Oral Health Needs Assessment Nottingham and Nottinghamshire ICB, May 2024



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Table of Contents

Oral Health Needs Assessment Nottingham and Nottinghamshire ICB

1. Executive summary 4

1.1 Key findings ... 4

1.2 Recommendations ... 8

- Oral health improvement recommendations ... 8
- Dental service commissioning recommendations for Nottingham and Nottinghamshire ICB ... 8

2. Improving Oral Health and Reducing Inequalities 11

2.1 What is oral health ... 11

2.2 The meaning of 'poor oral health' ... 11

2.3 The impact of poor oral health on people ... 12

2.4 The impact of oral diseases on systems ... 13

2.5 The causes of poor oral health ... 14

2.6 Oral health inequalities: who suffers ... 14

2.7 Conclusion ... 16

3. Scope of the Oral Health Needs Assessment 17

4. Introduction 18

4.1 Statutory Background ... 18

4.2 Aim and Objectives ... 19

5. Nottingham and Nottinghamshire ICS 20

5.1 Population demographics for Nottingham and Nottinghamshire ICS ... 21

5.2 Water fluoridation ... 28

5.3 Chapter summary ... 29

6. Oral health of children 30

6.1 Tooth decay ... 30

6.2 Hospital Extraction data ... 35

6.3 Chapter summary ... 37

7. Oral health of adults 38

7.1 Adult oral health surveys ... 38

7.2 Oral cancer ... 39

7.3 Chapter summary ... 42

8. Dental service commissioned activity and delivery 43

8.1 Location of NHS dental practices ... 43

8.2 Courses of treatment delivered 45
8.3 Contract hand-backs 46
8.4 Chapter summary 47
9. NHS Dental service access 48
9.1 Access to care 48
9.2 Reattendance 52
9.3 New patient access 54
9.4 Distanced travelled to access care 56
9.5 Chapter summary 59
10. Service user feedback 61
10.1 GP patient survey 61
10.2 Chapter summary 62
11. Conclusion and recommendations 63
11.1 Recommendations: 63
12. Appendix 1: What works to improve oral health and reduce inequalities? 66
12.1 Improving oral health for individuals vs populations 66
12.2 Moving beyond health education 67
12.3 Focusing upstream 68
12.4 Integrating oral health into other services 68
12.5 Supporting people of all ages 68
12.6 Addressing the risks shared by oral health and general health 69
12.7 Avoiding the high risk approach: proportionate universalism 69
12.8 Commission oral health promotion interventions 70
12.9 Summary of what works to improve oral health 70
13. References 73

1. Executive summary

1.1 Key findings

The data contained in this oral health needs assessment (OHNA) show that across Nottingham and Nottinghamshire there are inequalities in oral health and in the availability and accessibility of NHS dental services.

Access to NHS dental care has improved since the years of the COVID-19 pandemic but has yet to recover to pre-pandemic levels. Certain population groups are less likely to access care e.g., older adults, young adults, those living in the most deprived populations and access is likely to continue to be a challenge as providers "hand-back" contracts.

Key findings of this report are summarised in the table below, by chapter.

Chapter	Key facts and figures
1. Improving oral health and reducing inequalities	This chapter covers: • What do we mean by poor oral health? • What are the impacts of poor oral health on people? • What are the impacts of poor oral health on systems? • What are the causes of poor oral health? Who suffers from oral health inequalities?
2. Scope	The NHS England dental public health team has been commissioned to develop oral health needs assessments (OHNA) for each of the Integrated Care Boards (ICBs) in the East Midlands. The structure and data content of the OHNAs follow a framework which has been agreed across the East Midlands, following feedback from ICB representatives.
3. Introduction	**Aim** • To support commissioning teams with prioritisation and targeting of oral health care provision to reduce inequalities in access to NHS dental care across Nottingham and Nottinghamshire Integrated Care Board. **Objectives** • To describe population demographics, prevalence of oral health disease and oral health inequalities across Nottingham and Nottinghamshire. • To describe the distribution of dental services across Nottingham and Nottinghamshire.

	• To make recommendations to inform commissioning intentions.
4. Nottingham and Nottinghamshire ICS	• Nottingham and Nottinghamshire ICS geography is made up of one city and several towns and villages. It also covers large areas which are rural where population density is lower. • The total population in Nottingham and Nottinghamshire ICS is 1,148,454 (2021). • Population density varies throughout Nottingham and Nottinghamshire ICS. The most densely populated area is Nottingham City. The least densely populated district is Bassetlaw. • Population growth throughout the ICS is predicted to be around 5%, between now and 2032. The highest population growth, of 8.5%, is predicted in Rushcliffe. • Nottingham and Nottinghamshire ICS covers a diverse area. The greatest ethnic diversity is in Nottingham City where approximately 34% of the population belong to non-white groups.
5. Oral health of children	• The proportion of 5-year-old children in Nottingham City and Nottinghamshire affected by tooth decay has reduced slightly over the last five survey years (2012-2022). • There is variation across the ICB area in the decay experience of 5-year-olds in children with the highest proportion of children affected in Nottingham City (34%) and the lowest in Rushcliffe (10%). • Not all children with decay are affected equally. Children in Mansfield had the most teeth affected (4.0 teeth) and Bassetlaw the lowest (2.5 teeth). • As deprivation increases so does decay experience (national data). • Decay-related hospital extraction rates for children were nearly three times higher for those living in the most deprived communities than those in the most affluent (national data).
6. Oral health of adults	There are limited data available on the oral health of adults in Nottingham City and Nottinghamshire.

	The best available data show that: • Almost one third (32%) of adults in the East Midlands had tooth decay. • One in ten adults were in pain because of their teeth. • A quarter of the surveyed population reported only attending the dentist when they have problems. • The incidence of oral cancer in the East Midlands is similar to the England average. • Within the ICB Nottingham City has the highest incidence of oral cancer and the highest mortality rates.
7. Dental service commissioned activity and delivery	Dental practices in Nottingham City and Nottinghamshire are mainly located in areas of high population density, in the west of the county. The number of UDAs delivered in Nottingham City and Nottinghamshire has increased since the hight of the pandemic but has not recovered to pre-pandemic levels. In the financial year 2022/23: • 1,973,989 UDAs were commissioned from practices in Nottingham City and Nottinghamshire. • There were 3.4 UDAs delivered per unique patient seen in Nottingham City and Nottinghamshire. • There were 1.72 UDAs commissioned per head of population in Nottingham City and Nottinghamshire • The greatest number of courses of treatment were for band 1 treatments • There was a total reduction of 63,615 UDAs in Nottingham City and Nottinghamshire between 2018 and December 2023. It is estimated that this equates to a reduction in access for 18,710 patients.
8. NHS dental service access	• Access to primary care dental services has decreased, for both adults and children, since pre-pandemic in all areas of England, including Nottingham City, Nottinghamshire and the rest of the East Midlands. • The number of patients seen in Nottingham and Nottinghamshire 2022/23 was approximately 88% of pre-pandemic levels. • Access to care is lowest in the most deprived populations and greatest in the least deprived populations.

	• Higher levels of access are seen in children compared to adults in all districts • Highest levels of access are seen in Gedling (31%) and the lowest in Nottingham City (21%) • For adults the rates of access to care were lower than the national average in Mansfield and Nottingham City. • For children the rates of access to care were lower than the national average in Ashfield. • Ashfield has seen the largest decrease in access since the pandemic for both adults (10%) and children (10%). • The lowest decrease in access was seen in Nottingham City for adults (4%) and in Rushcliffe for children (3%). • For new patients, access is greatest for those in the most deprived populations (who are likely to have greatest need). • The most frequent reattendance interval, regardless of band of treatment provided, is 3-9 months. • The average distance travelled to access NHS dental care was 5.2 km. • Most of the population has access to services within a 4 mile radius. This does not however, guarantee that these practices are accepting new patients or even that they offer NHS care as this dataset includes private practices. • Some areas of the county do not have services available within a 4 mile radius. • Rural areas, particularly in the northeast of the county have no dental services within this distance. Another important exception is the area covering Woodbeck, Treswell, Cottam and South Leverton in Bassetlaw which is where some of the 20% most deprived groups live.
9. Service user feedback	• Access to NHS dental care in Nottingham City and Nottinghamshire continues to be an issue for some of the population. • Of those who had tried to get an NHS dental appointment, in the last 3 months, approximately three quarters were successful. • Those who had not been seen previously by the practice were least successful in getting an appointment. • A proportion of the population do not access dental care because they do not think they need it.

1.2 Recommendations

This OHNA makes a number of recommendations which should feed into dental commissioning strategies and oral health improvement interventions.

The recommendations have been divided into oral health improvement and dental service commissioning.

- ### Oral health improvement recommendations

1. The local authorities should continue to commission the National Dental Epidemiology Programme surveys so that oral health improvement and inequalities can be measured.

2. The local authorities should consider commissioning enhanced sampling for future epidemiology surveys or commissioning of a census survey for Nottingham/Nottinghamshire. This would enable a more robust assessment of the oral health of children in the county and a comparison of the oral health of children in fluoridated and non-fluoridated areas of the county.

3. The ICS should continue to pursue expansion of water fluoridation in Nottingham/Nottinghamshire.

4. The Local Authorities, ICB and NHS should ensure that there is investment into oral health improvement interventions across the ICB region which will improve oral health and reduce inequalities.

- ### Dental service commissioning recommendations for Nottingham and Nottinghamshire ICB

1. Based on the current rates of access for adults and children and the levels of decrease in access since 2019; the district priority order for increasing access to primary care dental services should be:
    - Ashfield and Nottingham City
    - Mansfield
    - The districts of Rushcliffe, , Broxtowe, Newark and Sherwood
    - Bassetlaw, particularly the area covering Woodbeck, Treswell, Cottam and South Leverton in Bassetlaw
    - Gedling
2. Within each district the following population groups should be a commissioning priority:
    - New patients

- Those from lower socio-economic populations
- Young adults
- Young children
- Older adults
- Adults and children from the 20% most deprived as well as inclusion groups, particularly those identified by the ICB through the Core 20 plus 5 inequalities agenda

5. When considering where to locate services the cost of travel to the service should be considered. Where possible services should be located so that patients less able to travel are able to easily access care. Where this is not possible (e.g., rural areas) services should be situated in locations which are well served by affordable public transport or alternative options should be considered e.g., the commissioning of outreach services.

6. When considering the location and design of services maximising access for rural populations should be considered.

7. Commissioners should ensure that services offer appointments for new patients and that not having attended the practice previously is not a barrier to care.

8. An action plan should be developed and delivered, with the aim of minimising future contract hand-backs.

9. Commissioners should work with providers and stakeholder groups to maximise capacity by aligning reattendance intervals to NICE guidance.

10. Ensure that accurate information on which practices are accepting new patients and/or offering urgent care is easily accessible. Ideally this information should be held in a variety of locations including non-electronic formats. Patients should not have to trawl through multiple practices' websites/information to access it.

11. Services should offer a range of appointment times which are suitable for patients who find it difficult to take time off work to access care.

12. Consideration should be given to how services are delivered. If services continue to be delivered in the same way as they are currently then inequalities in access will not improve. Reducing inequalities may mean delivering the service in a different way e.g., drop-in appointments, e-consultations, domiciliary care.

13. A stakeholder engagement exercise should be carried out to understand better what needs to change about how services are delivered to ensure that services are accessible to those with greatest need and those currently less likely to access care. For example, a stakeholder engagement exercise would help understand why young adults and new patients in IMD group 7 are less likely to access care.

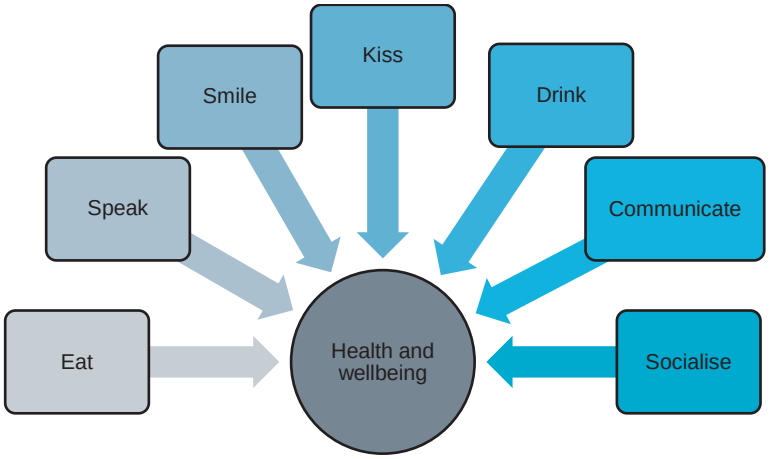
2. Improving Oral Health and Reducing Inequalities

2.1 What is oral health

Oral health is vital for overall health and wellbeing throughout our lives. Despite being almost entirely preventable, poor oral health and its associated inequalities remain a significant public health issue in Nottingham and Nottinghamshire ICB and across the East Midlands.

We use our mouths constantly, both to communicate with others and to nourish our bodies with food and drink (figure 1). How our mouths look and feel affect our confidence, our self-esteem and ability to communicate. In short, having a healthy mouth is fundamental to our ability to stay nourished and hydrated and engage fully in our lives.

Figure 1. How we use our mouths to contribute to our health and wellbeing



Oral diseases are largely preventable but are still among the most commonly found chronic diseases.[1] They place a significant burden on both society and individuals.

This needs assessment highlights stark inequalities in oral health across various life stages and clinical indicators, such as tooth decay and oral cancers. These inequalities are evident by deprivation, geographic area, and age.

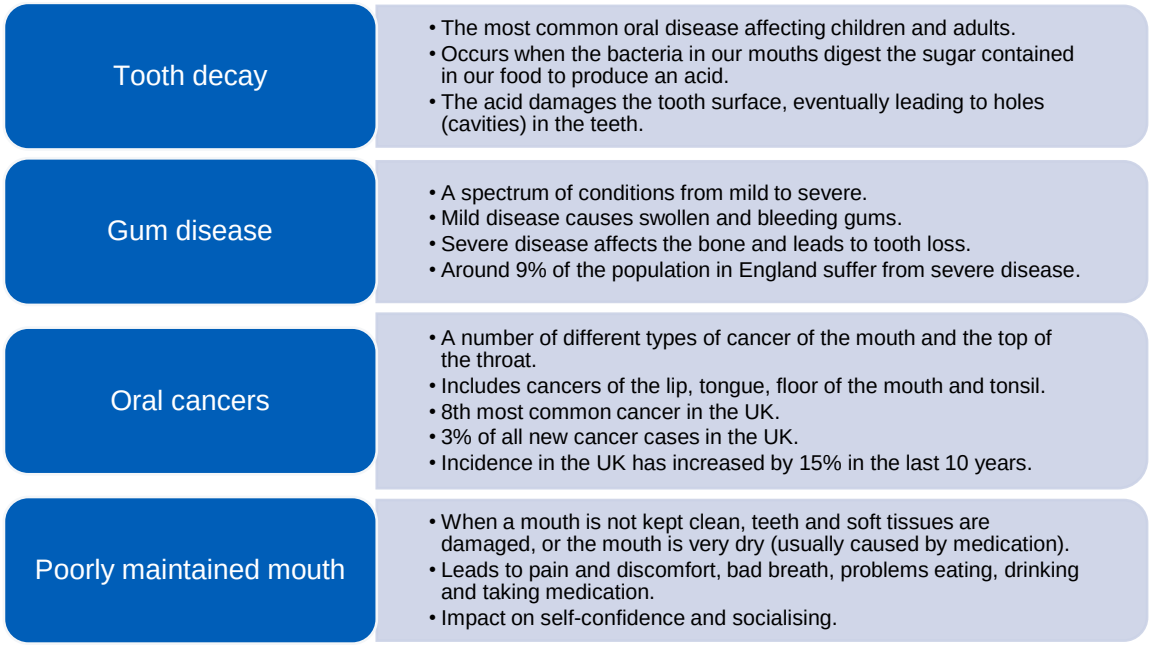
Addressing oral health inequalities is a legal duty for both Integrated Care Boards (ICBs) and local authorities. Reducing oral health inequalities benefits the entire system, contributing to efficient use of resources, general health and wellbeing, quality of life and the ability to live independently as we age.

2.2 The meaning of 'poor oral health'

Poor oral health occurs when we experience diseases of the mouth, like tooth decay, gum disease and oral cancers. However, poor oral health can also occur when our mouths are in poor condition, which may or may not coincide with a disease (figure 2). This can happen when someone's mouth gets too dry (e.g. when an older person is taking multiple medications), when our mouths are not kept clean or with even minor injuries (e.g. broken teeth rubbing against the gum causing ulcers). These apparently

small issues can have a major impact on someone who is already burdened and finds themselves struggling to eat, drink or take their medications.

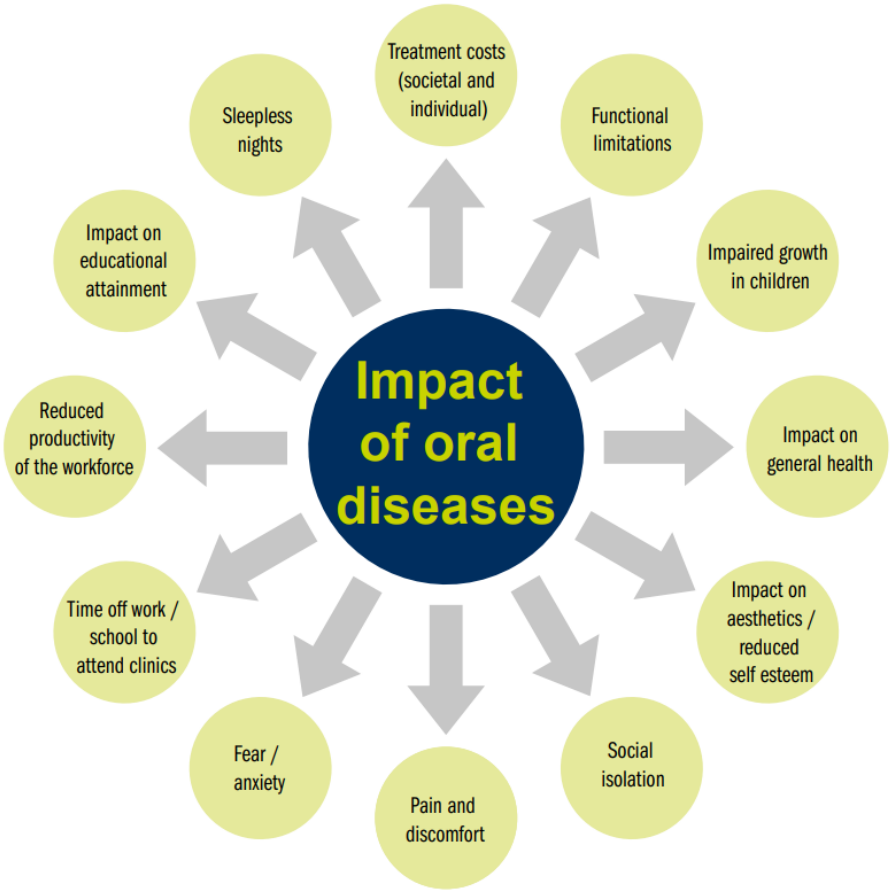
Figure 2. Some of the diseases and conditions that affect oral health



2.3 The impact of poor oral health on people

Oral diseases can have serious consequences for children, adults, families and society. The impacts of oral diseases are multiple, affecting both physical and psychological wellbeing (figure 3).

Figure 3 The impacts of oral diseases on people



Source: Social Inequalities in oral health: from evidence to action, University College London, 2015

2.4 The impact of oral diseases on systems

At a system level, the more people suffering with oral conditions, the more demand there will be for dental services, urgent and emergency services and wider health and social care services. This is because of the direct impacts of oral diseases, the impacts of oral diseases on general health and the indirect impacts of poor oral health on people and families.

Oral diseases directly affect the need for general dental care as well as specialist dental care (often hospital based). Treating oral diseases is expensive. It has been estimated that is costs £2.25 billion per annum in the NHS alone.

Oral diseases also affect general health. Systemic diseases like diabetes can affect the mouth and poor oral health often affects the rest of the body. The impacts range from malnutrition and dehydration to pneumonia and failure of children to thrive.[2,37]

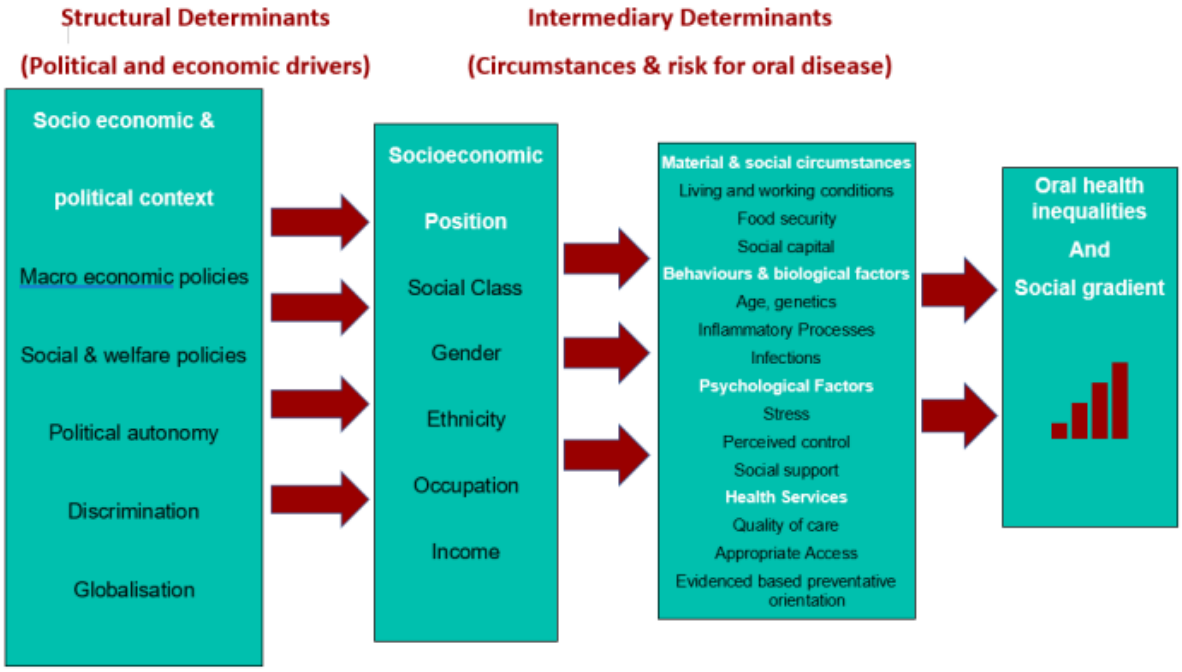
The indirect impacts of poor oral health, like time off work, day missed from school and social isolation can also have a significant social and economic impact on individuals and families which, in turn, affects their quality of life and well-being.

Investment in oral health therefore has the potential to have wide reaching benefits. For example, when older adults with complex needs have a healthy mouth they are better able to eat and drink properly, recover from illness and take part fully in their life. This means people can stay independent for longer and are better able to recover from episodes of crisis or frailty.[2]

2.5 The causes of poor oral health

It has been traditionally assumed that oral diseases are caused by people's behaviours, such as eating too much sugar, not visiting a dentist or brushing their teeth infrequently. We now know however, that these behaviours are only partly controlled by personal choice: choices are also made in response to complex social, economic and environmental conditions. This means that the circumstances in which people live and work have a profound effect on their oral health (figure 4).

Figure 4 The broad range of causes of poor oral health

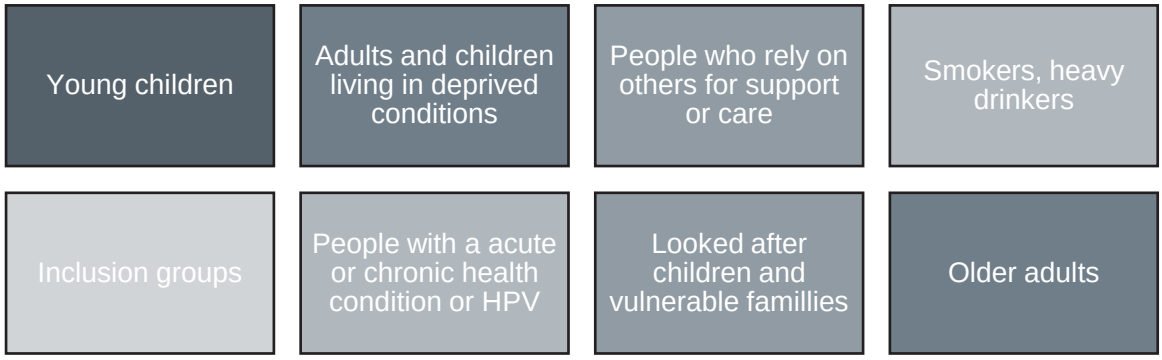


Source: Watt, RG. Sheiham, A. (2012). Integrating the common risk factor approach into a social determinants framework. Community Dentistry and Oral Epidemiology 40, 289 to 296.

2.6 Oral health inequalities: who suffers

While there have been major improvements in oral health over the last 50 years it is not all good news. People from the most disadvantaged backgrounds carry a greater burden of disease and are less likely to receive treatment. Some of the population groups that are at greatest risk of poor oral health are listed in figure 5.

Figure 5 People who are at higher risk of poor oral health



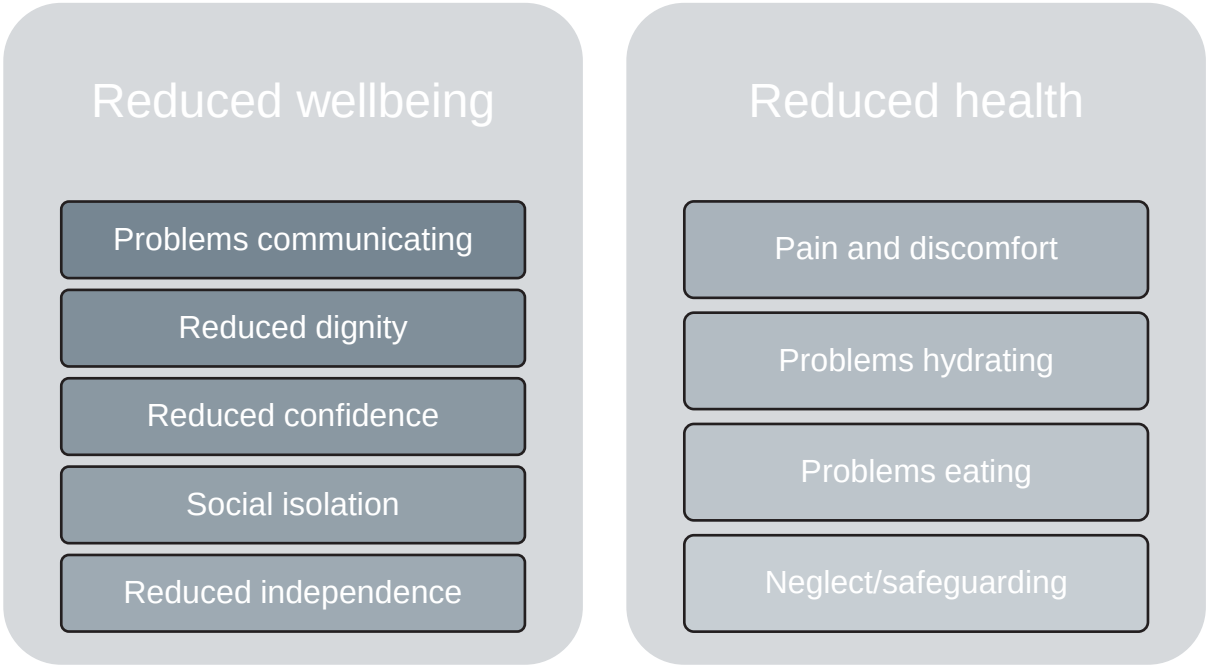
Systematic reviews have consistently shown associations between socioeconomic disadvantage and poorer oral health (in relation to tooth decay, oral cancers, oral health related quality of life).[3,4,5,6] There is 'clear and consistent evidence of social gradients in the prevalence of dental conditions, impact of poor oral health and service use'.[7]

There is research to suggest that vulnerable populations, like travellers, people in contact with the justice system, looked after children and people living with homelessness, have considerably poorer oral health and face substantial barriers to accessing dental care.[8]

There is little data or research on oral health in relation to the protected characteristics (including ethnicity, religion, sexual orientation and disability).[8] The evidence we do have suggests that the population groups that carry the greatest burden of oral diseases are usually vulnerable or disadvantaged in other ways.

Some of the ways in which poor oral health affects vulnerable people are listed in figure 6.

Figure 6 How oral diseases affect vulnerable people



2.7 Conclusion

Oral health is integral to our health and wellbeing. A number of conditions affect our oral health and these have a cost, whether that be the obvious cost of treatment or the hidden cost of untreated disease and its impacts. This means that oral health has a substantial impact on people's ability to live a full life as well as on our health and social care systems. There is strong evidence about what we can do to improve oral health and reduce oral health inequalities for our population. This is summarised in Appendix 1.

3. Scope of the Oral Health Needs Assessment

The NHS England dental public health team has been commissioned to develop oral health needs assessments (OHNA) for each of the Integrated Care Boards (ICBs) in the East Midlands. The structure and data content of the OHNAs follow a framework which has been agreed across the East Midlands, following feedback from ICB representatives.

The primary audience for these OHNAs is NHSE and ICB representatives. The OHNAs will be used by dental commissioners to inform a dental commissioning strategy for primary care dental services. The needs assessments may also be useful for the Integrated Care Partnership organisations to support the delivery of health strategies such as joint health and wellbeing strategies.

The OHNA contains the latest data which were available at the time of writing. Where possible the financial year 2022/23 (latest year for which full data are available) has been used or if more recent data are available then these have been used.

This needs assessment does not contain information on private dental services. This is because there is no single repository of data on dental care provided on a private basis. To obtain the information would involve contacting every individual private practice to request data, which is not feasible at this time.

4. Introduction

An oral health needs assessment is a tool for identifying the oral health needs and oral healthcare needs of a population. It should be used to inform the targeting of resources towards improving the oral health of those at specific risk of poor oral health[9]. An OHNA establishes and describes the oral health of a population, ascertains their needs, analyses the data for services commissioned to meet these needs, identifies gaps in provision and identifies key issues.

The structure and content of OHNAs will vary depending on local circumstances. A "one size fits all" approach is not appropriate. The conduct of an OHNA is a process which should be on-going and circular in nature. This OHNA describes the oral health need at a point in time using the latest data from recognised sources and makes recommendations based upon the available data and evidence. It should be refreshed on a regular basis as part of the evaluation of the impact of actions taken as a result of the OHNA.

The development of this OHNA enables Nottingham/Nottinghamshire ICB to meet the recommendation made by the Health Select Committee that *"by the end of July 2024, every ICB should have undertaken an oral health needs assessment[10]".*

4.1 Statutory Background

Since 1st April 2013, when the Health and Social Care Act 2012 came into force, the responsibility for oral health has been split between two organisations:

Integrated Care Boards: In 2023, these took over the responsibility for commissioning of dental services from NHS England.

Local Authorities: Have statutory responsibilities[11]:

(2) A local authority shall provide, or shall make arrangements to secure the provision of, the following within its area—

(a) to the extent that the authority considers appropriate for improving the health of the people in its area, oral health promotion programmes;

(b) oral health surveys to facilitate—

(i) the assessment and monitoring of oral health needs,

(ii) the planning and evaluation of oral health promotion programmes,

(iii) the planning and evaluation of the arrangements for provision of dental services as part of the health service, and

(iv) where there are water fluoridation programmes affecting the authority's area, the monitoring and reporting of the effect of water fluoridation programmes.

(3) The local authority shall participate in any oral health survey conducted or commissioned by the Secretary of State under paragraph 13(1) of Schedule 1 to the 2006 Act (powers in relation to research etc.) so far as that survey is conducted within the authority's area.

4.2 Aim and Objectives

The aim and objectives of this oral health needs assessment are:

Aim

- To support commissioning teams with prioritisation and targeting of oral health care provision to reduce inequalities in access to NHS dental care across Nottingham/Nottinghamshire Integrated Care Board.

Objectives

- To describe population demographics, prevalence of oral health disease and oral health inequalities across Nottingham/Nottinghamshire.
- To describe the distribution of dental services across Nottingham/Nottinghamshire.
- To make recommendations to inform commissioning intentions.

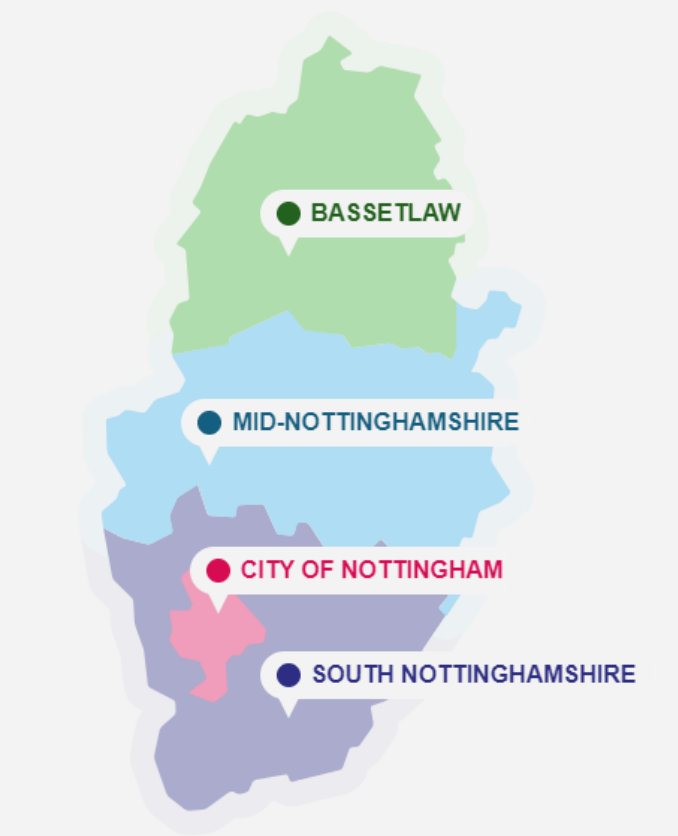
5. Nottingham and Nottinghamshire ICS

The Health and Care Bill 2022 created Integrated Care Boards (ICBs) as replacements for Clinical Commissioning Groups. The Bill established in law the role of Integrated Care Partnerships as the committee where health, social care, the voluntary sector and other partners come together as an Integrated Care System (ICS).

The Nottingham and Nottinghamshire ICS covers a diverse population of over one million people living in the City of Nottingham and Nottinghamshire County. Initially the ICS did not include Bassetlaw but following the boundary changes announced by the government in 2021, Bassetlaw was brought into the Nottingham and Nottinghamshire Integrated Care System from 1 July 2022.

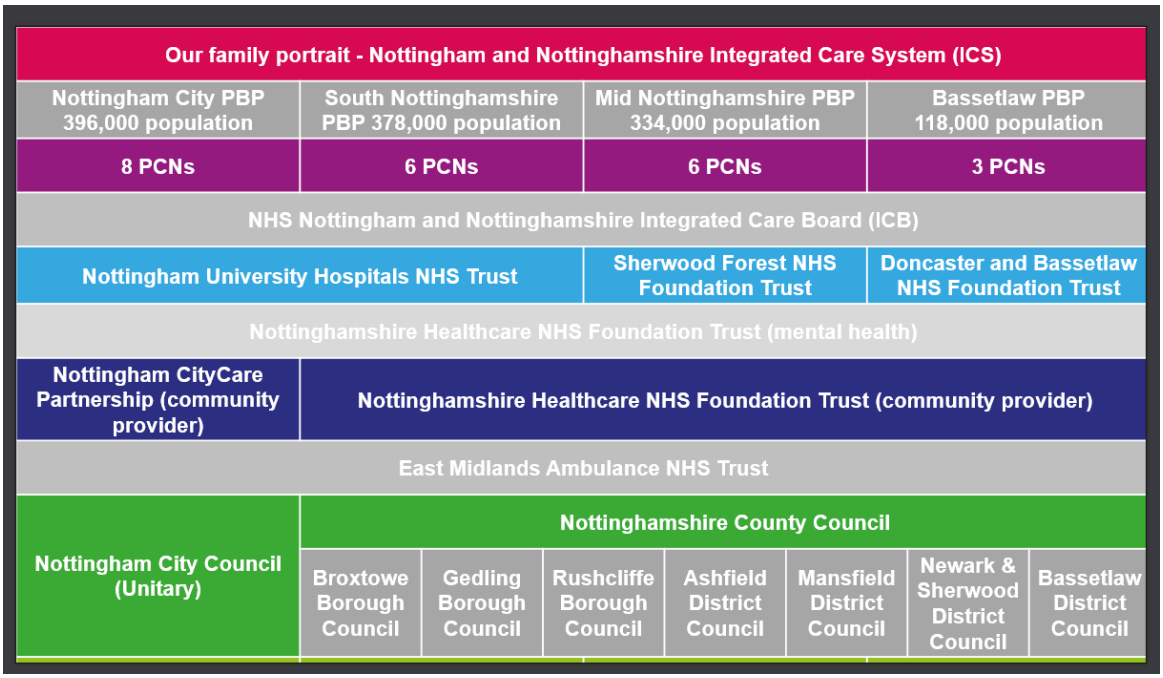
Nottingham and Nottinghamshire ICS is divided into four place-based partnerships (PBP) (map 1).

Map1. Footprint of Nottingham and Nottinghamshire ICS place-based partnerships



The ICS footprint covers the population of Nottingham City and Nottinghamshire County Councils and the seven lower tier local authorities which sit within it (figure 2[12]). Within the ICS there are four PBPs, twenty-four primary care networks and a number of key providers of services.

Figure 2. Geography and key stakeholders in Nottingham and Nottinghamshire ICS*

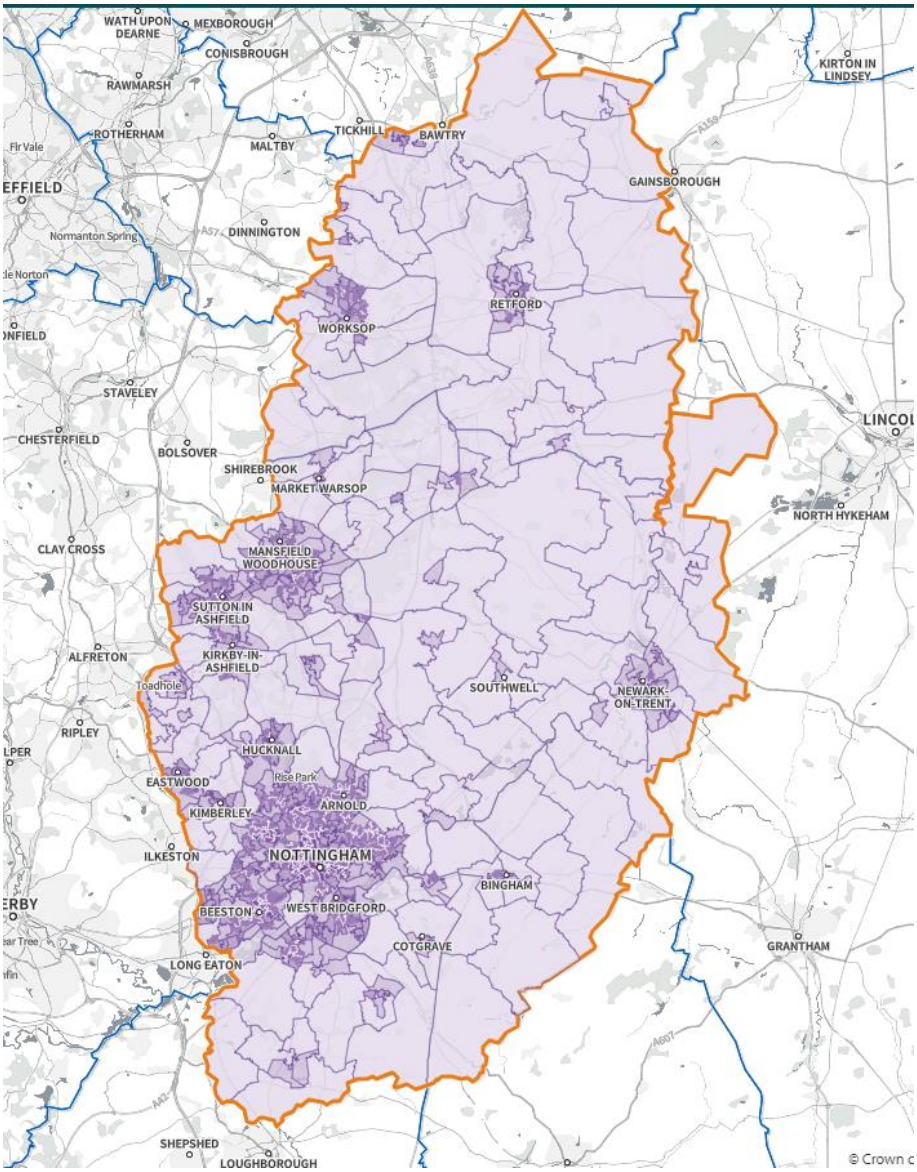


* Since April 2024 there have been 9 PCNs in Nottingham City

5.1 Population demographics for Nottingham and Nottinghamshire ICS

Nottingham and Nottinghamshire ICS geography is made up of one city and a number of towns and villages, where the population density is greatest. It also covers large areas which are rural where population density is lower (map 2).

Map 2. Population density of Nottinghamshire ICS (areas of greatest population density are shown as darker purple).



The population covered by Nottingham and Nottinghamshire ICS, broken down by district, is shown in table 1.

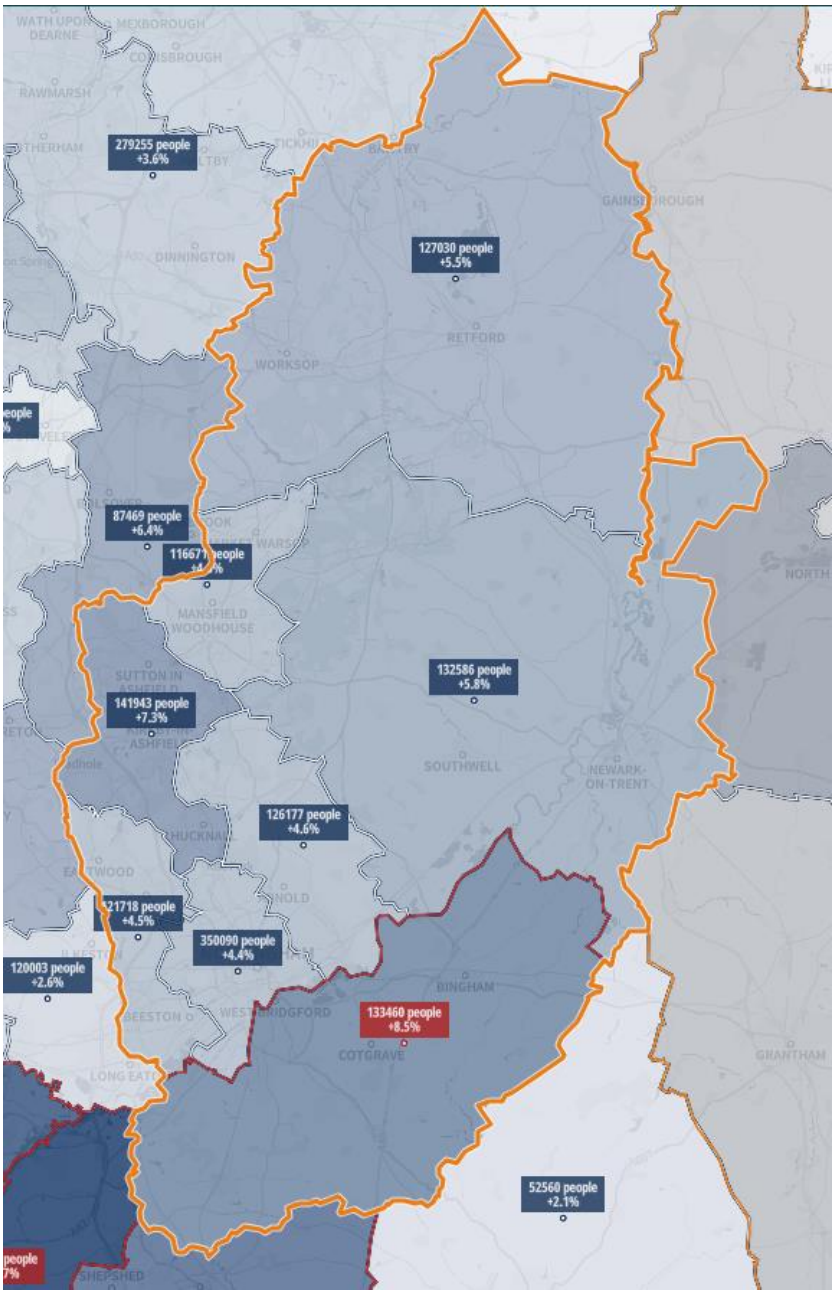
Table 1. Population covered by Nottingham and Nottinghamshire ICS by lower tier local authority.

District/unitary	Population density (km^2)	Population (2021)
Ashfield	1,153	126,300
Bassetlaw	184.7	117,804
Broxtowe	1,385	110,940
Gedling	977.4	117,263
Mansfield	1,440	110,482
Newark and Sherwood	188.8	122,956
Nottingham City	4,338	323,632
Rushcliffe	291.0	119,077
Total		1,148,454

Expected population growth

The population of Nottingham and Nottinghamshire is not static and it is expected to increase over the next eight years. The predicted population growth is not uniform across the county. The south of Nottinghamshire is predicted to have the highest increase at 8.5% (map 3.)

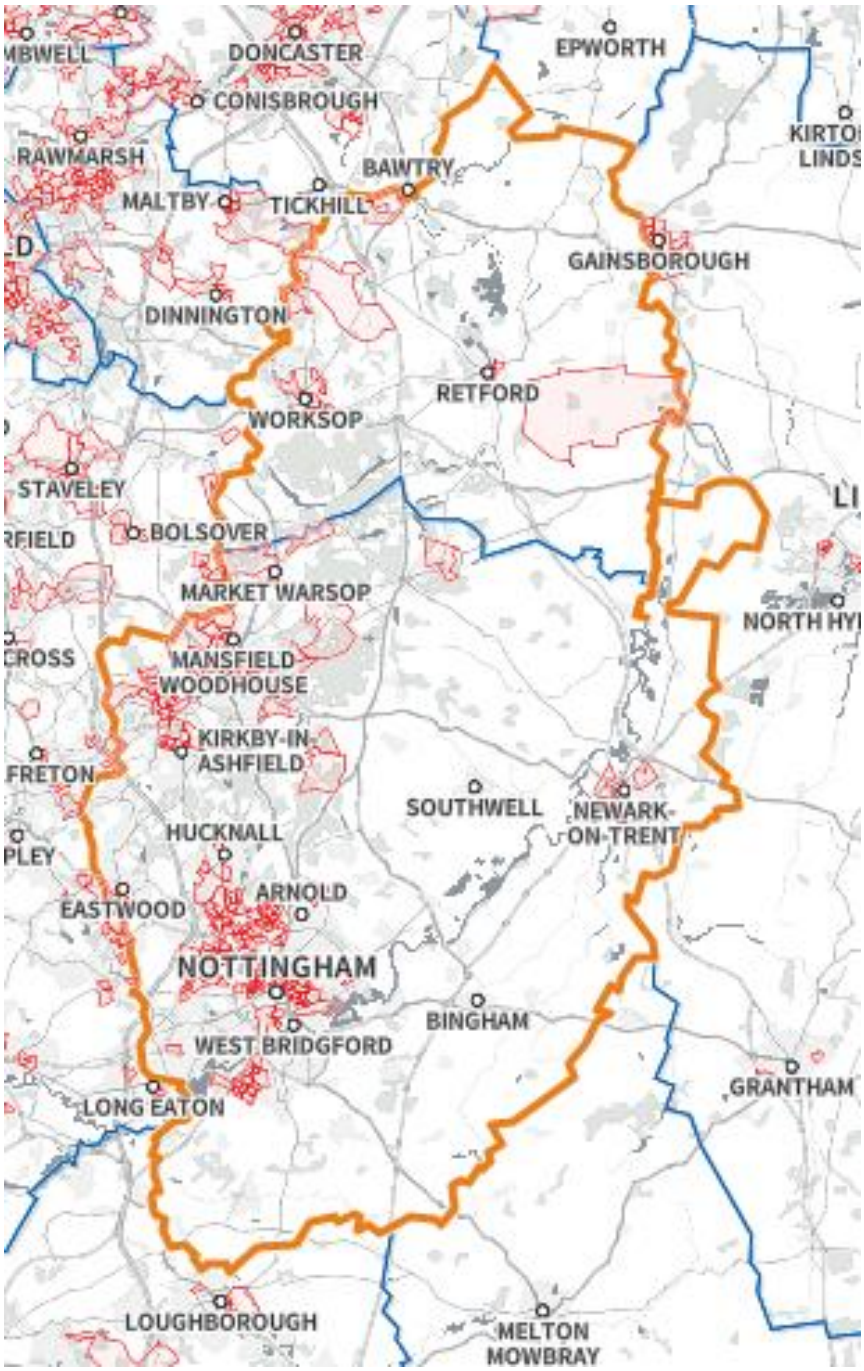
Map 3. Predicted population growth in Nottingham City and Nottinghamshire, by 2032 (darker shading denotes greater predicted population increase).



Deprivation

Map 4 is a map of Nottingham City and Nottinghamshire with the most deprived areas shown in red and the least deprived in blue. The most deprived areas are to be found in Nottingham City, Mansfield and Ashfield. The least deprived areas are found in Collingham, Southwell and to the south of Nottingham City.

Map 4. Map of Nottingham and Nottinghamshire, showing the 20% most deprived areas in red.[13]



Ethnic groups in Nottinghamshire

The Equality Act 2010 protects against race discrimination and this refers to discrimination because of colour, nationality, national origin and ethnicity. Ethnicity and national identity are self-defined. Overall, the population of Nottinghamshire predominantly identifies as white but within each local authority area the ethnic breakdown of the population varies considerably (table 2). Nottingham City has the greatest proportion of the population who identify as being from a non-white background.

Table 2. Ethnic population breakdown by district (ONS 2021 Census data).

ICS PBP	Local Authority	Population breakdown by ethnicity
South Nottinghamshire	Broxtowe Borough Council	5.5% Asian 1.7% Black 2.5% Black 88.9% White 1.3% Other
	Gedling Borough Council	3.9% Asian 2.3% Black 3.5% Mixed 89.5% White 0.9% Other.
	Rushcliffe Borough Council	5.7% Asian 0.9% Black 2.8% Mixed 89.7% White 0.9% Other
City of Nottingham	Nottingham City Council	14.9% Asian 10% Black 5.9% Mixed 65.9% White 3.3% Other
Mid Nottinghamshire	Mansfield District Council	2.0% Asian 1.1% Black 1.4% Mixed 94.8% White 0.7% Other
	Newark and Sherwood District Council	1.1% Asian 0.7% Black 1.5% Mixed 96.3 White 0.4% Other
	Ashfield District Council	1.6% Asian, 1.2% Black 1.6% Mixed 95.1% White 0.4% Other
Bassetlaw	Bassetlaw District Council	1.2% Asian 0.6% Black 1.2% Mixed 96.4% White 0.5% Other

The ethnic breakdown of the population is important as ethnicity can play a part in oral health inequalities. Table 3 describes the evidence for the relationship between ethnicity and oral health.

Table 3. Relationship between ethnicity and oral health

Outcome/disease	Evidence for inequalities in relation to ethnicity
Tooth decay	Children: Some evidence for higher levels of tooth decay among Asian and Eastern European White groups compared to other White children, but some inconsistencies and limited data available. Adults: Some evidence for lower decay levels among Asian and Black ethnic groups, compared to White groups.
Periodontal disease	Inconclusive; limited data available.
Tooth loss	Some evidence that tooth loss and edentulousness rates are higher among Whites than among ethnic minority groups, possibly with the exception of Black ethnic groups but limited data available.
Oral cancer	Some evidence that South Asian women have higher risk of oral and pharyngeal cancers than White women. Evidence for men is inconclusive.
Odontogenic infections	No data
Traumatic dental injuries	Limited data
Oral Health Related Quality of Life (OHRQoL)	Some evidence for poorer OHRQoL among Black ethnic groups than among Whites, partly explained by differences in socioeconomic position but limited data available.
Oral Health related behaviours	Inconclusive; limited data available.
Service use	Some evidence but inconsistent

5.2 Water fluoridation

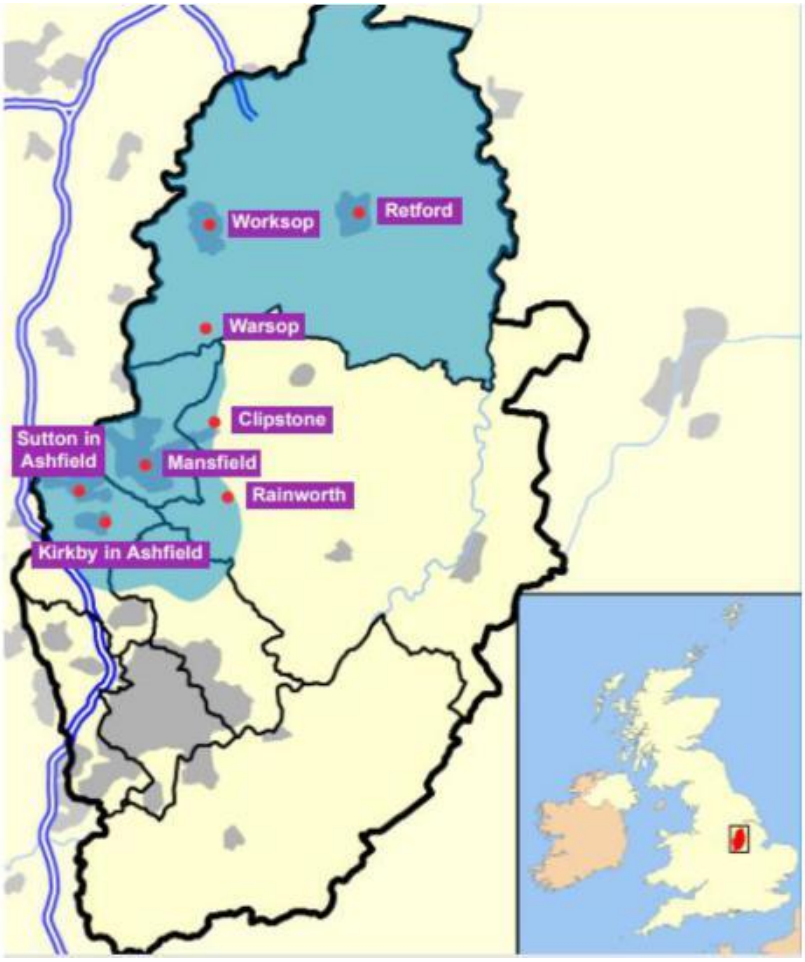
Nottinghamshire has some areas of the county which have water fluoridation schemes. Fluoride occurs naturally in the environment and is present in water and some foods in varying concentrations. In some areas with low natural fluoride levels, fluoride is added to public drinking water to improve dental health – a water fluoridation scheme.

In England, around 10% of the population receives public drinking water served by a fluoridation scheme. Water fluoridation schemes aim to achieve a level of 1mg of fluoride per litre of water. World Health Organization (WHO) guidance recommends a maximum concentration of fluoride in public water supplies of 1.5mg/l, this being protective against any known harmful effect over a lifetime of consumption.

The protective effect of water fluoridation on dental caries is well established. Dental caries, also known as dental or tooth decay, is a disease that affects people at all life stages and affects both primary (baby) and permanent (adult) teeth. Sizeable inequalities in the prevalence of dental caries exist between affluent and deprived communities, and it is a common cause of hospital admissions in children.[14]

About 287,000 people[15] are supplied with fluoridated water in northern and western areas of Nottinghamshire. Fluoridated communities include Worksop, Retford, Mansfield, Sutton in Ashfield and Kirkby in Ashfield (map 5). These fluoridation schemes were initiated in the mid-1970s.

Map 5. Extent of water fluoridation schemes in Nottingham and Nottinghamshire[16]



5.3 Chapter summary

- Nottingham and Nottinghamshire ICS geography is made up of one city and a number of towns and villages, where the population density is greatest. It also covers large areas which are rural where population density is lower.

- The total population in Nottingham and Nottinghamshire ICS is 1,148,454 (2021).

- Population density varies throughout Nottingham and Nottinghamshire ICS. The most densely populated area is Nottingham City. The least densely populated district is Bassetlaw.

- Population growth throughout the ICS is predicted to be around 5%, between now and 2032. The highest population growth, of 8.5%, is predicted in Rushcliffe.

- Nottingham and Nottinghamshire ICS is a diverse area. The greatest ethnic diversity is in Nottingham City where approximately 34% of the population belong to non-white groups.

6. Oral health of children

There has been a significant decrease in tooth decay and improvements in oral health in children over the past 40 years. However, a substantial proportion of children still experience high levels of oral disease. This chapter describes the data relating to tooth decay in children using national and local oral health survey data.

6.1 Tooth decay

A commonly used indicator of experience of tooth decay, the dmft index, is obtained by calculating the average number of decayed (d), missing due to decay (m) and filled due to decay (f) primary teeth (t) in a population. In five-year-old children, this score will be for the primary teeth and is written using lower case letters. In 12-year-old children survey results report tooth decay in the adult or permanent teeth and upper-case letters are used (DMFT).

An indicator used as a proxy for prevalence of tooth decay is the proportion of children with dmft>0. This gives the proportion of children with obvious tooth decay experience.

The Office of National Statistics decennial surveys of the oral health of children have been undertaken on a ten-yearly cycle since 1973. The last national children's survey in 2013 demonstrated a continuing decline in decay experience in the permanent teeth of 12 and 15-year-old children. However, these decennial surveys do not provide data at an ICS or district level.

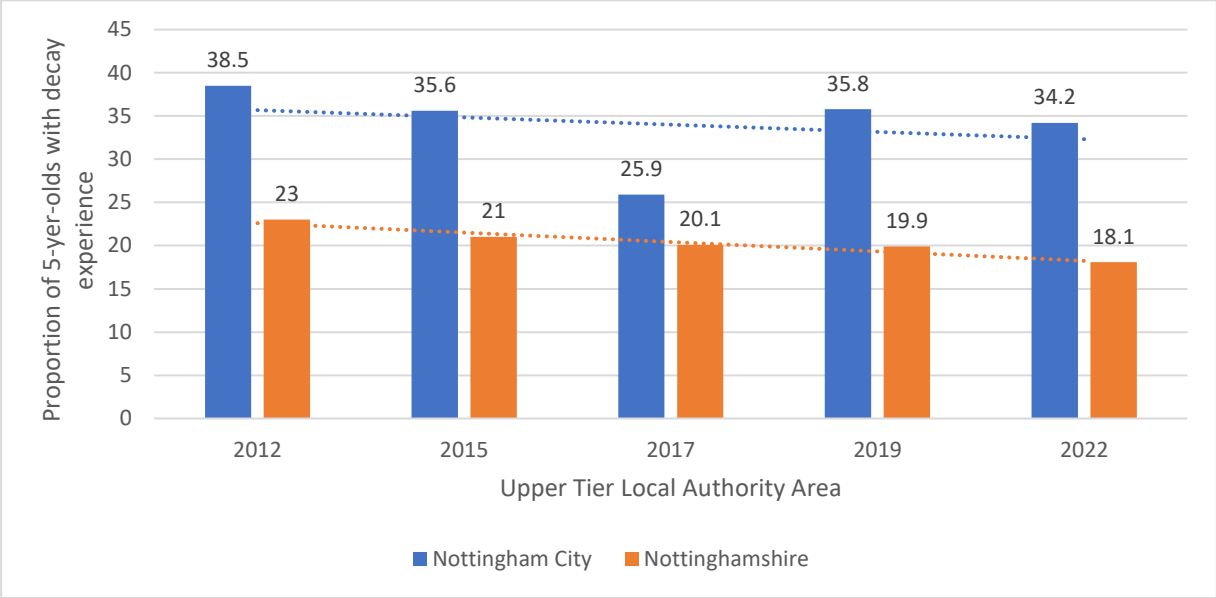
The presence of decay in 5-year-olds is of significance as:

- It is a predictor of decay in later life.
- Prevalence is correlated with deprivation.
- It supports the need for early intervention and oral health promotion interventions at individual and community level.

Trend data

National Dental Epidemiology Programme (NDEP) surveys are carried out every year with 5-year-olds examined every 2 years. The methods and standards used in these surveys are the same, facilitating the comparison of results over time. Figure 3 shows the proportion of 5-year-old children in Nottingham City and Nottinghamshire with decay experience by NDEP[17] survey year. The data show that tooth decay in this age group, across all survey years, is more prevalent in Nottingham City than Nottinghamshire. It also suggests that the proportion of children with decay experience has decreased slightly over the last 5 surveys.

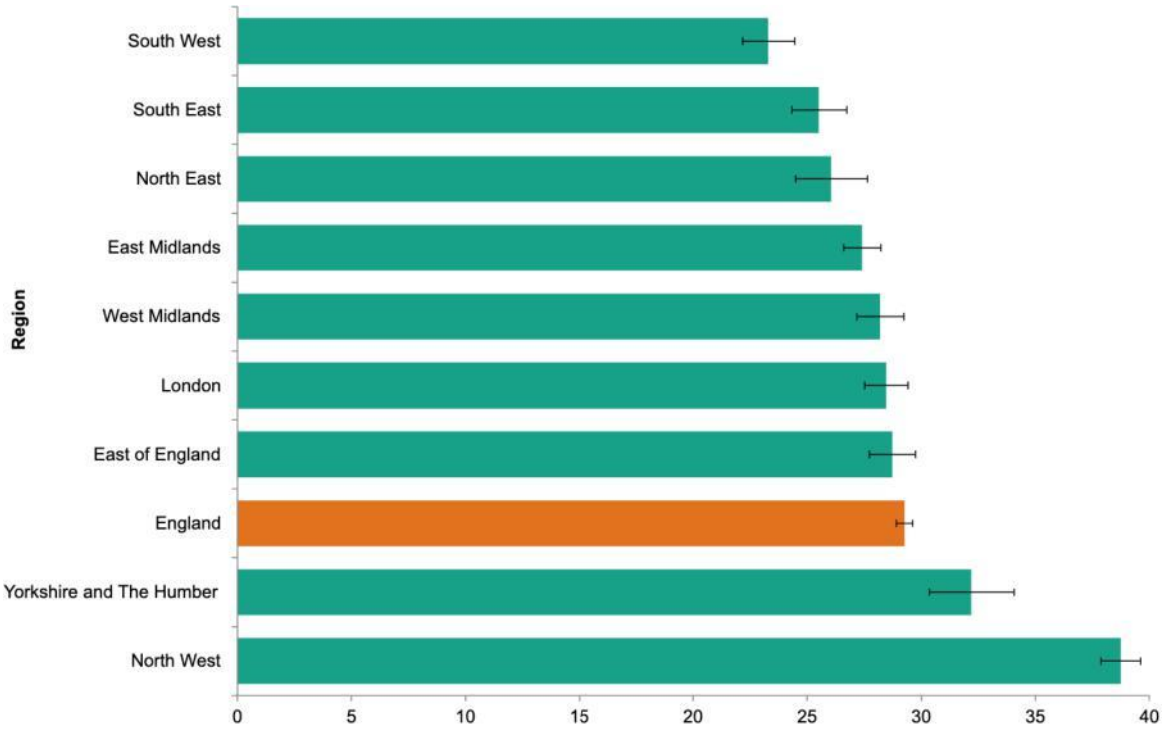
Figure 3. Proportion of 5-year-old children in Nottingham City and Nottinghamshire with dentinal decay experience (2012-2022)



2022 NDEP survey

The most recent data for 5-year-old children is from the 2022 NDEP survey[18]. The 2022 NDEP survey of 5-year-old children was undertaken during the 2021 to 2022 school year and according to a national protocol. The data from the 2022 survey showed that at a regional level 27.4% of children in the East Midlands had experience of enamel or dentinal tooth decay (Figure 4). This is slightly lower than the figure for England (29.3%).

Figure 4. Proportion of 5-year-old children with experience of enamel decay and/or dentinal decay experience in England by region, 2022 (NDEP).



For Nottingham and Nottinghamshire ICB, the results of the 2022 NDEP survey were similar to those for the whole of the East Midlands and those for England (table 4). The ICB had a slightly lower proportion of children with decay experience when compared to the region and England but there was little difference for results for the mean number of teeth affected.

Table 4. NDEP survey results 2022, 5-year-olds, for England, East Midlands and Nottingham and Nottinghamshire ICB.

Area	Proportion of children examined with decay into dentine	Mean number of teeth affected in those with decay	Mean number of teeth affected by decay – all children
England	23.7%	3.5	0.8
East Midlands	22.3%	3.5	0.8
Nottingham and Nottinghamshire ICB	21.9%	3.6	0.8

Within Nottingham and Nottinghamshire there is variation in the prevalence of decay experience and of the number of teeth affected in those with decay (table 5). Nottingham City saw the greatest proportion of children with decay experience (34.2%) and Rushcliffe the lowest (10%).

As the majority of children had no experience of dentinal decay it is important to look at the severity of disease in only those children who have experienced dentinal decay. The children in Mansfield who had decay experience had the highest number of teeth affected (4) and Bassetlaw the lowest (2.5).

Table 5. Percentage of 5-year-old children with dentinal decay and mean number of teeth affected by decay (in those with decay). NDEP 2022

Local Authority / ICS	% children with decay experience	Mean no of teeth affected in those with decay experience
Nottingham	34.2	3.9
Ashfield	16.1	3.7
Bassetlaw	17.8	2.5
Broxtowe	18.8	3.5
Gedling	18.8	2.7
Mansfield	17	4.0
Newark and Sherwood	23.5	3.9
Rushcliffe	10	3.4
England	23.7	3.5

National findings

When considering the influence of deprivation and ethnicity on oral health it is better to look at national level data as this provides a more robust estimate of impact. The report of the 2022 NDEP data found that:

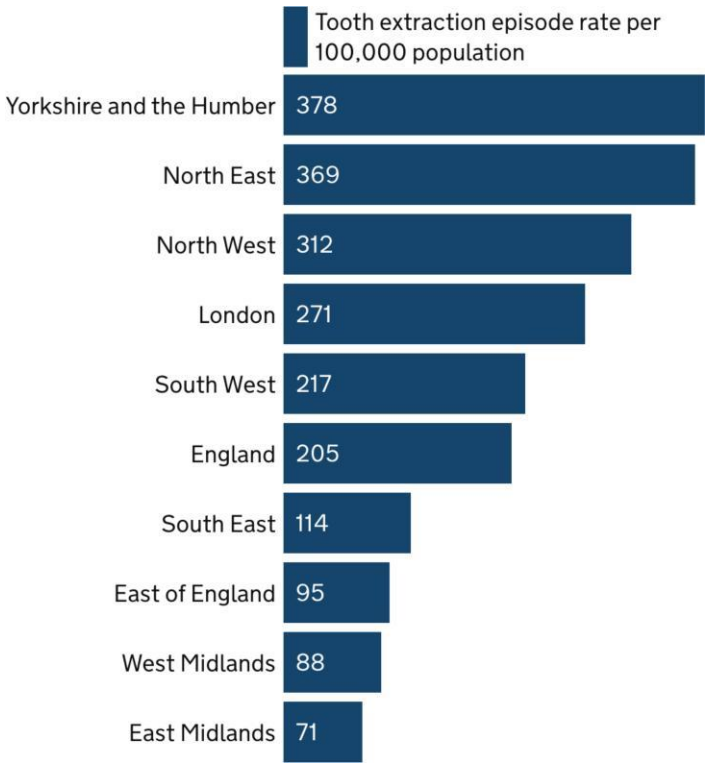
- In 2022 5-year-olds in the most deprived 20% of areas of the country were 2.5 times as likely to have experience of dentinal decay (35.1%) as those in the least deprived 20% of areas (13.5%).
- There is a positive association between decay experience and deprivation, as deprivation increases so does decay experience. However, decay experience is not perfectly correlated with (or explained by) deprivation alone.
- In 2022 the slope index of inequality for the prevalence of experience of dentinal decay in 5-year-olds was 27.7% (gap between most and least deprived areas of England).
- The prevalence of experience of dentinal decay in 5-year-olds varied by ethnic group and was significantly higher in the other ethnic group (44.8%) and the Asian or Asian British ethnic group (37.7%) than for other groups.
- Within ethnic groups, in the white ethnic group, children from the Gypsy and Irish traveller ethnic group (66.4%) and any other white background (37.8%) had a greater prevalence of experience of dentinal decay than children from the white British ethnic group (18.5%).

6.2 Hospital Extraction data[19]

The 2022 regional hospital extraction data show that there were variations in the numbers of teeth extracted in hospital across the regions with the highest rates occurring in Yorkshire and the Humber (378 per 100,000 population of 0- to 19-year-olds) and the lowest rates occurring in the East Midlands (71 per 100,000 population of 0- to 19-year-olds) (figure 5). The England rate was 205 per 100,000 population of 0- to 19-year-olds. It is unclear why there is this variation. It is unlikely to be due to variation in tooth decay rates as the East Midlands has rates comparable to other regions. The variation could be due to the availability of services or recording of data.

The Hospital Episode Statistics (HES) data for tooth extractions carried out in hospital cover all extractions regardless of the method of delivery. It is not possible to identify which extractions have been carried out under general or local anaesthesia or with/without sedation. In addition, the HES data often do not include all of the extractions carried out under general anaesthetic – this will vary depending on the service provider.

Figure 5. Regional hospital tooth extraction episode rate/100,000 population



Hospital extraction data are available for the districts in Nottingham City and Nottinghamshire, although care should be taken when interpreting these data as the

numbers are small, so any differences between districts could be due to chance rather than real differences. Some numbers are so small that they have been withheld to avoid the possibility of being able to identify individuals.

According to Hospital Episode Statistics data the number and rate of hospital extraction for 0-19-year-olds varied within Nottinghamshire (Table 6). The highest rate was seen in Bassetlaw and the lowest in Nottingham City.

Table 6. **Finished Consultant Episodes (FCEs) and extraction rates for hospital extractions for 0–19-year-olds for Nottingham and Nottinghamshire, 2021/22.**

District/unitary	FCEs all diagnoses	FCEs caries diagnosis	Rates per 100,000 (all diagnoses)
Bassetlaw	95	70	378
Newark and Sherwood	35	20	134
Mansfield	35	25	142
Ashfield	40	15	139
Gedling	20	Number withheld as below 8	79
Nottingham City	45	15	53
Broxtowe	25	Number withheld as below 8	109
Rushcliffe	15	Number withheld as below 8	56

In Nottingham City and Nottinghamshire over 145 (actual number not available due to numbers withheld) extractions were carried out because of tooth decay. The remaining 165 were carried out for other reasons e.g. orthodontic extractions. In Nottinghamshire the Community Dental Service (CDS), also carry out extractions on children. The service uses hospital facilities, but the activity data are not recorded via Hospital Episode Statistics (HES). This means that there are additional hospital extractions in Nottinghamshire, not reported in the national HES data.

Because of the way the data are recorded a fuller investigation of the data would be needed to draw conclusions from the hospital and CDS extraction data about oral health or access to care.

6.3 Chapter summary

The data in this chapter show that decay in young children in Nottingham City and Nottinghamshire is not uniformly distributed within the county. The results from the NDEP survey suggests that there are oral health inequalities in the county. The key findings from this chapter are:

- The proportion of 5-year-old children in Nottingham City and Nottinghamshire affected by tooth decay has reduced slightly over the last five survey years (2012-2022).
- There is variation across the ICB area in the decay experience of 5-year-olds in children with the highest proportion of children affected in Nottingham City (34%) and the lowest in Rushcliffe (10%).
- Not all children with decay are affected equally. Children in Mansfield had the most teeth affected (4.0 teeth) and Bassetlaw the lowest (2.5 teeth).
- As deprivation increases so does decay experience (national data).
- Decay-related hospital extraction rates for children were nearly three times higher for those living in the most deprived communities than those in the most affluent (national data).

7. Oral health of adults

7.1 Adult oral health surveys

Unlike for children, there are limited local oral health surveys carried out for adults in Nottingham City and Nottinghamshire. Most of the data presented in this chapter come from nationally funded and co-ordinated surveys.

A national survey to investigate the oral health of adults has been carried out approximately every 10 years since 1968. These decennial national adult oral health surveys show that oral health has improved significantly over the past 40 years. As an example, the proportion of adults with no natural teeth fell from 37% in 1968 to 6% in 2009[20].

The last survey, for which full results are available, was carried out in 2009, however, results are available for the first part of the survey carried out in 2021[21]. Because of COVID-19 restrictions the first part of the 2021 survey was carried out using an online questionnaire and results are only available at an England level. Some of the national findings from the 2021 online survey were:

- Two thirds (66%) of adults reported they had very good or good oral health.
- Twenty-six per cent reported they had fair oral health and 7% reported they had bad or very bad oral health.
- Ninety-five per cent of adults in England had at least one natural tooth (were dentate). Dentate adults had on average 25.4 natural teeth
- Sixty-three per cent of adults said they went to the dentist for regular check-ups, 15% went for occasional check-ups and 18% went to the dentist only when they had trouble with their mouth, teeth or dentures
- A third of adults (33%) said that the cost of dental care had affected the type of dental care or treatment they had received. A quarter (25%) of adults reported they had had to delay dental care or treatment because of the cost
- Nearly half of all adults (47%) said they had experienced one or more oral health impacts in the previous 12 months. The most commonly reported impacts were being self-conscious (28%), finding it uncomfortable to eat any foods (24%) and having had painful aching in their mouth (20%)
- 1 in 5 (21%) adults reported at least one severe oral impact that had affected their daily life in the previous 12 months. Performances that were most likely to be severely impacted were avoiding smiling, laughing and showing teeth without embarrassment (12%) and difficulty eating (9%)

The last decennial adult oral health survey for which full results are available was conducted in 2009. Data from this survey are available at a regional level. The findings for the East Midlands are shown in table 7.

Table 7. East Midlands Adult Dental Health survey results 2009, with West Midlands and England comparisons.

Proportion of the survey population	East Midlands	West Midlands	England
% 18 or more sound and untreated teeth	75	50	52
% carious teeth	32	39	31
% with current pain	9	9	9
% one or more fillings	80	86	84
% who only attend when have trouble	25	25	27

Except for the proportion of people with 18 or more sound and untreated teeth the results of the 2009 Adult Dental Health survey, for the East Midlands, are similar to those for England as a whole. The East Midlands has a greater proportion of people (75%) with 18 or more sound and untreated teeth than the average for England (52%). Nearly one in 10 people, in the East Midlands, reported being in pain and a quarter of the population only attended the dentists when they have problems.

In 2018 a survey was carried out on the oral health of adults attending general dental practice[22]. The results for Nottingham and Nottinghamshire have not been included in this needs assessment because of incomplete data; in Nottingham the number of participants was so few that the data was withheld for privacy reasons and the data for Nottinghamshire was incomplete as it did not include data for Ashfield, Bassetlaw and Rushcliffe.

7.2 Oral cancer

Oral cancer, also known as mouth cancer, is an important public health issue in England. Oral cancer includes cancers of all sites of the oral cavity and pharynx and is the sixth most common cancer globally[23]. In the UK oral cancer is the ninth most common cancer and accounts for just over 2% of all cancers diagnosed[24].

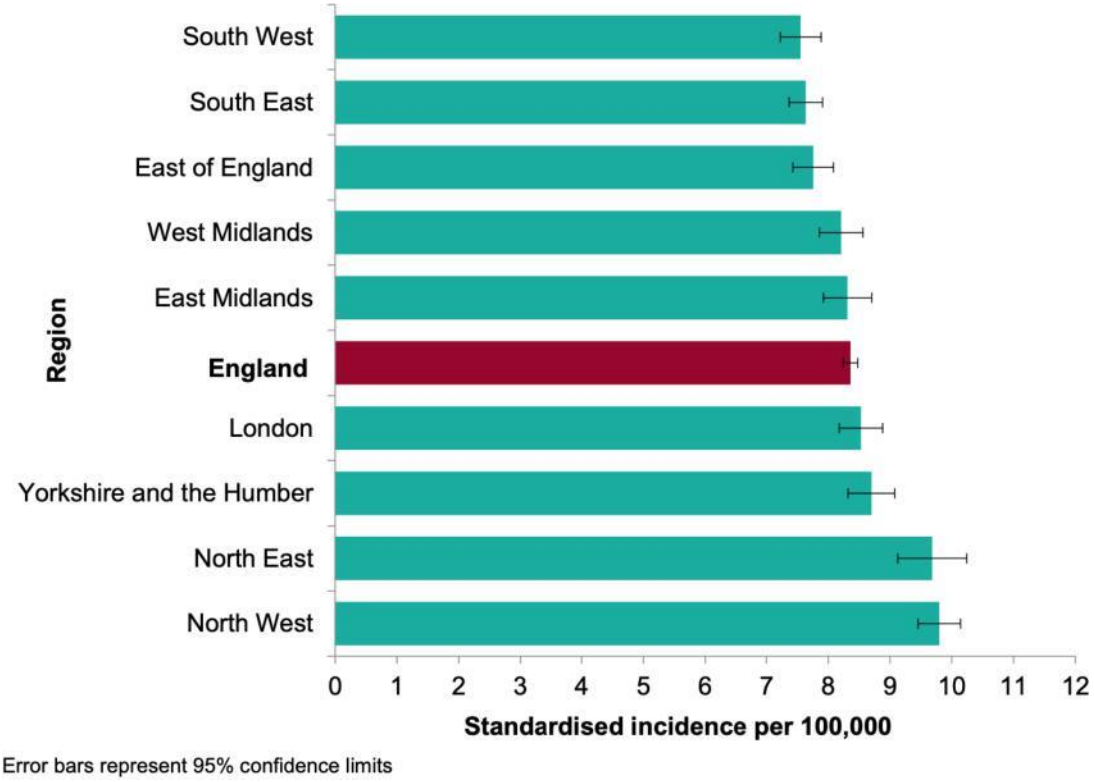
The number of people diagnosed with mouth cancer in the UK continues to increase. According to the latest annual data, new cases have increased by 1% in the UK. Data shows that mouth cancer cases have risen by 34% over the last decade and by 103% over the last 20 years (England data only). The number of people losing their life to mouth cancer has also grown. The latest research says that deaths from mouth cancer have increased by 46% compared with ten years' ago.

Known risk factors for oral cancer are linked to social determinants and include smoking, other ways of using tobacco such as chewing, drinking alcohol and infection with the human papilloma virus (HPV). Tobacco and alcohol act synergistically and multiply the risk of developing mouth cancer by up to 40%. Smokers are 7-10 times more likely to suffer from an oral cancer when compared to those who have never smoked and those who regularly use smokeless tobacco have 11.4 times the risk of a non-user[25]. There is some evidence that a limited diet is also a risk factor for oral cancer with some evidence stating the protective role of fruits and vegetables, particularly citrus fruits in the prevention of the development of cancers of the digestive and upper respiratory tract[26]. Awareness of these risk factors offers opportunities to prevent oral cancer and to support early detection and treatment.

In 2020 PHE published a report[27] describing the incidence, survival and mortality rates for oral cancer in England, 2012 to 2016. The report uses two categories for reporting based on International Classification of Diseases (ICD) version 10: lip, oral cavity and pharynx (C00-C14) and oral cavity (C00-C06). The latter grouping features cancers of sites likely to be visible in a dental examination.

Data from the 2020 PHE report are available by region. Figure 6. shows the incidence of oral cancer by region.

Figure 6. Oral cancer incidence by region with England comparison, 2012-2016.



As can be seen from Figure 6, the incidence of oral cancer in the East Midlands region is similar to the England average (8.36) at 8.31.
The PHE 2020[28] report also describes the data for oral cancer incidence and mortality by district. These data are shown in table 8.

Table 8. Standardised incidence and mortality rates for oral cancer (C00-C06, oral cavity) for Nottingham City and Nottinghamshire districts, with England comparison, 2012-2016.

District	Standardised incidence per 100,000	Standardised mortality per 100,000
Nottinghamshire	7.77	2.13
Ashfield	9.61	2.14
Bassetlaw	8.71	2.13
Broxtowe	7.84	-
Gedling	7.9	1.98
Mansfield	6.44	2.16
Newark and Sherwood	6.58	2.24
Rushcliffe	7.42	2.61
Nottingham City	10.27	3.7
England	8.36	2.19

Between 2012 and 2016 Nottingham City had the highest incidence (10.27) of oral cancer in the ICB. This is likely to be because Nottingham City is the largest urban area in the ICB with the most diverse population. All other districts within the ICB had incidence rates lower than the England average.

The standardised mortality rate per 100,000 in Nottingham was significantly above the England average. The mortality rates for the other areas were not statistically different from the England average.

7.3 Chapter summary

There are limited data available on the oral health of adults in Nottingham City and Nottinghamshire. The latest data that are available show that poor oral health is an issue for adults in the East Midlands and Nottingham City and Nottinghamshire:

- Almost one third (32%) of adults in the East Midlands had tooth decay.
- One in ten adults were in pain because of their teeth.
- A quarter of the surveyed population reported only attending the dentist when they have problems.
- The incidence of oral cancer in the East Midlands is similar to the England average.
- Within the ICB Nottingham City has the highest incidence of oral cancer and the highest mortality rates.

8. Dental service commissioned activity and delivery

In the financial year 2022/23 there were 123 contracts in Nottingham City and Nottinghamshire to deliver NHS primary care dental services (this figure includes those which have since been terminated (see section 7.3). The total cost of these contracts was £58,075,885.47. The total number of units of dental activity (UDAs) commissioned was 1,973,989. This equates to approximately 1.72 UDAs commissioned per head of population, with an average UDA rate of £29.42.

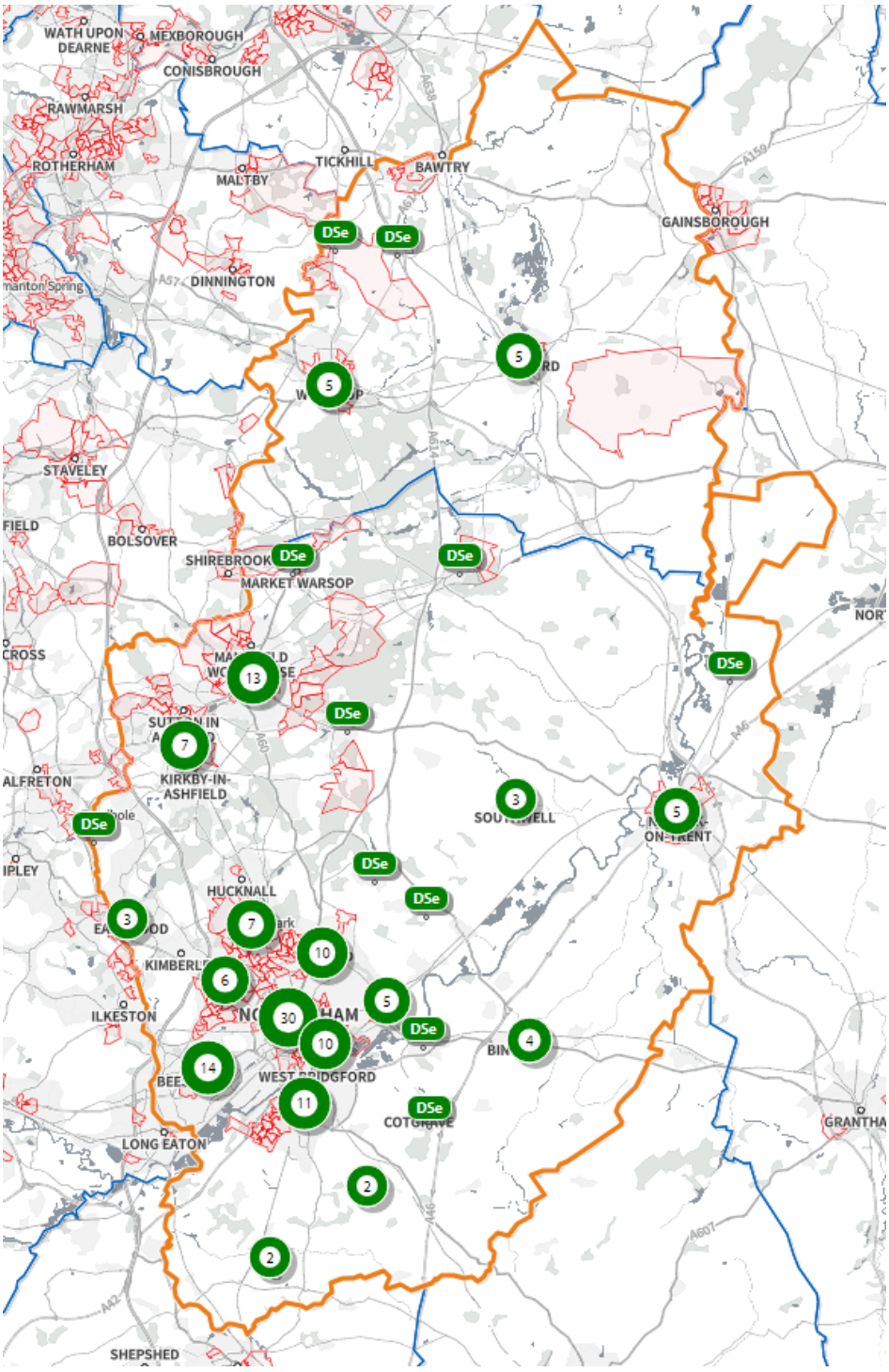
Of the UDAs commissioned a total of 1,440,773.60 were delivered by year end 2022/23. This equates to an average 73% delivery rate. This average hides wide variation in delivery. The lowest percentage delivery was 15% and the highest 114%.

8.1 Location of NHS dental practices

NHS England has statutory responsibilities to commission NHS dental services that meet the needs of the local population and address health inequalities. There is no registration for NHS dentistry and patients may choose to access NHS dental services in any locality of their choice. Those in employment may choose to access an NHS dentist close to where they work rather than where they live.

The location of dental practices with NHS contracts in Nottingham/Nottinghamshire is shown in map 6. Most practices are in areas of highest population density and located in the west of the county. Rural areas are less well served than urban areas. This means that it is likely that people living in rural areas have to travel further to access dental care or may have difficulty accessing care because of limited public transport.

Map 6. Location of NHS primary care dental services in Nottingham City and Nottinghamshire (20% most deprived areas shown in red. Includes private dental practices).



There were a total of 123 NHS General Dental Services and Personal Dental Service (GDS/PDS) contracts, in 2022/23, in Nottingham City and Nottinghamshire. The breakdown of the number of contracts by district is shown in table 9.

Table 9. Number of NHS General Dental Services contracts by district

District	Number of NHS GDS/PDS contracts
Nottingham	44
Bassetlaw	9
Broxtowe	10
Gedling	17
Mansfield	11
Newark and Sherwood	11
Rushcliffe	21
Total	**123**

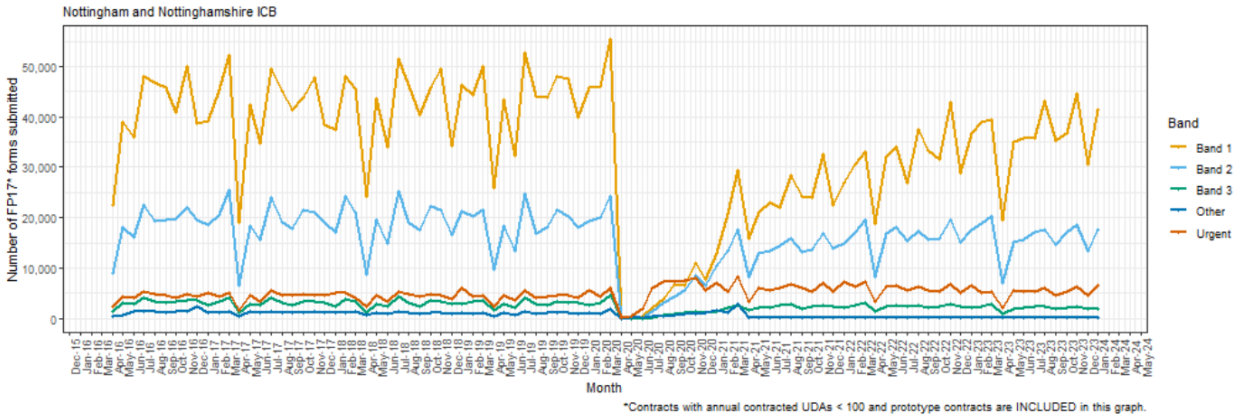
8.2 Courses of treatment delivered

Activity data is recorded on FP17 forms by providers. These data are analysed and reported by NHS England. The activity is divided into different treatment bands. These bands reflect the different types of treatment carried out. There are 4 main treatment bands:

- Band 1 Examination and simple procedures
- Band 2 Fillings and extractions
- Band 3 Treatment requiring a laboratory e.g., crowns and dentures
- Urgent treatment

The number of FP17s submitted for each treatment band, for providers in Nottingham and Nottinghamshire, is shown in figure 7. The greatest number of FP17s are for band 1 treatment. The ratio of the different bands of treatment provided is similar to the pre-pandemic ratio. Although the numbers of FP17s submitted have increased from pandemic levels they have not yet reached the numbers seen pre-pandemic i.e., activity is still lower than pre-pandemic.

Figure 7. Number of courses of treatment (FP17s) per treatment band submitted by providers in Nottingham and Nottinghamshire ICB, 2016-January 2024.



8.3 Contract hand-backs

Primary care dental services can unilaterally terminate their contract to provide NHS services, provided they give sufficient notice. There have always been a small number of contract handbacks but in Nottingham City and Nottinghamshire this number has increased in the past two years. Table 10 shows contract hand-backs from 2018-December 2023.

Table 10. NHS primary care dental service contract hand-backs* 2018-2023
(correct up to 31.12.23)

Area of ICB		Terminations	Total UDAs	2023/24 Financial Value
Nottinghamshire	Broxtowe	28,084	28,084	726,959.73
Nottinghamshire	Mansfield	1,200	1,200	42,861.75
Nottinghamshire	Newark and Sherwood	11,656	11,656	316,743.76
Nottinghamshire	Rushcliffe	18,929	18,929	471,191.33
Nottingham City	Mapperley	400	400	11,057.36
South Yorkshire**	Waterdale	3,346	3,346	100,878.59
		63,615	**63,615**	**£1,669,692.52**

* This table does not list all areas of the ICB – only those from which contracts were handed back.

** South Yorkshire is included because prior to delegation this area was part of the East Midlands

Between 2018 and 2023 contracts with a total UDA commissioned activity of 63,615 were terminated by providers in Nottingham City and Nottinghamshire. As a guide a full-time dentist working solely on NHS UDA delivery would be expected to deliver approximately 5,000-7,000 UDAs a year, so these contract hand-backs equate to the loss of activity of approximately 10 full-time dentists in Nottingham City and Nottinghamshire and approximately 18,710[29] patients.

The normal process for contract terminations is to undertake a review of the area. The commissioning team consider whether there is sufficient local dental practice capacity to undertake an interim activity dispersal (to those dental practices surrounding the terminated contract) and whether any urgent dental care commissioning is necessary to supplement the activity dispersal or as an interim commissioning option. The interim solutions are put in place whilst re-commissioning plans are developed and delivered via a procurement process to secure future NHS dental services in the area.

8.4 Chapter summary

The number of UDAs delivered in Nottingham City and Nottinghamshire has increased since the hight of the pandemic but has not recovered to pre-pandemic levels. The key findings from this chapter are:

- Dental practices in Nottingham City and Nottinghamshire are mainly located in areas of high population density, in the west of the county.
- In 2022/23 1,973,989 UDAs were commissioned from practices in Nottingham City and Nottinghamshire.
- In 2022/23 there were 3.4 UDAs delivered per unique patient seen in Nottingham City and Nottinghamshire.
- There were 1.72 UDAs commissioned per head of population in Nottingham City and Nottinghamshire
- The greatest number of courses of treatment were for band 1 treatments
- There was a total reduction of 63,615 UDAs in Nottingham City and Nottinghamshire between 2018 and December 2023. It is estimated that this equates to a reduction in access for 18,710 patients.

9. NHS Dental service access

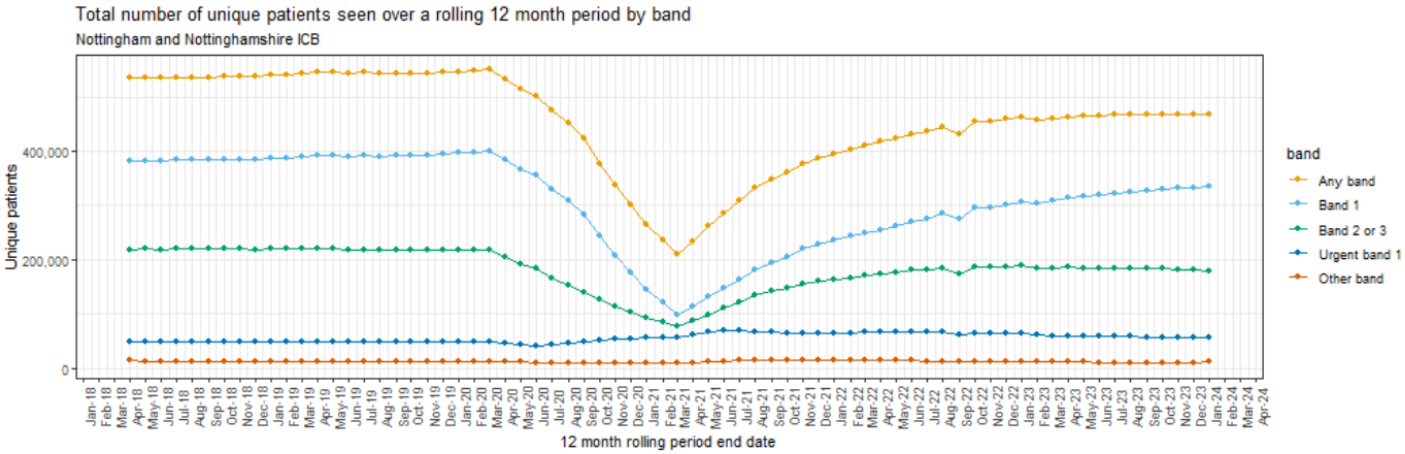
Unfortunately, there are little or no data on access to dental care for inclusion groups, so it has not been possible to report data broken down by inclusion group in this OHNA. This a national issue and a report on oral health inequalities, published by Public Health England in 2021, found there were limitations in the epidemiological and NHS data available, and made the following comment:

Variations in dental service commissioning, delivery and utilisation were not reported across all dimensions of inequality. For example, no information was available of such variations by the majority of protected characteristics (for example, disability, pregnancy and maternity, religion) or vulnerability types.

9.1 Access to care

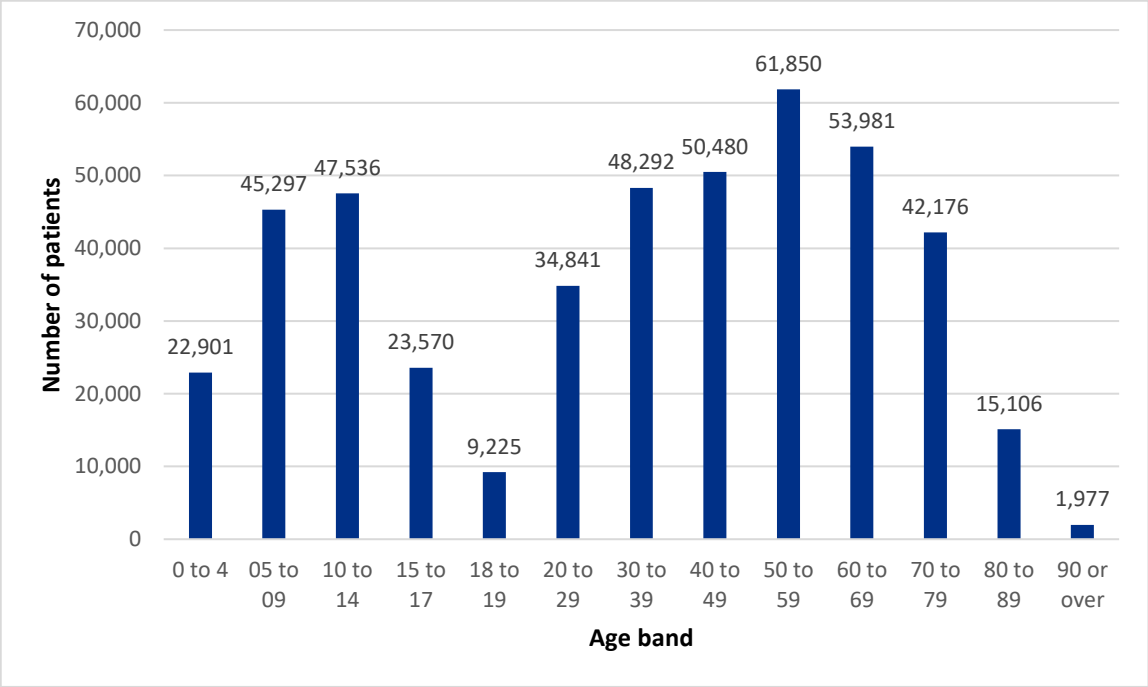
The number of patients seen by providers in Nottingham and Nottinghamshire ICB is shown in figure 8. The greatest number of patients are seen for band 1 treatment. The number of patients seen in the previous 12 months (Aug 22-Nov 2023) is approximately 88% of pre-pandemic levels.

Figure 8. Total number of unique patients seen by providers in Nottingham and Nottinghamshire, over a 12-month rolling period, by treatment band (January 2018-January 2024)



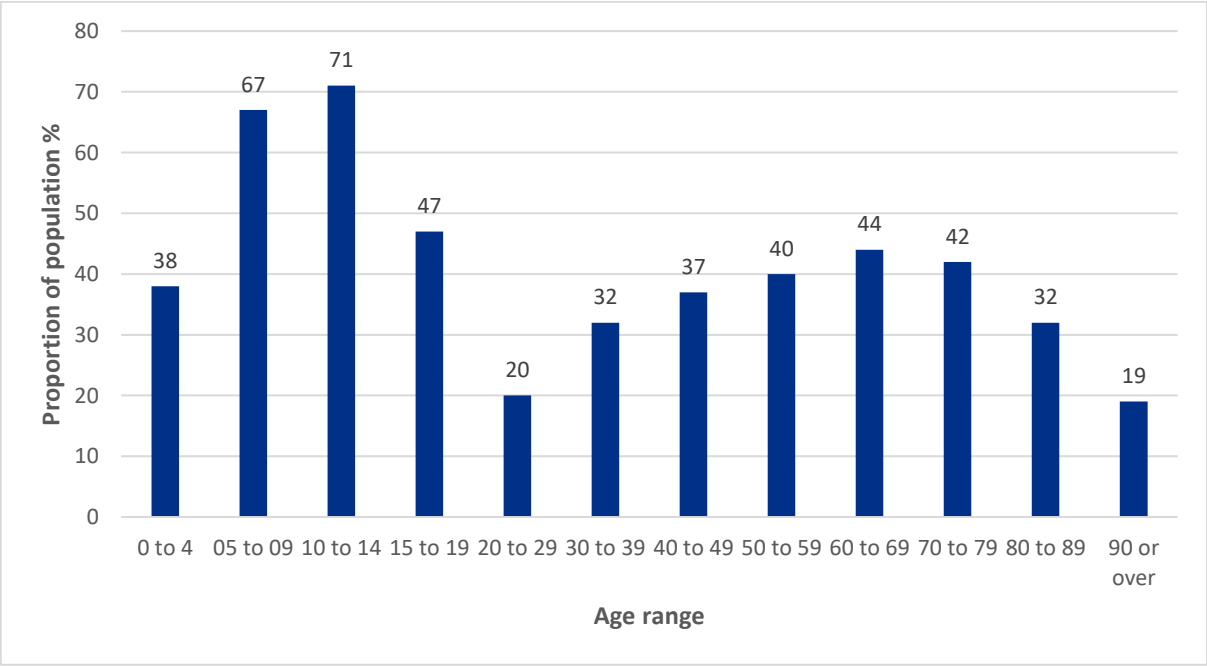
Attendance at NHS dental services in 2022/23 was not uniform across all ages of the Nottingham City and Nottinghamshire population (figure 9). The highest number of people attending was seen in 50 – 59-year-olds. The lowest number of people attending was seen in adults aged over 90. It should be noted that these are the absolute numbers of people who attended and not the proportion of the population. The low numbers seen in those aged over 90 will be related to the small numbers in the population aged over 90.

Figure 9. Number of patients accessing NHS dental care by age band (2022/23)



When the proportion of the ICB population accessing care is plotted against age band a similar profile is seen (figure 10). The greatest proportion of the population accessing care are aged between 5 and 14 years old. The lowest proportion are aged between 20-29 and over 90.

Figure 10. Proportion of patients accessing NHS dental care by age band (2022/23)[30]

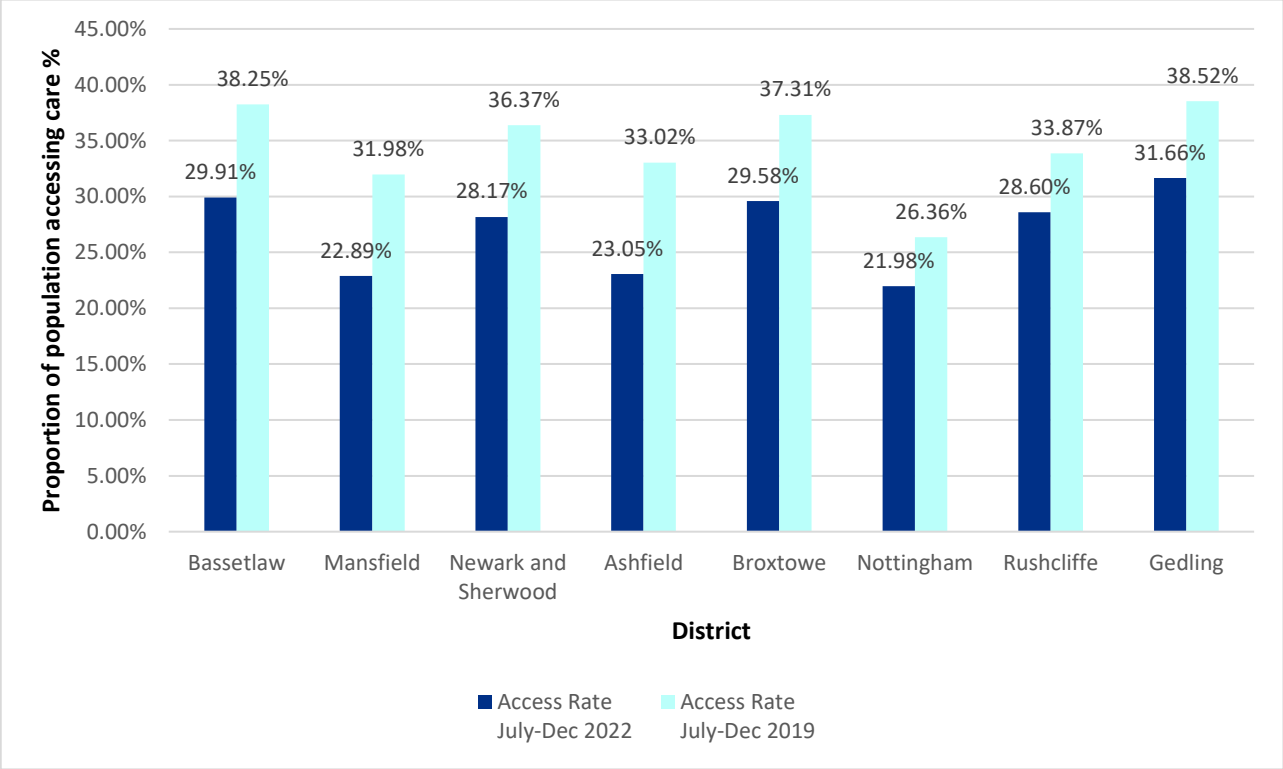


Access to NHS dental services varies by district and population group. In Nottingham City and Nottinghamshire between July and December 2022, the population of

Gedling had the highest rates of access (31.66%) and the population of Nottingham City the lowest (21.98%) (figure 11).

This access profile is mirrored in the access to care between July and December 2019 (pre-pandemic), although the proportion of the population accessing care was higher in 2019 than in 2022. In Ashfield there is almost a 10% reduction in the proportion of the population accessing care, whereas in Nottingham City there has only been a 4.4% decrease.

Figure 11. Proportion of the population of Nottingham City and Nottinghamshire accessing NHS dental care July to December 2019 and 2022, by district.



When access rates by district are split into adults and children (aged 0-17) the data show that for all districts, children have higher rates of access than adults (figures 12 and 13). For adults the rates of access to care were lower than the national average (19.84%) in Mansfield and Nottingham City. For children the rates were lower than the national average (33.62%) in Ashfield.

For adults and children, the proportion of the population accessing care has decreased from the 2019 rates. For adults the greatest decrease is in Ashfield (9.7%) and the smallest in Nottingham City (4.5%). For children the greatest decrease is in Ashfield (10.7%) and the smallest in Rushcliffe (2.77%).

Figure 12. Proportion of the adult population of Nottingham City and Nottinghamshire accessing NHS dental care July to December 2022, by district.

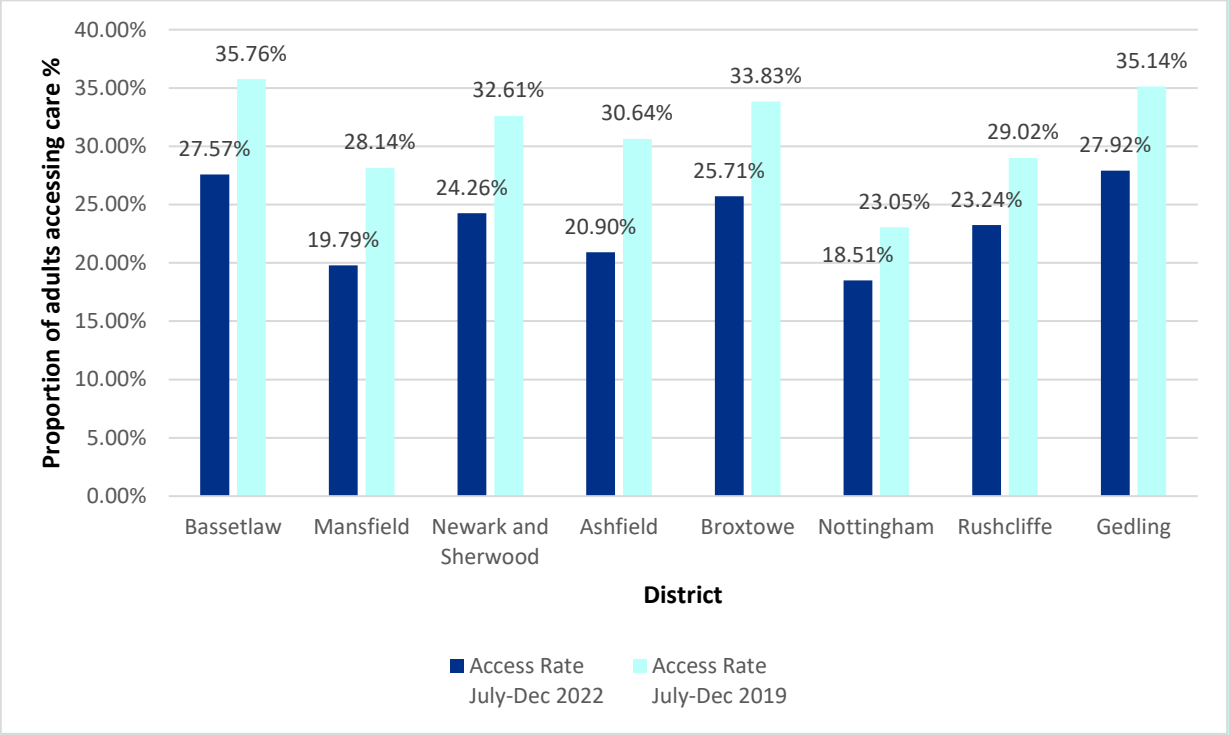
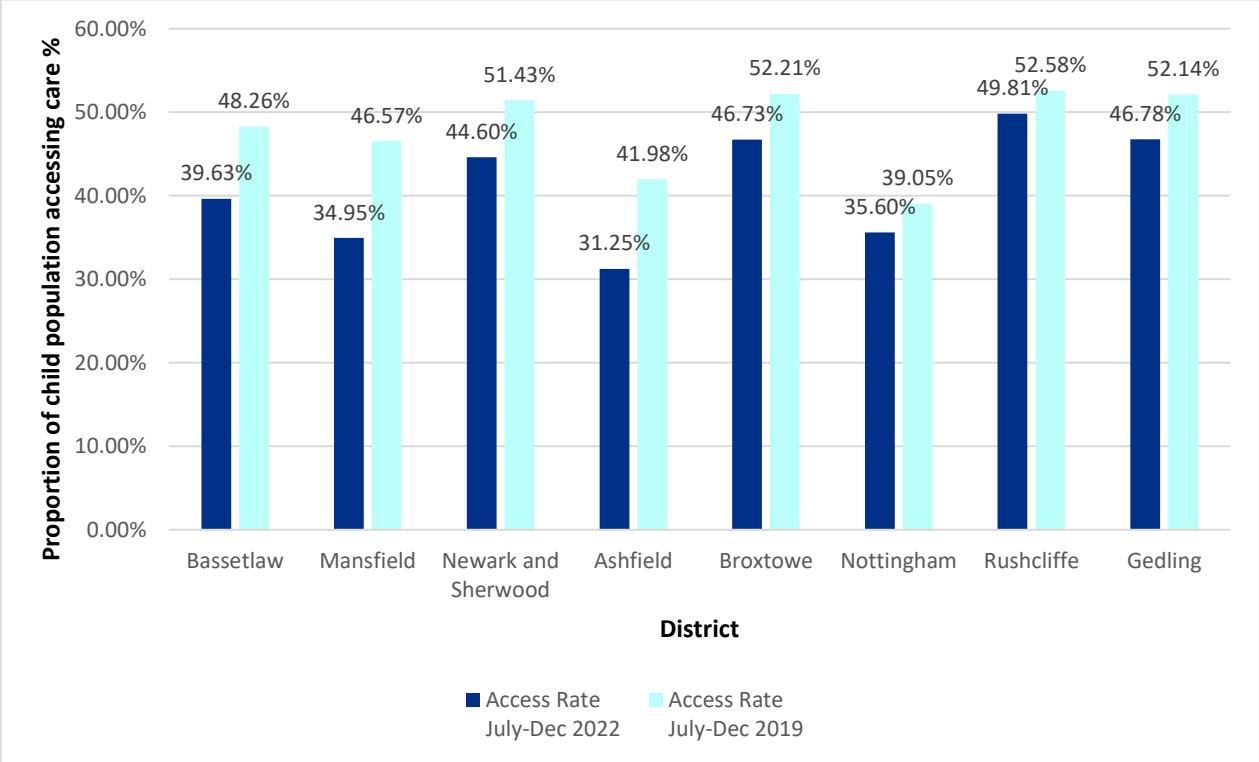


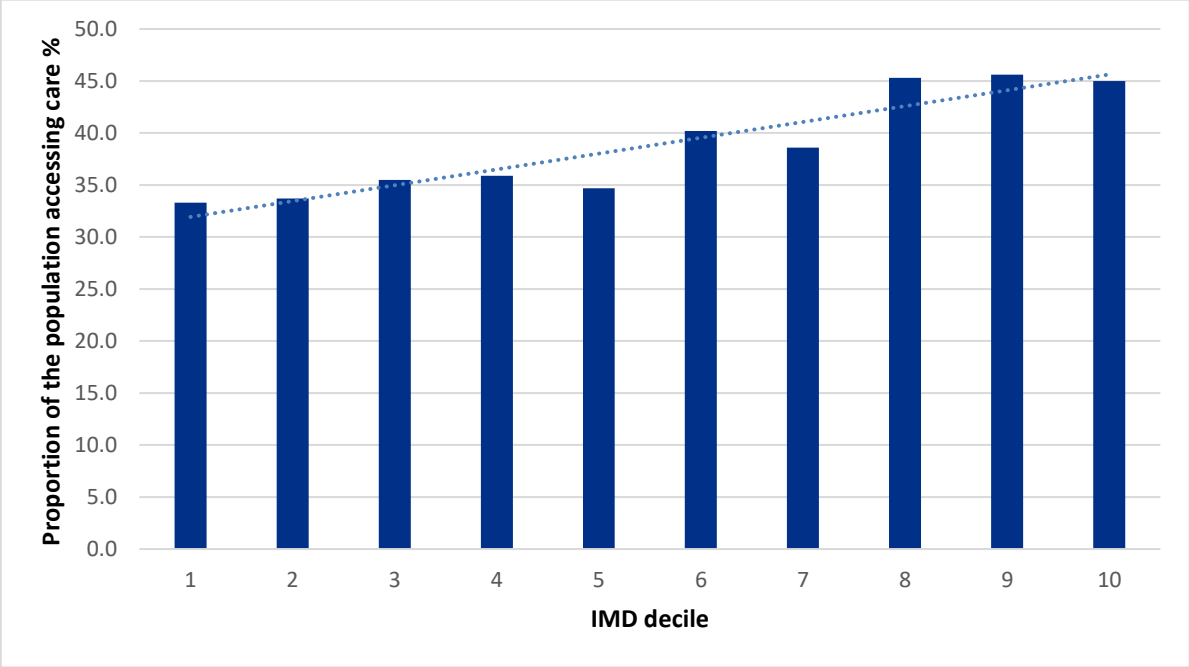
Figure 13. Proportion of the child (0-17 years) population of Nottingham City and Nottinghamshire accessing NHS dental care July to December 2022, by district.



When access to care is analysed by deprivation (based on patient postcode) it is seen that the lowest proportion of the population accessing care is seen in the most deprived index of multiple deprivation decile (IMD – 1= most deprived, 10= most affluent) and the greatest proportion in the least deprived decile (figure 14). The relationship between access and deprivation is almost linear i.e., the more deprived the population the less likely they are to access care. It is important to note that this analysis shows the relationship between access and deprivation and the proportion of the population does not represent the actual proportion accessing care.

This pattern of access is of concern because those from more deprived populations are at greater risk of poor oral health. It suggests that those people with greatest oral health need, in Nottingham City and Nottinghamshire, are less able to access care.

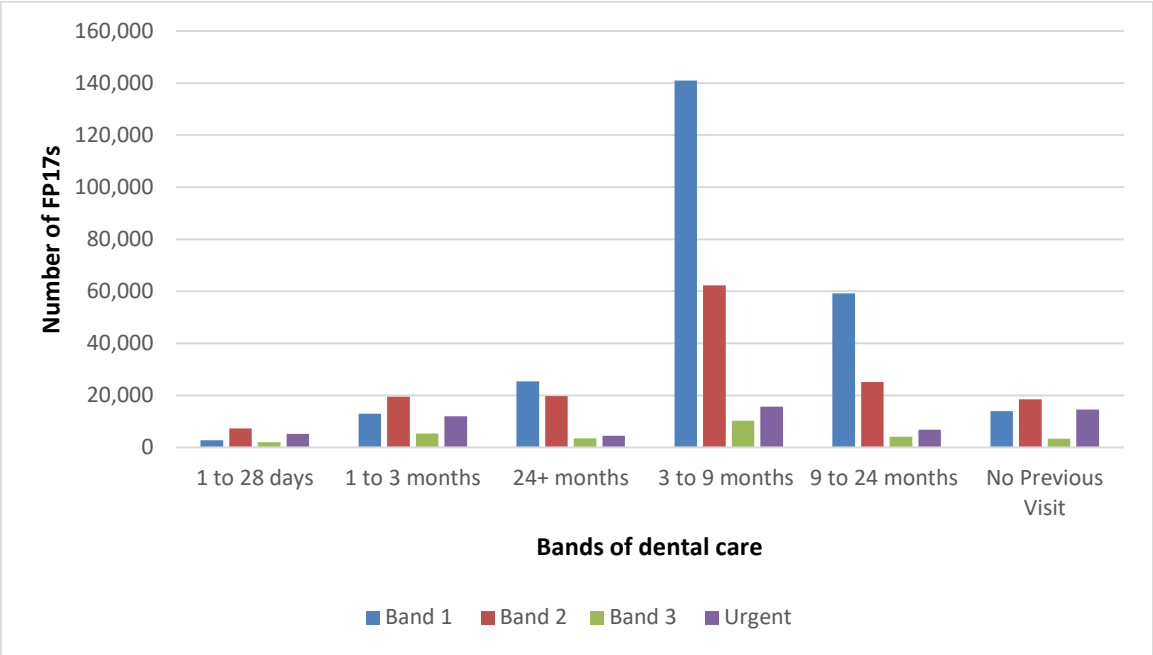
Figure 14. Proportion of the Nottingham City and Nottinghamshire ICB population accessing NHS dental care by IMD deprivation decile (2022/23)



9.2 Reattendance

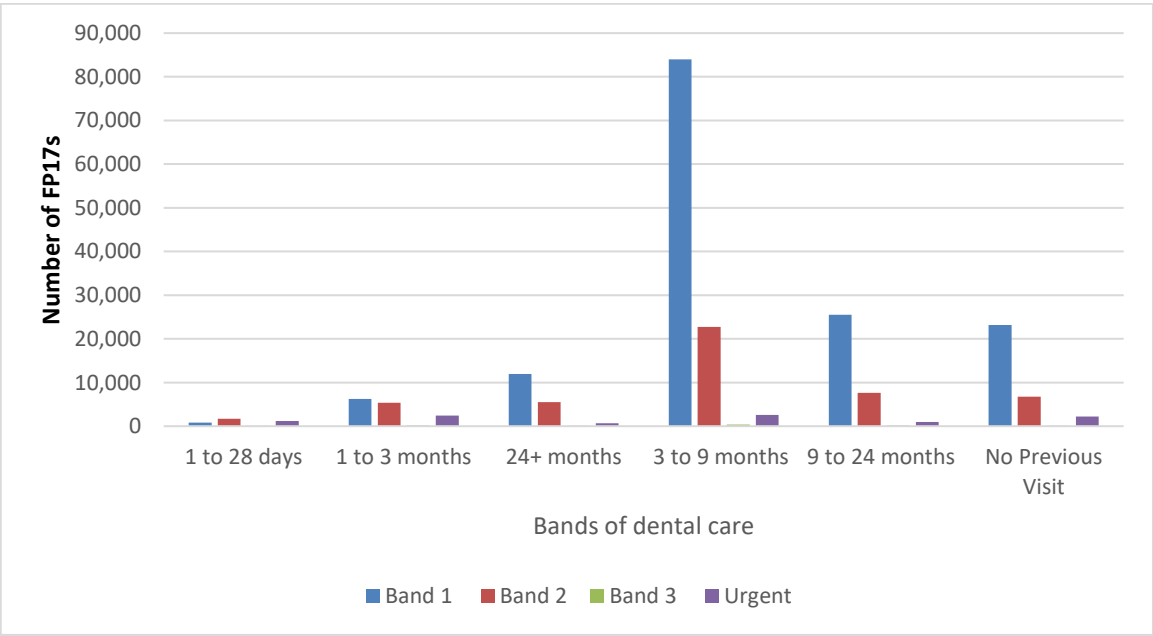
For this needs assessment it was possible to obtain the reattendance interval data for adults and children, in the ICB, attending for the different bands of care. When the number of FP17s is plotted against reattendance for the different bands of care the most frequent reattendance interval is 3-9 months (figures 15 and 16).

Figure 15. Reattendance intervals for adults receiving bands 1,2,3 and urgent care, 2022-2023.



Three to nine months is the most frequent reattendance interval for adults and children and for all bands of care. For patients receiving band 1 care the number of reattendances at 3-9 months is particularly apparent.

Figure 16. Reattendance intervals for children receiving bands 1,2,3 and urgent care



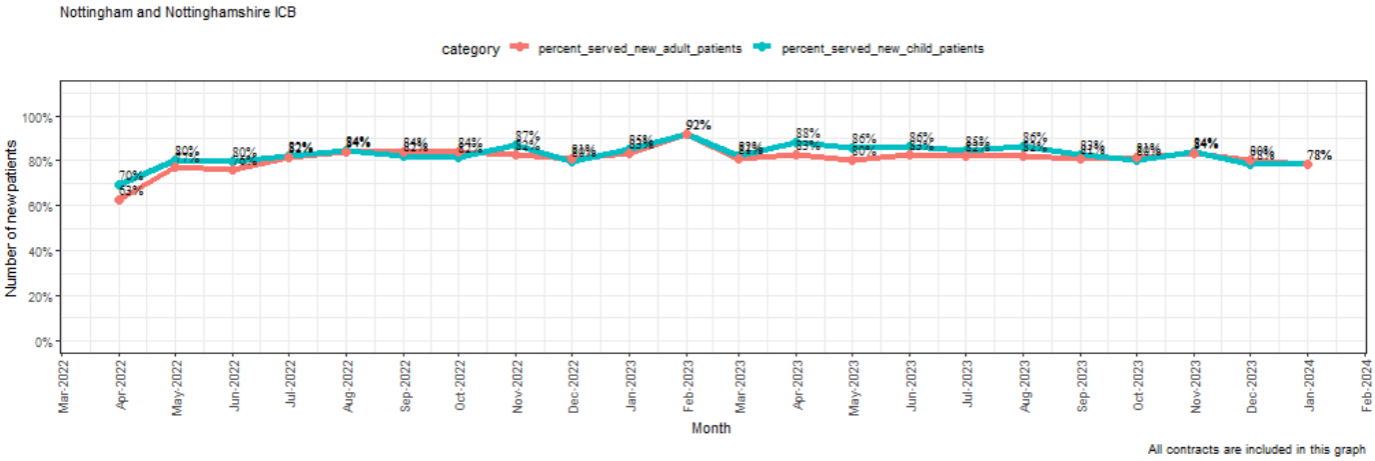
Nice guidance[31] advises that reattendance intervals should be tailored to the patient's clinical need; those with the lowest need for treatment should have longer reattendance intervals. The data for Nottingham and Nottinghamshire ICB suggest there is still further work to be done to align reattendance intervals to NICE guidelines.

By aligning reattendance intervals to NICE guidelines it may be possible to free up additional capacity within existing services.

9.3 New patient access

The latest data for the proportion of providers seeing new patients is from January 2024. The data show that the proportion of providers in Nottingham City and Nottinghamshire seeing new patients has remained broadly the same over the last 20 months (figure 17). Approximately three quarters of providers see new patients. However, these data do not show the number of new patients who are seen and a provider could be classified as seeing a new patient even if they only see one new patient in the specified time period. In addition, although the proportion of providers seeing new patients has remained the same the number of providers has fallen so that actual number of providers seeing new patients is lower than it was in 2019.

Figure 17. Percentage of providers in Nottingham/Nottinghamshire who have seen new patients, April 2022-January 2024



The number of new patients (defined as: not seen by an NHS dentist in the previous 24 months) seen by providers in Nottingham City and Nottinghamshire between December 2022 and November 2023 was 48,216 adults and 34,404 children (aged under 18)[32].

When new patient attendance is plotted against deprivation the same pattern is seen for adults and children (figures 18 and 19); the greatest number of patients seen were from the most deprived deciles. There were fewest new patient adults and children in IMD 7 and overall, there were fewer patients seen from the least deprived deciles. This may because patients in these IMD deciles already have the good access to care or because patients in this group are most able to afford private care.

Figure 18. Number of new patients (adults) seen by providers in Nottingham and Nottinghamshire, December 2022-November 2023 by deprivation (IMD) decile
(data obtained directly from BSA following written request)

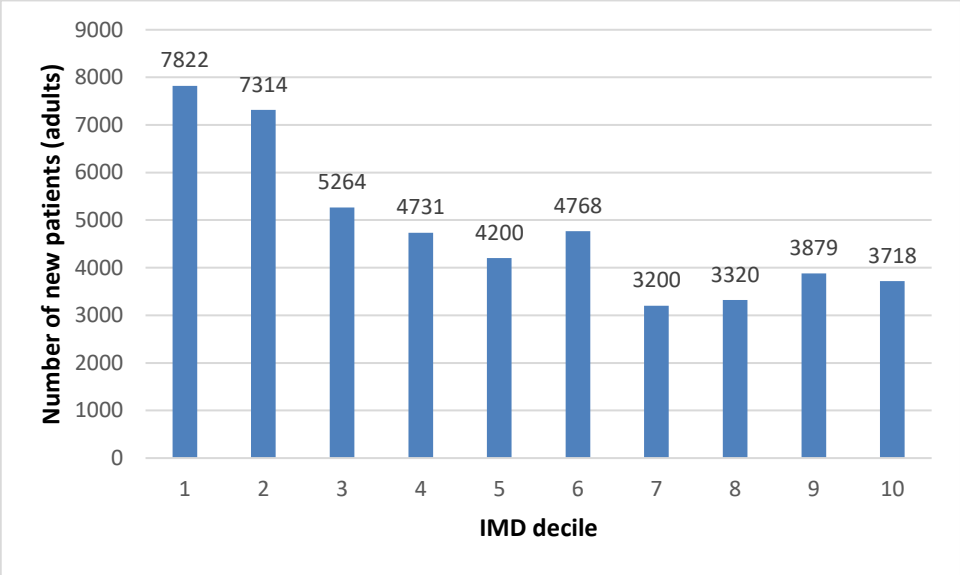
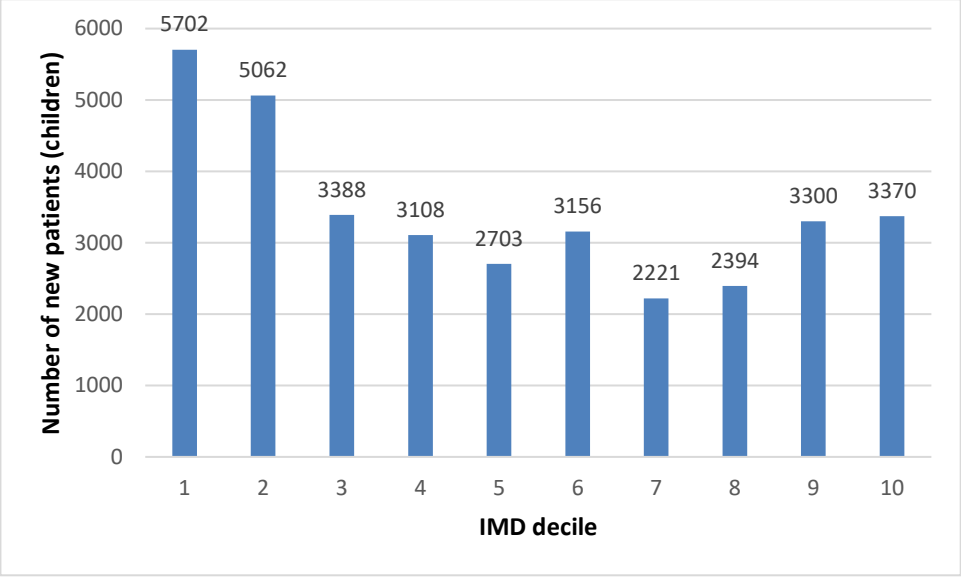


Figure 19. Number of new patients (children) seen by providers in Nottingham and Nottinghamshire, December 2022-November 2023 by deprivation (IMD) decile (data obtained directly from BSA following written request)



It is positive that new patients in the most deprived deciles were able to access care. It is unclear why those in decile 7 were particularly low in number. It would be useful to gather feedback from people in this group to understand why people in this group face barriers to access.

The higher number of new patients from the most deprived populations suggests that services are accessible to those with greatest need. There is an opportunity to share learning from initiatives implemented in Nottingham City and Nottinghamshire, which

have encouraged new patient access from those in the most deprived deciles, with other ICB areas. Before doing this, it would be useful to understand what type of care these patients are receiving e.g. are they able to access only urgent care or can they also access routine care.

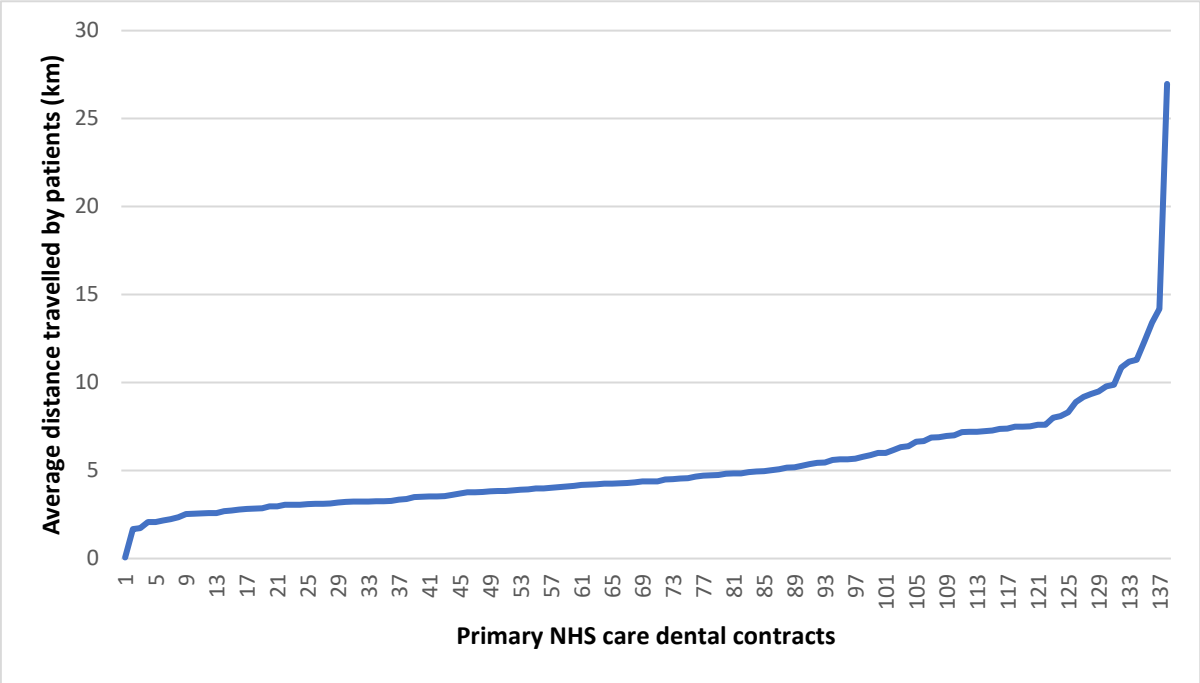
9.4 Distanced travelled to access care

Unlike medical services patients are not restricted by registration or geography when choosing where to access primary care dental services. Some patients choose to stay with their dentist even when they move house. This can mean that patients can travel considerable distances to access care. The distance travelled is also influenced by availability of services. The fewer services there are available the more likely it is that patients will have to travel further to access care.

Some patients are more able to travel for care. Those with their own transport, for example, will find it easier to travel compared to those who rely on public transport. This is particularly true for those living in areas where public transport is limited or expensive e.g., rural communities.

It is possible to obtain data on the average distance travelled by patients when accessing care from a particular provider of primary care dental services. For services provided in Nottingham City and Nottinghamshire in 2022/23 the overall average distance travelled was 5.2 km. This overall average hides a wide range, with the shortest average distance travelled being 0.1 km and the longest 27 km. Figure 20 shows the average distance travelled by provider.

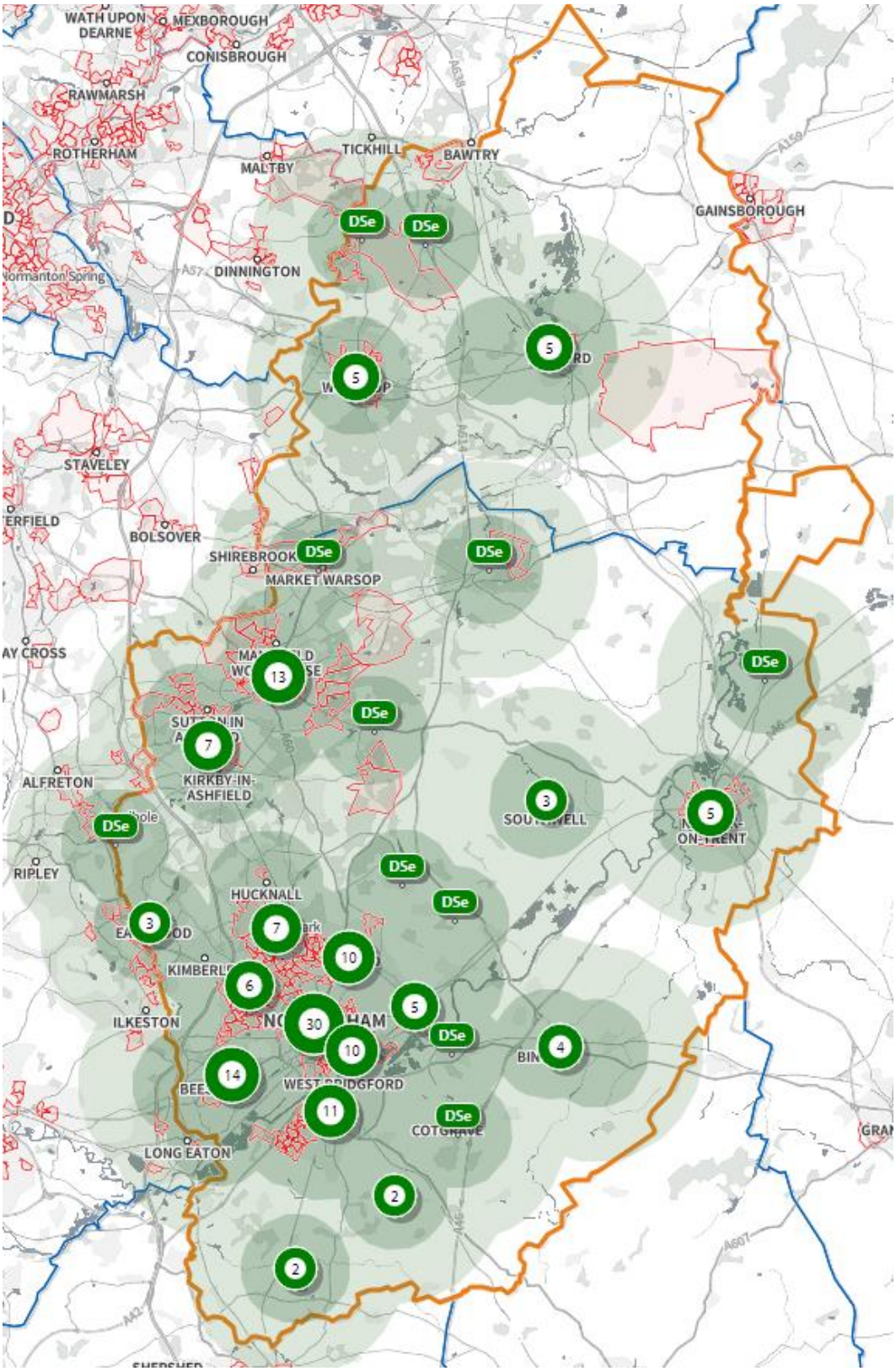
Figure 20. Average distance travelled by patients attending dental services in Nottingham and Nottinghamshire 2022/23



There were 7 contracts where patients travelled over 10km to access care. These 7 providers saw 2% of the total patients seen.

The location of dental practices is mapped against both a 2 and 4 mile distance radius in map 7. Most of the population has access to services within a 4 mile radius. This does not however, guarantee that these practices are accepting new patients or even that they offer NHS care as this dataset includes private practices. Rural areas, particularly in the northeast of the county have no dental services within this distance. Another important exception is the area covering Woodbeck, Treswell, Cottam and South Leverton in Bassetlaw which is where some of the 20% most deprived groups live.

Map 7. Location of dental practices in Nottingham and Nottinghamshire (includes private practices) **with 2 and 4 mile distance radius shown.** (20% most deprived populations shown in red).



Whilst the proportion of patients travelling significant distances to access care is small it should be remembered that having to travel even short distances can

disproportionately impact on those living in certain areas or those from more deprived communities. The average distance of 5.2km has arisen mainly due to the historic location of practices. Carrying out a patient/public engagement exercise would help establish what the public considers to be an acceptable distance to travel for care.

9.5 Chapter summary

Access to primary care dental services has decreased, in all areas and for both adults and children, since pre-pandemic levels. This is against a background of decreasing access across the whole of England. For both adults and children Ashfield has seen the largest decrease in access since the pandemic (10%). The lowest decrease in access was seen in Nottingham City for adults (4.4%) and in Rushcliffe for children (2.7%).

For adults the rates of access to care were lower than the national average in Mansfield and Nottingham City. For children the rates were lower than the national average in Ashfield.

Access to care is lowest in the most deprived populations and greatest in the least deprived populations.

For new patients, access is greatest for those in the most deprived populations. As the greatest oral health need is associated with the most deprived populations this suggests that new patient appointments are accessible to those with the greatest need.

The key findings from this chapter are:

- The number of patients seen in Nottingham and Nottinghamshire 2022/23 was approximately 88% of pre-pandemic levels.
- There is variation in access to dental care by:
    - District – highest levels of access are seen in Gedling (31%) and the lowest in Nottingham City (21%)
    - Age – for all districts higher levels of access are seen in children compared to adults
    - IMD – people from the most deprived communities are overall less likely to access care
- The most frequent reattendance interval, regardless of band of treatment provided, is 3-9 months.
- New patient access is highest in the least affluent populations.
- The average distance travelled to access NHS dental care was 5.2 km.
- Some areas of the county do not have services available within a 4 mile radius.

- Most of the population has access to services within a 4 mile radius. This does not however, guarantee that these practices are accepting new patients or even that they offer NHS care as this dataset includes private practices.
- Rural areas, particularly in the northeast of the county have no dental services within this distance. Another important exception is the area covering Woodbeck, Treswell, Cottam and South Leverton in Bassetlaw which is where some of the 20% most deprived groups live.

10. Service user feedback

10.1 GP patient survey

The GP patient survey[33] collects information from patients and the findings are published by NHS digital. The survey contains questions on dental services. The questions focus on access to care and the experience of that care. This section summarises the most recent published results from the survey, which cover the period January to March 2023[34], for Nottingham/Nottinghamshire.

For those who had tried to get an NHS dental appointment, in the last 3 months, approximately three quarters were successful (table 11). The proportion of people who were successful in Nottingham/Nottinghamshire was comparable to the rates for England as a whole.

Table 11. GP survey results, proportion of patients in Nottingham and Nottinghamshire who were successful in getting an NHS dental appointment, January to March 2023.

Those who last tried to get an NHS Dental appointment, were they successful in getting the appointment?						
	All patients	Those in full time paid work	Those in part-time paid work	Those who are fully retired	Had previously been to the practice	Had not previously been to the practice
In the last 3 months	78%	Data not available	Data not available	Data not available	Data not available	Data not available
In the last 6 months	80%	Data not available	Data not available	Data not available	Data not available	Data not available
In the last 2 years	74%	70%	76%	83%	82%	30%

Those who had not been seen previously by the practice were least successful in getting an appointment.

Some people reported that they had not tried to get an NHS dental appointment in the previous two years. For those who have not tried most common reasons for this were that they preferred to go to a private dentist (27%) and that they did not think they needed to go to a dentist (23%).

These results suggest that access to NHS dental care in Nottingham City and Nottinghamshire is more difficult for those who have not previously been to the practice i.e. new patients.

10.2 Chapter summary

Access to NHS dental care in Nottingham City and Nottinghamshire continues to be an issue for some of the population of the county. The key findings from this chapter are:

- Of those who had tried to get an NHS dental appointment, in the last 3 months, approximately three quarters were successful.
- Those who had not been seen previously by the practice were least successful in getting an appointment.
- A proportion of the population do not access dental care because they do not think they need it.

11. Conclusion and recommendations

Across Nottingham City and Nottinghamshire there are inequalities in oral health and availability and accessibility of NHS dental services.

Oral health improvement and the commissioning of oral health surveys is a statutory responsibility of local authorities.[35] Improving access to dental services is the responsibility of the ICB dental commissioners, with support from other stakeholders.

Access to dental services is complex and there are a multitude of challenges and barriers that influence an individual's ability or willingness to access care.[36] There are five main elements related to access to consider, if equitable access and a reduction in inequalities in access is to be achieved:

- Affordability (direct costs e.g., patient charges and indirect costs e.g., time off work).
- Availability (is there a service close to the patient's home/work?).
- Accessibility (how easily can the service be reached?).
- Accommodation (e.g. are the opening hours/means of contacting the practice suitable?).
- Acceptability (e.g. are the patients comfortable with the practice environment?).

Just because a service is commissioned in an area of greatest need it does not mean that patients will access care. All the components of access need to be addressed if services are truly to be made accessible to all. A good example is how during the pandemic we saw that (nationally) access to care for patients who were exempt from charges (i.e., those less affluent) increased slightly. This suggests that there was something about the way services were delivered at this time which improved access for patients in more deprived populations.

11.1 Recommendations:

This OHNA makes the following recommendations which have been divided into oral health improvement and dental service commissioning.

Oral health improvement recommendations

3. The Local Authorities should continue to commission the National Dental Epidemiology Programme surveys so that oral health improvement and inequalities can be measured.

4. The Local Authorities should consider commissioning enhanced sampling for future epidemiology surveys or commissioning of a census survey for Nottingham City and Nottinghamshire. This would enable a more robust

assessment of the oral health of children in the county and a comparison of the oral health of children in fluoridated and non-fluoridated areas of the county.

5. The ICS should continue to pursue expansion of water fluoridation in Nottingham City and Nottinghamshire.

6. The Local Authorities, ICB and NHS should ensure that there is investment into oral health improvement interventions across the ICB region which will improve oral health and reduce inequalities.

Dental service commissioning recommendations for Nottingham and Nottinghamshire ICB

7. Based on the current rates of access for adults and children and the levels of decrease in access since 2019; the district priority order for increasing access to primary care dental services should be:

    - Ashfield and Nottingham City
    - Mansfield
    - The districts of Rushcliffe, , Broxtowe, Newark and Sherwood
    - Bassetlaw, particularly the area covering Woodbeck, Treswell, Cottam and South Leverton in Bassetlaw
    - Gedling

8. Within each district the following population groups should be a commissioning priority:

    - New patients
    - Those from lower socio-economic populations
    - Young adults
    - Young children
    - Older adults
    - Adults and children from the 20% most deprived as well as inclusion groups, particularly those identified by the ICB through the Core 20 plus 5 inequalities agenda

9. When planning where to locate services the cost of travel to the service should be considered. Where possible services should be located so that patients less able to travel are able to easily access care. Where this is not possible (e.g., rural areas) services should be situated in locations which are well served by

affordable public transport or alternative options should be considered e.g., the commissioning of outreach services.

10. When considering the location and design of services maximising access for rural populations should be considered.

11. Commissioners should ensure that services offer appointments for new patients and that not having attended the practice previously is not a barrier to care.

12. An action plan should be developed and delivered, with the aim of minimising future contract hand-backs.

13. Commissioners should work with providers and stakeholder groups to maximise capacity by aligning reattendance intervals to NICE guidance.

14. Ensure that accurate information on which practices are accepting new patients and/or offering urgent care is easily accessible. Ideally this information should be held in a variety of locations including non-electronic formats. Patients should not have to trawl through multiple practices' websites/information to access it.

15. Services should offer a range of appointment times which are suitable for patients who find it difficult to take time off work to access care.

16. Consideration should be given as to how services are delivered. If services continue to be delivered in the same way as currently then inequalities in access will not improve. Reducing inequalities may mean delivering the service in a different way e.g., drop-in appointments, e-consultations, domiciliary care.

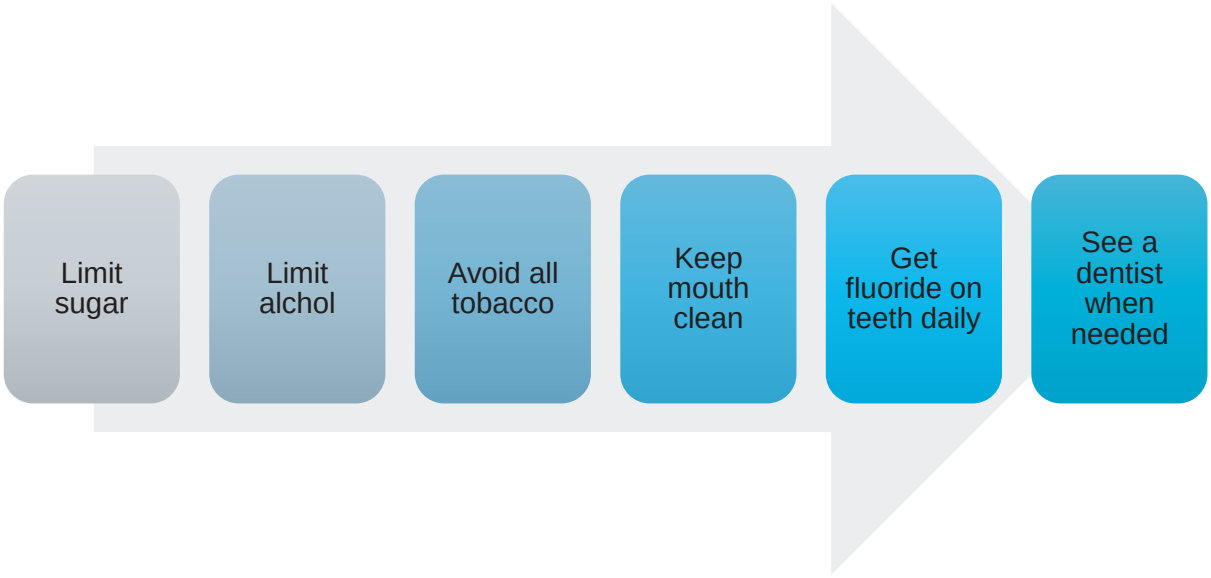
17. A stakeholder engagement exercise should be carried out to understand better what needs to change about how services are delivered to ensure that services are accessible to those with greatest need and those currently less likely to access care. For example, a stakeholder engagement exercise would help understand why young adults and new patients in IMD group 7 are less likely to access care.

12. Appendix 1: What works to improve oral health and reduce inequalities?

12.1 Improving oral health for individuals vs populations

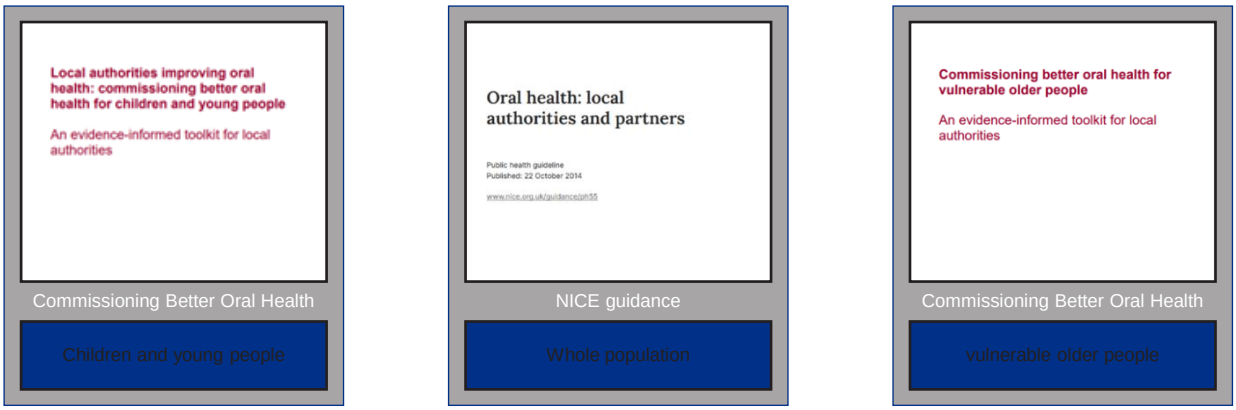
For individuals, the principles of improving oral health are relatively straightforward (figure 7): keeping sugar, alcohol and tobacco to a minimum, keeping teeth clean and using fluoride daily.

Figure 7 Improving oral health at an individual level



At a population level however, achieving improvements in oral health without increasing inequalities requires a strategic approach that coordinates action at many levels. These principles are detailed in national guidance documents (figure 8) and are covered briefly here.

Figure 8 Key national guidance documents on oral health[37,38,39]



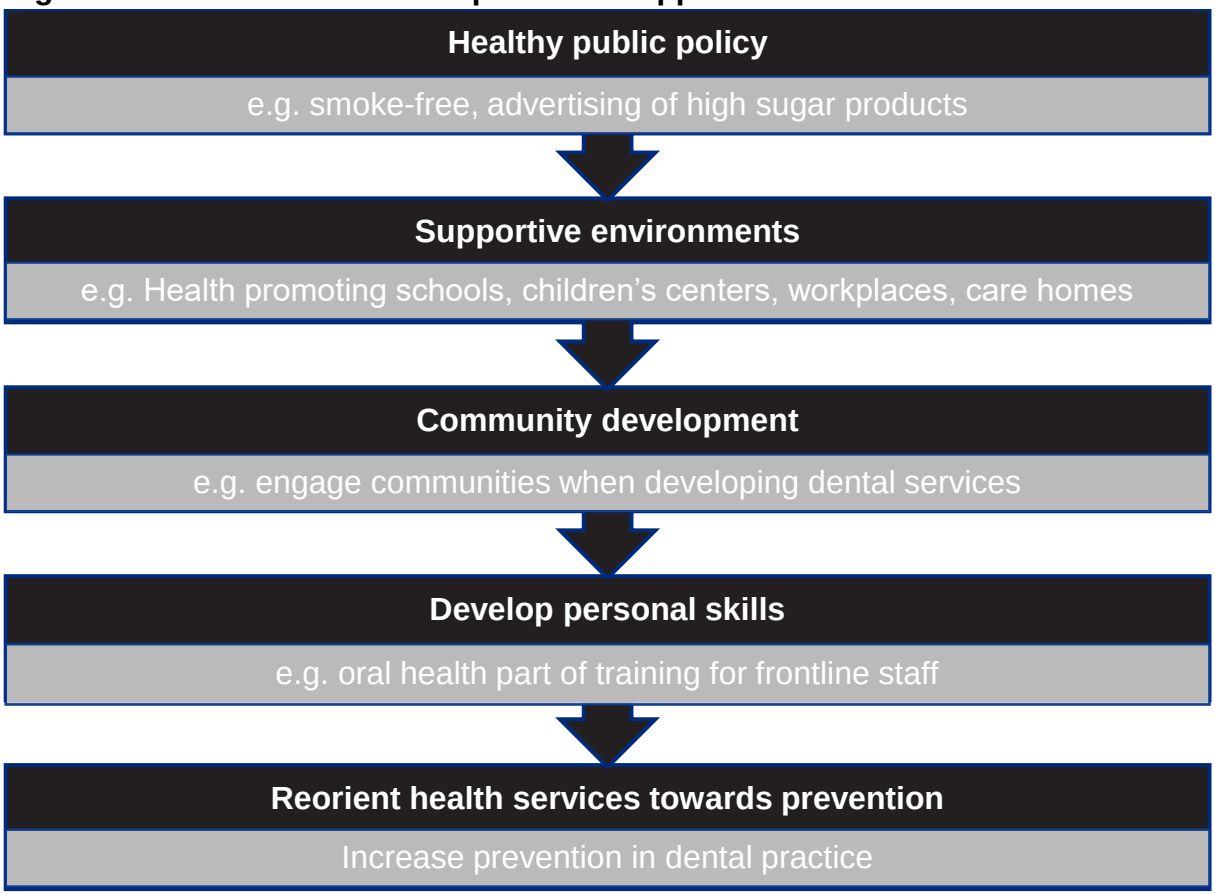
12.2 Moving beyond health education

In the past, actions aimed at improving oral health have often focused on health education (such as dental teams giving talks in schools or promotional campaigns). While logic might suggest that these interventions are helpful, the evidence base tells a different story: the positive impact on inequalities is limited.[40]

Programmes that educate population groups on oral health (such as young children or mothers) can increase knowledge and change some oral health behaviours, but these changes are short lived. Oral health education activities can in fact increase inequalities unless they are carefully targeted at, and designed for, high need groups.[41]

It is more cost effective to focus on interventions that have been proven to be effective longer term and address inequalities while improving oral health. These include health public policy, supportive environments, community development, development of personal skills and prevention focused health services (figure 9).

Figure 9 WHO model of health promotion applied to oral health



Source: developed from WHO recommendations on health promotion[42]

12.3 Focusing upstream

Upstream actions that address the socioeconomic causes of oral health are fundamental and will have the greatest impact on oral health. A successful oral health strategy also needs to include actions that are midstream, like improving the food environment and downstream, such as increasing prevention in dental services (figure 10).

Figure 10 Upstream to downstream interventions



Source: Watt, R.G. (2007) From victim blaming to upstream action: tackling the social determinants of oral health inequalities. Community Dentistry and Oral Epidemiology 35: 1–11.

12.4 Integrating oral health into other services

There are real opportunities for the local system to integrate mouth care and oral health improvement into existing commissioned services with little or no additional cost,[2] for example by including oral health and mouth care in service specifications and policies relating to vulnerable adults and children. This could include services that provide personal care, as well as services in the community, and day or residential care settings.

Interventions such as 'making every contact count' (MECC) can be used to integrate oral health promotion into existing services and interventions within multiple health and social care settings.

These activities could be supported by including oral health, as standard, in the training of the workforce that supports adults and children in health and social care.

12.5 Supporting people of all ages

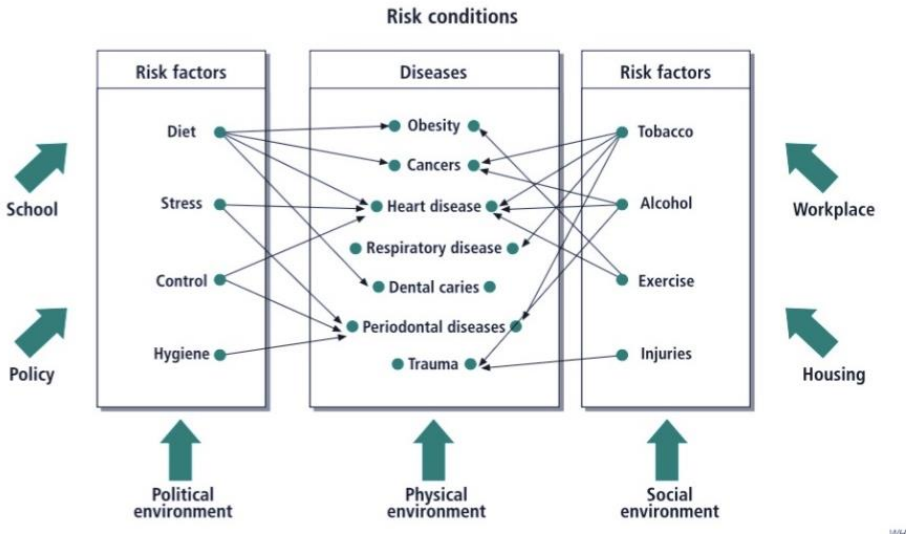
Oral diseases can affect us at all stages of our lives, so improving oral health requires a 'life-course approach'. This approach recognises that the risks we are exposed to

change as we move through life, so action to improve oral health is needed at a number of life stages, in particular early years and older age groups.

12.6 Addressing the risks shared by oral health and general health

The factors that increase our risk of oral diseases are the same risk factors that cause other common chronic diseases (figure 11). There are efficiencies in tackling these common risks together to support improvement in oral and general health and wellbeing. Universal actions to limit sugar in the food environment,[43] for example, would help reduce the incidence of overweight and obesity as well as tooth decay.

Figure 11 Risk factors that are common to oral diseases and other common chronic diseases[44]



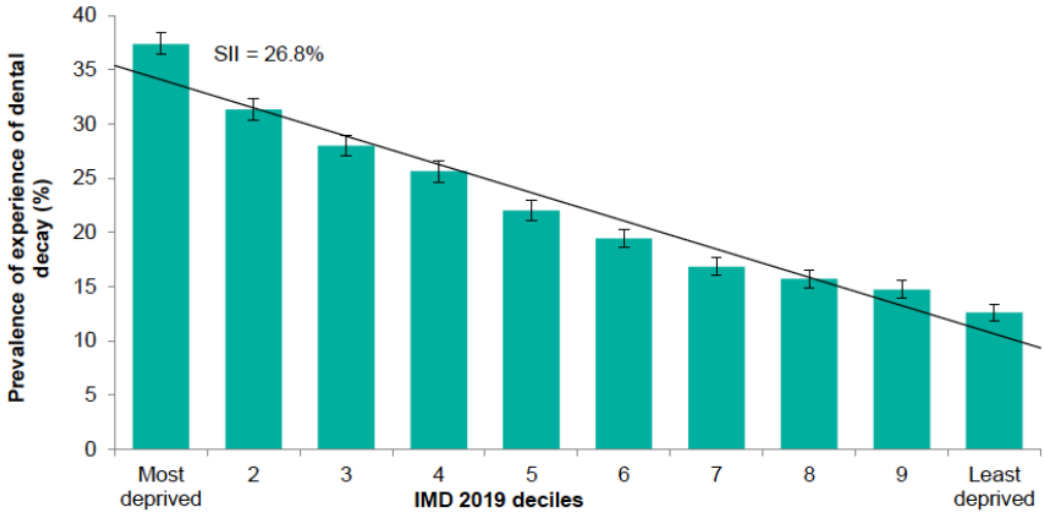
Source: Watt RG. Public Health Reviews. Strategies and approaches in oral disease prevention and health promotion. Bull World Health Organ website 2005; 83(9):711-718.

12.7 Avoiding the high risk approach: proportionate universalism

Oral diseases are experienced by everyone, not just by the poorest. This means that all levels of society need some support, although some need more support than others (proportionate universalism).

The Marmot review Fair Society, Healthy Lives (2010) highlighted the social gradient of health inequalities whereby the more disadvantaged the person's social position, the worse their health. This applies as much to oral health as general health (figure 12).

Figure 12 The social gradient in oral disease (Slope index of inequality in prevalence of dental caries in 5 year old children in England, 2019)



Source: PHE Oral health inequalities in England

The Marmot review recommends the need for universal action that increases in scale and intensity in proportion to the level of disadvantage (proportionate universalism). It reminds us that that poor oral health exists at all levels of socioeconomic advantage but that the burden of disease weighs heaviest on the poorest in society so that is where support should be greatest.

12.8 Commission oral health promotion interventions

Key areas for action in oral health promotion are:

- Increasing availability of fluoride (which strengthens teeth and protects against decay)
- Keeping mouths clean (by improving oral hygiene)

These areas for action involve a number of options and each local authority can work with their Consultant in Dental Public Health to work up a plan that fits with local needs, budgets and priorities.

12.9 Summary of what works to improve oral health

When considering what actions and interventions should be implemented to improve oral health and reduce inequalities system leaders might find it useful to review the NICE recommendations on oral health (box 1)

Box 1 Recommendations for local authorities on oral health from NICE

1. Ensure oral health is a key health and wellbeing priority
2. Carry out an oral health needs assessment
3. Use a range of data sources to inform the oral health needs assessment
4. Develop an oral health strategy
5. Ensure public service environments promote oral health
6. Include information and advice on oral health in all local health and wellbeing policies
7. Ensure frontline health and social care staff can give advice on the importance of oral health
8. Incorporate oral health promotion in existing services for all children, young people and adults at high risk of poor oral health
9. Commission training for health and social care staff working with children, young people and adults at high risk of poor oral health
10. Promote oral health in the workplace
11. Commission tailored oral health promotion services for adults at high risk of poor oral health
12. Include oral health promotion in specifications for all early years services
13. Ensure all early years services provide oral health information and advice
14. Ensure early years services provide additional tailored information and advice for groups at high risk of poor oral health
15. Consider supervised tooth brushing schemes for nurseries in areas where children are at high risk of poor oral health
16. Consider fluoride varnish programmes for nurseries in areas where children are at high risk of poor oral health
17. Raise awareness of the importance of oral health, as part of a 'whole-school' approach in all primary schools
18. Introduce specific schemes to improve and protect oral health in primary schools in areas where children are at high risk of poor oral health
19. Consider supervised tooth brushing schemes for primary schools in areas where children are at high risk of poor oral health
20. Consider fluoride varnish programmes for primary schools in areas where children are at high risk of poor oral health

A successful oral health strategy will:

- focus on upstream actions that get to the root causes of poor oral health (such as social determinants and common risk factors like sugar, alcohol and tobacco).
- Provide support for oral health across all of society, using the principle of proportionate universalism.
- Include action across the life course.

- Integrate oral health into other services that support children and adults
- Develop solutions with the communities it serves.
- Provide oral health promotion services at a population level, particularly for those who need it most, such as water fluoridation and supervised toothbrushing schemes.

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