



BNSSG JSNA Chapter:

Oral health in Bristol

February 2024

Chapter information	
Chapter title	Oral health in Bristol
Chapter reference group	Children and Young People
Chapter author	Alexandra Creavin, Public Health Registrar
Quality reviewed by whom/date	Jo Williams, Consultant in Public Health 22 nd February 2024

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1 Executive summary

1.1 Introduction

Oral disease includes tooth decay (dental caries), gum disease (periodontitis) and oral cancer. Poor oral health can have a considerable impact on an individual's health and wellbeing through pain, sleep disturbance, loss of function, poor self-esteem and even loss of employment opportunities. It can also lead to time off work and school. [1]

Poor oral health is often preventable through low-cost simple oral hygiene interventions such as regular brushing with fluoride toothpaste and routine dental check-ups. Good oral health can also be promoted through reducing exposure to common risk factors such as alcohol, tobacco, and sugar. The maintenance of good oral health is a life skill with clear long term health benefits and as such oral health improvement is an important public health role.

This JSNA chapter focuses on the role of local authority public health in oral health and therefore considers oral health in children and adults from the perspective of oral health improvement.

1.2 Key issues and gaps

1.2.1 Children in Bristol

1. Attendance and access: NICE guidance recommends that children see a dentist every 12 months, but almost half of children in Bristol did not attend NHS dental services between June 2021 and 2022. Access to paediatric dental appointments in Bristol is better than the national and Southwest averages and so cannot explain the full picture of poor oral health seen.
2. Tooth decay: 1 in 10 3-year-olds and more than a quarter of 5-year-olds had tooth decay, much of which is untreated. Overall, 42% of primary school pupils reported having filled or removed teeth. The discrepancy in the prevalence of decay in 3 and 5-year-olds may result from factors such as an increasingly cariogenic diet with increasing age or limited oral hygiene.
3. Extractions: Tooth extraction is the most common reason for hospital admission for children aged 5-9 years. The equivalent of 17 full classes of children in Bristol were admitted for tooth extraction in the year 2021-22: 49% higher than the England average. The age-group most impacted are 6-10-year-olds who had an extraction rate nearly double the England average. Tooth extractions were high across the city indicating a need for both targeted and universal approaches.

4. Oral health practices: 1 in 5 Bristol school children reported not cleaning their teeth twice a day. High levels of plaque indicate an important role for tooth brushing interventions in pre-schoolers and school students.
5. Impact: Locally, around 18,000 school days may be lost annually to dental health problems. Parental absence from work is at a similar scale.
6. Inequality: In Bristol, North Somerset, and South Gloucestershire (BNSSG), extraction rates are three times higher in deprived than in affluent wards. Nationally, dental decay was experienced by 1 in 3 Asian/Asian British 5-year-olds and children from Gypsy and Irish traveller communities had the highest incidence of dental decay of all ethnic groups.
7. Special schools: The oral health of 5-year-olds in special schools in Avon, Gloucestershire, and Wiltshire (AGW) is generally much better than the England average, but that of 12-year-olds is worse than the national average, particularly in those experiencing deprivation. Substantial plaque is seen in 1 in 10- five-year-olds with hearing or visual impairment.
8. Children in care: 71% of children in care in Bristol received their annual dental check. This means approximately 200 children are awaiting checks.

1.2.2 Adults in Bristol

1. Access: The ratio of dentists to population in BNSSG is better than the average across the country. Access to adult dental appointments in Bristol is comparable to the England average. NHS dentistry is delivering around two thirds of the NHS activity contracted annually.
2. Oral cancer: Incidence is comparable with the national average but is rising (2017-19).
3. Risk factors for poor oral health and oral cancer: Bristol residents have high smoking rates and very high alcohol intake. Fewer than half consume the recommended amount of fruit and vegetables. Human papilloma virus (HPV) is the causative organism of many oral cancers. In Bristol HPV vaccinations rates are below target with a third of 12-13-year-olds not receiving HPV vaccination.
4. Learning difficulties: Nationally, many adults with learning difficulties who are edentulous¹ do not have dentures. This highlights the need for education and support of individuals and carers to retain functional dentition.
5. Care homes: 9 out of 10 care homes record mouth cleaning daily, but two thirds of homes don't have mouth care training in place for staff.

¹ To have few or no teeth.

6. People experiencing homelessness: a disproportionately low number of people using the community dental service in the past 5 years have given their address as a Bristol hostel, suggesting there may be unmet need in this community.

1.2.3 Key data gaps

1. Adults: There was no local data on general adult dental decay reported in the past decade.
2. Groups vulnerable to poor oral health: No local or regional data were available on oral health in looked after children and young people leaving care, asylum seekers and migrants, or those affected by substance misuse. Data on the Gypsy, Roma, and traveller population were limited to a local survey of vehicle dwellers.

1.3 Recommendations

1. Collaborate across BNSSG to develop a regional oral health strategy:
 - i. Informed by the findings of this needs assessment and the BNSSG dental health stakeholder engagement process.
 - ii. Use the strategy to create a local action plan.
 - iii. Seek best practice examples, evidence-based options and opportunities to pool resources.
 - iv. Build in monitoring and evaluation for any new schemes or adaptations to schemes being introduced and where possible collect data to support calculation of cost-effectiveness / return on investment.
2. Children's oral health: Commission and support activities to promote effective oral hygiene habits (and reduce need for tooth extractions):
 - i. Consider approaches to improve the oral hygiene habits of children transitioning from parental brushing to parental supervision of brushing and from supervision to independent brushing. This would include promotion of twice daily brushing.
 - ii. Explore a focus on KS1 to support good independent oral hygiene and reduce the peak in extractions in 6-10-year-olds.
 - iii. Ensure that oral health is considered in service specifications for Family Hubs.
 - iv. Investigate how the application of cost-effective targeted interventions can be expanded in Bristol, for example: supervised toothbrushing, toothbrush and paste provision, and fluoride varnish programmes for children and young people.
 - v. Consider whether approaches targeted at young children with hearing or visual impairment might be appropriate and feasible.
3. Children's oral health: Consider local interventions or changes in policy to reduce cariogenic diets:
 - i. Consider increased investment in the essential Healthy Schools award that incorporates simple and achievable oral health elements.

- ii. Consider whether approaches targeted at the Asian/Asian British and Traveller communities might be appropriate and feasible.
- 4. Children's oral health: Support equitable access to dental care for Bristol children:
 - i. Work with the ICB to explore why children some are not attending routine NHS dental services.
 - ii. Explore ways to support meeting of dental check targets for children in care.
- 5. Adult oral health:
 - i. Ensure that oral health is considered in service specifications and policies related to factors related poor oral health. Examples include:
 - a. Sweetened food and drink policies
 - b. Healthy weight and healthy diets including policies around supply of low-cost health foods, fast food outlet licencing and allotments.
 - c. Stop smoking services.
 - d. Alcohol licencing for purchase and in venues and alcohol culture within the city.
 - ii. Consider approaches to inequality in oral cancer incidence through reduction in risk factors including HPV vaccination.
 - iii. Consider expansion of cost-effective targeted interventions in Bristol, for example fluoride varnish programmes for adults with evidence of poor oral health.
- 6. Take action to improve the oral health of groups vulnerable to poor oral health:
 - a. Consider ways to collaborate within BNSSG in obtaining data about groups vulnerable to poor oral health, particularly:
 - i. Care leavers
 - ii. Gypsy, Roma, and Traveller communities
 - iii. Those affected by substance misuse.
 - iv. This may include working with specialist health visitors, community teams, or through approaching organisations such as Healthwatch.
 - b. Ensure that oral health is considered in service specifications for services that reach groups who are vulnerable to poor oral health. Consider incorporation of cost-effective interventions such as fluoride varnish programmes and provision of free brushes and paste. Examples include:
 - i. The substance misuse service
 - ii. Healthy weight services.
 - iii. Stop smoking services.
 - iv. Care home policies, such as mouth care training
 - v. Asylum seeker services.
 - vi. Learning difficulties, particularly regarding obtaining dentures

2 JSNA chapter report

2.1 Introduction

Oral disease includes tooth decay (dental caries), gum disease (periodontitis) and oral cancer (see Glossary).

Poor oral health can have a considerable impact on an individual's general health and wellbeing through pain, sleep disturbance, loss of function, poor self-esteem and even loss of employment opportunities. It can also lead to time off work or school [1] Tooth decay is the most common reason for hospital admission and general anaesthetic in children aged five to nine and as such presents a small but real risk of life-threatening complications. [2]

Poor oral health is often preventable through low-cost simple oral hygiene interventions such as regular brushing with fluoride toothpaste and routine dental check-ups. Good oral health can also be promoted through reducing exposure to common risk factors such as alcohol, tobacco, and sugar. The maintenance of good oral health is a life skill with clear long term health benefits and as such oral health improvement is an important public health role.

There are vast discrepancies in oral health between and within local authorities. People living in deprived communities consistently have poorer oral health than those in richer communities. [2]

Dental care is commissioned by the integrated care board (ICB) and provided by urgent, community and domiciliary dental care services, general dental practices, hospital-based dental specialties, and university dental schools. In contrast, oral health improvement is commissioned by the local authority Public Health team and provided by a range of providers alongside community dental services, NHS teams and university dental schools. Local authorities are statutorily required to provide or commission oral health improvement programmes appropriate to their areas and oral health surveys. A plethora of other services have a role in oral health, for example homeless service providers, adult social care settings, prison health, early years settings and schools, drugs and alcohol services, and foster carers. This JSNA chapter focuses on the role of local authority public health in oral health and therefore considers oral health in children and adults from the perspective of oral health improvement. Dental service provision is outside the scope of this chapter, and we also do not report on the health needs of groups for which there are separate commissioned services however we recognise the vital role of collaborative working across oral health improvement and dental care to design and provide the best possible care to our community.

2.2 Who is at risk and why?

Poor oral health can affect anyone. Children may be particularly highly impacted as poor oral health in early life may create lifelong problems. There is also evidence of a clear association with deprivation. Other specific risk groups include those with learning disabilities, asylum seekers and refugees, people experiencing homelessness or deprivation, children in care, and the frail elderly. [1] Certain lifestyles carry increased risk of poor oral health for example high alcohol intake, use of tobacco and high sugar diets.

2.2.1 Children

Poor oral health is associated with wider health and social care issues including poor nutrition and obesity and can affect a child’s ability to eat, sleep, speak and play with other children. Children with poor oral health may have increased school absenteeism, and decreased school performance and may require hospital admissions for dental extractions. [1] [3] Poor oral health may also be indicative of dental neglect and wider safeguarding issues. [2]

The data available regarding oral health in children are outlined in Table 1 and include the Bristol Pupil Voice Survey: a questionnaire for children in years 4, 6, 8, and 10 and four National Dental Surveys involving examination of 3, 5- and 12-year-olds in mainstream education and of special school attendees aged 5 and 12.

The national surveys seek to estimate the prevalence of plaque presence, oral sepsis and d3mft (primary teeth) or D3MFT (permanent teeth); a summary of missing teeth, filled teeth and teeth with obvious dentinal decay (see glossary for definitions). All surveys should be interpreted with caution due to the low sample sizes.

Table 1: Children's oral health data available to this needs assessment

Data source	Latest (Previous)	Description	Limitations
Dental survey: 3-year-olds	2020 [4] (2013) [5]	Random sample of mainstream schools.	D3MT is underestimate of true prevalence and severity of disease. Pupil participation is voluntary reducing sample size and introducing selection bias. 180 5-year-old children, 52% of those invited participated - limits reliability of local estimates. 108 3-year-old children, 18% of those invited participated and 2% of the 3-year-old population. Local, with comparison data available.
Dental survey: 5-year-olds	2022 [6] (2019) [7]	Weighted results. Trained & calibrated examiners.	
Dental survey: Year 6	2023 [8] (N/A)	Visual examination.	
Dental survey: 12-year-olds	2009 [9] (N/A)		
Bristol Pupil Voice Survey	2022 [10] (2019) [11]	~1-in-5 state pupils in Years 4,6,8,10 (n>3,200).	Self-report - no examination. No measure of asymptomatic / undiagnosed disease. Local.

2.2.1.1 Dental attendance

According to NHS dental statistics, over half of children aged 0-17 years in Bristol attended NHS dental services in June 2021/22. [12] This is more than the England average at 52% compared to 47% but lower than in June 2018/19 before the COVID-19 pandemic (65% in Bristol; 60% nationally). [3]



Almost HALF of children in Bristol did not attend NHS dental services between June 2021 and 2022.

[NHS Digital Statistics, 2021-22](#)

2.2.1.2 Teeth filled or removed.

2.2.1.2.1 Hospital tooth extractions

While adult dental extractions are generally performed at local dental surgeries, paediatric extractions almost exclusively occur in hospital under general anaesthetic. These potentially avoidable procedures are disruptive for children and families and costly at around £1,200 per procedure. [1] NHS data indicate total annual costs for paediatric tooth extraction of around £22 million. [1] In addition, around 60,000 school days are missed nationally due to extraction each year with likely concurrent loss of workdays for parents or carers. [1]

The latest data for paediatric hospital admissions for the purpose of tooth extraction are from 2021-22. [13] Figure 1 illustrates that during this period 482 0–19-year-olds per 100,000 (n=510) were admitted to hospital for extraction of at least one tooth; the equivalent of 10 children per week in Bristol, or of seventeen full classes of children over the year. [13] This is compared to 324 per 100,000 on average for England. [13] Of the extractions in Bristol 205 per 100,000 were recorded as due to dental caries. The remainder may have a different primary diagnosis or primary diagnosis may have been omitted. [13]



The equivalent of 17 full classes of children in Bristol were admitted for tooth extraction in the year 2021-22: 49% higher than the England average.

[NHS Digital Statistics, 2021-22](#)



The extraction rate in Bristol 6-10-year-olds was nearly DOUBLE the England average.

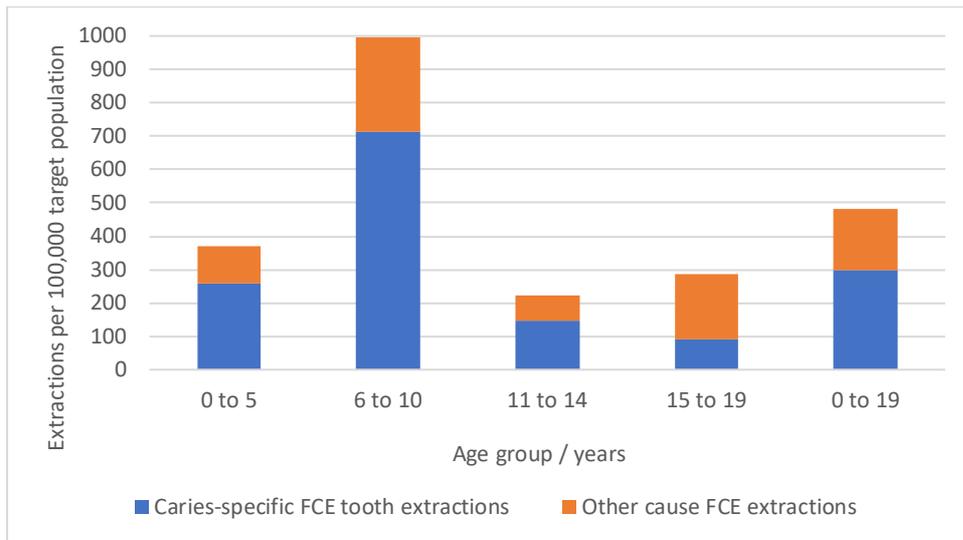
[NHS Digital Statistics, 2021-22](#)



Tooth extractions were high across Bristol indicating a need for both targeted and universal approaches.

[OHID Hospital Tooth Extractions, 2021](#)

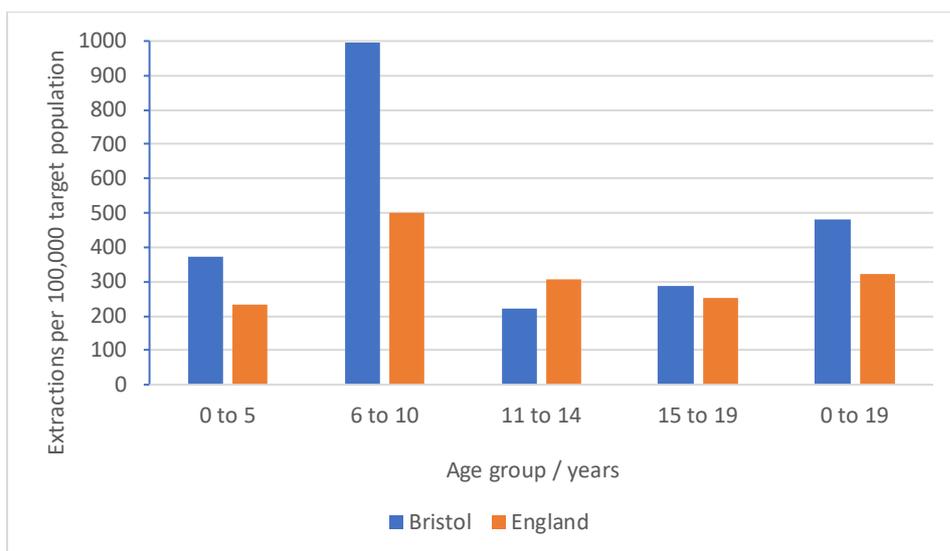
Figure 1: Bristol Finished Consultant Episodes (FCE) extraction rate 2021-22 by primary cause [13]



When stratified by age, half of all children’s extractions occurred in 6- to 10-year-olds at a rate of 995 children per 100,000 target population (n=265), followed by 0- to 5-year-olds at 371 per 100,000 (n=115). [13]

The tooth extraction rate in children aged 11-19 in Bristol is comparable with the England average (see Figure 2). [13] In contrast, the rate of extractions in children aged 0-5 and 6-10 years is higher than the England average (234 and 501 per 100,000 for 0-5- and 6–10-year-olds respectively). [13] This means that the rate of extraction among 6- to 10-year-olds in Bristol is nearly double that of England on average.

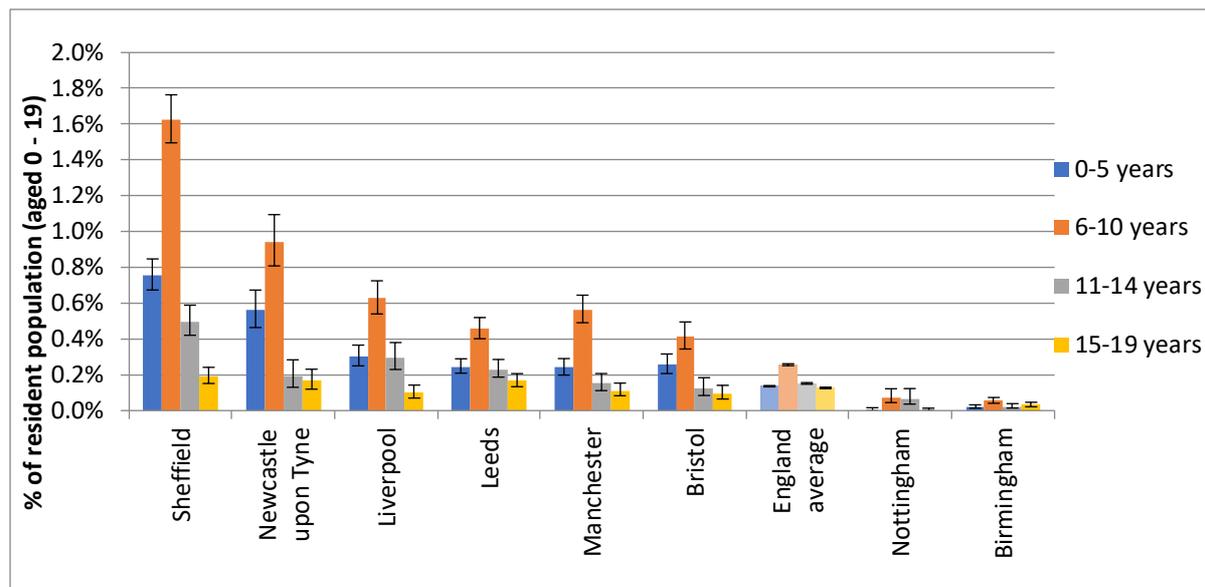
Figure 2: Finished Consultant Episodes (FCE) tooth extraction rate (all causes) in Bristol compared to England average 2021-22 [13]



There was a reduction of 65% in hospital admissions for extraction in 2020/21, but this is likely to be due to the impact of the COVID-19 pandemic on hospital admissions in general, rather than reflecting a reduction in need or demand. [13]

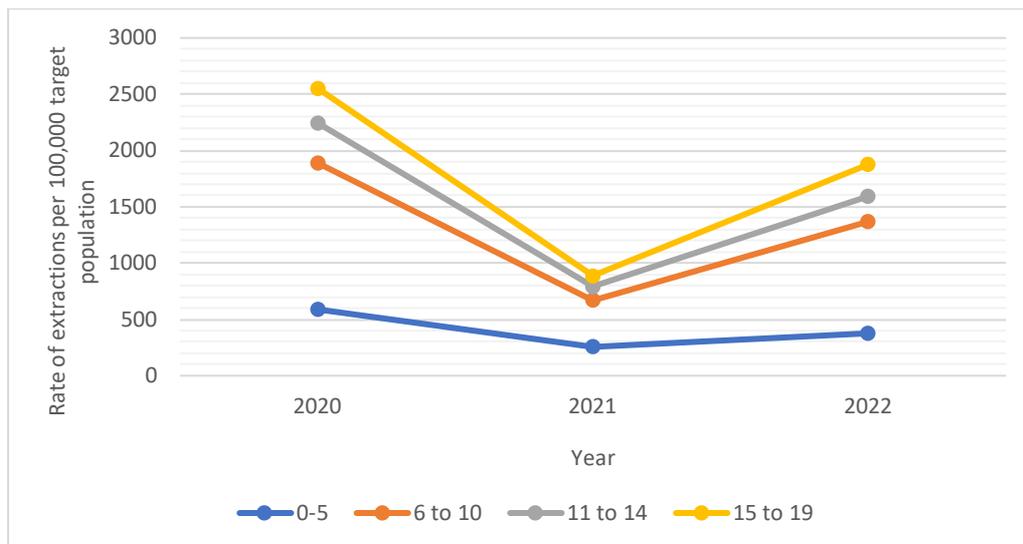
Figure 3 indicates that in 2020/21 the proportion of Bristol 0-19-year-olds admitted to hospital for extraction of at least one decayed tooth was higher than the England average for 0–10-year-olds but lower than in many other Core Cities. [13]

Figure 3: Finished Consultant Episodes (FCEs) for children and adolescents aged 0-19 for hospital dental extraction of one or more primary or permanent teeth as % of resident population, by age category. Core Cities, 2020/21 with 95% CI [3]



As shown in Figure 4, there has been an overall reduction in the rate of caries-related tooth extractions across all age-groups since 2020 however the fall in activity during this period may relate to the impact of the COVID-19 pandemic on non-COVID related hospital episodes, rather than a reduction in need or demand. [13]

Figure 4: All cause extractions in Bristol over time by age category [13]



Data from 2018/19 - 2020/21 show the variation in hospital admissions for dental caries in 0-to-5-year-olds by primary care network (PCN) for Bristol, North Somerset, and South Gloucestershire (BNSSG) ICB (see Figure 5). [14] Of the five PCNs in the highest quintile for admissions, four are Bristol PCNs: one in each of South Bristol and North and West Bristol localities, and two in Inner City and East. [14] Importantly, all BNSSG PCNs with data had higher admissions than the England average indicating a need for both targeted and universal approaches.

Figure 5: Hospital admissions for dental caries in 0-to-5-year-olds by PCN for BNSSG ICB 2018/19-2020/21 [14] Yellow highlight indicates Bristol PCNs.

Quintiles: Low Medium-Low Medium-High High Not applicable

Recent trends: - Could not be calculated ↔ No significant change ↑ Increasing ↓ Decreasing

Hospital admissions for dental caries (0 to 5 years) - CCG 2018/19 - 20/21 Crude rate - per 100,000

Area	Recent Trend	Count	Value	95% Lower CI	95% Upper CI
England	-	-	223.1		220.4 - 225.8
Bristol, North Somerset and South Gloucestershire ICB - 15C	-	-	414.2		386.2 - 442.5
Swift PCN	-	-	875.8		740.3 - 1,016.6
Bristol Inner City PCN	-	-	722.6		591.0 - 848.4
Northern Arc PCN	-	-	552.6		407.5 - 707.9
Pier Health PCN	-	-	464.9		373.8 - 585.0
Foss (Fireclay & Old School Surgery) PCN	-	-	460.8		336.2 - 693.9
4Pcc (Bnssg) PCN	-	-	412.9		293.3 - 542.0
Stokes PCN	-	-	370.8		281.6 - 497.4
Severnvale PCN	-	-	359.1		191.4 - 510.7
Tyntesfield PCN	-	-	352.2		215.1 - 544.0
Bridge View PCN	-	-	327.8		213.0 - 526.2
Yate & Frampton PCN	-	-	318.0		206.4 - 421.1
Gordano Valley PCN	-	-	294.8		208.7 - 375.3
Network 4 (Bnssg) PCN	-	-	287.7		217.7 - 408.4
Fabb (Fishponds, Air Balloon & Beechwood) PCN	-	-	254.7		165.5 - 408.9
Affinity (Bnssg) PCN	-	-	252.8		179.9 - 397.2
Connexus PCN	-	-	250.9		155.5 - 338.4
Phoenix (Bnssg) PCN	-	-	250.4		178.2 - 393.5
Concord Mendip PCN	-	-	*		- -
Healthwest PCN	-	-	*		- -
Mendip Vale PCN	-	-	*		- -

2.2.1.2.2 3-year-olds

According to the Oral health survey of three-year-old children (2019/20) approximately one in ten three-year-old children in Bristol has experience of tooth decay: 9% (5,16%). [4] This proportion is comparable to the England average: 11% (10,11%) and comparable to previous years. [4] This demonstrates a lack of reduction in decay experience in children despite current oral health improvement measures. On average dental decay was seen in 0.6 (0.0,1.1) teeth per child and was frequently untreated: 0.5 (0.0,1.1) untreated teeth per child. [4] This suggests that those who experience decay are not receiving dental care. The mean number of decayed teeth in those experiencing decay was suppressed, but from these data it is possible to deduce that as 90% of children did not experience decay, those with decay frequently had multiple decayed teeth. [4] Therefore, a subset of around 10% of the 3-year-old population is experiencing the majority of oral disease.

The proportion of children experiencing decay in Bristol and the average number of treated and untreated decayed teeth was comparable with the England average: 11% (10,11%), 0.3 (0.3,0.3) and 0.3 (0.3,0.3) respectively. [4]

Below the age of seven the NHS recommends that toothbrushing is completed by parents or guardians. Substantial plaque was visible in 3% (1,8%) of 3-year-old children in Bristol. [4] This was comparable to the England average of 2% (2,2%). [4] In 2013 the proportion of children with substantial plaque was far lower at 0.6% (0,1.7%) but confidence intervals overlap so this may not represent a true rising trend. [5] The persistence of high levels of plaque in children highlights an important role for tooth brushing interventions and dental hygiene teaching for local parents.

2.2.1.2.3 5-year-olds

According to the Oral health survey of five-year-old children (2021/22) more than a quarter of 5-year-olds in Bristol had experience of tooth decay: 27% (21,34%). [6] This was comparable to the national average of 24% (23,24%) but may represent a small rise from the previous survey in 2018/19 when levels were 16% (10,22%) though the small sample



Despite oral health improvement, 1 in 10 Bristol 3-year-olds has tooth decay, much of which is untreated.

[Oral Health Survey of 3-year-olds, 2020](#)



High levels of plaque indicate an important role for tooth brushing interventions in pre-schoolers.

[Oral Health Survey of 3-year-olds, 2020](#)

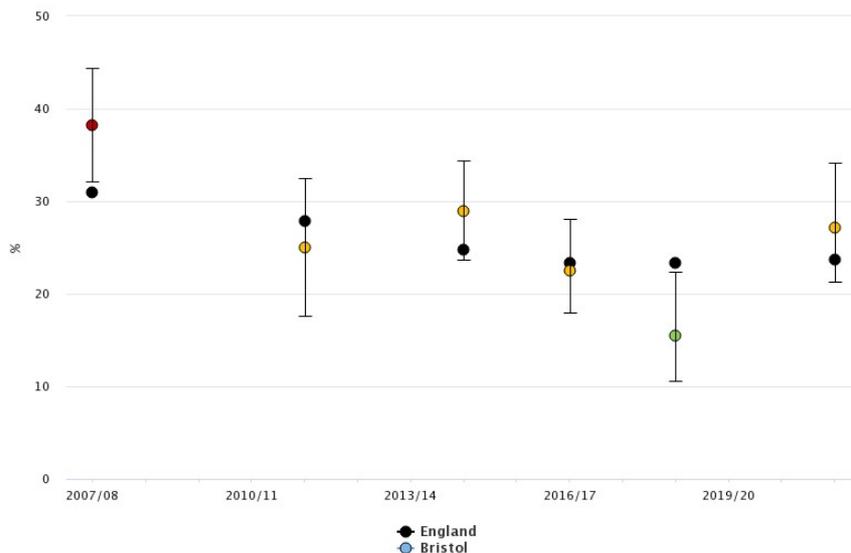


More than a quarter of Bristol 5-year-olds have tooth decay.

[Oral Health Survey of 5-year-olds, 2021/22](#)

size limits the ability to conclude that this represents a rising trend (see Figure 6). [7] In those with dental decay, the average number of affected teeth was 4 (3,5). [6] It is clear that the prevalence of decay in 5-year-olds far outstrips that in 3-year-olds (27% compared to 3%). This may result from many factors such as accumulation of plaque over the two-year period, differences in the cariogenic nature of 3-year-old and 5-year-old diets locally, or limitations in the move from parental cleaning to parental supervision of cleaning resulting in deterioration of oral health standards.

Figure 6: Trend in proportion of five-year-olds with experience of visually obvious dentinal decay in Bristol [14]



2.2.1.2.4 Year 6

According to the Oral health survey of Bristol year 6 pupils (2022/3) 11% (95% confidence interval 6,19%) had experience of decay in permanent teeth, though the sample size was small (n=82) and may be subject to bias. [8] Mean D3MFT was 0.2 (0.1,0.3), substantial plaque was identified in 8% (4,16%) and 1% (1,5%) had advanced decay. While no children reported pain (0,4%), 4% (1,11%) were upset with their teeth or mouth often or very often (the second highest percentage in the Southwest region). These findings were all comparable with the England. In contrast, Bristol pupils reported difficulty with biting or chewing often or very often more frequently than the England average: 7% (3,14%), compared to 2% (2,2%). [8]

2.2.1.2.5 12-year-olds

According to the Oral health survey of twelve-year-old children (2008/9) 40% (34,46%) of 12-year-olds in Bristol had experience of tooth decay. [9] In those with experience of decay, the average number of decayed, missing or filled teeth was 2 (2,3) and was comparable to the England average: 2(2,2). [9]

2.2.1.2.6 Primary and secondary pupils – self report

In the Bristol Pupil Voice Survey, the proportion of children who reported having their teeth checked by a dentist was 85% for primary and 90% for secondary students, though the frequency of check-ups is not clear, and this may not indicate annual check-ups. [10] Half of secondary pupils (Year 8 and 10) and 42% of primary pupils (Year 4 and 6) reported filled or removed teeth in the Bristol Voice Survey of 2021/22 [10]; lower than in 2019. [11] Requiring such treatment at a young age is a clear indication of poor oral health, but access to treatment can be a positive sign, therefore this measure requires careful interpretation.



42% of Bristol primary students report filled or removed teeth.

Bristol Pupil Voice Survey, 2022

2.2.1.3 Teeth Cleaning Habits

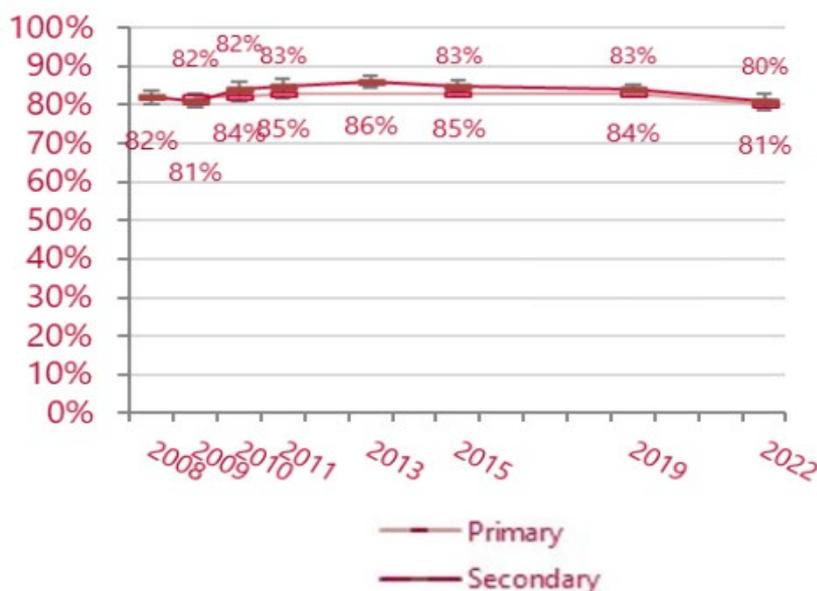
According to the Bristol Pupil Voice Survey one in five school students did not clean their teeth at least twice on the day before the survey. [10] This may be an underestimate as there is a tendency for self-reported data to overestimate positive behaviours. This has remained static despite public health efforts to increase awareness of oral hygiene (see Figure 8). [10]



1 in 5 Bristol children reported not cleaning their teeth twice a day.

Bristol Pupil Voice, 2022

Figure 7: Percentage of pupils reporting that they brushed their teeth at least twice on the day before the survey, by wave of study and by phase 2008-2022 [10]

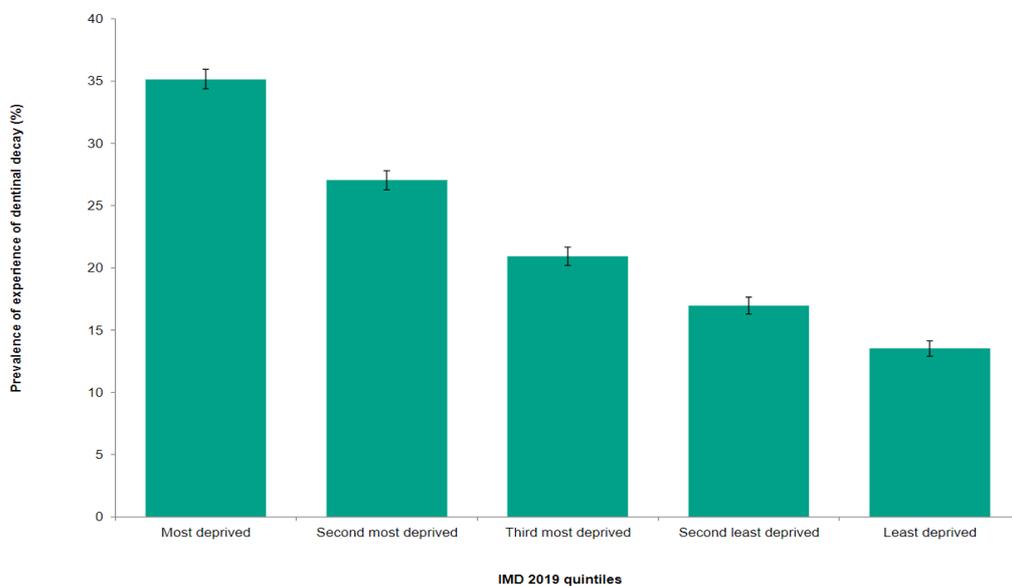


2.2.1.4 Inequalities in children’s oral health

2.2.1.4.1 National situation

At national level, inequalities in children’s oral health are clearly demonstrated (see Figure 8). When the prevalence of dentinal decay experience in 5-year-olds in England (2022) was correlated against mean IMD (2019) scores for lower-tier local authority areas, deprivation explained over a third (37%) of variation. [7] Inequalities in oral health can exacerbate deprivation through loss of school and workdays further worsening educational and financial capacity.

Figure 8: Prevalence of experience of dentinal decay in 5-year-olds in England, 2022 by national IMD 2019 quintiles (from OHS 5-year-olds)



The Health Survey for England 2019 (which included supplementary questions around dental health) found that nationally 6% of children aged fifteen or younger had time off nursery or school in the last six months due to problems with their teeth mouth or gums. In Bristol the population of children was estimated to be around 85,700 [15] so this absence rate is equivalent to approximately 5142 children. In one-third of cases absences occurred on more than one occasion and so the number of school days lost may be more than 8570 days in a 6-month period. Similarly,



Locally, around 18,000 school days may be lost annually to dental health problems.

[Health Survey for England, 2019](#)



Nationally, dental decay was experienced by 1 in 3 Asian/Asian British 5-year-olds.

[Oral Health Survey of 5-year-olds, 2021/22](#)

4% of mothers and 3% of fathers reported they had taken time off work in the last six months because of problems with their child's oral health. [16]

According to data from 2022, there was national variation in the prevalence of decay experience in 5-year-olds by ethnic group. Higher prevalence of decay experience was identified in those identifying as Asian/Asian British (38%) – particularly children from the Pakistani ethnic group - and those in 'Other Ethnic Groups' (45%) compared to those identifying in other groups such as Black/Black British, Caribbean, or African, Mixed, or White which were all statistically comparable at around a fifth of children. [6] This was similar to findings from 2019. [7] Within white ethnic sub-groups there was extremely high inequality with dental decay identified in almost 70% of Gypsy and Irish traveller children; the highest proportion identified in any subgroup. [6]



Nationally, children from Gypsy and Irish traveller communities had the highest incidence of dental decay of all ethnic groups.

[Oral Health Survey of 5-year-olds, 2021/22](#)

2.2.1.4.2 Local situation

Average levels of dental health and care can be misleading in Bristol as the city contains deprivation 'hot spots' particularly in South Bristol. At ward level the greatest deprivation is seen in Hartcliffe & Withywood, Lawrence Hill, and Filwood. [3]

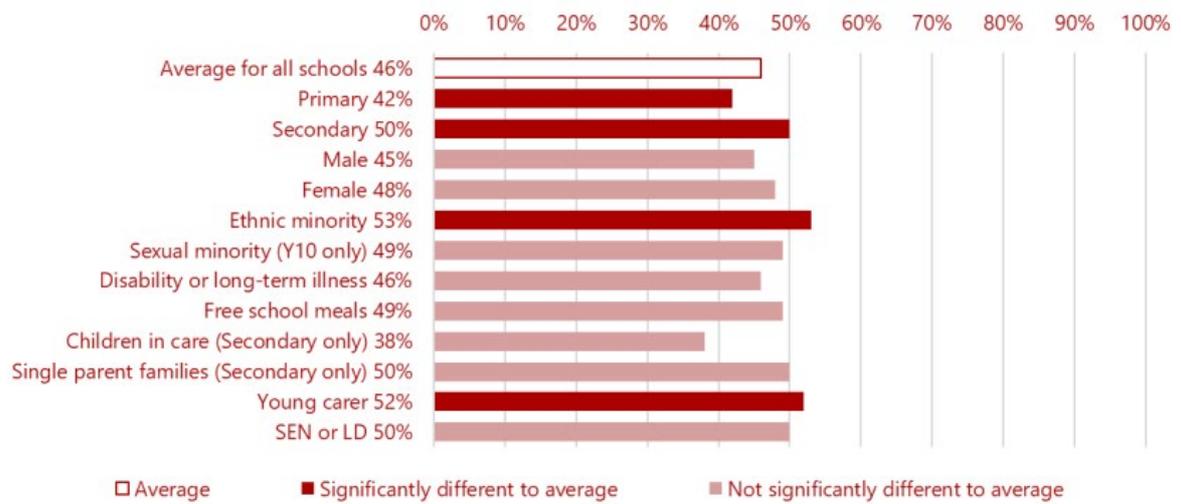


In BNSSG, extraction rates are 3 times higher in deprived than in affluent wards.

[Lucas et al, 2018](#)

Over a fifth of Bristol under 16s live in relative low-income and 17% in absolute low-income households (2021/22); nationally the figure is 15%. [3] According to self-reported data from the Bristol Pupil Voice Survey there was relatively little variation in the prevalence of filled or removed teeth across the pupil population (see Figure 9). Young carers report more filled or removed teeth. However, published data from Bristol Dental Hospital theatre records (2014) show that dental extraction rates under general anaesthetic were around three times higher in the most deprived compared to the least deprived wards across BNSSG. [17]

Figure 9: Variation chart: percentage of respondents who reported that they have had teeth filled or removed, all and by group. [11]



2.2.2 Adults

As well as pain and difficulty eating, poor oral health is associated with wider health and social care issues such as loss of sleep, decreased self-esteem, and absenteeism from work. [18] Indirect impacts from poor oral health may include restricted employment chances and social isolation. [18] There may also be implications for general health such as worsening diabetic control, lung infections and cardiovascular disease. [18]

The data available regarding oral health in Bristol adults are outlined in Table 2 and include oral health surveys and cancer registration data. All surveys should be interpreted with caution due to the low sample sizes.

Table 2: Adult oral health data available to this needs assessment

Participants	Latest (Previous)	Description	Limitations
National Adult Oral Health Survey	2021 [19] (2009) [20]	Approximately 10-yearly. Focussed on the impact of COVID-19 on access to dental care	2021 survey was conducted remotely with no examination of participants and reported at national level - does not provide local or regional comparisons. 2009 survey was reported at Southwest level.
Survey of adults attending general dental practices	2018 [21]	Questionnaire and examination of >15,000 people >16 years old attending NHS and private dental practices.	Only 23 people from Bristol responded to the questionnaire and 27 to the examination. This was insufficient for the survey to report Bristol estimates. Southwest .
Health survey for England: dental health supplement	2019 [16]		Data are only provided at the national level.
National Cancer Registration and Analysis Service	2017-2019 [22]	Provided by OHID. Oral cancer registrations.	Well completed and available at local , regional, and national levels. Does not allow for undiagnosed cancer need.

2.2.2.1 Dental attendance

According to the National Adult Oral Health Survey (2021) one in three adults (35%) in England reported a need for dental treatment or advice between March 2020-21. [19] Frequent reasons for requiring dental advice were a broken or decayed tooth (36%), or dental pain (31%). [19] Two thirds (68%) of those requiring dental care contacted their usual dental practice, 10% tried other avenues (contacting a new practice, internet searches, NHS 111), and one in six (16%) did not seek advice or treatment. [19] Common reasons for not seeking advice were fear of catching COVID-19 (23%) or concerns about the affordability of treatment (13%). [19]

2.2.2.2 Dental decay

Data from the 2009 National Adult Oral Health Survey are available at the level of the Southwest. [20] Dental examination revealed decayed teeth in over a third of adults (36%). [20] This is comparable to the levels of people reporting a need for dental treatment in the 2021 survey and at the time was higher than the average for England (30%) and the second only to the West Midlands (39%). [19] The mean number of decayed teeth in the Southwest was 1.1 which was the highest for any region and higher than the England average (0.8). [19] According to the Health Survey for England (2019) 84% of adults in England had over 20 teeth; the number required for functional dentition. [16]

There were insufficient responses from Bristol to the Survey of adults attending general dental practices (2018) to report dental on dental decay or to make figures from the Southwest necessarily applicable to Bristol. [21]

2.2.2.3 Oral cancer

Oral cancer incorporates neoplasms of the oral cavity, oropharynx, and lip. In 2016 there were 3,744 new cases of oral cancer. In all three anatomical locations, oral cancer is more common in males than females and incidence increases with age. [23] Risk factors for oral cancer include smoking, other ways of using tobacco, drinking alcohol and infection with HPV. [23] Most cases present with advanced disease, which have a poor prognosis. Oral cancer is strongly related to socioeconomic deprivation, with the highest rates occurring in the most disadvantaged groups. [23]



Nationally, mortality rate is more than twice as high in the most deprived areas compared to the least deprived.

Public Health England Oral Cancer Report, 2020

In Bristol oral cancer registrations (2017-2019) as provided by OHID from the National Cancer Registration and Analysis Service show a directly standardised incidence of 17.7 per 100,000 (95% CI 15.2,20.6) which was comparable to the England average: 15.4 (see Figure 10). [14]

Just over half (56%) of all people diagnosed with mouth cancer and two-thirds (66%) of those with oropharyngeal cancer between 2009 and 2013 in England survived for 5 years or more. [23] Earlier detection can improve prognosis. Data for Bristol from 2017-19 showed a directly standardised mortality from oral cancer of 5.0 per 100,000 population (95% CI 3.7,6.7) which was comparable to the England average of 4.7 (see Figure 11). [14]

Figure 10: Oral cancer registrations for Bristol [14]

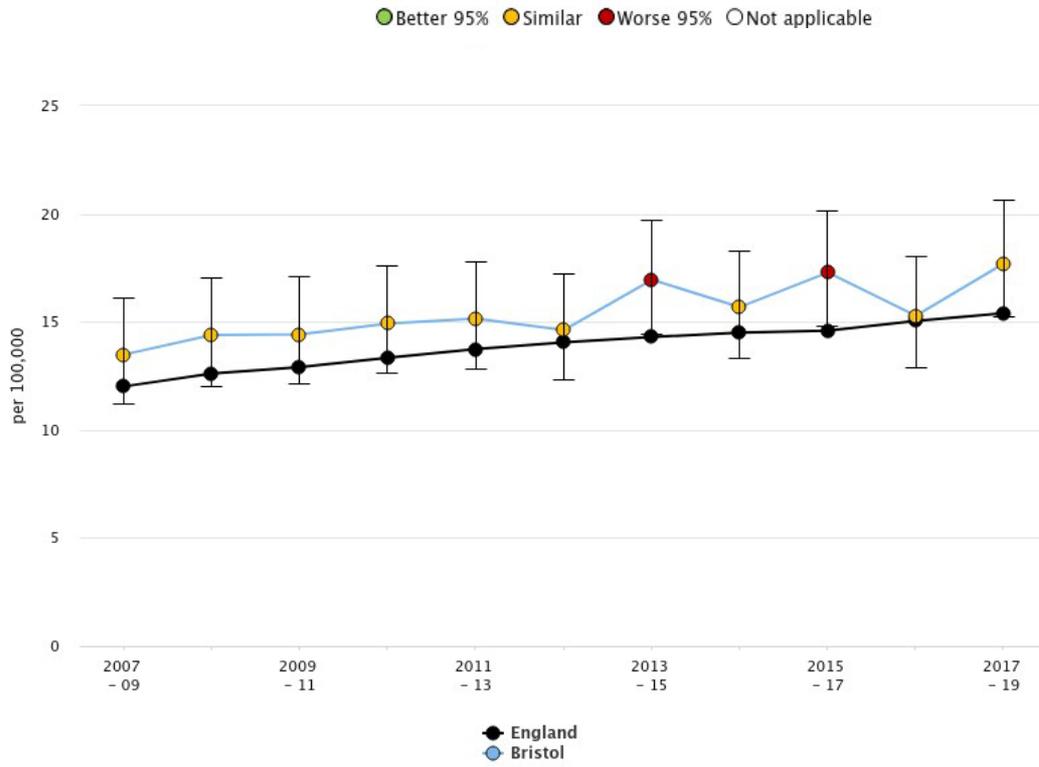
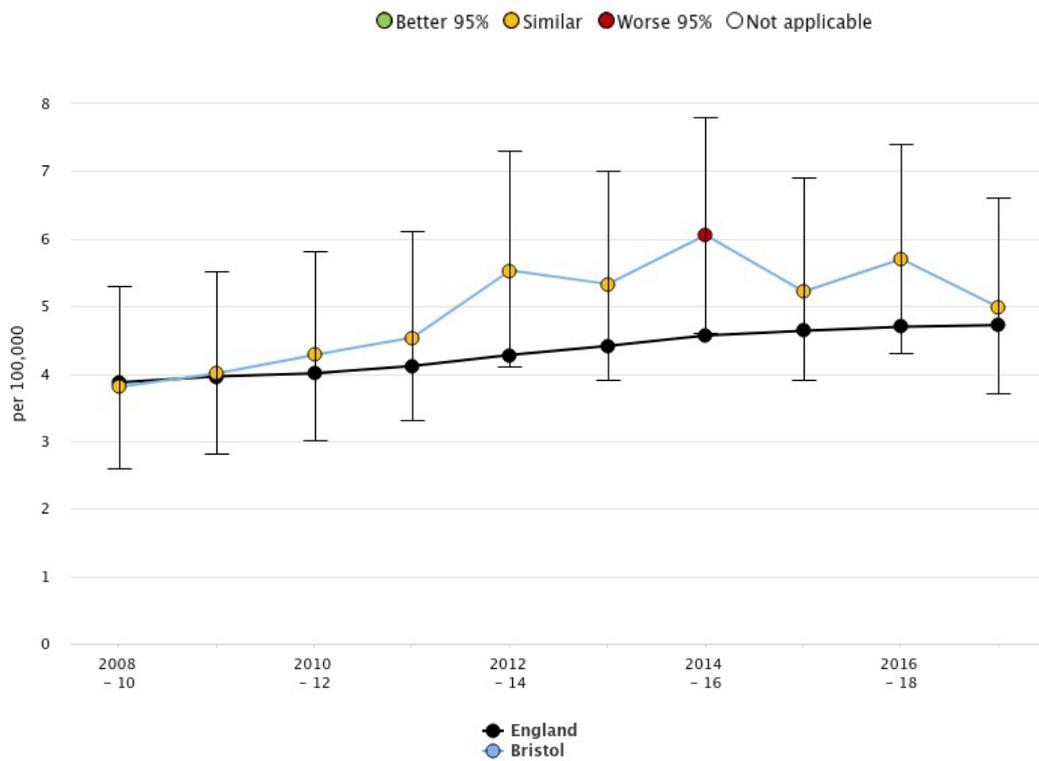
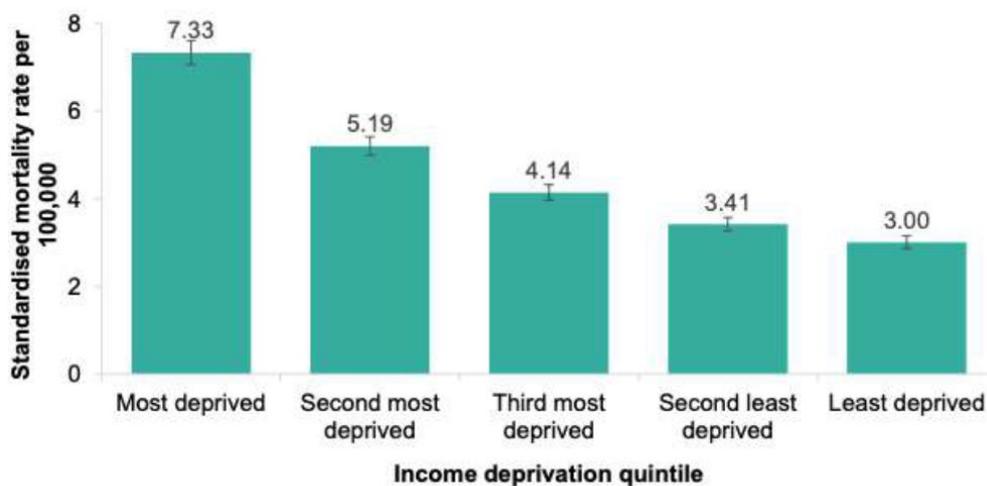


Figure 11: Mortality rate from oral cancer, all ages for Bristol [14]



Nationally mortality rate is more than twice as high in the most deprived areas compared to the least deprived. Across England there are clear inequalities in oral cancer according to deprivation quintile (see Figure 12) [22] Standardised incidence varied from 19.7 to 11.4 per 100,000 in the most and least deprived quintiles respectively. [22] Standardised mortality rate was more than double for those in deprived areas. [22] This may represent many factors such as differences in cancer subtype, delay in presentation or diagnosis, differences in access to or acceptability of care and delay in or differences in adherence to treatment.

Figure 12: Standardised mortality rate per 100,000 of oral cancer in England by 2015 Index of Multiple Deprivation quintiles, 2012-2016 [22]



2.2.3 Risk factors for poor oral health

Lifestyle risk factors for poor oral health include tobacco, alcohol, and poor diet. The same factors increase the risk of oral cancer as does infection with Human Papilloma Virus (HPV). [24] Table 3 gives details of each of these risk factors and their impact on the Bristol population.



Bristol residents drink more than any other area of the UK.

JSNA, 2023

Table 3: Details of risk factors for poor oral health and oral cancer and how they impact the Bristol population.

Risk factor	Details	Bristol situation
Tobacco	Around a quarter of oral cancers in the UK are caused by smoking. [24] People who smoke are more at risk if they also drink alcohol and chew tobacco or betel quid. [24] There is some evidence that extended periods of exposure to second hand smoke (passive smoking) results in a small increase in oral cancer risk. [24]	High smoking rates in deprived areas: In 2021, 16% of adults in Bristol smoked (national rate 13%) with more males than females smoking (20% compared to 13% respectively). Smoking occurs in 16% of households overall, with the most deprived areas far more affected than the least deprived (26% compared to 6%). The percentage of households with a smoker varied by ward from 4% in Stoke Bishop to 31% in Hartcliffe & Withywood. [3]
Diet	There is evidence to suggest that a diet low in fruit and vegetables may increase the risk of oral cancer, possibly due to a lack of vitamins and minerals. [24] National recommendations are that people should eat 5 portions of fruit and vegetables per day.	A higher proportion of Bristol residents report eating the recommended portion of fruit and vegetables per day than nationally - but this is still fewer than half of Bristol residents . The number of hot food takeaway outlets is increasing in Bristol. Obesity can give an indication of healthy diet. Over half the adult Bristol population are overweight or obese (56%). This is lower than the national average (64%) and the lowest of all core cities. [3]
Alcohol	Over a third of oral cancers in the UK are due to alcohol. [24] Smoking and drinking together further increase the risk. UK guidelines recommend a maximum of 14 units of alcohol a week for both men and women.	Bristol drinks more than any other area of the UK: Bristol has a high rate of alcohol-related hospital admissions (677 per 100,000 population compared to 494 nationally) (2021/22). The mortality rate in Bristol for alcohol-specific deaths is significantly worse than the national average (2018-20) with men affected twice as much as women. Locally, alcohol use has an impact on the health and well-being of individuals, families, and communities. [3]
HPV infection	Approximately four in five people will be infected with HPV during their lifetime. [24] Rarely, HPV can cause changes in the mouth and throat increasing the risk of future cancerous change. HPV causes around a quarter of oral cancers in the UK. This has risen in recent years. [24] People with HPV positive cancer are more likely to be younger, non-smokers and to have low alcohol intake than those with HPV negative cancer. [24] HPV 16 is the main type found in oral cancer. HPV vaccination is now routinely offered to all 12–13-year-olds in the UK and protects against various HPV viruses including those most often implicated in oral cancer.	HPV vaccination rates below target: In 2021/22 68% of females aged 12-13 years in Bristol had received one dose of vaccine. [14] This was comparable to the England average for the first time in three years but below the target of 90% (see Figure 13). In the same year 59% (57,61%) of males aged 12-13 years had received one dose of HPV vaccine (2021/22). [14] This was an improvement on the first two years of the male vaccination programme and comparable to the England average (see Figure 14).

Figure 13: Population vaccination coverage: HPV vaccination coverage for one dose (12- to 13-year-old) (Female) for Bristol compared to England average 2013/14-2021/22 [14]

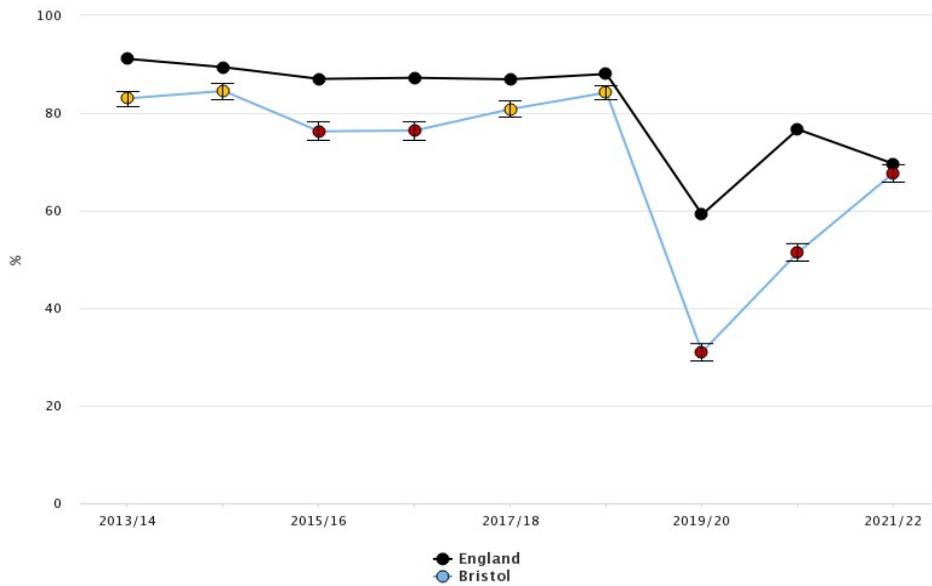
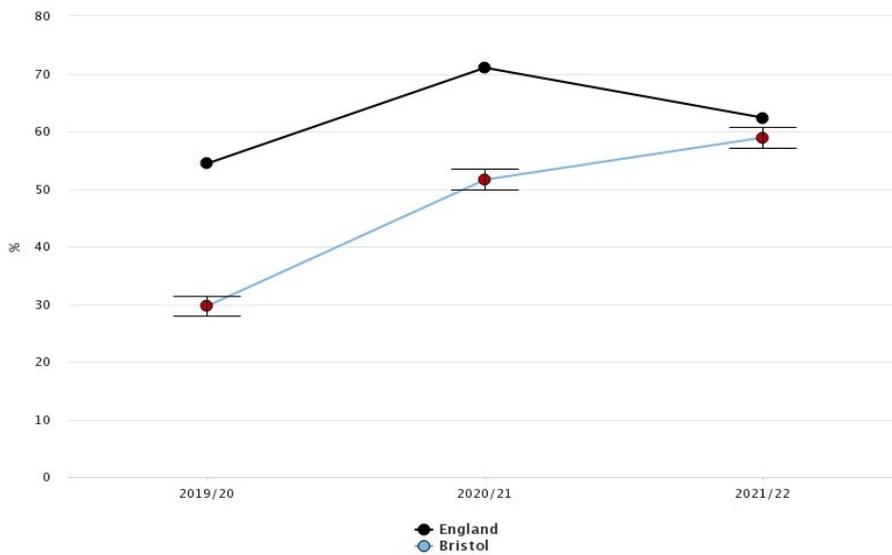


Figure 14: Population vaccination coverage: HPV vaccination coverage for one dose (12- to 13-year-old) (Male) for Bristol compared to England average 2019/20-2021/22 [14]



A third of 12-13-year-olds in Bristol didn't receive a dose of HPV vaccine.

Fingertips, 2021/22

2.2.4 Vulnerable groups

Analysis of the dental health of people in Bristol and the relatively affluent Southwest can be misleading as the city contains 'hot spots' of deprivation and of vulnerability to oral disease that can be lost in the averages.

In Bristol, 15% of the population live in the most deprived 10% of areas in England (2019) and 13,600 older people (17%) in Bristol live in income deprived households. [3] The greatest deprivation is in the wards of Hartcliffe & Withywood, Lawrence Hill and Hengrove & Whitchurch Park. [3] The Survey of adults attending general dental practices (2018), highlighted that across England adults living in the most deprived areas suffered more oral problems than the least deprived, 28% versus 11% respectively. [21] According to the Health Survey for England (2019) those from more deprived backgrounds were less likely to have functional dentition (over 20 teeth) (75%) compared to those in the least deprived groups (83%). [16]

A full report on Inequalities in oral health in England was published in 2021. [25] This report found that there was limited data on oral health in vulnerable groups but gave some detail of national level findings with a particular focus on the homeless and prison populations. The report identified common individual, organisational and policy level barriers across vulnerable groups (see Figure 15). [25]

In this section we focus on the groups who are vulnerable to poor oral health:

1. Adults and children with learning difficulties
2. Looked after children and young people leaving
3. Older people dependent on care including care home
4. Those experiencing homelessness
5. Gypsy, Roma, and traveller (GRT) populations
6. Asylum seekers, refugees, and migrants
7. Those affected by substance misuse
8. People living with HIV

Figure 15: Barriers to good oral health that are common across vulnerable groups [25]

Individual level

- Services unaffordable or perceived to be.
- Oral health not perceived as a priority for patients or carers due to other daily difficulties.
- Low levels of oral health literacy
- Lack of appropriate knowledge of what services are available and their cost.
- Previous difficulties accessing dental care.
- Difficulties with obtaining affordable and appropriate transport.
- Difficulties making and keeping appointments due to health problems, time off work, or lack of a carer.
- Language or communication difficulties
- Perceived negative attitude from dental workforce.
- Dental fear and/or anxiety

Organisational level

- Lack of availability of routine, preventive, urgent and specialised care.
- Insufficient appropriate information provided.
- Communication difficulties.
- Lack of cultural or disability awareness.
- Lack of confidence and training of dental professionals in treating patients from vulnerable groups.
- Lack of knowledge among carers and services about key oral Health messages and access to dental services.
- Poor transition arrangements, for example, child to adult services or home dwelling to institutional
- Physical barriers to access.

Policy level

- Lack of public funding.
- Lack of integration between dental and services.
- Services not commissioned based on needs assessments.
- Workforce not trained to meet the needs of specific groups.
- Services fail to meet the needs of vulnerable groups.
- Policies fail to address the social determinants of health.

The data available regarding oral health in vulnerable groups are outlined in Table 4. All surveys should be interpreted with caution due to the low sample sizes. No resources were available reporting data on looked after children and young people leaving care, asylum seekers and migrants, or those affected by substance misuse. Data on the Gypsy, Roma, and traveller population were limited to a local survey of vehicle dwellers.

Table 4: Oral health data available to this needs assessment for vulnerable groups

Resource	Latest (Previous)	Description	Limitations
Dental health among adults with learning disabilities in England	2017 [26] (N/A - first)	Survey in 2009-2011 of adults with learning disabilities. 27 Primary Care Trusts undertook survey. Clinical examination and questionnaire (usually in homes).	64% of volunteers participated in the examination (n=387). 427 participants in the questionnaire. Summarised at national level only – no local data.
Dental Survey: 5 & 12-year-olds at special support schools	2014 [27] (N/A - first)	All special schools. Weighted results. Trained & calibrated examiners. Visual examination.	D3MT is underestimate of true prevalence and severity of disease. Pupil participation is voluntary reducing sample size and introducing selection bias. Local
National Dental Epidemiology Programme oral health survey of over 65-year-olds living in supported housing	2016 (N/A - first) [28]	Surveys were distributed to residents of ‘enhanced sheltered’, ‘extra care housing’ or ‘sheltered housing’. Data are a mixture of questionnaire and physical examination	Small sample size: 56% of invited residents took part. 87% of upper-tier local authorities provided some data (82% of lower-tier local authorities). In total there were 10,787 fully and 89 partially completed questionnaires and 10,579 fully and 142 partially completed clinical examinations. Local
Southwest mouthcare survey	2022 [29]	250 care homes across the Southwest	Feedback on oral health policies and training. Southwest and BNSSG.
Local survey of People Experiencing Homelessness in Bristol	2022 [30]	Survey forming part of the People Experiencing Homelessness in Bristol: Health Needs Analysis	Local survey
Local survey of Vehicle dwellers in Bristol	2023 [31]	Survey forming part of the Vehicle Dwellers in Bristol: Health Needs Analysis	Local survey

2.2.4.1 Adults and children with learning difficulties

In Bristol there are approximately 9,000 adults living with learning difficulties (2020) and over 2,850 children recorded as having a learning disability in Bristol schools. [3] Each of these figures is forecast to increase by 2025. [3]

People with learning difficulties may experience comparatively more problems with their oral health for several reasons, for example frequent sugar intake, medication impacts, difficulties with access to dental services, reduced dexterity, lack of awareness of dental problems, reliance on others for oral care, and sensory sensitivity affecting oral health care. [32]

Specific guidance exists to support provision of dental care to those with learning difficulties. [32]

2.2.4.1.1 Adults with learning difficulties

The 2010/11 Survey of Dental health among adults with learning disabilities in England found that many oral health measures were comparable between the general population and those with learning difficulties. [26] A lower proportion of those with learning disability brushed their teeth twice daily (63%, compared to 75%) and there was evidence of untreated decay, high levels of extraction rather than restoration, and higher rates of missing teeth and edentulous in people with learning disabilities, particularly in older age where the average number of teeth was 14, compared to 19 in the general population. [26] This is of particular concern as many people with learning difficulties who are edentulous do not have dentures. [32]



Nationally, many adults with learning difficulties who are edentulous do not have dentures.

[PHE Survey, 2019](#)

2.2.4.1.2 Children in special schools

There are just over 11,750 pupils in Bristol schools with Special Educational Needs (SEN), representing 17% of all pupils. [3] Hartcliffe and Withywood is the ward with the highest rate of SEN pupils at 234.5 per 1,000. [3]



The oral health of 5-year-olds in special schools in AGW is generally much better than the England average.

[Oral Health in Special Support Schools, 2014](#)

2.2.4.1.2.1 5-year-olds

In Avon, Gloucestershire, and Wiltshire (AGW) the proportion of 5-year-olds with dental decay in special schools was approximately half that of the England average (see Figure 16). [27] In those with decay, the extent of decay in AGW was comparable with the England average. [27] The groups experiencing the highest amount of decay were those with autism, those with specific learning disability and those with hearing or visual impairment. [27] The highest proportion with substantial

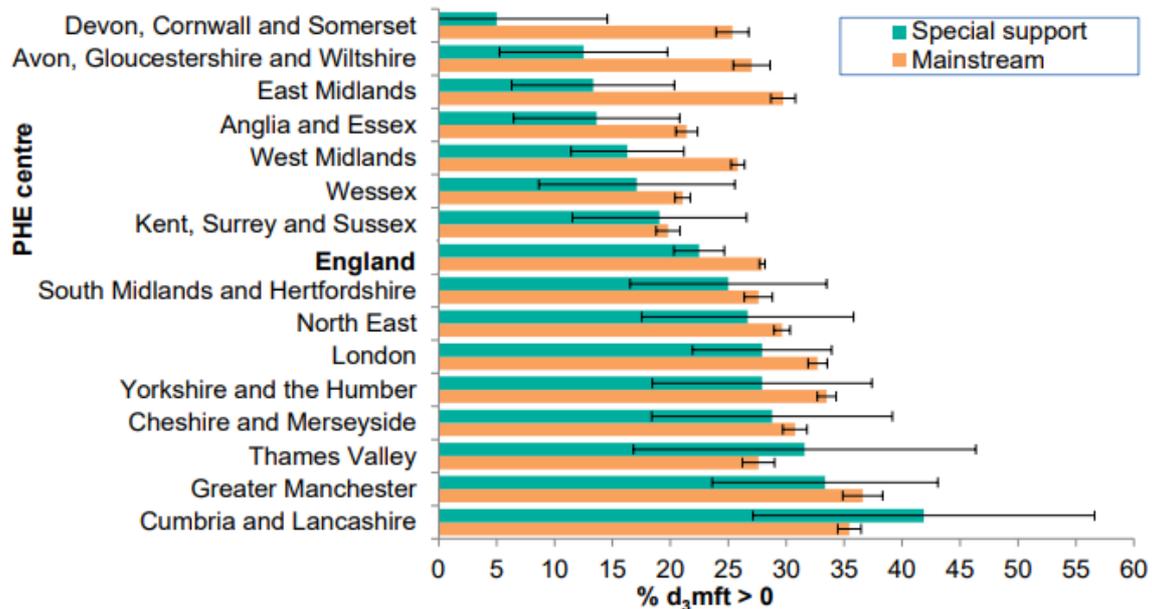


Substantial plaque is seen in 1 in 10 five-year-olds with hearing or visual impairment.

[Oral Health in Special Support Schools, 2014](#)

visible plaque was in those with hearing or visual impairment (11%) followed by those with physical disability (7%). [27]

Figure 16: Percentage of 5-year-old children with decay experience ($d_{3mft} > 0$) in special support (2014) and mainstream schools (2012) in England by Public Health England centre [27]



Error bars represent 95% confidence limits

2.2.4.1.2.2 12-year-olds

In AGW the proportion of 12-year-olds attending special schools who have dental decay experience is comparable to England as a whole. In those with decay, the extent of decay is also comparable to the England average. [27] However, the proportion of 12-year-olds in special schools with substantial plaque was considerably higher in AGW than on average across England with more than a third of children affected: 34% (26,41%) compared to 20% (18,21%). [27]



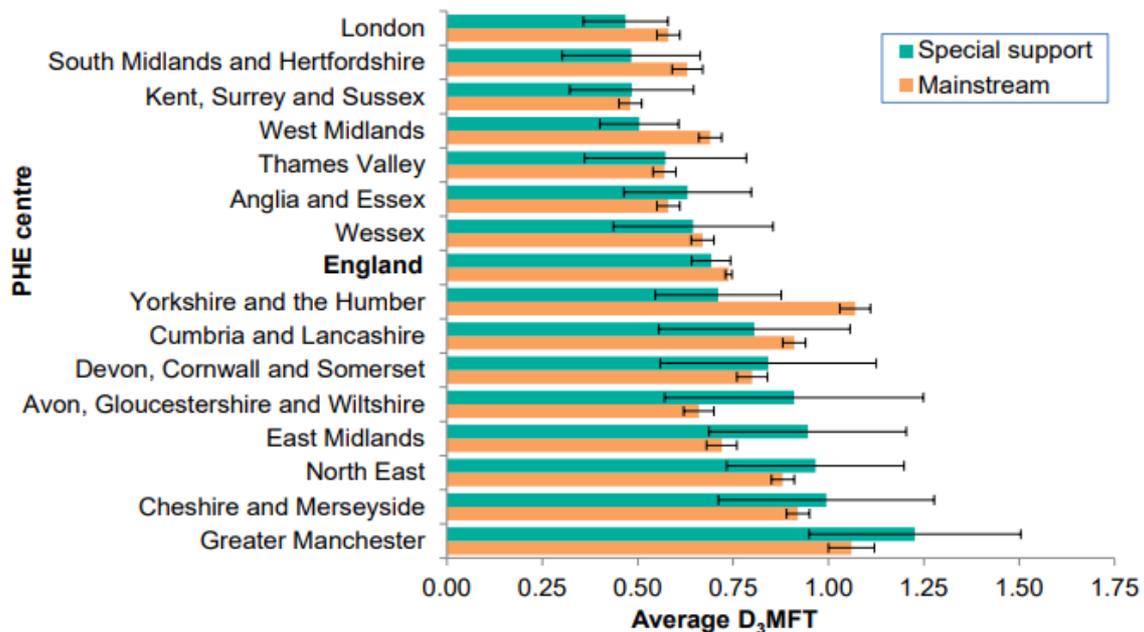
The oral health of 12-year-olds in special support schools in agw is worse than the England average, particularly in those experiencing deprivation.

[Oral Health in Special Support Schools, 2014](#)

As an average over England, the proportion of 12-year-old children with obvious untreated decay was lower in children in special schools (22%) than in mainstream schools (33%). AGW had the highest national levels of variation in score for affected children (3.1) indicating high variation and potentially inequalities. The proportion of 12-year-old children with decay experience in special schools (2014) and mainstream schools (2009) was comparable (see Figure 17), but it appeared that children attending special schools who get decay may have more teeth affected though sample size was insufficient to draw this conclusion.

Groups with the most decay were those with behavioural emotional and social disability. The highest proportion with substantial visible plaque was in those with specific learning disability (25%) followed by those with behavioural emotional and social disability and those with physical disability. Plaque levels were much higher in 12-year-olds than in 5-year-olds.

Figure 17: Average number of decayed, missing (due to decay) and filled permanent teeth) among 12-year-old children in special (2014) and mainstream (2009) schools in England by Public Health England centre [27]



In special schools across England, there was evidence of an association between deprivation and the prevalence and severity of caries in 12-year-olds, but not in 5-year-olds. [27]

2.2.4.2 Looked after children and young people leaving care.

Children Looked After (CLA) refers to children that live with foster parents, with relatives under the supervision of social services, or in residential settings (e.g., children’s homes schools or secure units). There are nearly 700 children in care in Bristol (2022), representing an increase from previous years particularly with the rise in unaccompanied asylum-seeking children. [3] Care experienced young people (CEYP) refers to children in care and those who are aged 16-25 who have previously been in care.

CLA frequently enter the care system with poor oral health because of factors such as poverty, abuse and neglect. [33] CLA are more likely to have dental treatment needs and less likely to access services. [34]

Local authorities are responsible for ensuring an Initial Health Assessment is conducted for



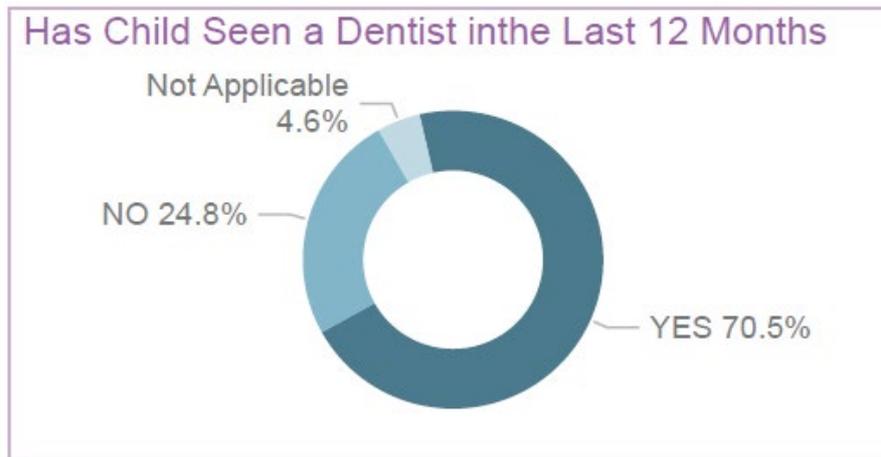
71% of children in care in Bristol received a dental check. This means approximately 200 children are awaiting checks.

Sirona Report, 2023

all CLA including a dental check of teeth for signs of poor oral hygiene or decay. Review Health Assessments are provided 6 monthly up to five years old and then annually.

According to data from the local provider (Sirona), the total active caseload of looked after children was 773 in August 2023, of whom 686 were five and over and 87 were under five years old. [35] In March 2022-3 dental checks were achieved in 71% of children in care (see Figure 18) (67% for BNSSG). This represented an improvement on levels during the COVID-19 pandemic which were 54% in Bristol (2020/1). [35]

Figure 18: Proportion of looked after children who had seen a dentist in the last 12 months (March 2022-3) [35]



No routine data are collected for care leaver dentistry. Anecdotal evidence suggests that this group face significant issues. Many care leavers are reported to require extensive dentistry work because of neglect in earlier childhood but feel there is no option accessible to them apart from accessing the dental hospital for pain relief. The following local case study was provided by a Personal Advisor from Children’s Services at Bristol City Council and illustrates some of the challenges faced by this care leavers including traumatic experience and neglect of dental hygiene in early life, moving of location, and shame over dental condition in adulthood:

“The experiences of ‘T’ (in their early 20s) echo the feelings and experience shared by so many vulnerable young care leavers:

Due to parental neglect and abuse suffered, little attention was given to dental hygiene and education in the family home.

The situation was made worse when T was taken into care and spent time moving address. Tooth decay, the need for fillings, the loss of 3 front teeth, pain with a wisdom tooth all soon followed.

Appointments can be a traumatic, confidence-sapping, and shaming experience, which T would rather avoid. This, coupled with the reality of availability and inaccessibility, means that T’s dental issues remain untreated.”

It would be helpful to listen to and understand the oral health needs of this cohort. The Hype Young People’s Health Manifesto for BNSSG [36] covers other areas of health and an additional detailed piece of work on oral health could be valuable.

2.2.4.3 Older people dependent on care including care home residents.

Bristol has a relatively young age profile with a median age of 34 years compared to 41 years nationally. [3] In Bristol, 1,890 care home places were funded in 2022/23. [3]

Older adults have higher demand for fillings and bridges and are often more complex patients due to previous dental restoration, medical co-morbidities, and the higher likelihood of need for domiciliary care. Care home residents generally have poorer oral health than people who can live independently: those in residential and nursing care homes are less likely to have functional dentition and more likely to have active dental caries. [37]

The National Dental Epidemiology Programme oral health survey of over 65-year-olds living in supported housing was conducted in England in 2016. Data from Bristol showed that 19% of volunteers had oral health impacts ‘fairly often’ and that 16% had not seen a dentist within the last 2 years. [28] There were insufficient responses to determine the reason for this lack of attendance. The proportion of volunteers who were edentulous was 13% and 1 in 10 had no posterior functional contacts. Nearly a third had removable and a further 12% had fixed tooth replacements. On examination visible plaque was present in over half (55%) and calculus in 60%; 3% were suffering with dental pain and none required domiciliary treatment. [28]

On a regional level, the Southwest consistently scored better than the English average in all oral health outcomes apart from worse than average levels of visible calculus and plaque. The

region had higher rates of people reporting they could not find a dentist, it was difficult to get to the dentists, or they couldn't afford the NHS charges. [28]

On a national level, poor oral health was associated with:

- older age
- increased time since last dental visit
- being in receipt of domiciliary services
- reduced cognitive recall
- lower level of education

Care home residents often depend on care home staff for support with daily mouth care and access to dental services. Specific NICE guidance (NG 48) [38] and CQC recommendations [39] have been produced relating to oral health for adults in care homes. Commitments relating to mouth care in care home residents formed part of the NHS Long Term Plan [40] and resources have been produced such as the Oral Health Toolkit for Adults in Care Homes [41] to support delivery. Despite this, unwarranted variation in mouth care support and access to dental services continues to be a problem.



The Southwest Mouth Care Survey (2022) received feedback from 250 care homes across the Southwest regarding oral health policies and awareness of and adherence to national guidance. [29] The survey responses included six care homes from Bristol.

9 out of 10 care homes record mouth cleaning daily. However, two thirds of homes don't have mouth care training in place for staff.

[Southwest Mouth Care Survey, 2022](#)

Of responses from BNSSG, 85% of homes had a policy for residents' oral health (84% Southwest average) and 96% had an oral health section in each residents' care plan (92% across the Southwest). [29] In BNSSG 89% of homes made a daily record of teeth/mouth/denture cleaning for all residents where residents required support with such activities (Southwest 87%). [29] Nearly a third (30%) had not read the NICE guidance (NG 48) relating to oral health for adults in care homes (Southwest 29%) and more than half (58%) did not have mouth care training in place (Southwest 67%). More than one in ten care homes (11%) did not carry out a mouth care assessment for new residents during admission. Specific concerns expressed in the survey were a need for training on mouth care for patients with dementia and problems in getting residents registered with a dentist and accessing dental care: 30% were not confident in accessing urgent dental care for residents. [42] At the organisational level problems faced included low availability of care, poor knowledge, or lack of training of care staff around mouth care and lack of capacity to do in home assessment.

Opportunities for action identified from this survey by the Findings of the Southwest Mouth Care Survey 2022 Report included [43]:

1. Raising awareness of guidelines and useful resources to aid implementation of guidelines.
2. Flexible offers of mouth care training which suit the needs of different care homes.
3. Support to implement essential mouth care practices into daily care.
4. Linking up care homes with pathways to gain support from dental professionals.
5. Improving access to urgent and routine dental care for residents.

The review of oral health surveys of older people in England and Wales did not include the Southwest but identified that one of the main things that was lacking in the care of older people was training on the recognition of urgent problems in residents and how to access urgent or emergency dental care. Importantly, the report identified that oral health policies, oral health needs assessments, staff training on oral health care and a system to ensure oral hygiene support is received were all more common in residential and nursing care homes than in 'care in your home' services and hospitals with inpatient facilities.

2.2.4.4 Those experiencing homelessness

People experiencing homelessness have been found to have greater need for oral healthcare than the general population. [30] Common problems include dental loss below levels required for functional dentition, periodontal disease, late detection of oral cancer, and dental pain. [30]

In a 12-month period, 840 people experiencing rough sleeping in Bristol had had contact with the Outreach Team. Recent single night count records report around 58 people experiencing homelessness in Bristol. [30] The number of people who had slept rough at any time within a three-month period as reported by Bristol Street Outreach service (April-June 2022) was 200. [30] Bristol's proportion of households placed in temporary accommodation is the third highest in the core cities. [30]



Approximately 138 people giving their address as a Bristol hostel used the community dental service in the past 5 years.

[BCC People Experiencing Homelessness Needs](#)

Little data are available about the oral and dental health of people experiencing homelessness in Bristol. [30]

Survey respondents reported loss of teeth following acts of violence (17%), pulling their own teeth (15%), and using alcohol (27%) or other drugs (28%) to deal with pain. [30] The primary care community dental service in Bristol identified 138 people who had used these services over a 5-year period and given their postcode as one of seven of the largest hostels in Bristol. [30]

2.2.4.5 Gypsy, Roma, and traveller (GRT) populations

Members of the GRT community may experience extreme health inequalities and often report receiving a poor quality of health care. [44] Nationally the GRT population have a high prevalence of cariogenic diets (95%) and a low prevalence of brushing twice a day (40%). [25]

Bristol has a substantial GRT population and is home to a quarter of the GRT population in the Southwest. [3] Most of Bristol's GRT communities are housed (due to lack of site provision) with just 5% residing in caravans. [3] In July 2022 the official caravan count for Bristol was 32 caravan pitches across two sites. [45] However, anecdotal evidence suggests that many people who are living in caravans in Bristol are not doing so on official pitches.

In Bristol, the working group providing a strategic lead on 'vehicle dwellers' estimates there are 600-800 people living in vehicles in Bristol, a proportion of whom are from the Gypsy, Roma and traveller communities. [31] Of those surveyed, 17% of vehicle dwellers reported seeing a dentist for a check-up in the past 12 months and 15% reported seeking help from a dentist for a dental problem. [31] Dental pain had been experienced by around a quarter of respondents during the same time period. [31]

2.2.4.6 Asylum seekers, refugees, and migrants

According to the 2021 UK Census, one in six (16.8%) usual residents of England and Wales were born outside the UK representing 10 million people and nearly 10% of usual residents held a non-UK passport. [46] The commonest countries of birth were India, Poland, Pakistan, and Romania.

The UK has seen an influx of refugees and asylum seekers, because of multiple international crises, including events in Syria, Afghanistan, Hong Kong, and Ukraine. Upon arrival in the UK, all individuals undergo an initial health check, however these standard medical checks are very brief and do not routinely include clinical oral health assessments.

There is government guidance for provision of migrant dental health. [47] Asylum seekers and refugee are generally expected to access mainstream dental services. [48]

According to a 2022 report scoping oral health and dental care needs in asylum seekers and refugees in the Southwest, in 2021, 144 refugees were resettled across the Southwest. 1,437 asylum seekers sought support the majority of whom (63%) were males aged 18 to 49 (September 2021). [48] Of asylum seekers and refugees, 253 children had dental needs of whom 13% were urgent and 209 adults (22% urgent). [48]

The report mentioned that most interviewees reported issues regarding access to routine dental care. [49] Barriers to dental care access reported included language, availability of services, expectations, cultural norms, transport, financial and eligibility. [48] Challenges around limited food and drink choices during travel and once in the UK were also raised. Factors identified that facilitated oral health are summarised in Figure 19. [48] These local

findings were in keeping with published studies. [50] The needs assessment made many recommendations including the following [48]:

1. Simplify the route to urgent and routine dental care, support navigation, and give realistic expectations of UK dental access and care.
2. Translation/interpretation (including for receptionists and clinic co-ordinators)
3. Targeted oral health promotion – including improving links with established organisations and language-specific resources that could be distributed opportunistically.
4. Culturally appropriate settings / messages

Figure 19: Factors facilitating dental care access [48]

Oral hygiene resources	Toothbrushes and toothpaste provided free of charge in bridging hotels
Transport	Volunteers and support workers assist with transport needs
Trust	Support workers build relationships and gain trust
Changing priorities	Once immediate basic needs are met (e.g., housing, education) oral health is often a leading priority
Education / literacy	Degree level education Good levels of spoken and written English
Caregiver attitudes	Supportive community and wider teams Understanding, empathetic and helpful dental teams Supportive and flexible clinicians Keen junior/trainee dentists Community engagement projects
Social media	WhatsApp groups used in bridging hotel communities

In the 2021 UK census, 18.8% of the Bristol population were non-UK born. [46] Bristol has heterogeneous populations of resettled refugee groups, migrants, and asylum seekers. The number of asylum seekers living in Bristol City hotels varies from week to week. As of 19th October 2023, local counts show that there were 1086 residents of whom 299 were children and 15 were pregnant women. Between August 2022 and July 2023, 63



Provision of free toothbrushes and toothpaste was found to facilitate oral hygiene in those seeking asylum.

NHSE Scoping Review, 2022

unaccompanied Asylum-Seeking Children received an Initial Health Assessment by Sirona in Bristol and 41 received a Review Health Assessment. (Data supplied by Sirona) Previously in January 2022 169 individuals had been screened (96 children, 73 adults) as part of the Afghan Relocation and Assistance Policy (ARAP) programme commissioned by NHS England Southwest. Of those screened 14 required urgent dental care (4 children, 10 adults). [48]

In addition to initial screening by the community dental service, Dentaïd (a national Dental Charity) ran two clinics with Refugees and Asylum Seekers in April 2023 during which fifteen patients were seen in total. Fifteen teeth were extracted, and four teeth were filled, and all patients were checked for signs of cancer and given oral health instructions. Two patients were referred for further treatment. No patients received fluoride varnish. No funding has been secured to allow the charity to return to do further work with this group. (Data supplied by Dentaïd, December 2023)

Examples of approaches taken by different local authorities in the Southwest to promote oral health among asylum seekers and refugees have been summarised in Figure 20.

Figure 20: Examples of approaches to oral health improvement for asylum seekers and refugees from different locations across the Southwest [48]

Wiltshire	Swindon	Gloucestershire	Somerset	Plymouth
<p>Each family has an email address made and access to templates for emailing services. This promotes independence, empowerment, and self-confidence.</p>	<p>Foundation dentists ran a one-off community engagement project offering preventative oral health education at women’s groups and bridging hotels. They are developing a translation tool to assist communication of pain to dentists.</p>	<p>WhatsApp groups were used by bridging hotel residents. This could provide a useful route to circulating targeted oral health education resources.</p>	<p>Oral Health assessments and education at community hubs where resettlement teams can refer to Oral Health Improvement team who offer appointments for assessments and urgent care. 6-monthly recall.</p> <p>Infographics promoting oral health with voice-overs in English, Dari, Pashto and Arabic available at the community hub.</p>	<p>Dental Champion Training: students train staff at charity organisation to enable them to provide oral health messages to individuals.</p> <p>Welcome clinic: free, with one-day rider bus ticket, longer appointments, trauma-informed care.</p>

2.2.4.7 Those affected by substance misuse

Those affected by substance misuse include people who are dependent on or engage in problematic use of both legal (e.g., alcohol) and illegal drugs. Adverse health outcomes are common and may relate to direct effects and to indirect impacts such as poverty, self-neglect, and a cariogenic diet. [51]

In Bristol there are an estimated 4,940 opiate and/or crack users. [3] Bristol has the second largest estimated rate of opiate and/or crack use of the English core cities and the fourth highest rate of drug-related deaths. [3] Bristol residents drink more alcohol than any other area of the UK. [3] The alcohol-related admission rate was high at 677 per 100,000 compared to 494 for England (2021/2). [3] No local data were identified regarding oral health in this population but studies have shown increased dental decay, periodontitis, and rates of oral cancer 38 times those of the general population when combined alcohol and tobacco use is present. [52]

Dentaid, a national Dental Charity ran two clinics for people experiencing issues with substance abuse (Bristol Drugs Project) in May 2023 during which 23 patients were seen in total. 21 teeth were extracted, and 20 teeth were filled, and all patients were checked for signs of cancer and given oral health instructions. Two patients were referred for further treatment. Seven patients received fluoride varnish. Some funding has been secured to allow the charity to return to do further work with this group. (Data supplied by Dentaid, December 2023)

Though no local qualitative data were available for this group, other local authorities in the region have conducted interviews and focus groups with those with a background of substance misuse. [53] Themes highlighted through this work included:

- Difficulty accessing NHS dentists.
- Concerns about their dental management in NHS dentists (e.g., tooth extractions) – this involved the perception that they received worse treatment such as higher chance of extractions rather than treatments that would maintain dentition.
- Higher priorities than oral health to attend to
- Methods for engagement with oral health improvement – provision of free toothbrushes and toothpaste by centres, community hubs, or pharmacies was viewed positively as was provision of financial incentives to encourage dental check-ups.

Anecdotal evidence suggests that some people experiencing pain such as dental pain may self-medicate with illicit substances. Such pain may be more evidence when a person is switched to methadone.

2.2.4.8 People living with HIV

A further challenge that is more common in this group but may affect any member of the Bristol population is the stigma related to providing dental care for patients with HIV. According to The People living with HIV Stigma Survey, respondents reported that they continue to endure stigma and discrimination and that many avoid dental care due to concerns that their diagnosis would result in them being refused treatment. [54] National data around stigma in healthcare are collected as part of the Positive Voices Survey however dentistry is not specifically mentioned in this. Brigstowe is an organisation seeking to reduce stigma in HIV. Locally in October 2023 Brigstowe provided HIV Awareness Training to third year dentistry students and this is under consideration as a permanent addition to the syllabus in which case it would be delivered on an annual basis.

2.3 Strategies and guidance

2.3.1 National Guidelines

The following national guidelines are relevant to oral health improvement:

1. NHS: Improving Dental Care and Oral Health – A Call to Action (February 2014) [Presentation heading \(england.nhs.uk\)](#)
2. NICE Guideline PH55 – Oral health: local authorities and partners (October 2014) [Overview | Oral health: local authorities and partners | Guidance | NICE](#)
3. NICE Guideline NG30 – Oral health promotion: general dental practice (December 2015) [Recommendations | Oral health promotion: general dental practice | Guidance | NICE](#)
4. NICE Guideline NG48 – Oral health for adults in care homes (July 2016) [Overview | Oral health for adults in care homes | Guidance | NICE](#)
5. OHID/DHSE/NHSE/NHSI Delivering better oral health: an evidence-based toolkit for prevention (June 2014) [Delivering better oral health: an evidence-based toolkit for prevention - GOV.UK \(www.gov.uk\)](#) which provides guidance for dental professionals on specific advice for patients.
6. PHE Local authorities improving oral health: commissioning better oral health for children and young people - An evidence-informed toolkit for local authorities (June 2013) [Local authorities improving oral health: commissioning better oral health for children and young people: an evidence-informed toolkit for local authorities \(publishing.service.gov.uk\)](#)

The NICE guideline Oral health: Local authorities and partners (PH55) makes twenty-one evidence-based recommendations which can be summarised as follows:

- 1 & 6. Ensure oral health is a key health and wellbeing priority included in all local health and wellbeing policies.
- 5, 8 & 10. Promote oral health in all public service environments, workplaces, and existing services for all children, young people, and adults at high risk of poor oral health including specifications for all early years services.
- 2, 3 & 4. Carry out an oral health needs assessment using a range of data sources and develop an oral health strategy.
- 7 & 9. Ensure frontline health and social staff can give advice on the importance of oral health and commission training for those working with groups at high risk of poor oral health.
- 11. Commission tailored oral health promotion services for adults at high risk of poor oral health.
- 13 & 14. Ensure all early years services provide oral health information and advice and provide additional tailored information and advice for groups at high risk of poor oral health.

- 15, 16, 19 & 20. Consider supervised tooth brushing schemes, fluoride varnish programmes for nurseries and primary schools in areas where children are at high risk of poor oral health.
- 17 & 21. Raise awareness of the importance of oral health, as part of a ‘whole school’ approach in all primary and secondary 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.

The Public Health England toolkit recommended that Local Authorities:

1. Put children and young people (CYP) and their families at the heart of commissioning.
2. Adopt an integrated approach with partners for oral health improvement.
3. Ensure all local authority services for CYP have oral health improvement embedded at a strategic and operational level.
4. Commission for oral health improvement across the life course, giving every child the best start in life and adopting the principle of proportionate universalism.
5. Address the underlying causes of health inequalities and the causes of poor general and oral health through upstream evidence informed actions.
6. Use, share and develop information and intelligence.
7. Sustain and develop the CYP workforce.
8. Support CYP through their families, early year, schools, and community settings to maintain good oral health, adopting a place-based approach.
9. Lead and advocate a clear local vision for oral health improvement and addressing oral health inequalities.
10. Provide access to quality local dental services focussed on improving oral health.
11. Commissioning frameworks should ensure that oral health improvement is integrated with existing programmes such as the healthy child programme for 0- to 19-year-olds.
12. Use methods such as pooled budgets, collaborative commissioning across organisations and geographies and cost benefit analysis tools.

2.3.2 NHS England reforms

The following NHS England reforms are relevant to oral health improvement:

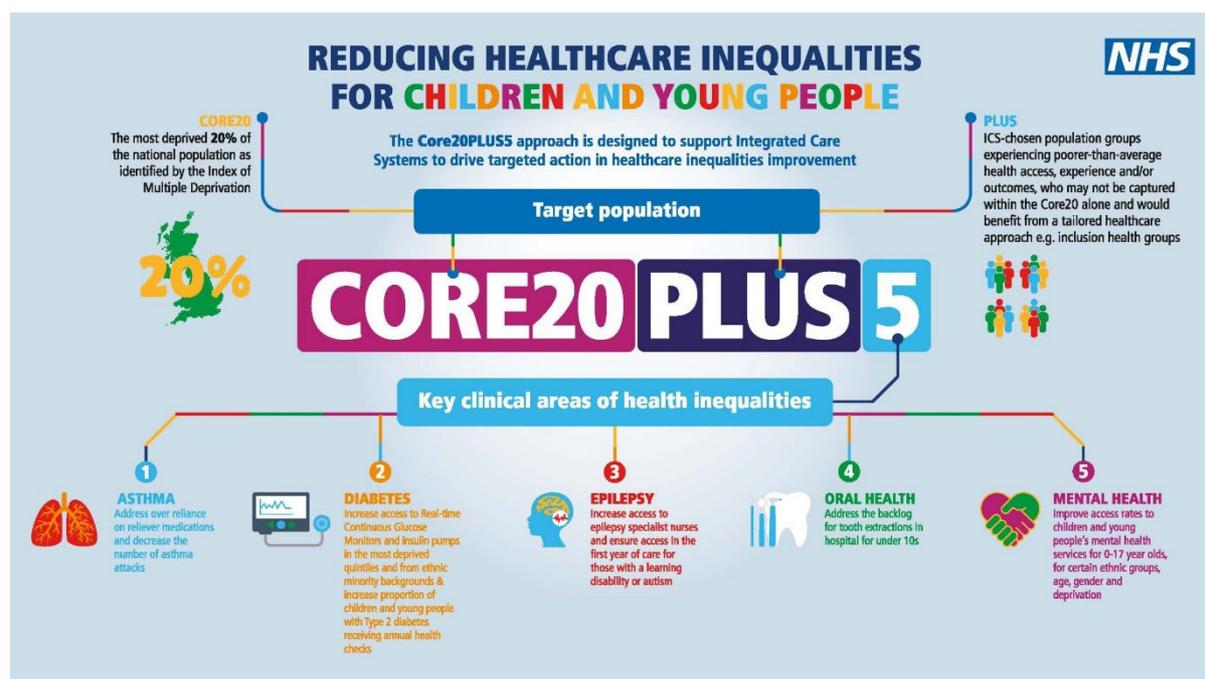
1. Better access to NHS dental services under new reforms (July 2022) [NHS England » Better access to NHS dental services under new reforms](#)
2. 70,000 more toddlers to get their first dental check-up as NHS England targets childhood dental health (May 2018) [NHS England » 70,000 more toddlers to get their first dental check-up as NHS England targets childhood dental health](#)

3. NHS targets super-sized chocolate bars in battle against obesity, diabetes and tooth-decay (October 2017) [NHS England » NHS targets super-sized chocolate bars in battle against obesity, diabetes and tooth-decay](#)
4. NHS England has also engaged in various activities to increase access to NHS dental care, including recruitment days to attract practitioners to the region, working with providers to ensure that existing contracts are delivering to potential and address regionalised concerns, e.g., increasing urgent care access for patients without a regular dentist and developing plans to commission services in areas of inequality.

2.3.3 National approaches

1. Core20 Plus 5: Oral health is included as one of the five key clinical areas of health inequalities in the Core20 Plus 5 for Children and Young People (see Figure 21). Specifically, the aim is to address the backlog for tooth extractions in hospital for under 10s.

Figure 21: Core20 Plus 5 Children and Young People. [55]



2.3.4 Regional and local strategies

The following regional and local strategies are relevant to oral health improvement:

1. Bristol Oral Health Promotion Strategy (August 2016) [Oral health promotion in Bristol](#). This is due for review. The strategic priorities were to:
 - a. Promote healthier food and drink choices.

- i. Promote oral health by making healthier choices easier through multi-stranded approaches to promote healthier food and drink choices and reduce sugar intake.
 - ii. Commission interventions that encourage and support breastfeeding and healthy complementary feeding (weaning).
 - iii. Promote healthier food and drink choices that are lower in sugar in settings that the local authority reaches, e.g., leisure, education, social and residential care, and local food outlets.
 - b. Promote oral health by improving levels of oral hygiene.
 - i. Commission supervised tooth brushing programmes for pre-school and primary school children at high risk of poor oral health.
 - ii. Train front line staff to provide demonstrations on how to clean teeth among those at high risk of poor oral health.
 - iii. Commission programmes that provide free toothbrushes and toothpaste to all preschool and primary school children, prioritising targeted interventions among those at high risk of poor oral health.
 - c. Improve population exposure to fluoride.
 - i. Promote the use of fluoride toothpaste among those at high risk of poor oral health.
 - ii. Commission programmes that provide free toothbrushes and toothpaste to pre-school and primary school children, prioritising targeted interventions for those at high risk or poor oral health
 - iii. Commission fluoride varnishing programmes for young children in areas with high rates of tooth decay
 - d. Improve early detection, and treatment, of oral disease.
 - i. Maximise all opportunities for signposting to local NHS dental services.
 - ii. Promote the benefits of visiting a dentist throughout the life course.
 - iii. Raise awareness of eligibility for free check-ups, prioritising those at high risk or poor oral health
 - e. Reduce inequalities in oral health.
 - i. Look for opportunities to embed oral health promotion within all health and wellbeing policies, strategies, and commissioning.
 - ii. Promote oral health among vulnerable groups; young children, people with diabetes, people who smoke, consume high quantities of alcohol, or use drugs, people with learning disability, the elderly and other locally identified vulnerable groups.
 - iii. Equip the wider health and social care workforce with the knowledge and skills to recognise the link with neglect and complex social circumstances and ensure provision of care for those at high risk of poor oral health.
- 2. Having recently taken on responsibility for dental care commissioning, the ICB is currently developing a local dental care strategy, including efforts to improve access to NHS dentistry. The strategy will be aligned with the Southwest Dental Reform Programme, established in 2020 to improve dental care access and promote oral health.

3. Action is also underway to improve access as part of South West Dental Reform Programme, including: reviewing urgent dental care pathways (e.g., the dental helpline), piloting 'stabilisation' programmes in eight dental practices in Bristol (providing dental care to stabilise oral health issues and reduce pain for people who repeatedly access urgent care or do not meet access criteria but have an urgent dental problem), initiatives to improve access for 0–2-year-olds, Armed Forces families and older people, workforce initiatives, including a dental stakeholder conference and a workforce action plan.

The ICB and NHSE took a [paper](#) to Health and Wellbeing Board on 13th July 2023 outlining activity to increase dental access and requesting support for joint work to improve equality of access. A paper was also taken to [Healthy Scrutiny](#) on 20th March 2023,.

2.4 Performance against relevant national outcome frameworks indicators

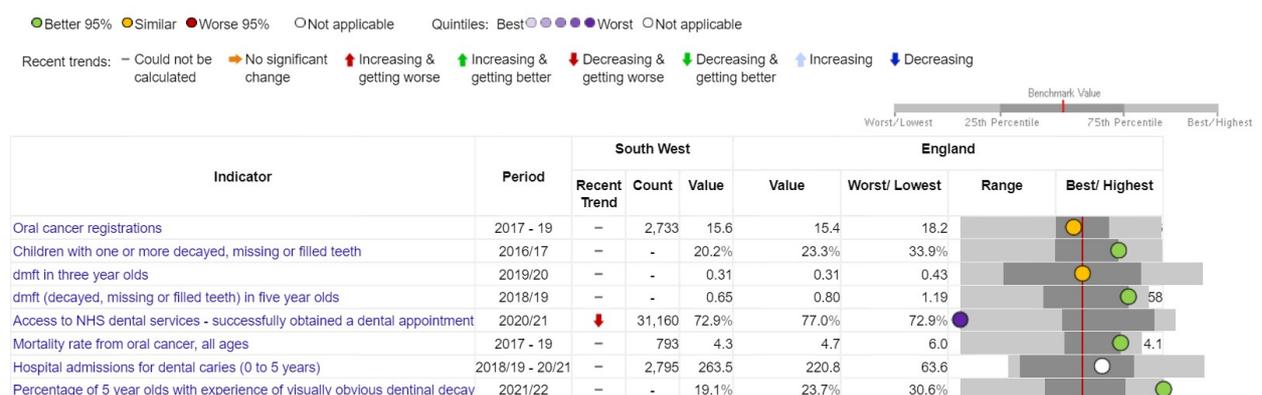
The oral health public health profile is comprised of eight oral health indicators (see Figure 22).

Figure 22: Oral health indicators

1. Oral cancer registrations
2. Mortality rate from oral cancer, all ages
3. Children with one or more decayed, missing or filled teeth.
4. Decayed, missing, or filled teeth (dmft) in three-year-olds.
5. dfmt in five-year-olds
6. Percentage of five-year-olds with experience of visually obvious dental decay
7. Hospital admissions for dental caries (0-5 years)
8. Access to NHS dental services (successfully obtained an NHS dental appointment)

As illustrated in Figure 23, the Southwest performs well or comparably in most key performance indicators when compared to the England average. Data regarding access are taken from 2020/21 when access was heavily affected by the COVID-19 pandemic.

Figure 23: Oral Health Performance Indicators for the Southwest. [14]



Bristol-specific data are more limited but are available for five of the eight indicators and data at ICB level are available for hospital admissions for dental caries (see Table 5).

Table 5: Oral health key performance indicators at the lowest available level of granularity (Red = compares poorly, Orange = comparable, Green = compares favourably).

Indicator	Period available	Level available	Comparison with England
Children with one or more decayed, missing or filled tooth	2021/22	Bristol	Comparable
Dmft in three-year-olds	2019/20	Bristol	Comparable
Dmft in five-year-olds	2021/22	Bristol	Comparable
Hospital admissions for dental caries (0 to 5 years) by ICB	2018-21	BNSSG & by PCN	Worse
Percentage of 5-year-olds with visually obvious decay	2021/22	Bristol	Comparable
Mortality rate from oral cancer, all ages	2012-16	Bristol	Comparable
Access to NHS dentist	2021-23	Bristol	Better

2.4.1 Access to dental services

While dental attendance does not necessarily prevent dental disease, it is important in terms of assessing risk and giving evidence-based advice. NHS dental access is recognised as a challenge both locally and nationally. There are issues around recruitment and retention of dental workforce in the UK, particularly with regards to NHS dentists followed by dental nurses across both the NHS and private sectors. The worst affected parts of the country are rural and coastal areas. [56] [57] Although surveys are distributed to practices requesting data about NHS work undertaken, these are not compulsory and there is no requirement to report data on whether practices currently undertaking NHS work are taking on new patients and there is also no data available on the size and lengths of waiting lists.

In BNSSG there are approximately 503 dentists who do some NHS activity (2023). This means that each dentist completing NHS treatment represents around 1,927 members of the population, or in other words there are around 52 dentists per 100,000 population (higher than the England average of 43 per 100,000 [3]). Year on year the workforce is shrinking; in 2021/22 45 dentists left practice (9% of the workforce) and 38 joined in 2022/3. [58]

Bristol City Council receives enquiries and concerns from residents and professionals about difficulty accessing NHS dental services, and residents experiencing dental pain and unresolved dental problems. The indicator used to assess dental access in children is the number of separate people accessing dental services over the previous 12 months. From



The ratio of dentists to population in BNSSG is better than the average across the country.

[NHS dental statistics, 2023](#)



Access to paediatric dental appointments in Bristol is better than the national and Southwest averages.

[NHS dental statistics, 2023](#)



Access to adult dental appointments in Bristol is comparable to the England average.

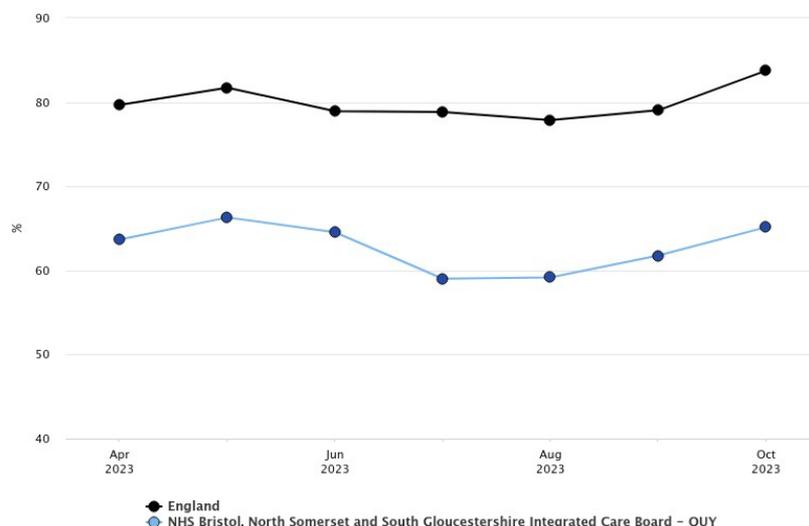
[NHS dental statistics, 2023](#)

April 2019 to March 2020 access for paediatric patients in Bristol was 59%; higher than the Southwest and England average of 54% and 53% respectively. [59] In the 12 months preceding June 2023 this had risen to 60% representing 56,961 children. [58] In June 2022-23 39% of Bristol children did not access NHS dental services compared to 44% for England on average. [60]

The indicator used to assess dental access in adults is the number of separate people accessing dental services over the previous 24 months. This metric is based upon NICE guidance. From April 2019 to March 2020 access for adult patients in Bristol were 51%; higher than the average for the Southwest and for England at 47% and 48% respectively. [59] In the 24 months preceding June 2023 this had fallen to 41% representing 153,919 adults. [58] Latest data show that this has improved slightly with 57% of adults not accessing NHS dental services from June 2021-23: the same as the average across England. [60] According to the local authority Count of Courses of Treatment, in 2022/23 Bristol dental practices delivered 274,398 courses of NHS treatment of which 31,688 (12%) were urgent. [58] These courses of treatment represented 539,913 units of dental activity of which 7% was urgent. [58]

A new indicator: Dental activity delivery rate has been designed to indicate whether dentists are delivering the amount of NHS activity agreed / contracted for the year. Figure 22 demonstrates that in BNSSG delivery against the contract was 65% in October 2023 and varied between 59 and 67% since records began in April 2023. This is compared to the England average of between 78% and 84% over the same period.

Figure 24: Dental activity delivery rate for NHS BNSSG ICB 2023 (no confidence limits were supplied)



Even where NHS dental care is available inequalities may worsen due to barriers to access for disadvantaged groups. It is important to make information available about local dental services, particularly to high-risk groups.

2.5 Evidence-based, cost-effective oral health improvement and local action

This needs assessment focusses on the local authority role of providing or commissioning oral health improvement and thus dental screening, assessment, and treatment are beyond the scope of this report.

Effective reduction of dental caries involves diagnosing disease, encouraging reduction of factors causing demineralisation (sugar consumption); and enhancement of those favouring remineralisation (fluoride). [23] Oral diseases also share common risk factors with other general health conditions, such as smoking, alcohol misuse and poor diet. [2]

The National Institute for Health and Care Excellence (NICE) published evidence-based recommendations for oral health promotion. [23] The recommendations are summarised in Table 6. Those with a strong evidence base are indicated in bold. Examples of interventions for each recommendation are also listed. The key factors to support children’s oral health are living and studying in environments that support good oral hygiene practices around brushing and dental check-ups and that minimise exposure to risk factors, specifically sugary food, and drink.

Table 6: Evidence-based recommendations for oral health promotion (**Bold = strong evidence**). [23]

	Recommendation	Applies to
Food and drink	Support mothers to breastfeed exclusively for the first 6 months and to continue while introducing solids.	<3y
	Weaning: Only give breastmilk, infant formula or cooled boiled water in a bottle discourage from 1 year. Introduce drinking from a free-flow cup from 6 months. Don’t add sugar to weaning foods.	<3y
	Minimise sugary food and drinks especially at bedtime	All
	Sugar-free medications (especially long-term)	0-6y
	Limit alcohol consumption to low risk levels	Adults
	Increase intake of non-starchy vegetables and fruit	All
Oral hygiene	Parent brushing / supervision of brushing	0-7y
	As soon as teeth erupt, brush at least twice a day including last thing at night for around 2 minutes with a fluoridated toothpaste no less than 1000 ppm fluoride (1350-1500 ppm if high risk, or once 7+). Use a smear (< 3 years) or pea-sized amount (3 years +) of toothpaste. Spit out toothpaste, do not rinse.	All
	Implants require the same oral hygiene	
	Interdental cleaning daily before brushing with floss and brushes	12y-adults
	Increase fluoride exposure	3y-adults
	Tobacco: do not smoke or use smokeless tobacco products	Adults
Diabetes: try to maintain good control	All	

2.5.1 Cost-effectiveness

Many public health interventions for children’s oral health show good return on investment as shown in Figure 25 published by Public Health England.

Figure 25: Return on investment of oral health improvement programmes for 0-5-year-olds [61]



2.5.2 Healthier food and drink choices

Healthy food and drink choices start prenatally. Good maternal nutrition can lay the foundations for healthy foetal development. This is followed by encouragement and support to initiate breastfeeding and, wherever possible, to do so exclusively for the first six months. Successful breast-feeding relies on provision of a supportive environment.

From infancy oral health is supported through minimising sugary food and drinks. The evidence-based toolkit recommends encouraging and supporting parents and carers in nutrition and weaning practices, including looked after children. Local authorities are encouraged to have healthy food and drink policies for schools, children's centre, and for childcare providers including childminders and foster carers. NICE guidance recommends a 'whole school' approach to oral health by:

1. Ensuring promotion of oral health in school policies (diet and nutrition, health and safety, anti-bullying).
2. Making plain drinking water available for free and encouraging bring in bottles.
3. Providing sugar-free foods, drinks and snacks including in vending machines.
4. Promoting age-appropriate oral health information for children, parents, and carers.
5. Teach about the importance of good oral health.
6. Linking with local partners to promote oral health.

On a national level, the soft drinks industry levy (SDIL) was introduced by the UK government in April 2018 with the aim of reducing sugar intake. The levy applies to soft drinks containing

8 g sugar/100mL or more (£0.24/L levy) and 5 to <8 g sugar/100mL (£0.18/L levy). Certain drinks² are exempt irrespective of their sugar content. The two-tier tax was designed to encourage manufacturers to reformulate their drinks. [62] [63]

A recent study estimated the impact of the first two years since implementation of the UK soft drinks industry levy on childhood hospital admissions for carious tooth extractions. The study reported a relative reduction of 12% (95% CI 7 to 17%) in hospital admissions for carious tooth extractions in all children (0–18 years). The greatest effect was in children aged 0–4 years relative reductions of 29% (95% CI 22 to 36%), followed by 5–9 years (95% CI 1 to 11%). No change was observed for older children. Reductions were observed in children living in most IMD areas regardless of deprivation. [63]



Cost-effective targeted oral health interventions include:

- supervised toothbrushing
- toothbrush and paste provision.
- fluoride varnish programmes.

NICE & PHE, 2014

Other evidence-based ways that local councils can support oral health on an environmental level include through reviewing policies around local planning decisions for fast food outlets. A high density of shops and food outlets supplying unhealth choices can create so-called ‘food deserts’ where obtaining nutritious options is almost impossible. This is particularly worrying if centred around schools. To support healthy drinking local authorities can provide and maintain free water fountains in public spaces.

Healthcare providers and workplaces have an important role in creating an environment that supports good oral. Examples of simple and effective measures include free water provision, sugar-free vending machines, and healthy canteens.

2.5.2.1 Local action

Bristol City Council follows the UNICEF Baby Friendly Initiative. [64] Breastfeeding rates at 6-8 weeks in Bristol are higher than the national average (71% compared to 55%) but there is inequality across the city: breast feeding initiation ranges from 45% (Hartcliffe & Withywood) to 99% (Westbury on Trym and Henleaze) (Source: Bristol City Council Public Health Nursing Dashboard 2022)

Bristol City Council supports schools to complete a series of awards through the Healthy Schools Programme. Approximately thirty schools are either working towards or have achieved the essential award (<https://www.bristol.gov.uk/files/documents/6658-essential-award->

² Exemptions: 100% fruit juices, powder to make drinks, milk and milk-based drinks and drinks with 1.2%+ alcohol by volume

[2023-primary-schools/file](#)) which includes health food and drink components important to oral health. There is a specific focus in this award on reducing sugar through policies such as provision of fruit snacks at breaktimes, free water provision, prohibiting sweets and cakes on birthdays, and lunchbox guidance.

A wide variety of strategies and programmes are working to improve and influence the food environment in Bristol and to increase the availability of healthier and more sustainable food in the city. One key local policy is that taken to ban adverts for junk food, alcohol, gambling, and payday loans where these adverts are under the Council's direct control including bus stop screens and billboards on council land including in parks. The policy is currently under evaluation.

2.5.3 Promote good oral hygiene

Targeted provision of discounted or free materials such as toothbrushes and toothpaste and sometimes timers or information leaflets has been found to effectively reduce tooth decay in 0-5-year-olds. When sent by post, the estimated return on investment of £1.03 after 5 years and £1.54 after 10 years for each £1 invested. When sent by post and provided by health visitors, the return-on-investment increases to £4.89 and £7.34 per £1 spent at each of 5 and 10 years. [61]

Targeted supervised tooth brushing programmes have been found to effectively reduce tooth decay in 0-5-year-olds with an estimated return on investment of £3.06 after 5 years and £3.66 after 10 years for every £1 invested. [61] These involve demonstration of techniques to children and other groups, e.g., at family hubs, in childcare settings, and in schools and training for frontline staff in brushing and in giving advice on the importance of oral health. Training the education, health, and social care workforce is an important part of oral hygiene promotion so that those who are most vulnerable can receive evidence-based oral health advice and support.

2.5.3.1 Local action

Bristol was a pilot site for **First Dental Steps**: an initiative in which annual oral health training was provided to health visitors along with dental packs. The training was given to support health visitors to provide families with evidence-based oral health advice and information, signpost to local dental services, and to identify and refer children at high risk of developing decay to the community dental services. The initiative also included distribution of oral hygiene packs (containing a toothbrush; toothpaste and sippy cup) to all children at the 9-12-month mandated check by a health visitor. A total of 5393 dental packs were provided at a cost of £10,408.49 (£1.93 per pack).

A regional **supervised toothbrushing scheme** is due to start in 2024. This will involve provision of training and consumables and will be targeted at early years pupils in IMD groups 1 to 6

and will involve both council-run and private nurseries. This will use resources such as the Brushing Toolkit. [65]

As discussed above, Bristol Healthy Schools runs an awards scheme which includes a dedicated **dental award**. Currently there are no schools that either have or are working towards the dental health award.

Across the Southwest there is a plan to embed mouth care assessments and daily support as part of good, personalised care in care homes. This will include training of care home mouth care champions to cascade training to other care home staff.

2.5.4 Access to fluoride

There is good evidence that targeted approaches to increase access to fluoride have a positive impact on oral health. Those aged three-years and above are more frequently at risk of decay, thus are recommended to undergo fluoride varnish application. Fluoride varnish application two-three times a year can reduce tooth decay by 33% in baby teeth. [66]

A six-monthly fluoride varnish programme is recommended for children aged three and over with the addition of daily fluoride mouth rinse for those aged seven and over where there is evidence of dental caries, orthodontic appliances, dry mouth, or special needs.

Targeted fluoride varnish programmes have been found to effectively reduce tooth decay in 0-5-year-olds with an estimated return on investment of £2.29 after 5 years and £2.74 after 10 years for every £1 invested. [61] Fluoride varnish application is recommended twice a year for vulnerable adults to reduce tooth decay by an estimated 46%. [66]

An alternative option to increase exposure to fluoride is to implement a universal community water fluoridation programme. According to a Public Health England report, such a scheme would yield an estimated return on investment of £12.71 at 5 and £21.98 at 10 years per £1 spent. Such schemes are highly controversial since the scheme is unavoidable imposed on all residents of the area served by the treated water supply. [61]

2.5.4.1 Local action

Bristol water supplies are not fluoridated, and the concept of a universal fluoridation programme remains a contentious issue. **Fluoride varnish application programmes** are an option in Bristol. In 2018-2019 there were 104,808 fluoride varnish applications reported across BNSSG and of which 92% were for children. This represented 49% of children; higher than the proportion for the Southwest as a whole (43%) and 1% of adults (comparable to the rest of the Southwest: 1.1% compared to 1.2% respectively). [1]

2.5.5 Oral cancer: addressing broader risk factors.

Section 2.2.2.3 gives details of the important role of smoking cessation, alcohol reduction, healthy eating, and HPV vaccination in improving oral health.

Two major national smoking cessation campaigns are on the horizon:

1. **Swap to Stop:** where smokers are urged to swap cigarettes for vapes.
2. **Stopping the Start:** a plan to create a smoke free generation.

2.5.5.1 Local action

Public Health has commissioned a targeted **Stop Smoking Service** which focuses on smoking in pregnant women, their partners and family members and in patients discharged from hospital and those identified through health checks that have long term conditions exacerbated by smoking. [3]

Regarding HPV vaccination, Sirona healthcare have lots of strategies in place to improve immunisation rates. These include community clinics across the area in a variety of venues for those that missed the vaccine visit or that do not attend school. There is a combination of small hyper local clinics, larger mass vaccination style venues and a mixture of bookable and drop ins. They also react to uptake figures for schools and target specific communities as needed.

To support informed consent, Sirona send information about the vaccine directly to students as well as making telephone calls to all those parents who don't complete consent to offer verbal consenting ahead of school sessions. Self-consents are taken if young people are deemed Gillick Competent. Sirona also attend parents' evenings to promote and have conversations around HPV with assistance with consenting if needed.

Other specific engagement activities include attending local health events to promote and deliver vaccines working with Caafi health (a local community organisation) and the maximising uptake and health inequalities teams. Staff visit the hotels housing asylum seekers to offer vaccination with interpreter assistance in case young people aren't yet attending school or have missed it.

Sirona also work closely with Bristol university on research regarding both students and parents and their understanding of HPV resulting in a PHSE teaching package for schools to use to educate young people. This is now live and being used by PHSE teachers in schools. [67]

2.5.6 Access to a dentist

Some of the complex challenges facing dental access are discussed in Section 2.4.1 and are beyond the control and influence of public health local authority teams.

Where tailored dental services are designed to support accessibility for people most likely to have high oral health need these need to be supported by clinical procedures to slow down or halt oral disease progression and integrated care pathways for referral to and management in secondary are when required.

Good public transport links with low cost and reliable services increase accessibility for all groups but particularly those without access to private transport including those experiencing deprivation, young adults, and the elderly.

2.5.6.1 Local action

Bristol has a dedicated dental hospital and a dental school which provides some student-training clinics and specialist services. This has recently moved to a central location close to local communities. There is also an **on-the-day emergency dental service** available via 111, though most appointments go at 8 am. Bristol has a primary care dental service.

A trial of **child-focused dental practices** was run with the aim of reducing secondary care attendance. Practitioners were upskilled and resourced to provide paediatric appointments and procedures. Continuation and expansion of this programme is under consideration in the current ICB dental strategy discussions.

As part of the Southwest dental reform programme a dedicated **dental care helpline** for BNSSG was commissioned in 2019, to support NHS 111. When someone calls 111, they can select the 'dental' option for support with finding an NHS dentist for routine care or accessing urgent dental treatment for those who do not have a dentist. The dental helpline is open from 8am-10pm, 7 days a week, 365 days a year. Outside these times, the patient will be triaged by NHS 111. Demand for urgent dental care has increased over the last few years, exacerbated by a lack of access to high street dentists. A **stabilisation pathway** is being trialled for non-acute problems identified when urgent care is accessed.

2.6 What is on the horizon?

The population of Bristol has grown 10% over the last decade (2011-21) compared to 6% nationally. Bristol was the fastest growing of all the Core Cities in England and Wales with growth mainly concentrated in the inner city and amongst young adults. [3] The local population is projected to further increase by 6% over the next decade (2020-30), higher than the national projection of 4%. [3] Bristol is therefore likely to experience increasing demand on services.

Bristol's child population (aged 0-15) is projected to remain stable, but the population of older people aged 75 and over is projected to increase by 15%. [3] Bristol is therefore likely to experience a more complex workload as an ageing population may have had previous dental work. The number of frail patients requiring domiciliary care may rise.

In recent years Bristol has also experienced rapid growth in specific vulnerable populations such as asylum seekers and refugees. Bristol may therefore need to be prepared to overcome increasing challenges related to language and cultural barriers and issues around understanding of dental care pathways.

These demographic changes will need to inform the planning of dental services to best support and improve oral health.

These changes will occur in the context of a change in local authority leadership structure as Bristol will be moving to a system of committees with specific areas of responsibility e.g., children and public health. Wider changes in the coming years will be a need to increase focus on environmental sustainability, to cut local authority costs and to

Also consider again the broader social, economic, environmental, and political context that gives rise to the levels of need described in this chapter, and how this will change over the same timescales, and any resultant effect on health and wellbeing.

2.7 For Key Issues and Gaps see Executive Summary

2.8 For Recommendations see Executive Summary

3 Glossary

Term	Definition
Dental caries [23]	<p>Also known as tooth decay.</p> <p>Caused by dietary sugars that are broken down by micro-organisms in the biofilm on a tooth surface, which produces acids that, over time, demineralise tooth enamel (the thin outer covering of the tooth).</p> <p>In the early stages of the disease, dental caries can be reversed but if not checked the tooth surface breaks down and a cavity forms.</p>
Dentine	Layer of teeth beneath the enamel coating
d3mft index [68]	<p>Severity index for teeth with experience of dental decay.</p> <ul style="list-style-type: none"> • D3t = Teeth with visually obvious decay into dentine • Mt = Missing teeth due to decay • Ft = Filled teeth due to decay (ft) <p>This index is also used to indicate the percentage of children with decay experience: % d3mft > 0</p>
Mean number of teeth with experience of decay in children with any decay	A measure of severity
Plaque (substantial plaque) [23]	Bacteria-containing deposits forming on the tooth surface. (Substantial plaque was that covering more than two-thirds of the exposed labial tooth surfaces of the upper anterior sextant)
Periodontal disease [23]	<p>Also known as gum disease. Includes gingivitis and periodontitis and is caused by plaque.</p> <p>Gingivitis is reversible gum inflammation and increases the risk of future periodontitis: irreversible gum inflammation resulting in loss of periodontal attachment.</p> <p>The risk of gum disease is increased by tobacco smoking including smokeless products.</p>
Dental neglect	The persistent failure to meet a child's basic oral health needs, likely to result in the serious impairment of a child's oral or general health or development. [2]
Core Cities	Birmingham, Bristol, Leeds, Liverpool, Manchester, Newcastle, Nottingham, Sheffield

4 References

- [NHS England & NHS Improvement, “Oral Health Needs Assessment Main Report: South
1 West of England,” Ottaway Strategic Management Ltd, 2021.
]
- [Public Health England, “Local authorities improving oral health: commissioning better
2 oral health for children and young people - An evidence-informed toolkit for local,” June
] 2013. [Online]. Available:
https://assets.publishing.service.gov.uk/media/5a7d6f6bed915d269ba8aa6a/CBOHM_aindocumentJUNE2014.pdf. [Accessed 2 10 2023].
- [Bristol City Council, “Joint Strategic Needs Assessment,” 2023. [Online]. Available:
3 [https://www.bristol.gov.uk/council-and-mayor/policies-plans-and-strategies/social-](https://www.bristol.gov.uk/council-and-mayor/policies-plans-and-strategies/social-care-and-health/joint-strategic-needs-assessment)
] [care-and-health/joint-strategic-needs-assessment](https://www.bristol.gov.uk/council-and-mayor/policies-plans-and-strategies/social-care-and-health/joint-strategic-needs-assessment). [Accessed 9 October 2023].
- [GOV.UK, “Oral health survey of 3 year old children 2020,” 2020. [Online]. Available:
4 [https://www.gov.uk/government/statistics/oral-health-survey-of-3-year-old-children-](https://www.gov.uk/government/statistics/oral-health-survey-of-3-year-old-children-2020)
] [2020](https://www.gov.uk/government/statistics/oral-health-survey-of-3-year-old-children-2020).
- [GOV.UK, “Oral health survey of 3 year old children 2013,” GOV.UK, 2013. [Online].
5 Available: [www.gov.uk/government/publications/oral-health-survey-of-3-year-old-](http://www.gov.uk/government/publications/oral-health-survey-of-3-year-old-children-2013)
] [children-2013](http://www.gov.uk/government/publications/oral-health-survey-of-3-year-old-children-2013). [Accessed 29 08 2023].
- [GOV.UK, “Oral health survey of 5 year old children 2022,” GOV.UK (www.gov.uk), 2022.
6 [Online]. Available: [https://www.gov.uk/government/statistics/oral-health-survey-of-](https://www.gov.uk/government/statistics/oral-health-survey-of-5-year-old-children-2022)
] [5-year-old-children-2022](https://www.gov.uk/government/statistics/oral-health-survey-of-5-year-old-children-2022). [Accessed 29 August 2023].
- [GOV.UK, “Oral health survey of 5-year-old children 2019,” GOV.UK (www.gov.uk), 2019.
7 [Online]. Available: [https://www.gov.uk/government/statistics/oral-health-survey-of-](https://www.gov.uk/government/statistics/oral-health-survey-of-5-year-old-children-2019)
] [5-year-old-children-2019](https://www.gov.uk/government/statistics/oral-health-survey-of-5-year-old-children-2019). [Accessed 29 August 2023].
- [OHID, “Oral health survey of children in year 6, 2023,” 2024. [Online]. Available:
8 [https://www.gov.uk/government/statistics/oral-health-survey-of-children-in-year-6-](https://www.gov.uk/government/statistics/oral-health-survey-of-children-in-year-6-2023)
] [2023](https://www.gov.uk/government/statistics/oral-health-survey-of-children-in-year-6-2023). [Accessed 13 February 2024].
- [GOV.UK, “Oral health survey of 12 year old children 2009,” GOV.UK (www.gov.uk),
9 2009. [Online]. Available: [https://www.gov.uk/government/publications/oral-health-](https://www.gov.uk/government/publications/oral-health-survey-of-12-year-old-children-2009)
] [survey-of-12-year-old-children-2009](https://www.gov.uk/government/publications/oral-health-survey-of-12-year-old-children-2009). [Accessed 29 August 2023].

[Bristol City Council, "Bristol Pupil Voice Survey, 2022," Bristol City Council, 2022.
1 [Online]. Available: [https://www.bristol.gov.uk/web/bristol-healthy-](https://www.bristol.gov.uk/web/bristol-healthy-0)
0 schools/topics/data-and-research. [Accessed 15 August 2023].

]

[Bristol City Council, "Bristol Pupil Voice Survey, 2019," Bristol City Council, 2019.
1 [Online]. Available: [https://www.bristol.gov.uk/web/bristol-healthy-](https://www.bristol.gov.uk/web/bristol-healthy-1)
1 schools/topics/data-and-research. [Accessed 22 August 2023].

]

[NHS Digital, "NHS Dental Statistics, 2021-22," 2022. [Online]. Available:
1 [https://digital.nhs.uk/data-and-information/publications/statistical/nhs-dental-](https://digital.nhs.uk/data-and-information/publications/statistical/nhs-dental-2)
2 statistics/2021-22-annual-report. [Accessed 9 October 2023].

]

[Office for Health Improvement and Disparities, "Official Statistics: Hospital tooth
1 extractions of 0 to 19 year olds," 2021. [Online]. Available:
3 <https://www.gov.uk/government/statistics/hospital-tooth-extractions-of-0-to-19->
] year-olds-2021. [Accessed 29 September 2023].

[Office for Health Improvement and Disparities, "Fingertips," 2023. [Online]. Available:
1 <https://fingertips.phe.org.uk/search/oral%20health>. [Accessed 9 October 2023].

4

]

[Bristol City Council, "The Population of Bristol," Bristol City Council, Bristol, 2021.

1

5

]

[NHS England, "Health Survey for England 2019: Supplementary analysis of dental
1 health," 2019. [Online]. Available: [https://digital.nhs.uk/data-and-](https://digital.nhs.uk/data-and-6)
6 information/publications/statistical/health-survey-for-england/2019. [Accessed 9
] October 2023].

[P. D. W. K. N. P. H. P. W. J. S. J. Lucas PJ, "Neighbourhood incidence rate of paediatric
1 dental extractions under general anaesthetic in South West England," *British Dental*
7 *Journal*, vol. 224, no. 3, pp. 169-176, 2018.

]

[GOV.UK, "Adult oral health: applying All Our Health," 4 April 2022. [Online]. Available:
1 <https://www.gov.uk/government/publications/adult-oral-health-applying-all-our-8>
8 [health/adult-oral-health-applying-all-our-health](https://www.gov.uk/government/publications/adult-oral-health-applying-all-our-health). [Accessed 13 November 2023].

]

[Office for Health Improvement and Disparities, "The impact of COVID-19 on access to
1 dental care," 2021. [Online]. Available: <https://www.gov.uk/government/statistics/the-9>
9 [impact-of-covid-19-](https://www.gov.uk/government/statistics/the-impact-of-covid-19-). [Accessed 1 September 2023].

]

[Office of National Statistics, "Adult Dental Health Survey 2009 - Summary report and
2 thematic series," 2011.

0

]

["Oral health survey of adults attending dental practices," 2018. [Online]. Available:
2 <https://www.gov.uk/government/publications/oral-health-survey-of-adults-attending-1>
1 [dental-practices-2018](https://www.gov.uk/government/publications/oral-health-survey-of-adults-attending-dental-practices-2018). [Accessed 9 October 2023].

]

[Public Health England, "Oral Cancer in England: A report on incidence, survival and
2 mortality rates of oral cancer in England, 2012 to 2016," May 2020. [Online]. Available:
2 [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attach-
\]](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attach-) [ment_data/file/891699/Oral_cancer_report_170420.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/891699/Oral_cancer_report_170420.pdf). [Accessed 28 September
2023].

[Office for Health Improvement and Disparities, "Delivering Better Oral Health: An
2 evidence based toolkit for prevention," GOV.UK, 2023. [Online]. Available:
3 [https://www.gov.uk/government/publications/delivering-better-oral-health-an-
\]](https://www.gov.uk/government/publications/delivering-better-oral-health-an-) [evidence-based-toolkit-for-prevention](https://www.gov.uk/government/publications/delivering-better-oral-health-an-evidence-based-toolkit-for-prevention). [Accessed 9 October 2023].

[Cancer Research UK, "Mouth and oropharyngeal cancer," 2023. [Online]. Available:
2 <https://www.cancerresearchuk.org/about-cancer/mouth-cancer>. [Accessed 9 October
4 2023].

]

[Public Health England, "Inequalities in oral health in England," 21 March 2021. [Online].
2 Available: <https://www.gov.uk/government/publications/inequalities-in-oral-health-5>
5 [in-england](https://www.gov.uk/government/publications/inequalities-in-oral-health-in-england). [Accessed 23 October 2023].

]

- [Public Health England, "Dental health among adults with learning disabilities in 2 England," 2017. [Online]. Available: 6 [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attach_](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attach_ ment_data/file/773653/Adults_with_learning_disabilities_dental_summary.pdf)] [ment_data/file/773653/Adults_with_learning_disabilities_dental_summary.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attach_ ment_data/file/773653/Adults_with_learning_disabilities_dental_summary.pdf). [Accessed 9 October 2023].
- [GOV.UK, "Oral health survey for children in special support schools - 2014 report," 2014. 2 [Online]. Available: 7 [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attach_](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attach_ ment_data/file/774313/Oral_health_survey_for_children_in_special_support_schools _2014_Report.pdf)] [ment_data/file/774313/Oral_health_survey_for_children_in_special_support_schools _2014_Report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attach_ ment_data/file/774313/Oral_health_survey_for_children_in_special_support_schools _2014_Report.pdf). [Accessed 15 August 2023].
- [Public Health England, "Oral health survey of mildly dependent older people 2016 - 2 report," June 2018. [Online]. Available: 8 [https://www.gov.uk/government/publications/oral-health-survey-of-mildly-](https://www.gov.uk/government/publications/oral-health-survey-of-mildly- dependent-older-people-2016)] [dependent-older-people-2016](https://www.gov.uk/government/publications/oral-health-survey-of-mildly- dependent-older-people-2016). [Accessed 13 November 2023].
- [Care and support West, "Mouth Care in Care Homes: South West Survey," 2022. 2 [Online]. Available: [https://www.careandsupportwest.com/blog/2022/5/25/mouth-](https://www.careandsupportwest.com/blog/2022/5/25/mouth- 9 care-in-care-homes-south-west-survey)] [care-in-care-homes-south-west-survey](https://www.careandsupportwest.com/blog/2022/5/25/mouth- care-in-care-homes-south-west-survey). [Accessed 28 September 2023].
- [Bristol City Council, "People Experiencing Homelessness in Bristol: Health Needs 3 Analysis," December 2022. [Online]. Available: 0 [https://www.bristol.gov.uk/files/documents/5755-hna-people-experiencing-](https://www.bristol.gov.uk/files/documents/5755-hna-people-experiencing-] <a href=)] [homelessness-bristol/file](https://www.bristol.gov.uk/files/documents/5755-hna-people-experiencing- homelessness-bristol/file). [Accessed 9 October 2023].
- [Bristol City Council, "Health Needs Analysis of People Living in Vehicles in Bristol," August 3 2023. [Online]. Available: [https://www.bristol.gov.uk/files/documents/6665-health-](https://www.bristol.gov.uk/files/documents/6665-health- 1 needs-assessment-people-living-in-vehicles-bristol/file)] [needs-assessment-people-living-in-vehicles-bristol/file](https://www.bristol.gov.uk/files/documents/6665-health- needs-assessment-people-living-in-vehicles-bristol/file). [Accessed 1 October 2023].
- [Public Health England, "Guidance: Oral care and people with learning disabilities," 19 3 November 2019. [Online]. Available: 2 [https://www.gov.uk/government/publications/oral-care-and-people-with-learning-](https://www.gov.uk/government/publications/oral-care-and-people-with-learning-] <a href=)] [disabilities/oral-care-and-people-with-learning-disabilities#oral-health-of-people-with- learning-disabilities](https://www.gov.uk/government/publications/oral-care-and-people-with-learning- disabilities/oral-care-and-people-with-learning-disabilities#oral-health-of-people-with- learning-disabilities). [Accessed 12 October 2023].
- [V. Muirhead, S. Subramanian, D. Wright and F. Wong, "How do foster carers manage 3 the oral health of children in foster care? A qualitative study.," *Community Dentistry 3 and Oral Epidemiology*, vol. 45, no. 6, pp. 529-37, 2017.]

[A. MacMahon, L. Elliott, L. Macpherson, K. Sharpe, G. Connelly and I. Milligan,
3 "Inequalities in the dental health needs and access to dental services among looked
4 after children in Scotland: a population data linkage study.," *Archives of Disease in*
] *Childhood*, vol. 103, no. 1, pp. 39-43, 2018.

[Sirona care & health, "Children in Care Contractual Reporting Dashboard – Bristol. 6th
3 September 2023," Bristol, 2023.

5
]

[Barnardo's, "Our Agenda for Change: Young People's Health Manifesto BNSSG," 2023.
3 [Online]. Available: <https://www.barnardoshype.org/healthmanifesto>. [Accessed 26
6 February 2024].

]

[Public Health England, "What is Known About the Oral Health of Older People in England
3 and Wales: A review of oral health surveys of older people," December 2015. [Online].

7 Available:

] [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attach
ment_data/file/489756/What_is_known_about_the_oral_health_of_older_people.pd
f](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/489756/What_is_known_about_the_oral_health_of_older_people.pdf). [Accessed 23 October 2023].

[National Institute for Health and Care Excellence, "Oral health for adults in care homes:
3 NICE guideline NG48," 5 June 2016. [Online]. Available:
8 <https://www.nice.org.uk/guidance/ng48>. [Accessed 13 November 2023].

]

[Care Quality Commission, "Smiling matters: Oral health care in care homes," June 2019.
3 [Online]. Available:

9 https://www.cqc.org.uk/sites/default/files/20190624_smiling_matters_summary.pdf.

] [Accessed 13 November 2023].

[Smile 4 Life, "NHS Long Term Plan - Oral Health - a summary," 2019. [Online]. Available:
4 https://www.bsperio.org.uk/assets/downloads/NHS_Long_term_plan_summary.pdf.

0 [Accessed 13 November 2023].

]

[Public Health England, "Oral health toolkit for adults in care homes," 27 Novemeb
4 2020. [Online]. Available: [https://www.gov.uk/government/publications/adult-oral-](https://www.gov.uk/government/publications/adult-oral-health-in-care-homes-toolkit/oral-health-toolkit-for-adults-in-care-homes)

1 health-in-care-homes-toolkit/oral-health-toolkit-for-adults-in-care-homes. [Accessed
] 13 November 2023].

- [Public Health England, “What is Known About the Oral Health of Older People in England and Wales: a review of oral health surveys of older people,” December 2015. [Online]. Available: https://assets.publishing.service.gov.uk/media/5a74864fed915d0e8bf18fcc/What_is_known_about_the_oral_health_of_older_people.pdf. [Accessed 13 November 2023].
- [H. Muir, “Improving Access to Mouth Care Training and Support for Care Homes in South West England - Findings of the South West Mouth Care Survey 2022,” 2022. [Online]. Available: https://static1.squarespace.com/static/5978b38b37c5810a5cf0394c/t/636a614fbed1fc603a520bd9/1667916112392/SW+Mouth+Care+Survey+Report_V1.0.pdf. [Accessed 12 December 2023].
- [C. McCorrigan, K. Frazer, L. Daly, R. Moore, J. Turner, M. Sweeney, A. Staines, P. Fitzpatrick and C. Kelleher, “The health care experiences of Travellers compared to the general population: the All-Ireland Traveller Health Study,” *Journal Health Services Research Policy*, vol. 17, no. 3, pp. 173-80, 2012.
- [GOV.UK, “Traveller Caravan Count: July 2022,” July 2022. [Online]. Available: <https://www.gov.uk/government/statistics/traveller-caravan-count-july-2022>. [Accessed 23 October 2023].
- [Office for National Statistics, “International migration, England and Wales: Census 2021,” 2021. [Online]. Available: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/bulletins/internationalmigrationenglandandwales/census2021#how-country-of-birth-and-passports-held-varied-across-england-and-wales>. [Accessed 13 November 2023].
- [OHID, “Guidance: Dental health: migrant health guide,” 31 July 2014. [Online]. Available: <https://www.gov.uk/guidance/dental-health-migrant-health-guide>. [Accessed 13 November 2023].
- [A. Hamid, “A Scoping Review of the Oral Health and Dental Care needs of Asylum Seekers and Refugees in South West England: August 2022,” NHS England South West, Bristol, 2022.
- [A. Hamid, “Asylum seekers and refugees in South West England: Scoping oral health and dental care needs,” Bristol City Council, Bristol, 2022.

9

]

[M. Paisi, R. Baines, A. Wheat, J. Doughty, S. Kaddour, P. Radford, E. Stylianou, J. Shawe
5 and R. Witton, "Factors affecting oral health care for asylum seekers and refugees in
0 England: a qualitative study of key stakeholders' perspectives and experiences," *British*
] *Dental Journal*, 2022.

[D. Johnson, A. Hearn and D. Barker, "A pilot survey of dental health in a group of drug
5 and alcohol abusers.," *Eur J Prosthodont Restor Dent.*, vol. 16, no. 4, pp. 181-4, 2008.

1

]

[W. Blot, J. McLaughlin, D. Winn, D. Austin, R. Greenberg and S. Preston-Martin,
5 "Smoking and drinking in relation to oral and pharyngeal cancer.," *Cancer Res.*, vol. 48,
2 no. 11, pp. 3282-7, 1988.

]

[Swindon Council, "An Oral Health Needs Assessment for Swindon," Swindon, 2023.

5

3

]

[S. Okala, J. Doughty, R. Watt, A. Santella, D. Conway, W. Crenna-Jennings, R. Mbewe, J.
5 Morton, I. Lut, L. Thorley, L. Benton, M. Hibbert, M. Jefferies, C. Kunda, S. Morris, K.
4 Osborne, H. Patterson, L. Sharp, G. Valiotis, A. Hudson and V. Delpuch, "The People
] Living with HIV STIGMASurvey UK 2015: Stigmatising experiences and dental care,"
British Dental Journal, vol. 225, pp. 143-50, 2018.

[NHS England, "NHS England," 18 November 2022. [Online]. Available:
5 [https://www.england.nhs.uk/long-read/core20plus5-infographic-children-and-young-
5 people/](https://www.england.nhs.uk/long-read/core20plus5-infographic-children-and-young-5-people/). [Accessed 4 December 2023].

]

[D. Evans, L. Mills, M. Bryce and S. Hanks, "Recruitment and retention in dentistry in the
5 UK: a scoping review to explore the challenges across the UK, with a particular interest
6 in rural and coastal areas," *British Dental Journal*, 2023.

]

[South West Directr Commissioning, "Dental Transformation SPRINT Workshop 1:
5 Output," 2 August 2021. [Online]. Available: [https://www.england.nhs.uk/south/wp-
7 content/uploads/sites/6/2021/08/dental-sprint-1-output-report.pdf](https://www.england.nhs.uk/south/wp-7-content/uploads/sites/6/2021/08/dental-sprint-1-output-report.pdf). [Accessed 05
] December 2023].

[NHS, "NHS Dental Statistics for England, 2022-23, Annual Report," 24 August 2023.
5 [Online]. Available: [https://digital.nhs.uk/data-and-](https://digital.nhs.uk/data-and-information/publications/statistical/nhs-dental-statistics/2022-23-annual-report)
8 information/publications/statistical/nhs-dental-statistics/2022-23-annual-report.
] [Accessed 12 December 2023].

[NHS Digital, "NHS Dental Statistics for England - 2020-21 Annual Report," 26 August
5 2021. [Online]. Available: [https://digital.nhs.uk/data-and-](https://digital.nhs.uk/data-and-information/publications/statistical/nhs-dental-statistics/2020-21-annual-report)
9 information/publications/statistical/nhs-dental-statistics/2020-21-annual-report.
] [Accessed 12 December 2023].

[NHS Digital, "NHS Dental Statistics for England 2022-23 Annual report," NHS, 2023.
6
0
]

[Public Health England, "Return on investment of oral health improvement programmes
6 for 0-5-year-olds," 2016. [Online]. Available:
1 [https://assets.publishing.service.gov.uk/media/5a80ee0bed915d74e6231403/ROI_ora](https://assets.publishing.service.gov.uk/media/5a80ee0bed915d74e6231403/ROI_oral_health_interventions.pdf)
] [l_health_interventions.pdf](https://assets.publishing.service.gov.uk/media/5a80ee0bed915d74e6231403/ROI_oral_health_interventions.pdf). [Accessed 23 December 2023].

[HM Revenue & Customs, "Policy paper: Soft Drinks Industry Levy: Policy paper. 5
6 December 2016.," GOV.UK, 2016.
2
]

[N. Rogers, D. Conway, O. Mytton, C. Roberts, H. Rutter, A. Sherriff, M. White and J.
6 Adams, "Estimated impact of the UK soft drinks industry levy on childhood hospital
3 admissions for carious tooth extractions: interrupted time series analysis.," *BMJ*
] *Nutrition, Prevevention & Health*, p. e000714, 2023.

[UNICEF, "The Baby Friendly Initiative: Breast feeding in the UK," [Online]. Available:
6 [https://assets.publishing.service.gov.uk/media/5a80ee0bed915d74e6231403/ROI_ora](https://assets.publishing.service.gov.uk/media/5a80ee0bed915d74e6231403/ROI_oral_health_interventions.pdf)
4 [l_health_interventions.pdf](https://assets.publishing.service.gov.uk/media/5a80ee0bed915d74e6231403/ROI_oral_health_interventions.pdf). [Accessed 1 December 2023].
]

[P. Day, K. Gray-Burrows and Z. Marshman, "BRUSH: The Supervised Toothbrushing
6 Toolkit," [Online]. Available: <https://www.supervisedtoothbrushing.com/>. [Accessed 26
5 February 2024].
]

[V. Marinho, H. Worthington, T. Walsh and J. Clarkson, "Fluoride varnishes for preventing
6 dental caries in children and adolescents.," *Cochrane Database of Systematic Reviews*,
6 2013.

]

[PSHE Association, "University of Bristol: EDUCATE KS3 HPV," [Online]. Available:
6 <https://pshe-association.org.uk/resource/educate-hpv-vaccine>. [Accessed 26 February
7 2024].

]

[J. Anaise, "Measurement of dental caries experience-modification of the DMFT index,"
6 *Community Dentistry and Oral Epidemiology*, vol. 12, no. 1, pp. 43-46, 1984.

8

]

[NHS Digital, "Tooth extractions due to decay for children admitted as inpatients to
6 hospital, aged 10 years and under (2011-2021)," 2022. [Online]. Available:
9 [https://digital.nhs.uk/data-and-information/publications/statistical/nhs-outcomes-
\] framework/march-2022/domain-3---helping-people-to-recover-from-episodes-of-ill-
health-or-following-injury-nof/3.7.ii-tooth-extractions-due-to-decay-for-children-
admitted-as-](https://digital.nhs.uk/data-and-information/publications/statistical/nhs-outcomes-framework/march-2022/domain-3---helping-people-to-recover-from-episodes-of-ill-health-or-following-injury-nof/3.7.ii-tooth-extractions-due-to-decay-for-children-admitted-as-). [Accessed 9 October 2023].

[S. Okala, J. Doughty, R. Watt, A. Santella, D. Conway, W. Crenna-Nejjings, R. Mbewe, J.
7 Morton, I. Lut, L. Thorley, L. Benton, M. Hibbert, J. Jefferies, C. Kunda, S. Morris, K.
0 Osborne, H. Patterson, L. Sharp, G. Valiotis, S. Hudson and V. elpech, "The People Living
] with HIV STIGMASurvey UK 2015: Stigmatising experiences and dental care," *British
Dental Journal*, vol. 225, pp. 143-50, 2018.