Appendix A: Children's Oral Health Overview.

1. Introduction

Good oral health is essential to good general health and achieving a good quality of life. The World Health Organisation defines good oral health as a state of being free from mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum) disease, tooth decay, tooth loss and other diseases and disorders that limit an individual's capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing. Poor oral health impacts not just on the individual's health but also their wellbeing and that of their family.

Oral health is an important aspect of a child's overall health status and of their school readiness. Tooth decay is the most common oral disease affecting children and young people in England, yet it is largely preventable. Findings from Public Health England's (PHE) national dental epidemiology survey of 5 year old children in 2017 showed:

77% of 5-year old children in England have no visually obvious dental decay. This means that 23%, almost 1 in 4 children have at least one tooth decayed, missing or filled tooth.

There are wide variations across the local authorities in England. The proportions of 5-year olds with visually obvious dental decay range from as low as 13% to as high as 47%.

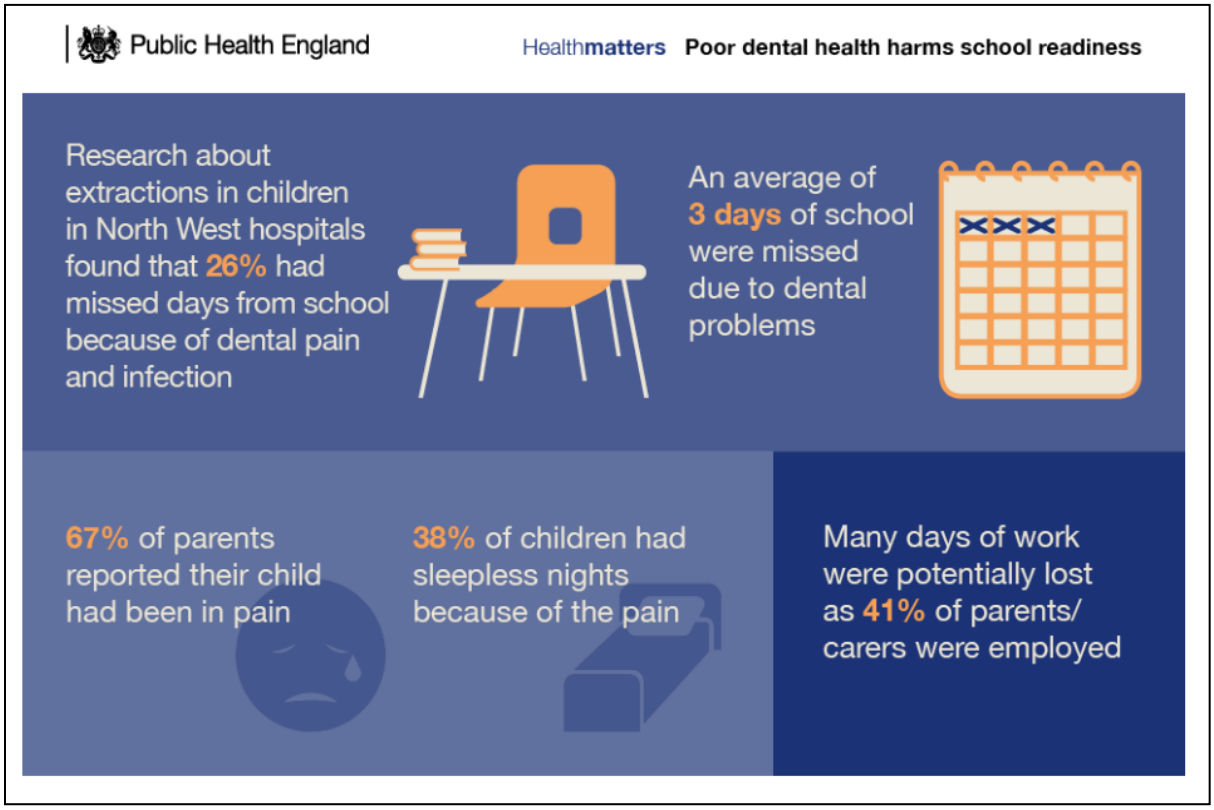
2. Risk Factors

2.1 Every child who has teeth is at risk of tooth decay. Children are more at risk of developing tooth decay if they are:

- Eating a poor diet with high concentrations of sugar
- Brushing their teeth less than twice per day and not using toothpaste containing fluoride
- From deprived backgrounds

2.2 Poor Dental Health and School Readiness

Poor oral health has wider negative impact on children and their families. It can affect emotional and social health development due to pain and treatment of the infections. Children with poor dental health are likely to miss school regularly due to the pain and time off to attend appointments for treatment. Poor oral health of children is also likely to have an impact on working parents. Parents/ carers may have to take days off from work to look after children who are suffering with dental pain or recovering from dental treatments.

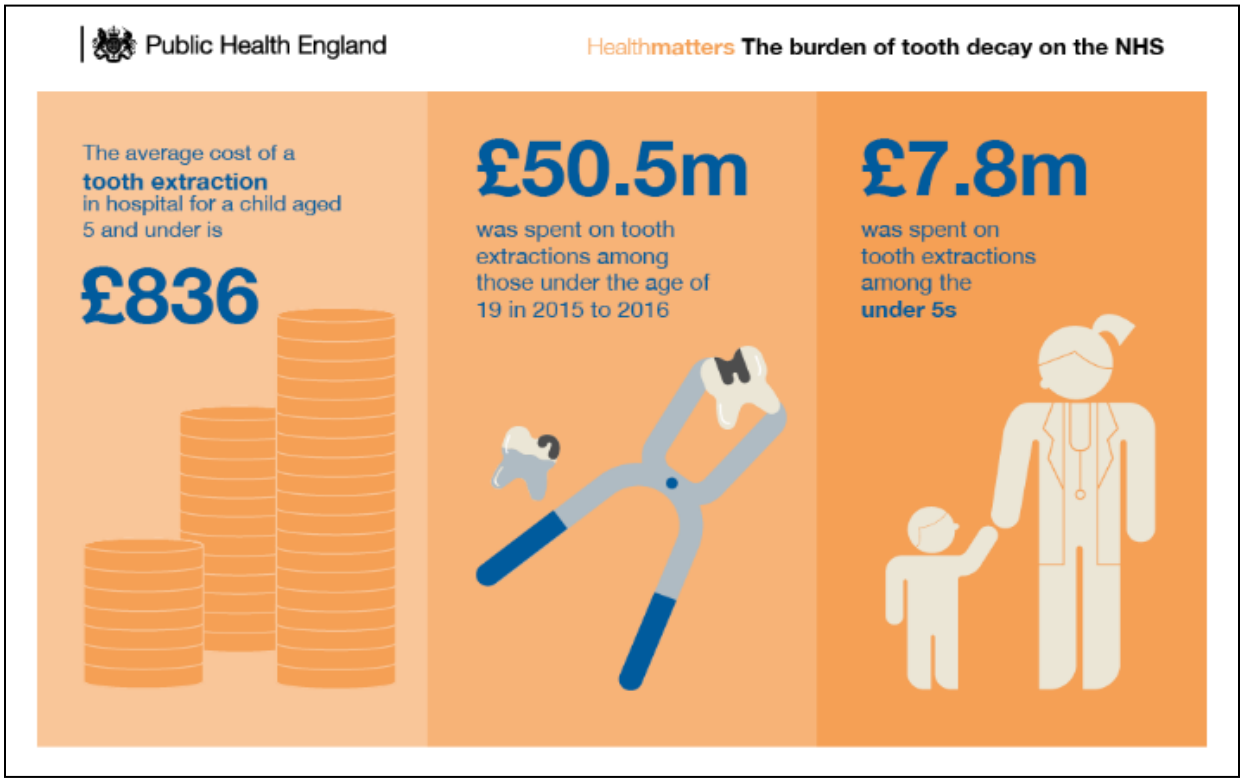


Source: PHE Health matters: child dental health (June 2017)[1]

2.3 The burden of tooth decay on the NHS

Public Health England have reported approximately £50.5 million is spent among children aged 0 to 19 years for tooth extractions and approximately £7.8 million for children aged under 5 in 2015-2016.

[1] https://www.gov.uk/government/publications/health-matters-child-dental-health/health-matters-child-dental-health



Source: PHE Health matters: child dental health (June 2017)[2]

Children who experience high levels of disease that are treated with fillings and other restorations at a very young age are also likely to require complex and expensive maintenance as they get older.

3. Local Need

3.1 Dental Health of five-year-old children in Sandwell

Public Health England conduct a biennial National Dental Epidemiology Programme survey where children aged five-years-old attending mainstream schools are sampled[3] with the aim to understand the dental health and rearing practices locally and nationally. From the 2016/17 survey, it has been estimated that;

75% of children aged 5-years old in Sandwell have no sign of dental decay. This means that the remaining 25% (1 in 4 children) have at least one tooth decayed, missing or filled.

[2] https://www.gov.uk/government/publications/health-matters-child-dental-health/health-matters-child-dental-health
[3]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/774469/Oral_health_survey_protocol_5_year_olds_2016.pdf

Sandwell's rate is statistically similar to the average rate for England at 23.3%. Sandwell's rate is also statistically similar to the West Midlands average.

From the last 3 biennial surveys (2011/12, 2014/15 and 2016/17) Sandwell's rate has remained statistically similar to England.

With the exception of Wolverhampton, local authorities within the Black Country have rates similar to each other and to that of England.

Percentage of 5 year olds with experience of visually obvious dental decay 2016/17 — Proportion - %

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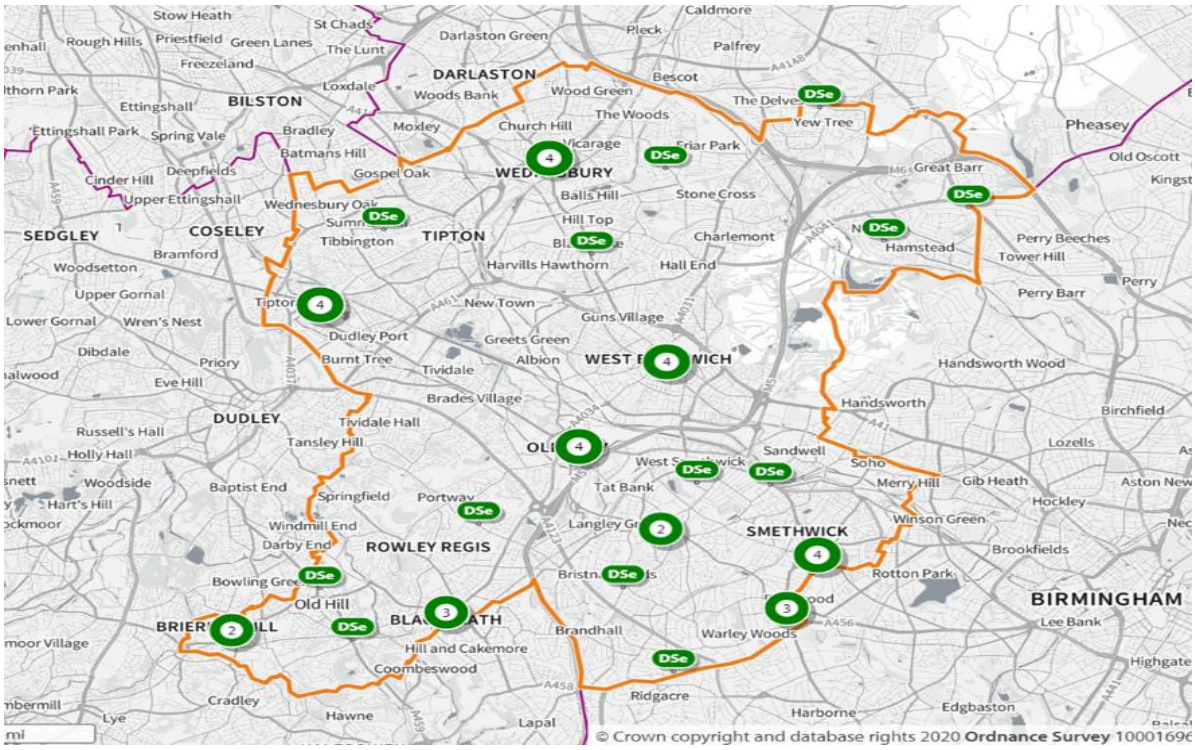
Area	Recent Trend	Count	Value	95% Lower CI	95% Upper CI
England	–	-	23.3	23.0	23.6
West Midlands region	–	-	25.7	25.0	26.4
Staffordshire	–	-	16.3	14.5	18.3
Solihull	–	-	16.3	11.9	21.9
Shropshire	–	-	18.8	14.1	24.7
Warwickshire	–	-	21.6	19.3	24.0
Worcestershire	–	-	21.8	20.4	23.2
Dudley	–	-	22.6	18.4	27.5
Walsall	–	-	23.4	19.4	28.0
Sandwell	–	-	25.4	21.4	30.0
Birmingham	–	-	26.1	21.8	31.0
Wolverhampton	–	-	28.4	26.5	30.5
Telford and Wrekin	–	-	29.1	23.6	35.2
Herefordshire	–	-	30.5	25.2	36.3
Coventry	–	-	30.7	28.6	32.8
Stoke-on-Trent	–	-	32.6	30.4	34.9

Source: Dental Public Health Epidemiology Programme for England: oral health survey of five-year-old children (Biennial publication - latest report 2017) https://www.gov.uk/government/statistics/oral-health-survey-of-5-year-old-children-2017

3.2 Access to Dental Services in Sandwell

Dental treatment is free if you are under 18, or under 19 and in full-time education, pregnant or have had a baby in the previous 12 months. It is advised that children should be seeing a dentist as soon as their teeth start to appear. All children over three years should have fluoride varnish applied to their teeth, if younger children are at particular risk of tooth decay the dentist may also apply this.

Within Sandwell there are 43 NHS Dental Practices commissioned widely across the six towns of Sandwell.



Source: Public Health England – Strategic Health Asset Planning and Evaluation Tool

4. Interventions to support good dental health

4.1 Access to Fluoride

Fluorides are widely found in nature and in foods such as tea, fish and in some natural water supplies. The link between fluoride in public water supplies and reduced levels of tooth decay was first documented early in the last century. Since then fluoride has become more widely available, most notably in toothpaste and is widely recognised as having improved oral health in the UK.

There is abundant evidence that increasing fluoride availability to individuals and communities is effective at reducing tooth decay levels.

4.2 Fluoride Varnish

Fluoride varnish is one of the best options for increasing the availability of topical fluoride, regardless of the levels of fluoride in the water supply. A number of systematic reviews conclude that applications of fluoride varnish two or more times a year produce a mean reduction in tooth decay of 37% in the primary (milk teeth) and 43% in the permanent. The evidence supports the view that varnish application can also arrest existing lesions on the smooth surfaces of primary teeth and roots of permanent teeth. As fluoride varnish is administered in dental practices, this comparison can also be viewed as a measure of access to dentists in Sandwell. 49% of child courses of dental treatments in Sandwell included a fluoride varnish in 2016-17. This is a higher proportion than England.

Local Authority	Fluoride Varnish
Walsall Metropolitan Borough Council	62.1
Coventry City Council	55.3
Wolverhampton City Council	55.0
Dudley Metropolitan Borough Council	52.9
Sandwell Metropolitan Borough Council	48.7
Birmingham City Council	48.5
West Midlands	48.5
England	41.2
Solihull Metropolitan Borough Council	36.5

Source: NHS Dental Statistics: 2016-17

4.3 Water Fluoridation

Less severe tooth decay has been observed in populations whose drinking water contains greater concentrations of fluoride than in populations with low drinking water fluoride concentrations. For this reason, water fluoridation schemes adjust fluoride levels in water supplies in some parts of England in an effort to reduce dental decay.

In the UK, the naturally occurring level of fluoride in water is typically around 0.1 to 0.2 mg/l. Whereas the optimal levels are 1mg fluoride per litre of water [1mg/l][4]. Some areas of England naturally have the optimal levels in the water supplies. However, the majority do not.

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With exception of Stoke on Trent and Herefordshire, the West Midlands region has historically had its water supplies fluoridated to optimal levels.

All tap water supplied in Sandwell has been artificially fluoridated to the optimum level since 1986. Public health funds this fluoridation and it is believed it is one of the reasons tooth decay in children in Sandwell is in line with the national average, despite the population having a higher prevalence of a number of risk factors.

4.3.1 Comparison of statistical neighbours and water fluoridation status

Ranked from the highest rate of 5-year olds with experience of visually obvious dental decay to the smallest, the top four local authorities amongst the children services statistical neighbours (CSSNs) do not have established community water fluoridation schemes in place. The highest of the four is Blackburn with Darwen with 42.6% of 5-years old's with at least one tooth decayed, missing or filled tooth.

The fifth and sixth ranked position: Coventry and Wolverhampton do have established community water fluoridation schemes.

The five local authorities with the lowest rates amongst the CSSNs all have similar rates to England. These local authorities all have established community water fluoridation schemes.

Public Health England - Improving oral health: a community water fluoridation toolkit for local authorities (2016)

Rank	Children's Services Statistical Neighbours for Sandwell	2016/17 Percentage of 5-year olds with experience of visually obvious dental decay	Compared to England	Water Fluoridation Scheme [5]
1	Blackburn with Darwen	42.6	Statistically Worse	NO
2	Luton	37.6	Statistically Worse	NO
3	Stoke-on-Trent	32.6	Statistically Worse	NO
4	Peterborough	32.4	Statistically Worse	NO
5	Coventry	30.7	Statistically Worse	YES
6	Wolverhampton	28.4	Statistically Worse	YES
7	Birmingham	26.1	Statistically Similar	YES
8	Nottingham	25.9	Statistically Similar	YES
9	Sandwell	25.4	Statistically Similar	YES
10	Derby	24.0	Statistically Similar	PARTIALLY
11	Walsall	23.4	Statistically Similar	YES
	England	23.3		

Source: Public Health England – Oral Health Profiles; Improving oral health: a community water fluoridation toolkit for local authorities (2016)

4.3.2 Water Fluoridation - Health monitoring report for England 2018

Public Health England monitors the effects of water fluoridation schemes on the health of people. The last published results from the ecological study were reported in 2018[6]. It was reported that:

- Five-year-olds in areas with water fluoridation schemes were much less likely to experience tooth decay, and less likely to experience more severe decay than in areas without schemes.

- The chances of having a tooth/teeth removed in hospital because of decay were also much lower in areas with water fluoridation schemes.

[5] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/774128/Fluoridation_Toolkit_-_Publications_gateway_version_20160304.pdf

[6] Public Health England - Water Fluoridation, Health monitoring report for England 2018

- At all levels of deprivation, the odds of having experience of caries were lower in five-year-old children living in areas with the highest compared to the lowest fluoride concentrations.

- Children from both affluent and deprived areas benefitted from fluoridation, but children from relatively deprived areas benefitted the most.

- At concentrations of ≥0.7mg/l, compared to the lowest fluoride concentration of <0.1mg/l:

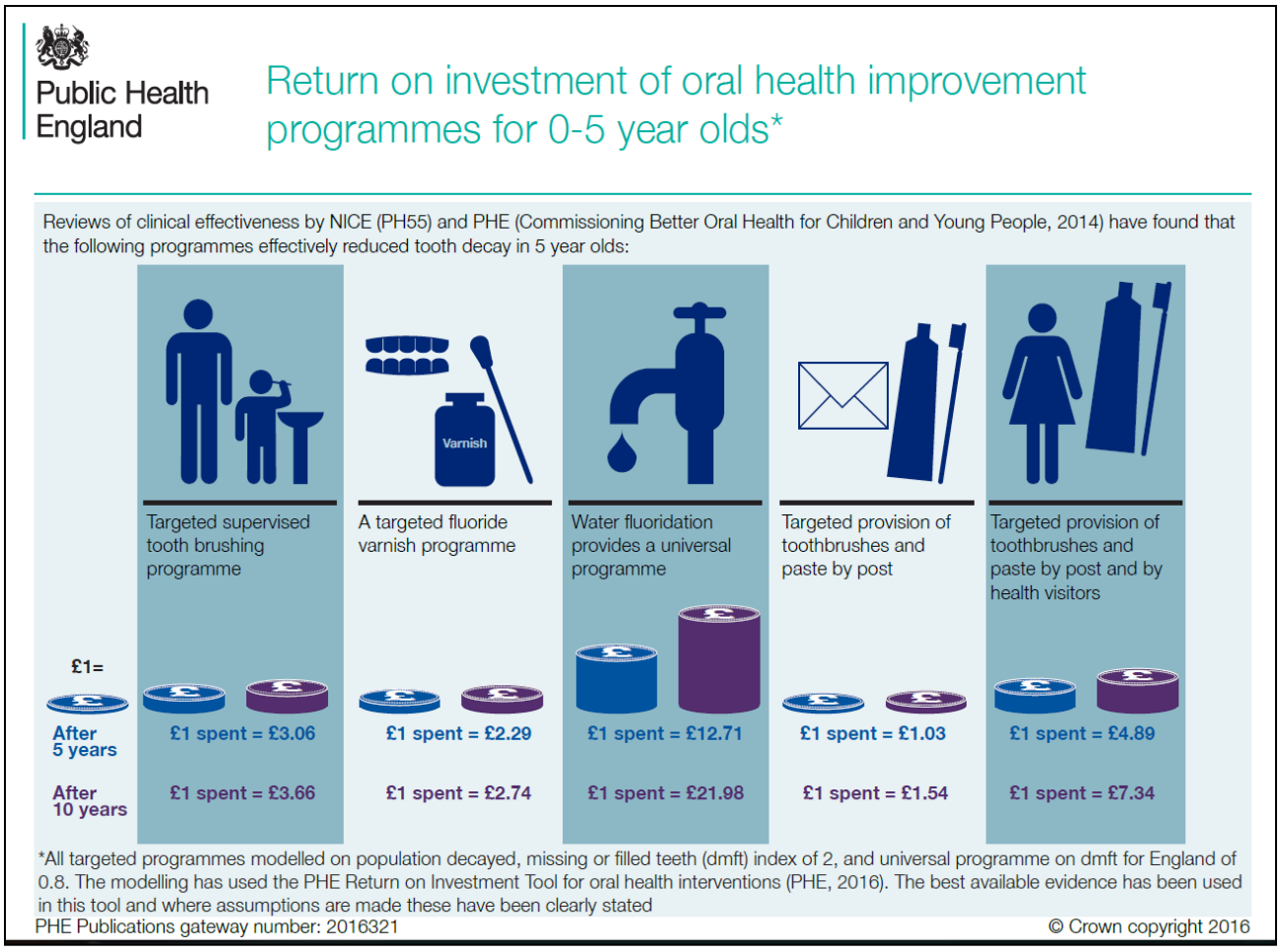
  The odds of experiencing caries were reduced by 23% (95% CI 9%-39%) for five-year-olds living in the least deprived areas

  The odds of experiencing caries were reduced by 52% (95% CI 47%-56%) for five-year-olds living in the most deprived areas

  Hospital admissions for caries-related tooth extractions were 59% lower (95% CI 33% to 76%)

4.3.3 Water Fluoridation - Return of Investment

Public Health England's modelled estimates suggests that the largest return on investment is gained from water fluoridation. For every £1 spent you gain £12.71 after 5 years and £21.98 after 10 years.



4.4 Sugar Reduction

Healthier eating advice is routinely given to families by a number of professionals to promote good oral and general health e.g. development checks, children Centre sessions. The main message is to reduce both the amount and frequency of consuming foods and drinks that contain free sugars. Free sugars include monosaccharides and disaccharides that are added to foods and drinks by the manufacturer, cook or consumer, as well as sugars naturally present in honey, syrups and fruit juices. It does not include sugars found

naturally in whole fresh fruit and vegetables and those naturally present in milk and milk products.

England has implemented a public health collaboration with the food and drink industry to reduce sugar in foods that contribute most to children's intakes by 20% by 2020.

4.5 Services to Support Children's Dental Health

4.5.3 Oral Health Promotion Team

Within Sandwell there is an Oral Health Promotion team who are part of the Community Dental Service provided by Birmingham Community Healthcare Trust (BCHC) who are commissioned by NHS England. They provide education, support and guidance to children, parents and relevant health professionals across the borough. The team also trains and advises children's centre staff, nurseries, schools, care homes and staff working with groups with additional needs. The team also works closely with Health Visitors and School Health nurses to promote oral health to children across the borough.

4.5.4 Starting Well Initiative

NHS England has launched Starting Well: A Smile4Life Initiative. This programme of dental practice-based initiatives aims to reduce oral health inequalities and improve oral health in children under the age of five years.

A Starting Well event for dental teams has taken place in January and covered context including delivering better oral health, the current picture for oral health access, fluoride varnish rates, examining and treating the very young child and contractual issues.

4.5.5 Public Health Initiatives

4.5.5.1 Oral Health is promoted widely in the Changes Antenatal Education Programme which is offered to all expectant women living in Sandwell and runs from local children centres across the borough.

4.5.5.2 Dental advice in pregnancy is also highlighted in

the My Pregnancy magazine which is distributed to all expectant women during their booking appointment with their midwife.

4.5.5.3 Health Visitors and the Best Start Programme (focusing on vulnerable families) promote oral health promotion and signpost parents to local dentists as part of their child's 12 month and 2 year development check.

4.5.5.4 A new parenting magazine is currently being developed in conjunction with the Health Visiting service which will be distributed to all new parents, Starting Well and oral health will be promoted throughout the magazine.

4.5.5.5 School Nurses work with pupils, parents and schools to promote good oral health and deliver sessions on healthy eating and oral health through their School Ambassador programme.

4.5.5.6 The public health department is currently working with local schools and school meal providers on a number of sugar reduction projects including a commitment to reduce total sugar content of school meals by 5% a year until 2020.

4.5.5.7 Public Health current funds the fluoridation of all tap water in Sandwell to optimum levels to support dental health.

5. References

5.1 Public Health England (2014) Public Health Outcomes

5.2 Framework Dental Health Profile – Sandwell (2017)

5.3 Black Country Starting Well Presentation for Dental

5.4 Staff (2018) Delivering Better Oral Health (2017)

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