Leicestershire

Joint Strategic Needs Assessment

ORAL HEALTH

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Business Intelligence Service

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Executive Summary

Poor oral health is a major public health problem, owing to its high prevalence and incidence worldwide. Oral health diseases include tooth decay, erosion, gum disease, oral cancer, and facial and dental injuries; their burden falls unequally upon disadvantaged and vulnerable populations. However, these conditions are highly preventable with simple measures such as improved oral hygiene and/or diet, access to fluoride and regular dental check-ups playing a major role in prevention of, and early treatment of disease.

Leicestershire has a population which is comparatively older than national average, with over one in five residents over the age of 65. It is these older age groups that have increased by over 28% in the last decade and are projected to increase by a further 25% in the forthcoming decade. Although on average socio-economic deprivation is not high in Leicestershire, there are pockets of deprivation in some urban areas (nearly 70% of the population lives in an urban setting) and measurable rural deprivation expressed through barriers to housing, transport, and services in 30% of population living in rural areas. Furthermore, is it important to highlight that some areas are within pockets of high deprivation. Northwest Leicestershire and Charnwood are shown to be within the 10% most deprived areas in the country in the 2019 Indices of Multiple Deprivation data. Population of Leicestershire is, according to data from population Census carried out in 2021, of predominantly white (88%) and Asian (8%) descent.

Several population groups are at higher risk of poor oral health, including children looked after (CLA) and children in need (CIN), military personnel and their families, pregnant women, people with disabilities, the elderly (particularly dementia sufferers, people with long-term conditions and care home residents), and marginalised groups – the homeless, travellers, refugees, and asylum seekers. There are over 5.8 thousand children and young people with special educational needs (SEN) in Leicestershire, nearly three thousand CIN and almost 700 CLA, although these groups are not overrepresented when compared to the national average. Another sizeable population group at higher risk of poor oral health are children and adults with obesity – estimated at approximately 150,000 adults and 5000 children.

Oral health of three-year-old children appears to be marginally better than the national average and similar to regional figures and to its statistical neighbours, with about one in ten children having experience of dental decay in the survey carried out in 2020. The 2019 survey of oral health among the five-year-old children also shows better than average oral health in Leicestershire across a selection of indicators, when compared to national or regional rates, or urban areas such as Leicester. Rates of tooth extraction in children are also relatively low in Leicestershire and across the East Midlands region.

The rates of oral cancer in adults have been rising nationally and a similar trend is apparent for Leicestershire although rates are not significantly different, and mortality appears lower. The oral health survey of adults (2018) shows rates similar to national figures.

A review[i] of accessibility of NHS services to new patients showed that 40% of dental practices (both Leicestershire and those accessible cross-border) did not accept any new NHS patients, further 35% accepted only referrals and less than 10% would accept children or adults. Currently [ii], there are 88 dental practices within Leicestershire borders; over 40% of the population has more than a 15 min walk to the nearest practice, 21% have over 30 min travel by public transport but less than 1% have more than a 30 minutes' drive.

Rates of access vary across Leicestershire, particularly for working-age adults, with between 13% and 50% of this age group having seen a dentist in the past 24 months, with this number being lower in Melton and parts of Charnwood. For children, access rates are generally higher (33% - 62% when checked in the past 12 months) but also vary substantially across the County. Women of working age have on average higher access rates than men, but it is difficult to assess equity of access for different ethnic groups in Leicestershire. Access rates are necessarily distorted by COVID-19 pandemic, with a significant drop or cessation of activity in 2020. By mid-2022 dental activity was still behind the pre-pandemic rates.

Measured by the numbers of dentists per population, access across both Leicestershire CCGs in 2020/21 was higher than the national or regional average, although in the same year there was a significant drop in the proportion of patients who successfully obtained an NHS dental appointment (from over 95% in previous years to 78% in 2020/21). There was also a significant fall in the proportion of patients reporting very good or fairly good experience of NHS dentistry in 2020/21 – from over 85% in previous years to less than 80%>

A high percentage of dental practices report difficulties recruiting not only dentists but also Dental Care Professionals, therefore these workforce challenges need to be taken into consideration when planning public health programs and are reflected in the JSNA's recommendations via alternative options.

Leicestershire has relatively less 'exempt adult' activity compared to the national average (11% vs 17%) and more 'non-exempt' adults. The proportion of fluoride varnish treatment was higher than national average (67% of children's claims, compared to 54% nationally).

[i] August 2022

[ii] Source: SHAPE January 2023

This Joint Strategic Needs Assessment (JSNA) highlights several factors which should inform future health promotion efforts throughout Leicestershire. These include exploring ways to improve dental access for vulnerable groups, considering Leicestershire's aging population in relation to health promotion planning, considering ways to support vulnerable groups with targeted health improvement provision, and integrating key oral health education into existing healthy lifestyle services. Preventative efforts are also acknowledged and recommended.

1 Introduction and Overview

Oral health is one of the key indicators of overall health and wellbeing and is necessary for important daily functions, such as eating, speaking, and smiling.

Oral diseases include a range of chronic clinical conditions such as dental caries (tooth decay), periodontal (gum) disease, and oral cancers. While tooth decay affects people of all ages, gum disease is more prevalent in older people. Oral conditions can have substantial effects, causing pain, sepsis, impacting the quality of life and work productivity. Although largely preventable, oral diseases are highly prevalent, with dental caries estimated as the most common disease globally (35% of world's population having untreated tooth decay) and periodontal disease affecting almost 11% of people world-wide[1].

Consistently across studies and settings, oral diseases were shown to be closely linked to socioeconomic status and the broader social determinants of health, sharing common risk factors with other non-communicable diseases, such as obesity (or being overweight), high sugar consumption, tobacco use, and harmful alcohol use. Their distribution and severity vary between populations, with more vulnerable, disadvantaged and socially excluded groups experiencing more oral health problems.

Tooth decay can be prevented by reducing the amount and frequency of consumption of sugary foods and drinks and optimising exposure to fluoride. Likewise, gum disease can be prevented by good oral hygiene and stopping smoking; and the risk of mouth cancer may be reduced by stopping smoking, stopping use of smokeless tobacco substances (such as Betel), drinking alcohol within recommended safe limits, and eating a healthy diet.

2 Aims, Objectives and Scope

2.1 Aim

To identify population (children and adult) oral health needs to inform local strategic approaches to oral health improvement with a view to make recommendations to improve oral health locally and address health inequalities.

2.2 Objectives

The following objectives were developed to achieve the overarching JSNA aims. In relation to the geographical footprint of Leicestershire:

- Describe the oral health needs of Leicestershire's population, both children and adults.
- Describe the provision and access of oral health services and identify gaps in service.
- Describe the provision of oral health improvement programmes, interventions, and activities.
- Identify opportunities to strengthen the access to and collection of data relevant to oral health.
- Make recommendations for the future development of high quality, evidence based, and outcome focused oral health care and oral health improvement services.

2.3 Scope

The Oral Health JSNA covered the geographical footprint of the County of Leicestershire (within the East Midlands region). As presented in later chapters, the data included within the Oral Health JSNA reflects both the resident population of Leicestershire (inclusive of both children and adults) and those accessing oral healthcare services in the county (who may or may not be residing in Leicestershire).

Where possible (based on data availability), the Oral Health JSNA also considered and described known healthy lifestyle choices which effect oral health and the oral health needs of vulnerable groups within Leicestershire.

2.4 Wider Determinants of Oral Health

Oral Health is widely understood to be connected to a vast array of non-communicable and communicable diseases, many of which are preventable. The Marmot Review highlighted that health is connected to social, environmental, and economic factors that determine the conditions of daily life. Health can be improved or worsened for example due to where we were born, grow, live, work, and age.

In recognition of the interconnectedness of many health challenges, including in this case oral health, a range of initiatives detailed below have been launched and are being interpreted locally to meet population health needs

2.5 Core20Plus5

The 2022 Health and Care Act set up 42 new Integrated Care Systems (ICSs) across England. ICSs are expected to reduce inequalities in healthcare and the NHS has provided a Core20PLUS5 framework to support this work. The approach defines a target population – the 'Core20PLUS' – and identifies '5' focus clinical areas requiring accelerated improvement.

Core20 aims to address the most deprived 20% of the national population as identified by the national Index of Multiple Deprivation (IMD). The IMD has seven domains with indicators accounting for a wide range of social determinants of health.

In relation to Core20Plus5 oral health has been identified as one of the five key clinical areas to address health inequalities for children and young people. The goals set is to address the backlog for tooth extractions in hospital for the under 10s.

Plus groups identified within Leicestershire in relation to the Children's Core20Plus5 are: young carers, children in care, children living in poverty and children with SEND. With regards to the remaining population groups identified include ethnic minority communities; people with a learning disability and autistic people; people with multiple long-term health conditions; other groups that share protected characteristics as defined by the Equality Act 2010; groups experiencing social exclusion, known as inclusion health groups coastal communities (where there may be small areas of high deprivation hidden amongst relative affluence).

Inclusion health groups include people experiencing homelessness, drug and alcohol dependence, vulnerable migrants, Gypsy, Roma and Traveller communities, sex workers, people in contact with the justice system, victims of modern slavery and other socially excluded groups.

2.6 Making Every Contact Count (MECC)

MECC encourages behaviour change for improving health and wellbeing of individuals by using the interactions that different professionals have with others as part of their day-to-day work.

MECC focuses on the following health and lifestyle topics that can bring change in the oral health of individuals such as:

- Stopping smoking
- Drinking alcohol only within the recommended limits
- Healthy eating
- Being physically active
- Keeping to a healthy weight
- Improving mental health and wellbeing

2.7 Health in All Policies (HiAP)

HiAP is a way of integrating health while making decisions and drawing policies across all sectors. The main components of this approach are:

- Promote health, equity, and sustainability
- Support intersectoral collaboration
- Benefit multiple partners
- Evidence that partnership works
- Engage stakeholders
- Create structural or procedural change to embed HiAP
- Develop common monitoring and evaluation tools

3 The Population of Leicestershire

3.1 Demography

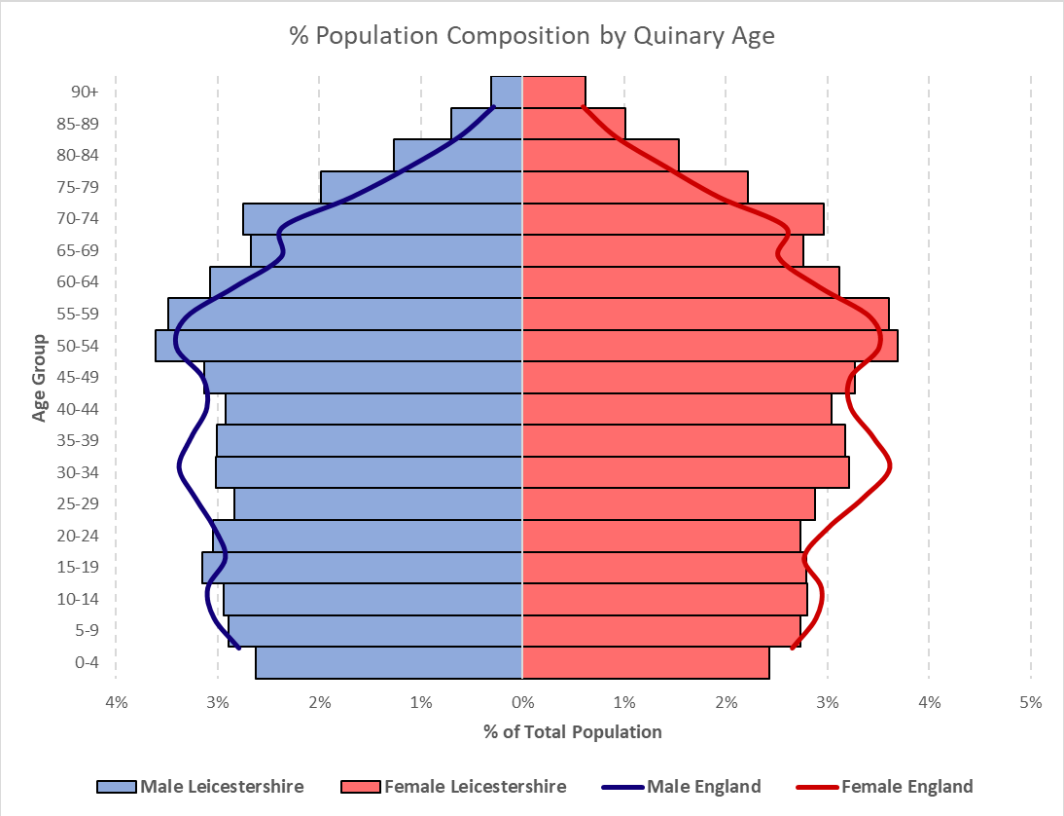
The recent Census 2021 population figures show that, compared to England and the East Midlands, Leicestershire has more population in older age groups (over 65s, Table 1) than children or working age adults. This includes over a quarter (25.4%) of those over the age of 65, compared to 18.5% across England. The ratio of those over 65 to 15-64 age group is nearly 43, compared to 29 for England as a whole ('old age dependency ratio').

Table 1. Broad age group population comparison between Leicestershire, East Midlands, and England (Census 2021 - thousands) (Source: ONS 2022)

Area	**0-14**		**15-64**		**65-79**		**80+**		**Total**
	No	**%**	**No**	**%**	**No**	**%**	**No**	**%**	
England	9,839	**17.4**	36,250	**64.3**	7,603	**13.5**	2,798	**5.0**	**56,490**
East Midlands	827	**16.9**	3,102	**63.6**	706	**14.5**	246	**5.0**	**4,880**
Leicestershire	117.0	**16.4**	447.3	**62.8**	109.3	**15.3**	38.8	**5.4**	**712.4**

Leicestershire had proportionately more residents in older age groups, when compared to England (Figure 1). Conversely, there are less children and younger adults, particularly for females.

Figure 1. Age structure of Leicestershire population - Census 2021 (Source: ONS 2022)



The population in Leicestershire has grown faster than in England or East Midlands since 2011. The highest growth was in Harborough, followed by North West Leicestershire and Charnwood. There was significant growth among the older groups - over 28% in people aged 65 years and as high as 39% in Harborough (Table 2)

Table 2. Intercensal population change between 2011 and 2021 in Leicestershire districts (Office for National Statistics 2022)

AREA	Population in 2021*	% Difference to 2011 Census			
		All Ages	<15 years	15-64 years	65+ years
Blaby	102.9	9.6%	10.0%	5.0%	25.0%
Charnwood	183.9	10.7%	10.2%	7.0%	26.9%
Harborough	97.6	14.3%	5.2%	10.1%	38.5%
Hinckley and Bosworth	113.6	8.1%	7.4%	1.7%	31.4%
Melton	51.8	2.8%	-3.6%	-4.0%	29.6%
NW Leicestershire	104.7	12.0%	5.2%	9.1%	30.0%
Oadby and Wigston	57.7	2.7%	9.3%	-1.7%	13.0%

Leicestershire	**712.3**	**9.5%**	**7.0%**	**5.1%**	**28.3%**
East Midlands	**4,880.3**	**7.7%**	**5.7%**	**4.2%**	**23.1%**
England	**56,489.7**	**6.6%**	**5.0%**	**3.6%**	**20.1%**

3.2 Socio-Economic Deprivation

The average levels of deprivation across Leicestershire measured by the Index of Deprivation (IoD)[2] are not high when compared to the national figures, but with pockets of deprivation across the county particularly in North West Leicestershire and Charnwood (Figure 2) which are in the 10% most deprived areas of the country.

Although a useful measure at a larger scale, IoD is known to be biased towards urban type of deprivation. As large proportion of Leicestershire is rural in character, it has specific issues expressed better through the Barriers to Housing and Services domain of the IoD. Within this domain predominantly rural areas show significant problems rooted in poor access to housing and services.

When Leicestershire is broken down into Middle Layer Super Output Areas (MSOAs) further areas can be identified that are significantly deprived in relation to life expectancy, under 75 mortality or socioeconomic risk, these areas include:

- **Charnwood:** Loughborough Lemyngton & Hastings, Storer and Queens Park, University, Shelthorpe & Woodthorpe, Syston and Shepshed East
- **Harborough**: Market Harborough Central
- **H&B**: Barwell, Hinckley Central and Hinckley Clarendon Park
- **Melton**: Melton Mowbray West
- **NWL**: Agar Nook, Coalville
- **O&W**: Wigston Town, South Wigston

3.2.1 Deprivation and Oral Health

The clear and persistent link between socioeconomic status and oral health has been well documented through research and routine surveillance and is exemplified in the national oral health indicators for children and adults.

Thus, the prevalence of tooth decay in 3-year-old children (NDEP Survey[3]) shows a three-fold variation between the most (nearly 17% of surveyed children) and the least deprived (6%) areas of the country. Tooth extractions rates for children 0-19 (Hospital Episode Statistics, HES, for 2020/21) also show a three-fold variation, with nearly 180/100,000 in the most deprived areas, compared to less than 60/100,000 (Figure 4). Trend data show that, while

the overall extraction rate has decreased in the recent years, these inequalities persist. Some further details on tooth extraction in children in the Child Dental Access chapter.

The *Health Survey for England* (2019)[4] has shown that, despite overall falling rates of adults without natural teeth, the rates of functional dentition (defined as 20 or more natural teeth) are significantly lower in the most deprived quintile of deprivation (75% and 76% for men and women, respectively) than in the least disadvantaged (90% and 88%, respectively).

Figure 2. Socio-economic deprivation by lower super-output area (LSOA) in Leicestershire.

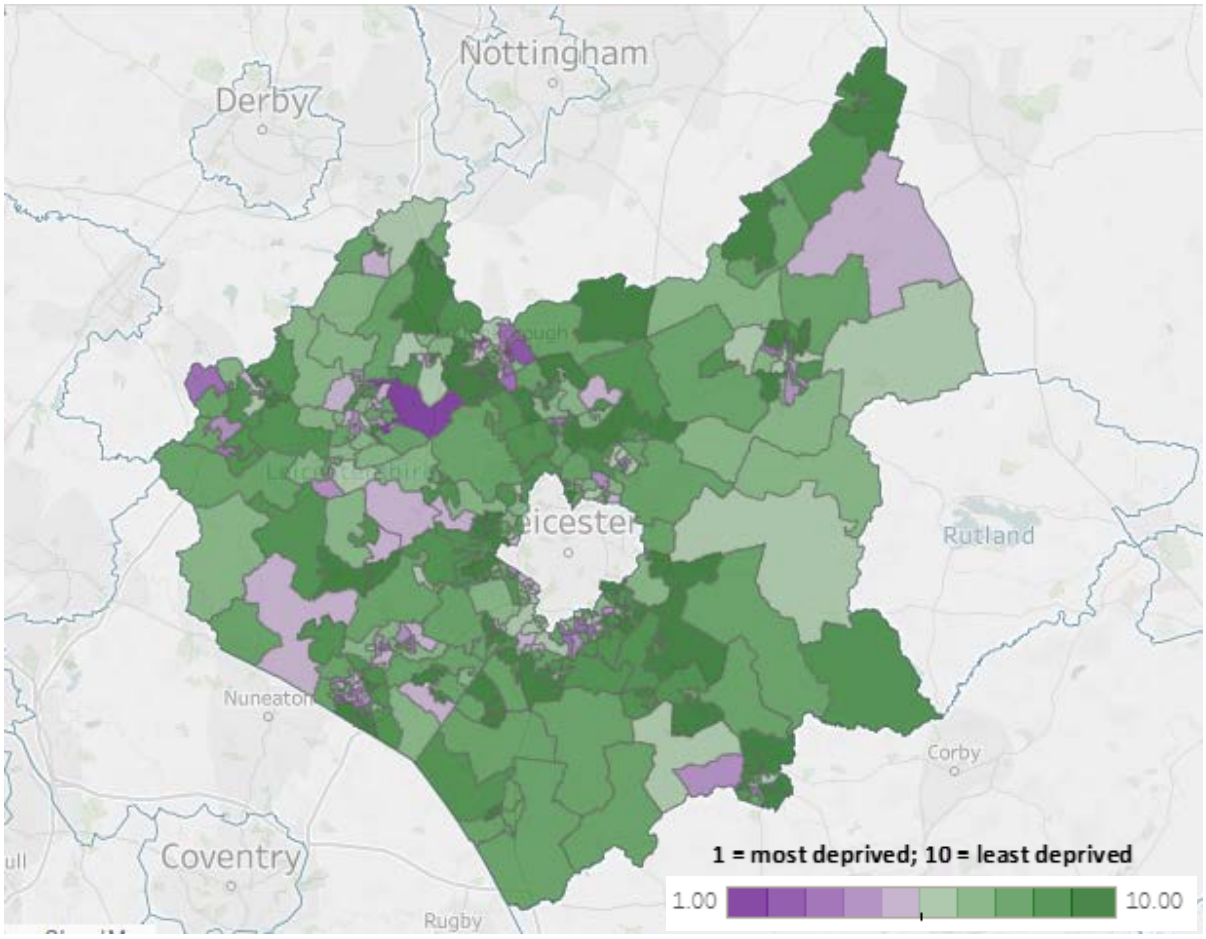


Figure 3. Barriers to Housing and Services domain of the IoD in Leicestershire.

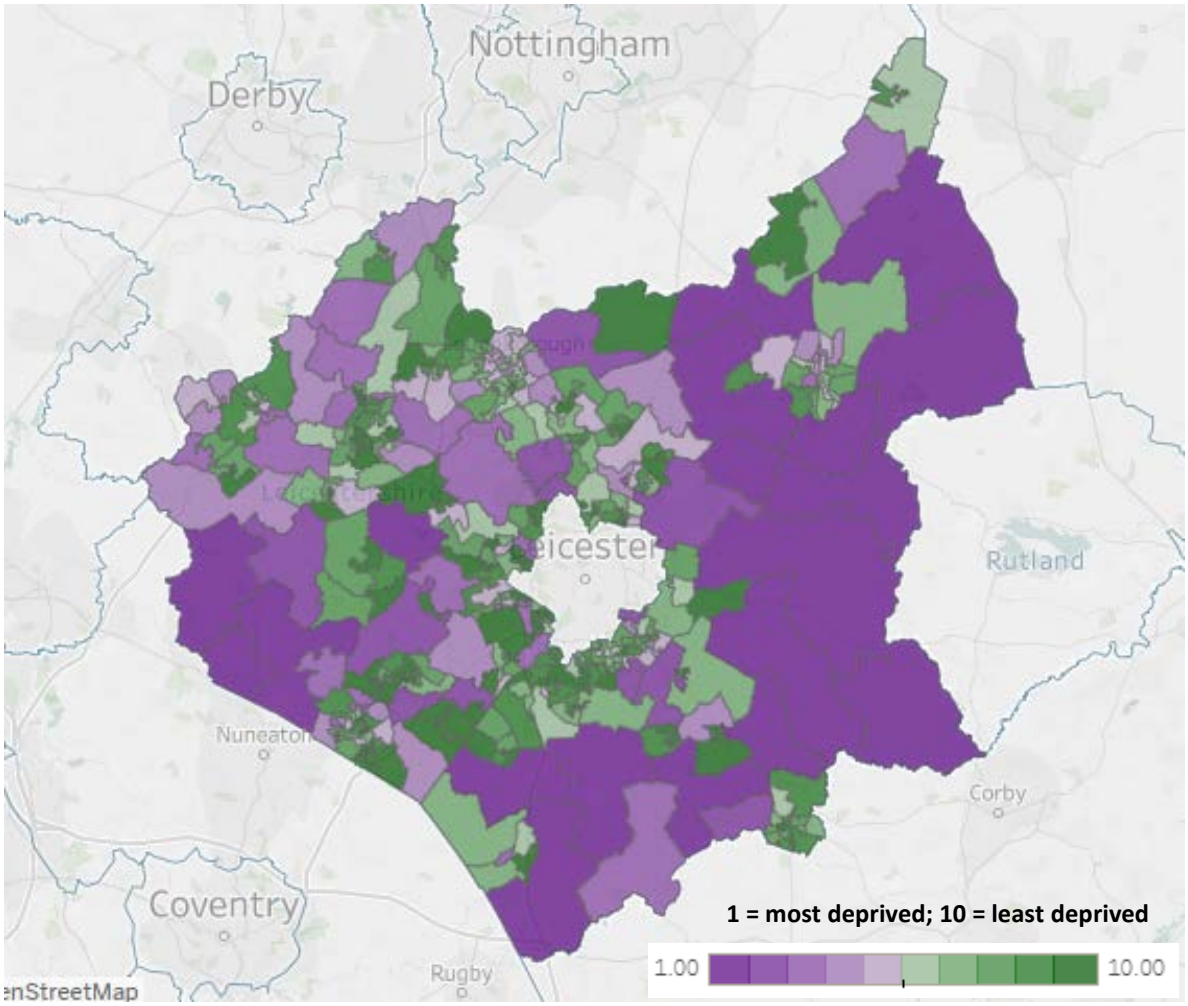
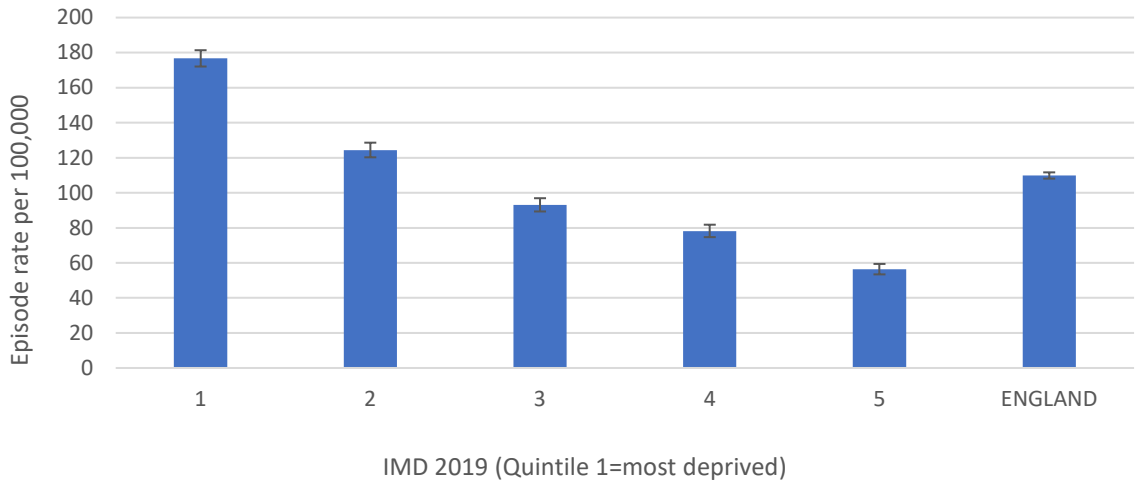


Figure 4. Episode rate per 100,000 IMD quintile population of tooth caries-related tooth extractions in hospital 0-19Y for 2020-21 (n=14,645) (Source: OHID, December 2021)



3.3 Ethnicity

Although the relationship between ethnicity and oral health outcomes is complex and can be confounded by other factors, there is strong evidence that those of non-white backgrounds have lower use of dental services[5]. The recent surveys have also shown that children from Chinese and Eastern European backgrounds have higher prevalence, severity, and extent of dental decay than other ethnic groups.

In 2021 the largest proportion (87.5%, N=632,426) of Leicestershire population was of white[iii] ethnic background which is significantly more than the average for England (81%). The total number in other ethnic groups was 88,938, with proportion of Asian[iv] population (8.2%), followed by mixed groups (2.2%), black[v] (1.1%) and other (1%) population groups (Figure 5). In the decade since 2011 the size of ethnic minority population of Leicestershire increased from 55,700 to nearly 90,000 thousand (a 60% rise)**.** However, of the total 10% population increase across Leicestershire (from 650500 in 2011 to nearly 712400 in 2021) the highest increase in numbers was in white population (by almost 28700 people).

[iii] Includes the following categories – white English/Welsh/Scottish/Northern Irish/British, Irish and other white

[iv] Includes Asian or Asian British groups – Bangladeshi, Chinese, Indian, Pakistani or other

[v] Includes black and black British, African, Caribbean and other black groups

Figure 5. Ethnic profile of Leicestershire's population (Source: ONS Census 2021)

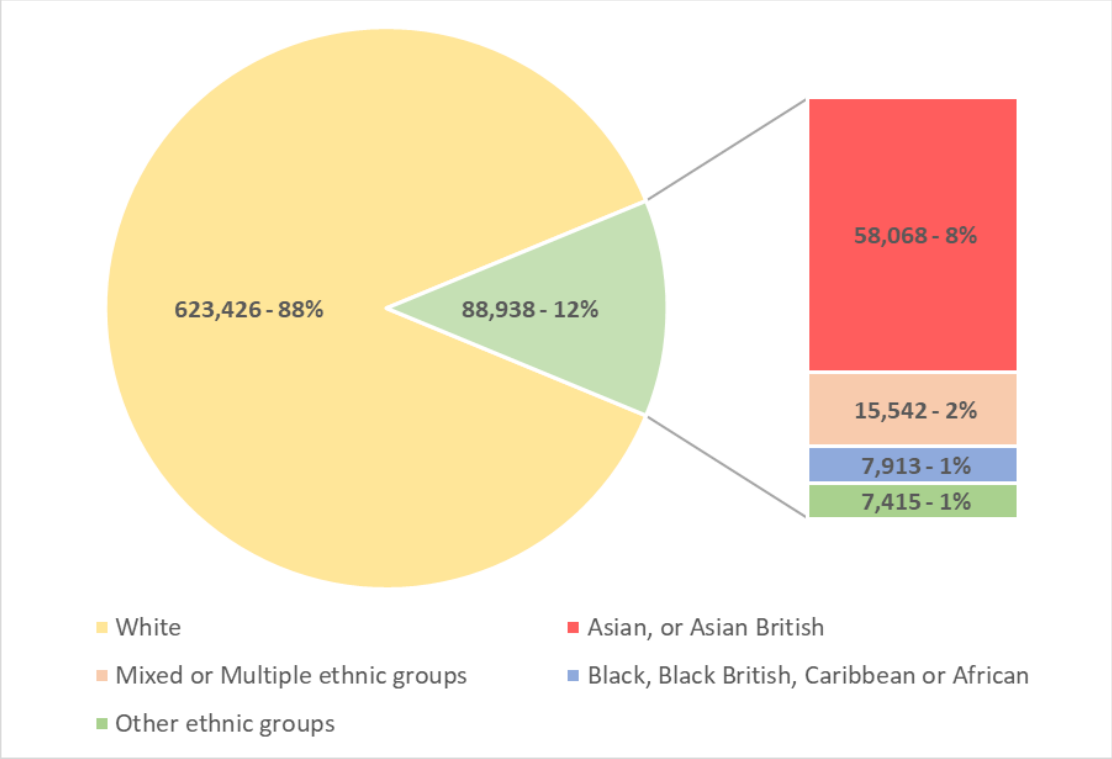
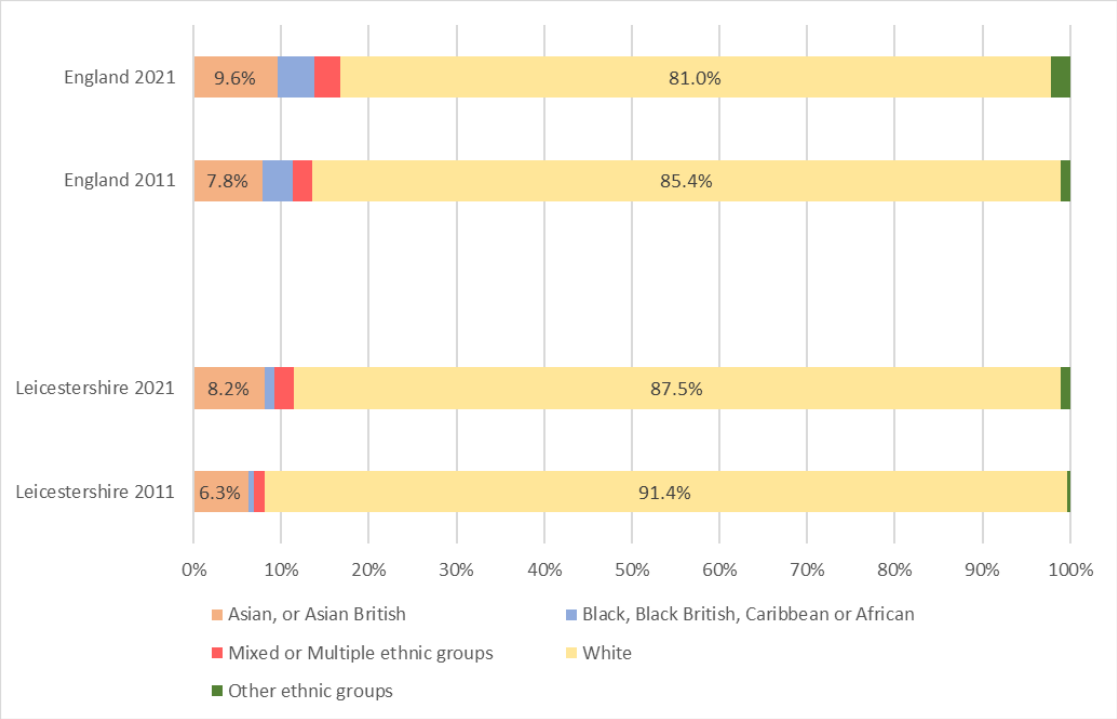


Figure 6. Percent change between 2011 and 2021 Census (Source: ONS)



3.4 Urban and Rural Populations

According to data from the latest population Census (2021), more than a third of Leicestershire population live in areas classified as rural ('town and fringe' 18.4% and 'village and dispersed' 12.1%), with the remaining 69.5% residing in 'urban city and town' areas (Figure 7 and 8). Some of the issues affecting the health and wellbeing of rural communities, include low-paid work, unemployment of young people, high costs of housing and fuel poverty, poor access to health services and lack of public transport.

Figure 7. Population by rural-urban classification (Census 2011 data)

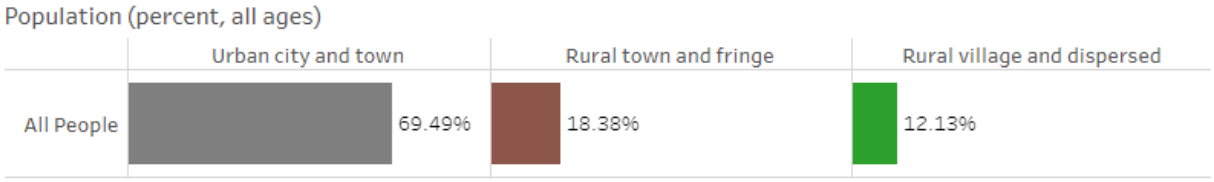
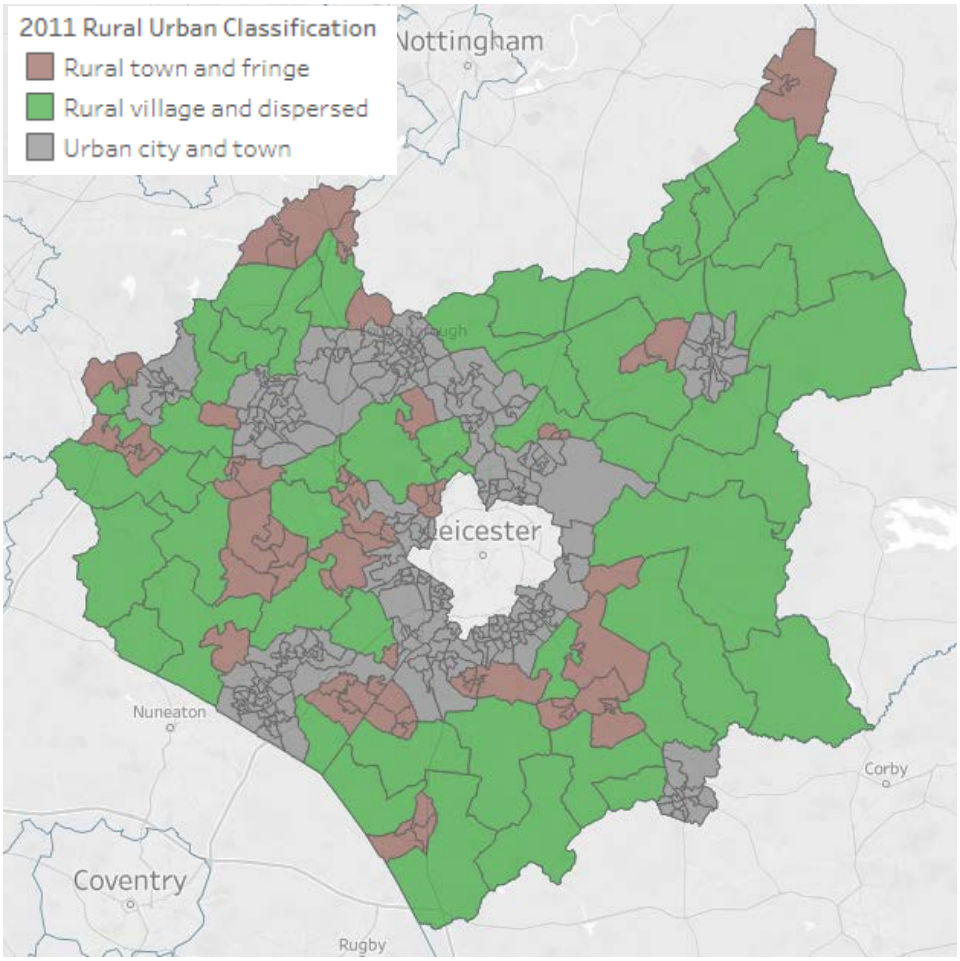


Figure 8. Rural-urban classification of Leicestershire LSOAs (Source: ONS Census 2011)



3.5 Projected Population Growth

Current available projections are based on 2018 population estimates published by the ONS[6], which in turn are based on Census 2011 population figures. These projections are likely to be rebased by the ONS using Census 2021 results.

With this caveat in mind the following is expected by 2032 [7] **(**Figure 9):

- The population of Leicestershire is projected to increase by over 10% to over 803,000 in the next decade, an increase of over 70,000 people. This is a significantly higher growth than that for England (4%) and East Midlands (6%).
- The greatest change is expected in the oldest population group (80 and above), accounting for nearly 19,000 (47% increase) additional elderly people across Leicestershire.
- There is also a projected significant increase (16%) in the numbers of residents aged 65 to 79 - by over 17,700 in the next ten years.

Figure 9. Leicestershire population projections 2022-32 (source: ONS 2022)

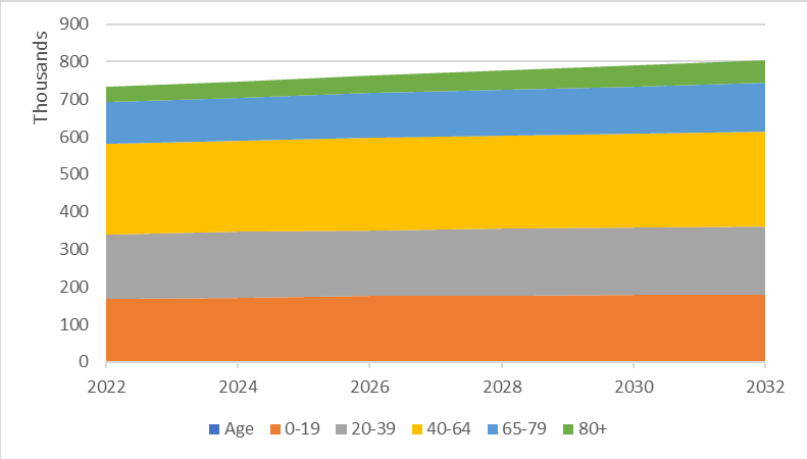


Table 3. Leicestershire population projections 2022-32 (source: ONS 2022)

Age	2022	2024	2026	2028	2030	2032	Change 2022-32	
0-19	166,025	169,785	172,880	174,831	176,397	176,740	10,715	6%
20-39	172,259	174,387	176,369	179,031	180,942	182,510	10,251	6%
40-64	239,545	242,690	245,397	247,246	249,125	252,071	12,526	5%
65-79	113,128	115,909	119,595	121,485	125,822	130,881	17,753	16%
80+	39,959	43,459	46,809	52,625	56,305	58,806	18,847	47%
Total	732,938	748,255	763,075	777,246	790,621	803,040	70,102	10%

4 Who is at Risk and Why?

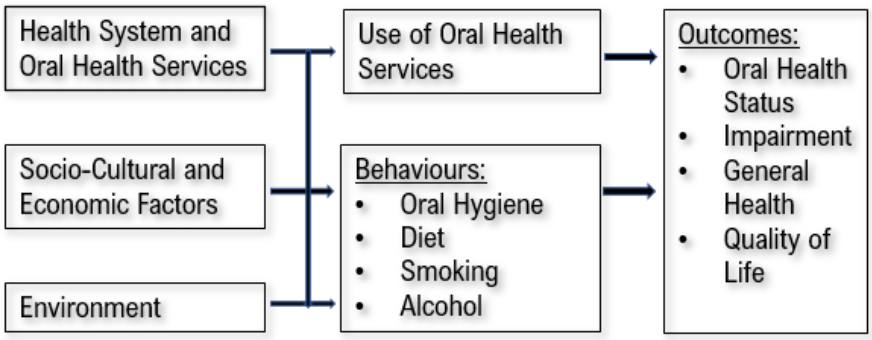
Most of chronic ill-health in the population is characterised by complex and multi-factorial risks, often determined by social, physical, or political environment.

In the context of oral health, several models[8] [9] link behavioural and environmental risk factors, such as diet, smoking, alcohol consumption, exercise, or levels of stress, to oral disease and other conditions (Figure 10).

The risk factors particularly important in the context or oral health include:

- Poor oral hygiene - the main cause of gum disease, also implicated in dental decay
- Diets high in sugar and fat – linked to dental decay as well as coronary heart disease, stroke, obesity, diabetes, and cancers
- Smoking - implicated in gum disease and other diseases of the soft tissues of the mouth, as well as cancers of the lung, throat and mouth, coronary heart disease and diabetes
- HPV virus infection- HPV can infect the mouth and throat and cause cancers of the oropharynx (back of the throat, including the base of the tongue and tonsils). This is called oropharyngeal cancer.
- Use of smokeless tobacco and other products found in Paan such as Betel and Areca Nut.
- Excessive alcohol consumption - linked to high blood pressure, liver disease, coronary heart disease and cancers of the mouth, as well as being a cause of many social problems, violence, and injuries.

Figure 30 Common risk factor approach for oral health [7]



The next section explores the health and lifestyle choices which affect oral health in relation to Leicestershire's population.

5 Health and Lifestyle Behaviours

5.1 Overweight and Obesity- Children

Obesity has been strongly linked the development of gum disease in adults and children. Increased BMI, waist circumference, percentage of subcutaneous body fat, and serum lipid levels are associated with increased risk to develop periodontitis.

The prevalence of overweight and obesity in the UK has risen dramatically since 1993, and whilst the increase has slowed down since 2001, the trend is still upwards. Leicestershire's proportion of children who are overweight or obese also broadly align with this upward trend although are slightly below the national average.

In 2021/22 the proportion of children in reception (4-5 years) who were classified as overweight was 12.5%. This represents on average increase of 0.9% since 2019/20. Including those children classified as obese into this data results in a sharp rise to 21.1% a 2.1% overall increase since 2019/20.

The proportion of children in year 6 (10-11 years) who were classified as overweight increased from 13% in 2019/20 to 13.9% in 2021/22, from lower to now similar to the national average of 14.3%. In 2021/22 when factoring in those children who were classified as overweight 'or obese' there is an increase to 33.2%. Whilst this is a 2.6% increase from 2019/20, the 2021/22 figure is better than that of the national average by 4.6%.

5.2 Overweight and Obesity- Adults

The upward trend for the adult population of Leicestershire is similar to that of the national one. The 2020/21 data shows 64.9% of adults (18+) classified as overweight or obese. This is a 2% increase since 2019/20 and an overall 3.5% increase since 2015/2016.

5.3 Healthy Eating- Children

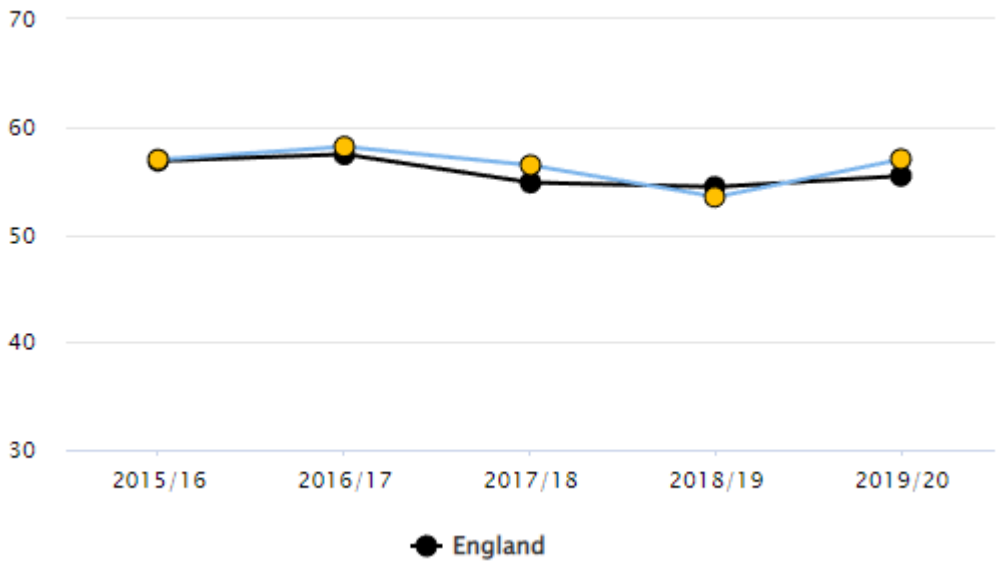
Supporting the Health of Young People in Leicestershire (SHEU) Year 4-6 2021 Survey found that 34% of pupils had eaten 5 or more portions of fruit and vegetables on the day before the survey, whilst 6% had eaten none, 9% of Y4 boys.

For 12–15-year-olds (Year 8 and 10 pupils) the SHEU Survey did not ask the same question however received responses to about energy drinks and low sugar drinks, 66% of pupils responded that they 'rarely or never' drink energy drinks (e.g., Monster, Red Bull); whilst 35% said that they 'rarely or never' drink sugar free or diet drinks (e.g., Diet Coke).

5.4 Healthy Eating- Adults

The proportion of Leicestershire's adults consuming the recommend '5-a-day' on a usual basis is slightly above the national average and has increased 3.5% from 2018/19 to 2019/20 standing at 57.0%. The overall trend since 2015/2016 largely matches that of the national trend.

Figure 11. The proportion of Leicestershire's adults consuming the recommend '5-a-day' on a usual basis in Leicestershire

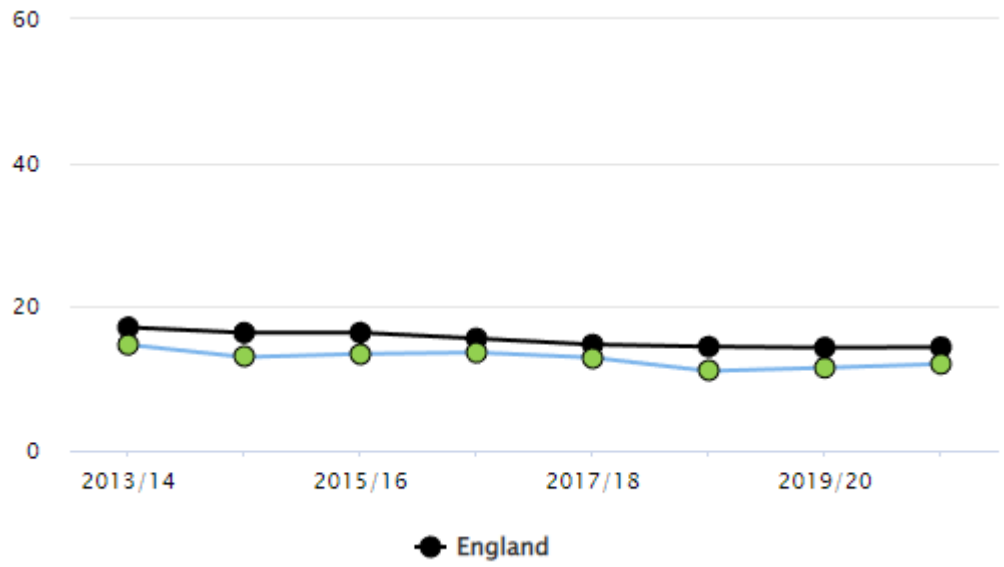


5.5 Smoking- Adults

The adverse effects of tobacco smoking on oral health are well documented. This includes common and rare conditions, from benign to life-threatening diseases such as discoloration of teeth and dental restorations, bad breath, taste and smell disorders, impaired wound healing, periodontal disease, short-term and long-term implant success, oral mucosal lesions such as smoker's melanosis and smoker's palate, potentially malignant lesions, and mouth cancer.

According to 2021/22 data 11% of Leicestershire residents self-reported as regular smokers or occasionally smokers. This is well below England's average of 13.6% and is the 2nd lowest in the East Midlands. The overall self-reported percentage of regular or occasional smokers has decreased 3.7% overall since 2013/14.

Figure 12. The proportion of Leicestershire residents reporting as either regular or occasional smokers



5.6 Vaping

E-cigarettes have fewer carcinogens in substantially lower amounts than cigarettes. However, they are not risk free. In the literature, commonly reported oral symptoms related to e-cigarette use include xerostomia, burning sensation, irritation, pain, oral ulceration, nicotine stomatitis, hairy tongue, and angular cheilitis. Furthermore, there is research which shows electronic nicotine delivery systems can induce several oral health effects, periodontal disease, deterioration of dental and gingival health, and changes to the oral microbiome.

However, in the short to medium term research suggests vaping poses a small fraction of the risks of smoking despite vaping not being risk-free, particularly for people who have never smoked. Health promotion messages can be summarised as:

"Choice between vaping and fresh air- choose fresh air"

There has been an exponential rise in e-cigarette use ('vaping') since they became available in the United Kingdom in 2005. Vaping prevalence in England in 2021 was between 6.9% and 7.1%, depending on the survey, which equates to between 3.1 and 3.2 million adults who vape. Vaping prevalence among adults who have never smoked remained very low, at between 0.6% and 0.7% in 2021.

The popularity of disposable vaping products has increased among adults who vape, with 15.2% using them in 2022 compared with 2.2% in 2021. Tank type products remained the most popular vaping devices (used by 64.3% of adult vapers in 2022).

Vapes are popular with previously non-smoking adolescents who are attracted to their flavourings. In relation to young people, current smoking prevalence (including occasional and regular smoking) is 6% in 2022, compared with 4.1% in 2021 and 6.7% in 2020. Current vaping prevalence (including occasional and regular vaping) is 8.6% in 2022, compared with 4% in 2021 and 4.8% in 2020. Most young people who have never smoked are also not currently vaping (98.3%)

The well documented adverse effects of smoking make vaping a better alternative- *"Choice between vaping and smoking- choose vaping"*. In fact, vaping products remain the most common aid used by people to help them stop smoking in stop smoking services in 2020 to 2021, quit attempts involving a vaping product were associated with the highest success rates (64.9% compared with 58.6% for attempts not involving a vaping product). A recent Cochrane review supported these findings.

However, UK statistics highlight that only 11% of adults who smoked knew that none or a small amount of the risks of smoking were due to nicotine. People's perceptions about vaping harms have been shown to influence their subsequent vaping and smoking behaviour. Therefore, communicating accurate information about the relative harms of vaping can help to correct misperceptions of vaping, particularly among adults.

Furthermore, interventions on absolute harms of vaping that aim to deter young people need to be carefully designed so they do not misinform people (particularly smokers) about the relative harms of smoking and vaping.

5.7 Alcohol Consumption- Adults

Drinking too much alcohol has been linked to an array of oral health problems including mouth cancer, tooth decay and tooth erosion. It also increases the chances of accidental trauma or facial injury because of the higher risk of falling or being involved in an accident when people are intoxicated.

Many of the indicators which provide key insights into frequent alcohol usage, such as the amount of the population who drink more than 14 units per week, have not been collected since 2018. However, between 2011 and 2018 whilst data is scarce, there was an overall 8% decrease in the percentage of adults regularly consuming above 14 units per week. However, it is important to interpret this data with caution as research has highlighted that alcohol consumption during the pandemic did increase and will lead to an array of population health issues in the future, however data during this period is sparse, hence it may be prudent to monitor data as it becomes available in relation to alcohol consumption.

More recent 2020/21 data for the number of hospital admissions for alcohol related conditions shows Leicestershire to be below the England average where it has remained consistently since 2016. Since 2019/20 there has been a downward national and local trend.

Furthermore, for Leicestershire's male population the potential years of life lost due to alcohol related conditions has been on a downward trajectory since 2018 (829 per 100,000 in 2020), well below the national average, however data from 2021 onwards is not available.

For Leicestershire's female population whilst significantly lower potential years of life are lost compared to men (829 per 100,000 for makes and 521 per 100,000 for females) 2020 data shows an overall upward trend since 2016 and is above the national average of 500 per 100,000.

5.8 Human Papilloma Virus (HPV) Vaccination Uptake

In recent years there has been an increase in HPV positive oropharyngeal cancer. Compared to HPV negative oropharyngeal cancer, people with HPV positive oropharyngeal cancers are generally younger, do not usually smoke and drink little or no alcohol.

The virus can cause changes in the mouth and throat. These changes are more likely to become cancerous in the future. There are over 100 types of HPV and each one has a number. The main type of HPV found in mouth and oropharyngeal cancer is HPV 16. HPV causes around 25 out of 100 mouth and oropharyngeal cancers (around 25%) in the UK.

In England, all boys and girls aged 12 to 13 years (born after 1 September 2006) are routinely offered the 1st HPV vaccination when they're in Year 8 at school. The 2nd dose is offered 6 to 24 months after the 1st dose.

In Leicestershire there has been a downward trend in the uptake of the HPV vaccine for 12- to 13-year-old females from 93.5 % in 2014/15 to 79.3% in 2020/21. Despite being slightly above the national average this is the lowest uptake of the HPV vaccination within Leicestershire since 2014/2015.

HPV vaccination uptake has also been decreasing for 13- to 14-year-old females, 80.7% received the vaccine in 2020/21. This does remain well above the national average of 60.6% for 2020/21 but is the lowest uptake since 2015/2016 and a 6.8% decrease since 2019/20.

HPV vaccination data for 12- to 13-year-old males from 2020/21 shows there has been a 7.7% decrease from 2019/20. The 2020/21 uptake of 70.8% is marginally below the national average of 71%.

Overall females are taking up the vaccination more than males within Leicestershire, 8.5% more for the 12–13-year-old population.

5.9 Drug Misuse

Drugs Misuse negatively impacts oral health, the most common oral health problems being dental caries and periodontal disease, followed by xerostomia, bruxism, and oral mucosal lesions. Despite the need for care, people taking substances are less likely to visit a dentist or seek dental treatment, even when they experience pain, and typically have difficulty accessing dental treatment. A factor contributing to dental avoidance among substance users is heightened dental anxiety. Patients using substances may also experience psychiatric difficulties.

Many drugs can cause a craving for sugar, such as sweets and fizzy drinks, which can cause tooth decay. Furthermore, drugs such as Methamphetamine and Heroin can also cause a dry mouth. Because there is a reduced saliva flow in the mouth, this can also lead to tooth decay and gum disease. Some drugs, such as Ecstasy and Cocaine can lead to jaw-clenching and tooth grinding. This can result cracked or broken teeth, as well as headaches and jaw pain.

Being ‘high’ on drugs could also make it less likely for users to remember to brush their teeth regularly. This could lead to gum disease, dental decay and tooth loss. Long-term drug use has also been linked to an increased risk of oral cancer. This is because many drugs contain carcinogenic substances that can damage cells in the mouth and throat.

Figure 13. Number of deaths related to drug misuse, persons by Leicestershire Districts, registered in each year between 2016 and 2021

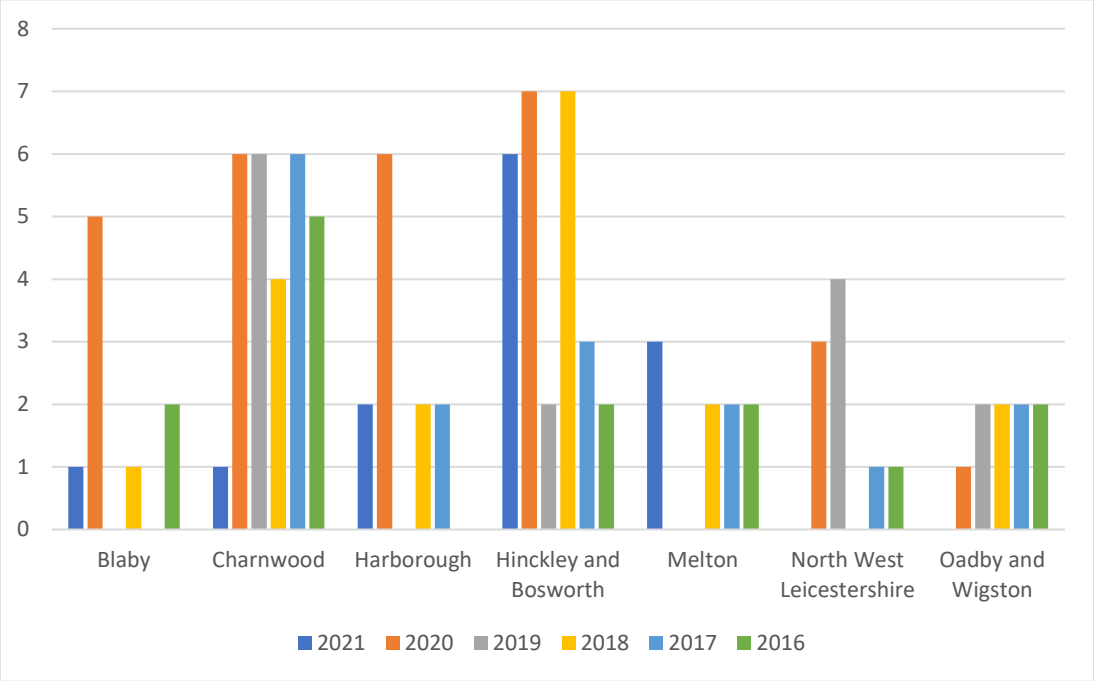


Figure 13 highlights Charnwood (28 deaths) and Hinkley and Bosworth (27 deaths) having significantly more deaths than the other districts in Leicestershire, three times more than Melton, North West Leicestershire and Oadby and Wigston and more than double Harborough.

Figure 14. Proportion of opiates and/or crack cocaine users (i.e. OCU) not in treatment (%)

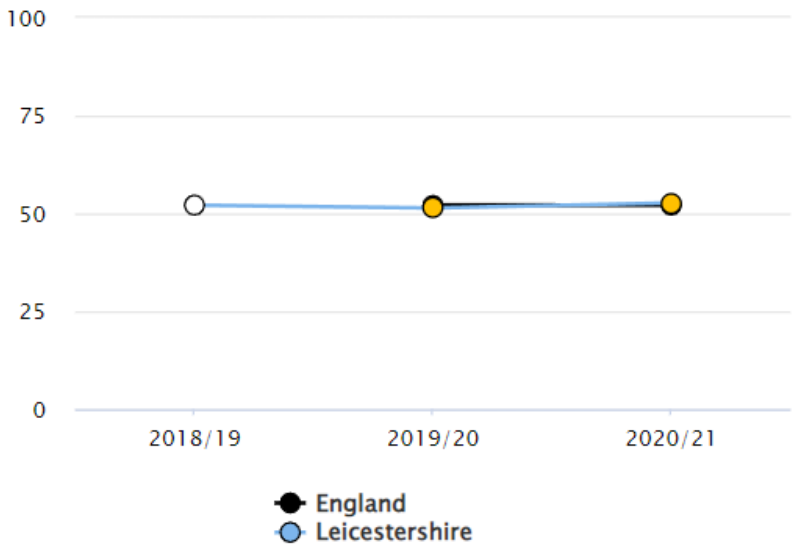


Figure 14 shows that in 2020/21 the proportion of opiate and/or crack cocaine users (i.e. OCU) not in treatment in Leicestershire was 52.7. This is not significantly different to the national average of 52.1%.

6 Public Engagement

High priority groups were identified via the research literature, public health data and consulting key stakeholders across the public and voluntary and community sector. These groups have been explored in detail in the 'Populations Groups at Risk' section (chapter 7). This approach and subsequent section therefore ensured the communities voice, particularly those most at risk steered the JSNA's investigations.

The following communities were engaged via front line professionals to capture their insights in relation to oral health and to gain their feedback about points raised in the JSNA:

- Children with SEND
- CIN and CLA
- Vulnerable Elderly
- Care Home Residents
- People with Disabilities
- Prison Populations
- Military Personnel
- Refugees and Asylum Seekers
- Gypsy, Roma and Traveller Groups
- Homeless Community
- Adults and Children who are Overweight and/or Obese

The next section highlights to challenges for each of the identify at risk groups in detail.

Each group had a unique viewpoint on oral health however one key theme emerged consistently during this period of engagement- this was the concern about accessing a dentist.

Chapter 10, subheading 10.2 provides in depth findings in relation to access. Furthermore Chapter 10, section 10.1.2 highlights the most recent commissioning arrangements at the time of writing including for homeless and vulnerable cohorts commissioned by NHS England in response to high levels of need within these communities.

7 Population Groups at Risk

Several population groups are at higher risk of poor oral health[10], including those experiencing socio-economic deprivation, children looked after (CLA), military personnel and their families, pregnant women, people with disabilities, the elderly (particularly dementia sufferers, people with long-term conditions and care home residents), some ethnic groups and several marginalised groups – the homeless, travellers, refugees and asylum seekers.

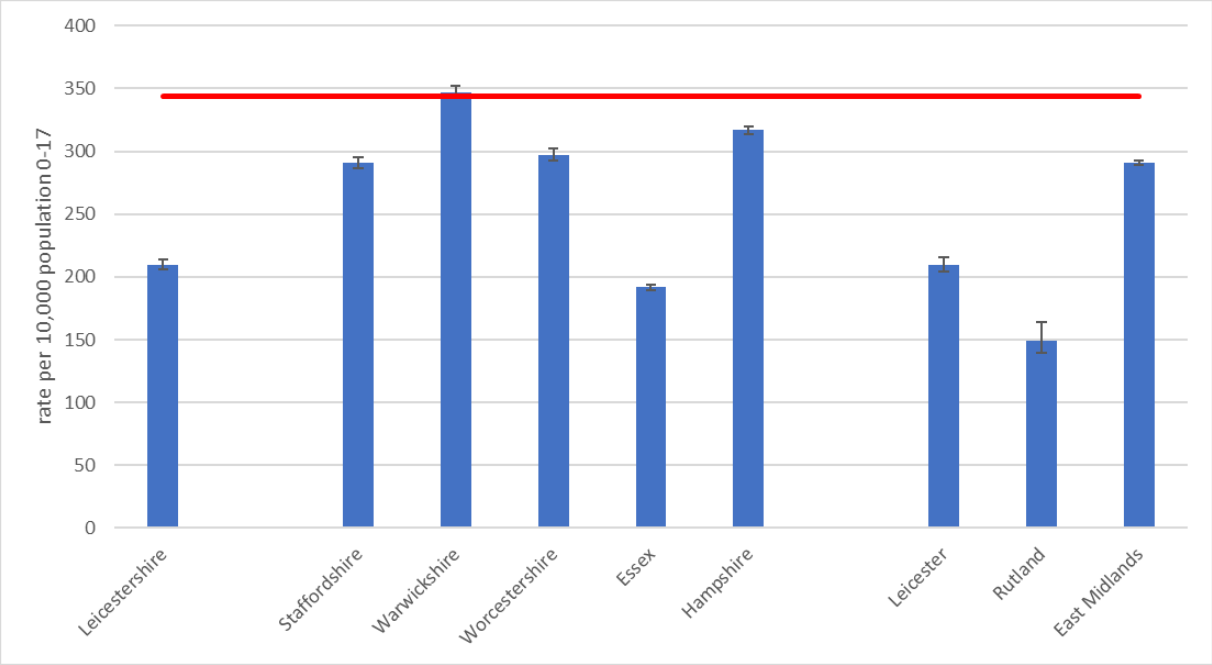
This section describes population groups in Leicestershire likely to experience poorer oral health.

7.1.1 Children with Special Educational Needs, Children in Need and Children Looked After

There were 5,813 children and young people aged 0-25 with statutory Education, Health and Care Plans (EHCP) maintained by Leicestershire County Council as of January 2022. The demand for EHCP's in Leicestershire more than doubled (110% increase) in past eight years from 2,772 in 2014 to 5,813 in 2022.

The overall rate of CIN in Leicestershire in 2021 was 210/10,000 (N=2,954), significantly lower than the average for England (343/10,000) and the East Midland (291) (Figure 12).

Figure 15. Children in need (rate per 10,000 of population under 18) in Leicestershire and comparator areas in 2022 (Source: Education Statistics 2022)



CLA are generally in the poorer state of health when they enter the care system, they could also experience more issues with provision of dental care, when compared to other children. Qualitative research indicates that foster carers may have more problems with enforcing health-related behaviours, including those underpinning oral health[11]. The population rate of children in care in Leicestershire is relatively low (less than 50/10,000 of under 18s; N=694 in 2022[12]) and consistently lower than the national or regional average, as well as its statistical neighbours, but borderline higher than Rutland (Figure 15).

7.1.2 Vulnerable Elderly

Older people are at much higher risk of suffering from long-term physical and mental conditions, increasing their risk oral ill health. Risk factors include poor nutrition, impaired manual dexterity, poor oral hygiene. Furthermore, the elderly population are more likely to require maintenance of existing fillings and dentures.

This population are also more likely to be on an increased number of medications some of which may cause dry mouth, and some may contain sugar. Previous dental disease is the cause of lack of functional dentition on many of the elderly population. Added to this are issues with access to dental services, particularly for those residing in care homes[13] as well as residents of remote rural areas.

7.1.2.1 Care Home Residents

The National Institute of Health and Care Excellence (NICE) guideline includes recommendations for care home providers, staff and people who use services and their carers to maintain and improve the oral health of adults in care homes. The NICE guidelines align with three quality statements:

- **Statement 1**- Adults who move into a care home have their mouth care needs assessed on admission.
- **Statement 2-** Adults living in care homes have their mouth care needs recorded in their personal care plan.
- **Statement 3-** Adults living in care homes are supported to clean their teeth twice a day and to carry out daily care for their dentures.

The Care Quality Commission (CQC) commissioned the 'The Smiling matters: Oral health in care homes- progress report'. The report highlighted a notable increase in the awareness of the NICE guidance within care homes. From the care home managers in 2022, only 9% were not at all aware of the guidance. This compares with 39% in 2019. Only 28% of the care homes visited for the report said they had a nominated oral health champion, with several care home providers mentioning that workforce issues were a barrier to doing this.

However, whilst 83% of the care home providers inspected for this review said that people had an oral health assessment on admission – up from 73% in 2019 the amount of detail in care plans varied greatly between care homes. Some plans were very basic and only included whether a person had teeth or dentures. When people's changing oral health needs are not recorded on a regular basis, this can have an impact on their quality of life, including their diet.

Another key concern was access, in 2019, 6% of care home providers told us that the people who used their services could 'never' access NHS dental care. In 2022, this figure has sharply risen by more than 4 times, to 25%. In relation to this it was reported that Care home providers highlighted a lack of dentists who were able or willing to visit care homes (to provide a domiciliary service).

The review also has shown that there is still a lack of up-to-date guidance for dental care professionals on how to manage the needs of people living in care homes, resulting in a lack of confidence in supporting their oral health.

Oral health experts consulted for the report responded that the care home sector was still quite a hard space to engage with. With many competing awareness campaigns, it meant that oral health messaging could be quite easily lost.

7.1.3 People with Disabilities

Both physical, mental, including learning disabilities, can lead to poor oral health outcomes, through poor diet, lack of oral hygiene, potentially higher rates of smoking and alcohol consumption.

7.1.4 Prison Populations

Many studies have shown poor oral health among prisoners, with over 8-fold higher rates of untreated caries in some reports[14]. Surveys conducted in the UK show the general health of people in prison is poorer than the general population, with higher dependency on tobacco and recreational drugs, and higher rates of alcohol misuse. Prison populations generally have poor oral health, with reports of periodontal disease and dental decay levels as much as four times higher than the general population. People in prisons are more likely to have come from socially excluded or disadvantaged backgrounds, suffering from lower educational attainment which may relate to learning difficulties. Oral health needs on admission to prison are high, with significant levels of unmet dental treatment need. Research in Northwest England showed the decayed, missing and filled (DMFT) scores of people entering prison are around twice as high as those of the general population[15].

There are two prisons within Leicester and Leicestershire for males; Leicester prison (population of 277 in September 2022; CNA[vi] 215) and the Gartree Prison in Market Harborough, Leicestershire (population of 586 in September 2022; CNA 621)[16]. Female prisoners are most commonly sent to Peterborough prison. NHS England commissions Time for Teeth[vii] to provide NHS dental services for the prison population.

7.1.5 Military Personnel

Armed Forces personnel and their families are recognised as a vulnerable group in the population, whose health needs are often higher than that of the general population, and can be caused by

- social isolation, separation, interruption of training and education
- poor access to dental service for the families, particularly if relocating often
- maintaining continuity of treatment, including orthodontic treatment
- higher that average rates of smoking and alcohol consumption.

[vi] Certified Normal Accommodation

[vii] https://www.timeforteeth.co.uk/where-we-work.php

The UK Armed Forces (UKAF) have a distinct age, sex and sociodemographic profile. In 2019 just under a quarter were under 25 years of age, with the average age of an officer 37 and average of 30 years for other ranks; by gender, 11% were female[17]. Research has shown that 63% of non-officer UKAF personnel were recruited from the most deprived quintiles (1 and 2)[18]. Social inequalities could explain the higher levels of active caries found in non-officer recruits, with 2.0 decayed teeth per recruit compared with 0.9 in the similarly aged UK general population[19]. There are no military bases in Leicestershire, and it is difficult to estimate the numbers of veterans in the county.

7.1.6 Refugees and Asylum Seekers

A combination of socio-economic circumstances lie behind the observed poor oral health outcomes in this group. Poor literacy level and language barriers are important factors why refugees and asylum seekers are much less likely to access dental care or health improvement services[20]. Mistrust of professionals is also a barrier. The risk factors include higher rates of smoking, alcohol consumption and diet high in sugar and fat.

Lack of access for refugees and asylum seekers is also a barrier. There was a service commissioned to provide emergency access for Afghan evacuees. This ceased in March 2022. Afghan nationals now seek dental provision as per the rest of the population. There is no commissioned service for other groups, particularly Ukrainians. At present a limited service for Ukrainians is provided by the goodwill of a few local practitioners to support them. Many of the barriers to access also apply to the Roma, Gypsy and Traveller community.

7.1.7 Gypsy, Roma and Traveller Groups

Roma was included as an ethnic category for the first time in the 2021 Census. The number of people who filled in the form and identified as Roma were 100,981, 67,768 people identified as 'Gypsy or Irish Traveller', which is a rise from the 58,000 people who identified as such in the 2011 Census. However, this is likely to be a large underrepresentation of the true figures due to low engagement with the census from these groups.

Gypsy, Roma and Traveller communities are widely considered to be among the most socially excluded communities in the UK. Whilst there is no data in relation to oral health at a local level, data is available at a national data for some of the drivers in relation to poor oral health for these communities.

Gypsy and Traveller people have poorer health, even when controlling for other factors such as socioeconomic status; 14% of Gypsy or Traveller people describe their health as "bad" or "very bad", more than twice as high as the white British group[21]. Long-term health conditions

are experienced by the Gypsies and Traveller people at a significantly higher proportion compared the general population, 42% compared to 18% respectively.

Gypsy, Roma and Traveller communities are more likely to have lower access to sanitation amenities and therefore have greater susceptibility to infectious diseases. These communities also have low vaccination rates.

Gypsy and Traveller people are nearly three times more likely to be anxious than others, and just over twice as likely to be depressed. Gypsy and Traveller communities experience disproportionately high rates of death by suicide; data from Ireland (utilised due to lack of data in England) indicates that Irish Traveller people are 6.6 times more likely to die by suicide than the general population and suicide is thought to be the cause of 11% of all deaths.

Access to healthcare has been shown to be a barrier for Gypsy, Roma and Traveller Groups, factors for this include:

- Being refused registration
- Discrimination and poor experiences
- Lack of cultural sensitivity
- Stigma
- Low literacy
- Language barriers
- Digital barriers

7.1.8 Homeless Community

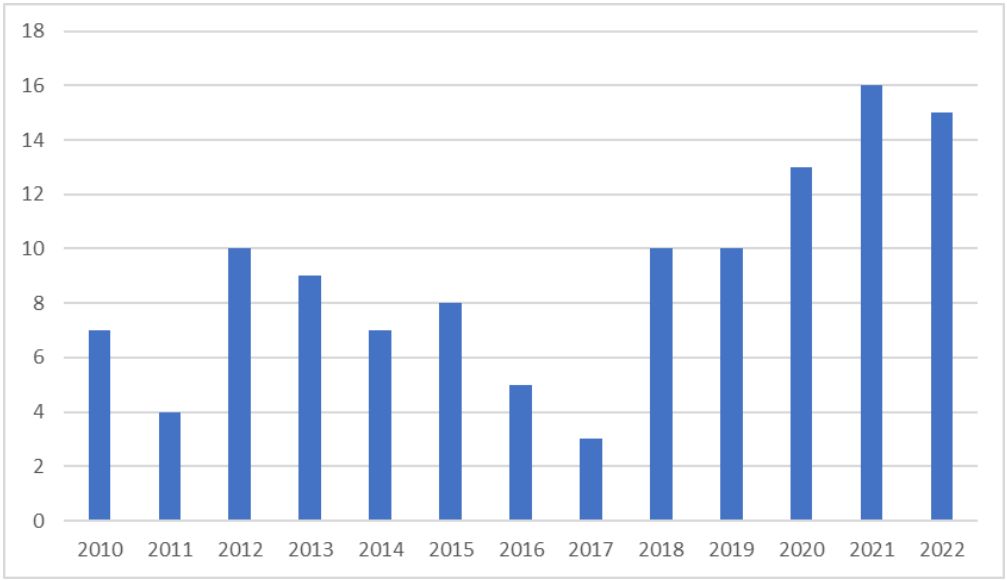
The experience of dental professionals and research studies suggests that children, young people, and adults experiencing homelessness all have worse oral health than the housed population and that their treatment needs are high. Despite homeless people's high treatment needs,[22] their utilisation of dental services, is low[23]. Homeless people often face an array of physical, psychosocial, communication, and economic challenges that make accessing healthcare difficult. There is an array of reasons for within these categories which help to explain this, whilst this is not an exhaustive list examples include:

- For people who experience homelessness and the lifestyle challenges associated with homeless including an increased likelihood of engaging in substance misuse, current priorities such as securing accommodation and managing their daily living expenses, are more pressing issues to deal with than oral health[24].
- Lack of awareness of dental health status, low perceived need for dental treatment and having poor oral health expectations prevent homeless people from seeking dental care.[25]
- Not entitlement to free treatment and/or travel, low disposable income, can be a significant barrier for attending dental appointments.

- Anxiety due to previous negative experiences with a dentist (during childhood, adolescence or in the most recent past) and dental fear are common reasons given by homeless people to explain why they do not attempt to attend for dental treatment.[26]
- The fact that homeless people visit dentists only in emergency cases, further increases their anxiety, as by delaying treatment they come to associate dentists with pain.[27]
- Low self-esteem due to embarrassment in relation to the condition of their can itself act as a barrier.
- Lack of knowledge about eligibility, available services and how to arrange a dental visit hinder dental access for people who are homeless.[28]
- The cost of care, along with any additional travelling costs, are inhibitory factors to homeless people attending a dental practice, particularly for those who need more than one course of treatment.
- Homeless individuals are more likely to have a poorer oral health related quality of life. According to research, dental care remains one of the top unmet needs for homeless individuals in the United Kingdom.[29]

The below data provides insights into the amount of people experiencing homelessness across Leicestershire. It is important to note that this data may not include all people who experience homelessness. Stakeholders reported that homeless people often stay out of sight and sleep out of sight for safety and are therefore not visible. There is also those who sofa surf and will not be reflected within the following data.

Figure 16. Number sleeping rough by year- Leicestershire 2010-2022

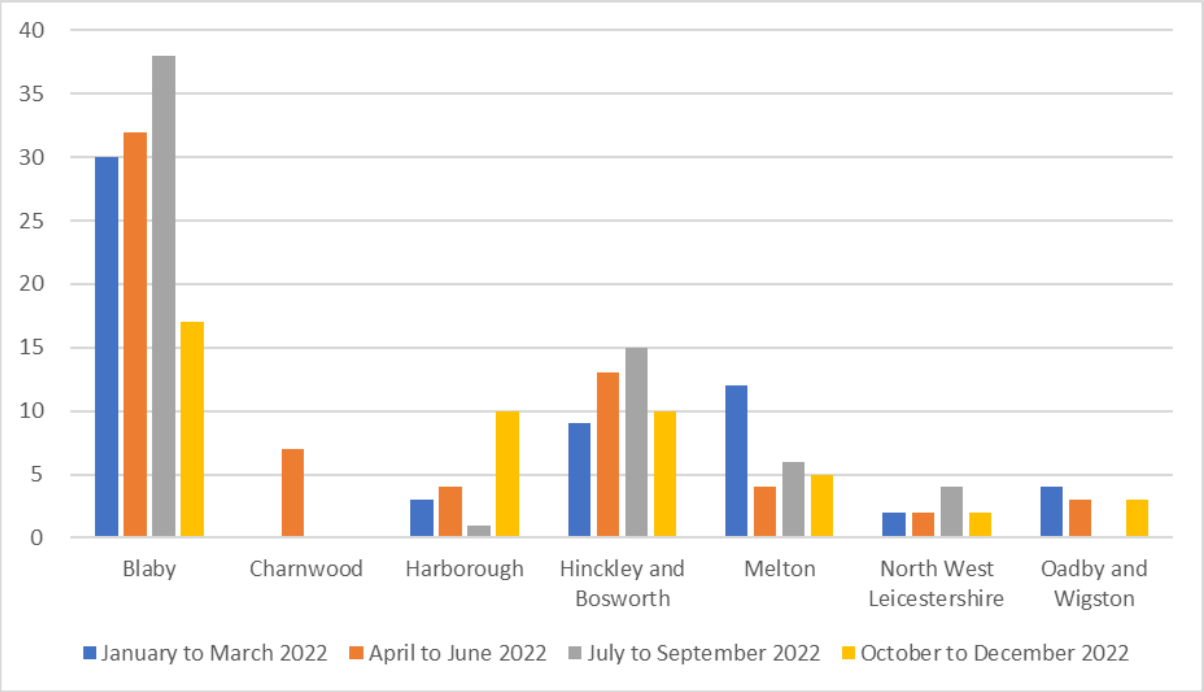


Since 2010 local authorities in England have selected a night between October 1st and November 30th each year to count visible rough sleepers or produce an evidence-based estimate to produce the annual rough sleeping snapshot. It takes place in Autumn due to this being a time of milder weather so rough sleeping is not increased by good weather or

decreased by colder weather. This snapshot can help deduce the level of rough sleeping in the area.

The number sleeping rough in Leicestershire is relatively low. Figure 16 below shows the counts of rough sleepers identified in Leicestershire between 2010 and 2022. The highest count of 16 rough sleepers occurred in 2021. From 2010-2022 according to the data Charnwood has the most rough sleepers 39, compared to the Leicestershire average of 19 (median of 14).

Figure 17. Number of households assessed as a result of a referral, including under the Duty to Refer from January to December 2022.



Since 1st October 2018, duty to refer has required specified public bodies to refer, with consent, users of their service who they think may be homeless or be threatened with homelessness to a local housing authority of the individual's choice. Figure 17 highlights Blaby as having a high number of referrals. To note Charnwood data was not available expect for April to June 2022. However, in the light of the high number of rough sleepers in Charnwood means there is likely a high level of need.

Table 4. Responses to the question 'Has a doctor or health professional ever told you that you have any of the following physical health problems? in the Leicestershire Homelessness Audit

Condition	Count of respondents
Dental/Teeth problems	8
Joint aches/problems with bones and muscle	8
Asthma	7
Heart problems (heart attack, angina, endocarditis, or abnormal heart rhythm	5
Skin/wound infection or problems	4
Problems with feet (That effect your day-to-day life)	3
Hearing loss (That effect your day-to-day life)	3
Diabetes	3
Chronic breathing problems (bronchitis, emphysema, or obstructive airways disease)	>3
Difficulty seeing/eye problems (That effect your day-to-day life)	>3
Fainting/blackouts	>3
Liver Problems	>3
Stomach problems, including ulcers	>3
Brain Injury (blackouts seizures)	>3

Leicestershire County Council conducted an Audit of homeless people using an Audit survey provided by Homeless link between 17th December 2021 and 7th January 2022[30]. The survey was sent to partner organisations who work directly with homeless people in the county who then undertook the audit questionnaire on these service users. The aim of the Audit was to identify the needs and characteristics of currently or recently homeless people in Leicestershire. The following data refers to these results and, it should be noted that with a small sample size this data may not fully represent the whole homeless population of Leicestershire and as such should be used with caution.

The most common conditions were Dental and teeth problems and Joint aches/problems with bones and muscles with 32% (8 respondents) each.

Recent commissioning arrangements and plans in relation to inclusion health cohorts, including the homeless community are detailed in section 10.1.2.

Overweight and Obesity

7.1.8.1 Adults

Overweight and obese people are in the high-risk category for a number of lifestyle and clinical reasons, such as higher likelihood of consuming sugary food and drink with corresponding high level of tooth decay or comorbidities, for example diabetes, increasing their risk of periodontal disease. Just over 26.3% of adults are obese in Leicestershire, which is marginally (although not significantly) higher than the national average of 25.3%[viii]. This indicates that nearly 150,000 people across Leicestershire could be at increased risk. The combined rate of adult overweight and obesity is 64.1%, which similar to the national average.

7.1.8.2 Children[ix]

Similarly, to the adult rate, obesity in children aged 10-11 (Year 6, in 2021/22) is significantly lower than national and statistical comparator rates, with 19.3% with BMI indicating obesity, with almost quarter of those children severely obese (4.2%). The corresponding rates for England are 23.4% and 5.8%. Although the rates of overweight and obesity are significantly lower when compared to the national average, and second lowest (after Rutland) in the East Midlands, the trend is increasing.

The rate of obesity and overweight among 4–5-year-olds in 2021/22 was 21.1%, among these the percentage of obesity is 8.6% with 1.8% of children severely obese. These rates were similar to the national average (22.3%, 10.1% and 2.9%, respectively).

[viii] Source: OHID Fingertips 2023, based on the Active Lives Adult Survey, Sport England

[ix] Source: OHID Fingertips 2023, based on the National Child Measurement Programme, NHS Digital

Table 5. Overweight/obesity profile for Leicestershire (Office for Health Improvement and Disparities. Public health profiles. 2023 https://fingertips.phe.org.uk © Crown copyright 2023)

Indicator	Period	Leics			Region	England	England		
		Recent Trend	Count	Value	Value	Value	Worst	Range	Best
Reception: Prevalence of overweight (including obesity)	2021/22	→	1,455	21.1%	22.4%	22.3%	28.7%		13.7%
Year 6: Prevalence of overweight (including obesity)	2021/22	→	2,500	33.2%	37.8%	37.8%	49.1%		24.5%
Reception: Prevalence of obesity (including severe obesity)	2021/22	→	590	8.6%	10.0%	10.1%	14.9%		5.4%
Year 6: Prevalence of obesity (including severe obesity)	2021/22	↑	1,450	19.3%	23.4%	23.4%	34.0%		12.4%
Reception: Prevalence of obesity (including severe obesity), 5-years data combined	2017/18 - 21/22	–	-	8.3%	9.6%	9.7%	13.6%		5.3%
Year 6: Prevalence of obesity (including severe obesity), 5-years data combined	2017/18 - 21/22	–	-	17.6%	20.7%	21.0%	30.2%		11.8%
Percentage of adults (aged 18+) classified as overweight or obese	2020/21	–	-	64.9%	66.6%	63.5%	76.3%		44.0%
Reception: Prevalence of obesity (including severe obesity), 3-years data combined	2019/20 - 21/22	–	-	7.8%	9.5%	9.9%	13.9%		5.2%
Reception: Prevalence of overweight (including obesity), 3-years data combined	2019/20 - 21/22	–	-	19.9%	22.4%	22.6%	28.6%		16.2%
Year 6: Prevalence of obesity (including severe obesity), 3-years data combined	2019/20 - 21/22	–	-	17.8%	21.4%	21.6%	30.6%		11.5%
Year 6: Prevalence of overweight (including obesity), 3-years data combined	2019/20 - 21/22	–	-	31.3%	35.5%	35.8%	46.2%		23.1%
Reception: Prevalence of severe obesity	2021/22	→	125	1.8%	2.6%	2.9%	5.8%		1.1%
Year 6: Prevalence of severe obesity	2021/22	↑	315	4.2%	5.8%	5.8%	10.1%		2.0%
Obesity in early pregnancy	2018/19	–	-	21.8%	24.2%	22.1%	30.5%		6.8%
Percentage of adults (aged 18+) classified as obese	2020/21	–	-	26.5%	28.2%	25.3%	40.3%		10.5%

8 Oral Health Needs - Children

The National Dental Epidemiology Programme (NDEP) includes examination of oral health in a random sample of children. The aim is to measure prevalence and severity of dental caries in children to inform policy makers, and to evaluate health inequalities across the country and over time.

The most recent surveys concerned children aged 3 (2020) and the 5-year-olds (2022).

8.1 Oral Health of 3-year-old Children

Dental caries (tooth decay) presents the most common dental pathology in the UK. Tooth decay has become less common over the past two decades but is still a significant health and social problem. It results in destruction of the crowns of teeth and frequently leads to pain and infection. Dental disease is more common in deprived communities than those that are more affluent. The indicator is a good direct measure of dental health and an indirect, proxy measure of child health and diet.

The latest published results for the 3-year-olds are the 2019-20 data, the second survey for this age group[31]. Data collection was curtailed by the COVID-19 pandemic in early 2020.

Nationally, of the 3-year-olds participating in the survey, 10.7% already had experience of dental decay. Among children with experience of dental decay, each had on average 3 affected teeth (CI 2.81-3.03); at age 3-years, children normally have all 20 primary teeth. At the regional level, the highest experience of dental decay in 2020 was in northern England. As an example, 3-year-old children living in Yorkshire and The Humber were more than twice as likely to have experience of dental decay (14.7%) than children living in the East of England (6.7%).

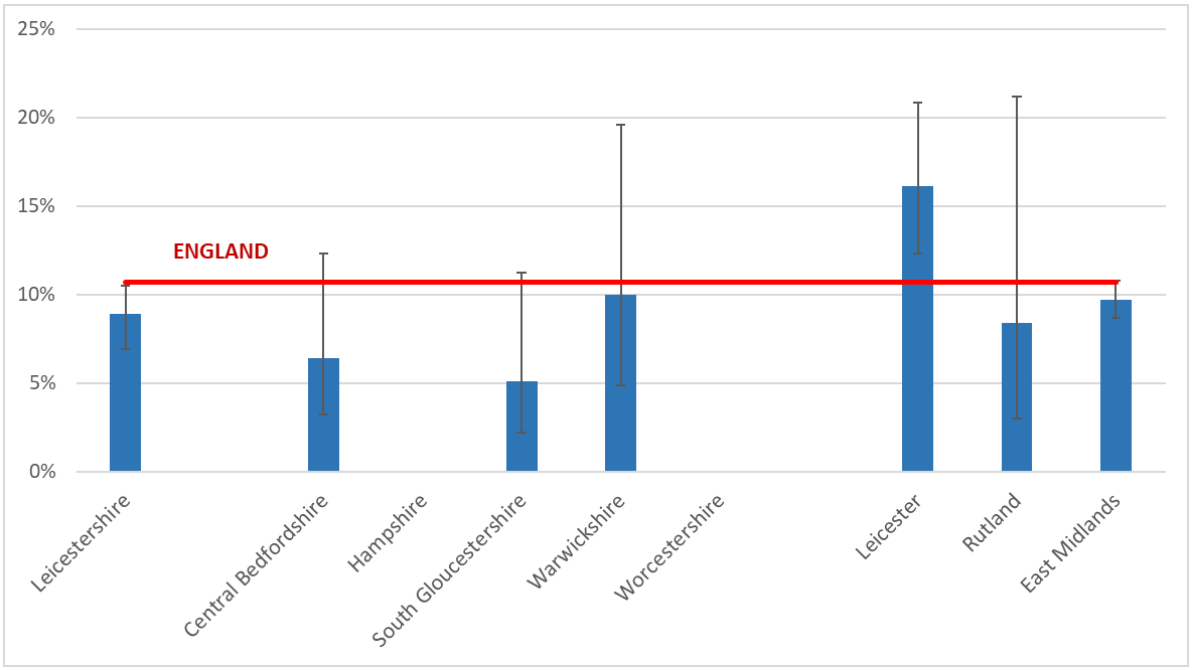
There is a strong link between rates of dental decay and deprivation. The survey has shown that children living in the most deprived areas of the country are almost 3 times as likely to have experience of dental decay (16.6%) as those living in the least deprived areas (5.9%).

There is also variation in prevalence of experience of dental decay by ethnic group and this was significantly higher in children classified as ‘other’ ethnic group (20.9%) or as Asian/Asian British (18.4%).

Over 940 children were examined in Leicestershire as part of the survey in 2020 with 8.5% showing past experience of dental decay, which is borderline lower than the national average,

and similar to regional rate and Leicestershire's 'statistical neighbours'[x] or Rutland. The rate was also significantly lower that for Leicester (16%) (Figure 18).

Figure 18. Prevalence of experience of dental decay among three-year-old children (NDEP 2020)



Source: PHE 2021 (no data for Hampshire or Worcestershire)

Further comparative data for Leicestershire on the dental health of the 3-year-old children are given in Appendix Table 1.

8.2 Oral Health of the 5-year-old Children

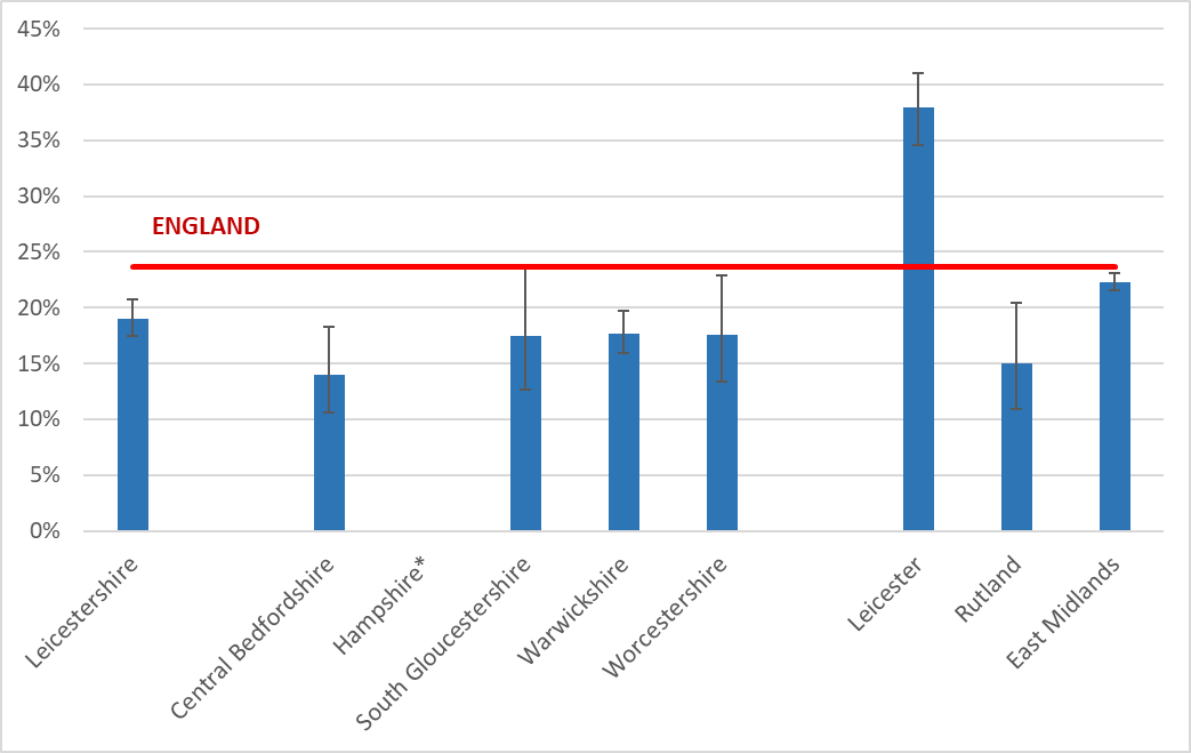
Across England, less than a quarter (23.7%) of 5-year-old children had experience of dental decay in the latest survey which is comparable to the 2019 results (23.4%). Dmft in Leicestershire is 0.5 (lower than England (0.8) and dmft>0 is 2.9. Therefore, although most children are caries free (81%), those that do have decay have nearly three teeth affected showing a significant oral health inequality.

The measured prevalence of experience of dental decay in Leicestershire was just over 19.1% (Figure 19). This is significantly lower than the national or regional average, significantly lower

[x] The closest area statistical comparators for Leicestershire for children – Children's Services Statistical Neighbour Benchmarking Tool

than Leicester (37.8%), and borderline lower than Rutland but similar to its 'statistical neighbours' from other areas.

Figure 49. Prevalence of experience of dental decay among five-year-old children (Source: NDEP 2022)



** Hampshire did not participate in the 2022 Survey*

Further details for this age group are given in Appendix Table 2.

Table 6 below presents additional comparator data (a set of CIPFA 'statistical neighbours') for the prevalence of decay among 5-year-olds in Leicestershire. Except for Oxfordshire and Devon, the rates were significantly lower than England average.

Table 6. Percentage of dental decay among 5-year-old children in 2019 - Leicestershire and its CIPFA nearest neighbours, compared to England average (Office for Health Improvement and Disparities. Public health profiles. 2023 https://fingertips.phe.org.uk © Crown copyright 2023)

Area	Recent Trend	Neighbour Rank	Count	Value		95% Lower CI	95% Upper CI
England	–	-	-	23.4		23.1	23.7
Neighbours average	–	-	-	-		-	-
Leicestershire	–	-	-	18.2		16.5	20.0
Warwickshire	–	1	-	15.1		13.2	17.3
Gloucestershire	–	2	-	19.5		17.4	21.8
North Yorkshire	–	3	-	20.0		18.1	22.0
Cambridgeshire	–	4	-	16.7		14.6	19.1
Staffordshire	–	5	-	14.2		12.5	16.1
Somerset	–	6	-	17.5		15.4	19.8
Suffolk	–	7	-	15.7		14.1	17.5
Nottinghamshire	–	8	-	19.9		17.9	22.0
Worcestershire	–	9	-	17.5		16.3	18.8
Derbyshire	–	10	-	17.1		15.2	19.3
Oxfordshire	–	11	-	21.3		19.2	23.6
Essex	–	12	-	20.4		18.9	22.0
Hampshire	–	13	-	14.0		12.8	15.3
West Sussex	–	14	-	*		-	-
Devon	–	15	-	25.7		22.9	28.7

Source: Dental Public Health Epidemiology Programme for England: oral health survey of five-year-old children (Biennial publication - latest report 2019) https://www.gov.uk/government/collections/oral-health#surveys-and-intelligence:-children

8.2.1 Variation in Children's Oral Health

Across England, the survey has shown a wide variation in prevalence and severity of dental decay - by geographical area (five-fold between local authority areas), deprivation (more two-fold between the least and the most deprived areas) and ethnicity. Time trends have also shown that the gaps have not improved since 2015. Locally, the numbers of the surveyed children would be too low to robustly detect inequality, but one can expect differential rates in more deprived urban areas as well as specific issues rural access disadvantage in parts of Leicestershire.

8.3 Hospital Tooth Extraction Rates (Children and Young Adults)

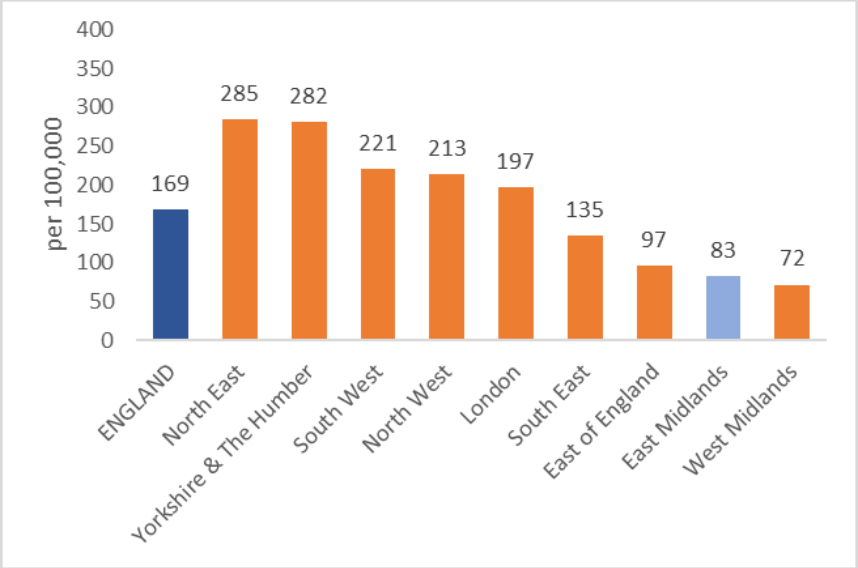
Most of hospital tooth extractions in children and young adults are as result of dental decay and the rates are closely correlated to socio-economic deprivation, which at a national level was illustrated earlier (see Figure 5 in the section on Deprivation and Oral Health).

COVID-19 has impacted Tooth Extraction Rates. Community Dental Services carry out the extractions but have been allocated reduced theatre time due to COVID-19 and now because of the need for catch up for general surgery. This limited the number of extractions.

In England there was a steady reduction (17%) in the number of such episodes since 2014/15. There was a more significant fall in 2020/21, however this is a reflection of service changes due to the COVID-19 pandemic than representative of longer-term trend. Among all regions in England (Figure 20), the East Midlands had the second lowest rate in 2020/21 – just over 83 FCEs per 100,000 population, compared to nearly 170/100,000 nationally.

Four of the annual figures for Leicestershire districts were suppressed, across the remaining three the total number of extractions in 2020/21 was 35. Thus, the local rates are low, but may be subject to annual variation.

Figure 20. Rates of hospital episodes including tooth extraction in 2020/21 (0-19 year olds) in the English regions (Source: OHID 2022)



8.4 Children in Care

The Department for Education (DfE) provides the local authorities with a set of indicators (the Local Authority Interactive Tool), which include the proportion of children in care who had their teeth checked by a dentist in the last 12 months. Across all areas, this proportion halved in 2020/21 when compared to the previous years, which is most likely the effect of service changes due to the COVID-19 pandemic.

In March 2021, only 28% of children in care in Leicestershire had their teeth checked a dentist the previous 12 months (DfE[32]). This is much lower than the national (40%) or East Midlands' average (38%), and lower than statistical comparator average of 45%. Leicestershire also suffered comparatively the biggest fall since 2020, when rates were 88%.

9 Oral Health Needs - Adults

9.1 Oral Cancer

Mouth (oral) cancer is preventable, with tobacco and alcohol use as its main avoidable risk factors (conveying 15 times greater risk). HPV infections also increase the risk. Oral cancer can be diagnosed early at dental check-up, leading to a much better prognosis. Incidence has been rising nationally, although, this cancer is relatively less common (2% of all cancers) in England than in the rest of the world.

Nationally, survival rates for oral cancer are almost 80% for 1-year survival, 65% for 5-year survival and 60% for 10-year survival (based on data for 2009-2012)[33].

Annually in Leicestershire, there are less than 100 new cases per year and a relatively small number of deaths, so it would be difficult to present robust comparative analysis, unless using figures combined over a number of years. From routine monitoring, presented below, it appears that the local population doesn't have excessive morbidity or mortality from oral cancer.

Between 2017 and 2019, there were 284 new cases of mouth cancer (individuals registered with this diagnosis) in Leicestershire, which corresponds to an average of 95 new cases per year and this rate is lower than the national average. Relatively low numbers for individual districts mean that only Melton was statistically significantly lower than the national rate (Table 7).

Table 7. Rates of oral cancer in Leicestershire and England 2017-19 (Source: PHE 2022, Fingertips)

AREA	Number	Rate (95% CI)	Significance
ENGLAND	24,115	15.4 (15.2-15.6)	-
LEICESTERSHIRE	284	13.4 (11.9-15.1)	Low
Blaby	43	13.9 (10.1-18.8)	ns
Charnwood	86	17.5 (14.0-21.6)	ns
Harborough	33	10.8 (7.4-15.2)	Low
Hinckley and Bosworth	43	11.6 (8.4-15.7)	ns
Melton	24	14.3 (9.1-21.3)	ns
North West Leicestershire	37	11.5 (8.1-15.9)	ns
Oadby and Wigston	18	11.1 (6.6-17.6)	ns

Figure 21 below shows longer time trends in oral cancer registration data for Leicestershire and Rutland, compared to the national average.

Nationally, the rates of oral cancer (registration, as proxy of incidence) have increased steadily from 12/100,000 in 2007-9 to over 15/100,000 in 2017-19 (a 28% increase). A similar trend is apparent for Leicestershire, although the annual rates don't seem to be significantly different from the national ones.

Figure 21. Trends in oral cancer registration rates - 2007 to 2019 (3-year averages) (Source: PHE 2022 (Fingertips)

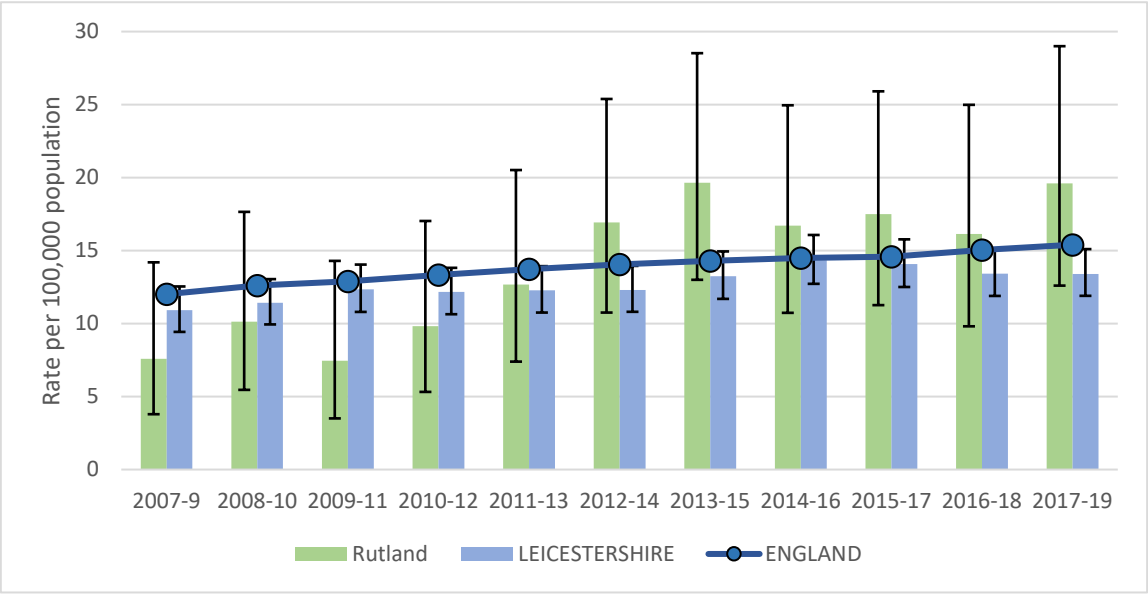
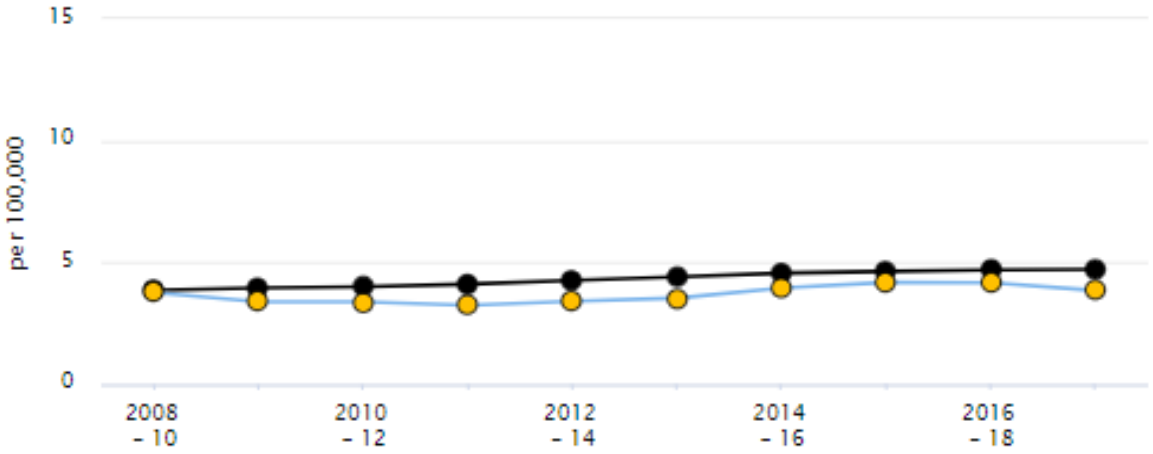


Figure 22 shows comparative mortality for oral cancer in Leicestershire. An average number of deaths per year in Leicestershire is less than 30, although nationally mortality has increased steadily since 2018 (from 3.9 per 100,000 to 4.7). In Leicestershire mortality rates were fluctuating and, while following a similar trend, were not significantly different to the national average in any of the time periods (Figure 23).

Figure 22. Oral cancer mortality rates 2017-2019 - directly standardised per 100,000 population (OHID 2023)

Area	Recent Trend	Neighbour Rank	Count	Value
England	–	-	7,445	4.7
Neighbours average	–	-	-	-
Leicestershire	–	-	82	3.9
Warwickshire	–	1	93	5.2
Gloucestershire	–	2	77	3.8
North Yorkshire	–	3	102	4.7
Cambridgeshire	–	4	83	4.4
Staffordshire	–	5	101	3.6
Somerset	–	6	71	3.6
Suffolk	–	7	104	4.0
Nottinghamshire	–	8	107	4.1
Worcestershire	–	9	88	4.5
Derbyshire	–	10	82	3.2
Oxfordshire	–	11	77	4.0
Essex	–	12	181	3.9
Hampshire	–	13	166	3.7
West Sussex	–	14	120	4.0
Devon	–	15	128	4.4

Figure 53. Oral cancer mortality - trends 2018-2019 (OHID 2023)



Period		Leicestershire Count	Value	95% Lower CI	95% Upper CI	East Midlands	England
2008 - 10	●	70	3.8	2.9	4.8	3.5	3.9
2009 - 11	●	64	3.4	2.6	4.3	3.6	4.0
2010 - 12	●	64	3.4	2.6	4.3	3.8	4.0
2011 - 13	●	62	3.2	2.5	4.2	4.1	4.1
2012 - 14	●	67	3.4	2.6	4.3	4.1	4.3
2013 - 15	●	71	3.5	2.8	4.5	4.2	4.4
2014 - 16	●	81	4.0	3.1	4.9	4.3	4.6
2015 - 17	●	87	4.2	3.4	5.2	4.5	4.6
2016 - 18	●	88	4.2	3.3	5.1	4.6	4.7
2017 - 19	●	82	3.9	3.1	4.8	4.6	4.7

9.2 Adult Oral Health Survey 2018

The data collected in 2018 through the Oral Health Survey of patients attending general dental practices[34] show that the proportion of adults with functional dentition in Leicestershire is similar to the national and regional average, as well to other comparator areas (Figure 24). The total number of completed questionnaires with a clinical examination for Leicestershire was 638.

The Survey has also shown that over 25% of adults in Leicestershire are likely to have one or more obvious untreated decayed teeth (DT>0), which is similar than the national or regional (East Midlands) average or most of its statistical comparators, but lower than Leicester (Figure 25).

Figure 24. Percentage of adults with functional dentition (21 or more natural teeth) in 2018, compared to statistical neighbours and local areas. (Source: PHE 2020).

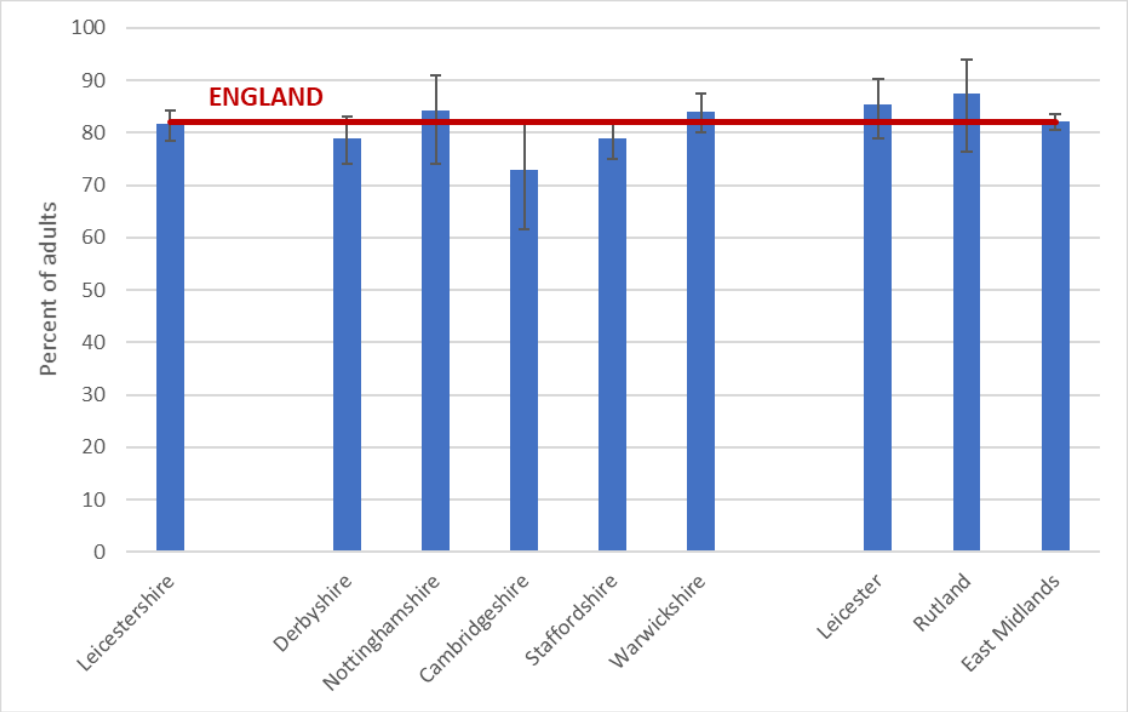
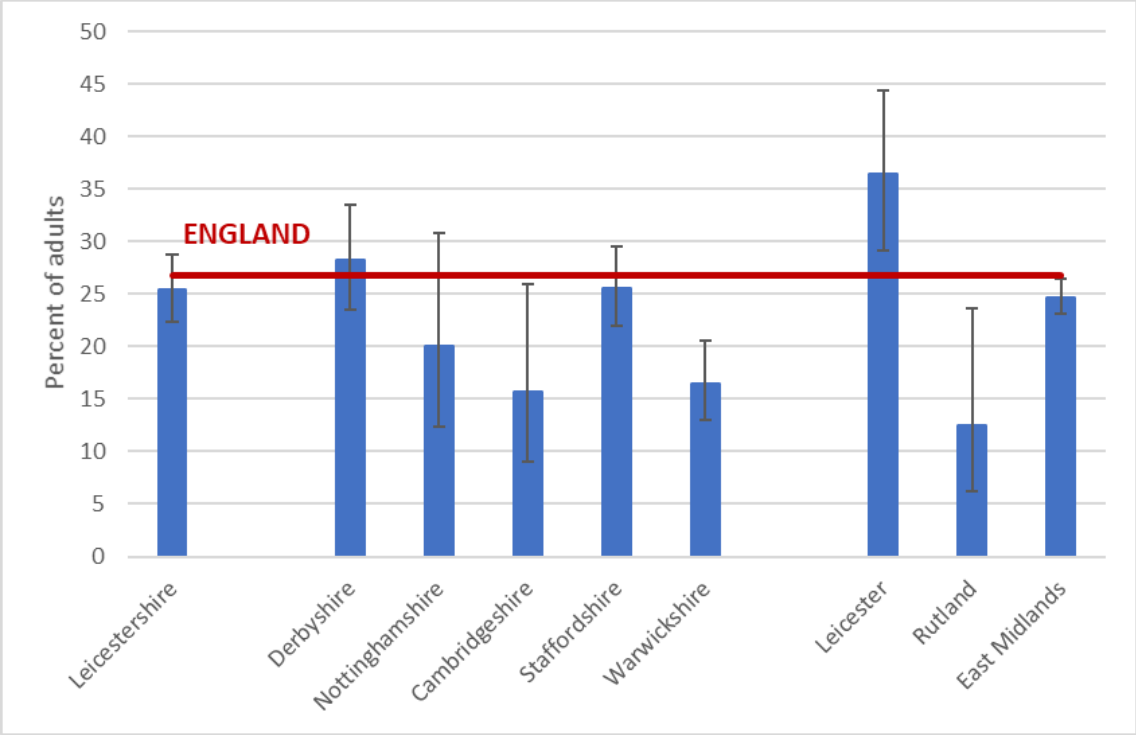


Figure 25. Proportion of adults with active decay in 2018. No data for some comparator areas (Source: PHE 2020).



10 Current Services

10.1 Outline of NHS Dental Services

This section presents a brief outline of the dental services commissioned by the ICB via delegated responsibility since April 1st 2023. Under the current arrangement the following services are commissioned:

- primary dental care service ('hight street' surgeries)
- community dental services
- specialist dental services (Intermediate Minor Oral Surgery – IMOS)
- services provided by NHS Hospital Trusts
- dental services in secure settings

10.1.1 Primary Care Dental Services

The main point of contact for residents that choose NHS dental care. Services are provided by independent providers (individuals, partnerships or corporate providers, usually high street dental practices) and commissioned in accordance with national regulations. The commissioning responsibility for the NHS dental service lies with NHS England and NHS Improvement (Midlands) and there are no limitations based on patient residence. Generally, patients are not registered with a practice, but regular attendance may be informally regarded as such.

Primary dental care includes routine assessments and urgent appointments, preventative care (advice and, where appropriate, the application of fluoride varnish or fissure sealants), treatments including fillings, extractions and root canal treatment, treatment of wider oral health matters such as gum disease, referral for specialist consultation where appropriate and restorative treatment such as crowns, bridges, partial or complete dentures.

Dental services activity is monitored by the NHS Business Services Authority (NHS BSA) and reported as courses of treatment for patients resident in a given area, wherever this activity took place. Value given to courses of treatment is defined as Units of Dental Activity (UDAs). These give weight to the complexity of a course of treatment, for example, while there is one UDA for examination only, there could be 12 UDAs for a course of treatment including laboratory work[35].

10.1.1.1 Orthodontic Services

Thirteen of the NHS dental practices above also provide NHS orthodontic services as follows:

- 7 within Leicester City

- 5 within Leicestershire County
- 1 within Rutland County

There are also 6 further specialist Orthodontic practices within LLR:

- 2 within Leicester City
- 4 within Leicestershire
- 0 within Rutland County

In addition, there are 7 Orthodontic Pathway contracts:

- 2 within Leicester City
- 4 within Leicestershire
- 1 within Rutland County

The purpose of the specialist Orthodontic Pathway is to support patients with complex orthodontic treatment needs as the UHL Orthodontic service is closed for new patients. The trust is scoping options to refresh the business case for governance approval.

10.1.1.2 Extended hours, urgent dental care and out of hours

Extended or out of hours cover is provided by five 8-8 NHS dental contracts:

- 2 within Leicester City
- 2 within Leicestershire County
- 1 within Rutland County

These are NHS dental services which provide access to patients from 8am to 8pm every single day of the year (365 days) and provide both routine and urgent care.

10.1.1.3 Domiciliary Care (for patients unable to leave their own home or care home)

CDS-CIC are also commissioned to provide NHS dental care and treatment for those who are unable to leave their own home or care home. Some limited dental care can be provided in a person's own setting such as a basic check-up or simple extraction, but patients may still need to travel into a dental surgery (as this is the safest place) to receive more complex dental

treatment. If such patients require a dental appointment, they or their relative/carer can contact the local domiciliary provider via NHS 111.

10.1.2 Community Dental Services (CDS)

This is a dental care referral service for children and adults, enabling the improvement of oral health for individuals and groups at risk (particularly any impairment or disability). Care provided to patients who have a need beyond the skill set and facilities of a general dental practitioner.

Community Dental Services include dental treatment under general anaesthetic (GA pathway)[xi] in secondary care sites (e.g., children who require multiple tooth extractions), children with complex health needs and who require restorative treatment, and for adults with special needs that may impact upon their ability to co-operate. Community Dental Services also provide additional services, for example oral health promotion, epidemiology for Local Authorities, and outreach projects for vulnerable groups.

Community Dental Services CIC have been recently commissioned to deliver a mobile dental unit across four of the five ICB areas in the East Midlands. The mobile dental units will deliver services to the SMD (homeless) cohort of patients twice a month in the Leicestershire ICB area. The mobile dental units began delivering services from 1st July 2023 and will continue for a period of 12 months. For the first 6 months the mobile dental unit will be located at Inclusion Health Care, Charles Berry House, 45 East Bond Street, Leicester, LE1 4SX with a view to add a second site in the North of County in 6 months' time.

Although the mobile dental unit is located at Inclusion Healthcare it does not preclude other service users from other agencies accessing the service. This service relies on the engagement of support agencies working together to signpost patients to the service, and to this effect we held a couple of stakeholder meetings prior to implementation to ensure all relevant parties were aware of the project.

10.1.2.1 Community (Special Care) Dental Service

The LLR Community (Special Care) Dental Services provides dental treatment to patients whose oral care needs cannot be met through NHS primary dental care due to their complex medical, physical or behavioural needs. The service uses behavioural management techniques and follows sedation and general anaesthesia (GA) pathways. Dentists and/or

[xi] GA pathway is commissioned under a shared care arrangement.

health care professionals can refer into the service. There is 1 dental provider (CDS-CIC) treating children and adults from 5 clinics across LLR:

- 2 clinics within Leicester City: Westcotes and Merlyn Vaz,
- 3 clinics within Leicestershire County: Hinckley, Loughborough and Melton
- There are no clinics within Rutland County

10.1.3 Intermediate Minor Oral Surgery (IMOS)

Oral Surgery care that deals with the diagnosis and management of pathology of mouth and jaws that requires surgical intervention. Requires enhanced clinical skills and experience; can be provided in primary or secondary care setting.

The majority of specialist services are provided in the secondary or tertiary care setting, commissioned under the NHS Standard Contract, subject to national and local service specifications.

10.1.4 Commissioning of NHS Dental Services

Dental practices are commissioned on the basis of UDAs, which are annually allocated to each practice and cannot be changed without an agreement by both parties. It has been recognised that changes in commissioned UDAs have not always followed trends in demand or need for services. From the 1st of April 2023, the commissioning responsibility will transfer to the Integrated Care Board (ICB).

As indicated in the previous section, there is no system patient registration, patients can choose any practice convenient for them. While a practice is responsible for patients undergoing treatment, once a treatment is completed the practice has no ongoing responsibility for a patient. However, many surgeries have patient lists and may be taking on new NHS patients, if there is capacity.

During the COVID-19 pandemic, practices were prioritising urgent care, vulnerable patients (including children) and high-risk patients.

The recent Midlands regional commissioning strategy[36] highlighted a number of current issues including falling levels of dental access in primary care (particularly for vulnerable groups), staff shortages (lower recruitment and poor retention), increasing pressure on services by private patients re-patriating to the NHS, low orthodontic capacity and poor throughput of patients. There has also been a greater pressure due to strict infection control guidance following the pandemic. Community Services are also suffering from problems with

access, workforce issues and list backlogs. Long waiting lists and significant capacity issues are also quoted for IMOS and secondary dental care.

10.2 Access to NHS Dental Service in Leicestershire

This section looks at access to primary care dental service in Leicestershire exploring the following measures:

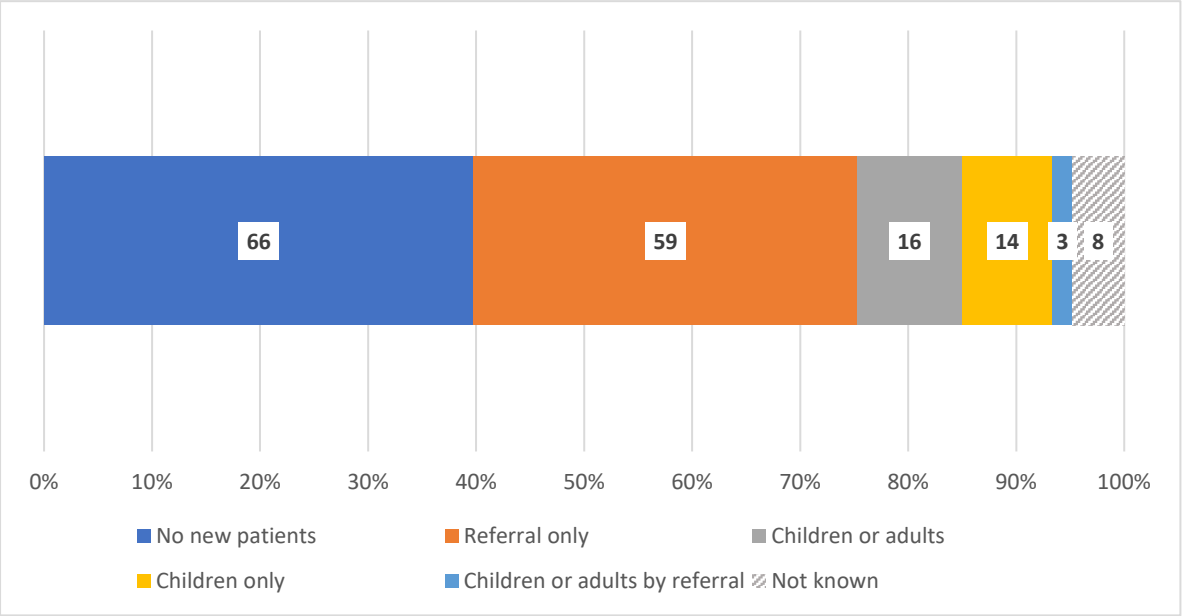
- numbers and location of dental practices, including proportion of practices accepting new NHS patients.
- access to these practices - by walking, public transport, or car drive time.
- proportions of residents accessing services in previous 24 (adults) or 12 (children) months.
- numbers of dentists per population.
- GP Patient Survey.

10.2.1 Dental Practices in Leicestershire and Surrounding Areas

To investigate the accessibility of NHS dentistry to new patients, data was investigated to explore the proportion of practices offering their services through the NHS online 'Find a dentist' service. This survey was carried out in July and August of 2022 and identified 166 dental practices[xii], both Leicestershire-based and cross-border. Of these nearly 40% did not accept any new NHS patients and a further 36% were accepting referrals only (Figure 26). Just 16 (10%) of the practices were willing to accept any new NHS patients (children or adults) with a further 14 (8%) accepting children only. Checks were made with practices who had not recently given an update, although not all details were available; in 5% (N=8) their status could not be confirmed.

[xii] For the purpose of this survey we identified 50 practices for each of the Leicestershire districts, closest from the centre of the district. Practices appearing more than once were deduplicated, giving a total of 166 unique practices which include some cross-boundary.

Figure 26. Leicestershire practices accepting new patients (Source: NHS)



There are 88 NHS **dental practices within Leicestershire borders** (SHAPE, January 2023), although a number of them may be only private, based at hospitals (Loughborough Hospital, St Mary's Hospital in Melton) or university (Loughborough Students' Union). Included in this number is also Time for Teeth HMP Gartree dental service.

Figure 27. Location of dental practices across Leicestershire identified by the SHAPE tool (2023).

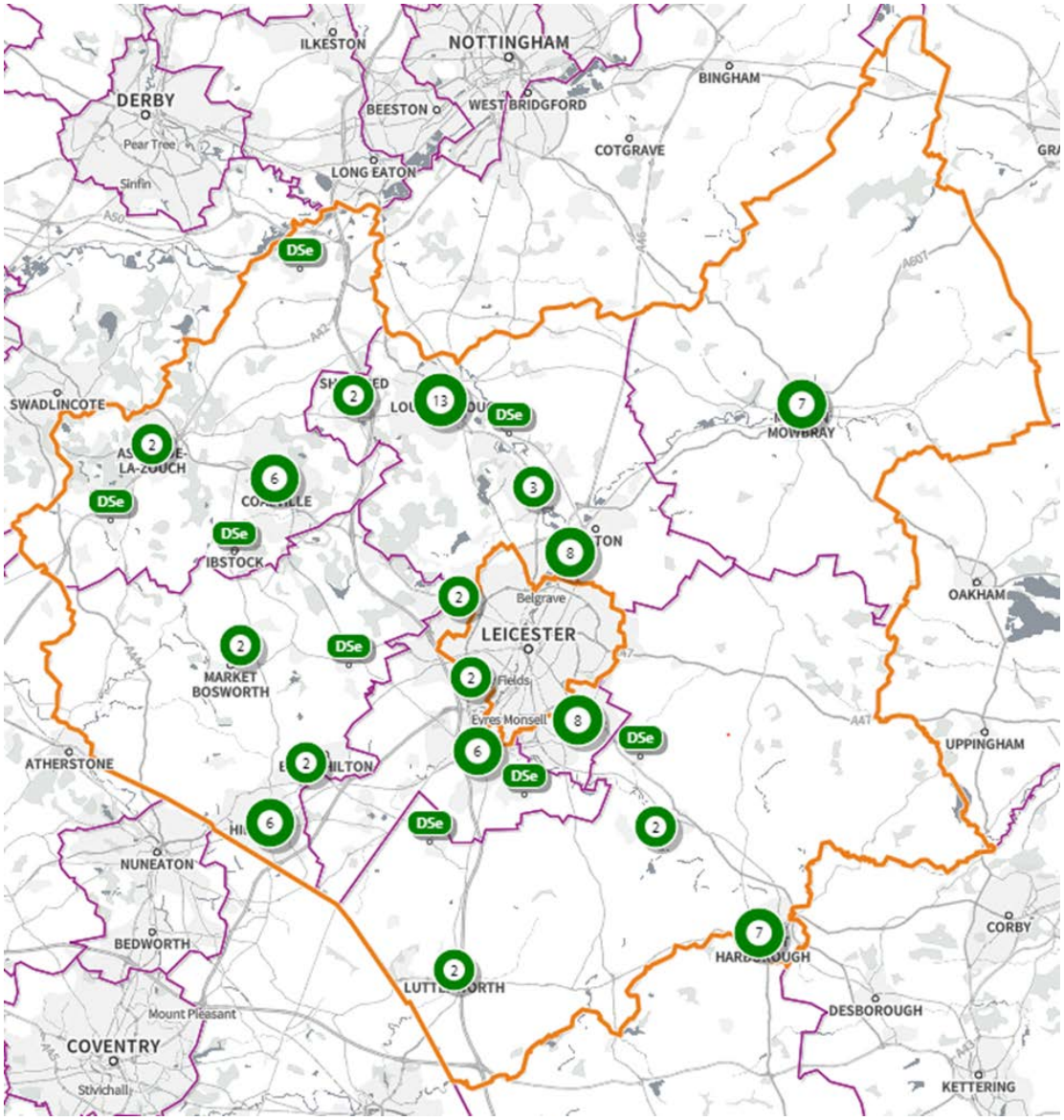


Table 8. Location of dental practices across Leicestershire.

DISTRICT	Number	Location (number of practices)
Blaby	10	Countesthorpe (1), Enderby (1), Glen Parva (1), Glenfield (1), Narborough (1), Stoneygate (1), Whetstone (1), Other (3)
Charnwood	28	Anstey (1), Barrow (1), Birstall (2), Loughborough (13), Mountsorrel (1), Rothley (1), Shepshed (2), Sileby (1), Syston (4), Thurmaston (2)
Harborough	13	Broughton Astley (1), Fleckney (1), Great Glen (1), Kibworth Beauchamp (1), Lutterworth (2), Market Harborough (7)
Hinckley and Bosworth	11	Barwell (1), Desford (1), Earl Shilton (1), Hinckley (6), Market Bosworth (2)
Melton	7	Melton Mowbray (7)
North West Leicestershire	11	Ashby-de-la-Zouch (2), Castle Donnington (2), Coalville (6), Measham (1)
Oadby and Wigston	8	Oadby (5), Wigston (3)
Total	**88**	

10.2.2 Access: Walk, Public Transport and Drive Time

Over 40% of the Leicestershire population (290,087) have more than a 15-minute walk to a nearest dental practice. This proportion is highest in rural village settings (98%). The relationship to deprivation is less clear, as most deprived areas are also likely urban in character and least deprived are more rural and this is where practices are least accessible (Table 9, Figure 28).

Table 9. Walking time to dental practice by rurality and deprivation (SHAPE 2023)

Walking time > 15 min	Number	Total residents	%
Rural village and dispersed	84,728	86,501	98.0%
Rural town and fringe	50,937	131,067	38.9%
Urban city and town	154,422	495,517	31.2%
Quintile 1 (most deprived)	0	11,642	0.0%
Quintile 2	19,422	76,546	25.4%
Quintile 3	37,754	118,783	31.8%
Quintile 4	110,791	239,520	46.3%
Quintile 5 (least deprived)	122,120	266,594	45.8%
Leicestershire >15 min	**290,087**		**40.7%**
Leicestershire <= 15 min	**422,998**		**59.3%**

21% of Leicestershire population (149,823) have more than 30 min travel by public transport to a nearest dentist, with that proportion highest in rural settings (91% for rural village and dispersed areas). There is no clear pattern with deprivation as least deprived areas are also rural in character (Table 10, Figure 29, presented here for weekday afternoon access).

Table 10. Public transport time by rurality and deprivation (SHAPE 2023)

Public Transport > 30 min	Number	Total residents	%
Rural village and dispersed	79,704	86,501	92.1%
Rural town and fringe	47,131	131,067	36.0%
Urban city and town	22,988	495,517	4.6%
Quintile 1 (most deprived)	0	11,642	0.0%
Quintile 2	5,744	76,546	7.5%
Quintile 3	19,059	118,783	16.0%
Quintile 4	71,908	239,520	30.0%
Quintile 5 (least deprived)	53,112	266,594	19.9%
Leicestershire > 30 min	**149,823**		**21.0%**
Leicestershire <= 30 min	**563,262**		**79.0%**

Only 0.5% (N=3,543) of Leicestershire population live more than 30 minutes' drive away from a nearest dental practice, only during rush hour (Figure 30). They are resident in rural town and fringe areas, in the least deprived quintile.

Figure 68. Walking times (up to 15 min) to dental practice in Leicestershire (Source: SHAPE 2023)

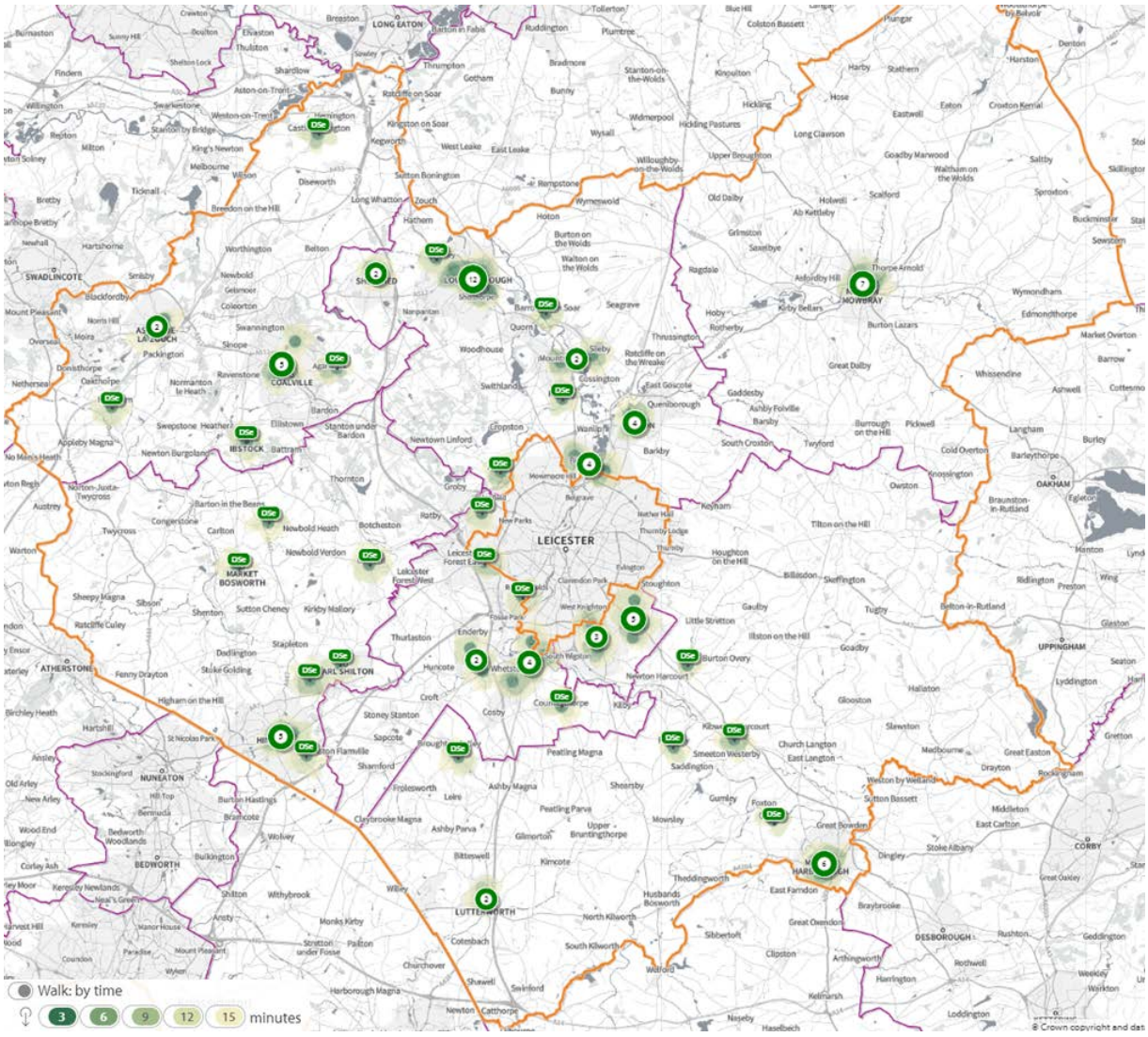


Figure 79. Public transport access times (up to 30 min, on weekday) in Leicestershire (Source: SHAPE 2023)

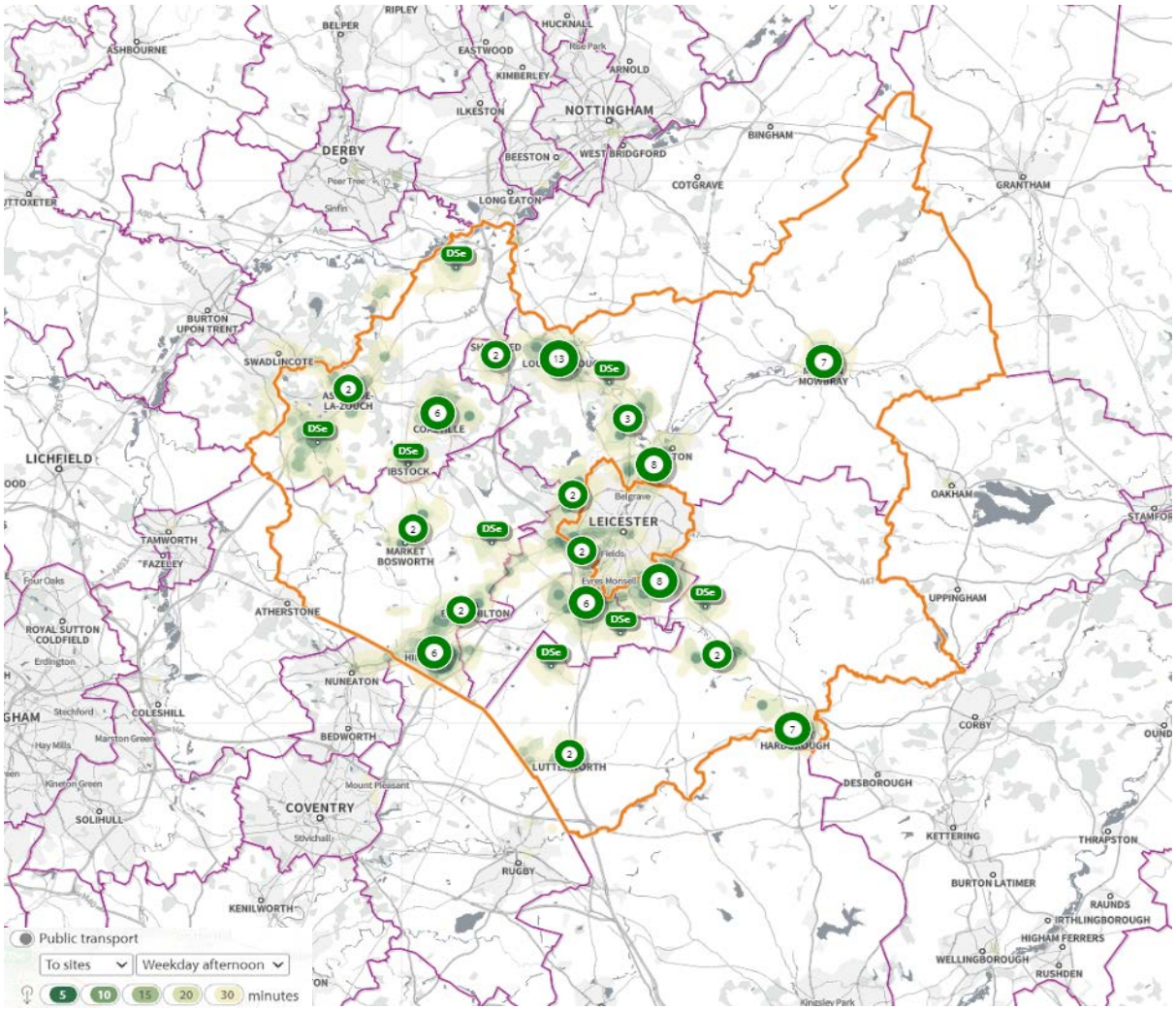
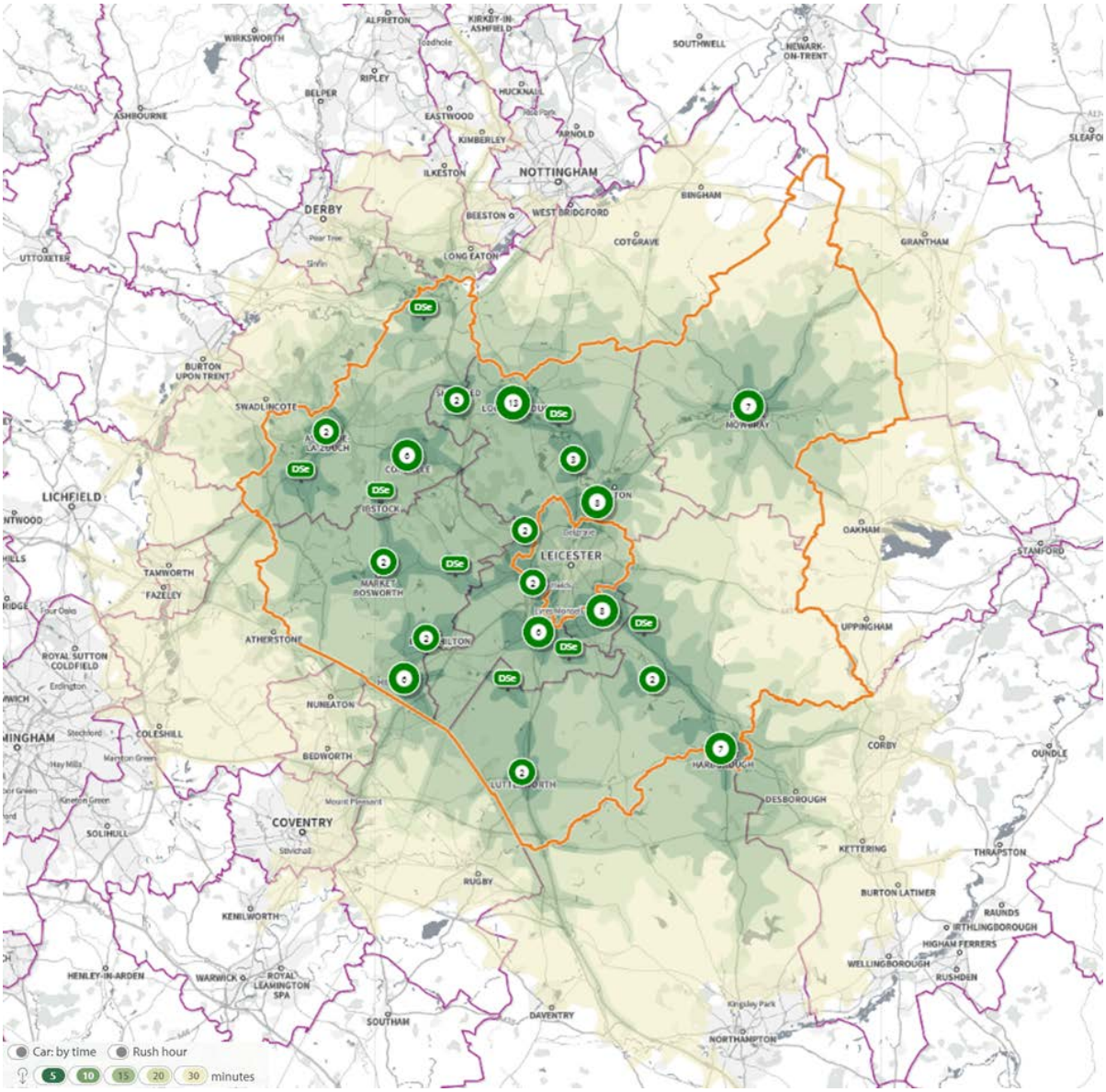


Figure 30. Drive times to a nearest dental surgery (up to 30 min in rush hour) in Leicestershire (Source: SHAPE 2022)



10.2.3 Patients Seen by a Dentist in 24 or 12 months

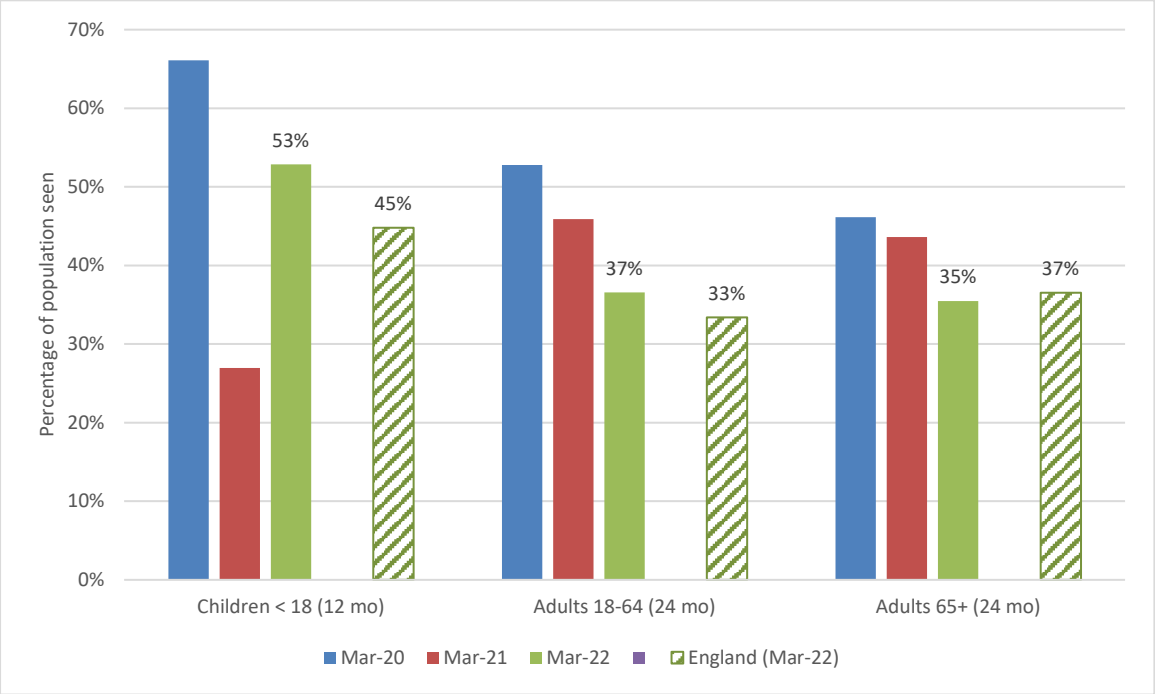
This indicator shows what proportion (%) of the estimated resident population has been seen by a dentist in the previous 24 months (for adults) or 12 months (for children). This is measured annually on the last day (31st of March) of each financial year.

It is important to stress that, as a result of COVID-19 restrictions (from the 25 March 2020), all routine, non-urgent dental care, including orthodontics, was cancelled or deferred until 8th June 2020, any measures of access to NHS dental service in the last three years are inevitably

distorted. Further details of the effect of COVID-19 pandemic are presented in *The Impact of the COVID-19* Pandemic chapter below (page 66).

Figure 31 shows the rates of access in the last three years for main population age groups, compared to the average for England. There was a significant drop in coverage for children in Leicestershire in 2020/21 (from 66% to below 27%), with subsequent partial recovery in 2021/22 (to 53%). Rates for both adult groups were lower and, although in the last year similar to the national average have not yet recovered to pre-pandemic level. However, for children the access rate was already higher than the national average (53% vs 45%) in 2021/22.

Figure 31. Rates of access to NHS dental services for Leicestershire residents in the last three years, with England average for comparison (Source: NHS BSA 2022).



Access varied across different MSOAs in Leicestershire - nearly two-fold for children and those over 65 (Figure 32), and over 4-fold for adults of working age (Table 11).

Although geographical patterns are complex, access for children seems to be better in the eastern areas of the County while the reverse can be observed for adults (Figure 32 and Figure 33).

Table 11. Range of variation in access, by MSOA, for broad age groups (NHS BSA 2022)

AREA	Children 0-17	Adults 18-64	Adults 65+
Leicestershire	33% - 62%	13% - 50%	24% - 48%
Blaby	48% - 58%	32% - 45%	33% - 41%
Charnwood	33% - 56%	13% - 40%	25% - 42%
Harborough	42% - 62%	30% - 49%	24% - 52%
Hinckley & Bosworth	45% - 59%	30% - 46%	29% - 47%
Melton	47% - 62%	24% - 34%	20% - 30%
North West Leicestershire	42% - 57%	31% - 43%	27% - 39%
Oadby & Wigston	49% - 62%	34% - 50%	34% - 48%

Appendix Figure 1 shows the correlation between IoD 2019 at MSOA level and access by patient age.

Figure 32. Access to NHS dental service for children (0-17) in Leicestershire

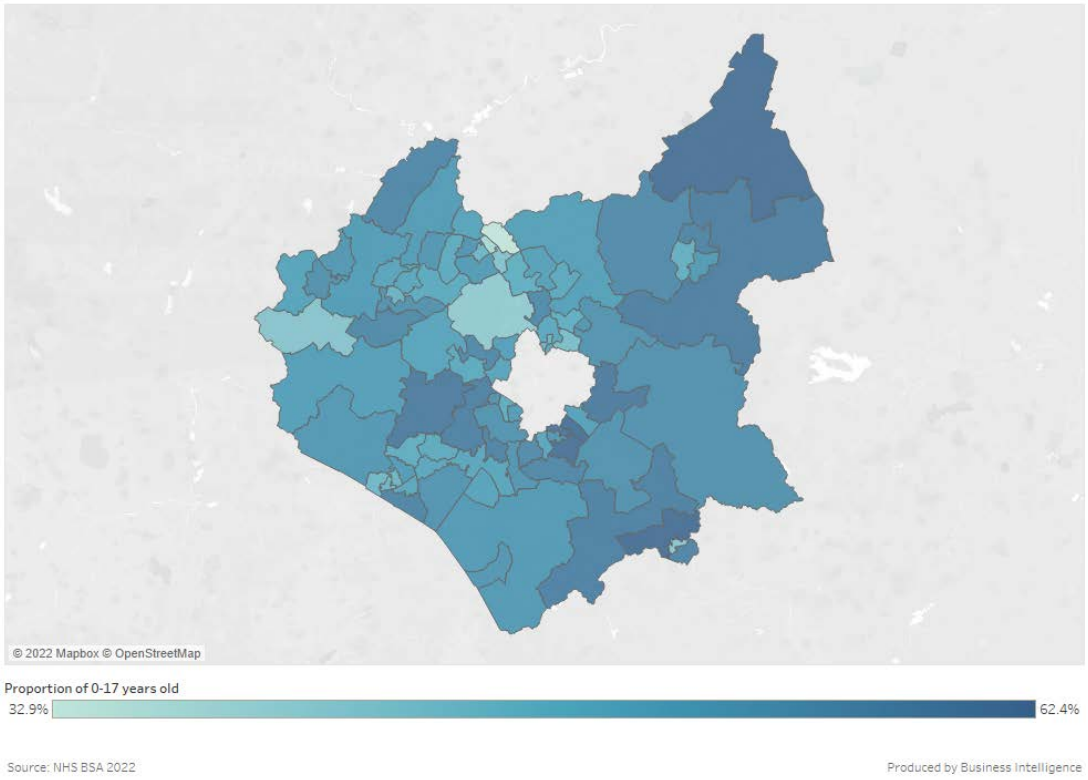


Figure 33. Access to NHS dental service for adults 18-64 in Leicestershire

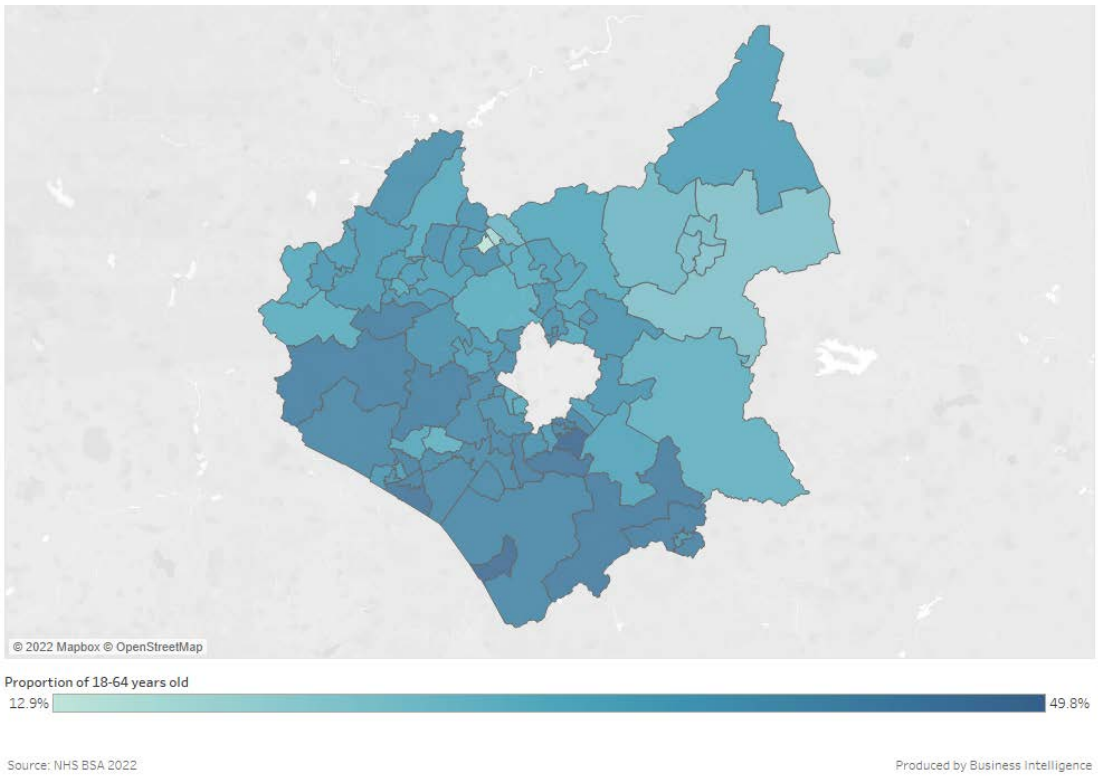
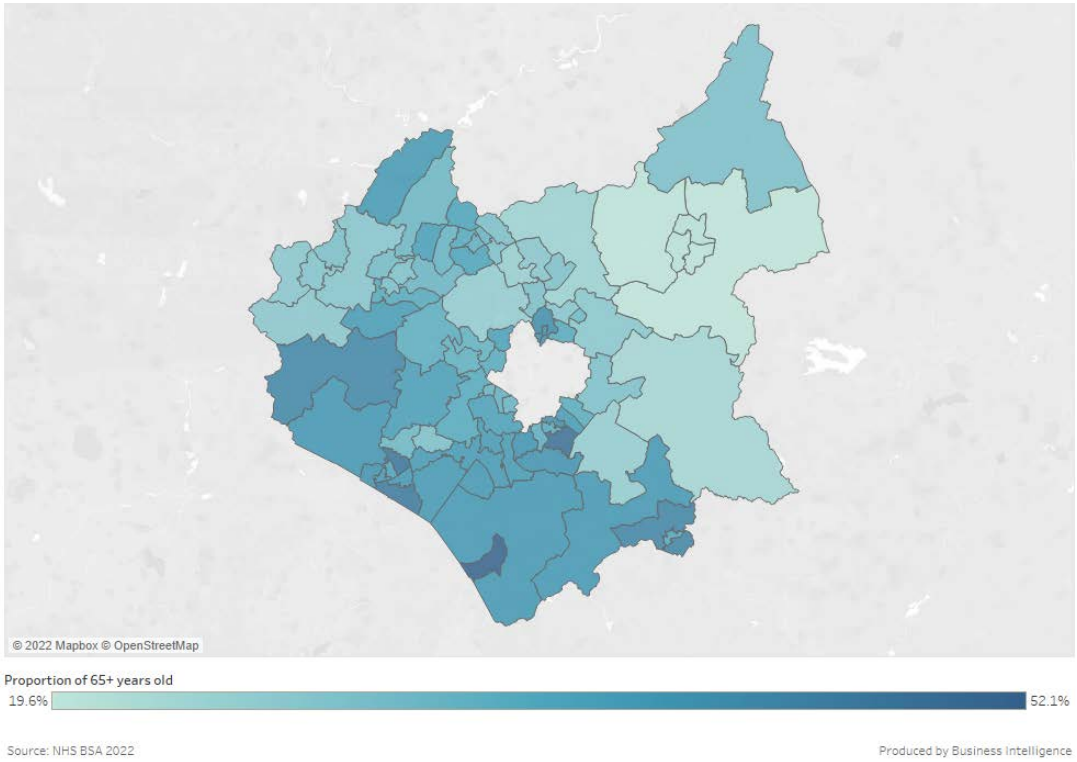


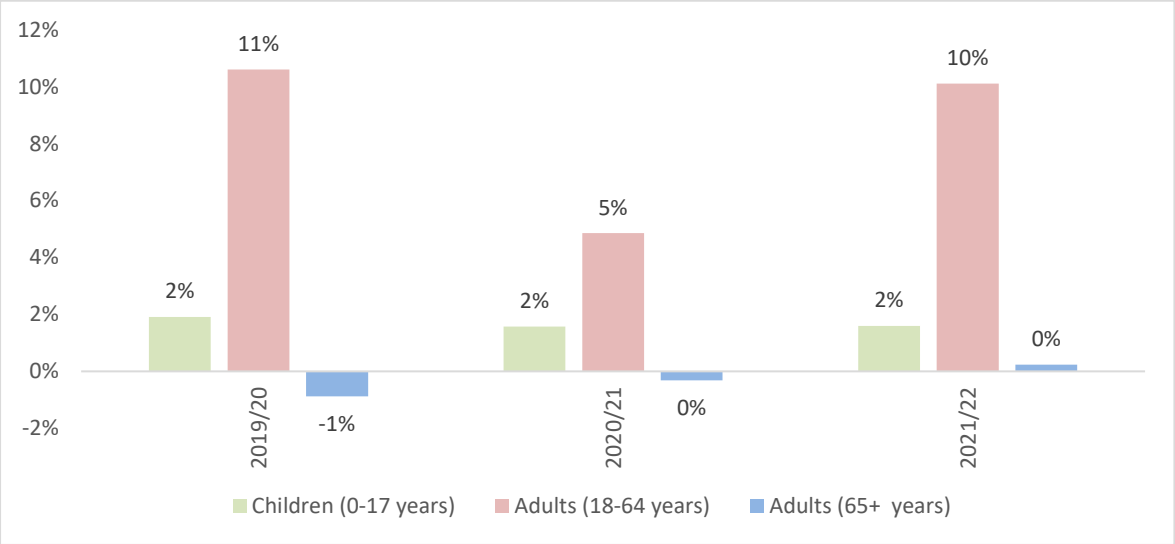
Figure 34. Access to NHS dental service for adults 65+ in Leicestershire



10.2.4 Equity of access – Sex and Ethnicity

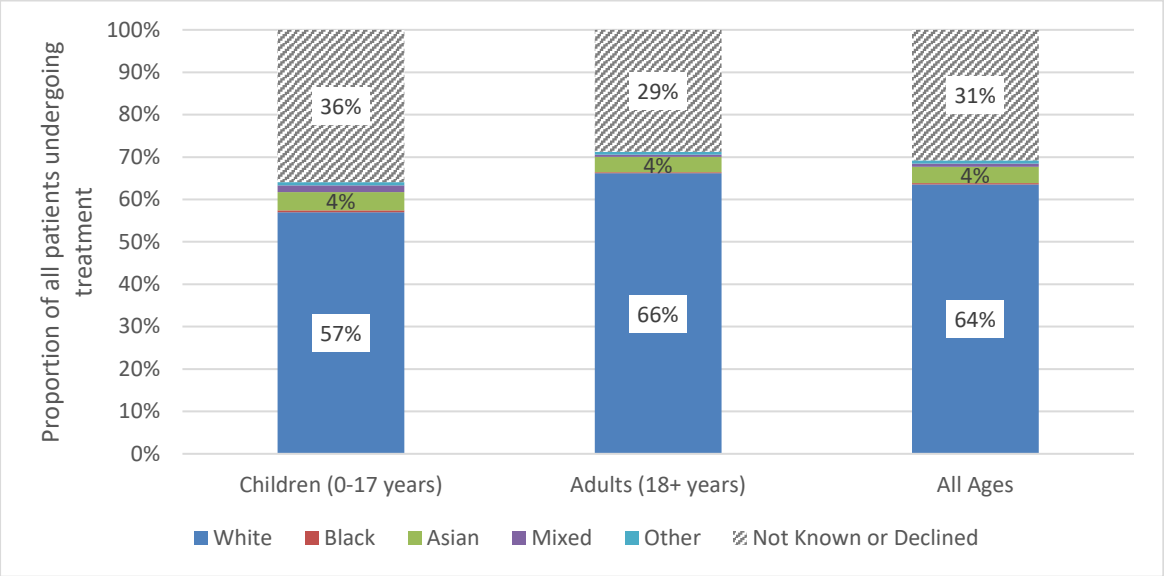
Using counts of unique patients accessing services between April 2019 and March 2022, proportionately more women of working age were accessing the dental service, compared to men in this age group (up to 10% more in 2021/22 – Figure 35), with a small excess in the under-18 group (1-5%) and very similar rates in the over-65s.

Figure 35. Sex differentials NHS dental activity in Leicestershire (Source: NHS BSA 2022)



The ethnicity of patients undergoing dental treatment is generally poorly recorded, with 31% overall (36% for children) not known or marked as declined (Figure 36). Only 6% of patients treated in Leicestershire are recorded as groups other than white. In Census 2021, nearly 12% of the County population declared themselves in groups other than white, however with such a high number of unclassified records it is difficult to judge whether ethnic minority patients truly have lower access to dental care.

Figure 36. Recorded ethnicity for Leicestershire patients undergoing NHS dental treatment (Source: NHS BSA 2022)



10.2.5 Number of Dentists per Population

This indicator is a high-level proxy of access to NHS dental service in the absence of a working time equivalent (WTE) measure. At the time of writing, it is available at the CCG level, up to 2020/21.

Both Leicestershire Clinical Commissioning Group (CCG) populations had higher than national average access to NHS dentists in the last two years, although there were significant reductions in the number of such dentists between 2019/20 and 2020/21.

This is particularly noticeable for the NHS West Leicestershire CCG with nearly 16% reduction in the rate of access and 39 dentists less in the last covered year.

East Leicestershire and Rutland CCG experienced less change (2% - half the national figure - with only 4 dentists less in the last year). The crude rate of access to NHS dentists remains

higher for both local CCGs (51-54/100,000) than the national or regional average of 42.2/100,000 (Table 6).

Table 12. Access to dentist with NHS activity in two most recent years - comparative rates (Source: HSCIC 2022)

AREA	2019/20			2020/21			Difference	
	Total dentists	Population per dentist	Dentists per 100,000 population	Total dentists	Population per dentist	Dentists per 100,000 population	Dentists (number)	Change (%)
England	24,684	2,280	43.9	23,733	2,372	42.2	-951	-3.9
Midlands	4,549	2,331	42.9	4,341	2,442	40.9	-208	-4.6
NHS East Leicestershire & Rutland CCG	188	1,801	55.5	184	1,840	54.3	-4	-2.1
NHS West Leicestershire CCG	245	1,663	60.1	206	1,978	50.6	-39	-15.9

Dental workforce challenges further highlight dental accessing challenges and dentist availability concerns. The Local Dental Committee ran an online survey to understand current dental staff recruitment challenges, a response was received from 50% of practices across Leicestershire, Leicester and Rutland and reported the following:

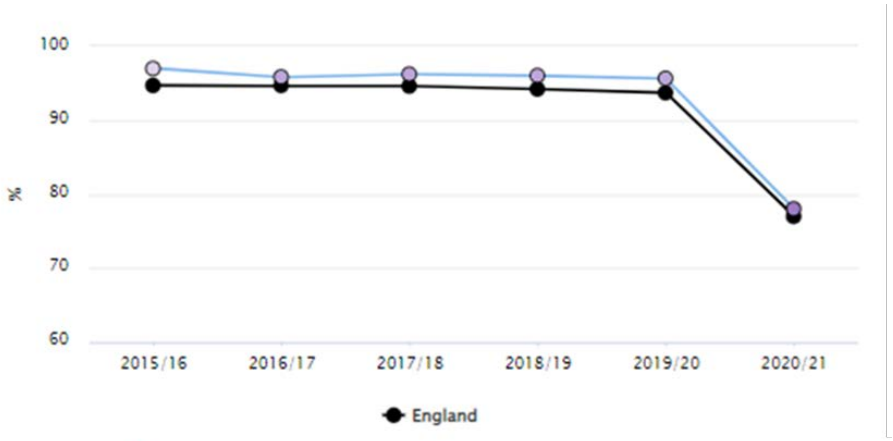
- 95% (54 practices) reported difficulties recruiting dental staff.
- 89% (48 practices) reported difficulties recruiting dentists for a permanent position.
- 70% (37 practices) reported difficulties recruiting a locum dentist.
- 43% (23 practices) of those practices experiencing problems recruiting dentists report that posts had been vacant for 6-12 months.
- 37% (20 practices) reported that they had been seeking to recruit to fill vacancies for over 12 months.
- As a result of this shortage of dentists 86% of practices with unfilled vacancies reported that this had affected their ability to achieve NHS targets.
- 86% have reported vacancies have affected their ability to deliver the practices NHS contract.
- In addition to difficulties recruiting dentists, 86% (44 practices) report difficulties recruiting Dental Care Professionals (DCP).
- 93% (41 practices) reported difficulties recruiting Qualified Dental Nurses.
- 73% (32 practices) reported difficulties recruiting Trainee Dental Nurses.
- Practices report unfilled vacancies lasting between 6 and 12months (27% of respondents) and over 12 months in 18% of cases.
- 81% (35 practices) reported these DCP recruitment difficulties were affecting their ability to deliver the practices NHS contract.

These dental workforce challenges are acknowledged when drawing recommendations from the JSNA's findings via alternative recommendations and also need to be considered when planning public health programs.

10.2.6 Access to a Dental Appointment - GP Patient Survey

Figure 37 shows the trend for access to NHS dental appointments in 2020/21 reported through the GP Patient Survey. The 78% rate in Leicestershire is similar to the national average of 77% and higher than the East Midland rate of 76.3%[37]. The rates in all areas were significantly lower in the 2020/21 compared to the previous years.

Figure 8. Successfully obtained an NHS dental appointment in 2020/21 (Source: PHE Fingertips 2023)



Recent trend: ↓ Decreasing & getting worse

Period		Leicestershire Count	Value	95% Lower CI	95% Upper CI	East Midlands	England
2015/16		2,875	97.0%	97.0%	97.8%	-	94.7%
2016/17		5,518	95.8%	95.0%	96.5%	94.7%	94.6%
2017/18		5,144	96.2%	95.4%	96.8%	94.0%	94.6%
2018/19		5,179	96.0%	95.2%	96.6%	94.2%	94.2%
2019/20		4,670	95.6%	94.7%	96.3%	94.0%	93.7%
2020/21		4,187	78.0%	76.5%	79.4%	76.3%	77.0%

Source: GP Patient Survey (GPPS)

10.3 Dental Activity

This section presents data on NHS dental activity in the last three years, the impact of COVID-19 pandemic, activity by patient type, treatment bands, preventive clinical treatments, and hospital extraction rates for children.

10.3.1 The Impact of the COVID-19 Pandemic on Access to NHS Dental Services

In response to the COVID-19 pandemic, from the 25 March 2020 all routine, non-urgent dental care including orthodontics was cancelled or deferred until 8th June 2020. Thereafter practices were required to deliver 20% of normal activity until 31st December 2020, 45% (70% orthodontic) from 1st January 2021 until 31st March 2021, 60% (80% orthodontic) from 1st April 2021 until 30th Sept 2021, 65% (85% orthodontic) from 1st October 2021 to 31st December 2021, 85% (90% orthodontic) from 1st January 2022 until 31st March 2022 and 95% (100% orthodontic) from 1st April 2022 until 30th June 2022. No data was available for January to June 2020. This section presents comparative trends in dental activity for the period between January 2019 and June 2022.

Figure 38 shows the time trends in the all-age rates of access to dental NHS services (numbers of people accessing per population), comparing pre-pandemic year (2019) and the most recent period. The pre-pandemic all-age rates in Leicestershire were over 35% and higher than national, regional and LLR average. By the latter half of 2020, the rates fell down to about 8% with some recovery since then (27% in 2022). Although not completely recovered, the rate was higher than that for England or East Midlands. Leicestershire rates seem to be comparatively higher for children and younger age groups (under 18s, Figure 39). Pre-pandemic rate for children in Leicestershire was over 50%, with a similar to all-age recovery described above. The rates for adults (Figure 38) seems significantly lower, just over 30% in 2019, but higher than comparators.

Figure 38. The percentage of Leicestershire population (all ages) accessing NHS primary care dental services from 2019 to 2022, compared to national average and other areas (Source: NHS BSA July 2022).

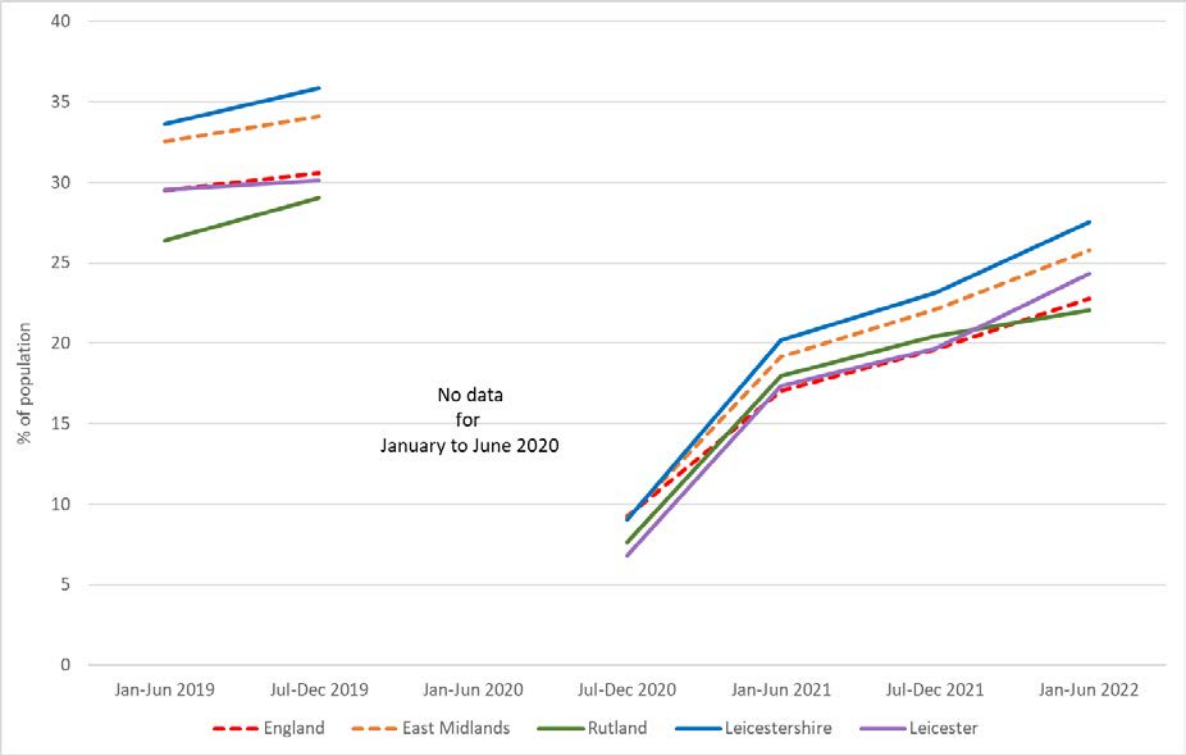


Figure 39. The percentage of 0-17 population of Leicestershire accessing NHS primary care dental services from 2019 to 2022, compared to national average and other areas (Source: NHS BSA July 2022).

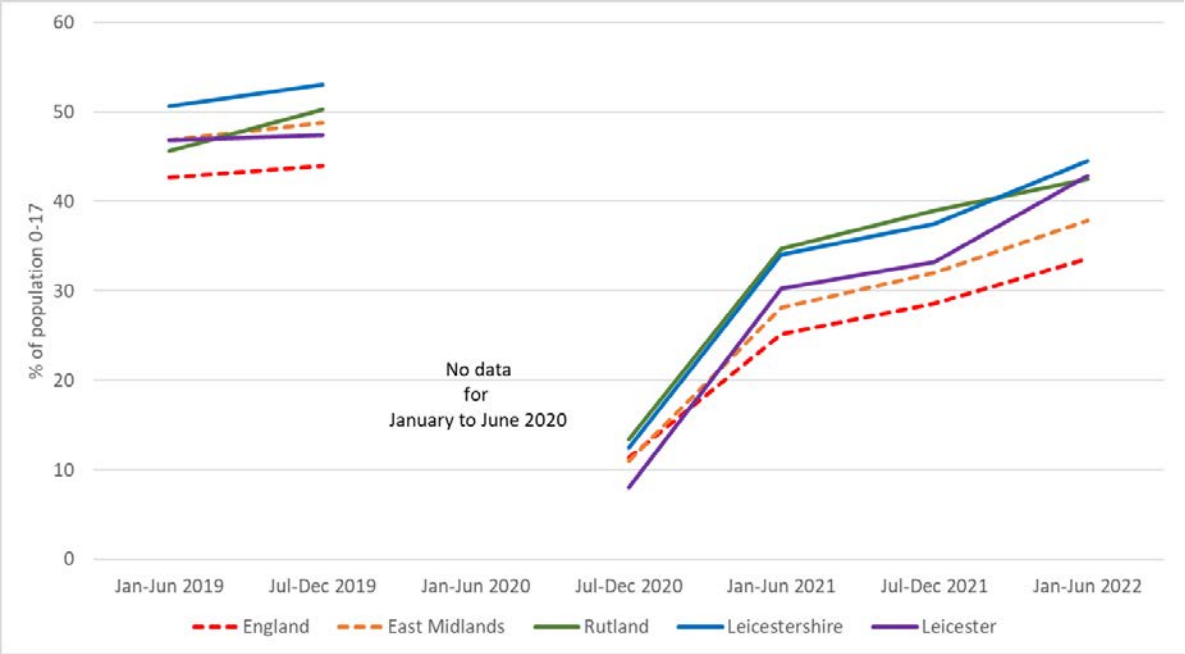
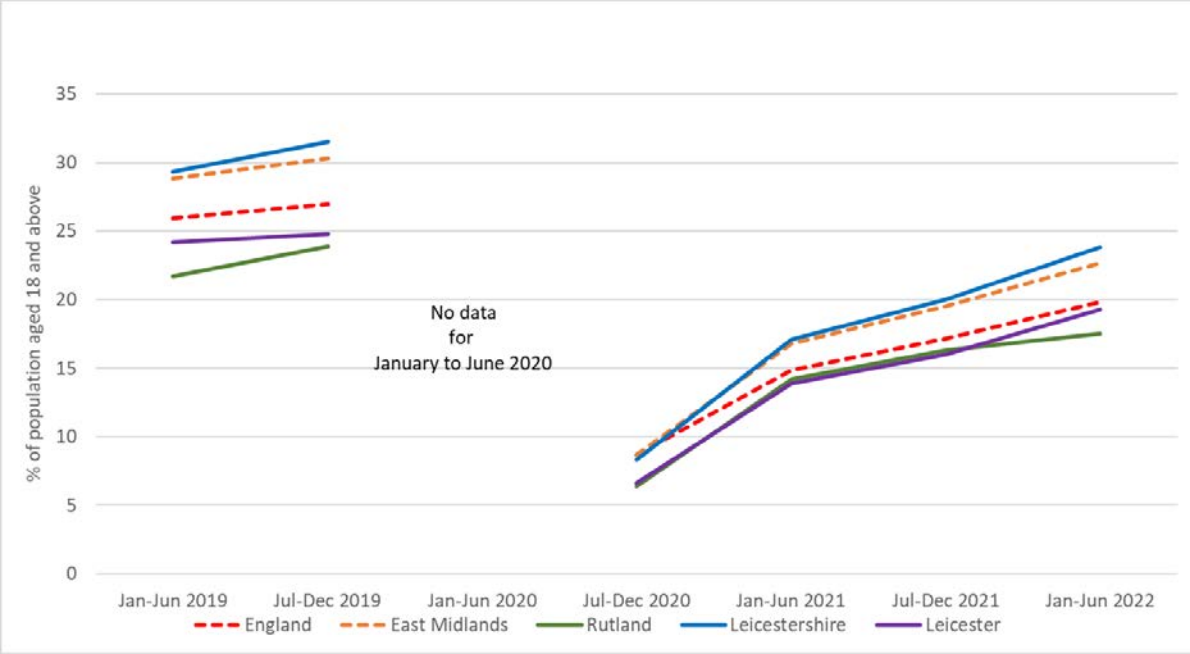


Figure 40. The percentage of adult population of Leicestershire accessing NHS primary care dental services from 2019 to 2022, compared to national average and other areas (Source: NHS BSA July 2022).



10.3.1.1 Estimated gap in access to pre-pandemic period

It can be estimated that, to achieve the same rates of access in Leicestershire as were experienced pre-pandemic (July – December 2019), an additional 46,000 children and 11,500 adults would have to be treated. This calculation adjusts for changing population estimates.

10.3.2 Patient Type

Patients undergoing treatment are classified according to age and exemption status:

- paying adults - pay a charge to the full cost of the treatment
- non-paying adults - exempt or remitted from paying a charge to the full cost of the treatment
- children – free NHS treatment for all 0–17-year-olds

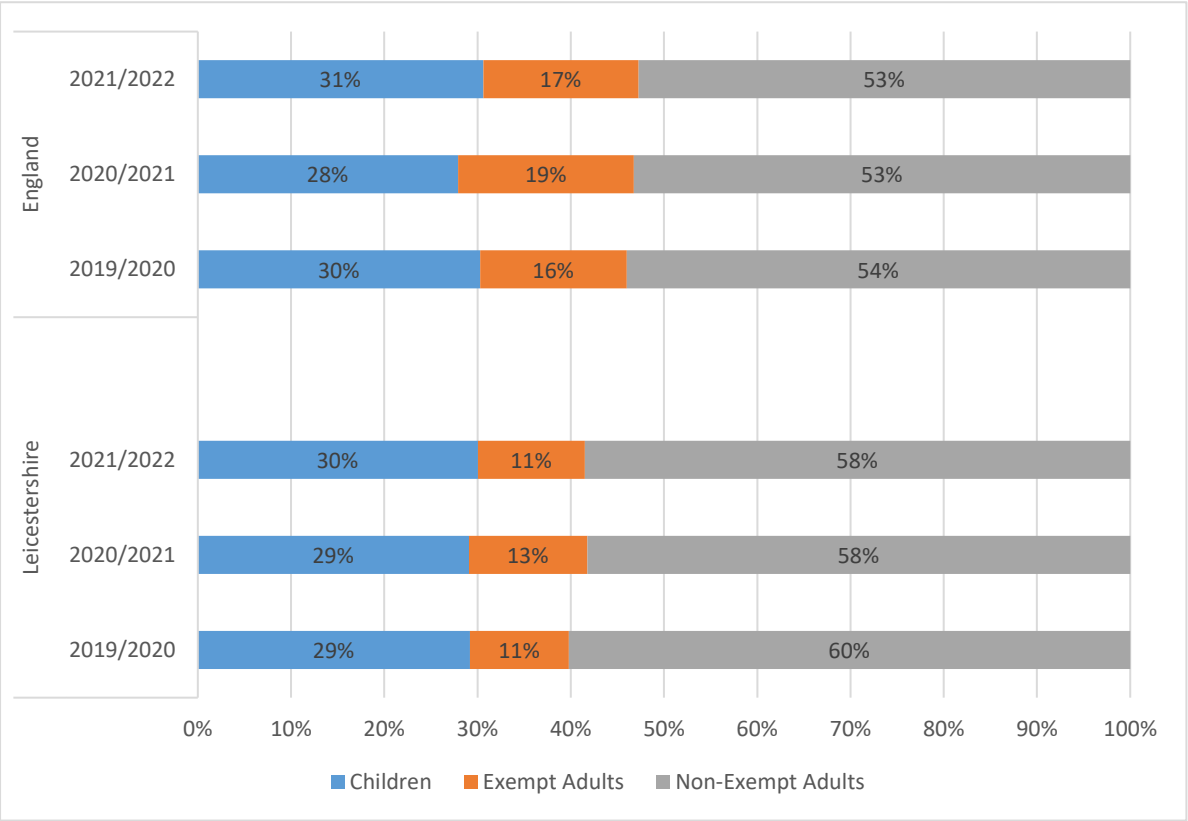
Common reasons for exemption for adults are:

- in full-time education
- pregnant or mother of a baby in the year before treatment starts
- NHS inpatient (treatment by a hospital dentist) or outpatient
- on income support, pension credit or other financial support schemes

Compared to the national average, there were proportionately less courses of treatment for non-paying (exempt) adults in Leicestershire (11% vs 17% for England) (41).

These findings are undoubtedly affected by the COVID-19 pandemic, with the numbers of treatments significantly lower in 2020/21 across all categories of patients (further details given in Appendix Table 3).

Figure 419. NHS dental treatment for Leicestershire residents by patient type in the last 3 financial years (Source: NHS BSA)



10.3.3 Treatment Bands

Threequarters (75%) of treatments for Leicestershire's children are band 1 (e.g., examination, advice, or preventative treatment, such as fluoride varnish or fissure sealant), while 20% were band 2 treatments, and only 4% activity was urgent (Figure 42).

For comparison, the national (England) proportions for children in 2021/22 were 70% in band 1, 22% in band 2 and 6% urgent, thus Leicestershire has relatively more band 1 activity and less band 2 or urgent treatments.

Although there are no clear patterns there is some variation across districts (Table 13). With increasing age, Band 2 treatments contribute higher proportion of dental claims (over 26-30% among the adults), as are urgent treatments (12-14% among adults). Higher proportions of urgent treatment in adults were in Charnwood (18%) and Melton (17%).

Figure 42. Courses of treatment for Leicestershire residents in 2021/22 by treatment band (% claims in age group) (Source: NHS BSA).

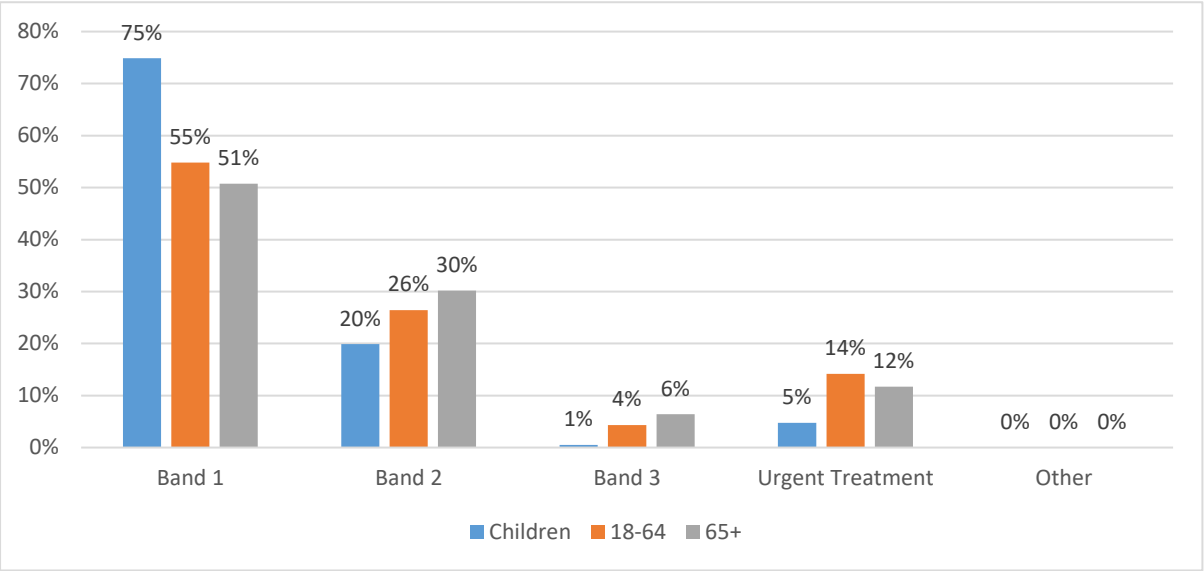


Table 13. Rates of dental treatment by band in 2020/21 in Leicestershire districts (Source: NHS BSA 2022)

District	Age	Total FP17	Band 1	Band 2	Band 3	Urgent
Blaby	<17	18,336	74%	21%	1%	4%
	18-64	29,588	56%	27%	4%	13%
	65+	12,281	49%	33%	6%	11%
Charnwood	<17	1,507	75%	19%	0%	6%
	18-64	8,215	50%	27%	5%	18%
	65+	2,505	47%	30%	7%	14%
Harborough	<17	16,967	78%	17%	1%	4%
	18-64	27,996	60%	23%	3%	13%
	65+	12,830	54%	27%	6%	12%
Hinckley and Bosworth	<17	17,884	73%	22%	1%	4%
	18-64	32,015	56%	27%	4%	12%
	65+	15,407	51%	30%	6%	10%
Melton	<17	9,025	80%	15%	0%	4%
	18-64	10,051	48%	30%	5%	17%
	65+	4,369	44%	36%	7%	13%
North West Leicestershire	<17	17,526	78%	18%	0%	4%
	18-64	28,087	54%	28%	4%	13%
	65+	10,662	51%	31%	6%	11%
Oadby and Wigston	<17	10,374	70%	24%	0%	6%
	18-64	16,981	55%	26%	4%	15%

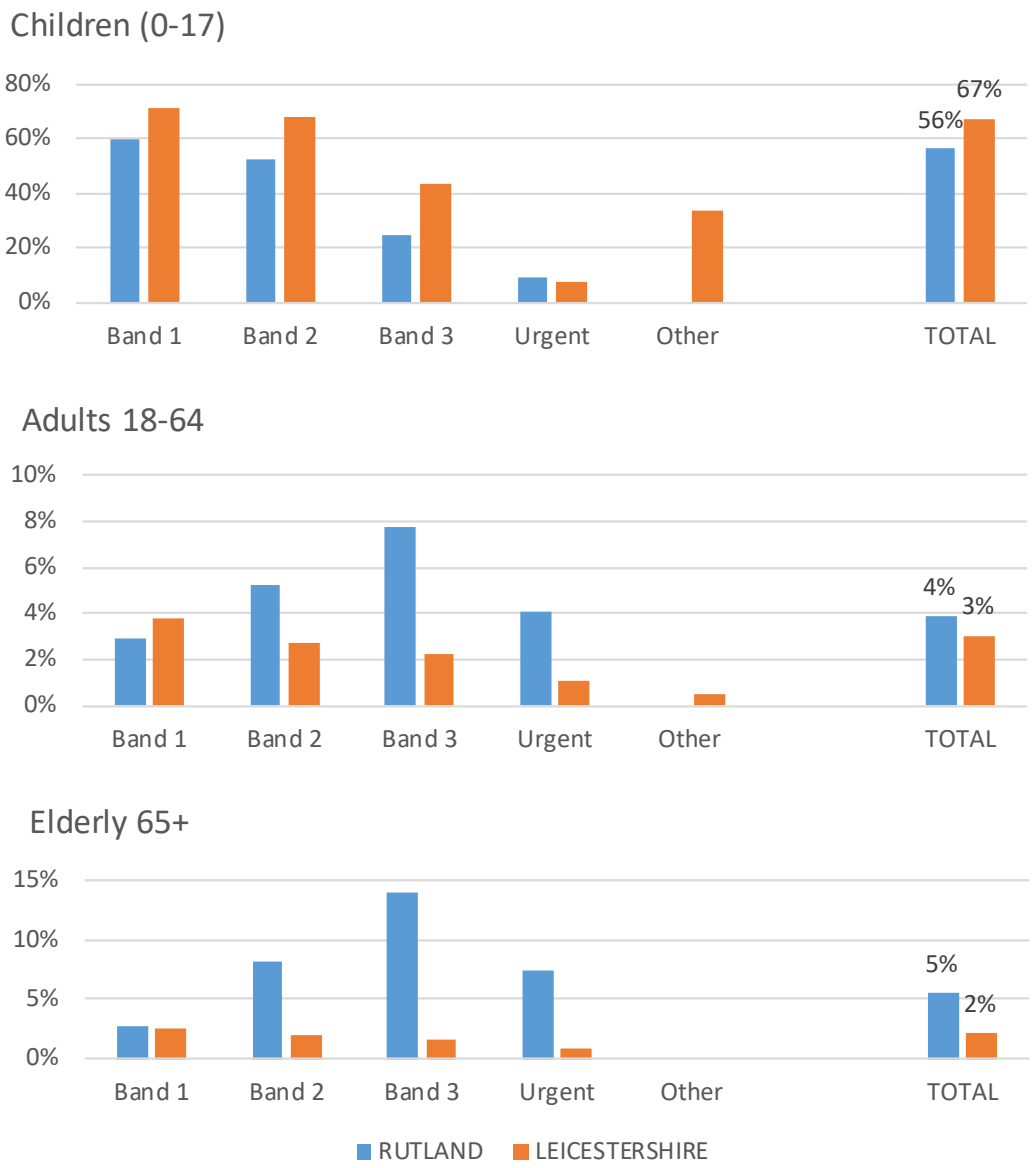
	65+	7,485	55%	27%	5%	12%
LEICESTERSHIRE	<17	91,619	75%	20%	1%	5%
	18-64	152,933	55%	26%	4%	14%
	65+	65,539	51%	30%	6%	12%

10.3.4 Treatments including fluoride varnish

Both fluoride varnish (FV) and fissure sealants are primary preventative measures. The first involves fluoride preparation applied to the teeth surface, the second application of sealant material to the pit and fissure systems. FV treatment is an effective treatment in children under the age of 17.

In 2021/22 in Leicestershire, fluoride varnish treatment was part of a 67% of claims for children, 3% and 2% for adults. For children, the proportion of FV was higher than the average for England (53.8%), for all adults (ages 18) the 2.8% rate is just slightly higher than the national average of 2.6% (Figure 43).

Figure 43. Fluoride Varnish Claims as percentage of all claims by treatment band and age group for Rutland and Leicestershire in 2021/22) (Source: NHS BSA 2022)



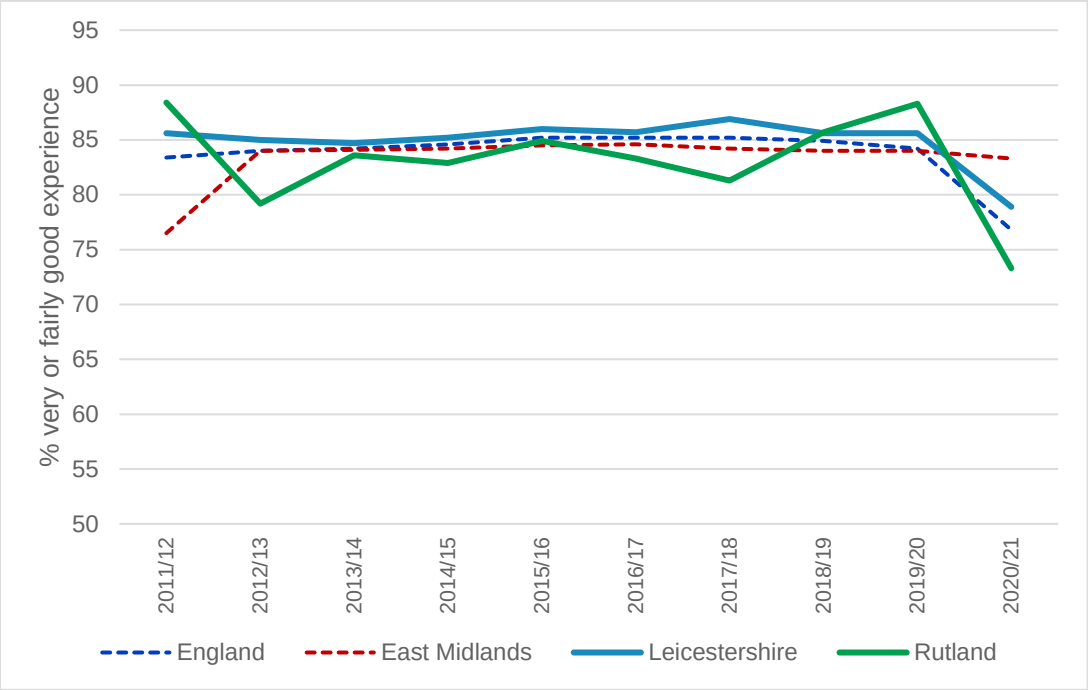
10.4 Patient Experience

Patient experience of the NHS dental services are published nationally as part of the NHS Outcomes Framework (indicator 4a.iii) [38]. The latest publication (2022) reported on data for the period 2011/12 to 2020/21. Data collected through the GP Patient Survey.

The Framework reports the percentage of people describing a 'very good' or 'fairly good' experience of NHS dental services, weighted for design and non-response, with breakdown into several population groups.

In line with the national (but not the East Midlands') trend, there was a fall in good/fairly good patient experience in 2020/01 (from about 85% in previous years to 78%), more pronounced in Rutland (dropped below 75%) than in Leicestershire (Figure 44 below).

Figure 44. Trends in patient experience (Source: NHS Digital 2022)



11 Oral Health Improvement

Local authorities (LAs) have a statutory responsibility for oral health improvement as part of their overall responsibility for public health. LAs role includes undertaking health needs assessments and the commissioning of health improvement programmes, as appropriate to local needs. LAs also have a collaborative role in evidence-based planning and evaluation of services, and assessment of oral health inequalities. Dental public health consultants, working for OHID (Office for Health Improvement & Disparities), provide expert advice to local authorities, ICB, Healthwatch and other partners.

11.1 Evidence for Public Health Interventions

Guidance on what works in oral health promotion is provided by Commissioning Better Oral Health for Children and Young People[39], Commissioning Better Oral Health for Vulnerable Older Adults and Oral Health Improvement for Local Authority and Partners[40]. Generally, the guidance recommends a population approach with advice and actions for all, with additional interventions aimed at those at higher risk of developing disease, with many different approaches and options available. A range of possible approaches are summarised in the

upstream/downstream model (Figure 45) of oral health promotion[41]. Clinical intervention and individual dental health education are the lowest level, with community level interventions in the middle, and large-scale, regional, or national, measures at the top.

Figure 45. Upstream/downstream model of oral health promotion

Source: Watt (2007)

Because oral diseases share many risk factors with other common conditions, including cancer and cardiovascular disease, as described in Chapter 4 (Who is at Risk and Why?), a common risk factor approach can be very effective for health improvement.

Delivering Better Oral Health: An Evidence-Based Toolkit for Prevention[42] provides detailed evidence-based, age-specific guidance for oral health care providers and commissioners.

Universal measures, underpinned by strong evidence include:

- Breastfeeding - supporting mothers to breastfeed exclusively for the first 6 months of a baby's life.
- Children - brushing or supervised toothbrushing by parents/carers
- Brushing all tooth surfaces twice daily with a fluoridated toothpaste (manual or powered toothbrush) and as soon as children are able, spit out after brushing rather than rinse
- 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
- Application of fluoride varnish in a clinical setting from age 3 years and applied twice yearly
- For children aged 7+ and adults: fluoridated toothpaste (1,350 – 1,500 ppm fluoride)

- Reduction in the frequency and amount of sugary food and drinks
- Tobacco and alcohol - very brief advice (Ask, Advise, Act).
- Fluoridation of public water supplies

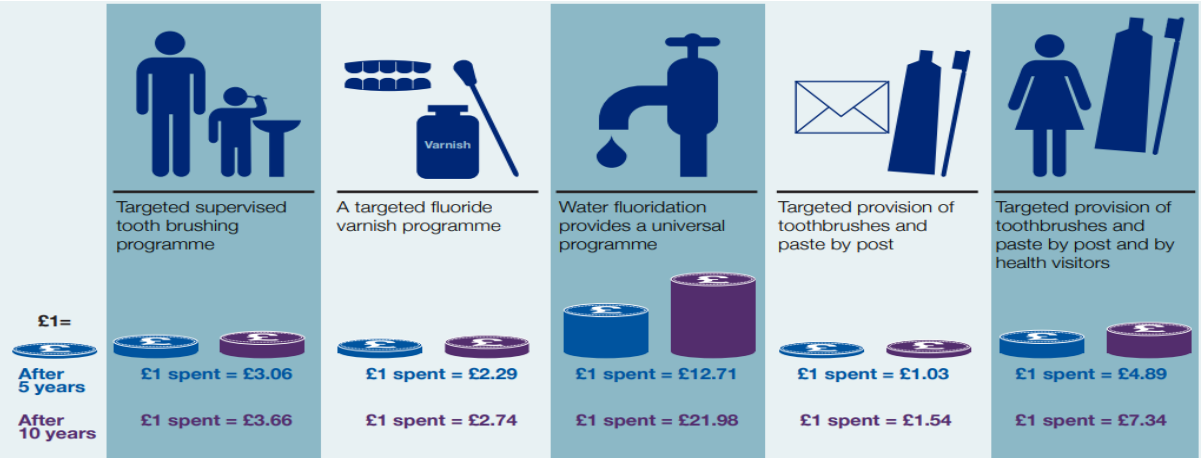
Targeted, evidenced measures include:

- Shortened recall interval based on dental caries risk
- For children aged 0-6 years at high risk of dental decay:
    - using toothpaste containing 1,350-1,500 ppm fluoride
    - application of fluoride varnish to teeth two or more times a year
- For children aged 7+ years and adults at high risk of dental decay:
    - using a fluoride mouth rinse daily at a different time to brushing
    - resin sealant application to permanent teeth on eruption
    - fluoride varnish application to teeth two or more times a year
- For those 10+ years with high risk of dental decay:
    - using 2,800 ppm fluoride toothpaste
- For those 16+ years with high risk of dental decay:
    - using either 2,800 ppm or 5,000 ppm fluoride toothpaste
    - daily fluoride rinse
- For all children and adults with high risk of dental decay:
    - dietary advice and assistance in adopting good dietary practice
    - supporting toothbrushing, where required
- For adults with high risk of dental decay – application of fluoride varnish to teeth two times a year
- For those who smoke - a combination of behavioural support and medication, as appropriate
- Community-based fluoride varnish programmes
- Supervised tooth brushing in targeted childhood settings
- Distribution of toothbrushes and toothpaste (i.e., postal or through health visitors)

11.1.1 Return on Investment (ROI)

Water fluoridation gives highest return on investment (£22 per £1 after 10 years, Figure 46), followed by targeted provision of toothbrushes and toothpaste by health visitors (£7.4), with other measures relatively less effective at population level. Except for targeted fluoride varnish programme, all these interventions are part of oral health promotion for 0-19s.

Figure 46. Public health interventions - return on investment



Fluoridated water is currently supplied to 10% of England's population; only some areas of Leicestershire (parts of LE10 and LE18[xiii]) have artificially fluoridated water. The new Health and Care Act 2022 has centralised the responsibility for water fluoridisation decisions with a view to level up the existing oral health inequalities. Although responsibility for this has now passed to central government the process for achieving water fluoridation needs to be explored to understand how local support particularly from Leicestershire County Council and Public Health can be achieved.

Fluoride varnish application is recommended twice a year for all children above the age of three, more often in those at increased risk of decay (see above). It offers an increased level of protection from decay, in addition to regular toothbrushing and is a free NHS service to all children. In 2021/22, Leicestershire had a significantly higher rate of fluoride varnish for children 0-17, compared to Rutland – 57.4% against 48.2% (Figure 43), this is despite a similar overall level of access for children (measured as all FP17 claims - 85.3% and 85.8%, respectively).

11.2 Oral Health Promotion in Leicestershire – Current and Future Initiatives

Since 1st September 2022, oral health promotion was a part of the 0-19 Healthy Child Programme provided by Leicestershire Partnerships Trust (LPT). Currently, the programme is separated into 0-11 and 11+ services, the former of which is still provided by LPT. Oral health is a priority of the health visiting programme of the 0-11 service where health visitors give advice, information and sign posting for parents. Health Visitors also have access to oral

health packs thereby supporting access to toothbrushes and fluoridated toothpaste containing the recommend level of fluoride of 1500ppm. Public Health represent Leicestershire on the *Oral Health Promotion Partnership Board* across Leicester, Leicestershire, and Rutland (LLR). The partnership board members work together to:

1. Increase the skill mix in the wider workforce for Oral Health Promotion
2. Improve the Oral Health of the population
3. Focus on prevention
4. Address health and care inequalities
5. Improve the quality of care

The Partnership Board make the decisions about priorities and are currently looking at the following initiatives across LLR:

- To support oral health improvement initiatives and activities (£150K recurrent for two years).
- To support purchase and distribution of toothbrushing packs to food banks and other venues (£40k non recurrent).
- To enable each local authority's oral health promotion service to expand and improve their resources (£10K non-recurrent).
- Between Leicestershire County Council and Leicester City Council to purchase and distribute oral health packs to vulnerable groups (£50k non-recurrent).
- To create a social marketing campaign to work on oral cancer identification and prevention across LLR (£10k non recurrent).
- Across the LLR system area to improve Oral Health Promotion resources (£5,000 non-recurrent).
- The partnership Board are exploring a community level fluoride varnishing scheme to help reduce children's risk of developing dental caries across LLR.
- They are looking at using resources to support care homes in formulating what the minimum oral health promotion offer should be in their establishments and would require links into dentistry.
- Recruitment of two posts, one of which will cover Leicestershire and Rutland to embed Oral Health promotion into policies and link into the Make Every Contact Count programme.

Local Authority Public health is responsible for commissioning the annual *Dental Epidemiology Fieldwork survey* which is a statutory function. The fieldwork survey focuses on the dental health of five-year-olds every other year with the intervening year being another selected age group. This could be another children's age group or working aged adults. In the

conducting of the dental examinations for the survey the provider will recommend whether dental treatment is required and the urgency of such treatment, however, this only includes the sample size which in this case is 250 children. The provider can fast track these children into the community special care dental services as they also provide that service.

Leicestershire County Council has an internal Oral Health Promotion Service. This team carry out both statutory and other health improvement initiatives to respond to oral health needs within Leicestershire. Examples include supervised toothbrushing, oral health training and oral health campaign design and delivery. This service offer has also been extended to Rutland.

12 Identified Gaps and Recommendations

This assessment demonstrated that, although on average oral health of Leicestershire's population appears to be relatively good when compared to the national average or comparator local authority areas, there are some specific concerns for individual population subgroups and there are substantial problems with access to NHS dental services.

Demographic findings point at a higher than average, and rising, proportion of elderly population. Although on average, deprivation in the county is relatively low, there are pockets of deprivation in urban areas and indications of poor access to services, including health services, and detectable barriers to housing. These factors need to be taken into consideration when commissioning new services and health promotion programmes.

There are substantial problems with access to dental care, with only a small proportion of accessible practices accepting new adult NHS patients. Emerging barriers to accessing NHS dental service are not unique to Leicestershire - list backlogs and staff shortages have been highlighted regionally as growing issues in NHS dental service.

Measured through the GP Patient Survey, the levels of satisfaction with NHS dental service have dropped in 2020/21 to below 80%.

There are some important caveats and limitations relating to available data on oral health. For many routinely collected oral health indicators, the samples and numbers of observations are relatively small not allowing for a more robust equity assessment. Observations may be subject to statistical uncertainty and/or temporal fluctuation.

It is also important to note that many of the collected oral health indicators are subject to a substantial time lag, they are usually published with one or two-year delay. In addition, this investigation covers the time of the COVID-19 pandemic which makes any interpretation of

longer-term health needs (and outcomes) difficult and may affect our understanding of patterns of service use.

Based on the findings of this assessment the following recommendations are suggested for the commissioners of NHS Dental Services and Local Authority:

A key of stakeholders is below, this shows which stakeholders have been consulted and agreed to be the primary driver to support completing the below recommendations:

= Public Health (Leicestershire County Council)
= Family Hubs Team (Leicestershire County Council)
= Multi Agency Travelling Unit (Leicestershire County Council)
= Integrated Care Board
= NHS England
= Local Dental Committee
= Leicestershire Partnership Trust
= Voluntary Community Sector Organisation

Dental access issues should be investigated further, and steps taken to improve access locally, with focus on:

- men of working age
- vulnerable groups, including:
    - Young Carers
    - Children in care
    - Children living in poverty
    - Children with SEND 
- Furthermore, consider oral health access and provision for residents living in rural areas. 
- To explore community transport links which could positively impact residents access to dentists especially for those living in areas of high deprivation. 

- Consider a targeted Oral Health Promotion Programme within residential homes including the Making Every Contact Count approach to support oral health and address the drivers of poor oral health. 
    - To explore evidence based alternative methods of delivery to support care home staff and residents if dental workforce shortages result in an inability to recruit the necessary skills. 
- Consider training for care home staff in administering and supporting oral care including an analysis of their training needs. 
- Consider surveying the Gypsy, Roma, and Traveller population to obtain oral health needs and gain an understanding of barriers to oral health provision with the aim of addressing the findings. 
- Consider integrating Oral Health education into key healthy lifestyle services such as the Teen Health Service, Weight Management Services, Healthy Schools Programme, Smoking Cessation Service, Services that address substance misuse. 
- Consider ways to maintain healthy eating education in education settings as a preventative tool to promote oral health and reduce incidents of dental caries. 
- Investigate and consider ways to increase HPV vaccination uptake in eligible pupil populations. 
- Consider the need for more accessible health literacy information (i.e., translated or use of videos) for groups known to be a higher risk of dental caries. 
- Provide up-to-date information on available NHS Dentistry. 
- Investigate current pattern of service use, particularly cross-border flows, and the use of private dentistry. 
- Consider a targeted health promotion for youngest children including a Community Fluoride Varnishing Programme using the principle of universal proportionalism to target children from areas with the highest need to begin with. 
    - To explore evidence-based alternatives to Community Fluoride Varnish that take in account dental workforce shortages. 

- Explore applying to be a ‘super user’ to access more granular data from the results of the National Dental Epidemiology Programme (NDEP) survey to inform health promotion planning for 3- and 5-year-olds. 
- Consider exploring the process for achieving water fluoridation to understand how active local support particularly from Leicestershire County Council and Public Health can be achieved, including how to address misinformation. 
- Continuation of the Leicestershire County Council’s Oral Health Improvement Team provision including supervised tooth brushing and oral health training. 

GLOSSARY OF TERMS

BMI = Body Mass Index

BSA: Business Services Authority

CCG: Clinical Commissioning Group

CDS = Community Dental Service

CI = Confidence Interval

CIN = Children in Need

CIPFA = Chartered Institute of Public Finance and Accountancy

CLA = Children Looked After

DfE = Department for Education

FV = Fluoride Varnish

HES = Hospital Episodes Statistics

HSCIC = Health and Social Care Information Centre

ICB = Integrated Commissioning Board

IMOS = Intermediate Minor Oral Surgery

IoD = Index of Deprivation

LA = Local Authority

LAIT = Local Authority Interactive Tool

LLR = Leicester, Leicestershire and Rutland

LSOA = Lower Super Output Area

MoD = Ministry of Defence

MSOA = Middle Super Output Area

NDEP = National Dental Epidemiology Programme

NHS BSA = NHS Business Services Authority

NHSE = NHS England

OHID = Office for Health Improvement and Disparities

ONS: Office for National Statistics

PHE = Public Health England

SEND = Special Educational Needs and Disabilities

SHAPE = Strategic Health Asset Planning and Evaluation

UDAs = Units of Dental Activity

APPENDIX

Appendix Table 1 Measures of oral health among 3-year-old children - Leicestershire, its statistical (*) and local neighbours, as well as England and the East Midlands (Source: NDEP 2020)

	Leicestershire	Central Bedfordshire *	South Gloucestershire *	Warwickshire*	Leicester	Rutland	East Midlands	England
Mean number of teeth with experience of dental decay in those examined	0.2	0.2	nk	0.1	0.5	0.3	0.3	0.3
Mean number of untreated dental decay in those examined	0.2	0.2	nk	0.1	0.4	0.3	0.2	0.3
Prevalence (%) of experience of dental decay	8.5	6.4	nk	10	16.1	8.4	9.7	10.7
Mean number of teeth with experience of dental decay in those with decay experience	2.7	3	nk	1.2	3	nk	2.8	2.9
Mean number of teeth with untreated dental decay in those with decay experience	2.3	0	nk	0	2.8	nk	2.4	2.6
Mean number of teeth missing due to decay in those with decay experience	0.2	0.02	nk	0	0.1	nk	0.3	0.2
% of 3-year-old with experience of dental decay affecting incisor teeth	2.4	2.7	nk	1.2	7.2	8.4	2.8	3.4
% of 3-year-old children with substantial amount of plaque visible	0.5	3.9	nk	0	1.2	0	0.6	1.9
% of 3-year-old children with pufa	0.3	0	nk	**0**	0.5	0	0.3	0.4

Appendix Table 2 Measures of oral health among 5-year-old children - Leicestershire, its statistical and local neighbours, as well as England and the East Midlands (Source: NDEP 2022)

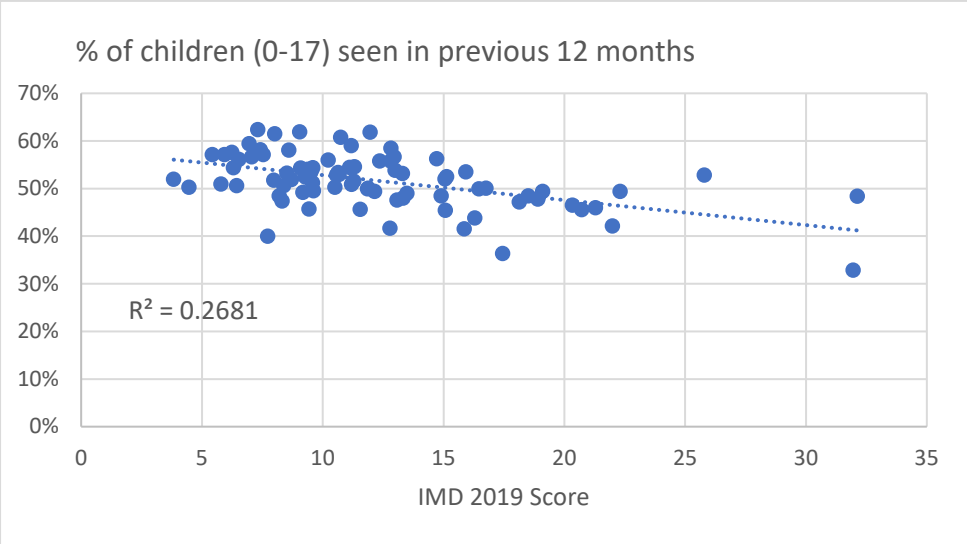
	Leicestershire	Central Bedfordshire	South Gloucestershire	Warwickshire	Worcestershire	Leicester	Rutland	East Midlands	England
Prevalence of experience of dental decay	19.1%	14.0%	17.4%	17.7%	17.6%	37.8%	15.1%	22.3%	23.7%
Mean number of teeth with experience of dental decay	0.5	0.4	0.7	0.5	0.5	1.5	0.4	0.8	0.8
Mean number of teeth with experience of decay in those with experience of dental decay	2.9	3.0	4.1	2.8	3.1	4.1	2.6	3.5	3.5
Mean number of decayed teeth in those with experience of dental decay	2.6	2.5	3.3	2.6	2.7	3.8	2.2	3.1	3.1
Proportion with active decay	17.5%	13.6%	16.2%	16.4%	16.9%	35.8%	14.1%	20.7%	21.8%
Proportion with experience of tooth extraction	0.7%	0.3%	1.3%	0.7%	0.5%	1.5%	0.9%	1.1%	1.6%
Proportion with pufa*	2.9%	0.4%	1.2%	0.2%	0.8%	5.7%	1.8%	2.6%	2.0%
Proportion with teeth decayed into pulp	3.5%	1.3%	1.7%	1.8%	2.5%	10.2%	2.1%	4.5%	4.1%
Proportion with decay affecting incisors	4.3%	2.8%	5.1%	3.4%	3.4%	12.8%	2.2%	5.9%	6.6%
Proportion with high levels of plaque present on upper front teeth	1.5%	0.0%	0.0%	3.9%	1.4%	3.6%	0.5%	1.7%	3.0%

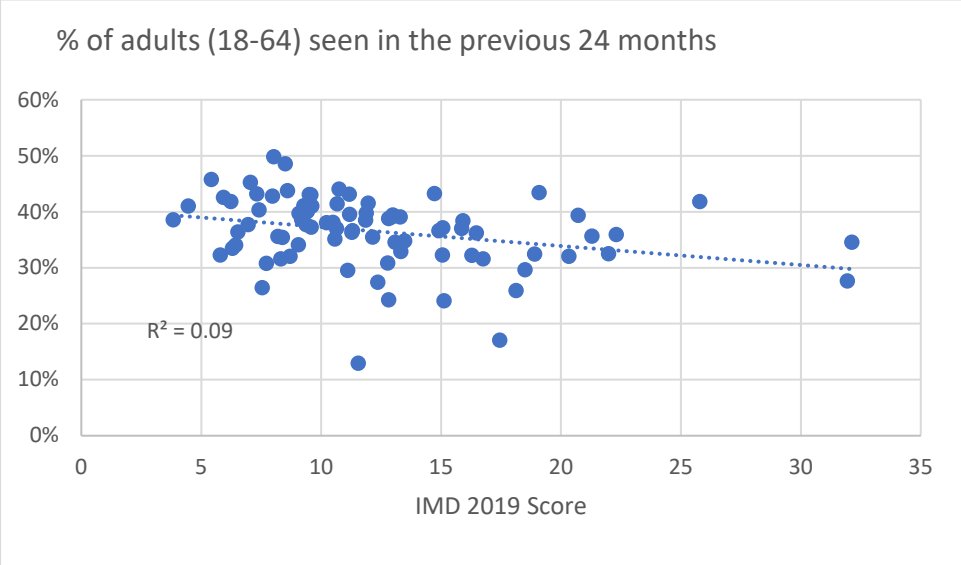
* indicates the presence of either a visible pulp, ulceration, fistula or abscess

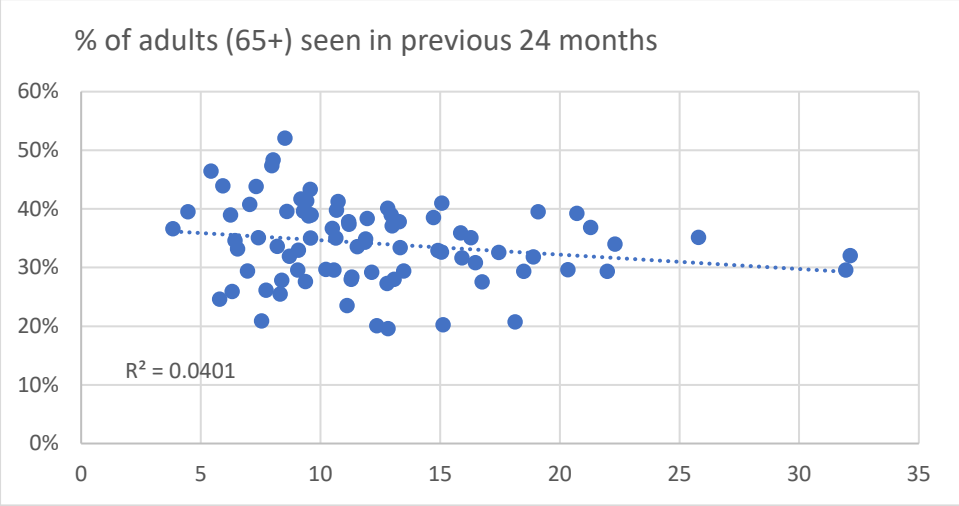
Appendix Table 3 Courses of treatment by patient type in Leicestershire and England, over the course of the last three years (NHS BSA 2022)

	Year	Children (0-17)		Exempt Adults		Non-Exempt Adults	
		Number	%	Number	%	Number	%
Leicestershire	2019/2020	97,545	28.3%	36,459	10.6%	210,440	61.1%
	2020/2021	38,791	29.6%	15,322	11.7%	77,009	58.7%
	2021/2022	77,783	29.6%	28,714	10.9%	155,934	59.4%
England	2019/2020	11,628,279	30.3%	6,027,299	15.7%	20,725,595	54.0%
	2020/2021	3,345,347	27.9%	2,260,561	18.9%	6,378,744	53.2%
	2021/2022	8,070,100	30.6%	4,390,201	16.7%	13,902,459	52.7%

Appendix Figure 1 Correlation between deprivation and access to dental service for children and adults at MSO level in Leicestershire (Source: NHS BSA 2022)







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