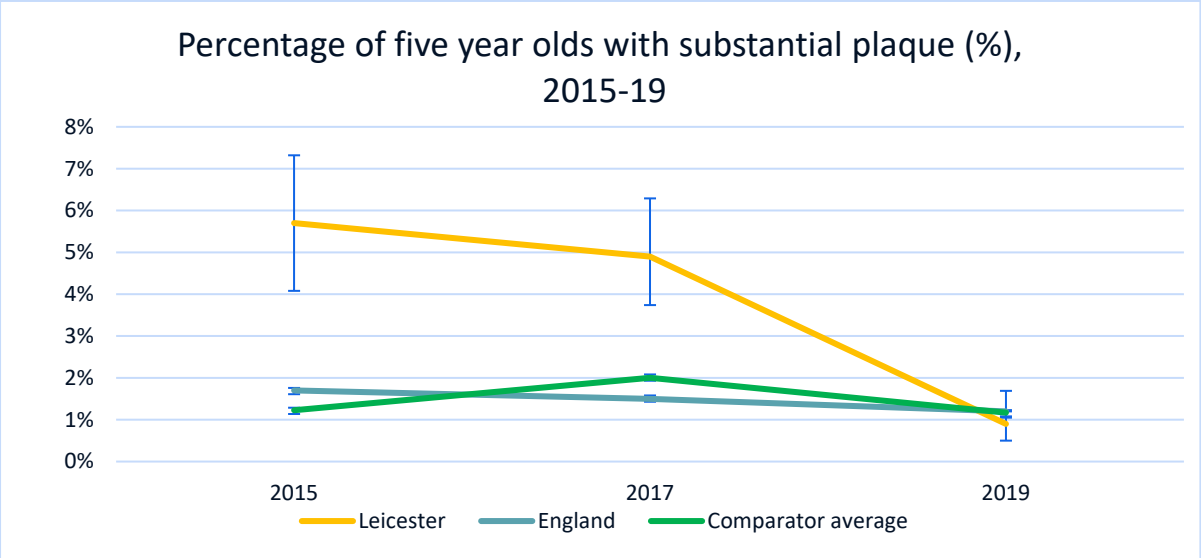
The presence of substantial amounts of plaque compared with 'visible' or no plaque provides a proxy measure of children who do not brush their teeth, or brush them infrequently. Such children cannot benefit from the protective effects of fluoride in toothpaste. Substantial plaque was recorded for 1.2% of children in England. A similar rate was recorded in Leicester (0.9%).

Figure 18: Percentage of children with substantial plaque (NDEP 2019)



Substantial plaque has significantly reduced since 2015 and 2017 whereby prevalence was 5.7% and 4.9%, respectively, which may reflect the success of the supervised toothbrushing scheme in the city (Figure 19).

Figure 19: Percentage of children with substantial plaque, Leicester and comparators, 2015 to 2019 (NDEP)

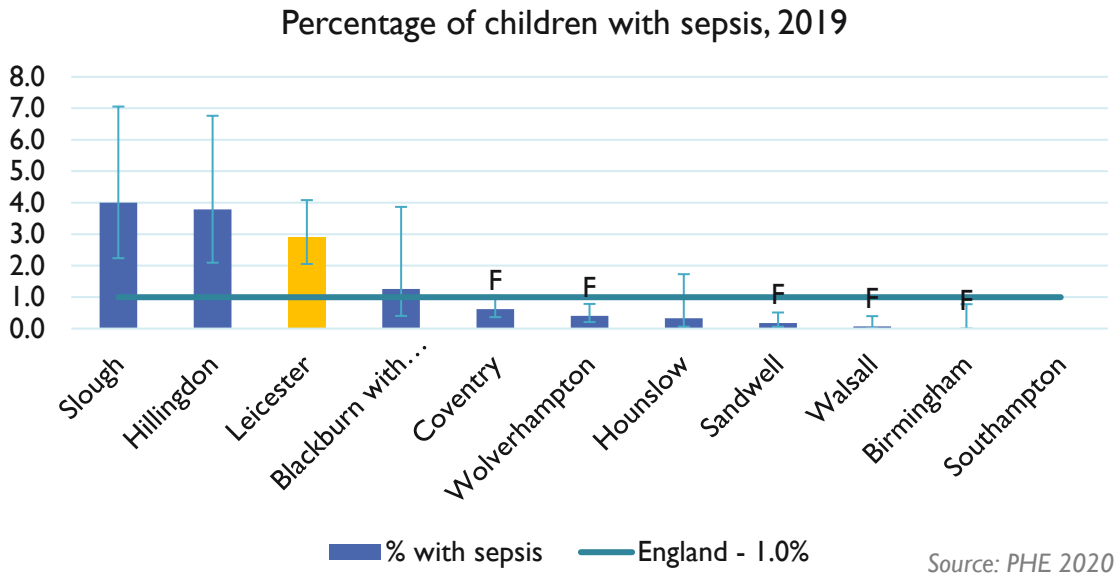


EXTENT OF DENTAL SEPSIS IN CHILDREN AGED 5

At the age of five-years, nearly all oral sepsis (dental abscess) will be the result of the dental decay, and a small number of cases will be linked to traumatic injury of teeth. Oral sepsis was recorded for 1.0% of children in England. In Leicester, 2.9% of children were recorded with sepsis, a modest fall from 2012 where 2.5% of five-year olds were observed to have dental sepsis.

Figure 20 shows that Leicester is ranked the 3rd highest amongst its peer comparators, although there is no significant difference between Leicester and its comparators, apart from Coventry, Wolverhampton, Sandwell, Walsall and Birmingham, which may benefit from community water fluoridation schemes.

Figure 20: Percentage of children with sepsis (NDEP 2019)



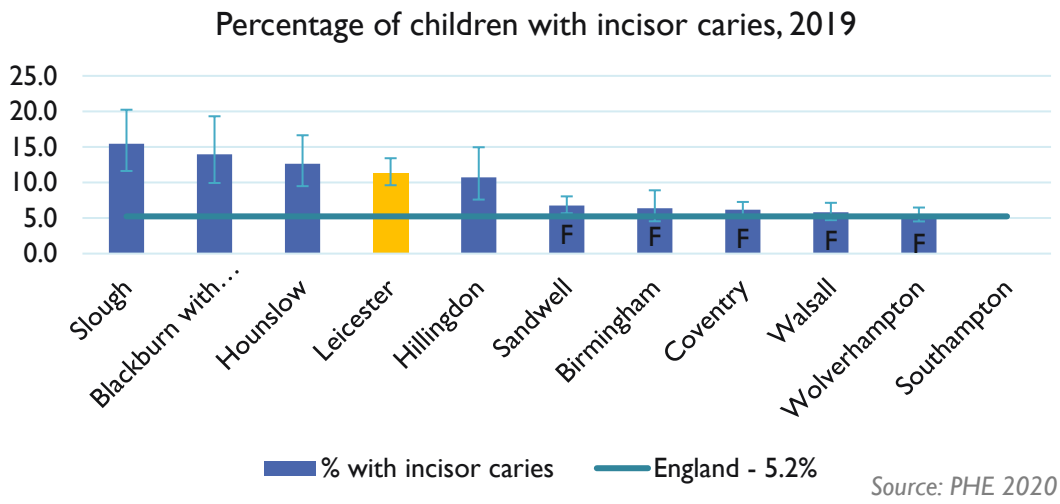
It should also be noted that in some cases of sepsis, antibiotics may be prescribed to alleviate symptoms, and this causes a concern as it contributes to the challenges with antibiotic resistance, which are a mounting threat to Public Health. Analyses of antibiotic prescribing for oral health causes is ongoing and not yet available to be included in this review.

EARLY CHILDHOOD CARIES (DENTAL DECAY AFFECTING INCISORS) AT AGE 5

This measure is useful as it indicates what proportion of children had dental decay affecting one or more of their incisors (front, upper) teeth; an aggressive form of decay which can be rapid and extensive in attack. It is associated with long term bottle use with sugar sweetened drinks, especially when these are given overnight or for long periods of the day.

Figure 21 shows the percentage of 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 21: Percentage of children with incisor caries (NDEP 2019)



Source: PHE 2020

Across local authorities, some marked geographic variation is to be expected as incisor decay is closely linked with health behaviours that are influenced by local cultural norms. Children with incisor decay are likely to have more teeth affected than is the case for general decay, so tackling this problem may lead to relatively higher benefits. Again, some areas will also benefit from community water fluoridation schemes.

Figure 22 shows the variation in the prevalence of incisor caries by broad area within the City in 2019. Distribution of prevalence revealed that the Centre of Leicester has the highest percentage (18%), followed by the North West (14%). The East and the South had the lowest prevalence (10% and 5%, respectively). This differs from 2017 whereby the highest prevalence was in the Central (19%) and followed by the East (16%) of the city. There have been drops in Central, East and South but these are not statistically significant. Since 2017 there have been increases in the North West and West but again these are not significant.

Figure 22: Percentage of children with incisor caries by broad area (NDEP 2019)

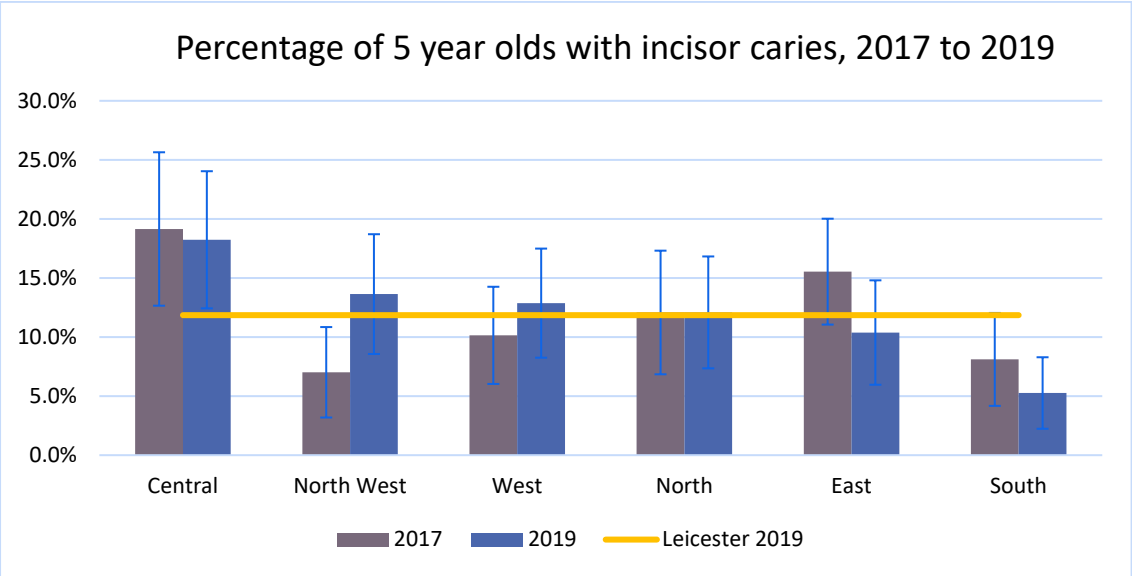
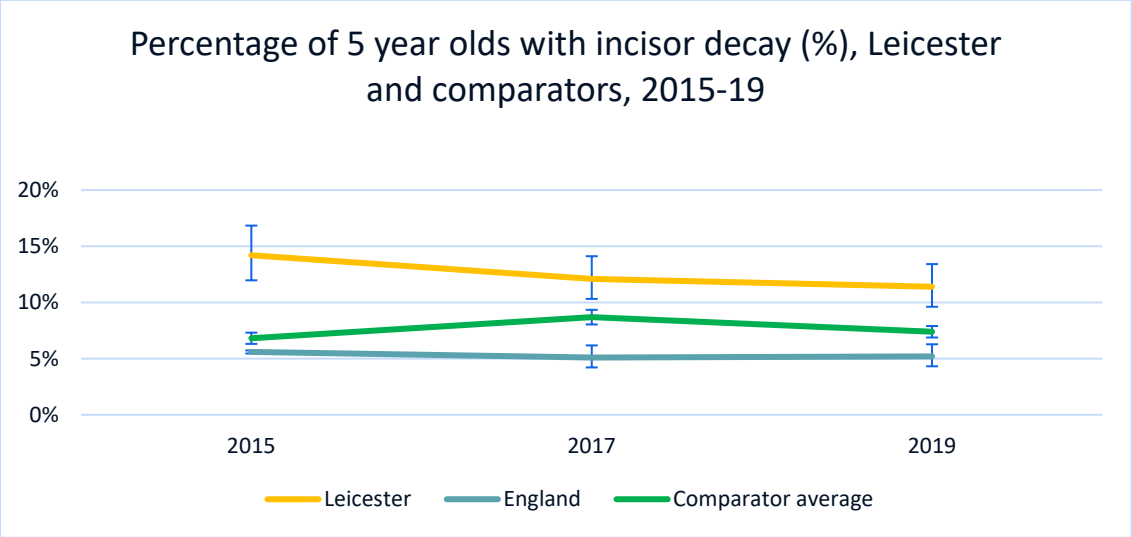


Figure 23: Percentage of five year olds with incisor caries 2015 to 2019 (NDEP)



4.2.3 CHILDREN IN CARE

Statutory guidance requires that all children in care should receive an oral examination, including very young children, even if their teeth have not come through the gum yet , and that they should have access to dental care. If their oral health is assessed as having an immediate need, the professional undertaking the assessment should refer them to Community Dental Services CIC for assessment and treatment.

If they do not have an immediate need, they should attend a high street dental practice for a routine dental appointment. Children may not know which dental practice they used to attend or have never been to a dentist so their carers have to find a practice taking on new NHS patients.

Local authorities are required to provide data annually to the Department for Education (DfE) about children in their care. This includes a range of health data, but the only dental indicator recorded is the number of children who had their teeth checked by a dentist during the twelve-month reporting period.

There are however a number of issues with the quality of this data:

- Only those children who have been in care continuously for at least 12 months are included. Dental data is not available for those children who have not been in receipt of continuous care for 12 or more months, and therefore excludes children who have had contact with the 'in care' system for less than a year.
- For very young children the examination does not have to be undertaken by a dentist and an examination by a paediatrician or other healthcare professional which included an oral examination may be included in the count.

- Those children who decline to have their teeth checked are recorded as not having received a dental check.

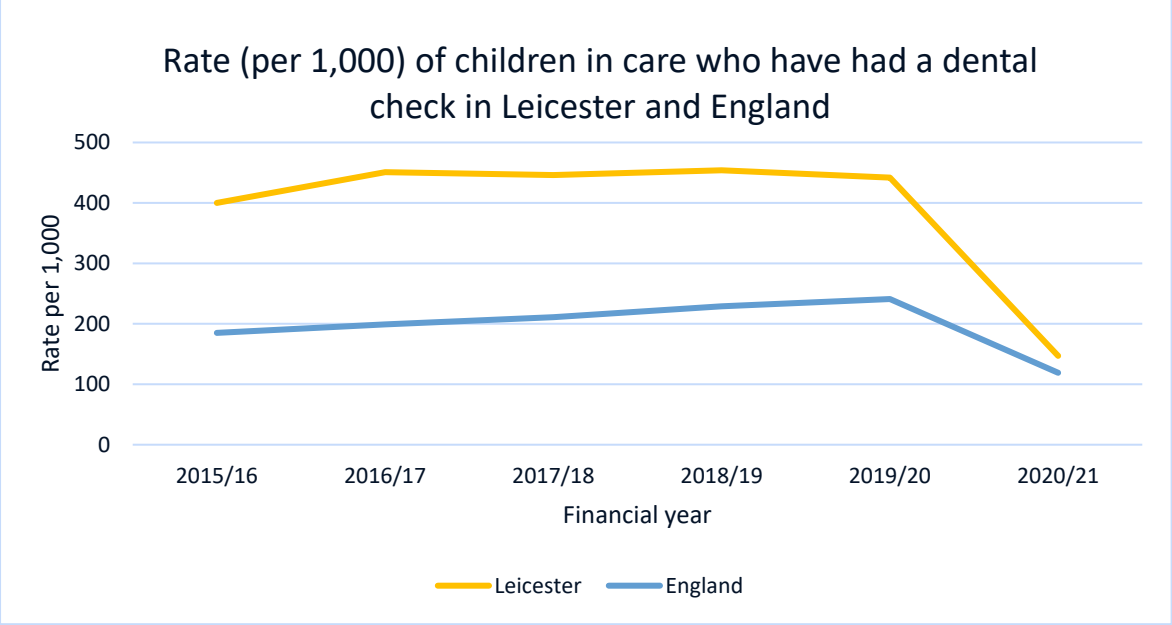
A number of reports and studies have highlighted concerns about treatment need and access to dental care for children in care. Many children in care come from families from lower socio-economic groups, and it can therefore be anticipated that they may already be experiencing poor oral health or be at risk of poor oral health. In addition, they are more likely to have greater health needs than their peers from the equivalent socio-economic groups, resulting in significant health inequalities for children in care.

The National Institute for Health and Care Excellence (NICE) dental recall clinical guideline[39] helps clinicians assign recall intervals between oral health reviews that are appropriate to the needs of individual patients. NICE also highlighted several concerns about access to dental care for looked-after children and young people.

- Sometimes they need to travel considerable distances to access a dentist that has the capacity to take them.
- May not attend a planned dental check for reasons relating to unplanned placement moves, fear, phobias or confidence issues.
- Missed appointments result in some dental practices refusing to see them again.
- Some dentists are reluctant to embark on a treatment programme if a child is in a short-term placement.

Figure 24 below shows the trend in rate (per 1,000) of children in care who have dental checks in Leicester is significantly higher from 2015/16 onwards, in comparison to England.

Figure 24: Children in care who have regular dental checks (DfE 2021)



The children in care record keeping audit identified that 100% of LAC were on a dental patient list with a Dentist. It should be noted that there is a discrepancy between this and

Leicester
LAC Initial Health Assessment, under 10
63% of children under 10 (53) said they brushed their teeth twice a day, compared to 62% of children (24) in 2018
21% of children under 10 (18) said they did not brush their teeth every day, a decrease 31% of children (12) in 2018
15% of children (32) said they had not been to the dentist in the past year, an increase from 8% of children (15) in 2018
Initial Health Assessment (10+)
65% of children (28) said they brushed their teeth twice a day, an increase from 43% children (3) in 2018
26% of children (11) said they brushed their teeth once a day, a decrease from 57% of children (4) in 2018
9% of children (4) said they did not brush their teeth every day
15% of children (18) said they had not been to the dentist in the past year, an increase from 12% of children (5) in 2018
Review Health Assessment under 10
90% of children (218) said they brushed their teeth twice a day, a decrease from 93% of children (186) in 2018.
2% of children (5) said they brushed their teeth once a day, a decrease from 4% of children (8) in 2018.
Review Health Assessment (10 +)
89% of children (236) said they brushed their teeth twice a day, a decrease from 90% of children (192) in 2018.
10% of children (26) said they brushed their teeth once a day an increase from 7% of children (15) in 2018.

the information provided by children in the Review Health Assessment (RHA). The main anecdotal evidence on issues accessing dentistry comes from carers trying to get a routine appointment for a child at a practice they have not attended before or this appointment being 6+ months after the oral health assessment. A residential home worker has been in contact that they have not been able to get appointments for 5 children in the home despite using the letter provided by NHS England and Improvement. Further work needs to be done to understand this discrepancy. Below details the RHA findings for CIC in Leicester.

Figure 25: Children in care in Leicester Health Assessment (2020)

4.3 ADULTS (AGED 18 AND OVER) ORAL HEALTH NEEDS

The examination of oral health needs amongst adults is limited. The National Dental Epidemiology Programme have completed surveys of adults attending dental practices and dependent older people.[40] However, these surveys do not offer a complete picture of oral

health needs amongst adults. The monitoring of oral cancer related admissions and mortality is another important dataset to monitor oral health amongst adults. Figure 26 provides some indication of the poor oral health levels amongst adults in Leicester. Of particular concern is the significantly higher oral cancer mortality rate per 100,000 population amongst Leicester adults.

Figure 26: Leicester and England oral health comparisons (OHID 2022)

Oral health indicators	Leicester	England
Percentage of adults with active decay (2017/18)	***36.4%***	26.8%
Percentage volunteers (Dependent older people) with any oral health impacts fairly or very often (2016)	***20.6%***	17.7%
Mortality rate for oral cancer (per 100,000 population) 2017-19	***9.2***	4.7

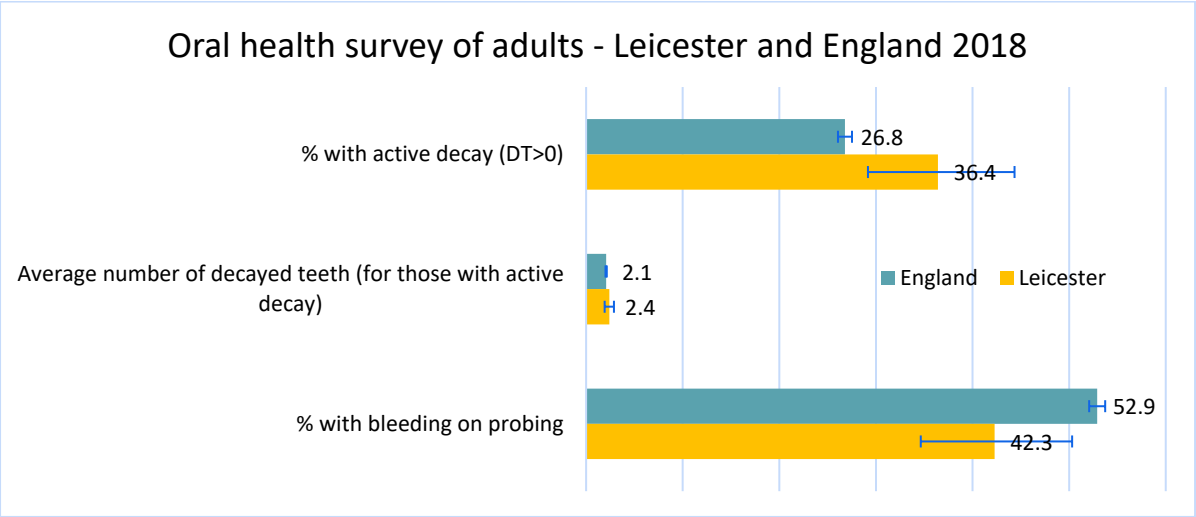
Significantly worse than England	***Similar to England***	***Significantly better than England***

4.3.1 ORAL HEALTH SURVEY OF ADULTS ATTENDING DENTAL PRACTICES

Adults attending general dental practices for any reason, aged 16 years and over, were recruited to take part in the National Dental Epidemiology Programme 2017/18 oral health survey. While most participants surveyed (84%) reported that it had been 12 months or less since their last dental visit it should be noted that participants with no natural teeth or poor oral health may be underrepresented in this survey due to less frequent visits to the dentist.[41]Therefore this survey will underestimate the true extent of oral health needs amongst Leicester adults.

National results show more than a quarter of participants (27%) had tooth decay, having on average 2.1 decayed teeth, and more than half (53%) had gingival (gum) bleeding. Local authority data is less comprehensive and incomplete. In Leicester there were 140 complete questionnaires and clinical examination. This sample may therefore not reflect the true extent of oral health issues amongst adults in Leicester. Figure 27 reveals that Leicester adults surveyed were significantly more likely to have active decay and significantly less likely to have gum bleeding.

Figure 27: Oral health survey of adults attending dental practices (2018)



4.3.2 OLDER PEOPLE AND MILDLY DEPENDENT OLDER PEOPLE

Older people are also at increased risk of dental disease. Compounded with this increased risk, they are also more likely to have general health complications that make dental treatment planning more difficult and may require modification of dental services. Little is known about the oral health of older people who are living independantly at home or being cared for by friends, family or carers but PHE[42] has undertaken a review of data on oral health of older people who live in residential and nursing care homes in order to gain an insight into their oral health needs.[43] The main findings are as follows:

- A third of participants reported not seeing a dentist in the last two years. Reasons for this included difficulty in getting to and from the dentist, not being able to afford NHS charges, and also not finding an NHS dentist.
- Signs of severe untreated dental decay appear to be more common across all settings and current pain also appears to be slightly higher than in the general adult population
- Older adults are less likely to rate their oral health as good, and appear to have poorer oral health related quality of life than the general adult population
- Care home managers experience much more difficulty in accessing dental care for their residents compared to household resident older adults
- For older adults living in care homes, dental services are patchy and often no regular or emergency dental care arrangements exist

The Care Quality Commission have also reported on the state of oral health care in care homes across England in 2019. The report reveals an extensive lack of awareness of NICE guidelines. It concludes that residents are not supported to maintain and improve their oral health. [44] Dental professionals accompanied adult social care inspectors on 100 routine inspections. Among the homes visited:

- Most had no policy to promote and protect people's oral health (52%) and nearly half were not training staff to support daily oral healthcare (47%).

- 73% of care plans reviewed only partly covered or did not cover oral health.
- It could be difficult for residents to access dental care.
- 10% of homes had no way to access emergency dental treatment for residents.

It is important to note that this CQC review occurred before the pandemic and given the significant challenges COVID has posed for care homes the reality of oral health care in care homes may have further deteriorated.

4.3.3 ORAL CANCER

Over the last decade, there has been a 30% increase in the incidence of oral cancer in England[45,46]. It is one of the ten most common malignancies in the world and accounts for 2% of all cancers in the UK. 50% of oral cancers in the UK are considered preventable and are linked to lifestyle factors i.e. tobacco, alcohol and diet. Smoking is the main avoidable risk factor for oral cancer and is linked to 65% of oral cancer cases[47]. The prevalence of cigarette smoking in Leicester is between 15%[49] and 20%[48], which is comparable to the national rate of 14%[49]. Smokeless tobacco is also a risk factor, particularly in Leicester due to its population demographic profile, however further data is needed to fully understand this issue. Smokers have a 7 times increased risk of developing oral cancer, while regular smokeless tobacco users are at an 11 times increased risk. Furthermore, alcohol dehydrates the mouth and potentiates the effects of tobacco. People who regularly drink excessive amounts of alcohol and are smokers are at a 38 times increased risk of developing oral cancer. Leicester reports significantly higher rates for alcohol related admissions and specific mortality indicating that excessive alcohol consumption is an issue for populations in the city.

The latest (2017-19) incidence rate for oral cancer registrations in Leicester is 22.7 rate per 100,000 population. The Leicester rate is significantly higher than the national rate of 15.4 and is amongst the highest in the country (based on 2017-19 data). The mortality rate for oral cancer in Leicester is 9.2 per 100,000 population which is significantly higher than the England rate of 4.7 for the latest year 2017-19 (Figure 28). This is currently the highest rate reported amongst Local Authorities in England. Although Leicester has high oral cancer incidence and mortality rates, the rate is generally statistically similar to other comparators. The high oral cancer mortality rate may indicate that patients could be presenting and/or being diagnosed late, as earlier diagnosis with cancer reduces the risk of mortality.

Figure 28: Incidence and mortality rate for Oral Cancer (OHID 2022)

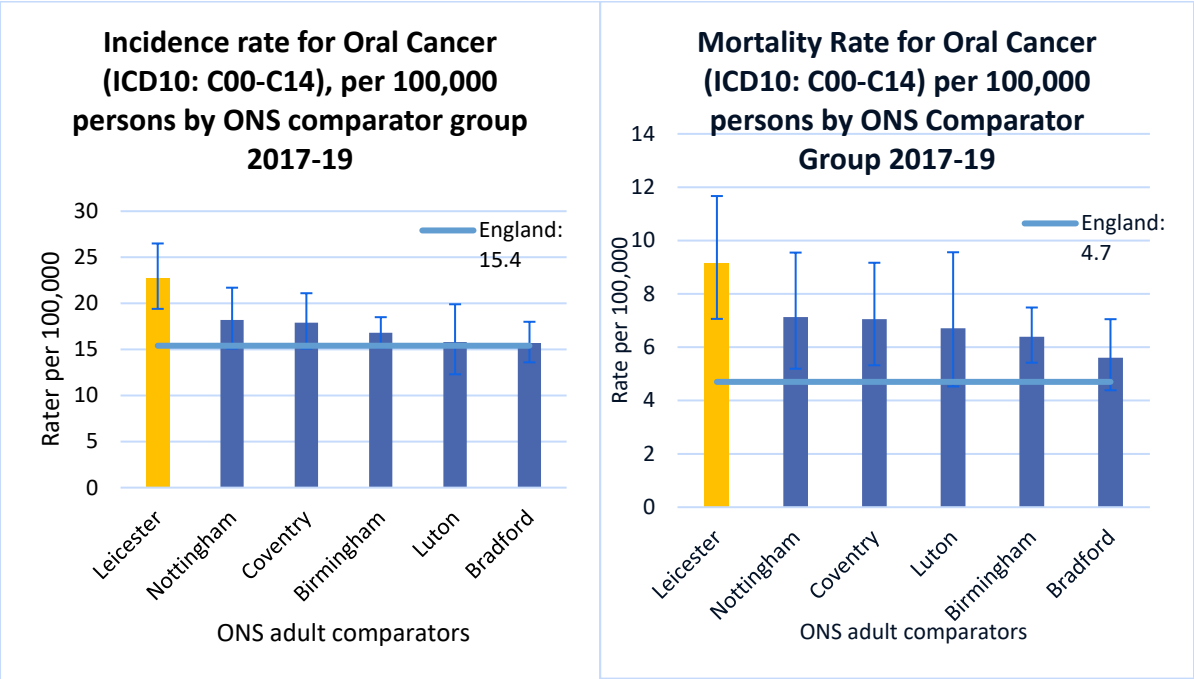
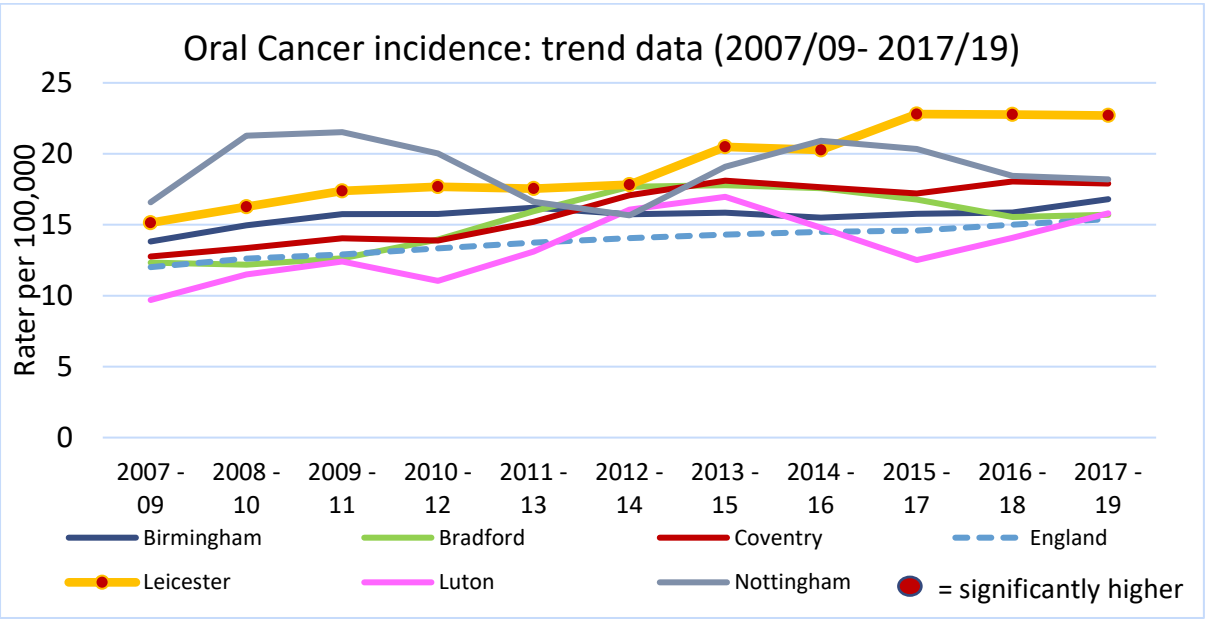
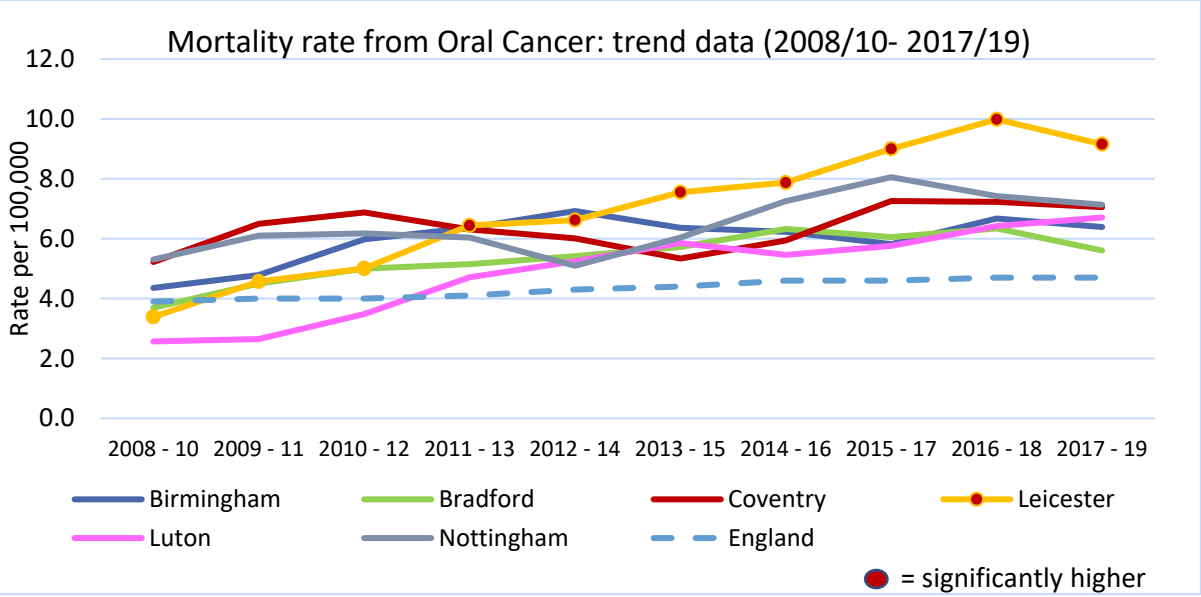


Figure 29 shows the increasing trend in incidence and mortality rate for oral cancer from 2008-10 to 2017-19 in Leicester and comparators. Leicester has a higher rate than all comparators and has been significantly higher than the National average for many years.

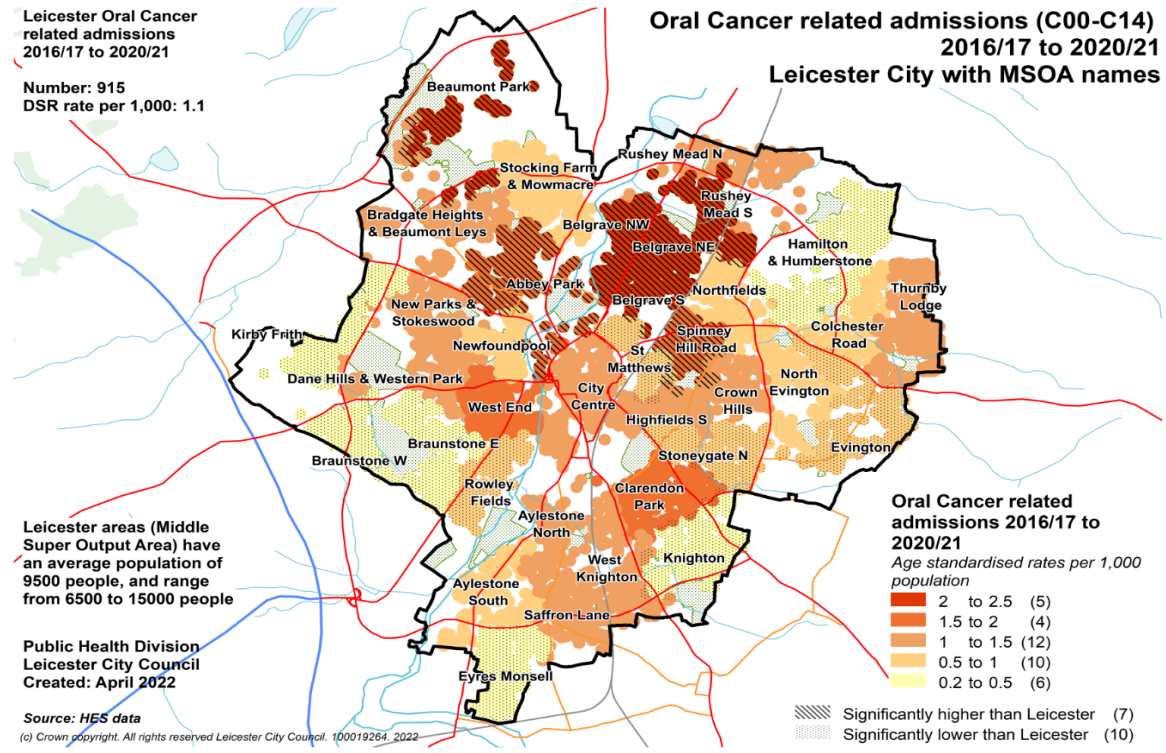
Figure 29: Incidence and mortality rate for oral cancer trend data (2008 to 2019) (OHID)





Local data is available on Leicester resident admissions for Oral Cancer from 2016/17 to 2020/21. It reveals that there were 915 oral cancer related admissions over this period of time, and each year there are about 200 oral cancer related admissions. Neighbourhood analysis shows that areas to the North and North West of the city are reporting significantly higher rates of oral cancer admissions.[50]

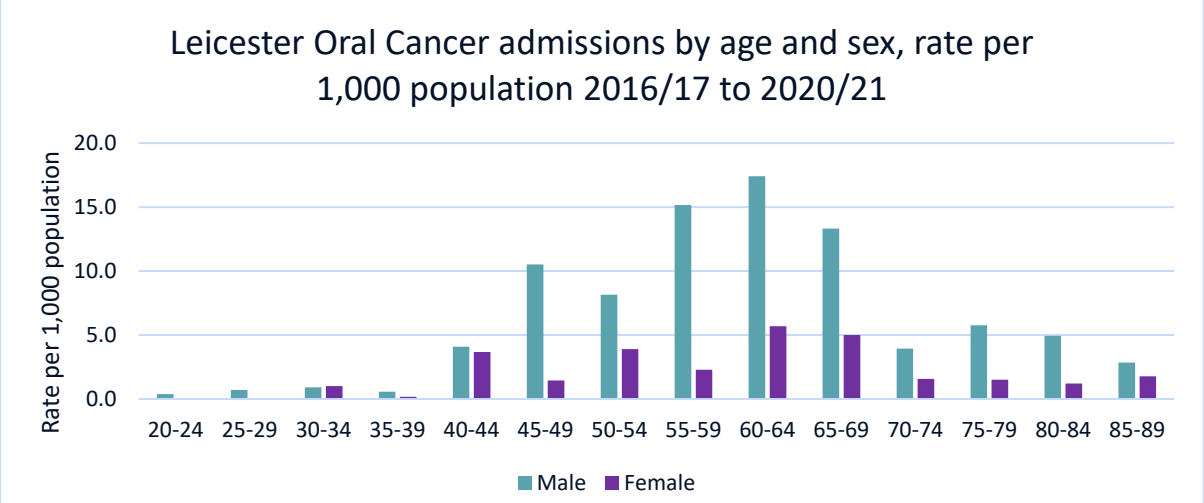
Figure 30: Oral cancer related admissions by Leicester MSOA (2016/17 to 2020/21)

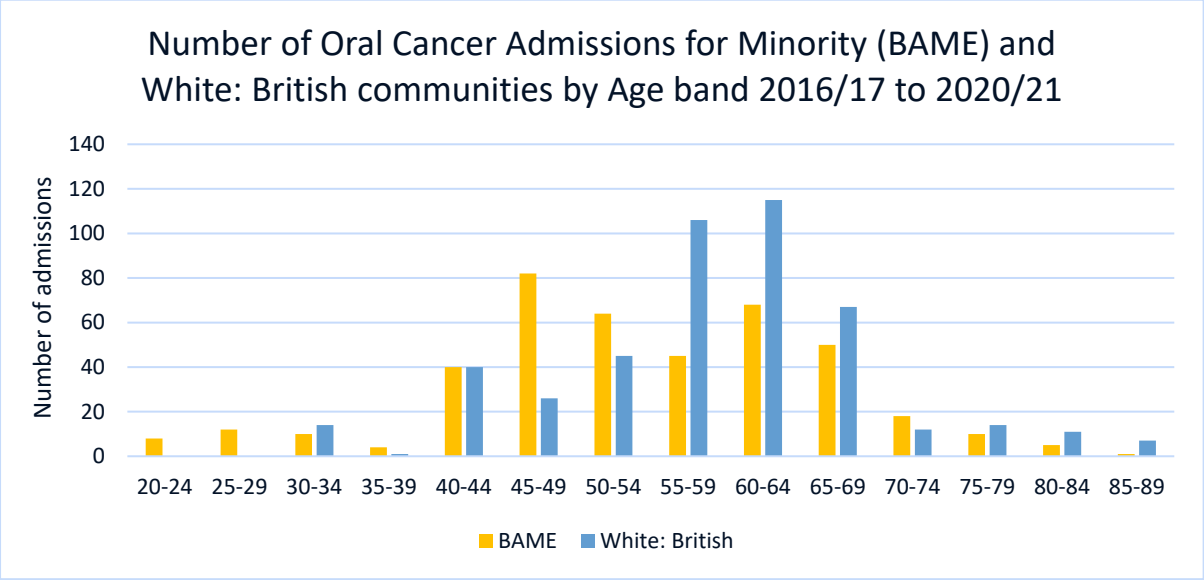


Further interrogation of these oral cancer admissions for Leicester residents by age sex and ethnicity are shown in figure 31. For age and sex, rates per 1,000 of the population reveal

that males are significantly more likely to have an oral cancer admission. Rates per 1,000 of the population are also higher from age bands 45 to 69. Further analysis by ethnicity and age show that minority (BAME) communities report higher numbers of admissions in younger age bands compared to White British communities.

Figure 31 Leicester resident oral cancer admissions rate per 1,000 population by age and sex / Numbers of admissions by ethnicity 2016/17 to 2020/21 (HES Data 2022)





5.0 CURRENT SERVICES AND ASSETS IN RELATION TO NEED

The NHS General Dental Services should be designed to fit closely with the needs of all sectors of the population whilst maximising the opportunity for those with the greatest need to receive appropriate and timely dental care. The vast majority of NHS dental care in Leicester is provided by NHS General Dental Practitioners (high street dentists). The Community Dental Service providing both Paediatric and Special Care Dental Services provides specialist dental treatment in a primary care setting for those with complex special needs

(including domiciliary dental care). The Hospital Dental Service provides Consultant led services in Oral and Maxillofacial surgery (including Minor Oral Surgery), Orthodontics and Restorative dentistry. There are also private dentistry services in the city.

NHS England - Midlands has statutory responsibilities to commission NHS dental services that meet the needs of the local population in order to continuously improve oral health and reduce inequalities. Access to NHS dentistry is commissioned for anyone who seeks it, regardless of where they live. Therefore, patients may choose to access NHS dental services in any locality of their choice. Those in employment may choose to access an NHS dentist close to where they work rather than where they live. In doing so, all family members may also follow suit. To improve access to primary dental services NHSE has also commissioned a full range of mandatory services available to all groups of patients (children, fee-paying adults and exempt adults) including two new NHS dental services that are open from 8.00am to 8.00pm, 365 days per year which opened in December 2017 (one practice in West End area and one in City Centre & South area). These 8-8 services are routine dental practices but also provide unscheduled (emergency) dental care for patients in pain that do not have a routine dental practice or when their routine dental practice is closed i.e. at weekends or bank holidays.

Dental activity data can be reported based on courses of treatment for patients, by residency. The data is designed to report on types and levels of treatments for patient resident in an area. It does not reflect the unique numbers of patients as a patient can be counted more than once if, for example, over the analysed period they have attended multiple times. The dataset presents the charge bands and the range of treatments being offered. The charge bands for NHS dental treatment are as follows:

- Band 1: covers an examination, diagnosis (including X-rays), advice on how to prevent future problems, a scale and polish if needed and preventative treatment such as application of fluoride varnish or fissure sealant.
- Band 2: covers everything listed in Band 1 above, plus any further treatment such as fillings, root canal work or removal of teeth.
- Band 3: covers everything listed in Bands 1 and 2 above, plus crowns, dentures and bridges.
- Urgent: covers urgent and emergency dental care.

5.1 NHS DENTISTRY DURING THE PANDEMIC

During the pandemic, contractual responsibilities changed, and practices were required to prioritise urgent care; vulnerable patients (including children) and those at higher risk of dental health issues. In many practices, there was not sufficient capacity to be able to offer routine dental check-up appointments to those who generally have good oral health.

Over the last two years, NHS dental services have faced major challenges. Infection prevention control guidelines aimed at combating COVID-19 reduced dental capacity across both public and private sectors, largely due to the introduction of post aerosol generating procedure (AGP) “downtime” between patients. AGPs are procedures that

create a higher risk of respiratory infection transmission and are defined as any medical, dental, or patient care procedure that can result in the release of airborne particles. Dentists regularly use high velocity air and water streams that are considered a high risk of creating aerosols. Practices had to leave a "downtime" between appointments of between 10 and 30 minutes after an AGP procedure to allow particles to settle, and so reduce the spread of COVID. These necessary rules and others such as social distancing in waiting rooms meant that in a working day practices were not able to see the same number of patients as pre-COVID-19.

As there is no patient registration within dentistry patients had to be prioritised regardless of whether the member of public was on a practice's business list or not – the NHS made this a condition of ongoing financial support. However, there were limited routine appointments available as this was dependent on the capacity of each practice, following treating any urgent patients. This can mean that even patients who (before the pandemic) would regularly attend a dental practice, were only able to be seen in practice if they meet the criteria for safely accessing an urgent face to face appointment.

NHSE has recently set out the expectations for provision of primary care dental services as recovery continues. The latest guidance published states that providers should prioritise patients with an urgent need for intervention, and also prioritise care for patients that are considered at highest clinical risk/vulnerable groups including children. However, as recent Healthwatch reports have shown it is clear more action must be taken to increase access and dental activity for our patients, who are struggling to get appointments.

Since the start of 2022 the NHS required dental practices to operate at 85% of their pre-pandemic contracted activity, and whilst activity levels continue to increase, the impact of the Coronavirus Omicron variant led to some NHS practices temporarily unable to achieve the 85% threshold. Therefore, in order to continually support those who have been impacted most by Omicron, the NHS put in place a lower threshold for Q4 (January to March 2022) for dental contractors. This was set at 75%. Recognising there would be additional steps some NHS practices may need to take to return to full contractual delivery, an exceptional further period of support has been agreed for the first quarter of 2022/23. A performance threshold of 95% applied during April to June (Q1) 2022/23 to support the return to pre-pandemic workloads for NHS dentists. The gradual return to pre-pandemic activity thresholds has reflected the proven ability of NHS dental practices to deliver and has been designed to maximise safe access for patients whilst offering fairness to contractors.

5.2 GENERAL DENTAL SERVICE

According to NHSE (February 2022), there are 85 NHS dental practices in and near Leicester. It should be noted that it is the responsibility of each dental practice to update the NHS Website with regard to their current status on accepting new NHS patients. Many practices had not updated details for over a year. To have the most accurate picture in this needs

assessment, Leicester City Council's Public Health team contacted (February 2022) all practices to find out how many were accepting new patients.

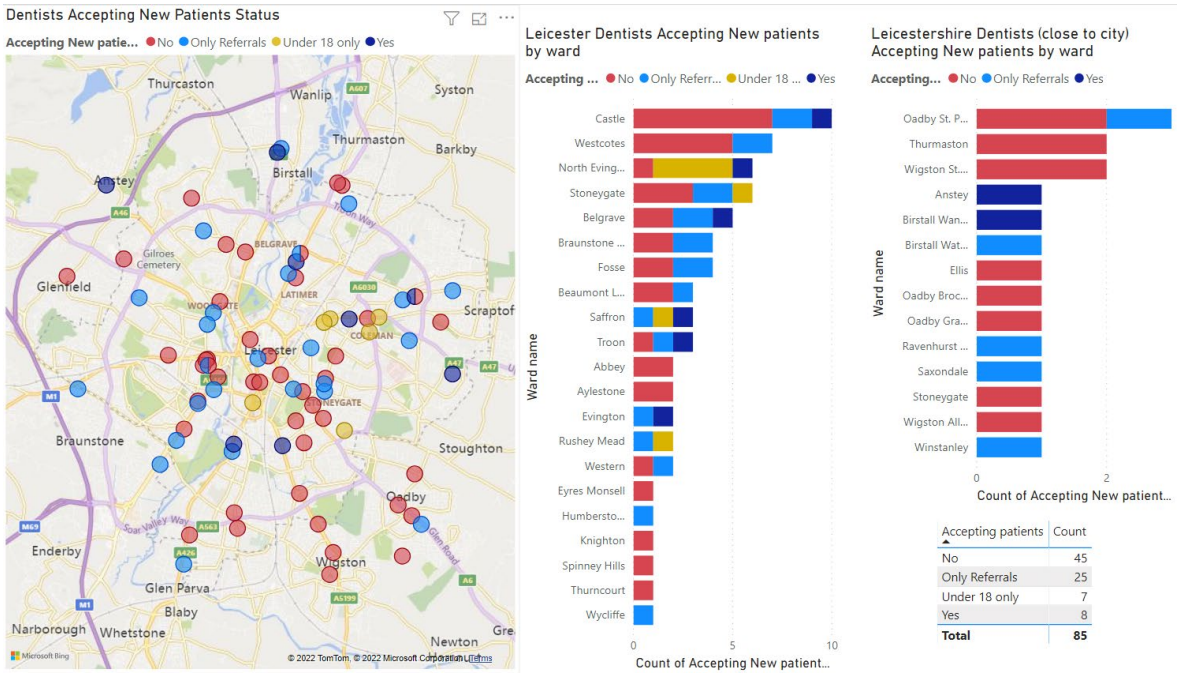
Of those that were contacted:

- 82% are currently not accepting new NHS patients.
- Children (Under 18's) are accepted onto the patient list in 18% of dental practices.
- Adults are accepted onto the patient list in 9% of dental practices.

This represents a sharp decrease in availability of dental practices accepting new patients, when compared against January 2019, which demonstrated that 45% of practices were accepting new adult patients.

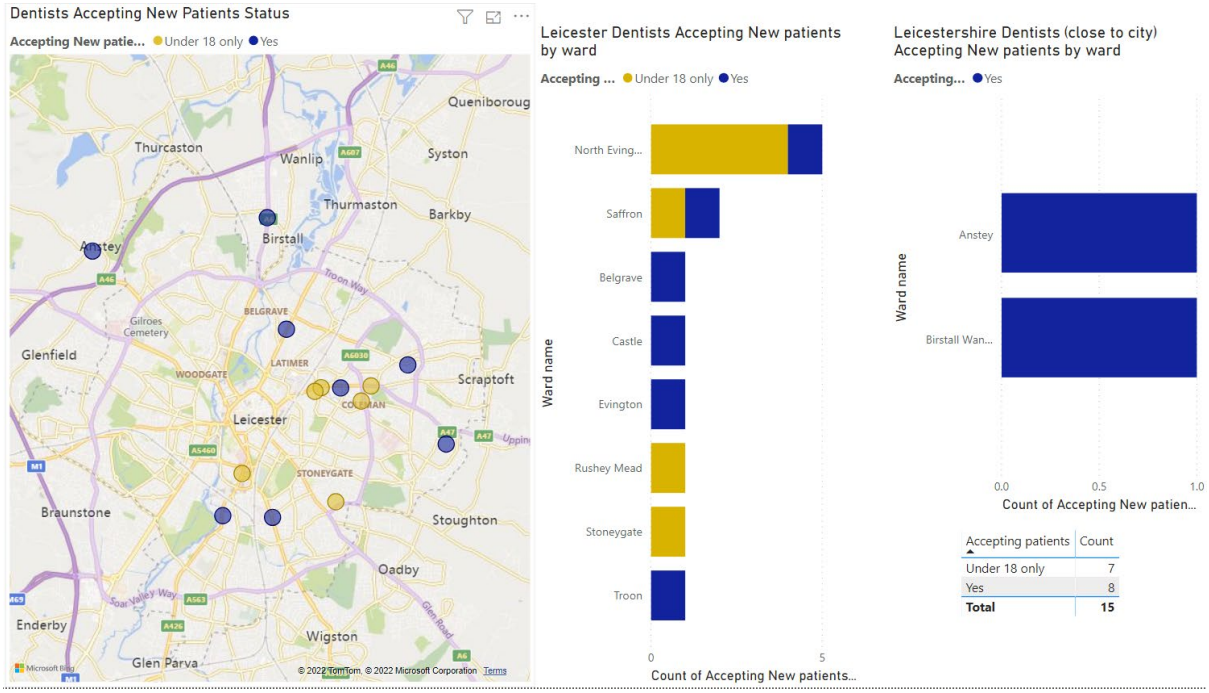
Figure 32 shows NHS dental practice locations in Leicester and surrounds. This information shows significant challenges for Leicester residents accessing NHS dental services. The map shows that residents in many areas of the city have limited access to a dental practice. Leicester adults currently can only register with 6 dental practices located in Castle, North Evington, Belgrave, Saffron, Troon, and Evington. A further 2 dental practices just outside of the city are also accepting new patients.

Figure 32: Leicester (and surrounds) dental practices and new patient status (NHS 2022)



There are many areas of the city that have no local access to dental practices accepting new patients. The map (figure 33) shows that residents in the North West, West and South have limited access to dental practices. Analysis by deprivation also shows there are significant challenges for our residents living in areas of deprivation accessing dental practices.

Figure 33: Leicester (and surrounds) dental practices accepting new patients (NHS 2022)



Most of the city residential areas are within 15 minutes' walk of a dental practice but there are some areas of the city where residents would need to travel further. This includes areas to the West, East, and North West. (figure 34)

Figure 34: Walking distance to NHS dental practices in (and near) Leicester (Shape tool 2022)

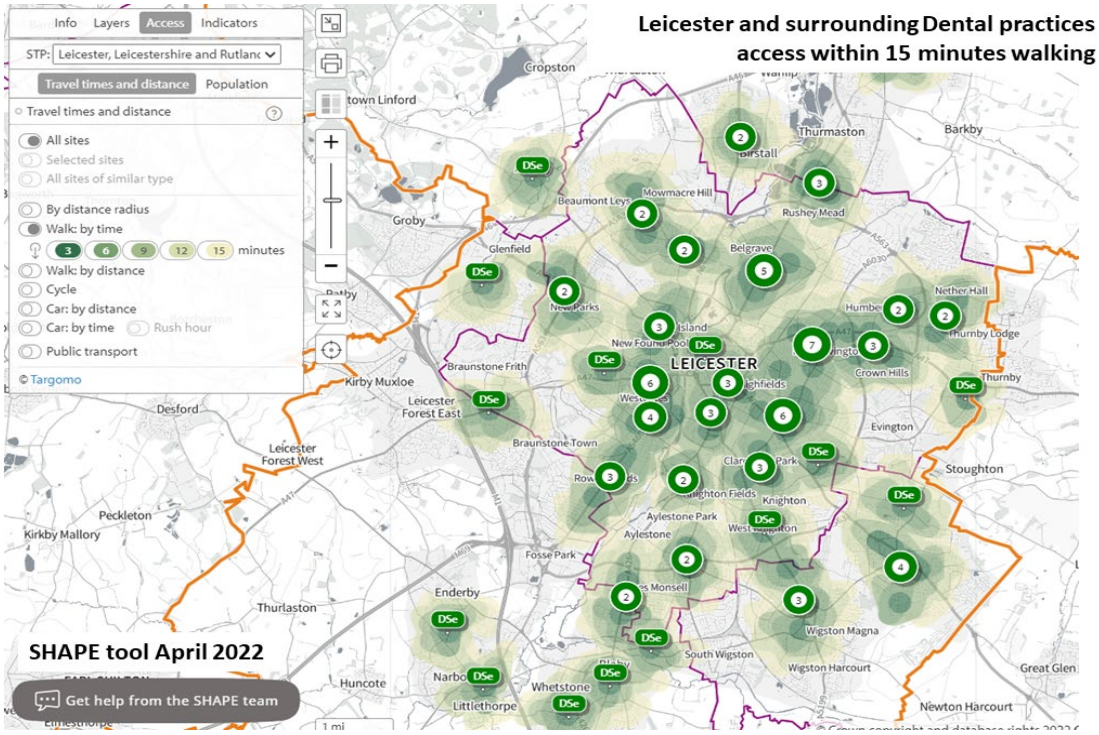


Figure 35 and 36 (below) maps the 8 dentists currently accepting new adult NHS patients and walking/public transport travel to these locations. There are clear access issues for

these practices and many people would find it difficult to access these locations if walking and public transport were there only options.

Figure 35: Walking distance to NHS dental practices in (and near) Leicester accepting NHS adult patients (Shape tool 2022)

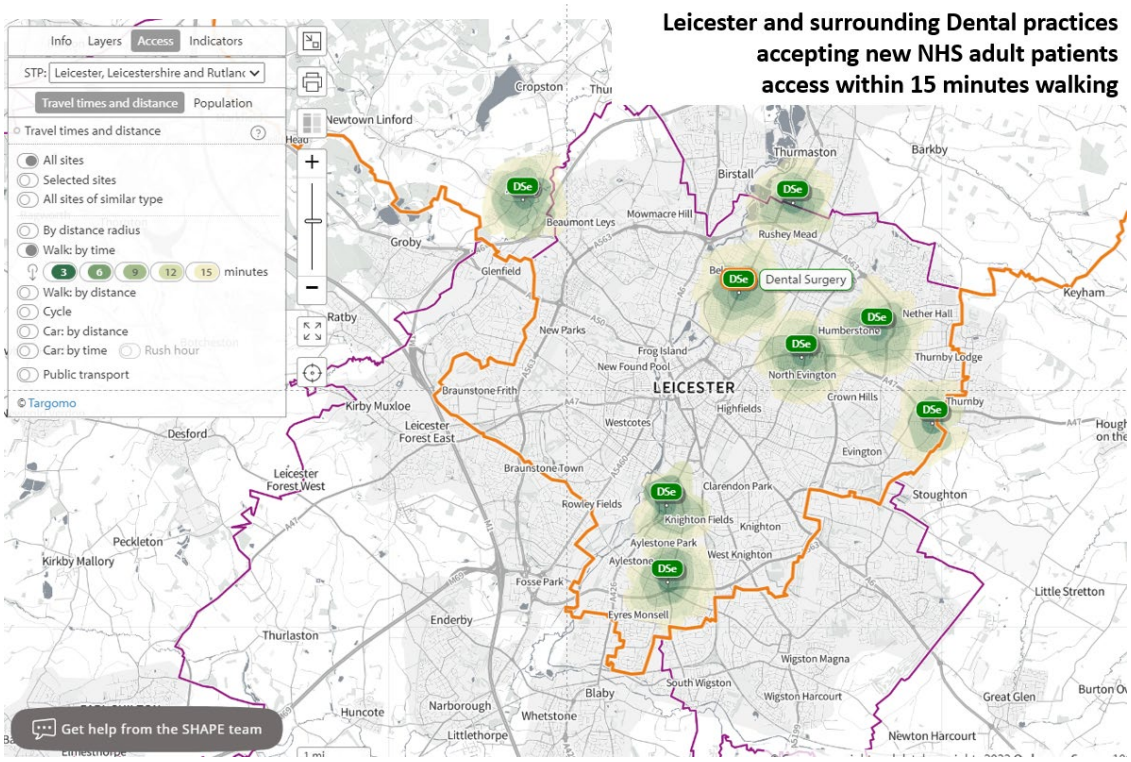
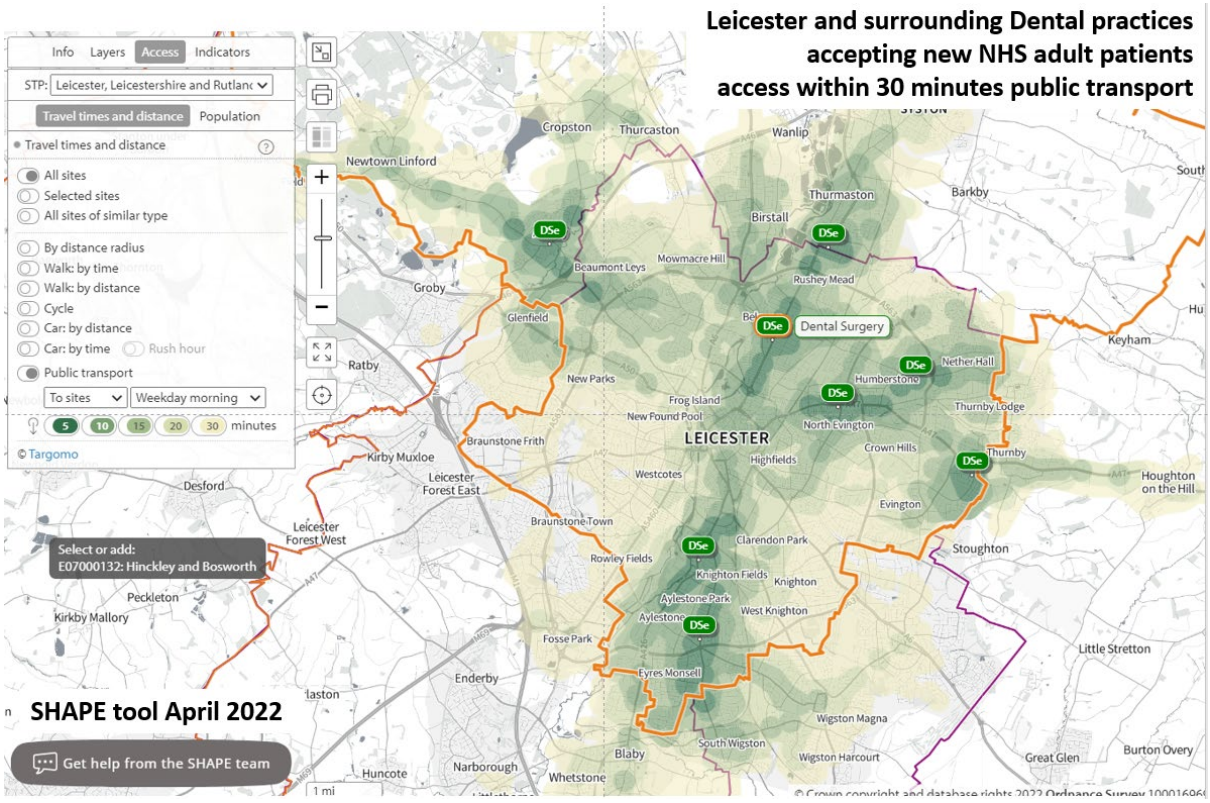


Figure 36: Public transport travel to NHS dental practices in (and near) Leicester accepting NHS adult patients (Shape tool 2022)



5.3 CHILD DENTAL ACCESS

The proportion of children (aged 0 to 17 years) resident in Leicester accessing an NHS dental practice in the previous 6 months from June 2019 to December 2021 demonstrates the significant impact of the COVID-19 lockdown and additional prevention control measures has had upon children attending the dentist. In December 2021 attendance levels (33.2% attending NHS Dental Service) have yet to reach pre-pandemic levels (47.4% in December 2019) (figure 37). Locally in Leicester we have followed a similar pattern to what is occurring nationally. About a third of children accessed dental services in Leicester up to December 2021. This is higher than the rates for England and other child comparators (figure 38).

Figure 37: Children (0 to 17) accessing an NHS dental practice (NHS BSA 2019 to 2021)

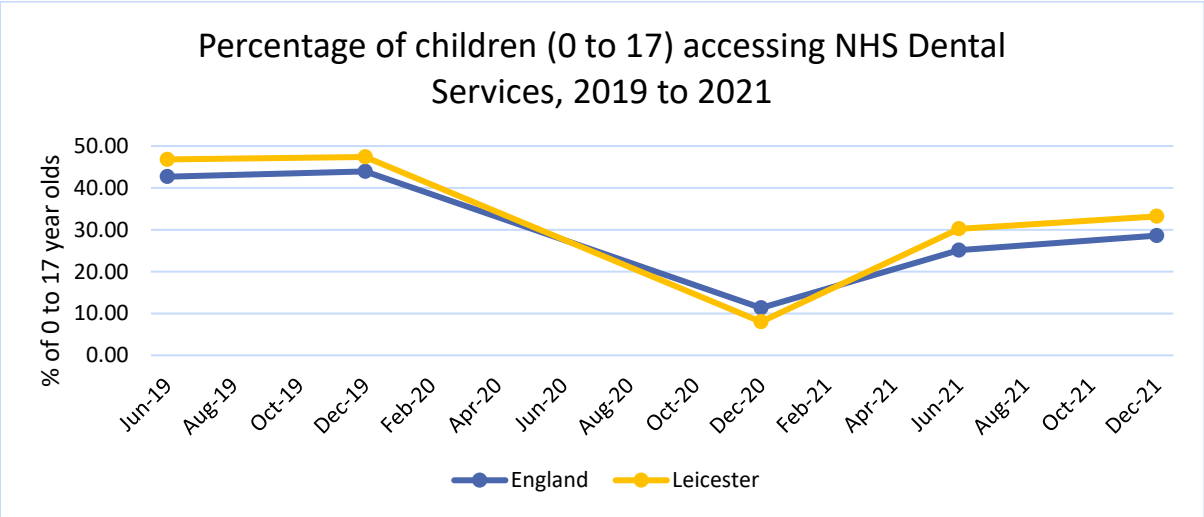
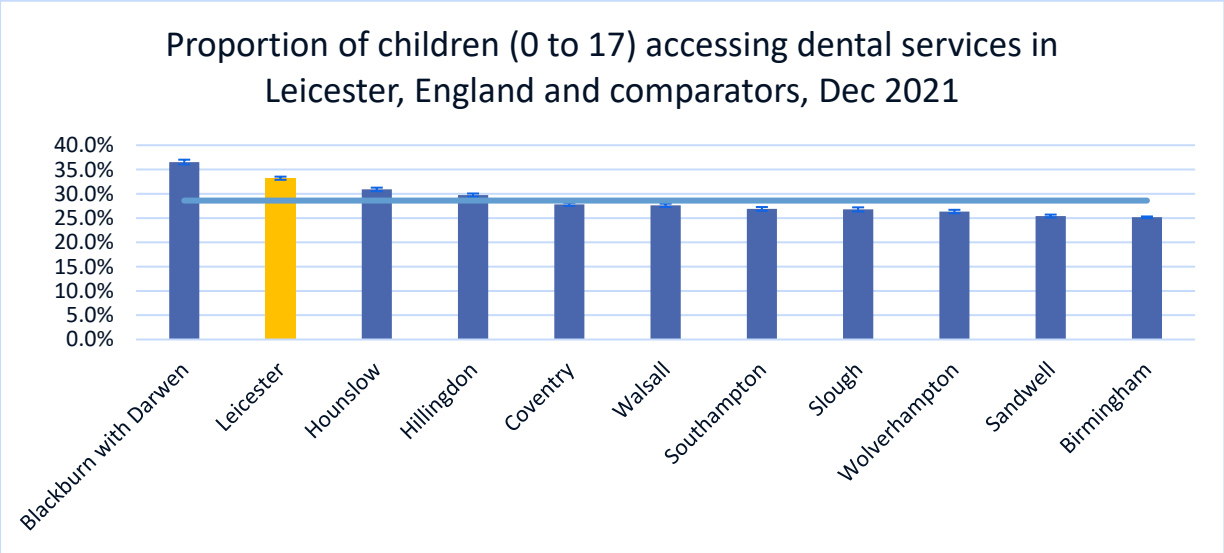
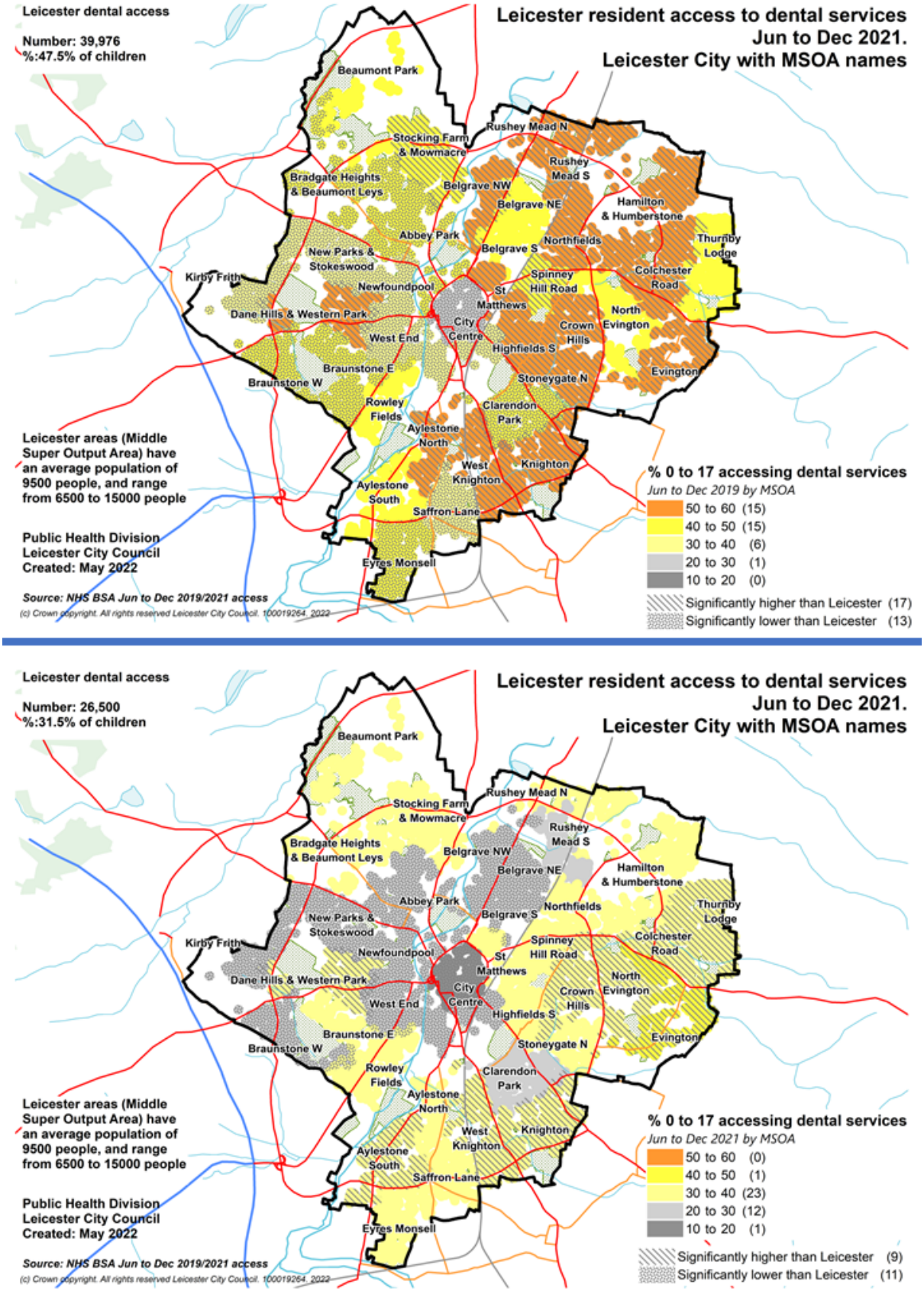


Figure 38: Children accessing dental services in Leicester, England, and comparators (2021)



The proportion of children (aged 0 to 17 years) in Leicester accessing an NHS dentist in the six months to June 2019 and six months to June 2021 by MSOA demonstrates the significant falls in attendance to dentists during the pandemic. Areas of Belgrave have moved from a position of significantly higher attendance in 2019 to significantly lower attendance in 2021 (53.7% in 2019 to 27.7% in 2021).

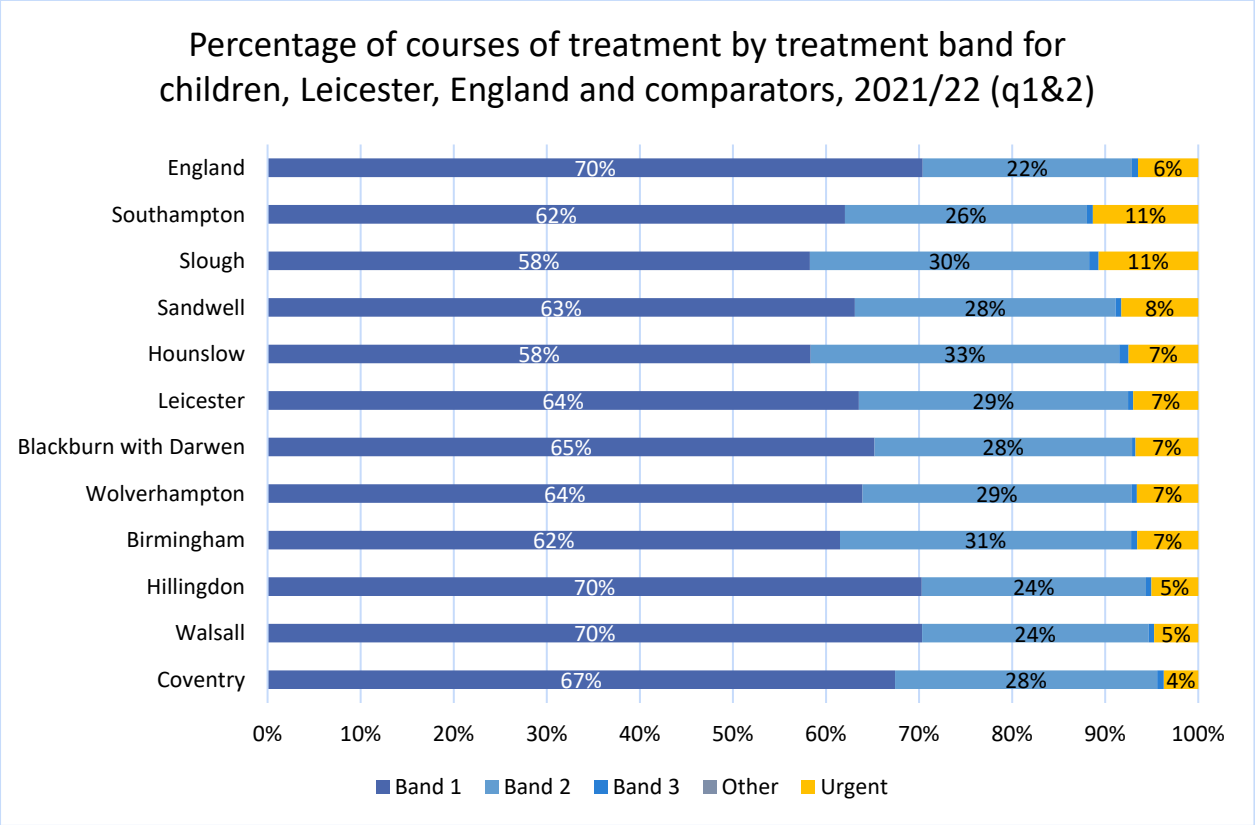
Figure 39: Leicester children dental access in 2019 and 2021 (NHS BSA 2021)



5.4 CHILD DENTAL ACTIVITY

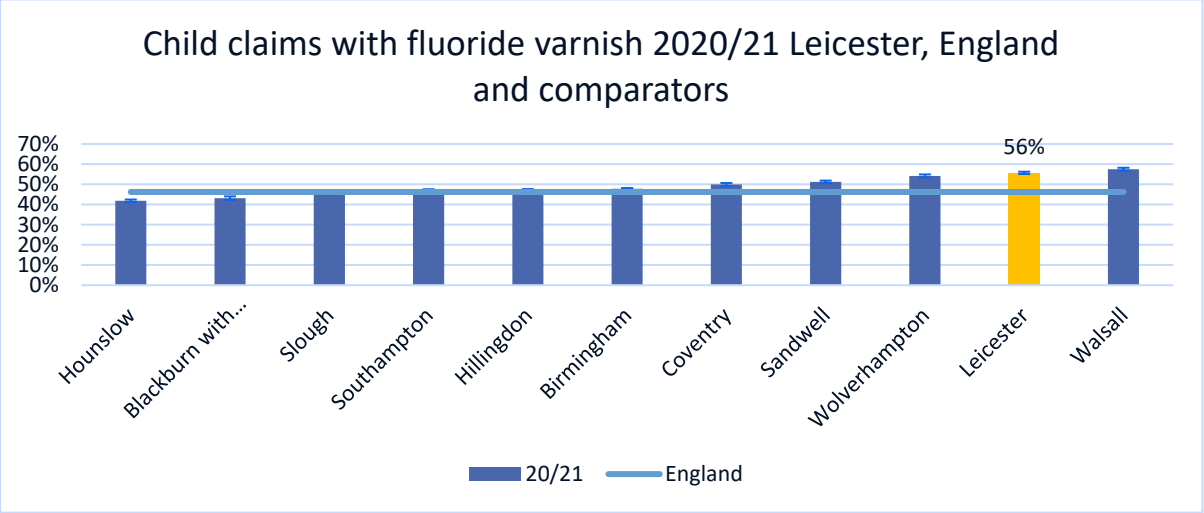
Figures 40 show the differences in child dental activity and preventive treatment for children in Leicester. Latest data shows there is less band 1 activity and more band 2 and urgent activity in Leicester than the England average. This would seem consistent with an area of higher need. Band 2 and Urgent activity in Leicester is similar to most of our comparator areas.

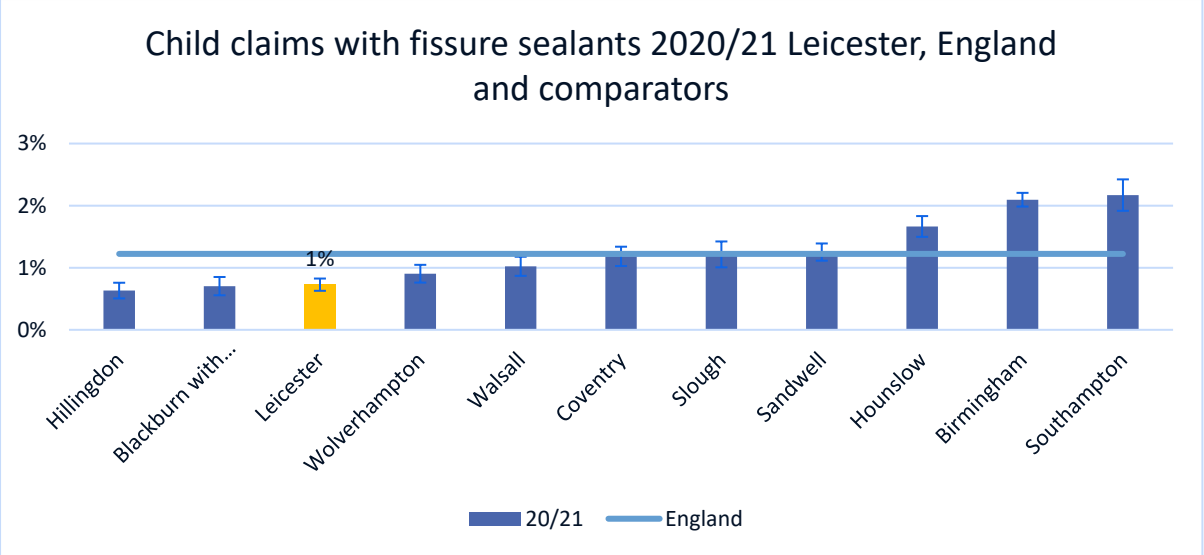
Figure 40: Child dental activity by patient charge band (NHS 2021/22)



Leicester reports a significantly higher rate of claims for fluoride varnish applications and a lower rate of fissure sealants in Leicester when compared against England. Claims for extractions is significantly lower than England and also lower than the city comparators (figure 41).

Figure 41: Child dental activity claims with fluoride varnish, fissure sealant and extractions (NHS 2020/21)





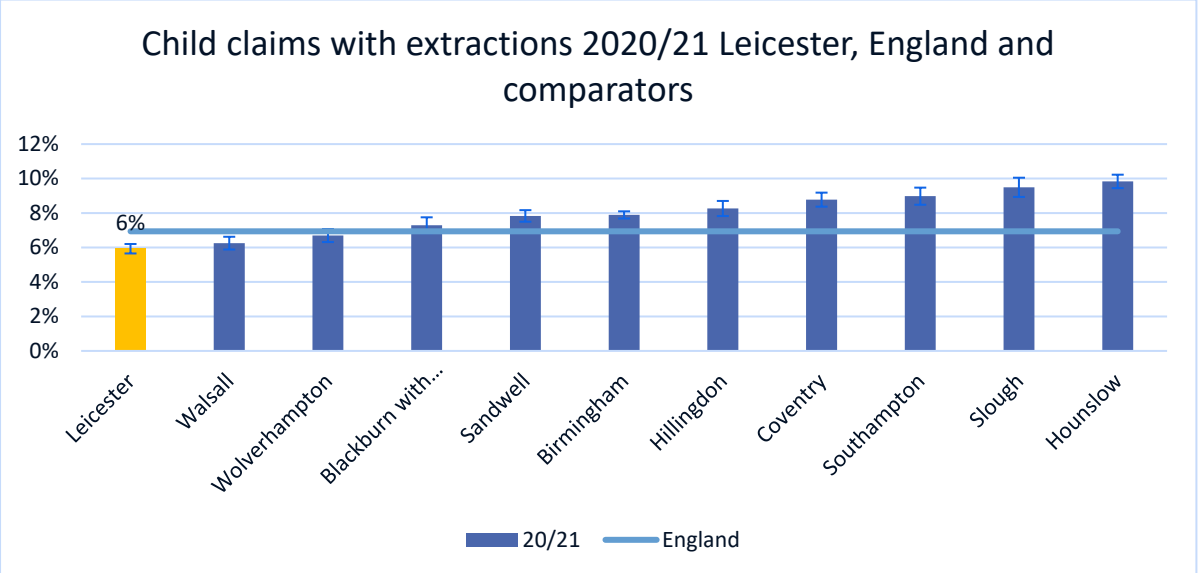
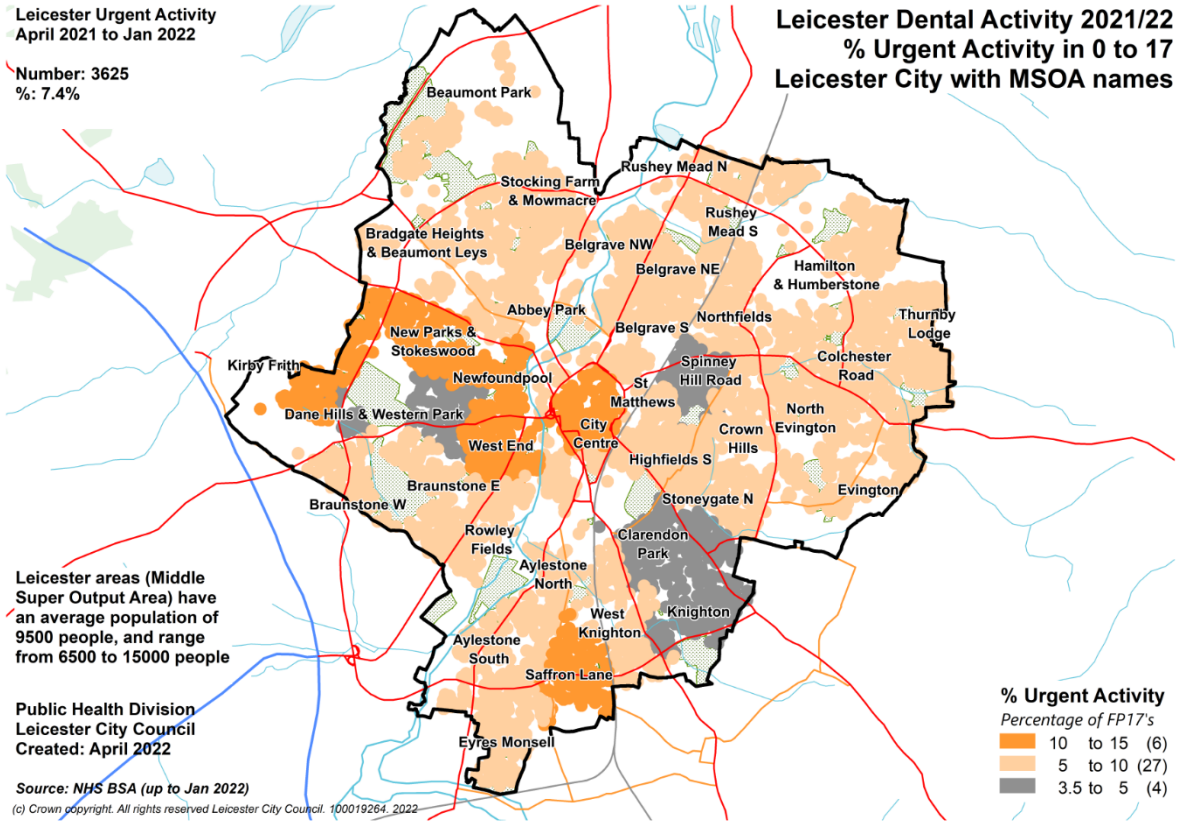


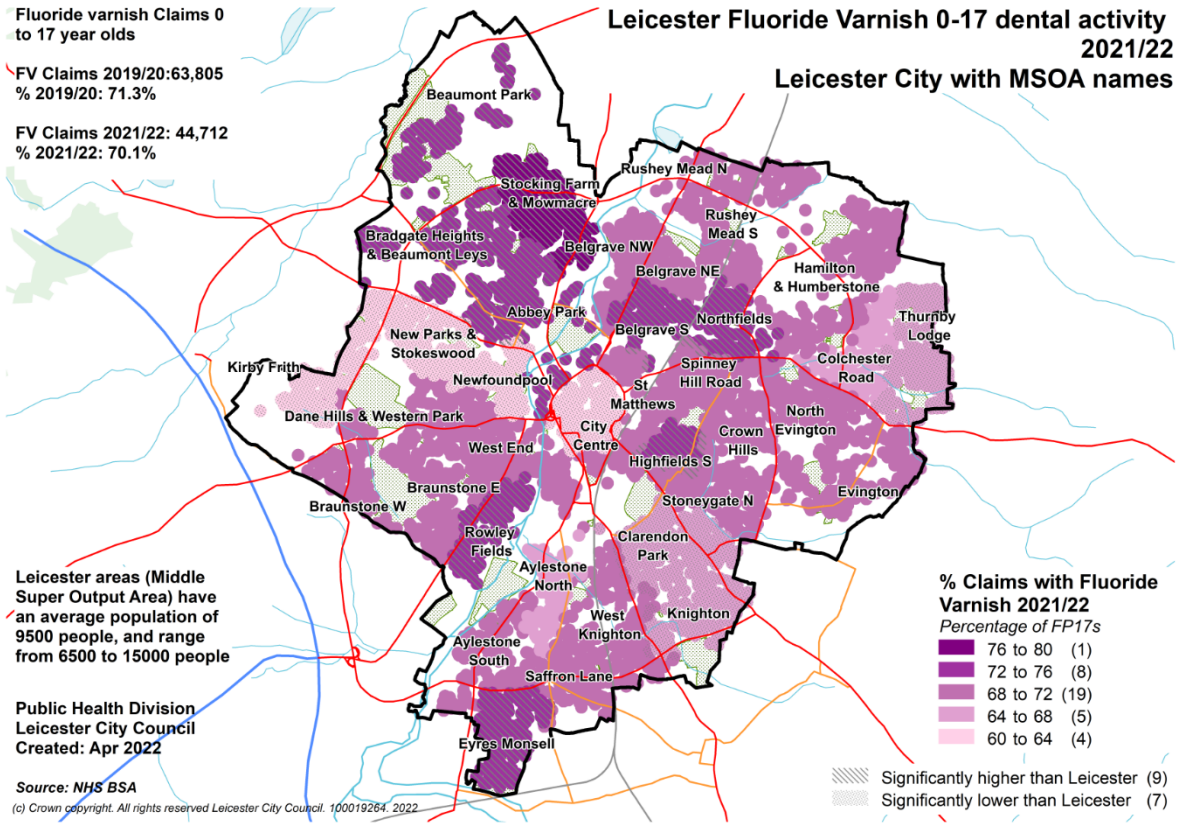
Figure 42 shows the variation in urgent courses of treatment for children by MSOA in 2021/22; there are higher rates of urgent activity in some of the more deprived areas of the city including Saffron, and New Parks. The West End and Newfoundpool also report high rates of urgent activity. These areas are diverse and include a large Eastern European population. This could indicate that routine/preventative care is not being sought and/or there are access issues and therefore dental emergencies are not being prevented.

Figure 42: Urgent child dental activity by Leicester MSOA neighbourhood (NHS BSA 2022)



COVID-19 lockdown and prevention control measures have led to a decrease in the number of Fluoride varnish claims for 0 to 17 year olds in Leicester. In 2019/20 there were over 60,000 claims this has fallen to just over 40,000 in 2021/22. Figure 43 shows the variation in the rate of fluoride varnish applications for resident children by MSOA in 2021/22. It can be seen that there are lower levels of fluoride varnish applications in MSOAs towards the west (New Parks and Newfoundpool).

Figure 43: Fluoride varnish dental activity by Leicester MSOA neighbourhood (NHS BSA 2022)

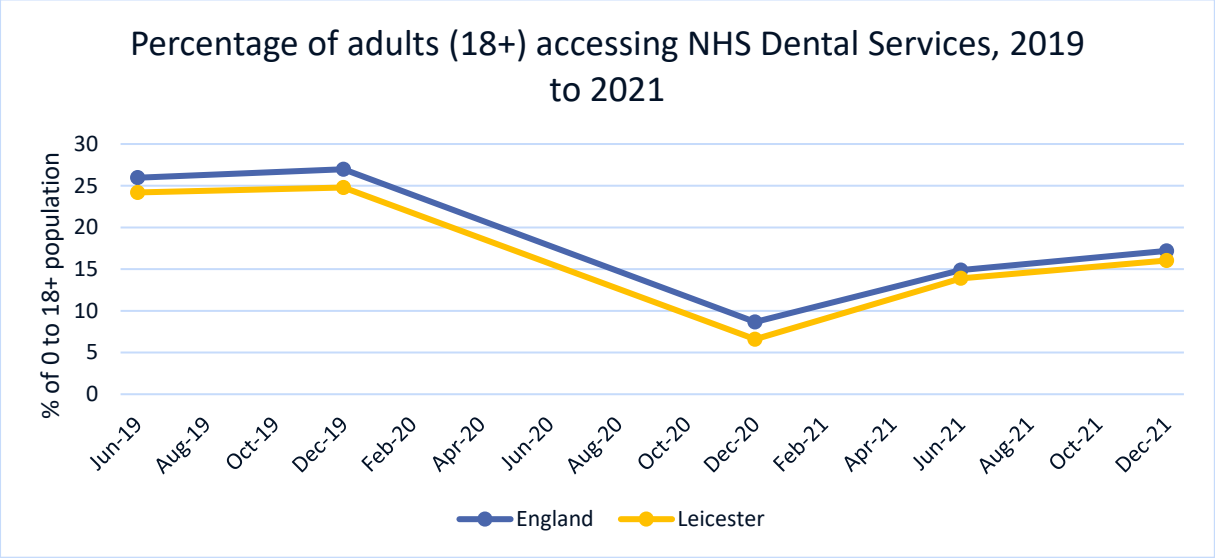


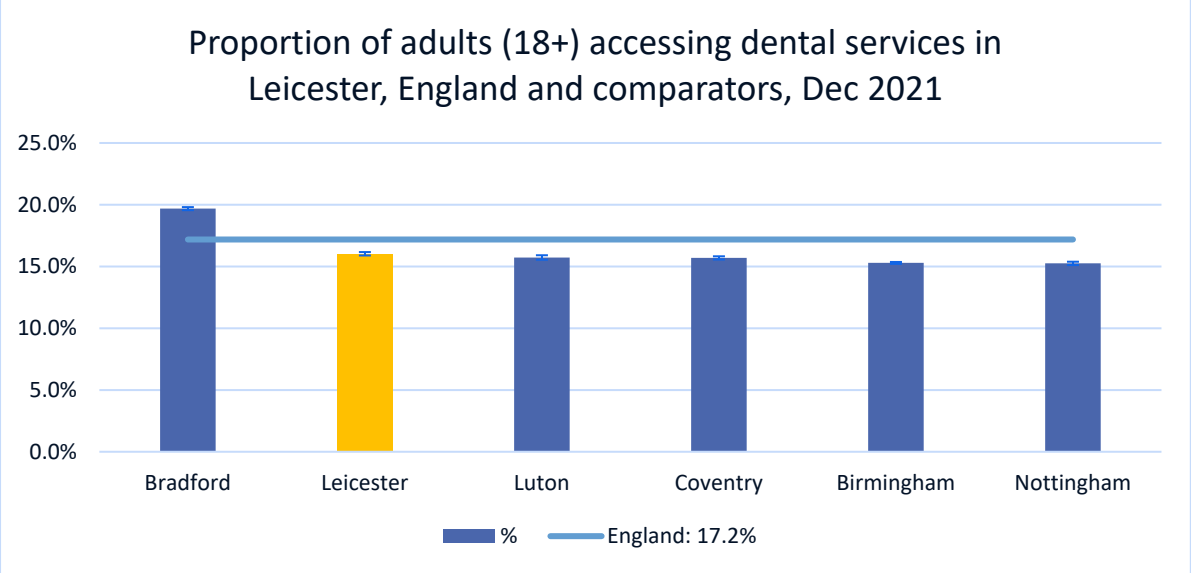
5.5 ADULTS DENTAL ACCESS

Figure 44 shows the proportion of adult residents in Leicester accessing an NHS dental practice in the previous 6 months from June 2019 to December 2021 at any dental practice location of their choice. It demonstrates that the proportion of resident adults in Leicester accessing NHS dental services (in any location of their choice) has throughout the period been lower than the England average. Latest December 2021 data shows that 16% of Leicester adults accessed dental services compared to 17% for England. It also shows the significant impact COVID has had upon adult attendance and the slow improvement in recent months (In December 2019 25% of Leicester adults had accessed services). Levels of attendance have not yet reached pre-pandemic levels. Adults in Leicester are significantly less likely to have attended a dental practice compared to the national average (Dec 2021), however Leicester is higher than some comparator authorities.

The 2022 review of Leicester dentists accepting new patients revealed the difficulty in getting on a dental practice list. This is likely to be a contributing factor to the lower levels dental attendance.

Figure 44: Adult accessing NHS dental services in Leicester and England (NHS BSA 2019 to 2021)

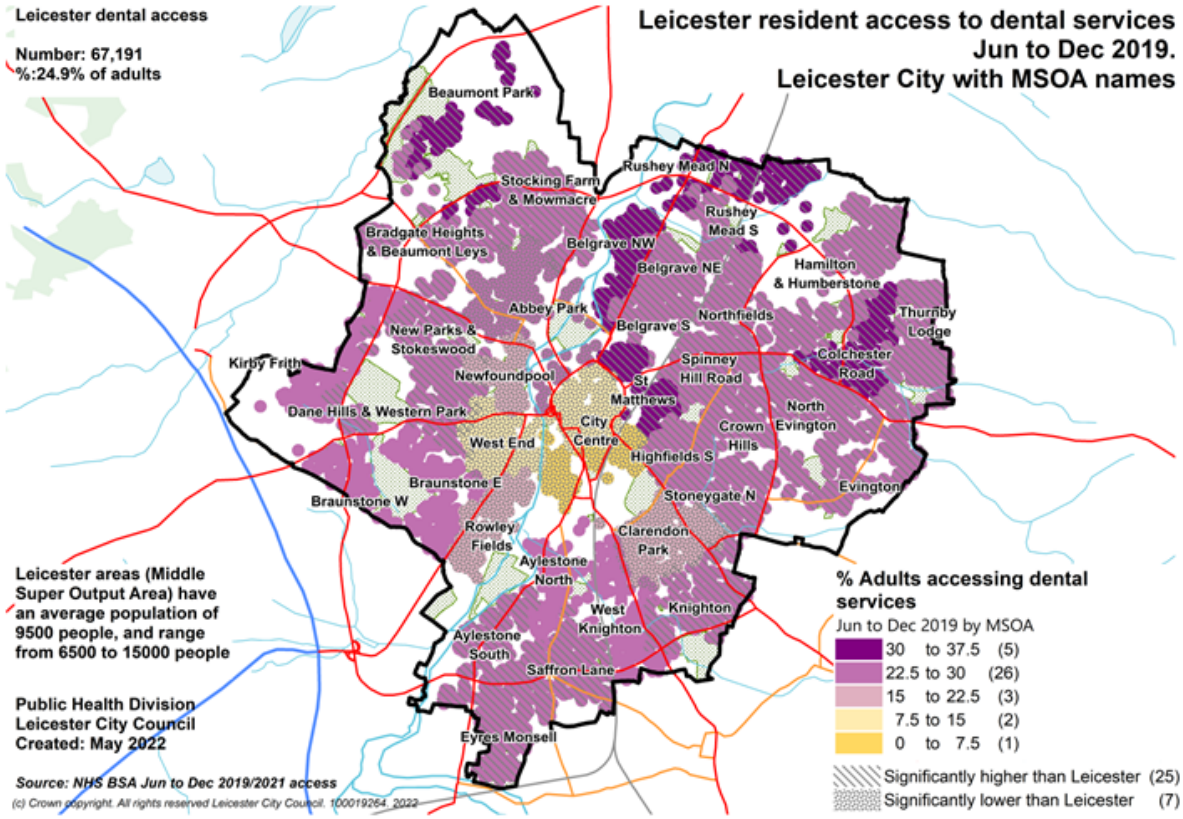




Figures 45 and 46 show the proportion of adults (aged 18 to 64 years and 65+ years) in Leicester accessing an NHS dentist in the last 24 months by Middle Super Output Area (MSOA). It shows the impact of COVID-19 on dental access where dental access for adults has fallen from 24% in 2019 to 14% in 2021. Similarly in those aged 65+ dental access has fallen from 41% in the 24 months to March 2020 to 30% in the 24 months Jan 2022.

The map demonstrates variation across the city. There are significantly lower proportions of adults living in the central areas accessing NHS dental services. These are areas where younger adults are more likely to reside. For the 65+ population dental access is higher in the North and some areas to the East. It should be noted that those aged over 65 may have additional needs i.e. disabled access which may prevent them accessing NHS dentistry. It should also be noted that there may be a proportion of residents who may have chosen to access private dentistry instead, especially in areas with lower deprivation such as Knighton.

Figure 45: Leicester adult access to dental services by MSOA 2019-2021 (NHS BSA 2021)



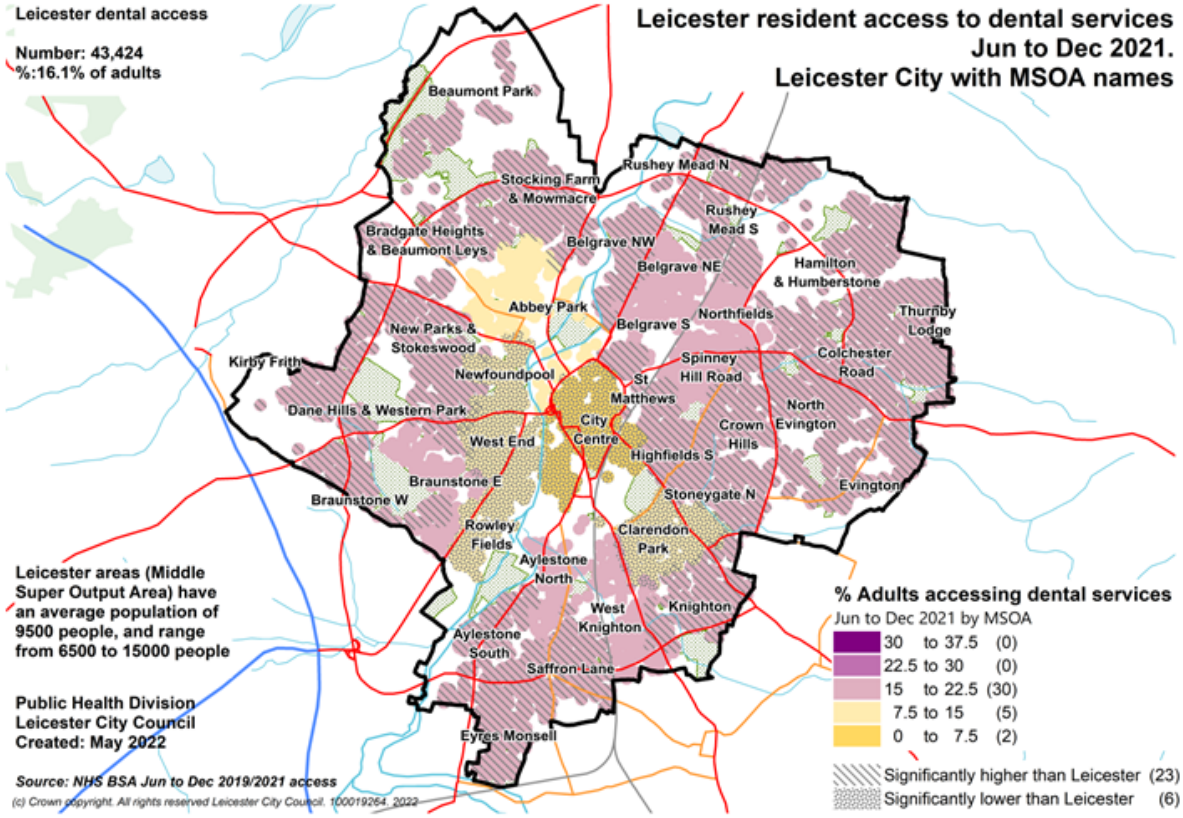
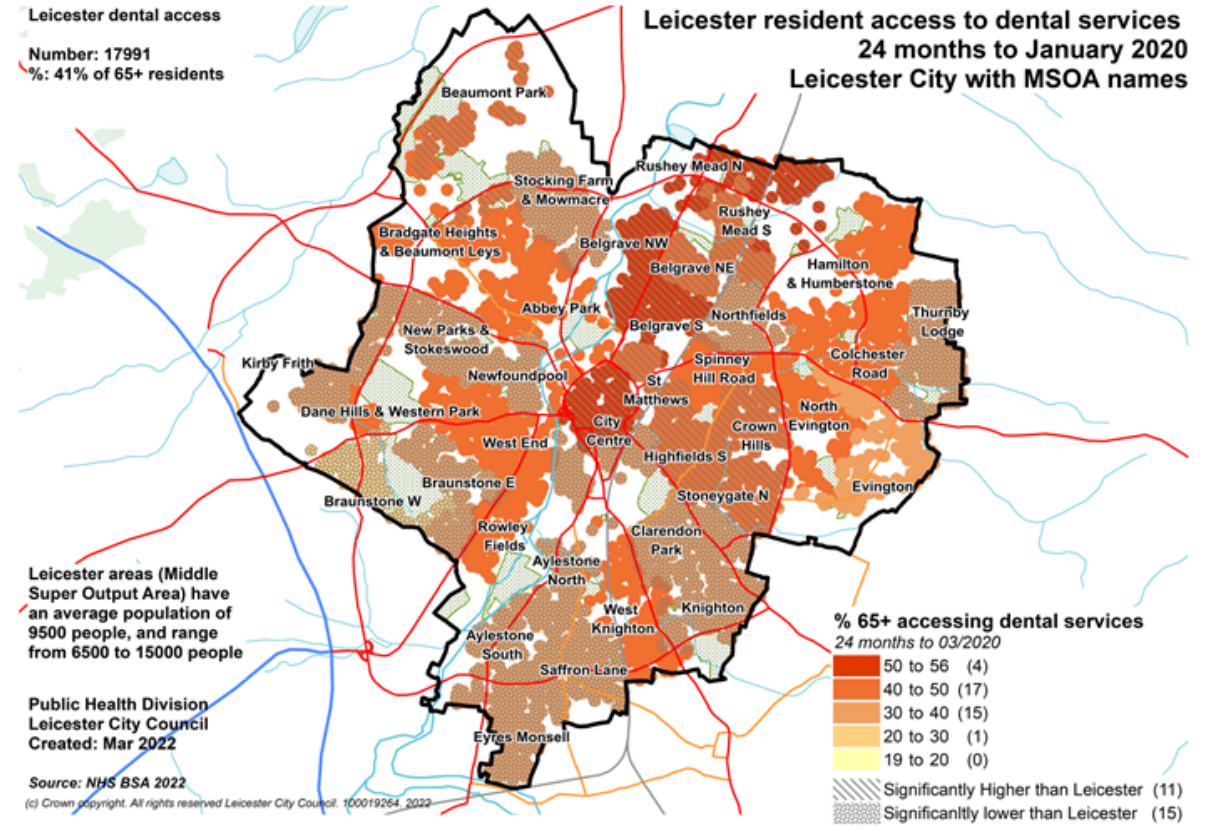
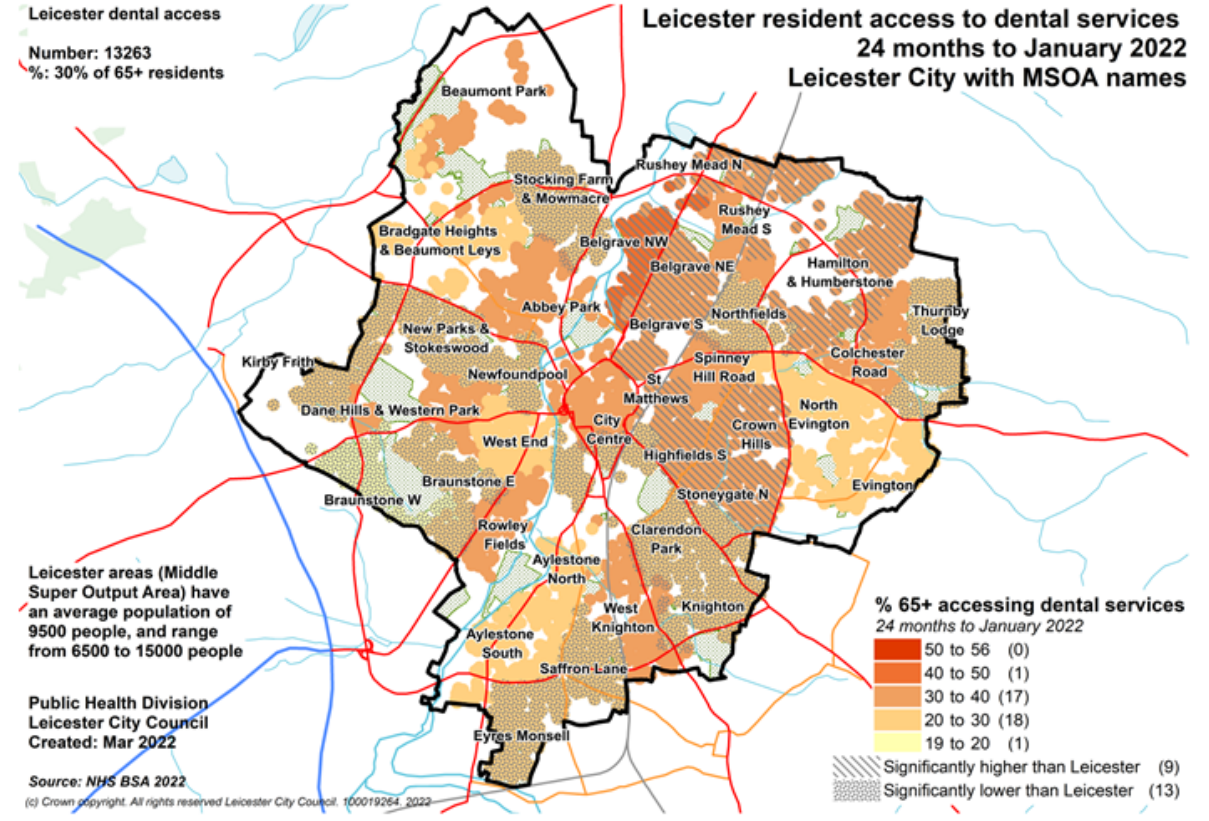


Figure 46: Leicester 65+ access to dental services by MSOA 2019-2021 (NHS BSA 2021)

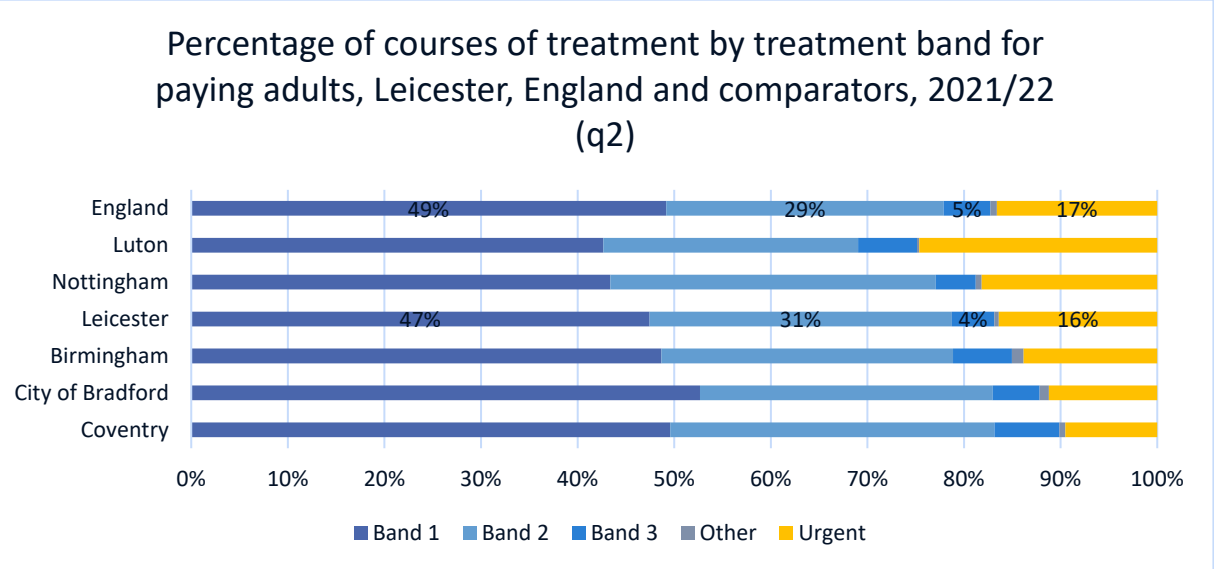




5.6 ADULT DENTAL ACTIVITY

Dental activity data for adults in Leicester presents a similar picture to child dental activity. Figure 47 demonstrates that adults (paying and non paying) receive less band 1 and more band 2/urgent activity compared to England. Non-paying adults are less likely to have band 1 treatment and more likely to have band 3 and urgent activity. Having more claims in band 2 could suggest the requirement for more complex dental care and more claims in urgent activity could suggest inadequate access (including COVID-19 lockdown implications), cultural behaviour in only attending when in pain or not being able to attend routinely due to NHS dental costs.

Figure 47: Adult (paying and non-paying) dental activity by patient charge band (NHS BSA 2021/22)



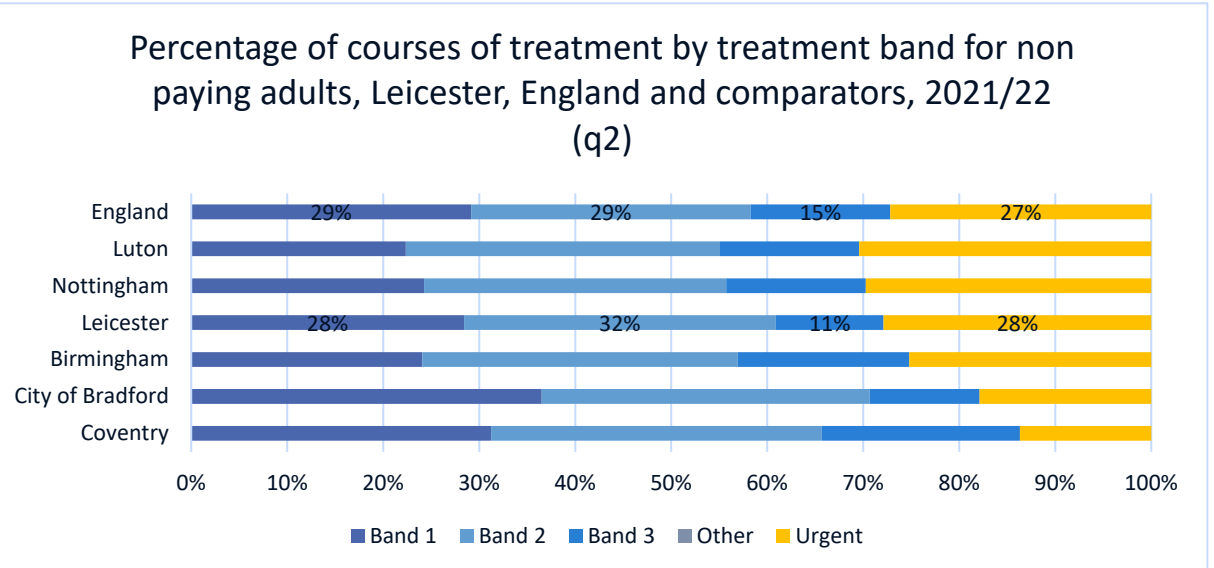


Figure 48 and 49 shows urgent activity by MSOA, this is closely linked with areas of higher deprivation (see figure 2) and areas of high transient populations including the City Centre and West End. There are slightly different patterns for working age and 65+ adults.

Figure 48: Urgent activity for Leicester working age adults 18 to 64 by MSOA (NHS BSA 2021/22)

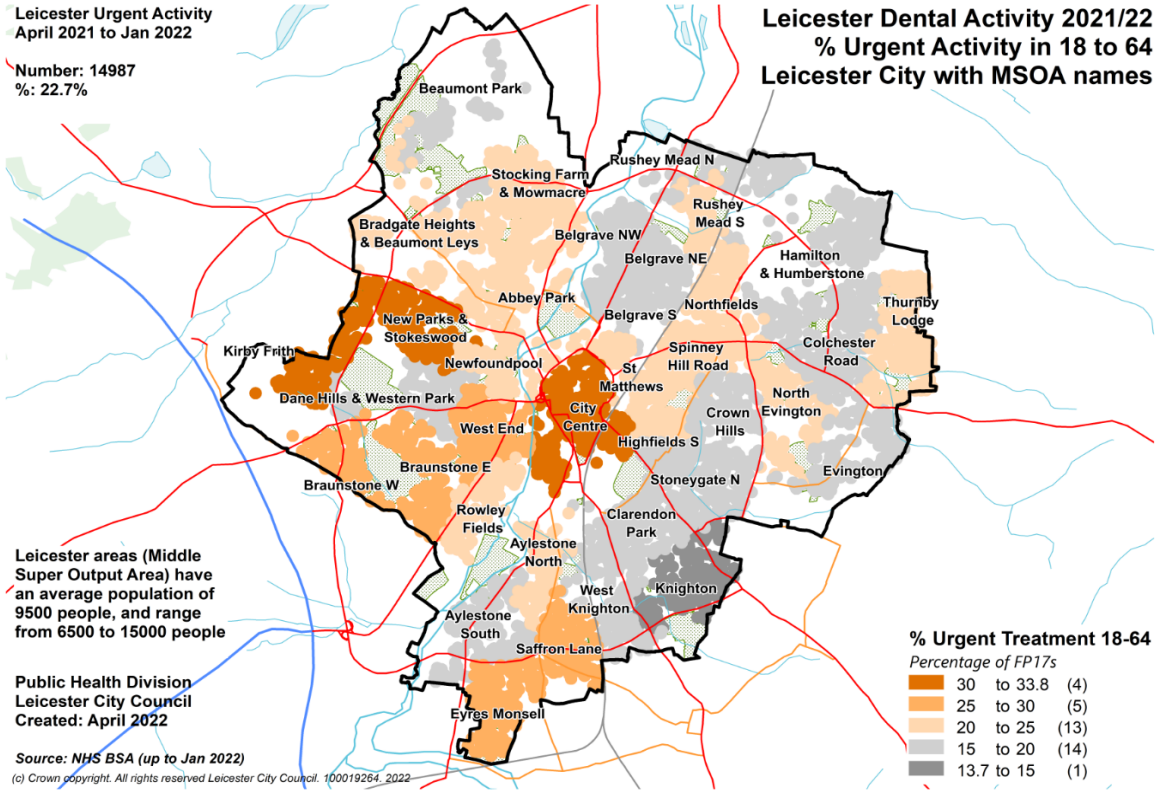
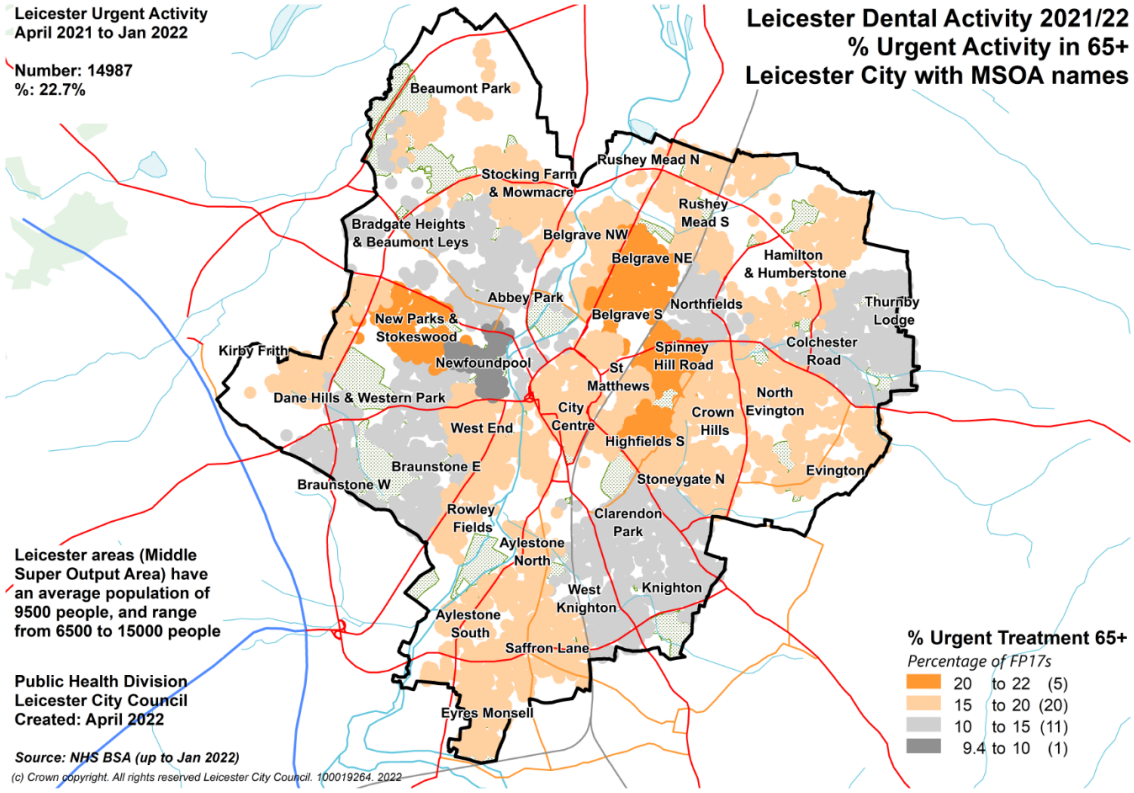
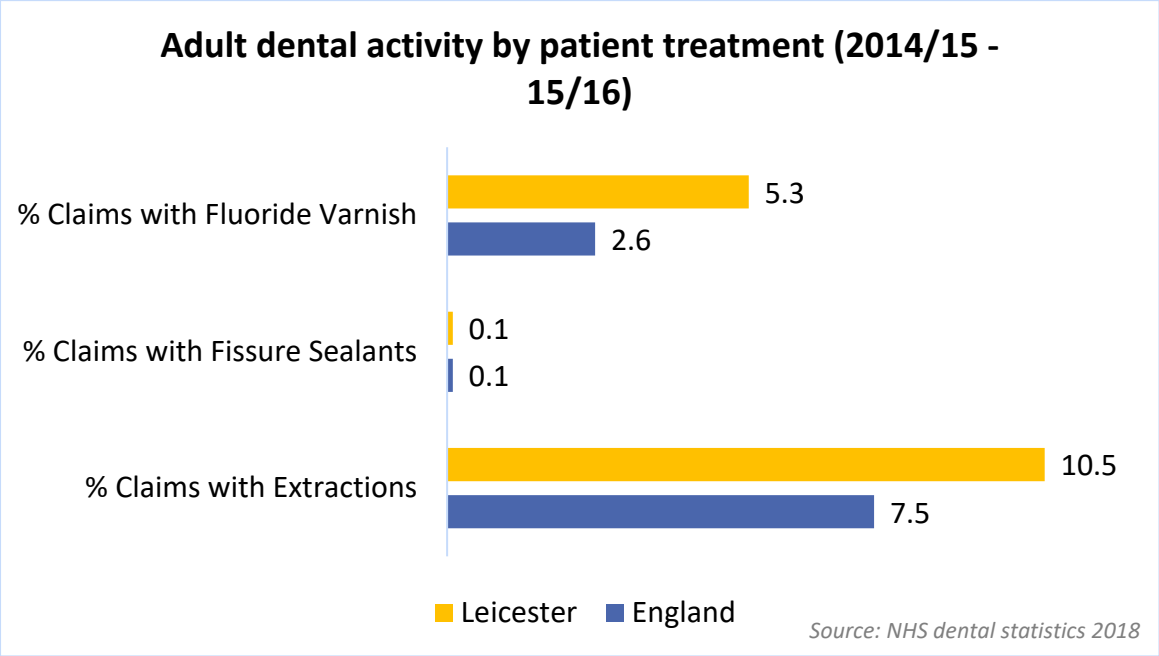


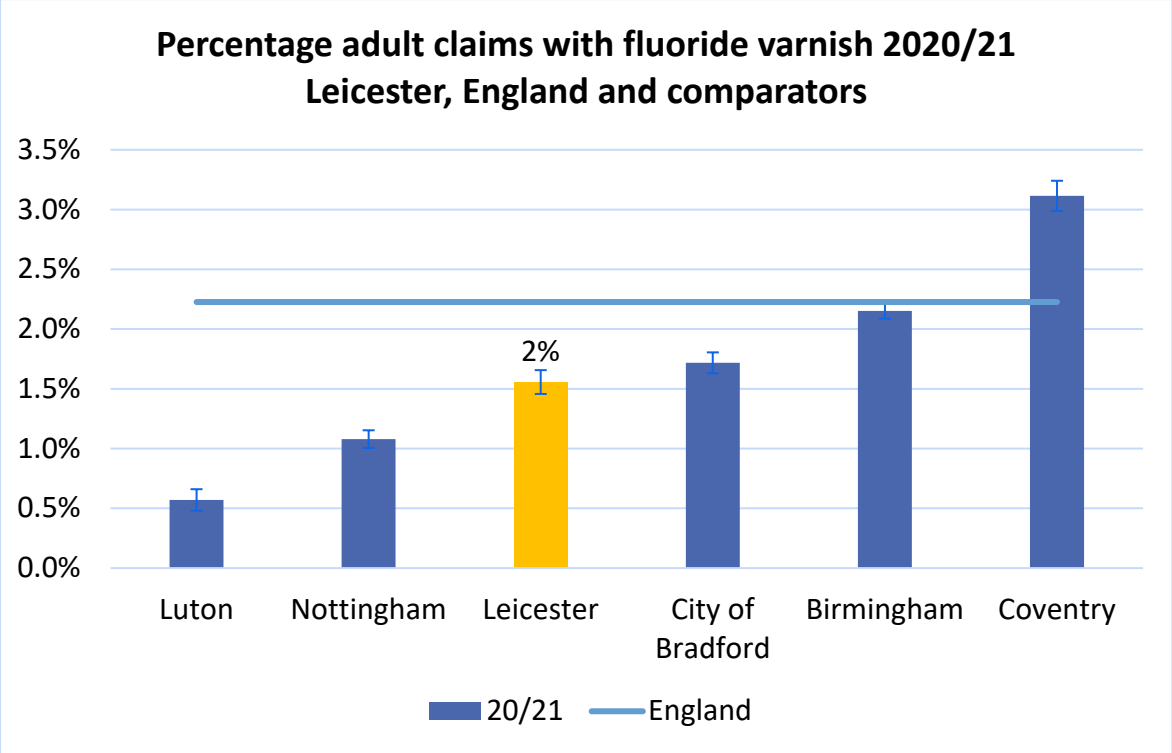
Figure 49 Urgent activity for Leicester residents 65+ by MSOA (NHS BSA 2021/22)

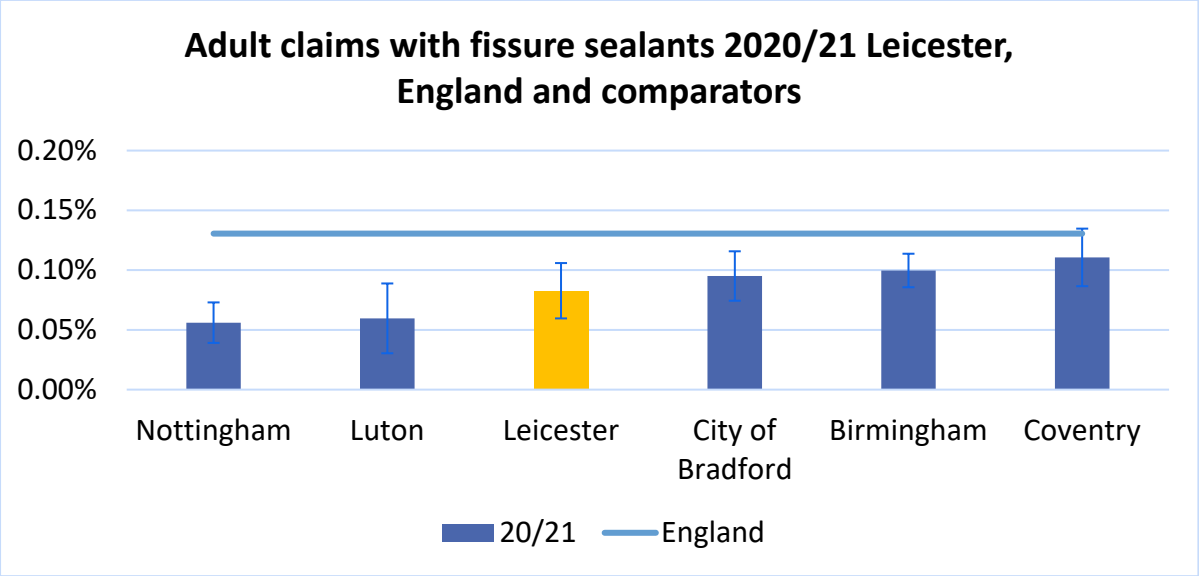


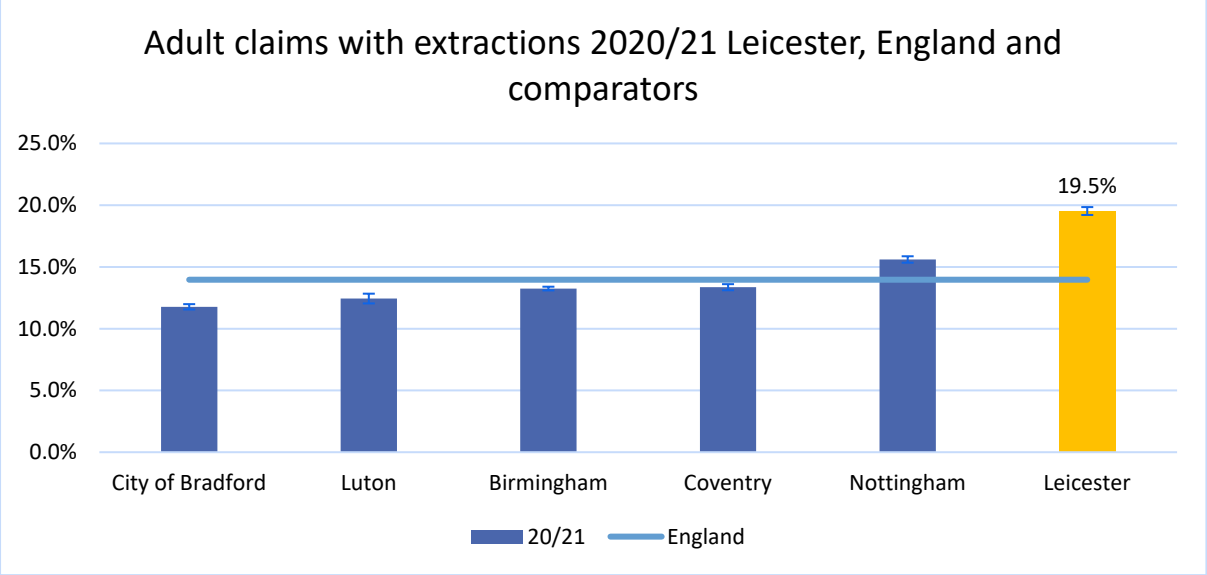
Adult dental activity claims for fluoride varnish, fissure sealants and dental extractions has changed in the pre and post pandemic periods. Post pandemic Leicester has seen falls in % of claims for Fluoride varnish from 5% to 2%, and an increase in claims for extractions from 10% to 20% for adult residents in Leicester (figure 50).

Figure 50: Adult dental activity fluoride varnish, fissure sealants and extractions (NHS BSA 2014/15 to 2015/16 and 2020/21 comparison)





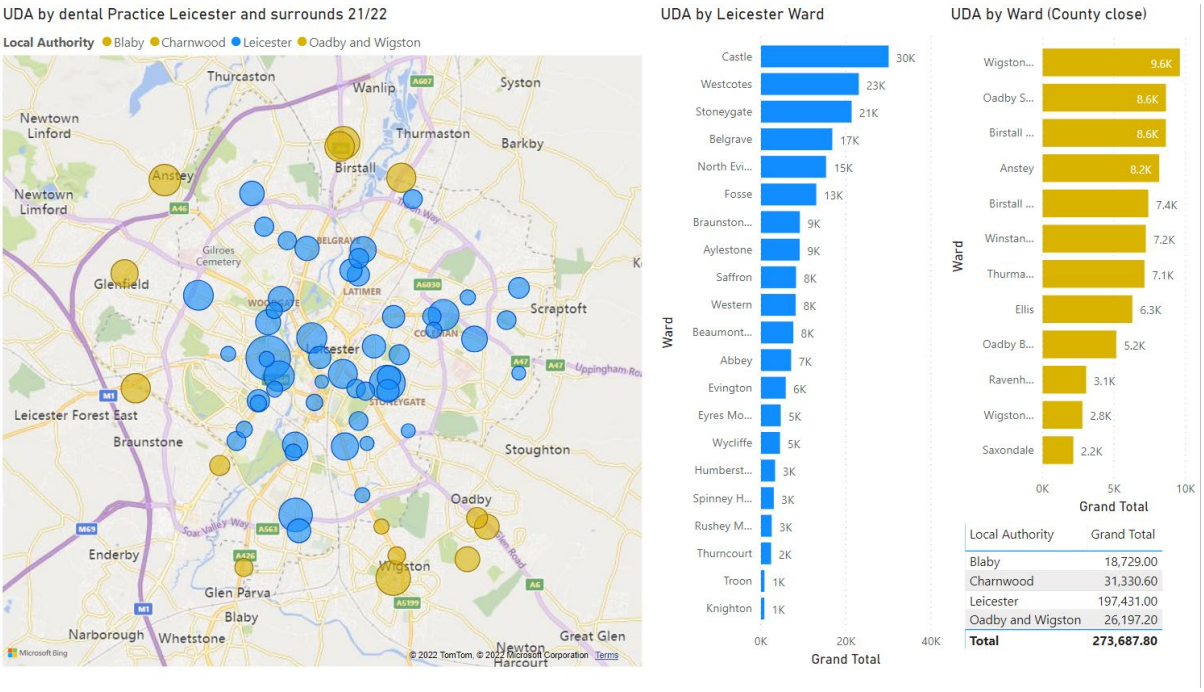




5.7 COMMISSIONED UNITS OF DENTAL ACTIVITY

Figure 51 shows that there is greater commissioning of Units of Dental Activity (UDAs) for practices located in our central wards Castle, Westcotes, and Stoneygate. There is limited activity in some of our outer estates including Braunstone. However, it is noted that there is an NHS dental practice located at the border of Braunstone (located in Leicestershire County) which may be serving the dental needs of residents in this area.

Figure 51: Leicester (and nearby) NHS dental practices and commissioned UDAs by ward (NHS BSA 2021/22)



5.8 ORAL HEALTH PROMOTION SERVICE

Leicester City Council has the overall statutory responsibility for public health and this includes oral health. The Council is also responsible for commissioning the dental epidemiology surveys and delivering Oral Health Promotion.

Due to Leicester having the highest rates of tooth decay for 3 year olds (2013) and 5 year olds (2012), improving children's oral health was made a priority in Leicester. In September 2013, Leicester City Council established the Oral Health Promotion Partnership Board (OHPPB) to facilitate and coordinate responsibilities and activities for improving oral health across partner organisations. The OHPPB includes representatives from NHS England (commissioners and a consultant in dental public health), Health Education England, , Healthwatch, Leicestershire Local Dental Committee, Community Dental Services CIC, Leicestershire County Council with leadership from Leicester City Council. Three months after being established, the Board agreed and endorsed the first Oral Health Promotion Strategy for preschool children (2014-2017). The OHPPB developed Leicester's early intervention programme Healthy Teeth, Happy Smiles! (HTHS!). A range of resources and activities aimed at adults and children have been developed and implemented since 2014 and Leicester's first Oral Health Promotion Service (OHPS) was established in February 2015.

Free oral health packs have been distributed in the city since December 2015. The provision of 4 oral health packs in the first 5 years of life was embedded into the Healthy Child Programme as of July 2017. Public Health Nurses (Health Visitors) distribute 3 packs per child at development checks; age 6-8 weeks, 1 year and 2 year and a further pack is distributed through schools for children in F2 classes. During the COVID pandemic when the health visiting service could not conduct face to face support, oral health packs were posted to children for the 1 year and 2 year check, including toothpaste, toothbrush and information for parents. An oral health pathway has also been embedded into the Healthy Child Programme, ensuring evidence based oral health messages are delivered at mandated contacts.

The OHPS currently consists of 1 full time and two part-time members of staff who deliver the oral health programme. Examples of work are included below:

- A universal supervised toothbrushing programme for 0-5 years children in pre-school and primary school settings. Figure 54 and 55 (below) show the proportion of settings in each ward that are currently taking part in the programme. There are higher levels of pre-school participation in Stoneygate, Castle and Wycliffe. There are more limited levels of primary school participation. During the COVID pandemic, PHE recommended ceasing supervised toothbrushing programmes nationally and as a result the Oral Health Promotion Team advised settings to cease the Supervised Toothbrushing programme. In August 2020, PHE released updated infection prevention and control guidance that would allow settings to re-start supervised toothbrushing as appropriate. The team has been supporting settings to re-start supervised toothbrushing in a risk assessed environment, offering virtual re-trainings and refreshers for staff. As of May 2022, there are 3771 early years children and 277 primary school children participating in supervised toothbrushing daily.

- HTHS! Dental Practice Accreditation scheme, where dental practices who demonstrate a commitment to prevention are awarded with the HTHS! kitemark. As of December 2019, there were 12 practices with full HTHS! accreditation.
- The Smile Early Years Award accreditation enables early years settings to be awarded with an accreditation for completing a portfolio of work showing their commitment to oral health promotion, healthy eating and general wellbeing in the early years setting. This was developed from the HTHS! Early Years Accreditation scheme pilot. Currently, seven settings have achieved their Bronze accreditation and are working towards their Silver, while six more settings are working towards their Bronze.
- Various oral health promotion activities/campaigns including; National Smile Month, Mouth Cancer Action Month and a year-round city-wide baby bottle swap scheme.

Free multi-agency oral health training sessions for the health and care workforce

Figure 52: Participation in supervised tooth brushing programme Leicester nurseries, pre-schools, primary schools and special schools (LCC 2019 to 2022)

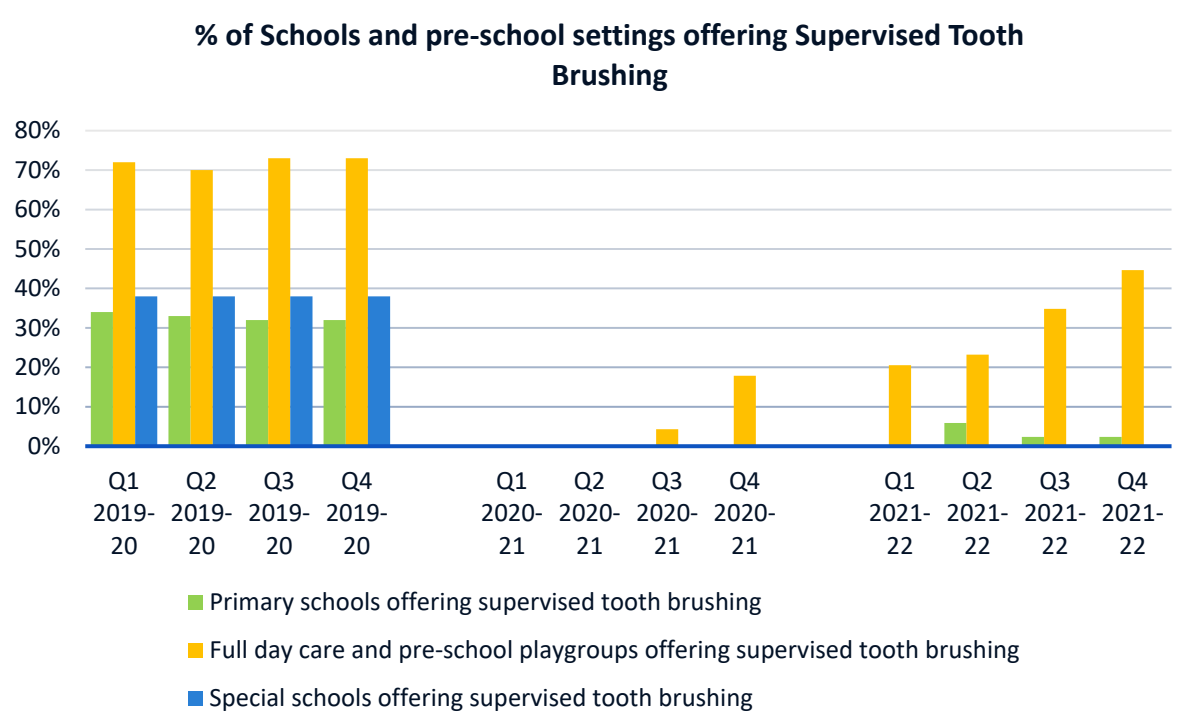


Figure 53: Training attendance for supervised tooth brushing (LCC 2019 to 2022)

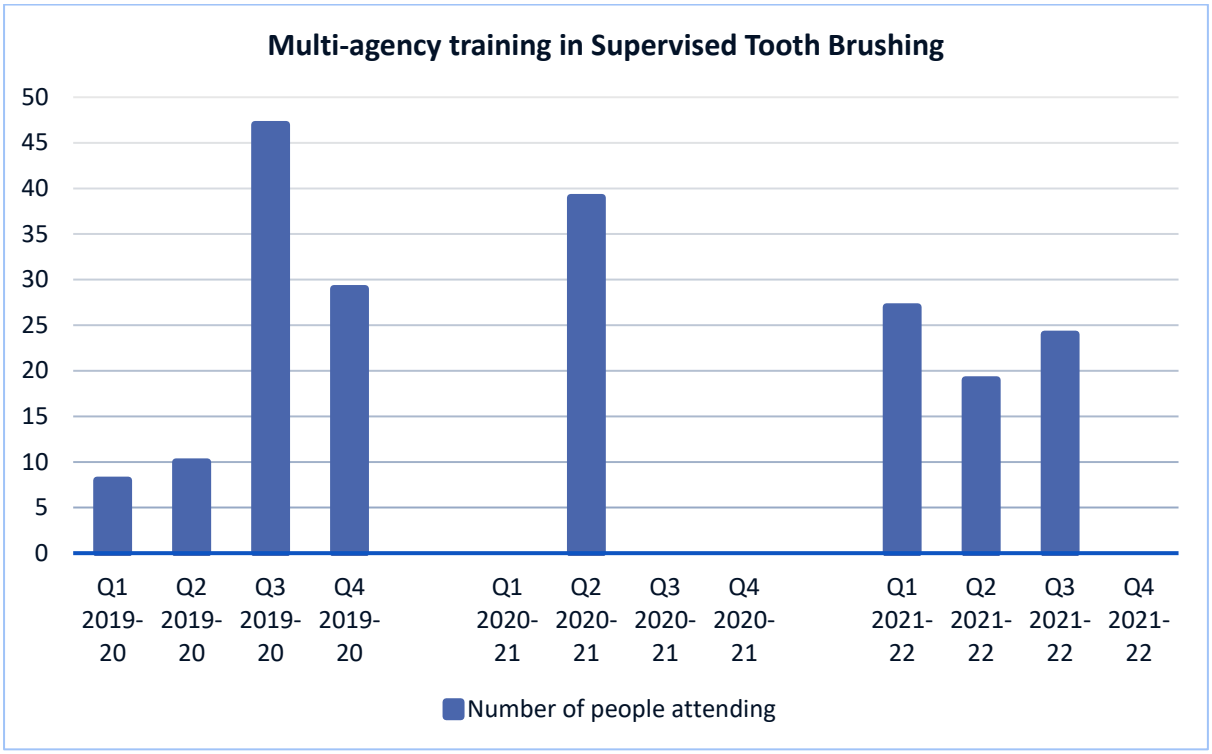


Figure 54: Pre-Schools/nurseries participating in Supervised Toothbrushing by Ward 2022

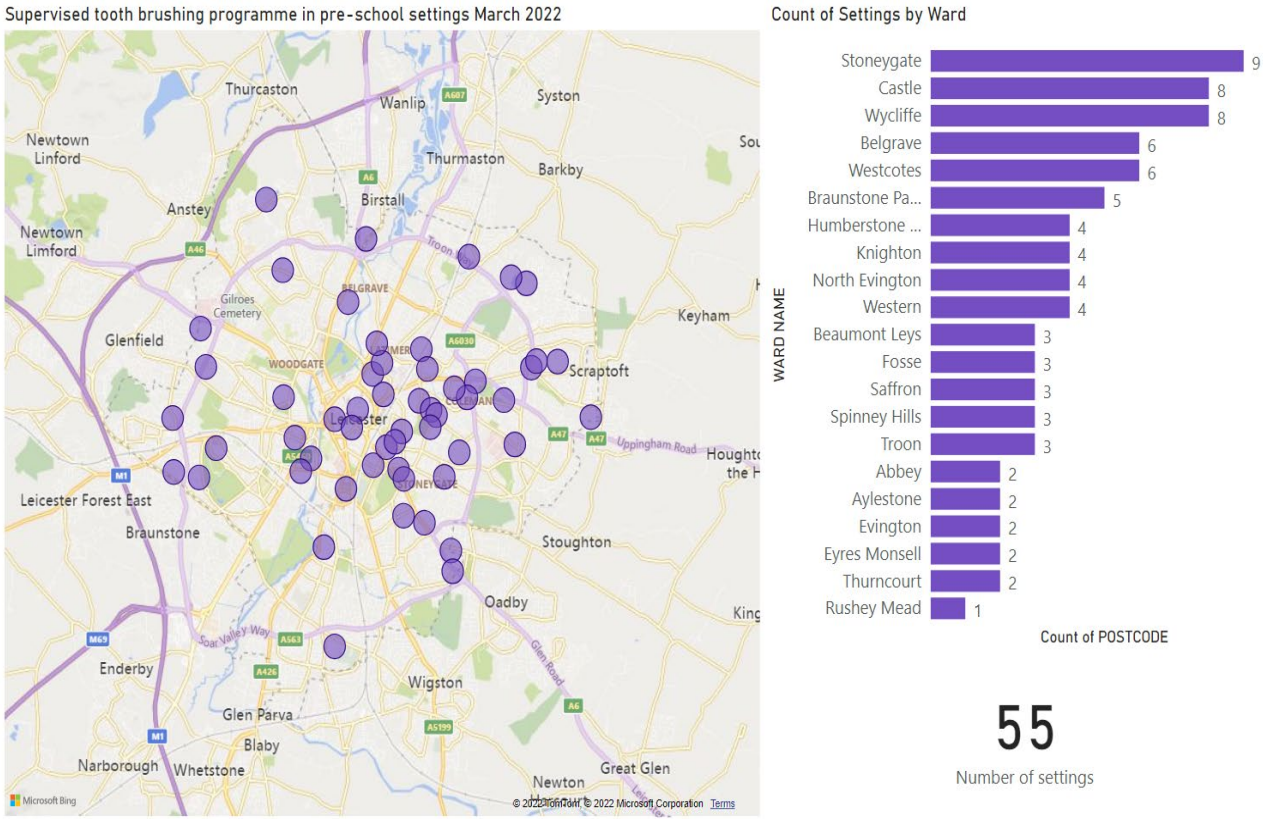
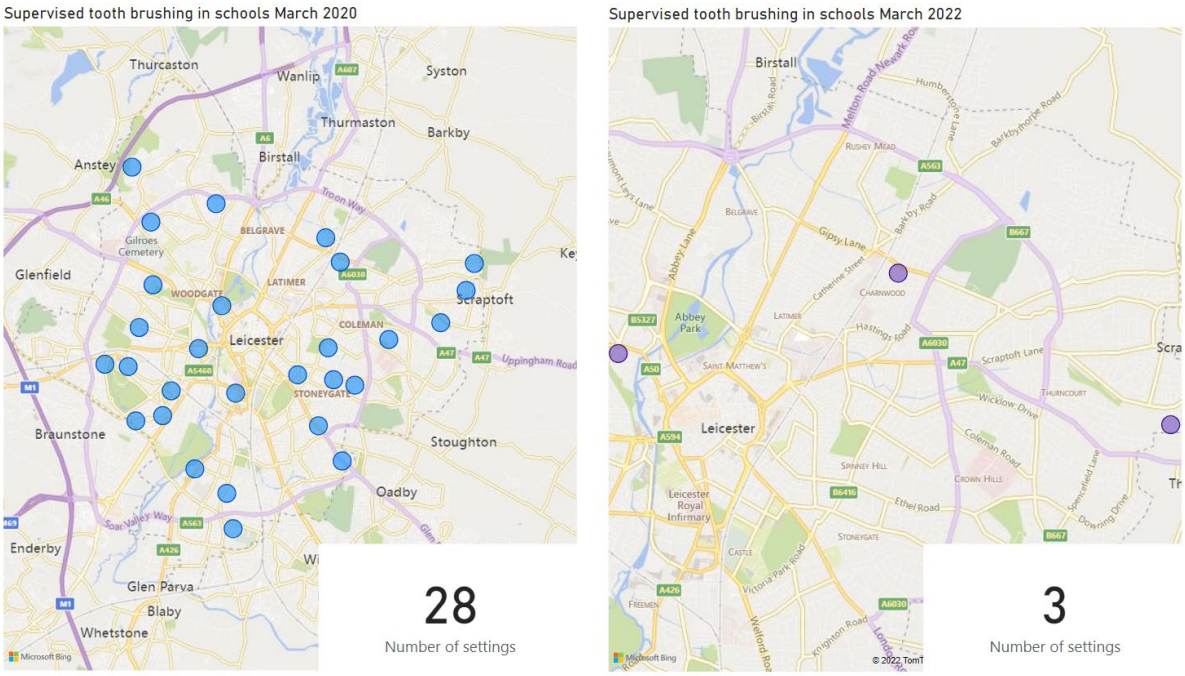


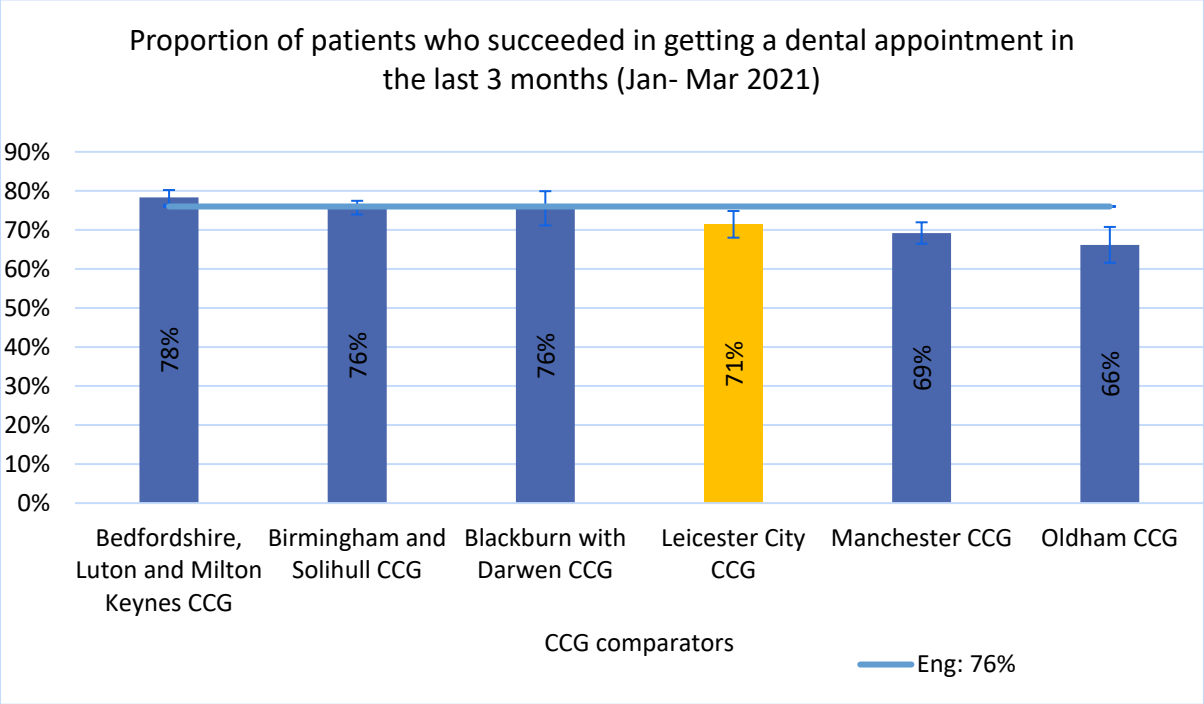
Figure 55: Supervised tooth brushing in Leicester schools (LCC 2020 and 2022)



5.9 PATIENT EXPERIENCE

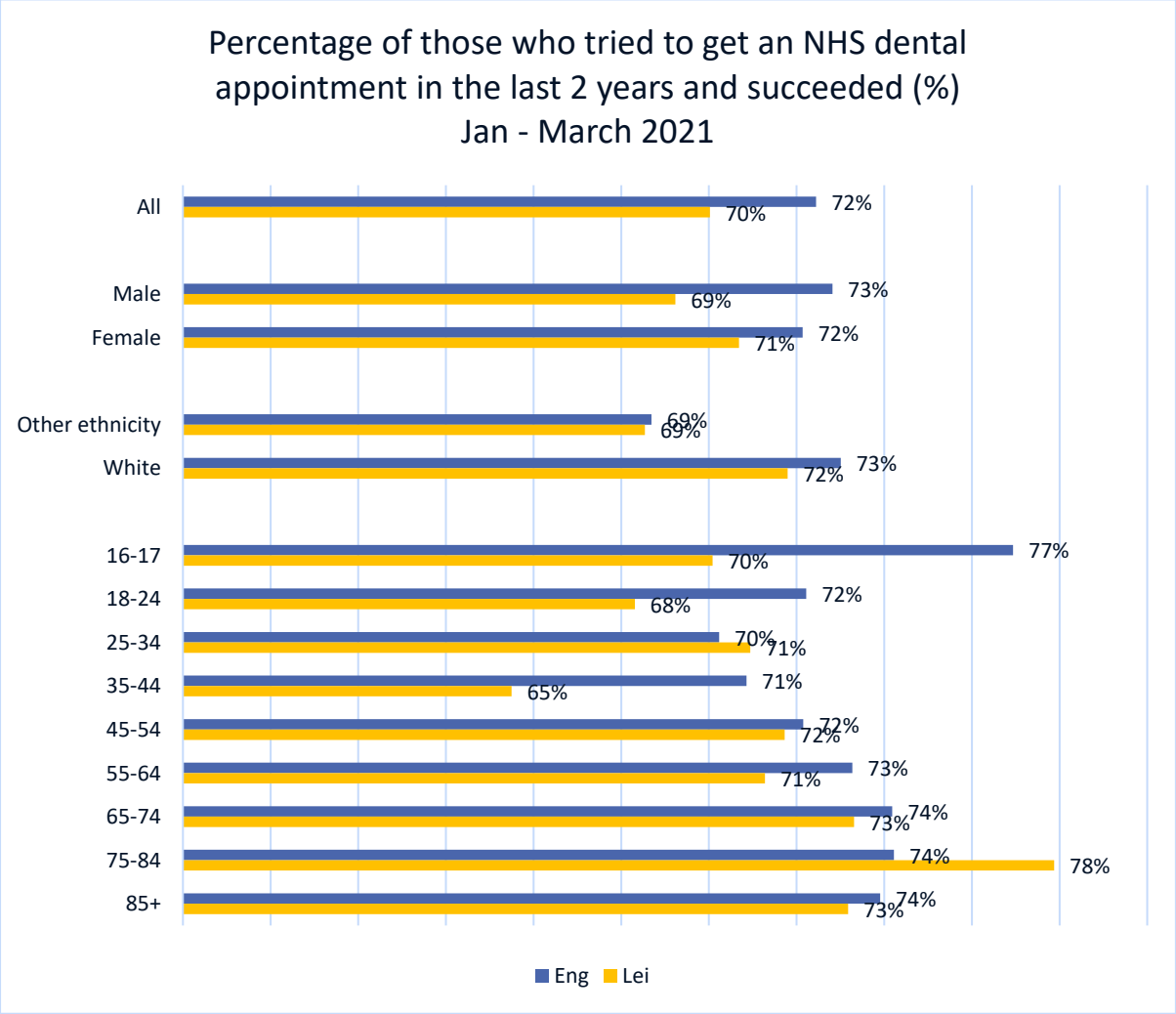
The GP Patient Survey is sent to a sample of patients registered with a GP in Leicester. Not all patients surveyed will be receiving dental treatment in Leicester, although the majority of Leicester dentists do see patients who are living in Leicester and who are registered with a Leicester GP. Analysis of the dental questions in the GP patient survey provides further understanding of those who can successfully access NHS dental services. A total of 672 Leicester residents surveyed had tried to get an NHS dental appointment in the last three months (Jan to Mar 2021), Figure 56 shows that 71% were successful. This is significantly lower than the national rate of success.

Figure 56: Patients who can successfully access a dental appointment (GP Patient survey 2021)



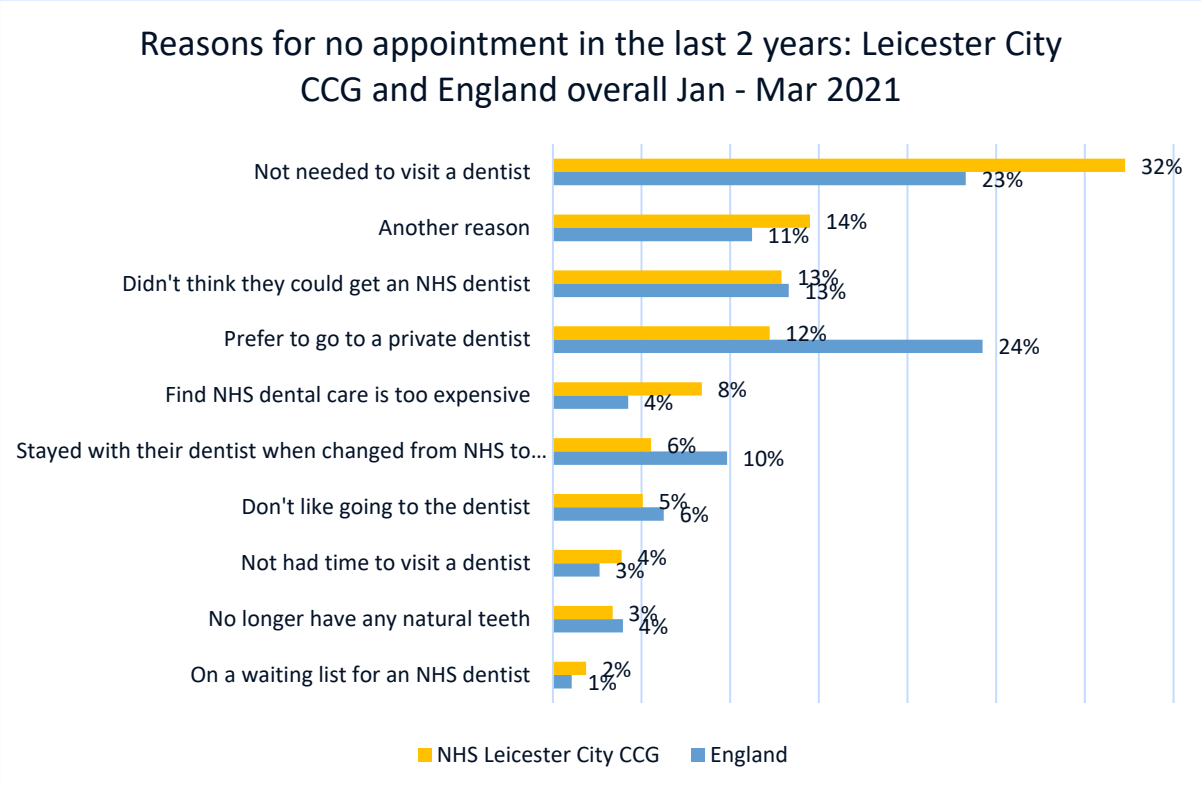
About 3,000 Leicester residents were surveyed about their success in trying to get a dental appointment over the last two years. Analysis shows that males, younger adults and those from a non-White ethnicity in Leicester are finding it more challenging to successfully get a dental appointment (Figure 57).

Figure 57: Patients who tried to get an appointment and were successful (GP Patient survey 2021)



The reasons for not having an appointment with an NHS dental practice have also been listed in the GP Patient Survey. Leicester patients are more likely to suggest that they have not needed to attend a dentist or have found treatment too expensive. Leicester patients are also less likely to prefer a private dentist.

Figure 58: Reasons for no NHS dental appointment over the last two years (GP Patient Survey 2021)



5.10 ORAL HEALTH PROMOTION PARTNERSHIP BOARD

The Oral Health Promotion Partnership Board is the partnership board for oral health in Leicester, Leicestershire and Rutland. The aim of the Board is to facilitate multi-agency partnership working in order to deliver improvements in oral health and reductions in oral health inequalities for the population of Leicester, Leicestershire and Rutland with an initial focus on pre-school children before moving to other age groups.

The remit of the board is:

- Develop, agree and endorse Multi-Partnership Oral Health Promotion Strategies for differing population groups as defined by the Board, commencing with a focus on 0-5 years at the outset
- Identify systems and areas which require further consideration
- Facilitate opportunities to work with other disciplines, agencies and topic areas to build capacity for oral health improvement
- Share knowledge to ensure effective delivery of oral health improvement programmes
- Define task and finish groups
- Receive and consider reports from stakeholders

Membership:

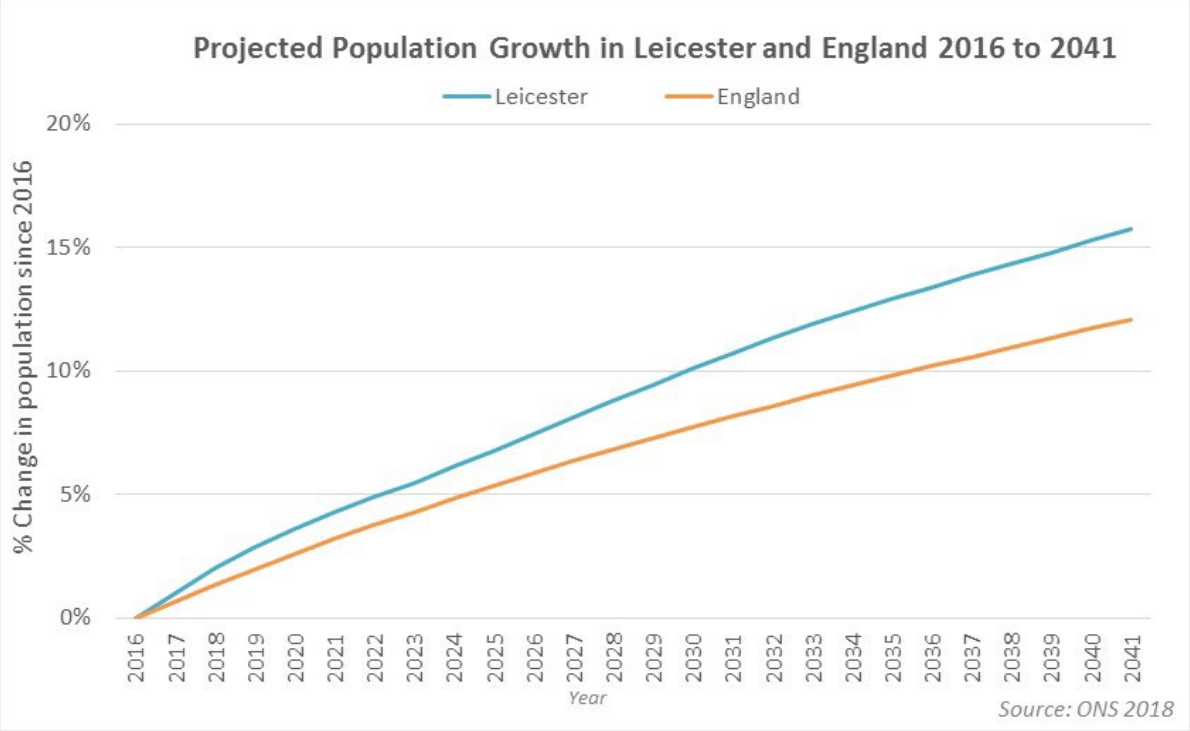
Leicester City Council	Leicestershire and Rutland County Councils	Key Partners
Consultant in Public Health (Chair)	Consultant/Senior Public Health Manager/Oral Health Promotion Manager will attend on behalf of LCC and RCC	Chair of Local Dental Network (Vice Chair)
Head of Early Prevention: Children and Young People's Services		NHS England – Midlands: Commissioner
Oral Health Promotion Service		Health Education East Midlands: Postgraduate Dental Dean
		Healthwatch Leicester: Public & Patient Representative
		Leicestershire Local Dental Committee provider representative
		Community Dental Services CIC: provider representative
		NHS England – Midlands, Consultant in Dental Public Health (Co-opted member)

6.0 PROJECTED SERVICE OUTCOMES IN 3-5 YEARS AND 5-10 YEARS

6.1 POPULATION GROWTH

The population is predicted to grow to around 377,900 by 2027, an increase of over 24,360 from 2017. In the longer term it is estimated that there will be a 16% increase by 2041. This rate is higher than that expected for England (12%) over the same period. Population projections indicate the biggest increase will be in the older population aged 65+. This may increase the demand on NHS Dental Services due to the complex needs of this population, especially as older people are keeping their natural teeth longer and therefore require maintenance dental work.

Figure 59: Projected population growth in Leicester and England (2016-2041)



7.0 EVIDENCE OF WHAT WORKS

"Health inequalities and the social determinants of health are not a footnote to the determinants of health. They are the main issue." - Michael Marmot

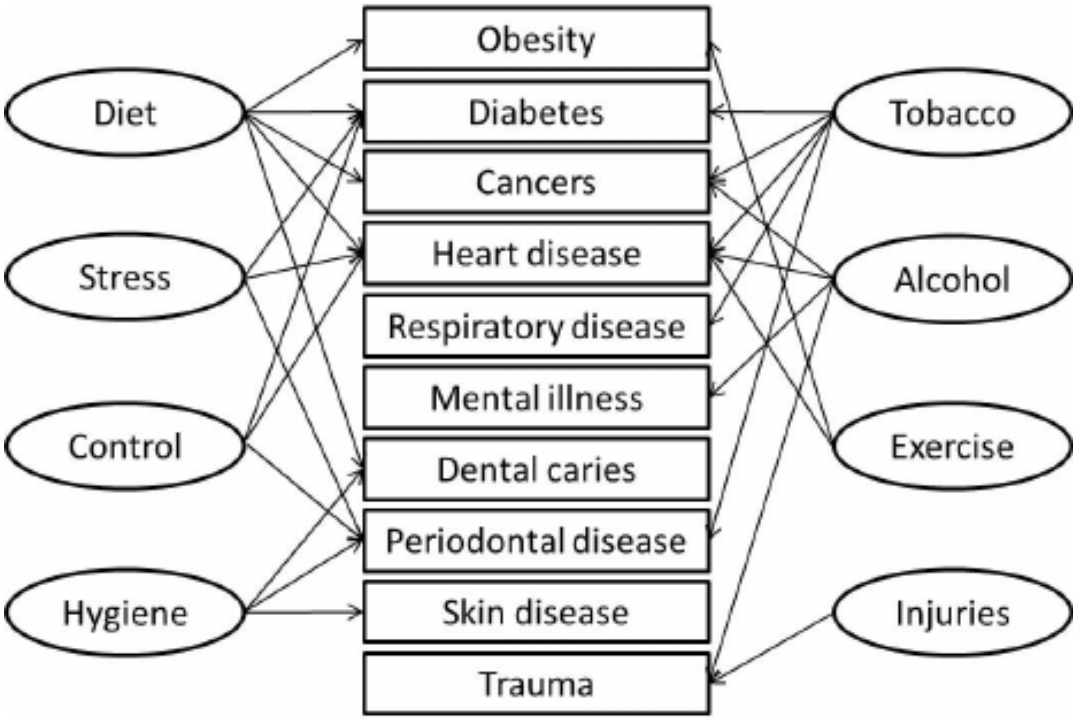
Marmot[51] suggests that interventions focusing solely on the most disadvantaged will not reduce health inequalities sufficiently as everyone experiences some degree of health inequality and a proportionate universalism approach is advocated.

Inequalities in oral health are largely preventable. Prevention can occur at various points on the causal pathway; upstream prevention is delivered at societal level, midstream at community level and downstream at individual or family level. This is shown diagrammatically below.

Figure 60: Upstream/downstream: options for oral disease prevention

Oral diseases and conditions also share risk factors with other diseases such as cancer, cardiovascular disease and diabetes. The common risk factor approach integrates general health promotion by focusing on a small number of shared risk factors that can potentially impact a large number of chronic diseases, which includes oral health. Applying a common risk factor approach to multiple public health strategies would impact on multiple health outcomes and ensure more effective use of limited resources.

Figure 61: Common Risk Factor Approach



Source: Watt, 2000

The figure above highlights the links between risk factors which are common to a range of general and oral health conditions.

There are a number of evidence-based publications available to inform oral health decision making at population, community and individual patient level:

- *Commissioning Better Oral Health for Children and Young People*[52] is dedicated to the oral health needs of children and young people and provides guidance on commissioning appropriate oral health improvement interventions to improve oral health and reduce inequalities for children.
- *Commissioning better oral health for vulnerable older people. An evidence-informed toolkit for local authorities*[53] is a resource providing information on the oral health needs of vulnerable older people and guidance on commissioning appropriate oral health improvement interventions to improve oral health and reduce inequalities for vulnerable older people.
- *Oral Health Improvement for Local Authorities and their Partners*[54] is a source of guidance for introducing oral health improvement programmes in a range of settings and highlights where oral health should sit within the local authority structure.
- *Delivering Better Oral Health: an evidence-based toolkit for prevention*[55] is a prevention toolkit for clinical dental teams, providing evidence based, age-appropriate guidance for use when delivering individual patient level care.

- *Dental checks: intervals between oral health reviews*[56] covers assigning recall intervals between oral health reviews that are appropriate to the needs of individual patients.
- *Oral health for adults in care homes*[57] is *a* guideline which covers oral health, including dental health and daily mouth care, for adults in care homes. The aim is to maintain and improve their oral health and ensure timely access to dental treatment.
- *Oral health promotion: general dental practice*[58] is a guideline which covers how general dental practice teams can convey advice about oral hygiene and the use of fluoride. It also covers diet, smoking, smokeless tobacco and alcohol intake.

The following are population, community and patient level oral health improvement interventions and recommendations sorted based on their evidence base:

Strong Evidence:

Universal	Targeted

• Breastfed babies experience less tooth decay and breastfeeding provides the best nutrition for a baby's overall health – support mothers to breastfeed exclusively for the first 6 months of a baby's life.
• Parents/carers should brush or supervise toothbrushing as they get older
• As soon as teeth erupt in the mouth brush all tooth surfaces twice daily with a fluoridated toothpaste
• Use a manual or powered toothbrush
• For children aged 0-3 years: Use a smear of fluoridated toothpaste containing no less than 1,000 ppm fluoride
• For children aged 3+ years: Use a pea-sized amount of fluoridated toothpaste containing more than 1,000 ppm fluoride
• As soon as children are able, spit out after brushing rather than rinse
	• Assign a shortened recall interval based on dental caries risk
	• For children aged 0-6 years at high risk of dental decay:
	  ○ Use fluoridated toothpaste containing 1,350-1,500 ppm fluoride
	  ○ Apply fluoride varnish to teeth two or more times a year
	• For children aged 7+ years and adults at high risk of dental decay:
	  ○ Use a fluoride mouth rinse daily (0.05% Sodium Fluoride) at a different time to brushing
	  ○ Apply resin sealant to permanent teeth on eruption
	  ○ Apply fluoride varnish to teeth two or more times a year
	• For those 10+ years with high risk of dental decay:
	  ○ prescribe 2,800 ppm fluoride toothpaste
	• For those 16+ years with high risk of dental decay:

• Application of fluoride varnish in a clinical setting from age 3 years and applied twice yearly • For children aged 7+ and adults: Use fluoridated toothpaste (1,350 – 1,500 ppm fluoride) • Reduce the frequency and amount of sugary food and drinks • Ask, Advise, Act – tobacco and alcohol use very brief advice. For smokeless tobacco, use the names that the various products are known by locally. Use the AUDIT-C tool (or similar) to assess a patient's level of risk of alcohol harm. • Fluoridation of public water supplies	○ prescribe either 2,800 ppm or 5,000 ppm fluoride toothpaste ○ prescribe daily fluoride rinse • For all children and adults with high risk of dental decay: ○ Investigate diet and assist to adopt good dietary practice in line with the Eatwell Guide ○ Support toothbrushing, where required • For adults with high risk of dental decay: ○ Apply fluoride varnish to teeth two times a year • For those who smoke: Explain that a combination of behavioural support and the medication varenicline, or short-acting with long-acting Nicotine Replacement Therapy, are likely to be most effective. Act on patient response: refer people who want to stop smoking to local stop smoking support, preferably where behavioural support and prescribed stop smoking medicines are available. • Community-based fluoride varnish programmes • Supervised tooth brushing in targeted childhood settings • Distribution of toothbrushes and toothpaste (i.e. postal or through health visitors)

Sufficient/some evidence:

- Oral health training for the wider professional workforce
- Integration of oral health into targeted home visits by health/social care workers
- Targeted community-based fissure sealant programmes
- Targeted community-based fluoride mouth rinse programmes
- Using mouth guards in contact sports
- Healthy food and drink policies in childhood settings

- Targeted peer (lay) support groups/peer oral health workers
- Influencing local and national government policies
- Fiscal policies to promote oral health

Weak/inconclusive/no evidence: *It should be noted that no position could be reached because no evidence of impact/outcome is available at present. This is not the same as evidence of ineffectiveness.*

- Social marketing programmes to promote oral health and uptake of dental services by children
- Person-centred (one-to-one) counselling based on motivational interviewing outside of dental practice settings
- One off dental health education by dental workforce targeting the general population
- Facilitating access to dental services
- Provision of fluoridated milk in school settings
- School or community food co-operatives

Infant feeding policies to promote breastfeeding and appropriate complementary feeding practices

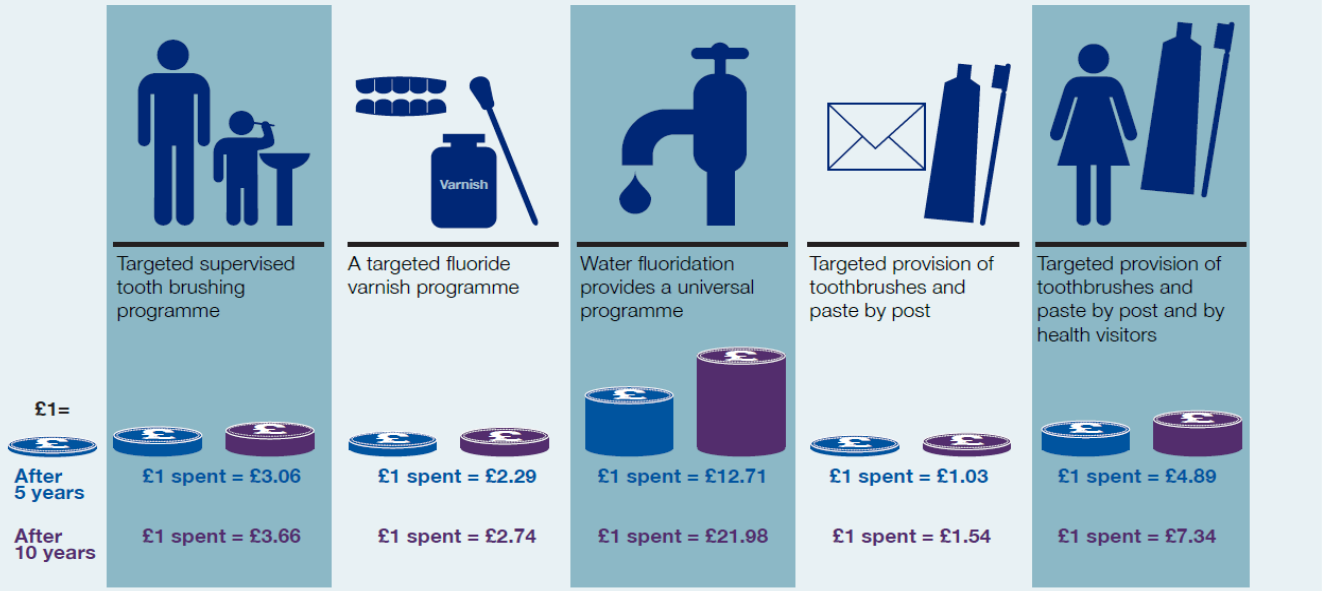
As can be seen from the interventions above fluoride can be delivered at an individual, community or population level. Fluoride acts in several ways to slow and prevent the decay process and also to reverse decay in its early stages.

Return on Investment (ROI)

Public Health England's rapid evidence review and ROI tool[59] allows effectiveness data on oral health interventions to be used to estimate the potential economic benefits from each community intervention. The tool uses the best available evidence to estimate the reduction in tooth decay as a result of the intervention, the programme costs and savings.

Figure 62: Return on Investment

Reviews of clinical effectiveness by NICE (PH55) and PHE (Commissioning Better Oral Health for Children and Young People, 2014) have found that the following programmes effectively reduced tooth decay in 5 year olds:



*All targeted programmes modelled on population decayed, missing or filled teeth (dmft) index of 2, and universal programme on dmft for England of 0.8. The modelling has used the PHE Return on Investment Tool for oral health interventions (PHE, 2016). The best available evidence has been used in this tool and where assumptions are made these have been clearly stated

PHE Publications gateway number: 2016321

8.0 KEY CONTACTS

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