

## Appendix 1: Oral health of children in Manchester: Data summary

### 1.0 National Dental Epidemiological Programme for England (NDEP)

- 1.1 The National Dental Epidemiological Programme for England (NDEP) is the primary source of data on the levels of dental decay in children and adults in England. It covers the collection of data on the prevalence and severity of experience of dental decay in 3 and 5-year old children, as well as children in Year 6 (10-11 year olds). The paper presented to Health and Wellbeing Board in May 2023 contained more information on the NDEP survey programme, how it is carried out and the key metrics used to measure the scale and severity of dental decay in different parts of England.
- 1.2 The NDEP survey programme is carried out on a rolling basis such that each of the age groups covered are examined at a particular point in time. Data on 3-year-old children was last collected during the 2019 to 2020 school year and that for 5-year-old children during the 2021 to 2022 school year. The paper presented to Health and Wellbeing Board in May 2023 summarised the most recent data relating to these cohorts of children and consequently this data is not replicated in this paper.
- 1.3 The most recent NDEP survey covered Year 6 children (10 to 11-year-olds) and was carried out during the academic year 2022 to 2023. This was the first time this population group has been surveyed. In Manchester, 222 children (or 3.2% of the target population) were examined as part of this survey. This accounts for just over 50% of the initial sample and is equivalent to an average of 7 children per ward. The small number of children examined means that the results of this survey should be interpreted with a degree of caution.
- 1.4 Year 6 children in Manchester were more likely to have some experience of decay compared with other areas. Overall, just under a quarter (24.8%) of Year 6 children in the city had some experience of decay, defined as having one or more decayed, missing or filled teeth. This compares with 21.4% of Year 6 children in GM and 16.2% in England.

Table 1: Key measures from oral health survey of Year 6 children 2022-23

	Manchester	Greater Manchester	England
Number of children examined		5	73
% of Year 6 population examined			
% of children with decay experience	%	%	%
Average number of decayed, missing or filled teeth in children with decay experience			

% of decayed, missing or filled teeth that have been filled or extracted	%	%	%
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- 1.5 Year 6 children in Manchester also had a greater severity of experience of dentinal decay. On average, Year 6 children with evidence of tooth decay in Manchester had 1.87 decayed, missing or filled teeth compared with an average of 1.80 teeth in Greater Manchester and 1.84 teeth across England as a whole. The proportion of dental decay among Year 6 children in Manchester that had been *treated* by filling or an extraction (44.8%) is also lower than in Greater Manchester (45.8%) or England as a whole (34.8%).
- 1.6 In Manchester, 3.2% of Year 6 children reported that they have had pain in their teeth or mouths often or very often (compared with 3.0% of children in England as a whole) and 4.0% reported that they have had difficulty biting or chewing firm foods often or very often in the past 3 months (compared with 2.1% of children in England as a whole).
- 1.7 Nationally, there was wide variation in the prevalence of experience of tooth decay by deprivation and ethnic group. Year 6 children living in the most deprived areas of the country were more than twice as likely to have experience of tooth decay (23%) as those living in the least deprived areas (10%). The prevalence of experience of tooth decay was significantly higher in the 'other' ethnic group (22%) and Asian or Asian British ethnic group (18%) than in the white ethnic group (16%) and black or black British ethnic group (13%).
- 1.8 The '*Child of the North; Building a fairer future after Covid 19*' report produced by the Northern Health Science Alliance (NHSA) and N8 Research Partnership (N8) in December 2021 also highlighted disparities in oral health linked to inequality and deprivation that have been heightened by the impact of the pandemic. Analysis of data from the National Dental Epidemiology Programme for England 2019-2020 shows that 5-year-old children from Gypsy/Traveller communities are most likely to experience tooth decay (59.6%).
- 1.9 Ethnic minority children are also more likely to experience decay on their *front teeth*, which can lead to bullying and mental health concerns. The prevalence of front tooth decay is 13.6% amongst Asian children and 15.7% in the other ethnic groups, compared with 3.6% in White children. Severe dental decay contributes to some of these children being underweight because pain and infection can further compromise food intake.
- 1.10 Access to dental care at the high-street dentist and hospitals declined by around 50-75% during the period of COVID control measures and social distancing guidelines which resulted in an estimated nine million children missing out on dental care.

## 2.0 Hospital tooth extractions in children aged 0 to 19 years

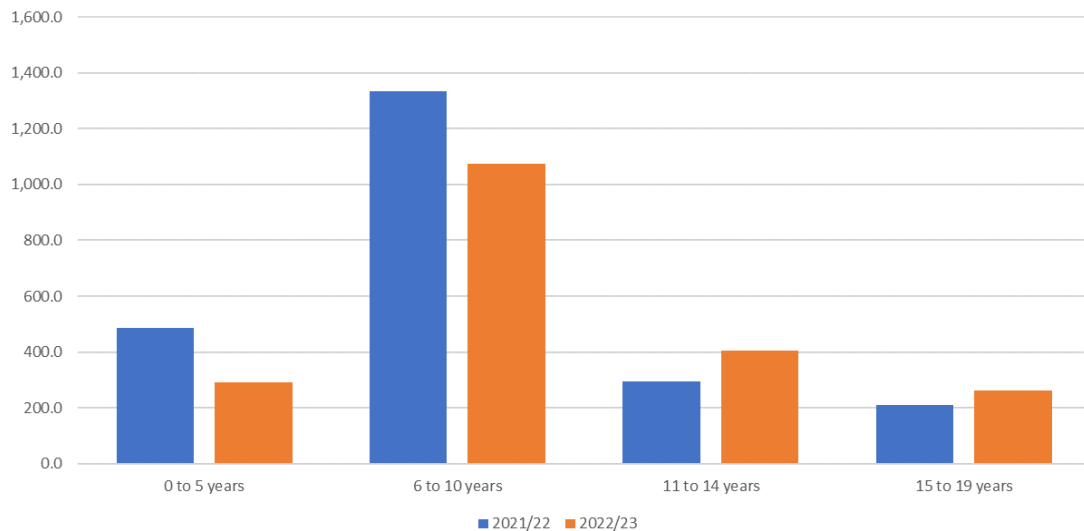
- 2.1 Tooth decay is the most common reason for hospital admission in children aged between 6 and 10 years. Children have teeth extractions carried out in hospital, usually – but not exclusively - because they need general anaesthetic for the procedure. They may be very young, have multiple teeth requiring extraction or have very broken-down teeth or infection.
- 2.2 Nationally, it has been estimated that, in 2021/22, hospital admissions for tooth extractions in children aged 0 to 19 years resulted in a cost to the NHS of around £81.0 million for all tooth extractions and £50.9 million for caries-related tooth extractions.
- 2.3 The Office for Health Improvement and Disparities (OHID) publishes annual official statistics on tooth extractions for children and adolescents aged 0-19 that take place in an NHS hospital setting in England. This is based on analysis of the Hospital Episode Statistics (HES) admitted patient care (APC) data set and includes finished consultant episodes (FCEs) where a tooth extraction procedure was performed on either an inpatient or day-case basis. (Note: an FCE equates to the period a patient spends under the care of a single hospital consultant and may not equate to a single individual).
- 2.4 The most recently published data on hospital-based tooth extractions in 0 to 19 year olds shows that, in 2022-23, there were 760 FCEs for hospital tooth extractions among children and adolescents aged 0-19 living in Manchester - a reduction of 100 children compared with the number of FCEs in 2021/22. These figures cover both simple and more complex (i.e. surgical) tooth extractions
- 2.5 Overall, 77% of hospital tooth extractions in children in Manchester had caries as the primary diagnosis. This rises to around 90.0% in children aged 5 or under. This is higher than the England average of 84.7%.
- 2.6 The hospital tooth extraction rate per 100,000 population in Manchester in 2022/23 was higher than that seen in both Greater Manchester and England as a whole (see Table 3 below). The rate of teeth extractions where caries is the primary diagnosis in Manchester was also higher than average.

Table 3: Number and rate of hospital tooth extractions (0-19 years), 2022/23

	All diagnoses		Caries related		% extractions related to caries
	Number	Rate per 100,00	Number	Rate per 100,00	
Manchester	760	496.7	585	382.3	77.0%
GM	3,565	483.7	2,675	363.0	75.0%
England	47,581	360.4	31,165	236.0	65.7%

2.7 The chart below illustrates the change in the rate of tooth extractions (all diagnoses) in Manchester by age group between 2021/22 and 2022/23.

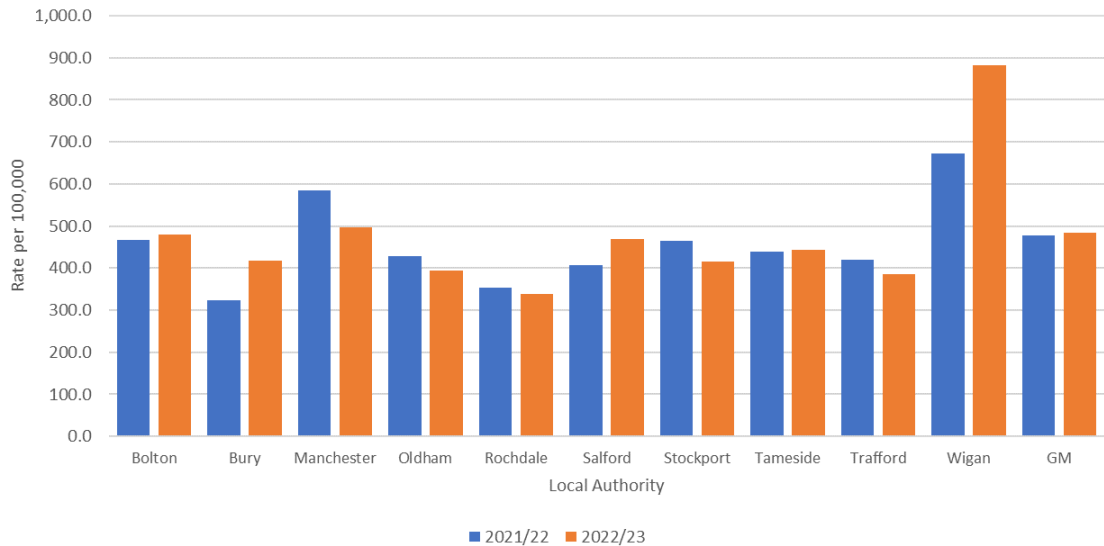
*Rate of tooth extractions (all diagnoses) per 100,000 population by age group, 2021/22 – 2022/23*



The chart shows that the rate of tooth extractions has fallen (i.e. improved) in children aged 0-5 and 6-10 years but has increased in 11-14 and 15-16 year olds. In part, this is linked to ‘corrections’ to the estimated resident population of Manchester, which have been revised upwards between mid-2021 and mid-2022 to take account of issues linked to the 2021 Census.

2.8 In 2021/22, the overall rate of hospital tooth extractions in Manchester (584.8 per 100,000) was the second highest in GM, behind Wigan (671.9 per 100,000). Despite a reduction in the rate between 2021/22 and 2022/23, Manchester’s ranking relative to other parts of GM has not changed (see chart below).

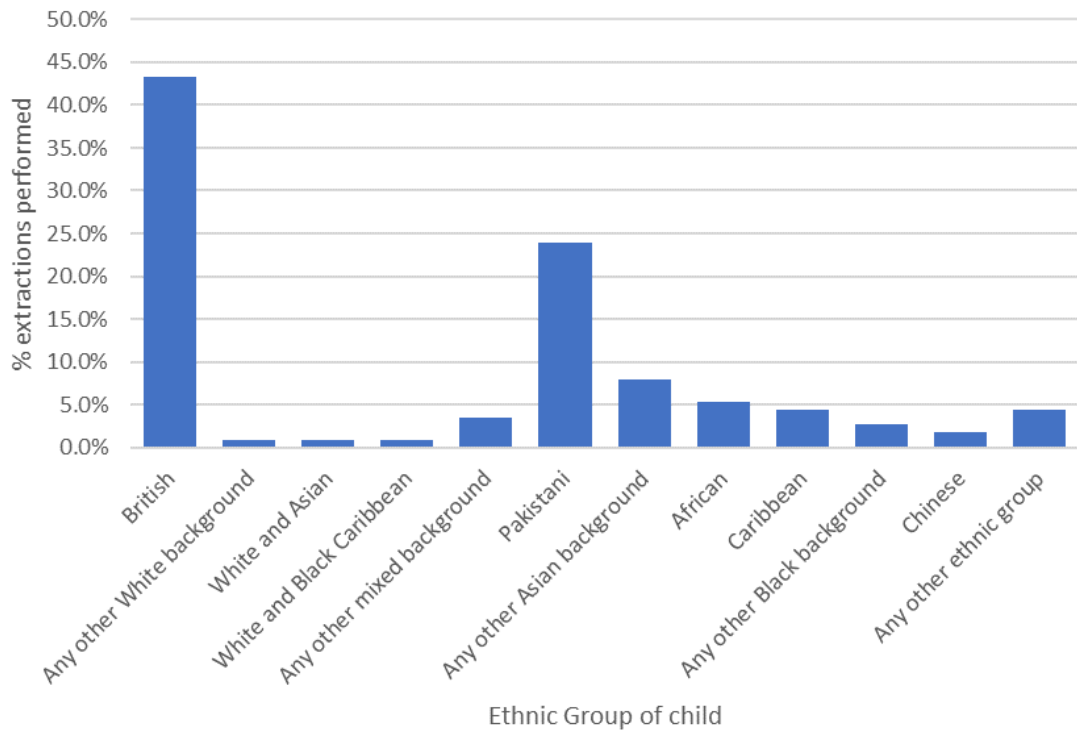
*Rate of Hospital Tooth Extractions (All Diagnoses) per 100,000 population by Local Authority, 2021/22 - 2022/23*



2.9 Following the paper to Health and Wellbeing Board in May 2023, we have been working directly with Manchester Foundation Trust (MFT) to explore the data they hold relating to tooth extractions in children that have been carried out in the Dental Hospital, looking initially at data for the period April 2021 to March 2022. This has allowed us to look in more detail at the age, ethnic group and neighbourhood of residence of the child.

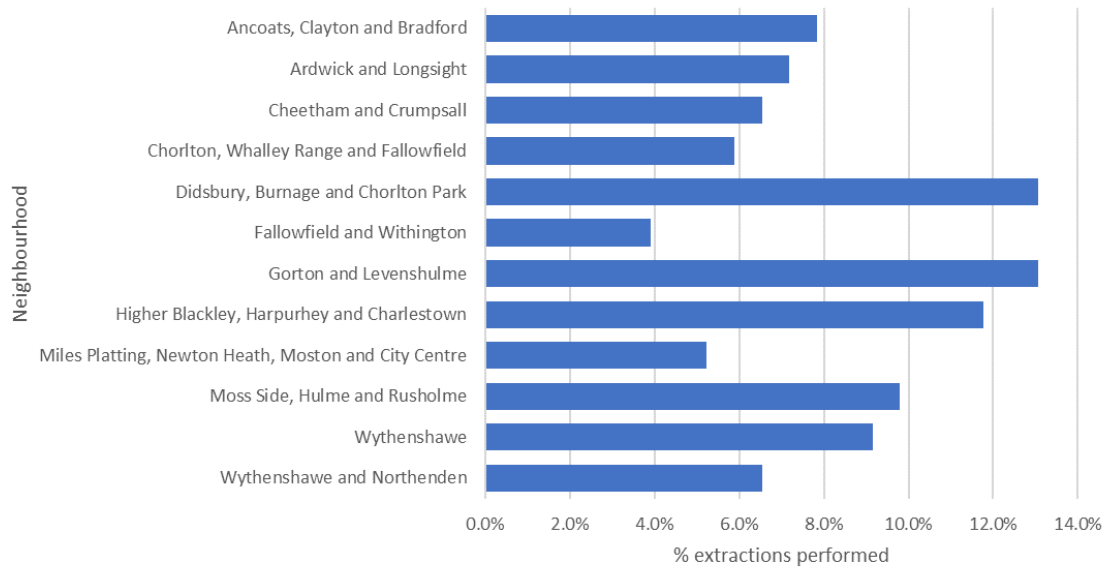
2.10 Between April 2021 and March 2022, 153 simple tooth extractions in children aged 18 years and under living in Manchester were carried out in MFT. Over half (55%) of these were in children between the ages of 6 and 9, with the largest numbers being in children aged 9, 6 and 8. Of those children with an identifiable ethnic group, the largest proportions of tooth extracts were carried out on children from White and Asian ethnic groups (42.2% and 31.9% of tooth extractions carried out respectively). Looking at the data in a more detailed way shows that 23.9% of all tooth extractions with a valid ethnic group code were carried out on children from a Pakistani ethnic group.

*Percentage of tooth extractions performed in MFT by ethnic group of child: Manchester residents (April 2021 to March 2022)*



2.11 The data for the period April 2021 and March 2022 does not show any clear geographic patterns, although there are a high number of tooth extractions performed on children living in neighbourhoods with predominantly White, less ethnically diverse populations, such as Didsbury, Burnage and Chorlton Park, Gorton and Levenshulme and Higher Blackley, Harpurhey and Charlestown.

*Percentage of tooth extractions performed in MFT by neighbourhood of residence of child: Manchester residents (April 2021 to March 2022)*



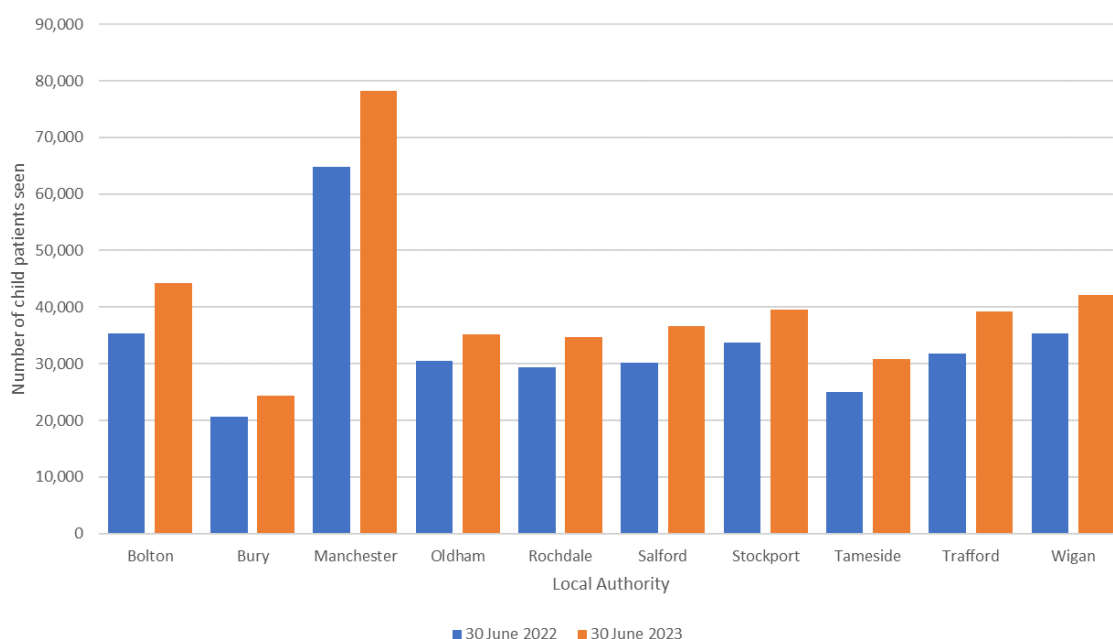
### 3.0 Use of NHS Dental Services by Children in Manchester

3.1 NHS Digital (now part of NHS England) publishes an annual report that brings together data on NHS dental activity in England. The most recent publication includes data on NHS dental activity carried out on children under the age of 18 in the 12-month period to 31 March 2023 and the number of child patients seen by an NHS dentist in the 12 months up to 30 June 2023. The 12-month time period used aligns with the recommended longest interval between dental checks in the Oral and Dental Health NICE guidance.

#### Children seen by NHS dental practices

3.2 The following chart shows the change in the percentage of children under the age of 18 who have been seen by NHS dental practices located in each Greater Manchester local authority over the past two years (i.e. the 12 months ending 30 June 2022 and 30 June 2023). Note that some of these patients will be non-residents of the local authority and that the data counts each patient once, even if they have received several episodes of care over the period. The number of patients seen includes orthodontists' visits, but it is not possible to determine which patients were seen for orthodontic visits.

### Number of child patients seen in the previous 12 months by local authority



- 3.3 A total of 78,230 child patients were seen by an NHS Dentist in Manchester in the 12-months up to 30 June 2023. This is an increase of 13,488 child patients (or 20.8%) compared with the number seen in the 12-months up to 30 June 2022. This is equivalent to 63.2% of the child population of the city and represents an increase compared with the 52.3% of children seen in the 12-months up to 30 June 2022. The latest figure of 63.2% is above the England average of 52.7%.

### Number of child patients seen by an NHS dentist in the previous 12 months by Local Authority, 12 months ending 30 June 2022 and 30 June 2023

LA Name	12 months ending 30 June 2022		12 months ending 30 June 2023	
	No. of children seen	% of child population seen	No. of children seen	% of child population seen
Bolton	35,281	51.2	44,277	64.2
Bury	20,676	47.9	24,412	56.5
Manchester	64,742	52.3	78,230	63.2
Oldham	30,475	51.3	35,216	59.2
Rochdale	29,330	54.5	34,635	64.3
Salford	30,175	51.6	36,685	62.8
Stockport	33,814	52.9	39,549	61.9
Tameside	24,972	49.0	30,774	60.4
Trafford	31,747	56.1	39,169	69.2
Wigan	35,372	51.0	42,137	60.7



GM	336,584	54.5	405,084	62.5
NW Region	756,936	49.8	897,762	59.4
England	5,589,201	46.2	6,372,892	52.7

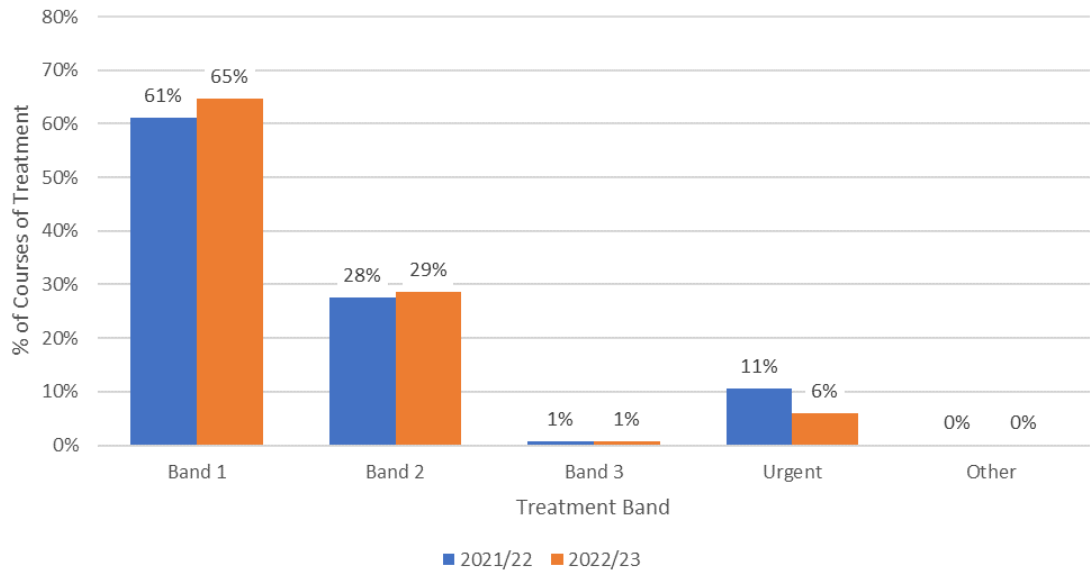
*Source: NHS Dental Services, NHS Business Services Authority (BSA).  
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- 3.4 Within Greater Manchester, the percentage of the child population seen by an NHS dentist in the 12 months ending 30 June 2023 ranged from 69.2% of children in Trafford to 56.5% of children in Bury.

#### Dental treatment for children seen by NHS dental practices

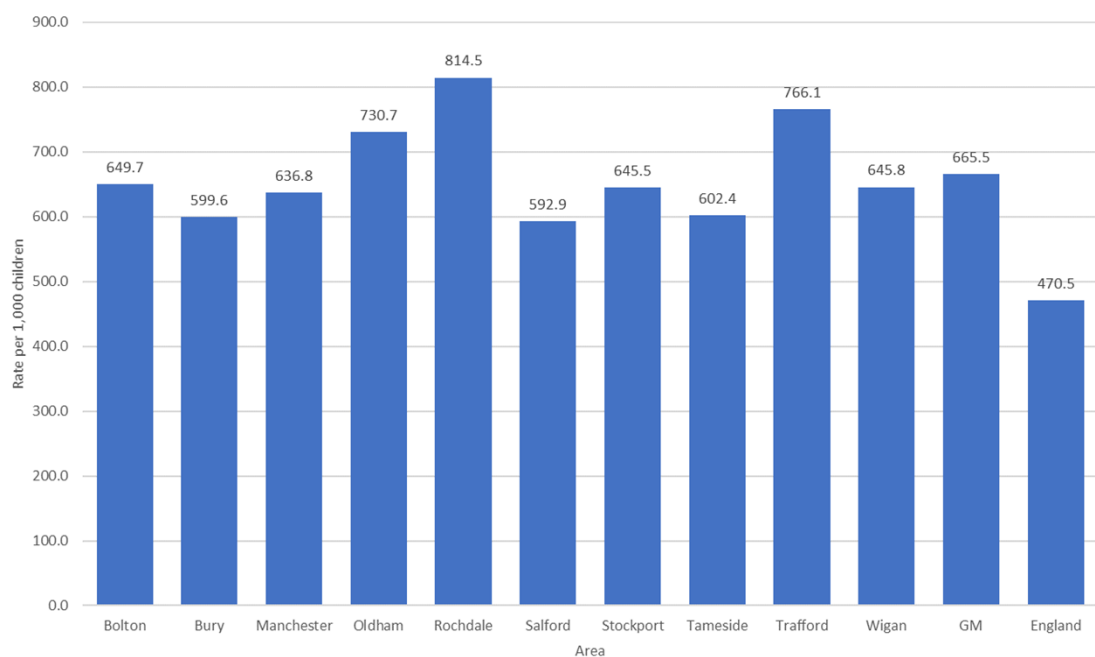
- 3.5 In the year ending 31 March 2023, 128,596 courses of dental treatment were carried out on children by NHS dental practices located in Manchester - an increase of 41.7% compared with the 90,762 courses of dental treatment delivered in 2021/22. The latest data suggests that children account for an increasing proportion of the courses of treatment delivered by NHS dental practices in Manchester. In 2021/22, 32.3% courses of treatment delivered by NHS dentists in Manchester were carried out on children. This figure rose to 36.4% in 2022/23.
- 3.6 Courses of dental treatment are banded according to the most complex treatment in the course. Band 1 treatments are mostly preventative in nature and include check-ups and simple treatment such as dental examinations, x-rays and prevention advice. In 2022/23, just under two-thirds (65%) of treatments on children fell into this band of treatment. The proportion of treatments on children falling into this band has increased compared to 2021/2. In contrast, the proportion of treatments on children falling into the urgent treatment band has fallen from 11% in 2021/22 to 6% in 2022/23 (see chart below).

*Percentage of courses of treatment delivered on children in Manchester by treatment band, 2021/22 - 2022/23*



3.7 Fluoride varnish treatments involve applying fluoride preparation to the surface of a tooth and are a primary way of preventing tooth decay, particularly in children. In 2022/23, NHS dentists in Manchester carried out 78,880 fluoride varnish treatments on children, a rate of 636.8 treatments per 1,000 children under the age of 18. The number of fluoride varnish treatments on children carried out by NHS dentists in Manchester has been increasing following the disruption to NHS dental services during the COVID-19 pandemic, although it is still lower than the 83,341 fluoride varnish treatments on children carried out in the financial year immediately preceding the pandemic (2019/20).

*Total number of fluoride varnish treatments delivered by NHS dentists per 1,000 children, 2022/23*



Within Greater Manchester, the rate of fluoride varnish treatments ranges from 592.9 treatments per 1,000 children in Salford to 814.5 treatments per 1,000 children in Rochdale. Every local authority in Greater Manchester has a rate of fluoride varnish treatments that is above (i.e. better than) the England figure of 470.5 per 1,000 children.

*Table - Buddy Practice Scheme*

This represents the participation of six schools and five dental practices

	North	Central	South	Total
Total number of children eligible to take part	330	69	0	399
Number of children identified as having no dentist (with consent)	95 (29%)	32 (46%)	0	127 (32%)
Number (and percent) of children with an identified oral health need	22 (23%)	11 (34%)	0	33 (26%)
Number (and percent) of children with an identified oral health need seen by a dental practise to date	15 (68%)	6 (55%)	0	21 (17%)

*Table - Supervised Toothbrushing in North, Central and South Manchester (Aug 2024)*

	Private, voluntary sector & independent nurseries	Childminders	Schools
<b>North Manchester</b>			
North Manchester	34	3	37
Number of pre-school contacts engaged (0-5 years)	1,892	30	-
Number of school-aged contacts engaged (5+ Years)	-	-	2,799
Staff trained in Supervised toothbrushing	42	1	56
Parent and carer sessions for supervised toothbrushing	206	-	312
<b>Central Manchester</b>			
Central Manchester	18	4	20
Number of pre-school contacts engaged (0-5 years)	1,040	16	-
Number of school-aged contacts engaged (5+ Years)	-	-	1,642
Staff trained in Supervised toothbrushing	52	0	9
Parent and carer sessions for supervised toothbrushing	68	-	227

<b>South Manchester</b>			
South Manchester	7	5	15
Number of pre-school contacts engaged (0-5 years)	463	35	-
Number of school-aged contacts engaged (5+ Years)	-	-	1,239
Staff trained in Supervised toothbrushing	12	0	4
Parent and carer sessions for supervised toothbrushing	23	-	120
<b>Total number of children supervised brushing in each setting</b>	<b>3,395</b>	<b>82</b>	<b>5,680</b>

*Table - Fluoride Varnishing (January - March 2023)*

	North	Central	South
Total number with no dentist	95	32	0
Number of children receiving fluoride varnishing	85 (89%)	23 (72%)	0