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West Sussex Oral Health Needs Assessment in Children and Young People



Health and Wellbeing Board

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Glossary

DH	Department of Health
PHE	Public Health England
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
CCG	Clinical Commissioning Group
ONS	Office of National Statistics
IMD	Index of Multiple Deprivation
PCT	Primary Care Trust
ECC	Early Childhood Caries
BSA	Business Services Authority
BMI	Body Mass Index
SCD	Special Care Dentistry
LDC	Local Dental Committee

Executive summary

Oral health is an important contributor to overall health. It is defined by the Department of Health (DH) as the “standard of the oral and related tissues which enables an individual to eat, speak and socialise without active disease, discomfort or embarrassment”. These basic daily functions impact on general health and wellbeing and can have significant implications on the development of children. A health needs assessment can be defined as a “systematic method for reviewing the health issues facing a population, leading to agreed priorities and resource allocation that will improve health and reduce inequalities”. West Sussex County Council has not previously performed an oral health needs assessment. Local Authorities have a responsibility to monitor the standard of dental health within their population and to commission dental public health services.

Aims and Objectives

The aim of the Oral Health Needs Assessment is to inform commissioners and stakeholders of the current standard of oral health in children within West Sussex and the provision of oral health services, which can be used to inform a strategic approach to oral health improvement. This will be achieved through the following objectives:

- To define good oral health and identify common measures used to assess the standard of oral health within a population.
- To use these measures to ascertain the standard of oral health in West Sussex and the variation within different areas of the County.
- To identify whether any variation in the standard of oral health throughout West Sussex can be attributed to particular risk factors.
- To summarise the current services which are commissioned to improve oral health and their distribution throughout the County
- To highlight the priority areas to improve oral health in West Sussex; which will be used to inform a future Oral Health Improvement Strategy.

Prevalence of Oral Health Issues

The standard of oral health in children can be estimated using findings from the national dental surveys conducted by Public Health England (PHE). Based on the last four oral health surveys of five year olds, dental decay nationally has decreased between 2007/08 and 2016/17. The surveys also demonstrate that dental decay is better in West Sussex compared to England and the South East region. However, there is a suggestion that levels of untreated dental decay may have worsened in West Sussex in recent years; as the mean number of teeth with obvious, untreated dental decay (d_{3t}) was found to be significantly higher in West Sussex in 2014/15 compared to 2011/12. The subsequent survey in 2016/17 showed a slight improvement compared to 2014/15 but this was not statistically significant. Reviewing the data at a lower tier local authority levels suggested that all the district and boroughs had worsened during this period.

The Provision of Dental Services in West Sussex

NHS Dentistry is the commissioning responsibility of NHS England. The current system around how the NHS contracts dental services has existed since 2006; whereby payment is based on the number of units of dental activity (UDAs) performed per year. In 2017/18, there were 146 dental contracts within

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West Sussex, covering general dentistry, community dental services and emergency access clinics. In 2016/17, 71% of children in West Sussex had seen a dentist in the 24 months prior, compared to 67% of children nationally. None of the districts in West Sussex fulfilled their contracted UDA activity in 2016/17. Significant under-performance was identified in Chichester, Arun, Mid Sussex and Worthing districts. The highest rates of access to a dentist in West Sussex children are seen in those aged between 6 and 12 years. The lowest access rates are seen in the 0-2 year age bracket. This pattern is consistent with the national trend.

Dental Activity in West Sussex

In 2016/17, there were 189,004 courses of treatment (CoT) completed in West Sussex children within primary care. Overall, the level of activity in West Sussex was greater than England per 100,000 of the population. Mid Sussex had the greatest level of activity compared the rest of the district and boroughs, Chichester and Worthing had the lowest levels. There does not appear to be a significant difference in number the UDAs per treated patient across the district and boroughs in West Sussex, suggesting the complexity of procedures, and therefore the level of need, is similar among those children who seek dental services. West Sussex has a higher proportion of Band 1 procedures and a lower proportion of Band 2. There appears to be a greater rate of West Sussex children having “examinations” and “scale and polish” compared to nationally. West Sussex have lower rates of children having “permanent fillings and sealant restorations” in primary care, which may imply that having more check-ups helps to prevent invasive treatments. West Sussex had a slightly higher rate of extractions in primary care compared to England, based on 2016/17 data.

Risk Factors and Wider Determinants

The following have been highlighted as risk factors for poor oral health:

- Deprivation
- Ethnicity
- Obesity
- Disabilities
- “Looked After” Children
- Housing
- Mental Illness
- Smoking
- Alcohol and Substance Misuse
- Migrant Children
- Gypsies and the Travelling Community

A regression analysis performed in the South East of England found deprivation and ethnicity to have a strong, statistically significant association with levels of dental decay. The association between deprivation and dental decay is further supported by the findings of the national dental surveys of five year olds; which demonstrate a greater level of dental decay in more deprived areas of the country. PHE confirm that water fluoridation is a safe and effective public health measure. Five year old children who live in fluoridated areas were 15% less likely to have tooth decay compared to children in non-fluoridated areas.

Recommendations

The outcomes of this report have helped to generate priority areas which will improve oral health in the children and young people of West Sussex:

- A focus on improving oral health in the deprived areas of West Sussex.
- A focus on addressing the barriers to access to dental services.
- A focus on improving oral health in children with Special Education Needs (SEN).
- A focus on improving the eating habits of children and young people.
- A focus on improving surveillance of oral health in vulnerable groups.
- A focus on reducing the number of tooth extractions under general anaesthetic.

1 Introduction

Key summary

- Oral health is defined by the Department of Health (DH) as the “standard of the oral and related tissues which enables an individual to eat, speak and socialise without active disease, discomfort or embarrassment”.
- A health needs assessment can be defined as a “systematic method for reviewing the health issues facing a population, leading to agreed priorities and resource allocation that will improve health and reduce inequalities”.
- West Sussex County Council has not previously performed an oral health needs assessment.
- Local Authorities have a responsibility to monitor the standard of dental health within their population and to commission dental public health services. Dental health services are commissioned by NHS England.
- The aim of the West Sussex Oral Health Needs Assessment is to inform commissioners and stakeholders of the current standard of oral health and the provision of services in West Sussex, which will inform a strategic approach to oral health improvement and a reduction of inequalities.

1.1 Definition of an Oral Health Needs Assessment

Oral health is an important contributor to overall health. It is defined by the Department of Health (DH) as the “standard of the oral and related tissues which enables an individual to eat, speak and socialise without active disease, discomfort or embarrassment”¹. These basic daily functions impact on general health and wellbeing and can have significant implications on the development of children. Oral health can also impact on a number of chronic conditions, such as heart disease², diabetes³ and the risk of developing both oral and non-oral cancers⁴.

A health needs assessment can be defined as a “systematic method for reviewing the health issues facing a population, leading to agreed priorities and resource allocation that will improve health and

¹ Department of Health (1994): An oral health strategy for England. London: HMSO

² Humphrey LL, Fu R, Buckley DI et al. (2008) Periodontal disease and coronary heart disease incidence: a systematic review and meta-analysis. *Journal of General Internal Medicine* 23: 2079–86

³ Stewart JE, Wager KA, Friedlander AH et al. (2001) The effect of periodontal treatment on glycaemic control in patients with type 2 diabetes mellitus. *Journal of Clinical Periodontology* 28: 306–10

⁴ Nwizu N.N, Marshall J.R, Moysich K, Genco R.J, Hovey K.M, Mai X, LaMonte M.J, Freudenheim J.L, Wactawski-Wende J. (2017). Periodontal Disease and Incident Cancer Risk among Postmenopausal Women: Results from the Women's Health Initiative Observational Cohort. *Cancer Epidemiol Biomarkers Prev.* 2017 Aug;26(8):1255-1265

reduce inequalities”⁵. In the context of this paper, this involves assessing the state of oral health in West Sussex and the factors which influence it. Based on the findings, it may be appropriate to highlight priority areas where resources could be allocated to address gaps in the current service. It may also contribute to the development of a strategy to help improve oral health and address health inequalities. West Sussex County Council has not previously performed an oral health needs assessment (in adults or children) and so there is no prior knowledge of the need for further oral health services.

The monitoring of dental health within a population is the responsibility of the local authority, as directed by The NHS Bodies and Local Authorities (Partnership Arrangements, Care Trusts, Public Health and Local Healthwatch) Regulations 2012⁶. Furthermore, local authorities are responsible for oral health improvement and the commissioning of dental public health services. This consists of surveys, health promotion activities and the monitoring of local services to help better inform the commissioning of dental services which is the responsibility of NHS England. In 2014, the National Institute for Health and Care Excellence (NICE) published a number of recommendations for local authorities to support them to improve oral health locally⁷. One of the main recommendations was to carry out an oral health needs assessment to help identify the local need.

1.2 Why does West Sussex require an Oral Health Needs Assessment?

Performing a needs assessment gives an organisation the opportunity to collect and analyse the data around a particular health problem and make informed choices to respond to it⁸. They can help to prevent a top-down approach when providing health services and mitigate the mistake of relying on what a few people perceive to be the problems, rather than using the evidence to ascertain the true issues. Making well informed decisions before investing in an intervention is particularly important at a time where resources are limited. Moreover, a needs assessment is required to identify the groups most at risk of poor health outcomes to ensure that when the correct intervention is implemented and the resources are allocated, they target the right people in a way that achieves the greatest benefit.

1.3 Aims and Objectives

The aim of the Oral Health Needs Assessment is to inform commissioners and stakeholders of the current standard of oral health in children and young people within West Sussex and the provision of oral health services, which will inform a strategic approach to oral health improvement. This will be achieved through the following objectives:

⁵ Health Development Agency (2005). Health needs assessment at a glance.

https://www.k4health.org/sites/default/files/migrated_toolkit_files/Health_Needs_Assessment_A_Practical_Guide.pdf. (Accessed 27/09/2017).

⁶ Secretary of State. Statutory Instrument No 3094. National Health Service, England Social Care Fund, England Public Health, England. The NHS Bodies and Local Authorities (Partnership Arrangements, Care Trusts, Public Health and Local Healthwatch) Regulations 2012 [Internet]. 2012 [cited 2016 Feb 9]. Available from: www.legislation.gov.uk/ukxi/2012/3094/part/4/made

⁷ NICE 2014. Oral Health: local authorities and partners.

<https://www.nice.org.uk/guidance/ph55/resources/oral-health-local-authorities-and-partners-pdf-1996420085701> (Accessed 27/09/2017)

⁸ Wright. J., Williams. R., Wilkinson. J. R. (1998). Development and importance of health needs assessment. *BMJ*. 1998 Apr 25; 316(7140): 1310–1313.

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- To define good oral health and identify common measures used to assess the standard of oral health within a population.
- To use these measures to ascertain the standard of oral health in West Sussex and the variation within different areas of the county.
- To identify whether any variation in the standard of oral health throughout West Sussex can be attributed to particular risk factors.
- To summarise the current services which are commissioned to improve oral health and their distribution throughout the county
- To highlight the priority areas to improve oral health in West Sussex; which will be used to inform a future Oral Health Improvement Strategy.

2 Oral Disease: An Overview

Key summary

- Oral disease consists of a number of conditions which affect the teeth and oral cavity.
- The two most common of these are dental caries (tooth decay) and periodontal (gum) disease, both of which are largely preventable.
- Prevention for both comes in the form of good oral hygiene and reducing the frequency of consuming foods and drinks with high sugar content.
- NICE suggests that interventions which aim to improve oral health will also have a positive impact on general health.

2.1 Types of Oral Disease

Oral disease consists of a number of conditions which affect the teeth and oral cavity. The two most common of these are dental caries (tooth decay) and periodontal (gum) disease⁹. Both of these conditions are largely preventable. Other less common conditions include: oral cancer, dental trauma, mouth ulcers, halitosis (bad breath) and tooth wear (dental erosion, attrition and abrasion).

2.2 Dental Caries

Dental caries are a major oral health concern in developed countries, affecting 60-90% of school children¹⁰. Dental caries occur when bacteria in the mouth use sugars extracted from foods to make acids. Acid erodes the tooth resulting in a demineralisation of the enamel, leading to tooth decay. This process is usually asymptomatic in the early stages and becomes painful as the decay becomes more significant. There are two main methods of preventing the development and progression of dental decay¹¹:

- Regular brushing of teeth with toothpaste containing fluoride.
- Reduce the frequency of consuming foods and drinks with high sugar content.

2.3 Periodontal Disease

Periodontal disease is the inflammation of the gums and surrounding tissues¹². It is caused by the accumulation of bacteria, resulting in the degeneration and the loss of gum and bone tissue surrounding

⁹ Dental Health Foundation. Oral health and disease prevention.

<http://www.dentalhealth.ie/dentalhealth/causes/diseaseprevention.html> (Accessed 1/5/2018)

¹⁰ World Health Organisation (2012) Oral Health Factsheet No 318.

<http://www.who.int/mediacentre/factsheets/fs318/en/> (Accessed 1/5/2018)

¹¹ Dental Health Foundation. Oral health and disease prevention.

<http://www.dentalhealth.ie/dentalhealth/causes/diseaseprevention.html> (Accessed 1/5/2018)

¹² Dental Health Foundation. Oral health and disease prevention.

<http://www.dentalhealth.ie/dentalhealth/causes/diseaseprevention.html> (Accessed 1/5/2018)

the teeth. Early signs include redness of the gum line, swelling and bleeding. Progression of the disease can cause destruction of the structures that support the tooth, resulting in loosening or loss. Prevention comes in the form of good oral hygiene, such as regular tooth brushing and adequate inter-dental cleaning, as these minimise the accumulation of bacteria and plaque around the gums.

2.4 Oral Health Interventions

NICE guidance suggests that interventions which aim to improve oral health will also have a positive impact on general health as many chronic conditions have shared risk factors¹³. The “common risk factor” approach also provides a basis for the integration of oral and general health promotion activities and may prove to be a cost-effective method of improving the health of the West Sussex population. There is emerging evidence to support interventions which address the social determinants of health as a way of improving oral health locally, although achieving this aim is likely to require complex, multi-faceted interventions which are delivered over a prolonged period of time. The details of specific interventions are not within the scope of this assessment¹⁴.

¹³ NICE (Oct 2014) Oral health: approaches for local authorities and their partners to improve the oral health of their communities. NICE public health guidance 55

¹⁴ Watt RG. (2012) Social determinants of oral health inequalities: implications for action. *Community Dent Oral Epidemiol* 2012; 40 (Suppl. 2): 44–48.

3 Population Demographic and Health Profiles

Key summary

- West Sussex consists of seven district and borough areas: Adur, Arun, Chichester, Crawley, Horsham, Mid Sussex and Worthing
- There are three CCGs located within West Sussex: NHS Coastal West Sussex CCG, NHS Crawley CCG and NHS Horsham and Mid Sussex CCG.
- In 2016, the population of West Sussex was estimated to be 843,765.
- The proportion of people aged 65 and over in West Sussex is greater than the national rate. West Sussex has a lower proportion of people aged 15-39 years compared to the rest of the country.
- The population of West Sussex is estimated to increase by 9.9% between 2015 and 2025. The greatest increase is expected in the over 65 year age group.
- The most ethnically diverse region in West Sussex is Crawley, with 27.9% of the residents not identifying themselves as “White British”. This is in comparison to Chichester, where 93% of residents identify themselves as “White British”.
- Based on the 2015 Index of Multiple Deprivation (IMD), West Sussex is ranked 131st out of 152 (1 being the most deprived and 152 being the least deprived).
- The three most deprived areas in West Sussex are Adur, Crawley and Arun.

3.1 West Sussex Population Overview

West Sussex County consists of seven districts and borough areas:

- Adur
- Arun
- Chichester
- Crawley
- Horsham
- Mid Sussex
- Worthing

The boundaries of these are represented in *Figure 3.1*. Three Clinical Commissioning Groups (CCGs) are located within West Sussex¹⁵:

- **NHS Coastal West Sussex CCG**; covers a population of 507,500 within Adur, Arun, Chichester, Regis and Worthing¹⁶.
- **NHS Crawley CCG**; co-terminus with Crawley Borough Council and covers a population of 130,600¹⁶.

¹⁵ West Sussex Joint Strategic Needs Assessment (JSNA). West Sussex CCG Population Profile
<http://jsna.westsussex.gov.uk/>

¹⁶ West Sussex Joint Strategic Needs Assessment (JSNA). West Sussex CCG Population Profile.
<http://jsna.westsussex.gov.uk/core-datasets/population-data/population-estimates/>.

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- **NHS Horsham and Mid Sussex CCG**; covers a population of 236,600 within Burgess Hill, East Grinstead, Haywards Heath and the north part of Horsham¹⁶.

Figure 3.1: District and borough local authority boundaries in West Sussex County.



Source: WSCC

In 2016, the population of West Sussex County was estimated to be 843,765, a 0.9% increase compared to the previous year¹⁷. *Figure 3.2* uses Office of National Statistics (ONS) population estimates to provide an overview of the change in population between 2015 and 2016 at lower tier local authority level. The greatest increase in population was found to be in Horsham which saw a 1.58% increase in population over 12 months.

¹⁷ Office of National Statistics (ONS) 2016 Mid-Year Population Estimates (MYE) components of change

Figure 3.2: The population change in West Sussex between 2015 and 2016 at a lower tier local authority level.

Local Authority	Mid-year 2015 Population	Births	Deaths	Internal Migration Net	International Migration Net	Other	Mid-year 2016 Population	% of Estimated Population 2016
Adur	63,429	684	715	13	95	0	63,506	0.12%
Arun	155,732	1,573	2,197	1,505	397	-13	156,997	0.81%
Chichester	116,976	998	1,402	1,245	306	52	118,175	1.02%
Crawley	110,864	1,612	731	-1,246	872	4	111,375	0.46%
Horsham	135,868	1,322	1,256	1,780	287	17	138,018	1.58%
Mid Sussex	145,651	1,620	1,299	810	308	-1	147,089	0.99%
Worthing	107,736	1,144	1,315	861	170	9	108,605	0.81%
West Sussex	836,256	8,953	8,915	4,968	2,435	68	843,765	0.90%

Source: Office of National Statistics (ONS) 2016 Mid-Year Population Estimates (MYE) components of change

3.2 Age and Gender Breakdown

Appendix 1 provides an overview of the age-gender profile of the population in West Sussex compared to England based on the 2016 population estimates and suggests the county has an aging population¹⁸. There are a greater proportion of people aged 65 and over in the county compared to national rates, as well as a lower proportion of ages 15 to 39 years. Furthermore, 3.5% of the West Sussex population are aged 85 or older, compared to 2.4% in England.

3.3 Population Projections

Based on West Sussex projections, the population within the county is expected to increase by 9.9% between 2015 and 2025¹⁹. The age groups with the greatest increase are expected to be people aged 65 and over and those aged 85 and over, with an estimated rise of 23% and 38.1% respectively. The increase in the young population is not expected to be as great, with 10,226 more under 16 year olds estimated to be living in the county in 2025; an increase of 6.5% (see Appendix 1) The greatest increase in population is expected to be seen in Horsham and Mid Sussex, with Worthing having the lowest increase in population at 2.1%.

3.4 Ethnicity

Figure 3.3 provides an overview of the ethnic diversity in West Sussex at a district and borough level²⁰. The most ethnically diverse region in West Sussex is Crawley, with 27.9% of the population not identifying themselves as coming from a “White British” background. 13.0% of the population identify themselves as “Asian” and 3.3% as “Black/African/Caribbean”. This is in comparison to Chichester, where 93% of its population identify themselves as “White British”, 1.4% as Asian and 0.5% of Afro-

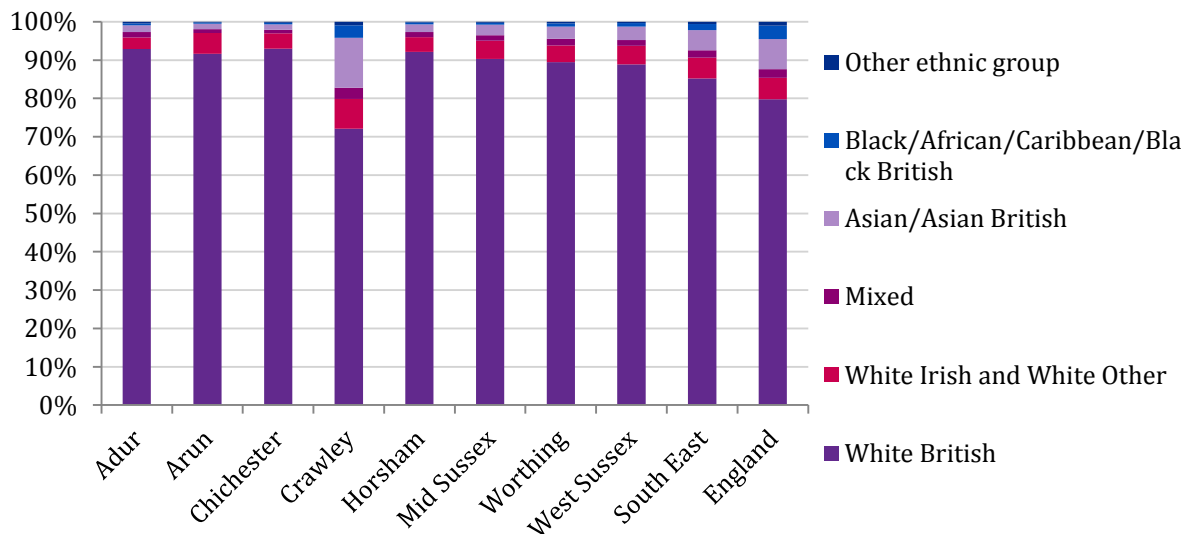
¹⁸ Office of National Statistics (ONS) 2016 Mid-Year Population Estimates (MYE) components of change

¹⁹ West Sussex County Council population projections 2016 (internal)

²⁰ Office of National Statistics (ONS). 2011 Census data.

Caribbean origin. Although this is based on the 2011 census data, it is the most up to date information available on ethnicity in West Sussex.

Figure 3.3: The ethnic diversity in West Sussex by lower tier local authority based on 2011 Census data.



Source: ONS 2011 Census

3.5 Deprivation

Each upper and lower tier local authority is ranked nationally by level of deprivation using the Index of Multiple Deprivation (IMD). This is calculated by the Department for Communities and Local Government (DCLG) using 30 domains, including income, employment, health, education, housing and crime. West Sussex is ranked 131st of 152 (1 being the most deprived and 152 being the least deprived). *Figure 3.4* shows the ranking of each lower tier local authority in 2010 and 2015²¹. Based on the ranking data, Adur is the most deprived area in West Sussex and Mid Sussex is the least. A visual representation of the distribution of deprivation in West Sussex can be found in *Appendix 1*.

Figure 3.4: Index of Multiple Deprivation (IMD) in West Sussex by lower tier local authority

Area	2010 Rank	2015 Rank
Adur	145	159
Arun	154	173
Chichester	222	242
Crawley	170	171
Horsham	304	299
Mid Sussex	315	321
Worthing	160	174

Source: Department for Communities and Local Government, 2015

²¹ Department for Communities and Local Government (DCLG). 2015. English Indices of Deprivation 2015. <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015>.

4 Prevalence of Oral Health Issues

Key summary

- The standard of oral health in children can be estimated using findings from the national dental surveys conducted by Public Health England (PHE).
- Based on the last four oral health surveys of five year olds, dental decay has decreased nationally between 2007/08 and 2016/17.
- Based on the most recent survey, dental decay of five year olds was lower in West Sussex compared to England and the South East region.
- Based on recent dental surveys in five year olds, the mean number of teeth with obvious, untreated dental decay (d_{3t}) was found to be significantly higher in West Sussex in 2014/15 compared to 2011/12. The 2016/17 survey showed a slight improvement in d_{3t} compared to 2014/15, although this was not deemed to be significant.
- At a lower tier local authority level, the d_{3t} and $d_{3mft} > 0$ was worse in the 2014/15 survey of five year olds compared to 2011/12 in every district and borough areas in West Sussex (exceptions in Adur, Arun and Worthing where there was insufficient data for comparison), although the findings were not statistically significant.

4.1 A National Context

During the beginning of the 20th Century, oral health in England was poor; with the majority of the population having significant dental decay or no teeth at all²². Fillings were available but due to their high cost, much of the population were limited to having their teeth extracted. It wasn't until the inception of the NHS in 1948 that progress was made in dental health. Dentures and fillings were more widely available on a fee-for-service basis which enabled more people to return to normal dental functioning.

The first survey of dental health in 1968 captured the severity of disease in England. Although significant progress had been made over the 20 years since the introduction of NHS Dentistry, results showed nearly half of the population had no teeth and a good proportion of the young required complete dentures. Improvements were seen in the second survey 10 years later, which demonstrated a shift towards more people having their teeth filled rather than extracted. The 1983 children's oral health national survey was the first that identified a significant reduction in the level of dental decay in the young. This is understood to be related to the introduction of fluoride toothpaste, made available in the 1970's. The adult survey in 1988 also reflected this change, with an improvement in dental decay seen in young adults.

The considerable improvement in oral health over two decades saw the emergence of three distinct cohorts of people, with varying levels of oral health need (see [Appendix 2](#)):

²² Steele (2009) NHS dental services in England: an independent review led by Professor Jimmy Steele. NHS. http://www.sigwales.org/wp-content/uploads/dh_101180.pdf

- The older generation who had no teeth and required complete dentures to maintain function.
- The younger generation who benefitted from fluoride supplementation resulting in lower levels of dental decay.
- The cohort in-between often termed the “heavy metal generation”, who suffered significant dental decay but were treated with fillings and restorations.

In the mid 1990's, it was recognised that the structure of the dental system required a reform to allow it to continue to meet the needs of the population. *NHS Dentistry: Options for Change* outlined the new approach of NHS Dentistry with prevention at its heart. Further reforms in 2006 consisted of three key elements²³:

- Responsibility for planning and securing NHS dental services was devolved to local Primary Care Trusts (PCTs).
- The patient charges system was changed, reducing the number of charges from about 400 to three.
- The mechanism by which dentists are paid to deliver NHS services was changed from fees for items of service to an annual contract with dental practices to deliver an agreed number of units of dental activity.

NHS Dentistry has been predominantly provided in primary care or within community settings²⁴. Dental care within the secondary care setting is usually limited to more specialised services, accessible via a referral process. Dentists are not employed by the NHS but are independent performers working to targets that have been commissioned by the NHS to dental practice providers of services through annual contracts. The NHS is estimated to spend £3.4 billion every year on dental services in England; with over 1 million patient contacts every week. £2.3 billion is estimated to be spent privately on dental care annually.

4.2 Oral Health in England

Dental surveys provide some insight into the state of oral health nationally. These have included regular reports on the dental health of school-age children, including regular measurements of five-year old children in state schools. The dental surveys in children performed by Public Health England (PHE) and its predecessor organisations over the last ten years include:

- 2016/17 Survey of five year old children
- 2014/15 Survey of five year old children
- 2013/14 Survey of special support schools
- 2013 Survey of three year old children
- 2011/12 Survey of five year old children
- 2008/09 Survey of twelve year old children
- 2007/08 Survey of five year old children

²³ Department of Health (2005) Standard General Dental Services (GDS) Contract (Revised). http://webarchive.nationalarchives.gov.uk/20071204222720/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4125315

²⁴ NHS (2014) Improving Dental Care and Oral Health – A call to action <https://www.england.nhs.uk/wp-content/uploads/2014/02/dental-info-pack.pdf>

Although the surveys in five year old children have been collected for a number of decades, changes in methodology mean that comparing trends prior to the 2007/08 survey is not reliable. This is because parents previously had to opt their children out of the study to have them excluded, compared to the current recruitment process where parents opt their child into the survey. Also, the comparison made between surveys does not represent a longitudinal study, as the sample of children between each is different. Further analysis of the methodology of the national oral health surveys is provided in [Appendix 2](#).

[Figure 4.1](#) compares the level of dental decay measured nationally in the last four surveys of five year olds²⁵²⁶²⁷²⁸. The mean d_3mft is the average number of decayed, missing and filled teeth (due to decay). The mean d_3t represents the average number of teeth with obvious untreated dental decay. The chart shows a statistically significant reduction in d_3mft and d_3t over the four surveys, suggesting an improvement in oral health nationally between 2007/08 and 2016/17. [Figure 4.2](#) compares the percentage of five year old children with evidence of dental decay. Though the results show that almost one quarter of all children had evidence of decay in 2016/17, there is a statistically significant improvement in rates compared to the 2007/08, 2011/12 and 2014/15 surveys. It should be noted that the samples were limited to those who attended state-funded schools, and are therefore not representative of all five year old children in England. Furthermore, PHE's target compliance of 80% of selected pupils was not achieved in any of their surveys. The lowest uptake was in the 2016/17 survey (58.9%), making it the least representative of the four.

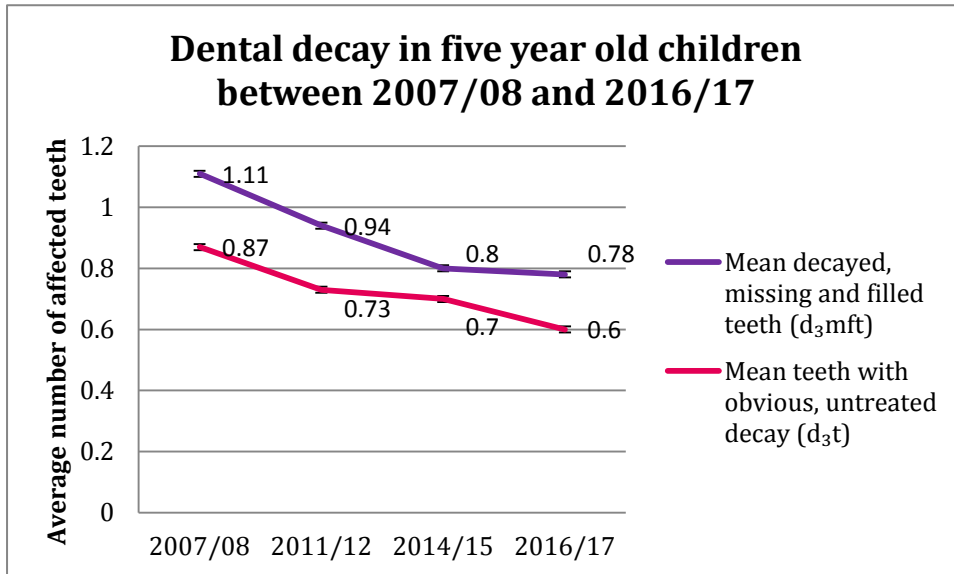
²⁵ PHE (2015). Oral health survey of five-year-old children 2015. A report on the prevalence and severity of dental decay. Available: [http://www.nwph.net/dentalhealth/survey-results%205\(14_15\).aspx](http://www.nwph.net/dentalhealth/survey-results%205(14_15).aspx)

²⁶ PHE (2012). Oral health Survey of five-year-old children 2012. A report on the prevalence and severity of dental decay. Available: <http://www.nwph.net/dentalhealth/caveatnew.htm>

²⁷ PHE (2009). Oral Health Survey of five-year-old children 2007/2008. NHS Dental Epidemiology Programme for England. Available: <http://www.nwph.net/dentalhealth/survey-results-12.aspx>

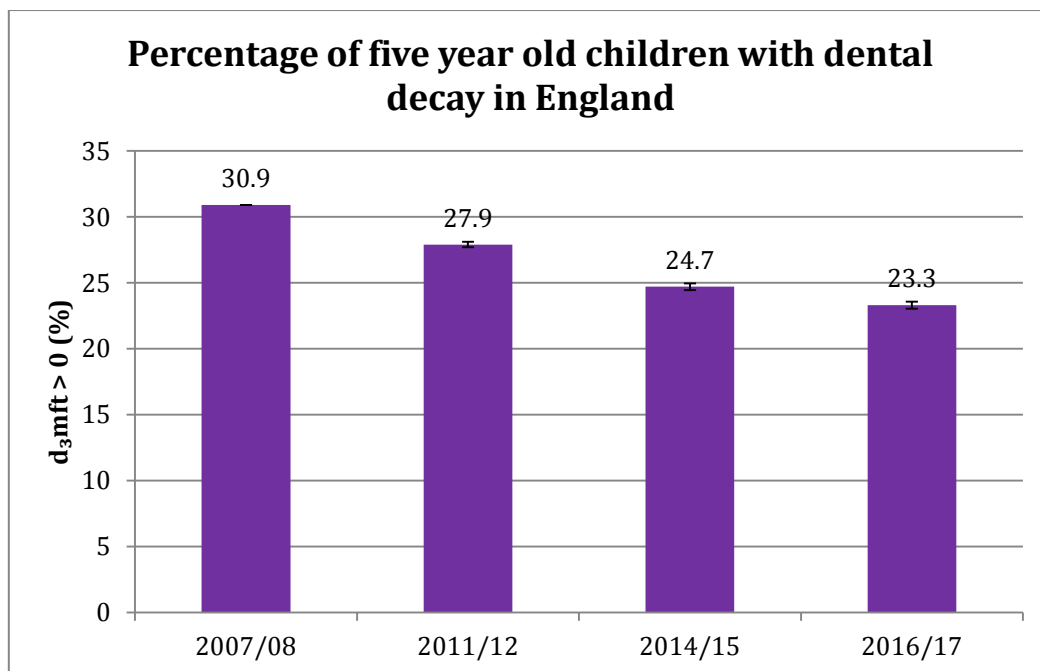
²⁸ PHE (2018). Oral health survey of five-year-old children 2017. A report on the inequalities found in prevalence and severity of dental decay. Available: <http://www.nwph.net/dentalhealth/201617Survey5yearoldchildren/NDEP%20for%20England%20OH%20Survey%205yr%202017%20Report%20Gateway%20Approved.pdf>

Figure 4.1: Mean d_3mft and d_3t of five year old children in England between 2007/08 and 2016/17.



Source: Oral health survey of five-year old children 2007/08, 2011/12, 2014/15 and 2016/17.

Figure 4.2: Percentage of five year old children with dental decay ($\% d_3mft > 0$) in England between 2007/08 and 2016/17.



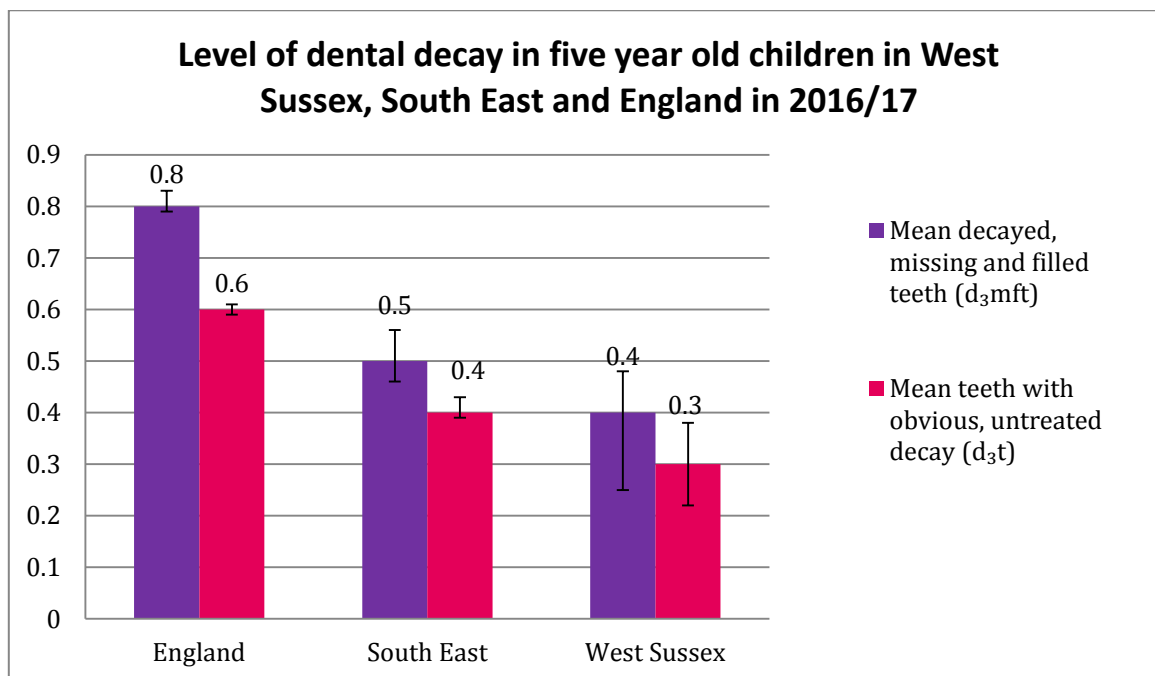
Source: Oral health survey of five-year old children 2007/08, 2011/12, 2014/15 and 2016/17.

4.3 Oral Health in West Sussex

Figure 4.3 compares the level of dental decay in West Sussex to England and the South East of England, based on the latest findings in the 2016/17 oral health survey of five year olds. It shows that the d_3mft and d_3t in West Sussex are significantly lower than England. Due to the small sample sizes in West

Sussex, the lower level of dental decay in West Sussex compared to the South East region is not statistically significant.

Figure 4.3: Comparing the d_3mft and d_3t in the 2016/17 oral health survey of five year olds between West Sussex, England and the South East of England.



Source: Oral health survey of five-year old children 2017.

The percentage of five year old children in West Sussex with evidence of dental decay, based on the latest survey was 15.1%, 95% CI (12.77, 18.1), compared to 16.4% in the South East, 95% CI (15.77, 17.05), and 23.3% in England, 95% CI (23.03, 23.56). Therefore, West Sussex has significantly lower rate of dental decay compared to England based on the results of the survey. However, the study sample recruited from West Sussex represented less than 7% of the total number of five year old children in the county. The raw data is available in [Appendix 2](#).

These findings differ from those in the 2013 oral health survey of three year old children; where the d_3mft in West Sussex was worse than the South East and the rate of dental decay was greater than both England and the South East²⁹ (see [Figure 4.4](#)). However, a sample size in West Sussex of 43 is likely to make these findings unreliable. Furthermore, some assumptions had to be made during the dental assessment process by the examiners around the indication for tooth loss.

The 2014/15 and 2016/17 surveys of five year olds and the 2013 survey of three year olds saw data collection around early childhood caries (ECC). Further details of the findings are available in the [Appendices](#).

²⁹ PHE (2013). Oral health survey of three-year-old children 2013. A report on the prevalence and severity of dental decay. [http://www.nwph.net/dentalhealth/survey-results%203\(12_13\).aspx](http://www.nwph.net/dentalhealth/survey-results%203(12_13).aspx)

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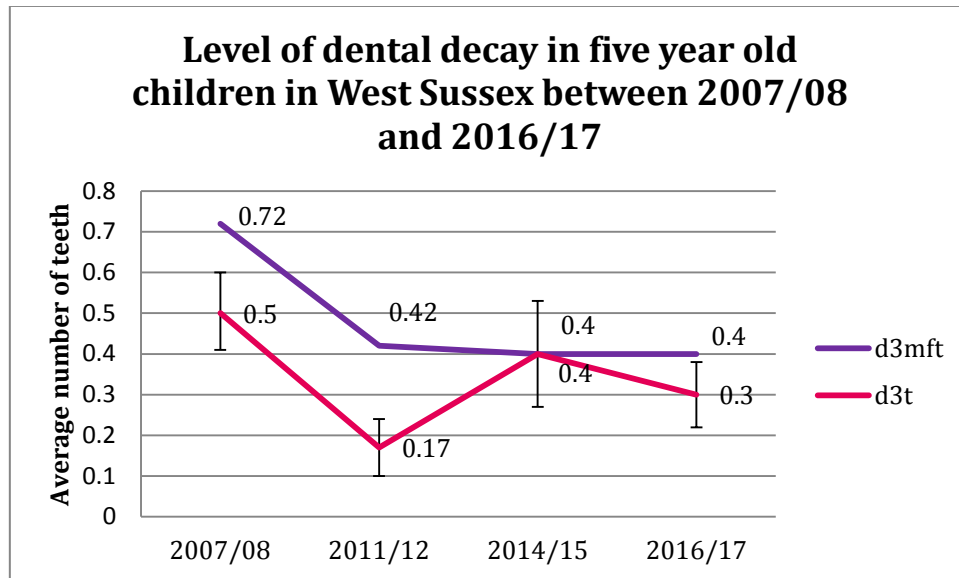
Figure 4.5 shows the trend of dental health in West Sussex between 2007/08 and 2016/17, according to findings from the last four surveys of five year olds. Again, it should be highlighted that comparisons made are not longitudinal as the participants within each survey were not the same. Although there was a statistically significant reduction in both d_3mft and d_3t between 2007/08 and 2011/12, this was not the case subsequently. Levels of d_3mft have plateaued in 2014/15 and 2016/17, which is unexpectedly as levels nationally have continued to reduce during this time. Another unforeseen finding is a statistically significant increase in d_3t between 2011/12 and 2014/15, suggesting that the level of obvious, untreated dental decay have worsened in recent years. This is unlikely to be an anomalous value as the d_3t in 2016/17 showed little improvement. There was no difference in the methodology of the three surveys to explain the unexpected findings. The findings were discussed with the Local Dental Committee (LDC) and they admitted that a worsening in untreated dental decay could not be overlooked but felt that the small sample size relative to the population of five year olds impacted negatively on the validity of the findings (see *Appendix 7*). Rates of five year old children with dental decay based on the surveys show little significant variation between 2007/08 and 2016/17 (see *Appendix 2*).

Figure 4.4: Comparing the level of dental decay in three year old children between England, South East and West Sussex, according to the 2013 oral health survey.

	Population of three year olds examined (%)	Mean d_3mft	$d_3mft > 0$ (%)
England (n=53,814)	8.1	0.36 95% CI (0.35, 0.37)	11.7 95% CI (11.4, 12)
South East (n=7,798)	7.2	0.27 95% CI (0.24, 0.3)	8.6 95% CI (8, 9.2)
West Sussex (n=43)	0.5	0.32 95% CI (0.04, 0.61)	12.4 95% CI (4.6, 20.3)

Source: Oral health survey of three-year old children 2013.

Figure 4.5: Comparing the d_{3mft} and d_{3t} in five year old children in West Sussex between 2007/08 and 2016/17.



Source: Oral health survey of five-year old children 2007/08, 2011/12, 2014/15 and 2016/17.

Figure 4.6 compares the dental health between 2011/12 and 2016/17 at a lower tier local authority level, to help identify if there are any areas within West Sussex which had a greater increase in dental decay over the last seven years. Unfortunately, the sample data was too small in Adur and Arun in 2014/15 and in Worthing in 2011/12 to produce figures for these regions. All four of the other areas that provided enough data for comparisons between both surveys showed evidence of worsening dental decay; with an increase in d_{3mft} , d_{3t} and percentage of dental decay between 2011/12 and 2014/15, although due to a small sample size none of the variations were statistically significant. The increase in mean d_{3mft} was unexpected given the fact that there was no change between 2011/12 and 2014/15 at a West Sussex level. However, Arun and Adur data are not included in 2014/15 due to their small sample size and they had the poorest d_{3mft} among the West Sussex lower tiers in 2011/12. Had these two regions been included in the 2014/15 dataset, it is possible that the d_{3mft} would have been worse in 2014/15 at a West Sussex level. In 2016/17, a number of district and boroughs had lower engagement with the survey than previously which has caused a number of anomalous results; one clear example are the values from Chichester district. It is therefore difficult to come to any firm conclusions using this data.

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Figure 4.6: Comparing the d_{3mft} , d_{3t} and $d_{3mft} > 0$ (%) in five year old children in West Sussex between 2011/12 and 2016/17 at lower tier local authority level.

Lower Tier local authority	Mean d_{3mft}			Mean d_{3t}			$d_{3mft} > 0$ (%)		
	2011/12	2014/15	2016/17	2011/12	2014/15	2016/17	2011/12	2014/15	2016/17
Adur	0.78 95% CI (0.1, 1.46)	*	0.4 95% CI (0.2, 0.52)	0.35 95% CI (0, 0.71)	*	0.2 95% CI (0.02, 0.3)	19.4 95% CI (5.8, 33)	*	24.9 95% CI (15.05, 38.2)
Arun	0.65 95% CI (0.06, 1.24)	*	0.6 95% CI (0.35, 0.9)	0.09 95% CI (0, 0.18)	*	0.4 95% CI (0.23, 0.58)	22.8 95% CI (9, 36.6)	*	20.5 95% CI (14.4, 28.35)
Chichester	0.27 95% CI (0.02, 0.52)	0.5 95% CI (0.07, 0.93)	1.3 95% CI (0, 2.72)	0.18 95% CI (0, 0.37)	0.4 95% CI (0.03, 0.77)	1.3 95% CI (0, 2.72)	8.4 95% CI (1.2, 15.7)	23.3 95% CI (8.95, 37.65)	23.3 95% CI (11.88, 40.56)
Crawley	0.42 95% CI (0.1, 0.74)	0.7 95% CI (0, 1.48)	0.6 95% CI (0.29, 0.91)	0.24 95% CI (0.03, 0.45)	0.9 95% CI (0.29, 1.51)	0.4 95% CI (0.16, 0.58)	17.7 95% CI (7.5, 27.9)	25.3 95% CI (14.63, 35.97)	18 95% CI (12.37, 25.52)
Horsham	0.15 95% CI (0, 0.3)	0.4 95% CI (0.04, 0.76)	0.1 95% CI (0, 0.4)	0.07 95% CI (0.01, 0.13)	0.4 95% CI (0.04, 0.76)	0 95% CI (0, 0.04)	8.1 95% CI (1.4, 14.8)	13.3 95% CI (6.46, 20.14)	4.4 95% CI (1.26, 14.32)
Mid Sussex	0.14 95% CI (0, 0.33)	0.3 95% CI (0.17, 0.43)	0.2 95% CI (0.08, 0.39)	0.07 95% CI (0, 0.15)	0.2 95% CI (0.08, 0.32)	0.2 95% CI (0.04, 0.31)	6.9 95% CI (0, 14.3)	12.8 95% CI (8.49, 17.11)	10.6 95% CI (6.1, 17.7)
Worthing	*	0.3 95% CI (0.14, 0.46)	0.3 95% CI (0.15, 0.46)	*	0.2 95% CI (0.05, 0.35)	0.2 95% CI (0.1, 0.4)	*	15.9 95% CI (9.38, 22.42)	13.4 95% CI (8.68, 20.25)

*Small sample size

Source: Oral health survey of five-year old children 2011/12, 2014/15 and 2016/17.

5 The Provision of Dental Services in West Sussex

Key summary

- NHS Dentistry is the commissioning responsibility of NHS England. The current system around how the NHS contracts dental services has existed since 2006; whereby payment is based on the number of units of dental activity (UDAs) performed per year.
- There are 146 dental contracts within West Sussex, covering general dentistry, community dental services and emergency access clinics. Mapping these services reveals that the required travelling distance to a dentist for children living in some areas of Chichester district is 10 miles or more.
- In 2016/17, 71% of children in West Sussex had seen a dentist in the 24 months prior, compared to 67% of children nationally.
- None of the districts in West Sussex fulfilled their contracted UDA activity in 2016/17. Significant under-performance was identified in Chichester, Arun, Mid Sussex and Worthing.
- The highest rates of access to a dentist in West Sussex children are seen in those aged between 6 and 12 years. The lowest access rates are seen in the 0-2 year age bracket. This pattern is consistent with the national trend.
- Access rates in the 0-2 year age group were lower in West Sussex compared to nationally.
- The most common reason for NHS Crawley CCG residents not seeking an NHS dentist was the belief that they did not require their services. This is in comparison to Coastal West Sussex and Horsham and Mid Sussex CCG residents who prefer to see a private dentist.
- In a 2009 dental survey conducted in South Central England, 43% of respondents said they would be prepared to travel 10 miles to see a dentist. Those with children would be prepared to travel 11.52 miles on average.

5.1 Overview of the NHS Dental Contract

NHS Dentistry is the commissioning responsibility of NHS England. Dentists are not employed by the NHS but are independent providers commissioned by the NHS for their service. The current system around how the NHS contracts dental services has existed since 2006; whereby payment is based on the number of units of dental activity (UDAs) performed per year. Each dental procedure is allocated a banding and a fixed number of UDAs; these are assigned based on the complexity of the procedure. See [Appendix 5](#) for an overview of the banding system and allocation process.

Each individual practice has a separate contract with NHS England which outlines the number of UDAs they will be paid to perform; this limits the amount of activity a practice is able to deliver for the NHS. Practices are expected to deliver their contract value with a 4% tolerance for underperformance; performing below this level results in dental practices suffering “clawbacks”. Over-performance is not remunerated. The number of UDAs contracted is decided by NHS England based on their assessment of

need. The contract held by a dental practice with the NHS does not limit the amount of private practice it is able to perform.

5.2 Availability of Dental Services in West Sussex

There are 146 dental contracts within West Sussex. Nine of these are for community dental services; located in Chichester, Crawley, Worthing, Haywards Heath, Littlehampton and Lancing. The four emergency access clinics are situated in Chichester, Crawley and Haywards Heath (providing services up to 10pm at night and during weekends and bank holidays). The paediatric contracts in secondary/tertiary care are commissioned in the following trusts:

- Brighton and Sussex University Hospital NHS Trust
- Queen Victoria Hospital NHS Foundation Trust
- Surrey and Sussex Healthcare NHS Trust

Figure 5.1 provides an overview of the number of dental practices and contracted UDAs per person in each area, based on the 2016/17 contracts. Although the numbers of practices vary within each lower tier local authority, the number of contracted UDAs per person appears to be broadly consistent throughout West Sussex. Though, it should be noted that these figures are for adults as well as children.

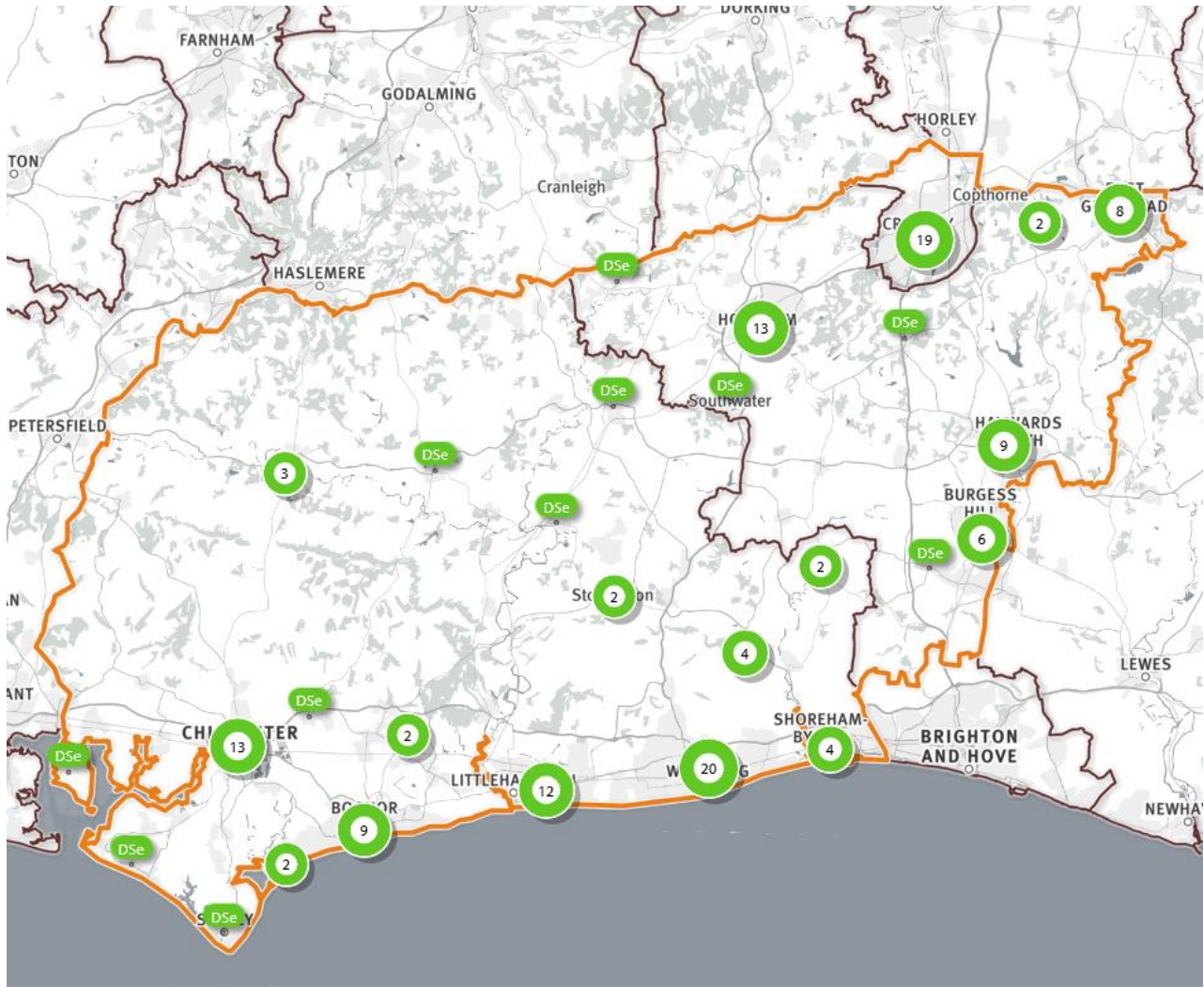
Figure 5.1: A summary of the total contracted UDA activity in West Sussex in 2016/17 and the UDAs contracted per person by district and borough

	Number of Dental Services	Total Contracted UDA activity 16/17	UDAs contracted per person (population based on mid 205 estimates)
Adur	9	92,679	1.46
Arun	25	268,544	1.7
Chichester	19	153,356	1.33
Crawley	19	179,276	1.62
Horsham	24	207,981	1.52
Mid Sussex	27	255,200	1.33
Worthing	15	152,491	1.42

Source: GDS Needs Assessment 2018

The locations of the dental services in West Sussex are represented in *Figure 5.2*. There may be a suggestion that dental services in the northern part of Chichester District are sparser compared to other areas. *Figure 5.3* outlines the required travelling distance from home for a child to access an NHS dentist in Kent, Surrey and Sussex. The map appears to show there may be areas in Chichester where a child's home is 10 miles or more from their closest dentist. However, this map does not consider the provision of public transport.

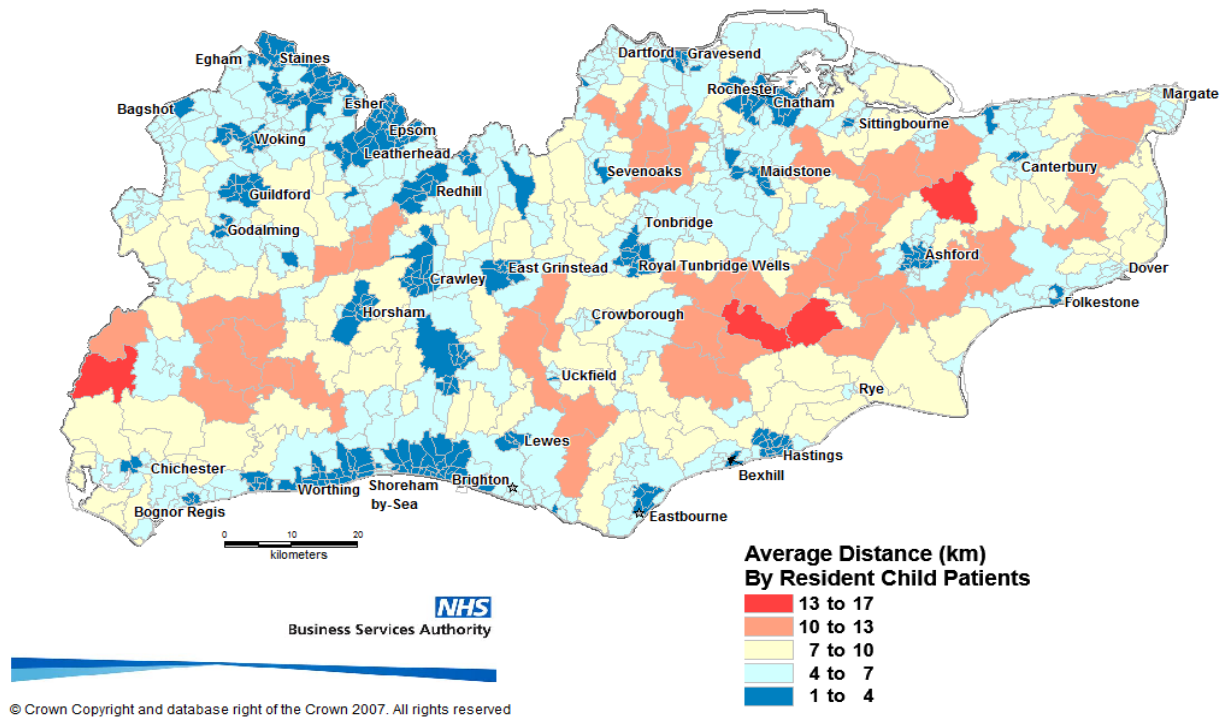
Figure 5.2: Overview of the distribution of dental services in West Sussex



Source: SHAPE tool³⁰

³⁰ Strategic Health Asset Planning and Evaluation (SHAPE). <https://shape.phe.org.uk/> (Accessed 13/3/2018)

Figure 5.3: The average distances travelled by children NHS dental patients in Kent, Surrey and Sussex.



Source: NHS BSA 2017

5.3 Accessibility of dental services in West Sussex

In 2016/17, 256,398 children in West Sussex were seen by an NHS dentist in the 24 months prior³¹. This is approximately 71% of all in children in West Sussex and is a greater proportion than the 67% of children seen nationally over the same period. These figures do not include those children seen privately which means the true number of children in West Sussex who have been seen by a dentist could be greater.

Figure 5.4 provides a summary of the level of performance of dental practices within each district and borough. None of the contracted UDAs in each area were fulfilled, with a number of districts significantly underperforming. The lowest of these was Chichester, which has already been highlighted as an area where children may have to travel longer distances to access an NHS dentist. However, a value below 96% is considered as under-performance, which was also identified in Arun, Mid Sussex and Worthing. Though, the figures represent both adults and children in West Sussex; some of whom would seek dental services through the private route.

³¹ NHS Business Services Authority. Information Services (Dental). (Accessed 31/1/2018)

Figure 5.4: The performance of NHS dental services by lower tier local authority.

	Total Contracted UDA activity 16/17	UDA delivered 16/17	Percentage of contracted UDA which was delivered (%)
Adur	92,679	90,969.4	98.16
Arun	268,544	256,022.6	95.34
Chichester	153,356	137,693.	89.79
Crawley	179,276	178,706	99.68
Horsham	207,981	200,713.8	96.51
Mid Sussex	255,200	230,339.4	90.26
Worthing	152,491	144,885.2	95.01

Source: NHS BSA 2017

NHS Digital monitors the number of children who have seen a dentist in the last 12 months on a quarterly basis by CCG (see [Appendix 5](#))³². NHS Horsham and Mid Sussex CCG have consistently had the highest percentage of children seeing a dentist over the last three quarters of 2016. The lowest rate was seen in NHS Coastal West Sussex CCG which covers the areas of Adur, Arun, Chichester and Worthing. It should be noted that even in the best performing CCG (Horsham and Mid Sussex), over one quarter of children had not seen a dentist in the last year. This may be due to a number of reasons such as the fact that dentists do not always request that children see them on an annual basis or a lack of education for parents around the appropriate age for children to start visiting. Furthermore, the sample includes children aged less than one who may not necessarily require a dental appointment if they haven't had the eruption of their first tooth.

The table in [Figure 5.5](#) appears to support the latter explanation, showing that the access rate (over 24 months) to an NHS dentist in West Sussex children aged 0-2 year olds was 19.2%, compared to 82.5% of 13-18 year old children. The highest access rate in West Sussex and England is in children aged 6-12 years. The worst performing districts for access are Worthing and Chichester. West Sussex has better access rates than England overall, although it performs worse in the 0-2 year age group compared to nationally, suggesting that the low rates in this cohort can be improved. It was raised at the LDC that dental practices may not be aware of the importance of dental checks in the 0-2 age groups, resulting in parents being asked to return when their children are older (see [Appendix 7](#)). During the focus event, this finding was discussed with members of the dental community. It was highlighted that there is reluctance by dentists to see and treat young children as historically; dental practitioners had been through disciplinary reviews for claiming activity on children who did not have a full set of teeth. These cases may have created a culture within the dental profession who prefer not to review young children to avoid getting in trouble.

³² NHS Digital (2016). NHS Dental Statistics for England – 2016/17, Second Quarterly Report. Available: <http://digital.nhs.uk/catalogue/PUB23340>

Figure 5.5: Access rates of children using NHS dentists in last 24 months (from March 2017) at district and borough level.

	Access Rate 0-2 year olds (%)	Access Rate 3-5 year olds (%)	Access Rate 6-12 year olds (%)	Access Rate 13-18 year olds (%)	Access Rate 0-18 year olds (%)
Adur	18.1	68.5	85.8	79.3	69.8
Arun	19.4	63.9	83.0	82.8	69.8
Chichester	19.9	64.1	79.0	76.9	67.4
Crawley	19.0	64.0	84.7	83.6	69.0
Horsham	19.5	72.0	87.0	87.1	75.6
Mid Sussex	19.8	72.8	87.4	82.5	73.5
Worthing	16.7	63.2	80.3	79.0	67.2
West Sussex	19.0	67.1	84.1	82.1	70.7
England	21.7	64.3	82.1	76.3	67.6

Source: NHS BSA 2017

5.4 Public View of Dental Services

In 2017, a GP survey sought the views of the public around NHS dental services³³. 87% of the 96,230 people who responded from the South of England rated NHS Dental Care as “very good” or “fairly good”, this is similar to the 88% of people nationally who gave the same rating. Residents were also asked about access to NHS dental appointments. Figure 5.7 shows that the success rates of those who had attempted to obtain an appointment in the last 3 and 6 months was similar in the three West Sussex CCGs compared to the national success rate.

Figure 5.7: The success rates of those who attempted to obtain an NHS dental appointment in the last 3 and 6 months by CCG.

	Percentage of those who obtained an appointment in the last 3 months (%)	Percentage of those who obtained an appointment in the last 6 months (%)
England	96	96
NHS Coastal West Sussex CCG	95	95
NHS Crawley CCG	94	94
NHS Horsham and Mid Sussex CCG	96	96

Source: GP patient survey 2017

³³ GP Patient Survey Dental Statistics; January to March 2017, England.
https://www.england.nhs.uk/statistics/2017/07/06/gpps_dent_y111864861/

Appendix 5 provides an overview of the reasons why residents who had not sought an appointment in the last 2 years had avoided doing so. The most commonly stated reason in NHS Crawley was the belief by residents that they did not need to see the dentist (25% of residents compared to 13% in Coastal West Sussex and 14% in Horsham and Mid Sussex). The most common reason in Coastal West Sussex and Horsham and Mid Sussex CCGs was because they prefer to go to a private dentist. Furthermore, 9% of Crawley CCG residents reported they did not arrange an appointment because they did not like seeing the dentist, compared to 5% in both Coastal West Sussex and Horsham and Mid Sussex CCGs.

In 2009, a dental survey was performed assessing the travel preferences of the public when visiting a dental practice³⁴. Although, the data is not recent, or extracted from West Sussex residents (the survey was conducted in South Central England), it does provide some insight into what may be an acceptable travelling distance by the general public. 43% of respondents would be prepared to travel 10 miles or more to see a dentist. However, those with children would be prepared to travel further (11.52 miles on average). Those with a car would be prepared to travel significantly further compared to those without (10.14 miles compared to 5.89 miles.)

5.5 Oral Health Promotion in West Sussex

Oral Health Promotion in West Sussex is integrated within the Council's children's services to ensure the messages are being delivered alongside other health promotion advice, promoting a common factor approach to health promotion. The Children's workforce is supported by the Health4Families Programme; an evidence-based framework which provides guidance to help the staff improve health outcomes in the most affected families and children. One of the issues raised during the focus event was that although the messages are being delivered to families, they come at a time where other more complex social issues take priority.

One of the priorities in the Health4Families framework is "Improving Oral Health in Children and Young People". The below standards are outlined in the framework and audited every six months to ensure the service is compliant.

4.1 Displays and activities that promote healthy eating also promote oral health and hygiene, a low sugar diet and encourage families to register with a dentist

4.2 Low cost toothbrushes and toothpaste are accessible to families at Centres.

4.3 The Children's Workforce has accessed basic training to provide oral health advice to families.

Furthermore, each Integrated Prevention and Earliest Help (IPEH) service local hub is tasked with having a local priority; some choose "Improving Oral Health" and launch local projects in addition to their usual work. For example, Chichester and Rural West provide a toothbrush and toothpaste to all babies at their one year development review along with enquiring whether the child has a registered dentist. In other areas, Children and Family Centres provide low cost toothbrushes, toothpaste and free flow beakers.

A local Kent, Surrey and Sussex (KSS) project has been launched and is currently supporting the British Society of Paediatric Dentistry's "Dental Check by One" (DCby1) Initiative. The aims of the KSS DCby1 project are to:

³⁴ NHS South Central NHS South Central Baseline Dental Survey 2209 [unpublished]

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- Welcome children 0-3 into general dental practice with the aim of increasing the numbers of this age group seen.
- Promote Dental Check by 1 in practice on websites and social media.

The purpose of an early visit in children aged 0-3 is to deliver key preventative messages and begin a positive lifelong relationship with dentists. More than 50 West Sussex dental practices have registered for this scheme.

The oral health promotion team at the SCFT continue to deliver education on good oral health practices to foster carers three times a year.

6 Dental Activity in West Sussex

Key summary

- In 2016/17, there were 189,004 courses of treatment (CoT) completed in children in West Sussex within primary care.
- Overall, the level of activity in West Sussex was greater than England per 100,000 of the population. Mid Sussex had the greatest level of activity compared the rest of the district and boroughs, Chichester and Worthing had the lowest levels.
- There does not appear to be a significant difference in number the UDAs per treated patient across the district and boroughs in West Sussex, suggesting the complexity of procedures, and therefore the level of need, is similar among those children who seek dental services.
- West Sussex has a higher proportion of Band 1 procedures and a lower proportion of Band 2 compared to nationally, indicating the need for complex dental treatments is less locally.
- There appears to be a greater rate of West Sussex children having “examinations” and “scale and polish” compared to nationally. West Sussex also have lower rates of children having “permanent fillings and sealant restorations” in primary care, which may imply that having more check-ups helps to prevent invasive treatments.
- The rate of children having multiple extractions of teeth in primary care is greater in West Sussex compared to England rates.
- The rate of hospital tooth extractions under a general anaesthetic for children aged 10 years or younger over the last five years has been significantly lower in West Sussex compared to nationally.

6.1 Primary Care Dentistry

In 2016/17, there were 189,004 courses of treatment (CoT) completed in children in West Sussex within primary care³⁵. *Figure 6.1* provides a summary of the number of UDAs performed in children at a district and borough level. Overall, the level of activity in West Sussex was greater than England per 100,000 of the population. Mid Sussex had the greatest level of activity compared to the rest of the district and boroughs, Chichester and Worthing had the lowest levels. However, low activity does not always imply that residents in the area have less dental treatment, as residents may travel to other districts for dental services. For example, those residing in the rural district of Chichester may prefer to seek treatment at their place of work in a different area of West Sussex.

Appendix 6 provides a further breakdown of the level of activity within each lower tier local authority by age. West Sussex has overall higher levels of activity in all age groups compared to England except in 0-2 years. This age group was also highlighted previously as an area with lower than average rates of access. Mid Sussex has the highest rates of activity across all age brackets.

³⁵ NHS BSA (2017). Information Services (Dental). Accessed 31/1/2018.

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Figure 6.1: Level of dental activity in primary care in 2016/17 in West Sussex at lower tier local authority level.

	Population (0-18 years) based on mid-year 2016 estimates	Total UDA 2016-17	UDAs per 100,000 population 2016-17
Adur	13,502	18,921	140,136
Arun	29,626	44,796	151,204
Chichester	23,116	30,954	133,908
Crawley	27,853	46,800	168,026
Horsham	30,474	47,219	154,948
Mid Sussex	33,976	64,791	190,697
Worthing	22,728	30,403	133,768
West Sussex	181,275	283,884	156,604
England	12,434,195	18,465,574	148,506

Source: NHS BSA 2017

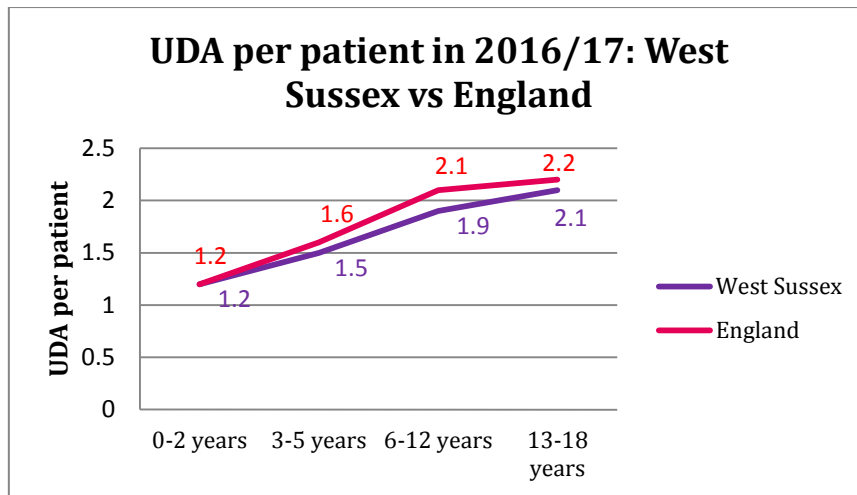
The number of UDAs per treated patient is summarised in *Figure 6.2*. There does not appear to be a significant difference in number the UDAs per treated child patient across the district and boroughs in West Sussex. *Figure 6.3* demonstrates that the UDA per treated patient increases with age in West Sussex as the need for procedures with a higher banding increases. This trend is also seen nationally, as well as at a district and borough level within West Sussex (*Appendix 6*).

Figure 6.2: UDA per patient in West Sussex by lower tier local authority in 2016/17.

	Total UDA performed	Total Number of Patients Treated	UDA per patient
Adur	18,921	9,721	1.9
Arun	44,796	23,220	1.9
Chichester	30,954	16,249	1.9
Crawley	46,800	24,805	1.9
Horsham	47,219	27,375	1.7
Mid Sussex	64,791	33,904	1.9
Worthing	30,403	17,358	1.8
West Sussex	283,884	152,632	1.9
England	18,465,574	9,409,446	2.0

Source: NHS BSA 2017

Figure 6.3: UDA per patient in West Sussex and England by age in 2016/17.



Source: NHS BSA 2017

Figure 6.4 provides a breakdown of the dental activity in West Sussex based on procedural banding. This provides further insight into the complexity of work and the level of need. West Sussex has a higher proportion of Band 1 procedures and a lower proportion of Band 2 compared to nationally, indicating more routine examinations and preventative treatments and less fillings/extractions locally. Horsham has the highest proportion of Band 1 procedures and the lowest proportion of Band 3, implying the complexity of the work performed in the area is lower than the rest of West Sussex. Crawley and Worthing have the highest proportions of urgent band 1 work. The LDC explained the reason for this is the fact both these districts were the locations of emergency dental practices. This is therefore an expected finding (Appendix 7).

Figure 6.4: Dental activity in West Sussex by banding at a lower tier local authority level in 2016/17.

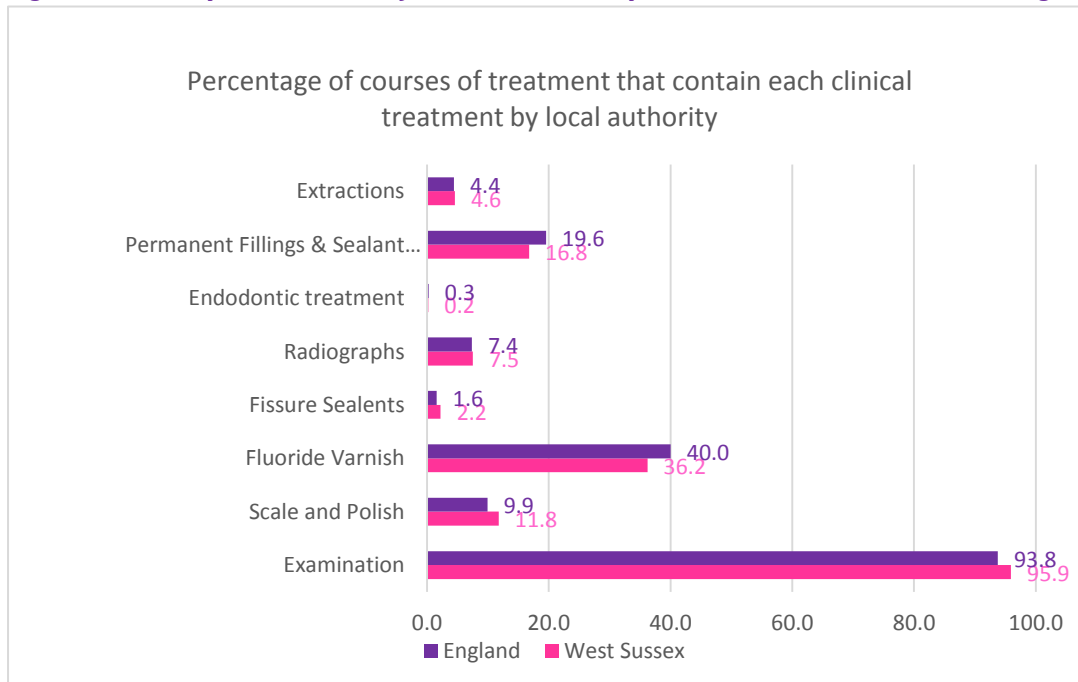
	% Band 1 FP17s	% Band 2 FP17s	% Band 3 FP17s	% Band 1 Urgent FP17s	% Non- banded FP17s
Adur	73.6	22.7	0.6	3	0
Arun	72	23.9	0.6	3.4	0
Chichester	72.7	21.8	0.8	4.7	0
Crawley	71.9	20.8	0.8	6.6	0
Horsham	80	16.4	0.5	3	0.1
Mid Sussex	71.8	24.1	0.7	3.3	0
Worthing	75.4	18	0.6	6	0.1
West Sussex	73.9	21.1	0.7	4.2	0
England	71.1	23.7	0.7	4.5	0

Source: NHS BSA 2017

Figure 6.5 provides an overview of the specific dental procedures which took place in dental practices in West Sussex during 2016/17 and makes comparisons to national activity. There appears to be a greater rate of West Sussex children having “examinations” and “scale and polish” compared to nationally. This may suggest that children in West Sussex visit the dentist for a routine check-up more than children in England. West Sussex also had lower rates of children having “permanent fillings and sealant restorations”, which may imply that preventative work can have an impact on the need for more invasive treatments. One unexpected finding is a slightly higher rate of extractions in West Sussex compared to nationally. However, this presents only part of the picture as extractions take place in secondary care and community dental services (CDS); and may therefore suggest that more extractions are occurring in general dental practices, rather than there being more extractions overall. Breaking down activity by age (Appendix 6) reveals that it is the age bracket of 3-12 years where West Sussex has more extractions in primary care compared to nationally. There is a large sedation practice situated in East Grinstead which may contribute to these unusual figures.

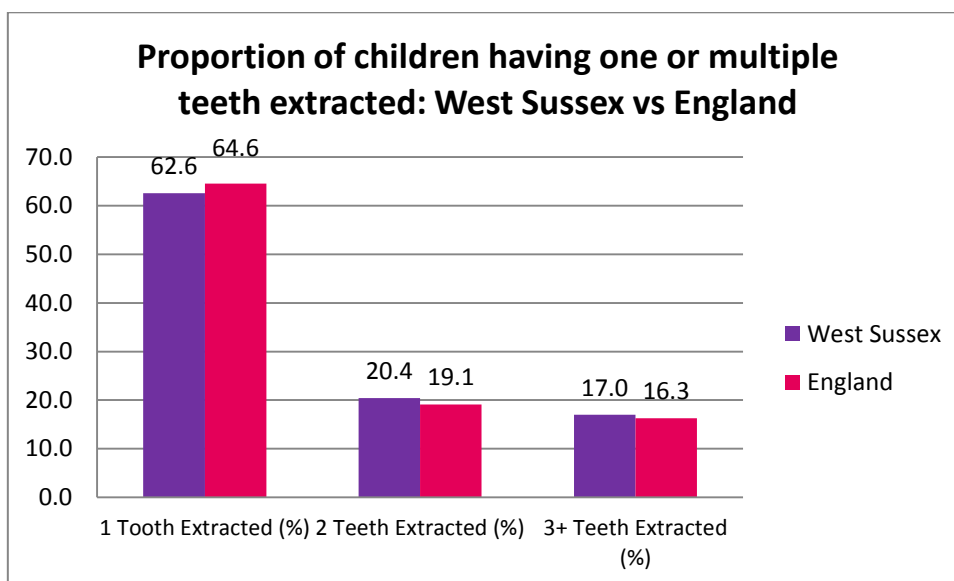
Based on the data in Figure 6.5, it is not possible to establish whether a high extraction rate is due either a greater prevalence of decay in children or more severe decay (resulting in children having multiple extractions). Figure 6.6 provides an overview of the proportion of children in West Sussex and in England who had multiple extractions in 2016/17. Based on the data, it appears that West Sussex has a higher proportion of children having multiple extractions compared to nationally. This may suggest that among those having teeth removed, the level of decay is worse. Though, it is possible that the findings are due to a smaller proportion of extractions taking place in the acute trust under general anaesthetic. It should also be noted that teeth can be extracted in the community for orthodontic reasons and not only as a result of dental decay. The LDC explained that an increase in fluoride varnishes in West Sussex is unlikely to be due to an increased need but because there is a push for dentists to perform these in line with current guidance.

Figure 6.5: Rate per 100 FP17s of childhood dental procedures in West Sussex and England in 2016/17



Source: NHS BSA 2017

Figure 6.6: Proportion of children having 1, 2 or 3+ extractions in West Sussex and England in 2016/17.



Source: NHS BSA 2017

Appendix 6 provides a breakdown of the number of extractions by age. The proportion of children having 2 extractions in West Sussex is higher than the national average in 3-12 year olds. The proportion of children having 3 or more extractions in West Sussex is higher compared to the national average in 6-18 year olds. This may suggest that there is an inclination to wait until children are older to perform multiple extractions. On the other hand, it may be that children in West Sussex are less likely to seek dental services until decay is more advanced.

Data on sedation rates and the number of domiciliary visits in West Sussex can be found in the Appendices.

6.2 Secondary/Tertiary Care Dentistry

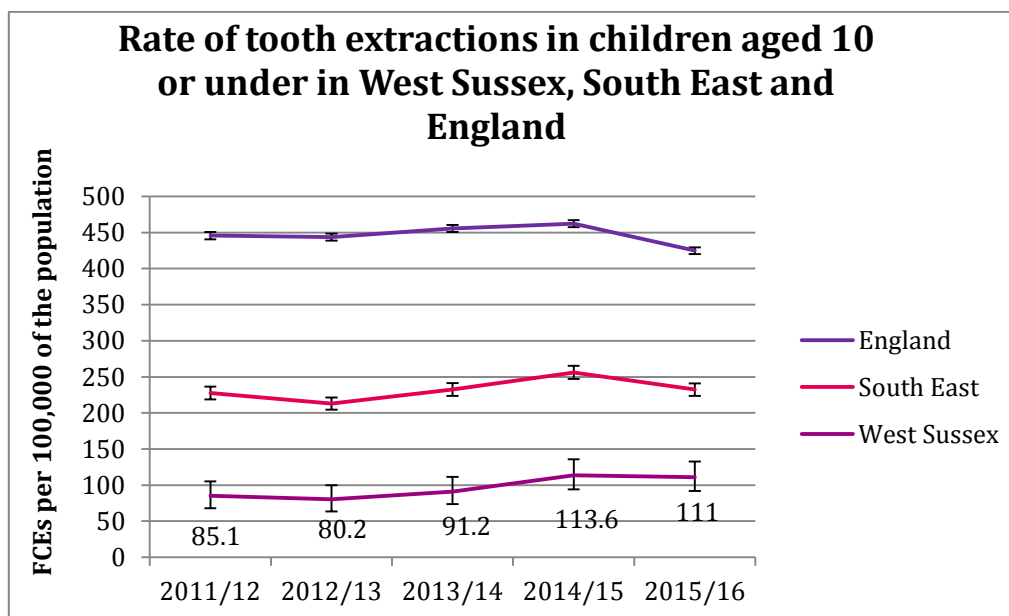
NHS Outcomes Framework records the rate of hospital admissions of children aged 10 years or younger for tooth extractions under general anaesthetic due to decay in England³⁶. Figure 6.7 demonstrates that rates nationally had been relatively steady over the past 5 years except for a significant decline in 2015/16.

The rates of extractions in West Sussex in secondary care have been significantly lower than England and the South East over the five year period. This is expected as we have previously identified that dental decay is likely to be less significant in the County compared to regionally and nationally. Though, if the figures regarding West Sussex are analysed in isolation, there is a suggestion that there has been a gradual increase in the rates of extractions in the last five years (although the difference is not statistically significant). If this increase in activity reflects an increase in dental caries requiring treatment in the area, the findings are consistent with the rise in d_3t over the same period.

³⁶ Hospital Episode Statistics (HES) - National Statistics. ONS mid-year population estimates (based on 2011 Census) - National Statistics.
<http://www.digital.nhs.uk/searchcatalogue?q=title%3A%22nhs+outcomes+frameworks+indicators%22&area=&size=10&sort=Relevance>

It is important to recognise that the reliability of the figures are dependent on the quality and accuracy of hospital coding. Data around tooth extractions in children aged 10 and under at lower tier local authority level was too small for reliable analysis and interpretation. A further breakdown of in-hospital extractions by age and gender at a national level can be found in [Appendix 6](#).

Figure 6.7: The rate of tooth extractions in children aged 10 years or under between 2011/12 and 2015/16 between West Sussex, England and the South East.



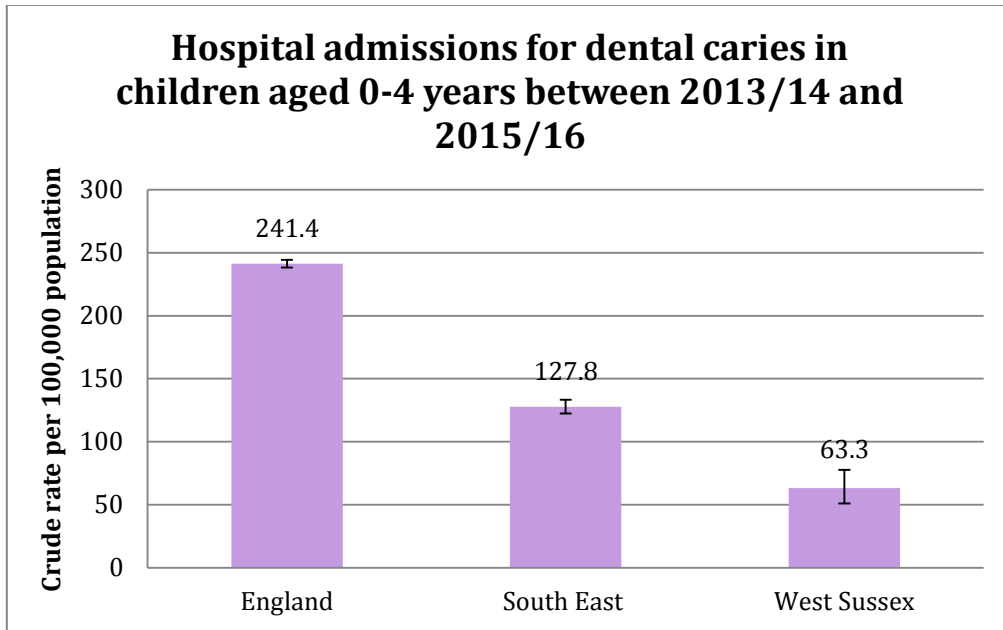
Source: Hospital Episode Statistics: Extractions data, 0-19 year olds, 2011/12 to 2015/16

Data around the number of hospital admissions in children aged 0-19 for extraction of teeth in 2015/16 provides an insight into activity at a regional level³⁷. This is summarised in [Appendix 6](#) and shows that the percentage of children in South East being admitted for dental extractions is slightly lower than average in other regions around the country. West and East Midlands have the lowest rate of hospital episodes for tooth extractions and both have an established water fluoridation scheme. It should be noted that the figures are for both caries and non-caries related extractions and so some of the documented activity will be unrelated to dental decay. Furthermore, it is likely that the figures are an under-representation of the true value as community dental services often perform extractions on hospital premises which are not coded consistently. [Figure 6.8](#) shows the rate of dental caries-related hospital admissions in children aged 0-4 years is lower in West Sussex compared to England and the South East rates. Efforts to obtain more reliable data have not been met with success.

An important omission to highlight is data from Community Dental Services (CDS) who receive a number of referrals from primary care dentistry to perform more complex activity. Procedures performed by the service take place in the acute trust but are not coded within secondary care activity. It was not possible to obtain data around the activity of CDS for this needs assessment.

³⁷ PHE (2016). Hospital Episode Statistics: Extractions data, 0-19 year olds, 2011/12 to 2015/16

Figure 6.8: The rate of hospital admissions for dental caries in children aged 0-4 years between 2013/14 and 2015/16 in England, South East and West Sussex.



Source: Hospital Episode Statistics: Extractions data, 0-19 year olds, 2011/12 to 2015/16

7 Risk Factors and Wider Determinants

Key summary

- A regression analysis performed in the South East of England found deprivation and ethnicity to have a strong, statistically significant association with levels of dental decay.
- Based on the national surveys of five year olds, the level of dental decay is higher in more deprived areas of the country. This correlation appears to extend to West Sussex, where lower tier local authorities with worse IMD rankings have a higher mean d_{3mft} , d_{3t} and rate of dental decay (with the exception of Worthing which has lower than expected dental decay relative to its IMD rankings).
- PHE confirm that water fluoridation is a safe and effective public health measure. Five year old children who live in fluoridated areas were 15% less likely to have tooth decay compared to children in non-fluoridated areas. West Sussex does not currently have a water fluoridation scheme.
- There were 665 “looked after” children in West Sussex in 2016/17. 92.9% of children who had been “looked after” for more than 12 months had their teeth checked by a dentist. This compares to 84.4% of “looked after” children in England.
- West Sussex has a higher proportion of children requiring extra education support compared to nationally. A 2013 survey suggested that a higher percentage of these children have substantial plaque compared to regionally and nationally. This can indicate ineffective tooth brushing and/or inadequate exposure to fluoride toothpaste.
- The standard of oral health is not measured in the West Sussex homeless community. However, based on national research, it is likely their oral health is worse compared to the general population of West Sussex.
- Having a mental health disorder is associated with a greater risk of tooth decay and periodontal disease. Oral health is not measured specifically in children with a mental health disorder in West Sussex.
- Smoking can increase the risk of periodontal disease, tooth loss and adverse outcomes during surgery. 10.6% of 15 year old children in West Sussex in a 2015 survey smoked; this is higher than the national average of 8.2%.

PHE conducted a regression analysis to predict the risk factors which have the greatest association with childhood tooth decay in the South East³⁸. The analysis collated and examined the data from the 2014/15 oral health survey of five year olds from Wessex, Kent, Surrey and Sussex to identify characteristics which were associated with the presence or absence of tooth decay. Being a child from a more deprived background had a strong significant statistical association with high dental decay. Uptake of free school meals, often used as a marker for deprivation, had a small but statistically significant association. Asian/Asian British, Mixed and Other ethnic groups also had a strong statistically significant association with dental decay, when compared to the level of dental decay in the

³⁸ Public Health England (2016). Predicting the presence or absence of tooth decay in the South East: briefing note for local authorities.

White British population. Contrary to national research, a high Body Mass Index (BMI) was not associated with poor dental health. The regression analysis did not investigate all the risk factor associated with poor oral health, excluding fluoridation, smoking, substance misuse, disabilities, children looked after, housing standards and mental illness. However, these topics and their impact on oral health will be discussed in this section of the needs assessment.

7.1 Deprivation

The most recent data from the Office of National Statistics suggest that families have less money than they used to³⁹. Rising employment rates are often interpreted as a positive step towards recovery but being in work does not always translate into lower levels of deprivation⁴⁰. “In work poor” is a term used to describe those people whose income falls below the poverty line, despite being in employment⁴¹. Work no longer ensures that a person is able to move out of the poverty trap. This can be due to a number of reasons, including low pay, lack of sustainability or a limited number of hours. Multiple jobs and working long hours on zero contracts is the new work for low wage earners. Around two thirds of children in poverty in the UK have at least one parent in employment. In 2015/16, 30% of children in the UK were living in poverty, this equates to approximately 4 million children⁴².

Oral health appears to be influenced by an individual’s socio-economic status. Studies in both adults and children have demonstrated that levels of dental decay are higher in those from a more deprived background^{43,44}. Deprivation has a strong association with dental decay because it impacts on other risk factors which influence dental health, such as diet, smoking, access to healthcare (including dentistry) and education around the importance of tooth brushing and the use of fluoride. Deprivation is calculated based on the 2010 and 2015 Index of Multiple Deprivation (IMD) scores. *Figure 7.1* plots the mean d₃mft in each lower tier local authority against the 2015 IMD score over the last four 5 year old dental health surveys⁴⁵. Overall, there appears to be a correlation between the more deprived areas of the country and a higher mean d₃mft. The data derived from the 2013 national survey (*Appendix 4*) analysing the dental health of three year olds also identified an association between deprivation and

³⁹ ONS. (2016). Household disposable income and inequality: financial year ending 2015. <https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/bulletins/householddisposableincomeandinequality/financialyearending2015>

⁴⁰ ONS (2018). Unemployment rate (aged 16 and over, seasonally adjusted). <https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/unemployment/timeseries/mgsx/lms>

⁴¹ Child Poverty Action Group. Stop in-work poverty. <http://www.cpag.org.uk/content/stop-work-poverty>. Accessed 19/1/18

⁴² Households Below Average Income. An analysis of the income distribution 1994/95 – 2015/16. (2017). Department of Work and Pensions.

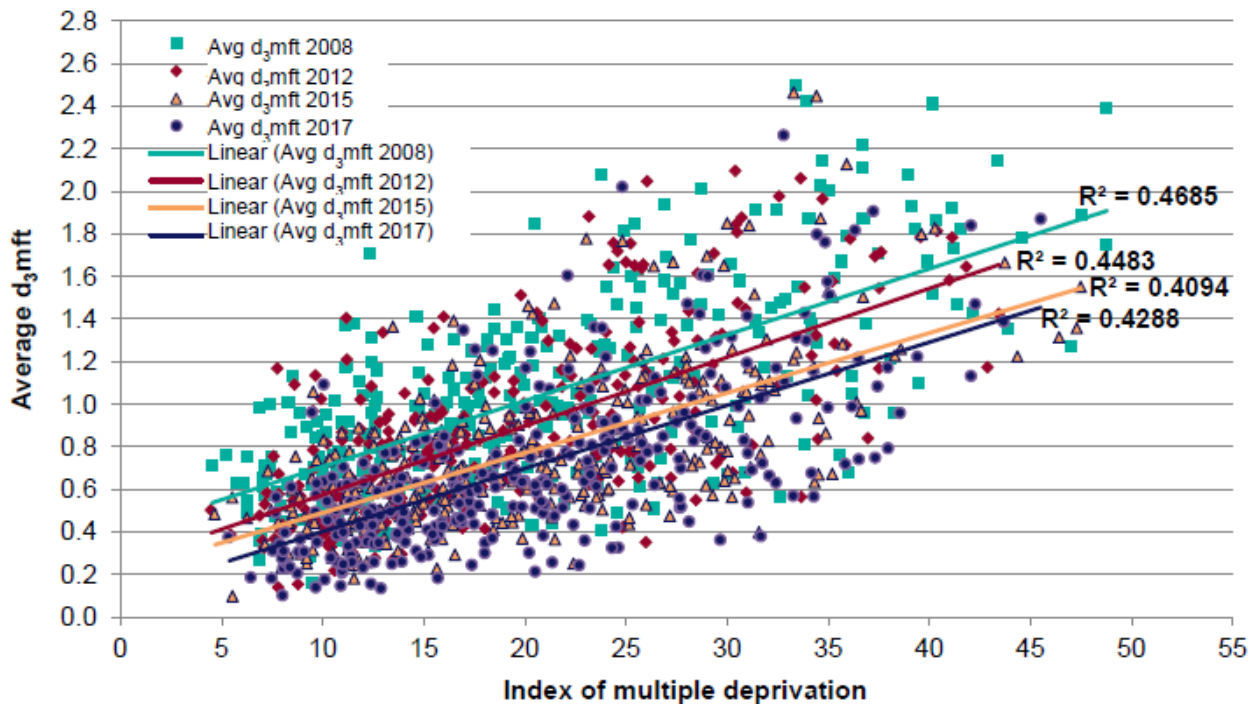
⁴³ Radford JR, Ballantyne HM, Nugent Z, Beighton D, Robertson M, Longbottom C, et al. (2000) Caries-associated micro-organisms in infants from different socio-economic backgrounds in Scotland. *J Dent* 2000;28(5):307-12.

⁴⁴ Bernabe´ E, Sheiham A (2014) Tooth Loss in the United Kingdom – Trends in Social Inequalities: An Age-Period-and-Cohort Analysis. *PLoS ONE* 9(8):

⁴⁵ PHE (2018). Oral health survey of five-year-old children 2017. A report on the inequalities found in prevalence and severity of dental decay. Available: <http://www.nwph.net/dentalhealth/201617Survey5yearoldchildren/NDEP%20for%20England%20OH%20Survey%205yr%202017%20Report%20Gateway%20Approved.pdf>

tooth decay, although the strength of the association was weaker⁴⁶. This may suggest that deprivation has a greater impact on tooth decay as children get older.

Figure 7.1: Comparing the mean d₃mft among five year old children and IMD score within lower tier local authorities in 2008/09, 2011/12, 2014/15 and 2016/17.

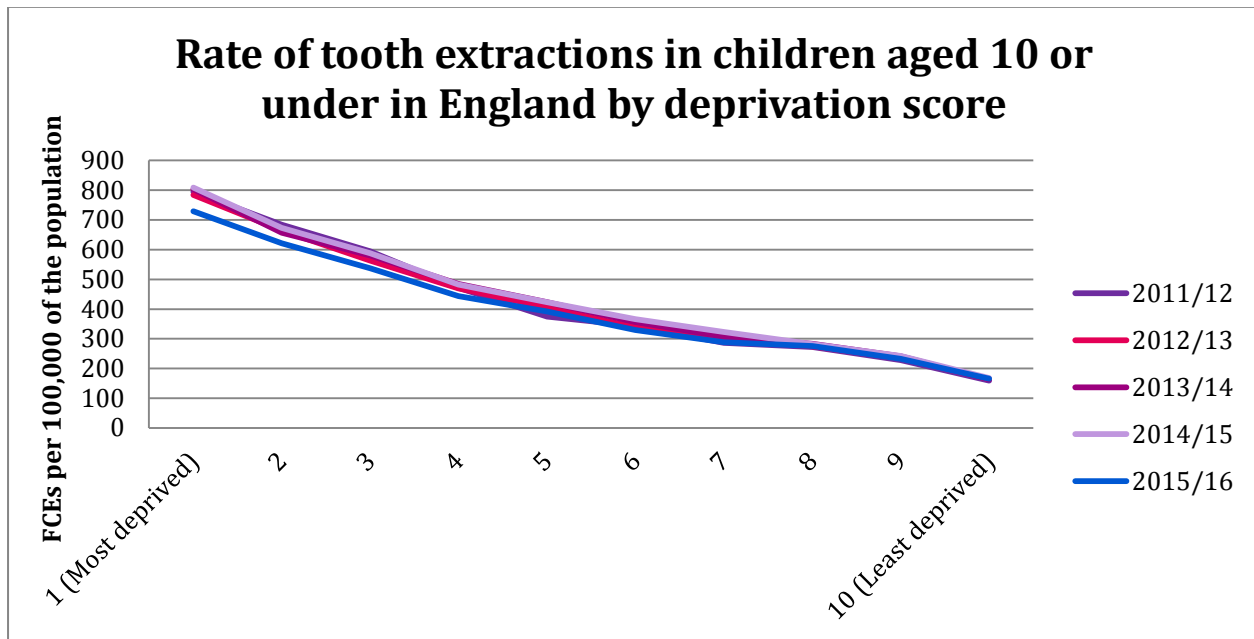


Source: PHE (2018). National Dental Epidemiology Programme for England: oral health survey of five-year-old children in 2017.

Figure 7.2 provides an overview of the rate of dental extractions based on levels of deprivation in England. The chart demonstrates an association between lower levels of deprivation and lower rates of tooth extractions over the last five years. *Figure 7.3* validates this finding at a West Sussex level, revealing that extractions in secondary care among children who live in the 10% most deprived areas of the county is significantly higher than the county average. A possible explanation for this trend could be lower levels of dental decay in children from a less deprived background. Also, it may be that children from a less deprived background are more likely to have dental procedures performed privately which would not be identified in the NHS Outcomes Framework data.

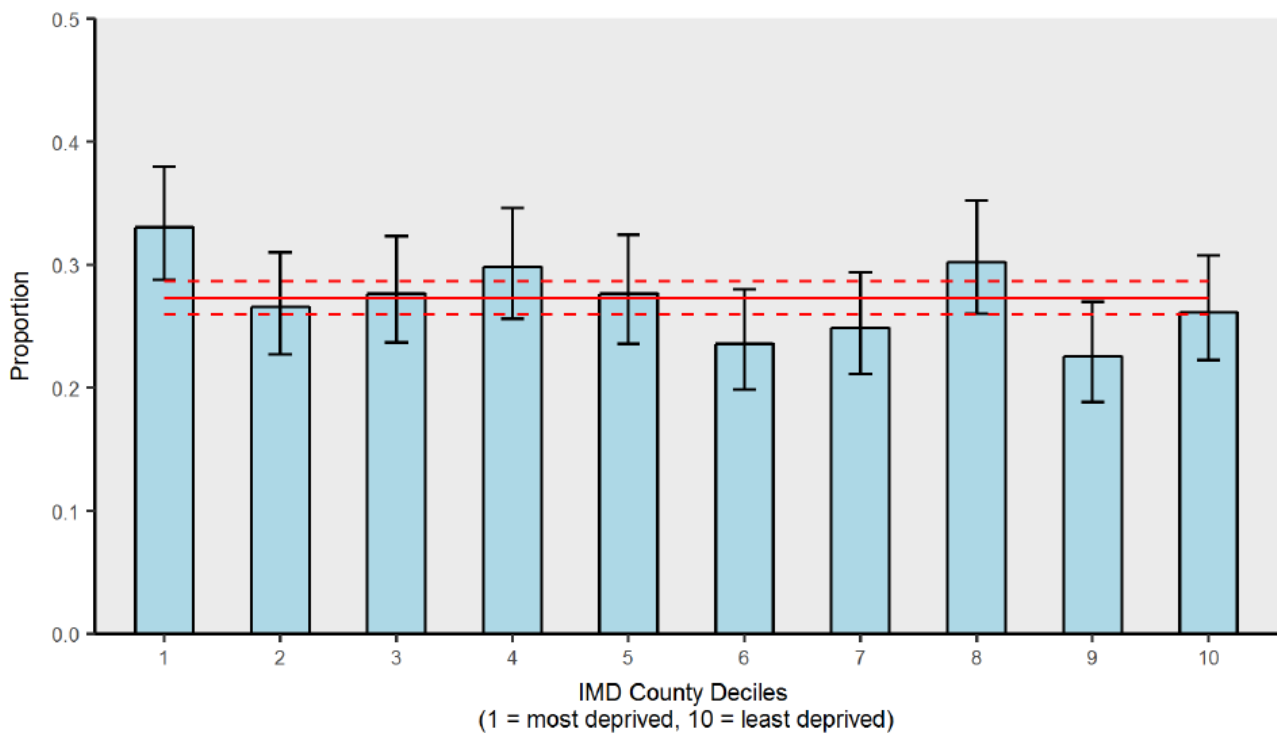
⁴⁶ PHE (2013). Oral health survey of three-year-old children 2013. A report on the prevalence and severity of dental decay. <http://www.nwph.net/dentalhealth/reports/DPHEP%20for%20England%20OH%20Survey%203yr%202013%20Report%20FINAL%20260914%20Appx%20140115.pdf>

Figure 7.2: The rate of tooth extractions in children aged 10 years or under between 2011/12 and 2015/16 in England by deprivation score.



Source: Hospital Episode Statistics (HES) - National Statistics. ONS mid-year population estimates (based on 2011 Census)

Figure 7.3: Finished consultant episodes for extraction of one or more primary and permanent teeth (2014/15-2016/17) as a proportion of 0-19 population by countywide IMD deciles



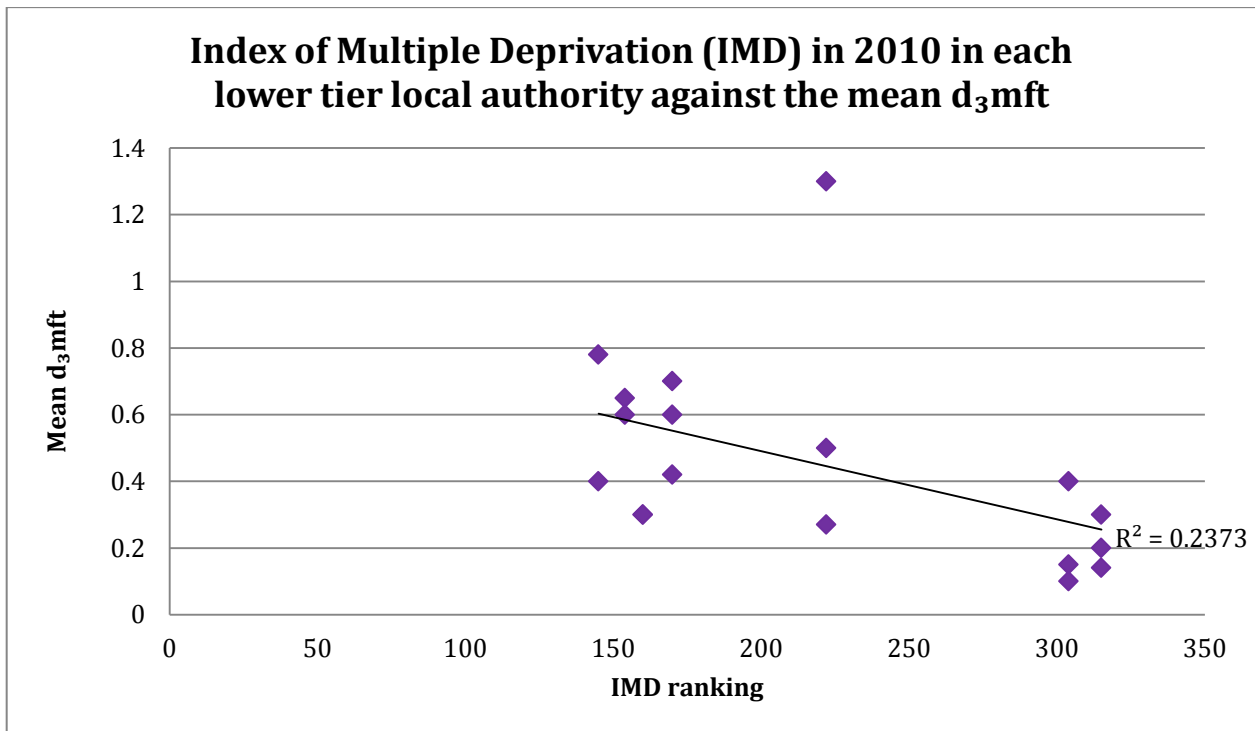
Source: Local analysis of hospital episode statistics (WSCC); IMD 2015 (DCLG); Mid-Year Population Estimates (ONS)

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Figures 7.4, 7.5 and 7.6 plot the mean d_3mft , mean d_3t and rate of dental decay in each lower tier local authority in West Sussex against the 2010 IMD rankings over the last three surveys of five year olds. The rationale for using IMD rankings from 2010 and not the most recent version from 2015 is because 2010 rankings would be more appropriate when comparing dental decay in children who were born within 2010-2012. It should be reiterated that due to the small sample size, comparisons at a district and borough level have limited validity. However, they are still presented in this report as they are the only information we have on oral health at this level.

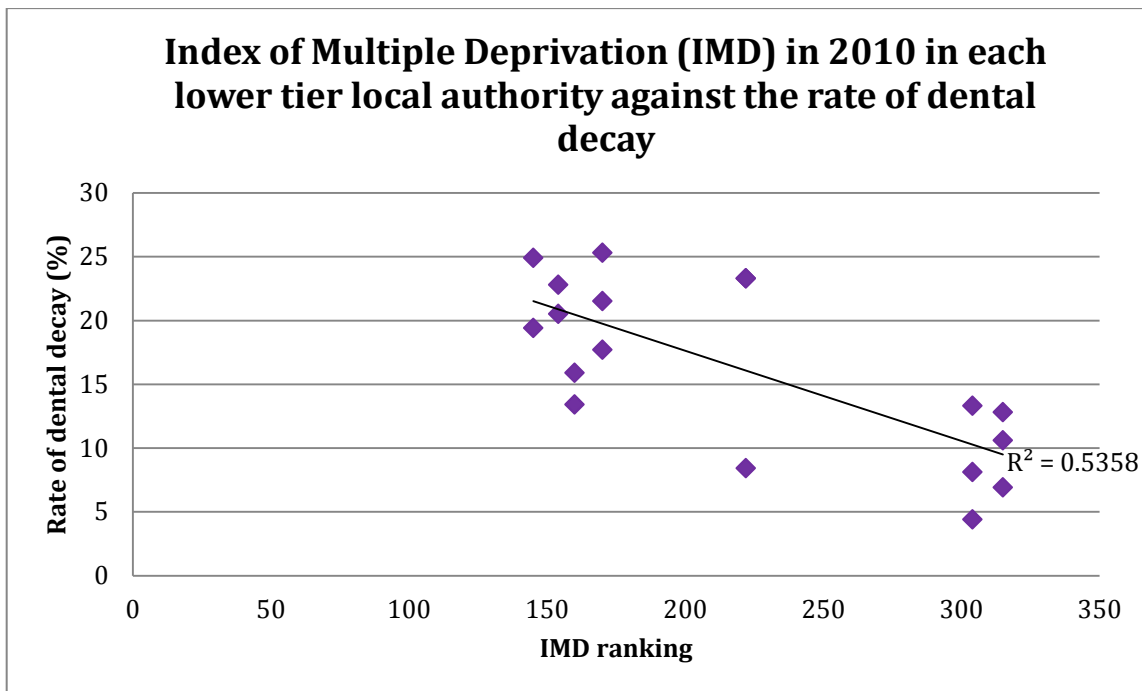
Figures 7.4 and 7.5 appear to show that deprivation in West Sussex may be related to a greater mean d_3mft and higher rate of dental decay. Figure 7.6 comparing deprivation to levels of untreated dental decay does not identify an association. However, as there are a small number of points to plot against, the correlation coefficient will be heavily influenced by a single outlier. The obvious outlier in all three figures originates from measurements made in Chichester in the 2016/17 survey for five year olds. The anomalous values are unsurprising as the sample consisted of only 31 participants.

Figure 7.4: Comparing the 2010 IMD rankings of the lower tier local authorities with the mean d_3mft in the 2011/12, 2014/15 and 2016/17 surveys of five year olds in West Sussex.



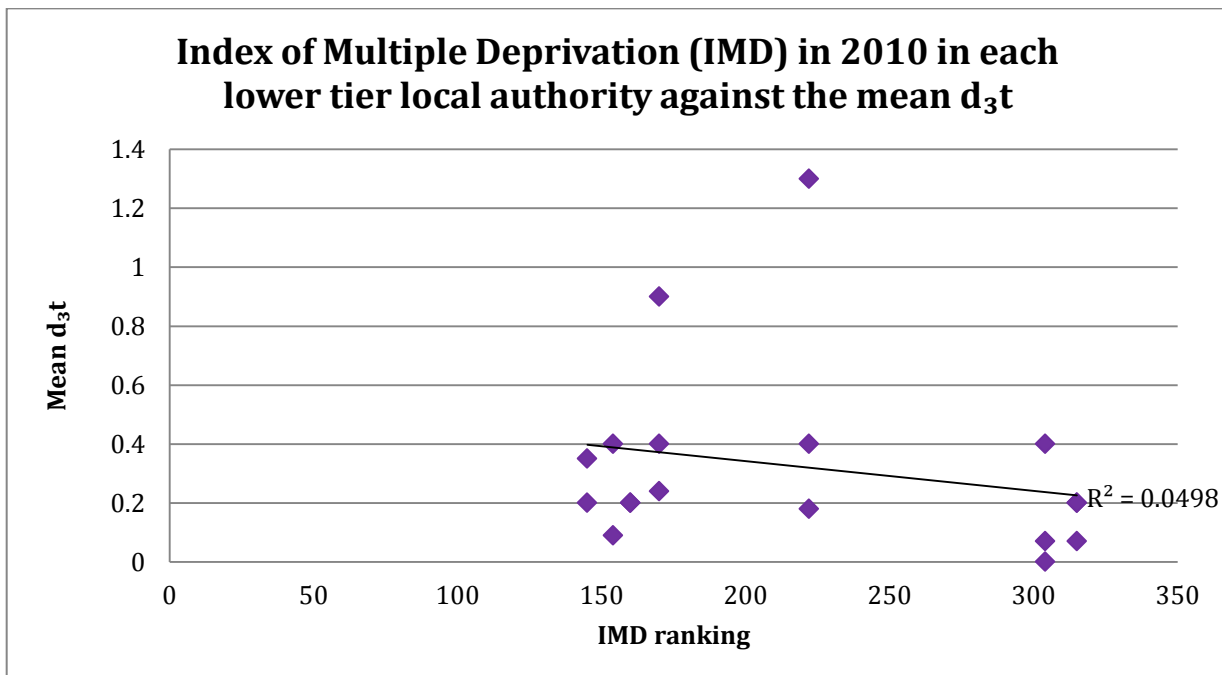
Source: Oral health survey of five-year old children 2011/12, 2014/15 and 2016/17.

Figure 7.5: Comparing the 2010 IMD rankings of the lower tier local authorities with the rate of dental decay in the 2011/12, 2014/15 and 2016/17 surveys of five year olds in West Sussex.



Source: Oral health survey of five-year old children 2011/12, 2014/15 and 2016/17.

Figure 7.6: Comparing the 2010 IMD rankings of the lower tier local authorities with the mean d_{3t} in the 2011/12, 2014/15 and 2016/17 surveys of five year olds in West Sussex.



Source: Oral health survey of five-year old children 2011/12, 2014/15 and 2016/17.

7.2 Fluoridation

Fluoride is a naturally occurring mineral found in water and certain vegetables, such as spinach, tomatoes and asparagus⁴⁷. The variation in the level of naturally occurring fluoride in water throughout the country led to the discovery of an association between higher levels of fluoride and lower levels of dental decay⁴⁸. The first water fluoridation schemes were introduced in the USA in the 1940's, followed by early schemes in the UK in the 1960's.

Fluoride has a protective function in teeth by helping to prevent dental decay⁴⁹. Ingestion of fluoride during dental development enables the mineral to be incorporated into the tooth structure, strengthening the protective barrier on the surface of the tooth. Continuing to expose fully developed teeth to fluoride (in toothpaste, water and other specialist dental products) helps to maintain the protection and minimise demineralisation.

Evidence reviews confirm that water fluoridation is a safe and effective public health measure which should be considered in local authorities where dental decay is an issue⁵⁰. Water companies who adopted fluoridation in the UK adjust the fluoride levels to one part of fluoride per million parts of water; the optimal concentration measured in research to maximise the positive dental effects. This level also minimises the risk of dental fluorosis (white patches seen on teeth), which can be seen in high levels of fluoride exposure.

Approximately 5.8 million people in England are supplied with artificially fluoridated water⁵¹. In addition, 330,000 people are supplied by water which naturally contains a level of fluoride which provides sufficient benefit to teeth. At the time of writing, the following areas had introduced a water fluoridation scheme:

- Cumbria
- Cheshire
- Tyneside
- Northumberland
- Durham
- Humberside and Lincolnshire
- Nottinghamshire
- Derbyshire

⁴⁷ Conde Nast (2014). Foods highest in fluoride. <http://nutritiondata.self.com/foods-000146000000000000000000.html?categories=19,10,8>.

⁴⁸ PHE (2016). Improving oral health: a community water fluoridation toolkit for local authorities. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/507915/Fluoridation_Toolkit_-_Publications_gateway_version_20160304.pdf

⁴⁹ American Dental Association. (2005). Fluoridation Facts. http://www.ada.org/~media/ADA/Member%20Center/Files/fluoridation_facts.ashx

⁵⁰ PHE (2016). Improving oral health: a community water fluoridation toolkit for local authorities. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/507915/Fluoridation_Toolkit_-_Publications_gateway_version_20160304.pdf

⁵¹ The Extent of Water Fluoridation. The British Fluoridation Society. <https://www.bfsweb.org/extent-of-water-fluoridation>. Accessed 18/12/2017.

- West Midlands
- Staffordshire
- Shropshire
- Warwickshire
- Worcestershire
- Bedfordshire

Areas with naturally occurring fluoride at the optimal level are:

- Hartlepool, County Durham
- Easington, County Durham
- Uttoxeter, Staffordshire
- Redbridge, London Borough

PHE reviewed the level of dental decay in areas with optimal fluoridation compared to non-fluoridated areas, based on research in the national oral health surveys in children⁵². When the confounding effect of deprivation and ethnicity were minimised, five year old children living in fluoridated regions were 28% less likely to experience dental decay. Furthermore, there were 45% less hospital admissions for dental caries in children aged 1-4 years in fluoridated areas compared to non-fluoridated.

West Sussex County Council does not have a water fluoridation scheme and there is no current plan to introduce one. The fluoride levels of water supplied to West Sussex are summarised in *Figure 7.7*. Dental practices do offer fluoride varnishing; this involves painting teeth with a fluoride-rich varnish to help provide additional dental protection. PHE's publication "Delivering better oral health: an evidence-based toolkit for prevention" advised that all children should be treated with fluoride varnishes every six months and those prone to dental caries should have the treatment more frequently⁵³. 114,795 fluoride varnishes in children took place in the West Sussex area between August 2014 and August 2016⁵⁴. Assuming the children had the treatment every six months as recommended, we can estimate this to be just under 19% of the population.

⁵² PHE (2014). Water Fluoridation. Health Monitoring Report for England: Executive Summary. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/300201/Water_fluoridation_health_monitor_for_England_2014_executive_summary_1Apr2014.pdf

⁵³ PHE (2017). Delivering better oral health: an evidence-based toolkit for prevention. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/605266/Delivering_better_oral_health.pdf.

⁵⁴ Office of National Statistics (ONS). 2011 Census data.

Figure 7.7: Summary of the fluoride levels in the water supplied to West Sussex.

Water Supplier	Fluoride Concentration (mg/L)
Southern Water	<0.1 ⁵⁵
Portsmouth Water	0.1 ⁵⁶
South East Water	0.1

7.3 Black, Asian, Minority Ethnic (BAME)

Evidence supports the view that there is variation in the standard of oral health between ethnicities within England⁵⁷. Establishing causation is difficult when the variant can be confounded by deprivation or social status. Studies which have adjusted for these factors found dental caries to be more common in children of Pakistani or Bangladeshi origin^{58,59}. Furthermore, the regression analysis conducted for the South East by PHE identified a strong association between ethnicity and oral health when comparing dental decay in five years olds between White British and Asian/Asian British, Mixed and Other ethnic groups⁶⁰. Levels of periodontal disease do not appear to vary between ethnicities in children but Asian adults are more likely to develop the condition compared to adults from other ethnic origins⁶¹.

The 2014/15 national oral health survey for five year old children made the recording of ethnicity compulsory for the first time in the oral surveys. *Figures 7.8* and *7.9* provide insight into the variation of

⁵⁵ https://www.southernwater.co.uk/fluoridation_(Accessed 16/3/2018)

⁵⁶ https://www.whatdotheyknow.com/request/fluoridation_in_portsmouth_water_(Accessed 16/3/2018)

⁵⁷ Marshman. Z. Nower. Katherine. Wright. Desmond. (2013). Oral health and access to dental services for people from black and minority ethnic groups. A Race Equality Foundation Briefing Paper. [http://www.better-health.org.uk/sites/default/files/briefings/downloads/health_briefing_29%20\(1\)_0.pdf](http://www.better-health.org.uk/sites/default/files/briefings/downloads/health_briefing_29%20(1)_0.pdf)

⁵⁸ Conway D.I., Quarrell, I., McCall D.R., Gilmour, H., Bedi, R. and Macpherson, L.M. (2007) 'Dental caries in 5-year-old children attending multi-ethnicschools in Greater Glasgow- the impact of ethnic background and levels of deprivation', *Community Dental Health*, 24(3):161-5.

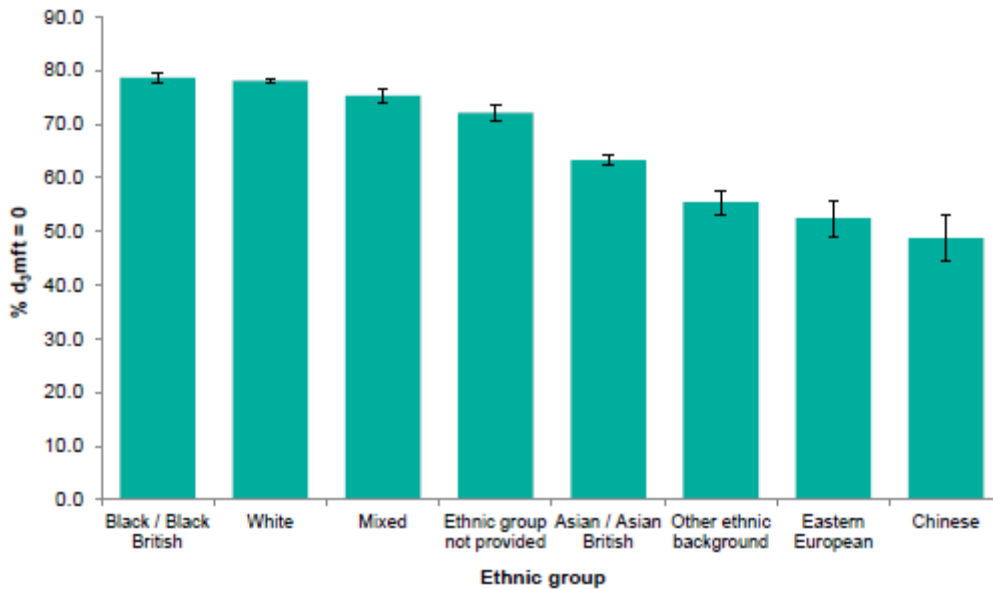
⁵⁹ Marcenes, W, Muirhead, V, Wright, D, Evans, P, O'Neill, E & Fortune, F (2011) Oral Health of older adults in North East London www.dentistry.qmul.ac.uk/images/downloads/OHNA/pdf/The%20Oral%20Health%20of%20Older%20Adults%20in%20East%20London%20and%20the%20City%202011.pdf [accessed 29 July 2013]

⁶⁰ Public Health England (2016). Predicting the presence or absence of tooth decay in the South East: briefing note for local authorities.

⁶¹ Marshman. Z. Nower. Katherine. Wright. Desmond. (2013). Oral health and access to dental services for people from black and minority ethnic groups. A Race Equality Foundation Briefing Paper. [http://www.better-health.org.uk/sites/default/files/briefings/downloads/health_briefing_29%20\(1\)_0.pdf](http://www.better-health.org.uk/sites/default/files/briefings/downloads/health_briefing_29%20(1)_0.pdf)

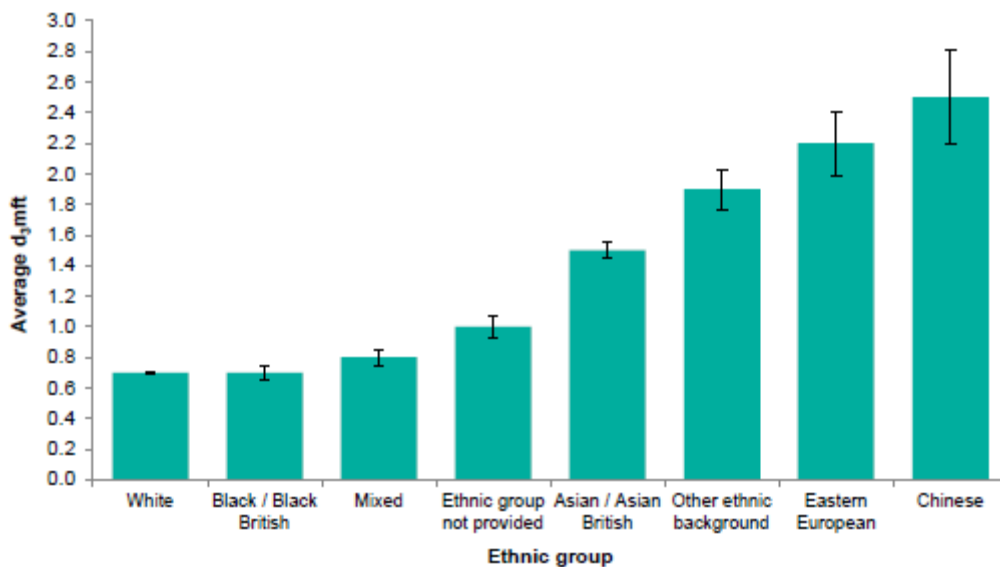
dental decay by ethnic groups in this survey⁶². In both tables, Chinese and Eastern European ethnic groups represent the worst oral health while White and Black/Black British represent the best. It should be noted that this data will likely be confounded by deprivation levels.

Figure 7.8: Percentage of five-year-old children with no obvious decay experience ($d_3mft = 0$) in England by ethnic group, 2015.



Source: Oral health survey of five-year old children 2014/15.

Figure 7.9: Average number of dentally decayed, missing (due to decay) and filled teeth (d_3mft) among five-year-old children in England by ethnic group, 2015.



Source: Oral health survey of five-year old children 2014/15.

⁶² PHE (2015). Oral health survey of five-year-old children 2015. A report on the prevalence and severity of dental decay. Available: [http://www.nwph.net/dentalhealth/survey-results%205\(14_15\).aspx](http://www.nwph.net/dentalhealth/survey-results%205(14_15).aspx)

The variations identified between ethnicities may be related to cultural differences. Asian women are more likely to wean their children for longer with sugary bottled drinks compared to White British women and this has been linked to an increase in ECC⁶³. There may also be a difference in how ethnic groups use dental services; among those who had visited the dentist, the reason for the last visit in ethnic minorities is less likely to be for a routine check-up and more likely to be for a specific dental problem⁶⁴. Possible barriers to ethnic minorities seeking attention for dental problems include language, mistrust of dentists and cultural/religious influences. In some circumstances, cost can be a barrier for seeking medical attention. However, this should not be the case for dental care in children which is free on the NHS.

There is no local data available measuring the standard of oral health based on ethnicity and so direct comparisons are unable to be made. Crawley is the most ethnically diverse region in West Sussex, with 27.9% of its population not identifying themselves as White British in the 2011 census. All the other areas of West Sussex have similar levels of diversity. Based on the limited information available, it appears that Adur and Arun have the worst rates of dental decay but also had the lowest percentages of ethnic minorities residing.

Although ECC is linked with children of Asian ethnicity, indirect comparisons in West Sussex do not support this. This is because the highest level of incisor caries is found within Chichester, which has the lowest percentage of people residing from “Asian/ British Asian” (*Appendix 4*).

7.4 Obesity

The most recent data from the National Childhood Measurement Programme found that over 20% of children in reception year and one third of children in year 6 in England are either overweight or obese⁶⁵. Many of the risk factors associated with obesity in children are also risk factors for dental caries. Therefore, there is a belief that obesity and dental decay may co-exist in the same individuals within a population, leading to Public Health England investigating the relationship and concluding that “interventions that reduce these common risk factors have the potential to impact both conditions at the population level”⁶⁶. A common risk factor for dental caries and obesity is high sugar consumption; which is known to be a problem area for children in England^{67,68}. Another is deprivation which has already been discussed previous in this report⁶⁹.

⁶³ Watt, R G (2000) ‘A national survey of infant feeding in Asian families: summary of findings relevant to oral health’, *British Dental Journal*, 188:16–20.
www.nature.com/bdj/journal/v188/n1/full/4800374a.html [accessed 29 July 2013]

⁶⁴ Health and Social Care Information Centre (2005) *Health Survey for England 2004: The Health of minority ethnic groups – headline tables* www.better-health.org.uk/sites/default/files/editor/hse%202004.pdf

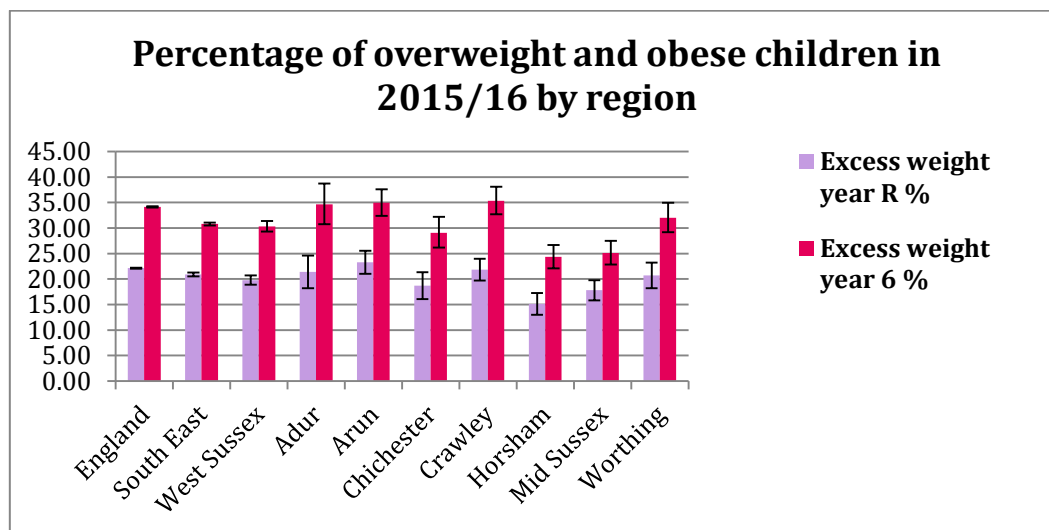
⁶⁵ NHS Digital (2016). *National Child Measurement Programme - England, 2015-16*. Available: <http://digital.nhs.uk/catalogue/PUB22269>

⁶⁶ PHE (2015). *The relationship between dental caries and obesity in children: an evidence summary*. Available: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/466334/Caries_obesity_Evidence_SummaryOCT2015FINAL.pdf

⁶⁷ Scientific Advisory Committee on Nutrition (2015) *Carbohydrates and Health* [Internet]. London: The Stationary Office: <https://www.gov.uk/government/publications/sacn-carbohydrates-and-health-report>

Figure 7.10 compares the percentage of reception year and year 6 children who are overweight or obese at a county, regional and national level, based on the data from the 2015/16 National Child Measurement Programme⁷⁰.

Figure 7.10: The percentage of overweight and obese children in 2015/16 by region.



Source: National Child Measurement Programme 2015/16

Overall, West Sussex appears to have a lower rate of children who are overweight and obese compared to England and the rest of the South East. However, there appears to be a variation between different regions within West Sussex. The rate of year 6 children who are overweight in Adur, Arun and Crawley is higher than the national rate and Arun has higher rates than England in reception year children. Adur, Arun and Crawley also have the three highest mean d_3mft and the highest rate of dental decay based on the 2011/12 and 2014/15 dental surveys of five year olds. This may suggest a link between obesity and dental caries in West Sussex, although the findings of the regression analysis conducted in the South East of England contradict this.

7.5 “Looked After” Children

A child is said to be “looked after” by a local authority if they have been⁷¹:

- Provided with accommodation for a continuous period of more than 24 hours
- Subject to a care order or a placement order.

⁶⁸ Morenga. L.T., Mallard. S., Mann. J. (2013). Dietary sugars and body weight: systematic review and meta-analyses of randomised control trials and cohort studies. *BMJ* 2013;346:e7492.

⁶⁹ Public Health England. (2014) Child obesity and socioeconomic status data factsheet.

⁷⁰ NHS Digital (2016). National Child Measurement Programme, England 2015 to 2016 school year. <https://www.gov.uk/government/statistics/national-child-measurement-programme-england-2015-to-2016-school-year>

⁷¹ Children Act 1989. <http://www.legislation.gov.uk/ukpga/1989/41/contents>

A child is no longer “looked after” once they turn 18 years of age. “Looked after” children share the same health problems as the general population of children but to a greater degree⁷². The standard of oral health is worse, with significantly more dental disease and oral care neglect in children who have been in care compared to children who have not^{73,74}. Furthermore, “looked after” children are less likely to visit a dentist regularly, and those that do are more likely to need treatment⁷⁵. This is predominantly due to neglect before entering care and the fact that children who are “looked after” are more likely to come from a family from a lower socioeconomic background⁷⁶. Part of the issue appears to be that physical health of children in care can be overlooked in the context of their multiple social issues⁷⁷. Furthermore, children “looked after” may have poor school attendance and so further absences to attend dental appointments may not always be seen as appropriate. Other barriers to dental care can be around fear, confidence issues and an unplanned move out of an area⁷⁸. There is also a suggestion that the system is not meeting the oral health needs of “looked after” children, with some dentists being reluctant to start a programme of treatment when it is unclear whether the child will stay in the area long enough to complete it. The issue around obtaining consent is also perceived to be a barrier to providing dental care. Once “looked after” children become “care leavers”, they are no longer eligible for free NHS care and so are expected to fund their dental treatment. More complex social issues continue to take priority and oral health continues to be neglected as minimal support is provided.

In 2016/17, there were 72,670 children who were being “looked after” in England⁷⁹. 665 of these were under the care of West Sussex County Council. *Figure 7.11* summarises the most recent data available around dental health checks in children in care for 12 months or longer⁸⁰. In 2014, 84.4% of children who had been under the care of the local authority for at least 12 months had their teeth checked by a dentist. This is compared to 92.9% of the 420 “looked after” children in West Sussex during the same period of time. There was no information available around the standard of oral health in these patients or the proportion that required treatment.

⁷² DfCSF and DoH (2009) Statutory guidance on promoting the health and well-being of looked after children

⁷³ Waddell B. The dental health of looked after and accommodated children and young people in Scotland – a literature review. University of Glasgow. 2007. <http://hdl.handle.net/1905/735>

⁷⁴ Poyner M, Welbury J. The dental health of looked after children. *Adoption & Fostering*, 2004; 28: 86-88

⁷⁵ Williams J, Jackson S, Maddocks A, Cheung W-Y, Love A, Hutchings H. Case control study of the health of those looked after by authorities. *Arch Dis Childhood*. 2001; 5: 280-285.

⁷⁶ Poyner. M. The Dental Health of Looked After Children. (2004). *Adoption and Fostering*. 28:84.

<http://journals.sagepub.com/doi/abs/10.1177/030857590402800115?journalCode=aafa>. Accessed 17/1/2018

⁷⁷ DfCSF and DoH (2009) Statutory guidance on promoting the health and well-being of looked after children

⁷⁸ NICE (2013) NICE Public Health Guidance 28 – Looked After Children and Young People.

⁷⁹ Department of Education (2017). Children looked after in England including adoption: 2016 to 2017. Available at: <https://www.gov.uk/government/statistics/children-looked-after-in-england-including-adoption-2016-to-2017>. Accessed 28/11/2017

⁸⁰ Department for Education (2014) Statistical First Release: Outcomes for children looked after by local authorities in England as at 31st March 2014

Figure 7.11: Number of children who had been “looked after” for at least 12 months who had their teeth checked by a dentist in 2014 by region.

	Number of children who had been “looked after” for at least 12 months	Number of “looked after” children who had their teeth checked by a dentist	Percentage of “looked after” children who had their teeth checked by a dentist (%)
England	47,670	40,240	84.4
South East	6,030	5,030	83.4
West Sussex	420	390	92.9

Source: Department of Education 2017

7.6 Disabilities

Special Care Dentistry (SCD) is a specialised dental service provided to those with special needs or those who have difficulty accessing general dental services. SCD are concerned with “*the improvement of oral health of individuals and groups in society, who have a physical, sensory, intellectual, mental, medical, emotional or social impairment or disability or, more often, a combination of a number of these factors*”⁸¹. The service is offered to patients (on referral) with certain health and social care issues, this includes but is not limited to those with physical disabilities, learning disabilities, challenging behaviour and dental phobias⁸².

Children with physical disabilities are likely to have worse oral health compared to children without^{83,84}. Part of the discrepancy is related to one or more of: poor motor control, the ingestion of medications or dietary supplements high in sugar, an ineffective dental regime and difficulty accessing dental care⁸⁵. Measuring the extent of oral health to provide a broader view of the issues is difficult as the term “physical disability” encompasses a number of conditions which vary in severity and complexity. Therefore, it is unclear at a national or local level the degree of difference between oral health in children with or without a physical disability.

A learning disability can be defined as ‘*a significantly reduced ability to understand new or complex information, to learn new skills (impaired intelligence) with a reduced ability to cope independently*

⁸¹ Joint Advisory Committee for Special Care Dentistry (2003) Training in Special Care Dentistry; London JACSCD.

⁸² <https://www.sussexcommunity.nhs.uk/services/servicedetails.htm?directoryID=16355>. Accessed 27/11/2017

⁸³ Chang et al., 2013. Disparities in oral cancer survival among mentally ill patients PLoS ONE [Electronic Resource], 2013, vol./is. 8/8(e70883), 1932-6203;1932-6203

⁸⁴ Chang et al., 2013. Disparities in oral cancer survival among mentally ill patients PLoS ONE [Electronic Resource], 2013, vol./is. 8/8(e70883), 1932-6203;1932-6203

⁸⁵ NHS England (2015). Guides for commissioning dental specialities – Special Care Dentistry. <https://www.england.nhs.uk/commissioning/wp-content/uploads/sites/12/2015/09/guid-comms-specl-care-dentistry.pdf>

*(impaired social functioning); which started before adulthood, with lasting effect on development*⁸⁶.

Along with many other conditions, poor oral health is more prevalent among those with learning disabilities⁸⁷. It is estimated that one third of all adults with a learning disability have unhealthy teeth and gums⁸⁸. This proportion increases in those with Down Syndrome to 80% as people with the condition have a higher tendency to breathe through their mouth which can impact on oral hygiene.

A child or young person has special education needs (SEN) if they require extra support because they find it more difficult to learn than the majority of other children of the same age⁸⁹. The proportion of children requiring special education needs can be used as an indicator for the proportion of children with a learning disability. Based on the figures, it appears that West Sussex have a higher proportion of children requiring extra education support compared to nationally⁹⁰ (*Appendix 4*).

Figure 7.12 compares the level of dental decay at a county, regional and national level in special education schools in 2013⁹¹. The mean d₃mft and percentage of children with dental decay was lower in West Sussex compared to regionally and nationally. However, the percentage of substantial plaque was greater in West Sussex compared to the South East region. The presence of substantial plaque can indicate ineffective tooth brushing and inadequate exposure to fluoride toothpaste⁹². Unfortunately, due to the small sample size in West Sussex, none of these differences can be deemed statistically significant

⁸⁶ Department of Health (2009). Valuing people now: a new three year strategy for people with learning disabilities. 2009

⁸⁷Band. R. (1998). The NHS – Health for All? People with learning disabilities and health care. MENCAP

⁸⁸ Barr O, Gilgunn J, Kane T & Moore G (1999) Health screening for people with learning disabilities by a community learning disability service in Northern Ireland. *Journal of Advanced Nursing* **29** 1482–91.

⁸⁹ <https://www.nidirect.gov.uk/articles/what-are-special-educational-needs>. Accessed 6/2/2018

⁹⁰ Department of Education (2017). Special Education Needs in England. Available: <https://www.gov.uk/government/collections/statistics-special-educational-needs-sen>

⁹¹ PHE (2014). Oral health survey of five and 12 year old children attending special support schools, 2013/14. http://www.nwph.net/dentalhealth/specsurvey/Protocol%202013_14%20Special%20Support%20Schools%20version%202.pdf

⁹² Christensen. G.J (1998). Why clean your teeth? *The Journal of the American Dental Association*. 129:11:1605-1607.

Figure 7.12: Comparing the mean d_3mft , percentage of dental decay and percentage of substantial plaque in 12 year old children in special education schools in England, the South East and West Sussex.

	Mean d_3mft	Percentage of dental decay (%)	Percentage with substantial plaque (%)
England (n=1,415)	0.69 95% CI (0.64, 0.69)	29.2 95% CI (27.6, 30.8)	19.5 95% CI (18.2, 20.9)
South East (n=215)	0.5 95% CI (0.4, 0.61)	21.6 95% CI (18.1, 25.2)	10.2 95% CI (7.7, 12.7)
West Sussex (n=43)	0.48 95% CI (0.12, 0.83)	20.5 95% CI (8.5, 32.4)	15.2 95% CI (4.8, 25.6)

Source: Oral health survey of five and twelve year old children attending special support schools 2014.

7.7 Housing

A person is said to be homeless when they do not have the legal right to occupy accommodation, or if their accommodation is unsuitable to live in⁹³. This means that homelessness is not limited to those who live on the streets. Those in hostels or other insecure or temporary forms of housing are more likely to have poor oral health due to limited access to oral hygiene facilities and the relatively low priority given to the importance of oral health⁹⁴. Furthermore, those who are homeless tend to be from a more deprived background, which has already been highlighted as a risk factor for poor oral health. In addition to the reasons above, rough sleepers are at additional risk because they are also more likely to suffer from mental illness and engage in substance misuse which can increase the risk of dental trauma. A study analysing the oral health in 350 rough sleepers in East London between 2009 and 2011 found that 99% of those examined required dental treatment⁹⁵. Three of the nine people who did not need treatment were because they did not have any teeth to treat. The same study found that less than two thirds of homeless people who were offered treatment attended to have the work complete. Potential barriers around the access to treatment for rough sleepers include cost, difficulty keeping the appointment, perceived lack of relative importance of oral health and the difficulty for dentists to register a patient who does not have a fixed address⁹⁶. SCD is offered to people who are homeless in West Sussex to improve the services to this population. There are currently no drop-in clinics within the County, with the closest situated in Brighton.

⁹³ House of Commons (2004). ODPM: Housing, Planning, Local Government and the Regions Committee. <https://publications.parliament.uk/pa/cm200405/cmselect/cmmodpm/61/61i.pdf>

⁹⁴ British Dental Association (2003) Dental Care for Homeless People: BDA policy discussion paper December 2003.

⁹⁵ Simons, Pearson and Movasaghi (2012) Developing dental services for homeless people in East London. In British Dental Journal 213, E11

⁹⁶ Department of Health (2005) Homelessness and Health information Sheet Number 3: Dental Service

There are four homelessness projects in West Sussex, located in Crawley, Chichester, Bognor Regis and Worthing. The level of homelessness in West Sussex has not been quantified. However, rough sleeping is less prevalent in West Sussex compared to other counties in England. In 2016, the number of rough sleepers estimated in the county was 80, accounting for less than 2% of the total number in England⁹⁷. *Appendix 4* provides a breakdown of the number of rough sleepers within each area of West Sussex. It is not possible to ascertain the proportion of these who are children.

Oral health and dental decay is not measured in the homeless community in West Sussex which means it is not possible to establish if it is a risk factor for poor oral health locally. However, based on the research conducted elsewhere in the country it likely that the standard of oral health in the West Sussex homeless community is worse compared to the general population.

7.8 Mental Illness

The term “mental illness” covers a broad range of conditions with variable symptomology and severity. However, they can be commonly described as “a combination of abnormal thoughts, emotions, behaviour and relationships with others”⁹⁸. The latest Adult Psychiatric Morbidity Survey estimated that one in six adults suffers from a common mental disorder in any given week and one quarter suffers from mental illness each year⁹⁹. Though, these figures are expected to be an underestimate of the true proportion as the review was a self-reported household survey (making it subject to recall bias and limiting the respondents to those in a fixed residence). 20% of children experience a mental health problem every year, with half of these having a clinically diagnosable mental health condition¹⁰⁰¹⁰¹. The West Sussex Mental Health Needs Assessment for children and young people published in 2014 estimated there to be 10,900 children aged 5-16 years old with a mental health issue in the county¹⁰². The most common disorders seen in the young are anxiety, depression, eating disorders and conduct disorders. Boys are more likely to suffer from mental health issues than girls. At the time of its publication, the Child and Adolescent Mental Health Service (CAMHS) in West Sussex were receiving 300-400 referrals per month and had a caseload of approximately 3,000 children¹⁰³.

⁹⁷ Homeless Link (2016). Rough sleeping – explore the data. <http://www.homeless.org.uk/facts/homelessness-in-numbers/rough-sleeping/rough-sleeping-explore-data>

⁹⁸ WHO. Mental Disorders. http://www.who.int/mental_health/management/en/. Accessed 27/11/2017.

⁹⁹ McManus.s., Bebbington. P., Jenkins. R. & Brugha. T. (2014). Mental health and wellbeing in England. Adult Psychiatric Morbidity Survey 2014. Accessed 27/11/2017.

¹⁰⁰ WHO (2003). Caring for children and adolescents with mental disorders: Setting WHO directions. [online] Geneva: World Health Organization. Available at: http://www.who.int/mental_health/media/en/785.pdf

¹⁰¹ Green,H., McGinnity, A., Meltzer, Ford, T., Goodman,R. 2005 Mental Health of Children and Young People in Great Britain: 2004. Office for National Statistics.

¹⁰² West Sussex Mental Health Needs Assessment (Children and Young People). (2014). West Sussex JSNA

¹⁰³ West Sussex County Council JSNA. (2014). West Sussex Mental Health Needs Assessment (Children and Young People).

Having a mental health disorder is associated with a greater risk of tooth decay and periodontal disease¹⁰⁴. Furthermore, people with a severe mental health disorder are three times more likely to have tooth loss compared to the general population. A mental health condition can impact on an individual's ability to access dental care; due to a lack of knowledge around how to see a dentist, motivation and the ability to give consent¹⁰⁵. SCD aims to address these barriers by offering their services to people with mental health conditions who find it difficult accessing general services. However, specific conditions within the "mental disorder" umbrella can also indirectly impact on oral health. Medications such as anti-depressants can cause the side-effect xerostomia (dry mouth) which increases periodontal disease while anti-psychotic medications can trigger involuntary contractions of the tongue or facial muscles which can make routine dental care problematic. Eating disorders are associated with enamel erosion compared to the individuals without the condition¹⁰⁶.

There is a lack of research assessing the link between parental mental illness and their children's dental health. However, some studies have suggested that adverse childhood experiences (ACE), including exposure to mental illness, can increase the risk of dental caries¹⁰⁷. The study did acknowledge that it was unable to account for the impact of socio-economic factors.

There is no local data available which studies the standard of oral health in people with a mental health condition (in adults or children). We are therefore left to make inferences around whether poor mental health is a risk factor for oral health in West Sussex based on the findings of clinical research.

7.9 Smoking

Cigarette smoking is the leading cause of preventable disease in the United Kingdom, contributing to over 100,000 deaths in a year¹⁰⁸. Recent analysis of smoking patterns has identified an overall decrease in the rate of adult smokers from 20.1% in 2010 to 17.2% in 2015. The largest reduction in smoking rates was found in the younger age group; with 20.7% of 18-24 year olds found to be smokers in 2015, compared to 25.7% in 2010. Although cigarette smoking is commonly associated with respiratory conditions, it can impact on oral health, including malignancy. It is estimated that 91% of oral cancers in

¹⁰⁴ Kisely. S, Quek, L., Pais, L., Laloo. R., Johnson, N. W., Lawrence. D. (2011). Advanced dental disease in people with severe mental illness: systematic review and meta-analysis. *The British Journal of Psychiatry* Aug 2011, 199 (3) 187-193

¹⁰⁵ British Society for Disability and Oral Health (BSDH). Oral health care for people with mental health problems guideline and recommendations. Report of BSDH Working Group 2000

¹⁰⁶ Robb. N. D., Smith. B.G.N. Geidrys-Leeper. E. The distribution of erosion in the dentitions of patients with eating disorders. *Br Dent J.* 1995; 178: 171-175.

¹⁰⁷ Bright. M.A., Alford. S. M., Hinojosa. M.S., Knapp. C., Caprice. F. Danieal. E. (2015). Adverse childhood experiences and dental health in children and adolescents. *Community dentistry and oral epidemiology*; Jun 2015; vol. 43 (no. 3); p. 193-199.

¹⁰⁸ ONS 2017. Adult smoking habits in the UK: 2015. <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/adultsmokinghabitsingreatbritain/2015#main-points>

the UK are linked to lifestyle factors such as smoking¹⁰⁹. However, oral cancer is very rare in children and so not considered further in this needs assessment. Smoking can increase the risk of periodontal disease, resulting in loss of teeth. It can also lengthen wound healing, impacting on the outcome of oral surgery¹¹⁰. Furthermore, bad breath, loss of taste and teeth staining can impact on the self-esteem of a young smoker¹¹¹.

Smoking rates of children (all ages) is not recorded in England. However, a national survey measuring the wellbeing of 15 years olds identified the smoking rate to be 8.2%¹¹². The South East and West Sussex recorded higher rates 9% and 10.6% respectively. Identifying the reasons for the higher rates of smoking in West Sussex is not within the scope of this report. Smoking prevalence at lower tier local authority level is not measured, although it is likely that areas with higher dental decay will have higher smoking rates as both are more common in deprived areas (the most deprived areas were found to have a 4% higher rate of 15 year old smokers compared to the least deprived areas at a national level).

Levels of periodontal disease are not measured in West Sussex and so the link with smoking cannot be tested within the county. However, based on evidence it is likely that reducing the smoking rates of children will impact on the standard of oral health. Public Health England recommends that dentists are in a unique position to provide opportunistic smoking cessation advice to people coming in for dental treatment¹¹³.

7.10 Alcohol and Substance Misuse

Consuming alcohol raises the acidity in the oral cavity, making individuals more susceptible to dental erosion¹¹⁴. The issue can be further exacerbated by gastro-oesophageal reflux which is more common in individuals who consume larger quantities of alcohol. Furthermore, facial injuries are associated with alcohol consumption secondary to intoxication. As a result, the Scottish Dental Clinical Effectiveness Programme guidance has recommended that brief alcohol interventions should be delivered in dental practices.

¹⁰⁹ Cancer Research UK. Oral Cancer Statistics. <http://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/oral-cancer>. Accessed 7/12/2017

¹¹⁰ Johnson N and Bain C (2000). Tobacco and oral disease. *British Dental Journal*, 189,200-206.

¹¹¹ NHS Choices. Bad Breath (Halitosis). <https://www.nhs.uk/conditions/bad-breath/causes/>. Accessed 7/12/2017

¹¹² HSCIC 2015. Health and Wellbeing of 15 year olds in England: Smoking Prevalence – Findings from the What About YOUth? Survey 2014

¹¹³ Public Health England (2014) Delivering Better Oral Health: An evidence based toolkit for prevention. Third edition.

¹¹⁴ NHS Scotland (2012) Alcohol and Oral Health: Understanding risk, raising awareness and giving advice . https://www.hi-netgrampian.org/wp-content/uploads/2015/03/oral_health_briefing_paper.pdf

Local data measuring the consumption of alcohol in children is not available. However, children who have parents who have an alcohol or substance misuse problem are more likely to suffer poor physical and psychological health and develop addictions problems themselves in the future¹¹⁵.

Substance misuse can be defined as the use of a substance for a purpose not consistent with legal or medical guidelines¹¹⁶. Although any substance can be misused, in the majority of cases the term substance misuse refers to the inappropriate usage of cannabis, opiates (morphine, heroin, methadone, codeine) and stimulants (cocaine, amphetamines, ecstasy). People who misuse opiates are more likely to suffer from dental decay and periodontal disease compared to the general population¹¹⁷. This can be related to sugar cravings, although the analgesia effects of opiates can contribute by masking developing tooth ache which reduces the awareness of a problem. Most illicit substances can cause a degree of dry mouth and some can cause sugar cravings, both of which alter the pH in the oral cavity and contribute to dental decay¹¹⁸¹¹⁹. In addition, substance misuse can make people prone to a more chaotic lifestyle which is linked with lower dental hygiene and greater neglect¹²⁰.

There is no information available regarding the number of children in West Sussex who misuse substances or have sought support for drug addictions. A small level of insight may be gained from hospital data around the number of hospital admissions for substance misuse in people between 15 and 24 years of age. Between 2013/14 and 2015-16, 85.6 in every 100,000 15-24 year olds in West Sussex were admitted to hospital for that indication, compared to 95.4 in every 100,000 nationally¹²¹.

7.11 Migrant Children

Migrant children are those who have moved from one country or region to another, without or without their legal guardian. Those living in England are among the most vulnerable children to poor health and

¹¹⁵ Nutt, D.J., King, L.A. and Phillips, L.D. (2010). Drug harms in the uk: A multicriteria decision analysis. *Lancet*, 376, 1558-1565.

¹¹⁶ World Health Organization (WHO). *Lexicon of Alcohol and Drug Terms* Published by the World Health Organization. 2006. Available at: http://www.who.int/substance_abuse/terminology/who_lexicon/en/ [Reference list]

¹¹⁷ Scheutz F. (1984). Five year evaluation of a dental care delivery system for drug addicts in Denmark. *Community Dent Oral Epidemiol* 12: 29-34.

¹¹⁸ Zador, D., Lyons Wall, P. M. Webster, I. (1996). High sugar intake in a group of women on methadone maintenance in South Western Sydney, Australia. *Addiction*. 91: 1053-1061

¹¹⁹ Shekarchizadeh, H., Khami, M. R., Mohebbi, S. Z., Ekhtiari, H., Virtanen, J. I. (2013). Oral Health of Drug Abusers: A Review of Health Effects and Care. *Iran J Public Health*. 2013 Sep; 42(9): 929-940.

¹²⁰ British Dental Association (2003) *Dental Care for Homeless People: BDA policy discussion paper* December 2003

¹²¹ Hospital Episode Statistics 2017. <https://fingertips.phe.org.uk/profile-group/child-health/profile/child-healthyongpeople/data#page/3/gid/1938132988/pat/6/par/E12000008/ati/102/are/E10000032/iid/90808/age/156/sex/4>

development¹²². The most susceptible of these are Unaccompanied Asylum Seeking Children (UASC) who have migrated to the UK alone and are under the care of the Local Authority. There has been a significant increase in the number of UASC in England, from 2050 in March 2014 to 4210 in March 2016¹²³. Dental decay is a significant health risk for migrant children, with the Faculty of Public Health advising public health leaders that dental problems are “commonly reported” among refugee and asylum-seeking populations¹²⁴. Although research around oral health in this group is limited, dental decay is believed to be more common as a result of poor living conditions and a lack of dental services being available. One paper which reviewed the oral health among asylum seekers in refugee camps in Finland highlighted the consumption of refined sugars as a contributing factor, as humanitarian organisations give sweetened drinks and candy to residents¹²⁵. They also laid attention to the lack of toothbrushes and toothpaste being available. The number of migrant children is not measured nationally or in West Sussex. However, a member of the LDC revealed that they find themselves treating more migrant children in recent years. They also claim that the level of oral health appears to be worse compared to the general population of children who they treat (*Appendix 7*).

7.12 Gypsy, Roma and Traveller Communities

There is little research available around the oral health needs of the Gypsy, Roma and Traveller communities, either in adults or children. However, the attendees of the oral health needs assessment focus event highlighted this community as an at-risk group for poor dental health in the county (*Appendix 7*). In 2010, West Sussex County Council interviewed the Traveller community as part of a Health and Social Care Needs Assessment and they reported that “missing teeth” was a health issue which they experience¹²⁶. The Equality and Human Rights Commission found that the group are “significantly disadvantaged in accessing dental care and oral health, due to the inability to obtain

¹²² National Children’s Bureau (2016). Delivering the Healthy Child Programme for young refugee and migrant children. Available:
https://www.ncb.org.uk/sites/default/files/field/attachment/delivering_hcp_for_young_refugee_and_migrant_children.pdf

¹²³ ADCS (2016). Unaccompanied Asylum Seeking and Refugee Children.
http://adcs.org.uk/assets/documentation/ADCS_UASC_Report_Final_FOR_PUBLICATION.pdf

¹²⁴ National Children’s Bureau (2016). Delivering the Healthy Child Programme for young refugee and migrant children. Available:
https://www.ncb.org.uk/sites/default/files/field/attachment/delivering_hcp_for_young_refugee_and_migrant_children.pdf

¹²⁵ Singh. H., Scott. T., Henshaw. M., Cote. S., Grodin. M & Piwowarczyk. L. (2008). Oral Health Status of Refugee Torture Survivors Seeking Care in the United States. *Am J Public Health*. 2008 December; 98(12): 2181–2182.

¹²⁶ WSCC JSNA (2010). Health and social care needs of Gypsies and Travellers in West Sussex.
<http://jsna.westsussex.gov.uk/wp-content/uploads/2017/01/Health-and-social-care-needs-of-Gypsies-and-Travellers-in-West-Sussex-2010.pdf>

regular check-ups and ongoing treatment". Local health visitors found a lack of awareness of good dental health amongst Gypsies and Travellers¹²⁷.

¹²⁷ WSCC JSNA (2010). Health and social care needs of Gypsies and Travellers in West Sussex.
<http://jsna.westsussex.gov.uk/wp-content/uploads/2017/01/Health-and-social-care-needs-of-Gypsies-and-Travellers-in-West-Sussex-2010.pdf>

8 Recommendations

The West Sussex Oral Health Needs Assessment has provided some insight into the standard of oral health in the children of West Sussex. It has also given an overview of the current dental services available and the demand and accessibility of these. The most noticeable discovery is that based on the recent national dental surveys in five year old children, obvious, untreated dental decay (d_{3t}) appears to have worsened in West Sussex. There are a number of possible explanations to explain this:

- *Overall dental decay has worsened.* If this was the case, it would be reasonable to assume that the d_{3mft} and rate of dental decay to also be higher (which was not the case). However, this data has been skewed at a county level by less than optimal responses to the surveys from some of the district and boroughs.
- *Inadequate availability of dental services.* If the service is not available for a child to access when they need dental care, this would explain the increase in untreated tooth decay.
- *Barriers to accessing dental services.* If the services are available but the children do not access them. This can be due to a number of reasons discussed in some depth in other sections of this report: fear, confidence issues, language barriers, mistrust, perceived lack of importance and poor education around the warning signs of developing tooth decay.

The needs assessment has also investigated the risk factors and wider determinants that are associated with oral health through a review of the available evidence. Unfortunately, in the majority of cases, it is not possible to attribute these determinants to oral disease locally as the data has not been collected to make an association.

The outcomes of this report have helped to generate priority areas for a future West Sussex Oral Health Improvement Strategy. They are as follows:

- **A focus on improving oral health in the deprived areas of West Sussex:** High levels of deprivation have been highlighted as a strong risk factor for poor oral health. Any future oral health interventions would have the greatest benefit if there was a focus around the areas of West Sussex with the highest levels of deprivation.
- **A focus on addressing the barriers to access to dental services:** Children accessing primary dental services can be improved. The extent of improvement and the barriers to access appear to vary across the county. Therefore, a targeted approach to reach out to vulnerable groups and at-risk areas is required, to enable more children to engage in their local dental services and help prevent the progression of treatable dental issues. Visiting a dentist should be part of normal behaviour; like having a haircut or going for vaccinations. Part of the strategy may be to alter the views of parents as they often determine whether their child visits a dentist.
- **A focus on improving oral health in children with Special education needs (SEN):** There is a suggestion that there is higher level of substantial plaque in SEN children in West Sussex compared to the rest of the South East of England. This may be an indicator of inadequate tooth brushing and/or inadequate exposure to fluoride toothpaste. There also appears to be a higher than average prevalence of children with special education needs in West Sussex. Children with special education needs tend to have greater anxieties around seeing a dentist and so are more likely to require extraction under GA. Therefore, the risks associated with dental procedures are higher in this vulnerable group.
- **A focus on improving the eating habits of children and young people:** Vulnerable groups have poorer oral health compared to the general population because they have unhealthy diets. High

levels of sugary and acidic foods and drinks increase the risk of dental decay. Furthermore, it can be the timings of eating these foods that exacerbate the damage to teeth. A focus around eliminating harmful habits and promoting positive ones are key to improving the oral health of vulnerable groups and the general population of children and young people in West Sussex.

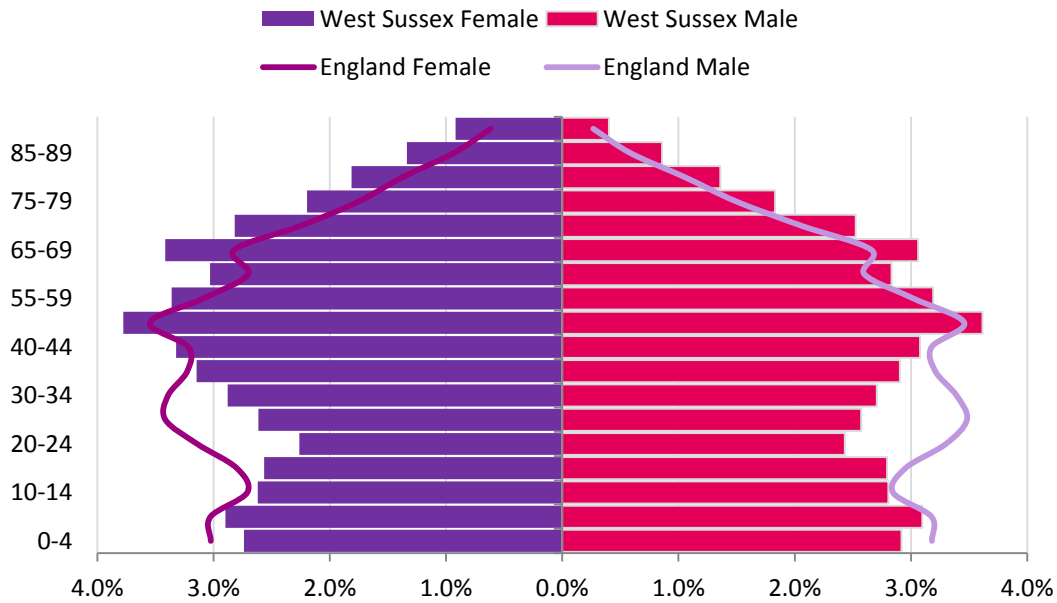
- **A focus on improving surveillance of oral health in vulnerable groups:** In order to further improve the level of oral health in West Sussex, the groups most at risk of oral disease need to be identified. In order to achieve this, surveillance of dental decay would need to be greater than it currently is, with an emphasis on vulnerable groups.
- **A focus on reducing tooth extractions under general anaesthetic:** West Sussex children with the most severe dental decay are being exposed to the additional risk of having a general anaesthetic. By putting the above recommendations into action, dental decay can be reduced and dental procedures currently being performed in the acute trust can be shifted into the primary care setting.

The aim of the West Sussex Needs Assessment is to inform commissioners and stakeholders of the current standard of oral health in children and young people and the provision of dental services. In addition, it aims to emphasise the fact that **Oral Disease is Preventable**. Following the recommendations and using them to inform a strategic approach to oral health improvement will ensure a universally proportionate allocation of resources in a way that provides the most benefit to the children of West Sussex.

9 Appendices

Appendix 1: Further information on the demographics of West Sussex

Comparing the age-gender profile of the population in West Sussex and England



Source: ONS Mid-Year Population Estimates 2016

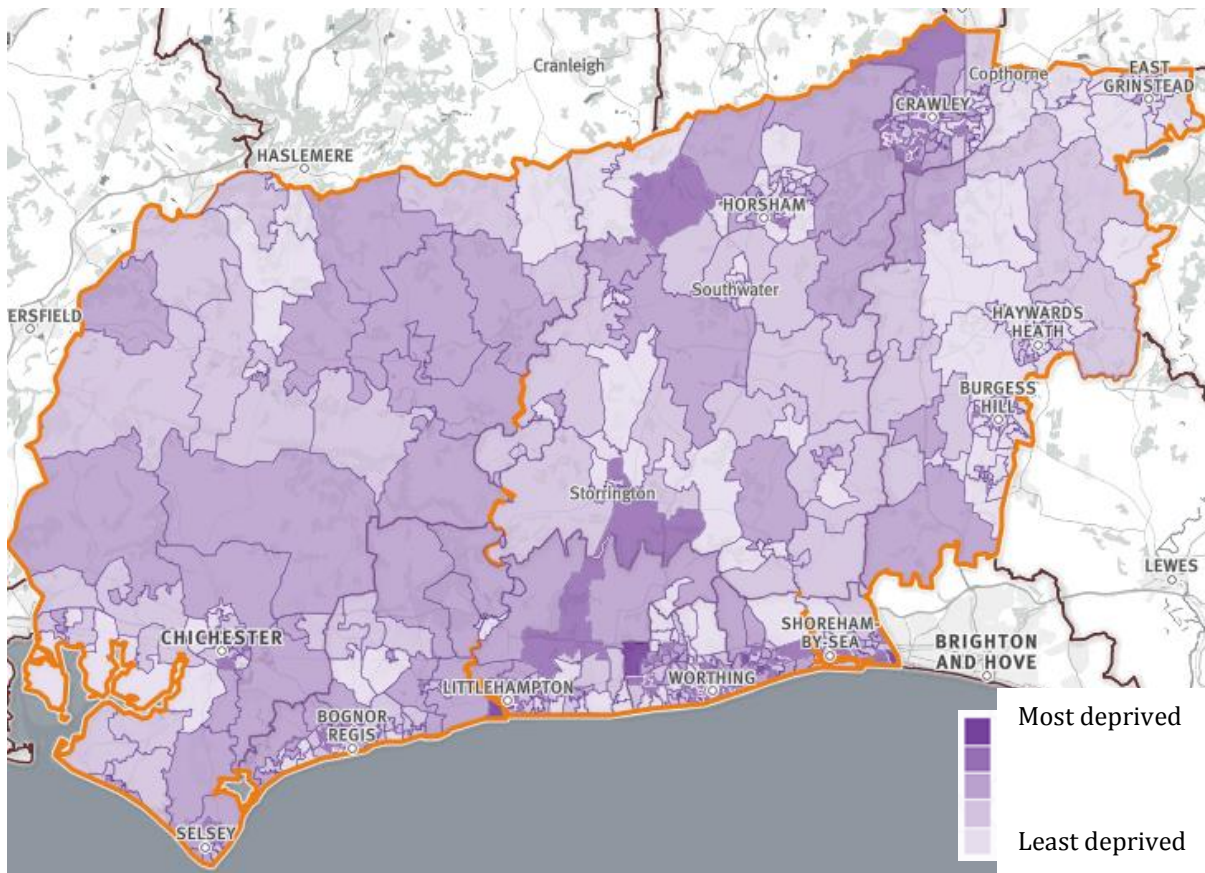
The population projections for West Sussex between 2015 and 2025 by age groups

Age	Population change West Sussex			
	2015	2025	Number	%
Under 16	156,255	166,481	10,226	6.5%
16-29	120,314	121,378	1,064	0.9%
30-44	152,485	156,842	4,357	2.9%
45-64	235,281	249,800	14,519	6.2%
65 and over	186,901	229,882	42,981	23.0%
85 and over	28,975	40,002	11,027	38.1%
All	836,256	907,416	82,930	9.9%

Source: WSCC population projections 2016

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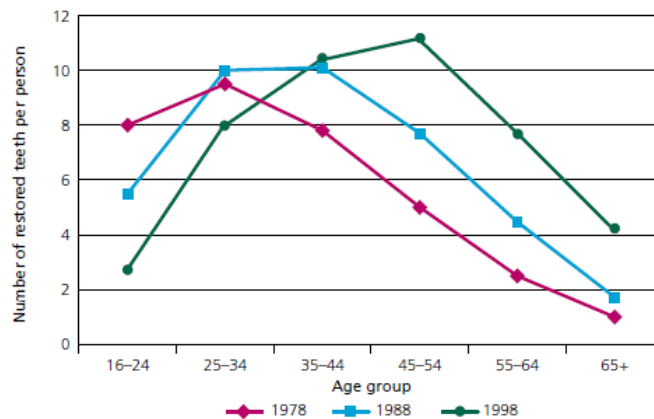
The distribution of deprivation in West Sussex based on the Index of Multiple Deprivation (IMD) 2015



Source: English Indices of Deprivation 2015

Appendix 2: Further information on the standard of oral health and the methodology of the national surveys.

The “Heavy Metal” Wave¹²⁸



Source: The Steele Report 2009

¹²⁸ NHS England (2009). NHS dental services in England An independent review led by Professor Jimmy Steele. http://www.sigwales.org/wp-content/uploads/dh_101180.pdf

Methodology of the national oral health surveys in five year olds.

The national surveys measuring the oral health in five year olds which took place in 2008/09, 2011/12, 2014/15 and 2016/17 use the same methodology.

Sampling

The five year old children recruited for the surveys were all from state funded primary schools. Children attending special education needs schools and privately funded schools were not included. At the time of the examination, the children must have reached the age of 5 (and not be 6 years old). A minimum sample size of 250 children per local tier local authority were required from a minimum of 20 schools.

Consent

Positive consent was required following guidance from the Department of Health. This differed from surveys conducted prior to 2008 where parents were required to opt their children out of the study if they did not want them to be included. 300 children were randomly selected from each lower tier local authority with a view of achieving a minimum sample of 250. The procedure for obtaining consent included:

- Sending each parent and invitation letter explain the nature and purpose of the survey
- Sending each parent a form which they complete to consent or refuse their child being involved in the survey.
- Distribution of a second letter with the consent form for those who did not respond after the first contact.

In order to maximise the number of children recruited, it may have been necessary to adopt additional strategies. These include:

- identifying schools where consent return is known to be poor and providing additional support
- recruiting a named person at a school who can speak with parents and follow up when forms are not forthcoming. This might be the school nurse, family liaison worker, pastoral care worker, classroom assistant or parent volunteer
- giving parents prior warning of the survey and seeking their support via posters, an insertion in the newsletter, postcards or attendance at parents' evening
- posting letters and consents to home addresses with stamped, addressed envelopes for return
- handing letters and consent forms directly to parents at pick up time

General conduct of the survey

Following random selection of the schools, the relevant head teachers were contacted and had the aims and objectives of the study explained to them. Dates for examination were set at a mutually convenient date and time. A sample of children were randomly allocated from a list of all age eligible children from the school. A request for consent was then distributed to the parents of the selected pupils.

Conducting the clinical examination

The overall responsibility for planning and delivering the survey lies with PHE. Fieldwork for the survey was carried out by community dental survey (CDS) staff. The examinations were carried out by registered dentists who had been trained to a national standard by regional standard examiners/trainers, using the approved BASCD training pack. Examiners are calibrated annually to

maintain their skills. The dental examinations took place in the school setting in an appropriate environment.

In most cases, two support workers accompany the examining dental clinician. One worker records the codes and the other provides support of the process (liaising with staff assisting the examination and fetching the children).

Subjects were required to remain supine during the examination. The same equipment and instruments were used in the examination across the country to maximise the consistency of the process. The teeth of the children were not allowed to have been brushed that day. Only details of decay in primary teeth were to be recorded during the survey. Probes were only used for cleaning debris from the tooth surfaces to enable satisfactory visual examination of the teeth. Each child is assessed for:

- Oral cleanliness: This involves the assessment of plaque which can indicate level of toothbrushing activity and exposure to fluoride toothpaste. Probing is not used which means only easily visible plaque is recorded (upper canine to upper canine). Some debris is ignored if it is straight after lunch or break time.
- Dentition status: Examination of the condition of the tooth surface using the FDI 2 digit tooth numbering system.
- Teeth present and absent: Teeth who are missing will have been assumed to be extracted due to caries unless there is unquestionable evidence that it is missing for other reasons.
- Obscured teeth: The obscured surfaces of teeth are assumed normal unless there is evidence of disease on the other side of the tooth (it is then given the same code).
- Abscess/sepsis

Data collection

Data will be collected and processed using the Dental Public Health Epidemiology Programme (DPH EP) format [5YR2015] with the Dental SurveyPlus 2 (DSP2) version 2.1 release 3. The format is available electronically from: www.nwph.net/dentalhealth under the relevant survey link.

Confidentiality

The fieldwork team ensure that all data is handled with full regard to confidentiality and data protection legislation. Access to all data is password protected.

Oral Health in West Sussex: Additional data

Level of dental decay in England, South East and West Sussex based on the last three national oral health surveys in five year olds.

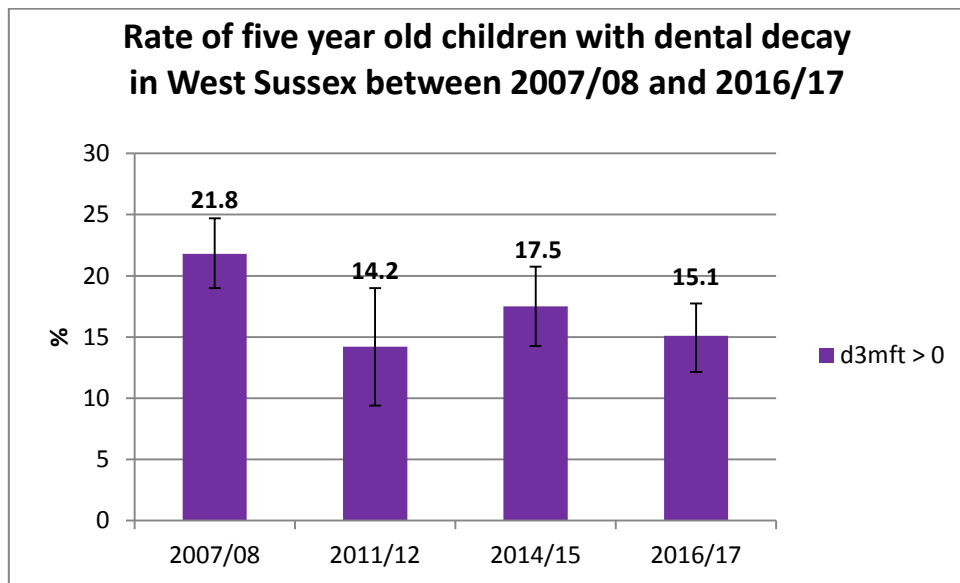
	% population of sample examined				Mean d3mft				Mean d3t				% d3mft>0				% ECC	
	16/17	14/15	11/12	07/08	16/17	14/15	11/12	07/08	16/17	14/15	11/12	07/08	16/17	14/15	11/12	07/08	16/17	14/15
																	7	5

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England	58.9	63.1	65.2	66.8	0.78	0.8	0.94	1.1	0.6	0.7	0.73	0.87	23.3	24.7	27.9	30.9	5.1	5.6
South East	64.1	63	66.4	74.4 *	0.5	0.6	0.67	0.72 *	0.4	0.5	0.5	0.52 *	16.4	20	21.2	23.5 *	3.3	3.6
West Sussex	*	61	57.9	64.5	0.4	0.4	0.42	0.72	0.3	0.4	0.17	0.5	15.1	17.5	14.2	21.8	2.3	3.7

Source: Oral health survey of five-year old children 2007/08, 2011/12, 2014/15 and 2016/17.

Comparing the percentage of five year old children with dental decay in West Sussex between 2007/08 and 2016/17.



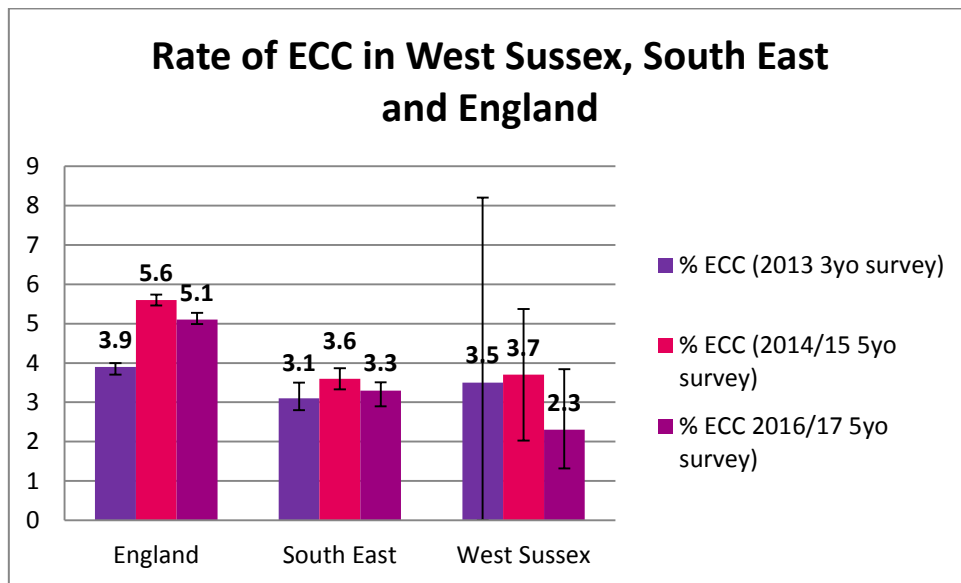
Source: Oral health survey of five-year old children 2007/08, 2011/12, 2014/15 and 2016/17.

Early Childhood Caries (ECC)

ECC is a more aggressive form of dental decay which affects the upper incisors and is associated with long term bottle use with sugary drinks. Although the data extracted from the 2013 survey of three years olds is too small to be valid, the rate of ECC in West Sussex in the 2014/15 and 2016/17 surveys was significantly less than the national rates (see below).

West Sussex Oral Health Needs Assessment in Children and Young People 2018

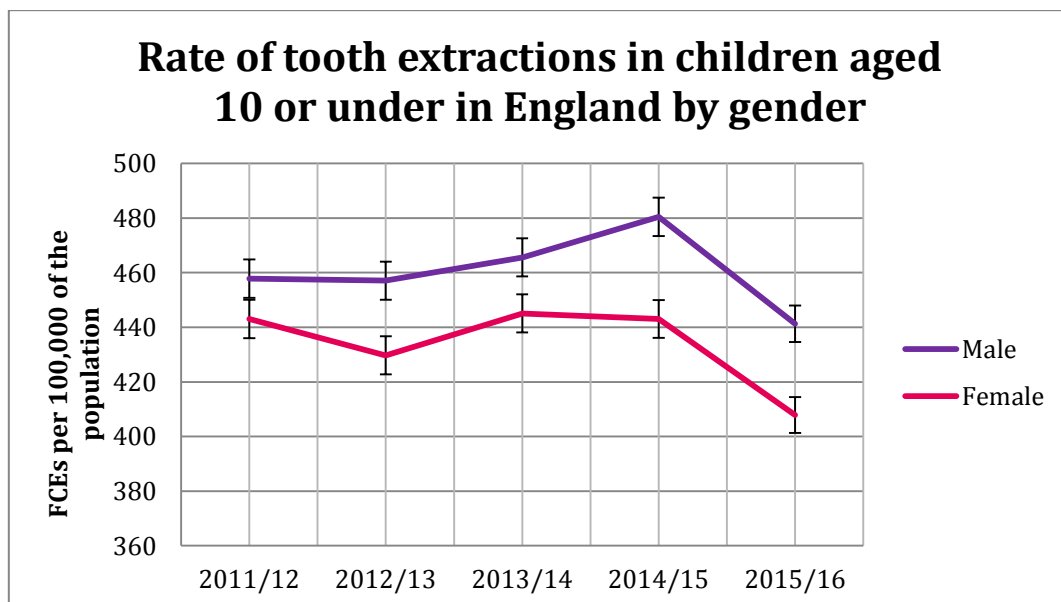
The percentage of Early Childhood Caries (ECC) between West Sussex, South East and England, according to data from the 2014/15 and 2016/17 oral health surveys of five year olds and 2013 oral health survey of three year olds.



Source: Oral health survey of five-year old children 2014/15 and 2016/17 and three-year old children 2013.

Appendix 3: Further information on dental activity in West Sussex

The rate of tooth extractions in children aged 10 or under between 2011/12 and 2015/16 in England by gender.

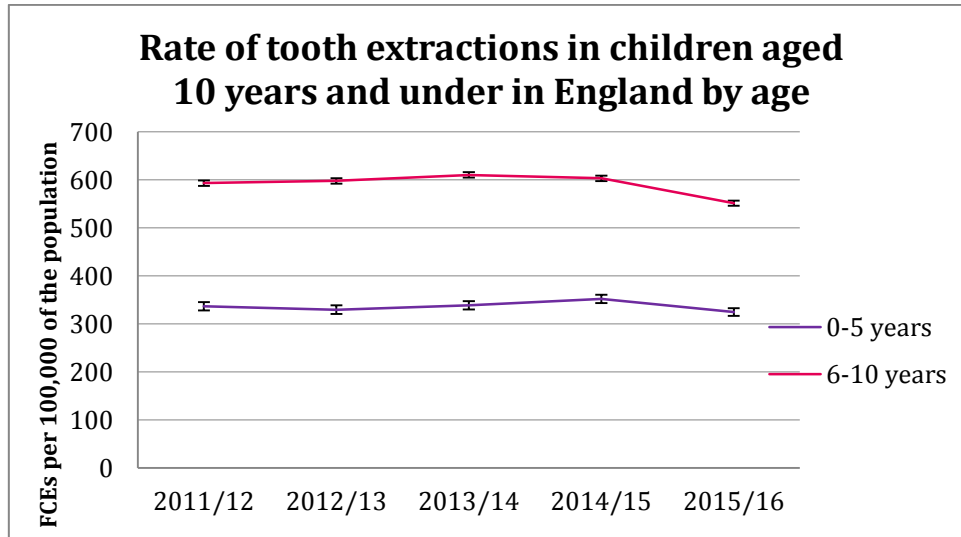


Source: Hospital Episode Statistics (HES) - National Statistics. ONS mid-year population estimates (based on 2011 Census)

West Sussex Oral Health Needs Assessment in Children and Young People 2018

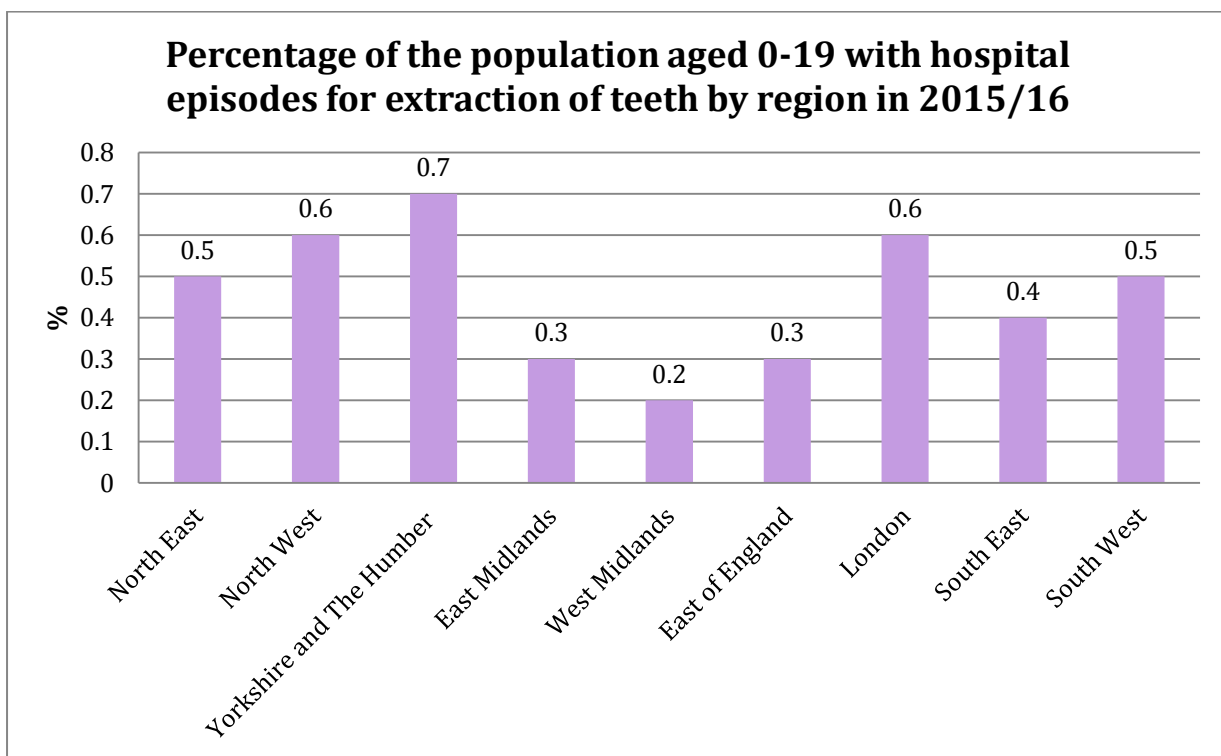
Separating the data by age demonstrates that extractions are more common in older children, presumably because their teeth have had more exposure to the contributors to dental decay.

Rate of tooth extractions in children aged 10 years and under between 2011/12 and 2015/16 in England by age.



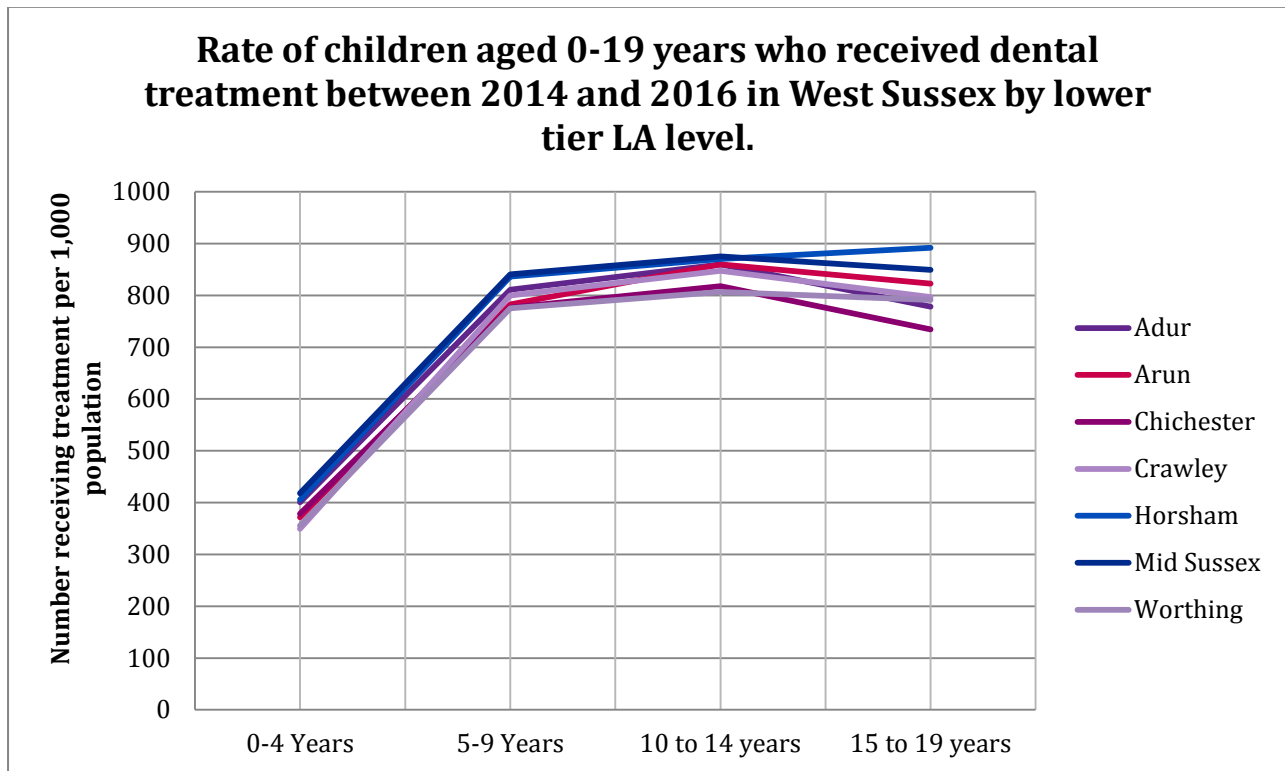
Source: Hospital Episode Statistics (HES) - National Statistics. ONS mid-year population estimates (based on 2011 Census)

The percentage of the population aged 0-19 years with hospital admissions for extraction of teeth in 2015/16 by region



Source: Hospital Episode Statistics: Extractions data, 0-19 year olds, 2015/16

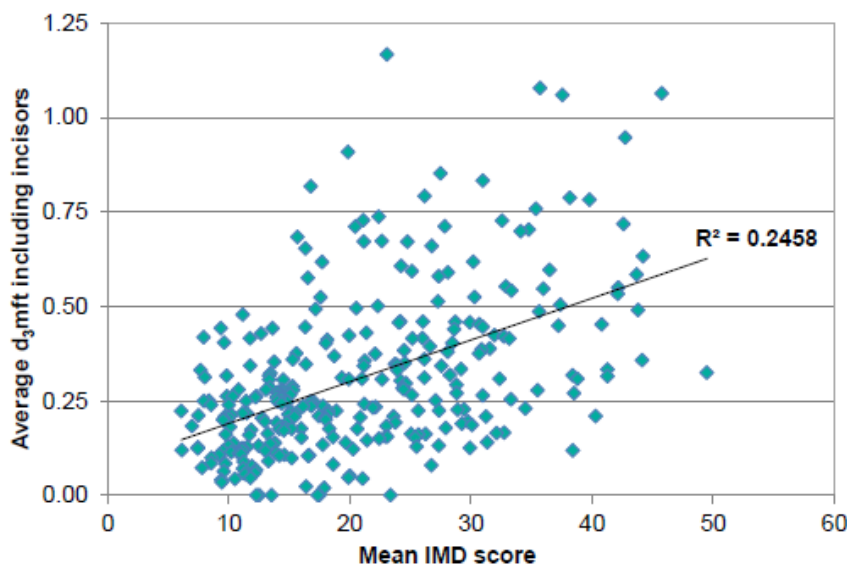
The rate of children aged 0-19 years who received dental treatment between 2014 and 2016 in West Sussex by lower tier local authority level.



Source: ONS 2011

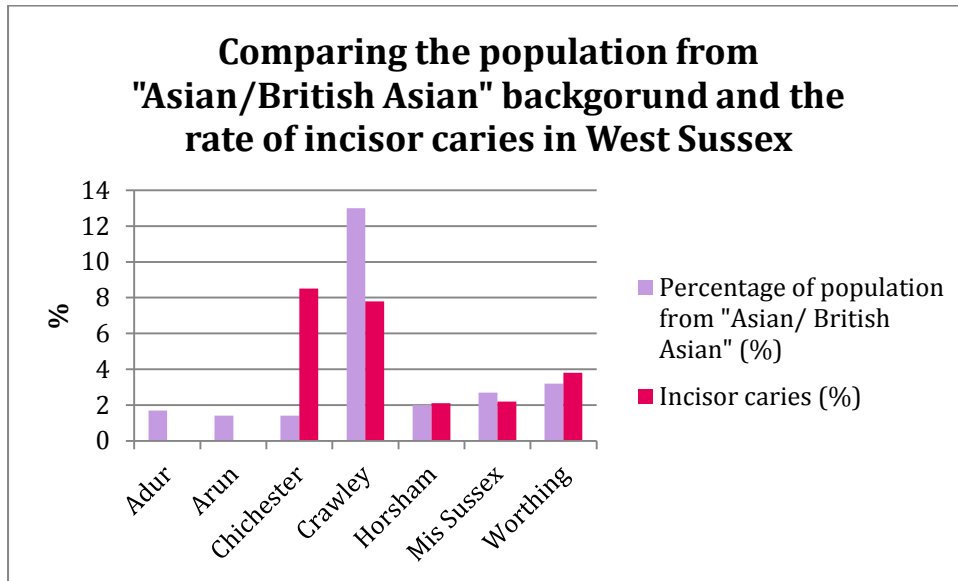
Appendix 4: Additional data around the risk factors associated with poor oral health.

Comparing the mean d₃mft among three year old children and IMD score within lower tier local authorities in 2013.



Source: PHE (2013). Oral health survey of three-year-old children 2013.

Percentage of the population from "Asian/British Asian" background and the rate of incisor caries within each lower tier local authority in West Sussex.



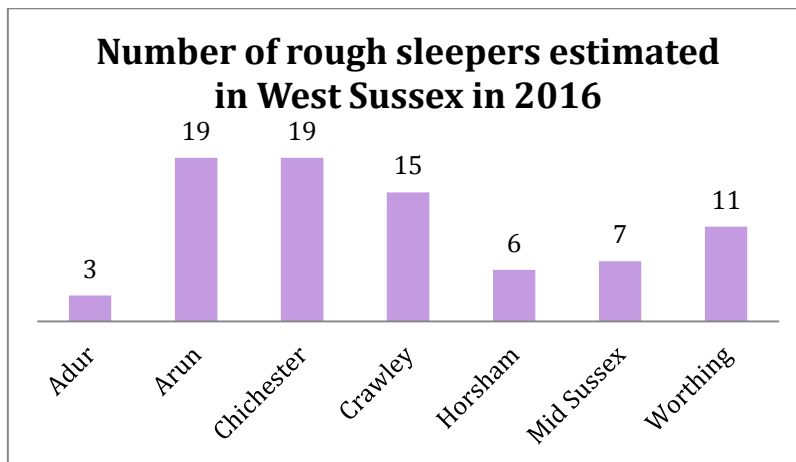
Sources: ONS 2011 Census, Oral health survey of five-year-old children 2015

Percentage of children in England, South East and West Sussex requiring SEN and being educated in special education schools.

	Proportion of children requiring SEN (%)	Proportion of children being educated in special education schools (%)
England	14.35	1.29
South East	14.11	1.42
West Sussex	16.61	1.45

Source: Department of Education

Number of rough sleeps in each lower tier local authority in West Sussex in 2016.



Source: Homeless Link 2016

Appendix 5: Further information around the provision of dental services in West Sussex

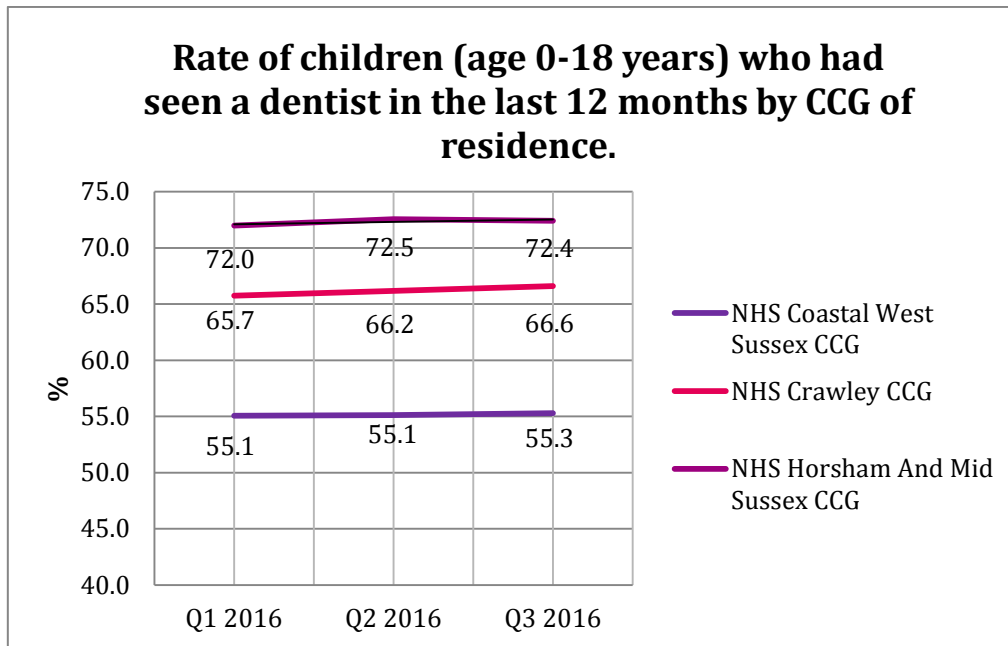
An overview of how bandings and UDAs are allocated to each dental procedure

<p>Band 1 (1 UDA) Diagnosis, treatment planning and maintenance Examination, x-rays, scale and polish, preventative work, for example an assessment of a patient’s oral health, minor changes to dentures.</p>
<p>Band 2 (3 UDAs) Treatment Simple treatment, for example fillings (including root canal treatment), extractions and periodontal (gum) treatment.</p>
<p>Band 3 (12 UDAs) Complex treatment that includes a lab element, for example bridges, crowns and dentures (excludes mouth guards).</p>

Source: 2010 Professional Dental Services

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The rate of children who had seen a dentist in the past 12 months over the last three quarters by CCG.



Source: NHS Digital 2016

The reasons for not seeking an NHS dental appointment in the last two years by CCG

	Not needed to visit a dentist	No longer have any natural teeth	Not had time to visit a dentist	Don't like going to the dentist	Didn't think they could get an NHS dentist	On a waiting list for an NHS dentist	Stayed with their dentist when changed from NHS to private	Prefer to go to a private dentist	Find NHS dental care is too expensive
England	22%	6%	2%	7%	12%	1%	14%	24%	4%
NHS Coastal West Sussex CCG	13%	4%	2%	5%	13%	0%	21%	33%	3%
NHS Crawley CCG	25%	3%	2%	9%	13%	0%	12%	23%	6%
NHS Horsham and Mid Sussex CCG	14%	3%	2%	5%	14%	1%	21%	33%	2%

Source: GP Patient Survey 2017

Appendix 6: Further information around the activity of dental services in West Sussex

Level of dental activity in primary care in 2016/17 in West Sussex at lower tier local authority level by age

	UDAs per 100,000 population (0-2 year olds)	UDAs per 100,000 population (3-5 year olds)	UDAs per 100,000 population (6- 12 year olds)	UDAs per 100,000 population (13-18 year olds)
Adur	34,818	110,066	183,008	163,284
Arun	34,894	119,060	189,243	182,423
Chichester	32,177	94,594	164,977	163,888
Crawley	40,918	139,081	214,722	206,036
Horsham	37,835	123,878	188,852	178,094
Mid Sussex	40,884	166,321	246,132	207,107
Worthing	31,015	106,750	163,942	163,639
West Sussex	36,660	126,497	197,067	183,402
England	39,603	121,751	193,742	166,817

Source: NHS BSA 2017

UDA per patient in West Sussex and England by age in 2016/17 within each lower tier local authority

	UDA per patient (0-2 year olds)	UDA per patient (3-5 year olds)	UDA per patient (6-12 year olds)	UDA per patient (13- 18 year olds)
Adur	1.2	1.5	2.0	2.3
Arun	1.2	1.5	2.0	2.2
Chichester	1.2	1.4	2.0	2.1
Crawley	1.2	1.6	2.0	2.1
Horsham	1.2	1.4	1.8	1.9
Mid Sussex	1.2	1.6	2.0	2.1
Worthing	1.2	1.4	1.8	2.0
West Sussex	1.2	1.5	1.9	2.1
England	1.2	1.6	2.1	2.2

Source: NHS BSA 2017

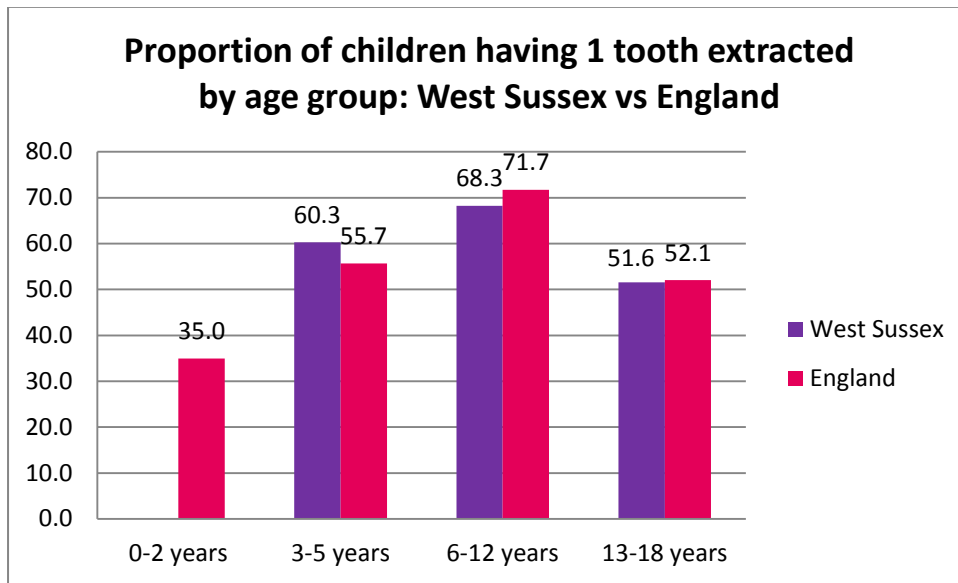
West Sussex Oral Health Needs Assessment in Children and Young People 2018

Dental procedures in children in West Sussex and England in primary care in 2016/17: breakdown by age.

Item on FP17	West Sussex rate per 100 FP17s (0-2 years)	England rate per 100 FP17s (0-2 years)	West Sussex rate per 100 FP17s (3-5 years)	England rate per 100 FP17s (3-5 years)	West Sussex rate per 100 FP17s (6-12 years)	England rate per 100 FP17s (6-12 years)	West Sussex rate per 100 FP17s (13-18 years)	England rate per 100 FP17s (13-18 years)
Examination	97.4	96.9	97.0	95.0	95.5	93.3	95.6	93.2
Scale and Polish	1.3	0.5	2.7	1.3	9.0	6.8	22.5	22.2
Fluoride Varnish	8.4	7.5	34.3	40.1	46.0	50.3	27.3	30.8
Fissure Sealants	0.0	0.0	0.3	0.2	2.8	2.1	2.7	1.9
Radiographs	0.2	0.1	1.1	0.7	4.4	4.2	16.8	17.9
Endodontic Treatment	0.0	0.0	0.0	0.0	0.1	0.1	0.6	0.8
Permanent Fillings and Sealant Restorations	0.6	0.8	9.6	12.5	19.4	23.4	19.4	21.7
Extractions	0.0	0.1	2.2	1.5	6.1	5.9	4.4	4.7
Crowns	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4
Acrylic upper dentures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Acrylic lower dentures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Metal upper dentures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Metal lower dentures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Veneers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Inlays	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Bridges	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Antibiotic items prescribed	0.2	0.1	0.6	0.6	0.6	0.7	0.6	0.8
Other Treatment	20.5	10.7	25.7	13.0	27.0	14.3	26.3	15.4
No clinical data	0.6	0.8	0.5	0.8	0.6	0.8	0.6	0.8
Total FP17s	9,957	779,314	31,317	2,006,948	88,345	5,567,446	59,425	3,464,510

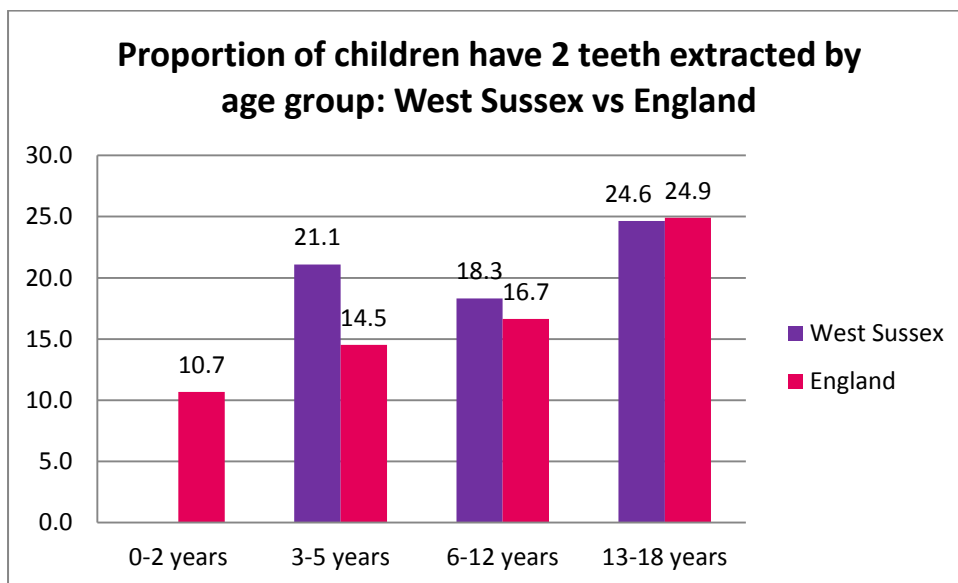
Source: NHS BSA 2017

Proportion of children aged having 1 tooth extraction in West Sussex and England in 2016/1: breakdown by age.



Source: NHS BSA 2017

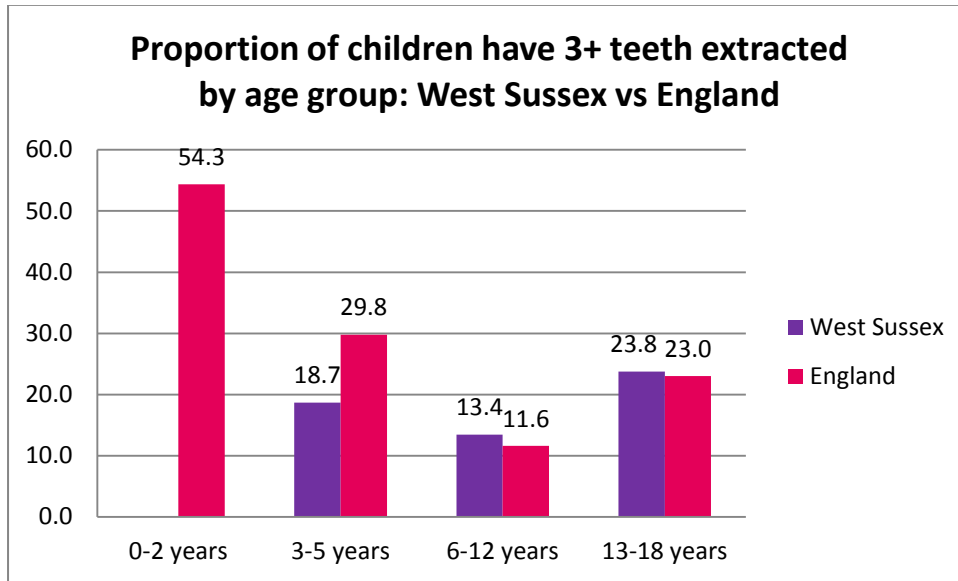
Proportion of children aged having 2 teeth extraction in West Sussex and England in 2016/1: breakdown by age.



Source: NHS BSA 2017

**West Sussex Oral Health Needs Assessment in Children
and Young People 2018**

Proportion of children aged having 3 teeth extraction in West Sussex and England in 2016/1: breakdown by age.



Sedation rates and domiciliary visits in West Sussex in 2016/17

Contract Local Authority Name	Domiciliary Visit FP17s	Domiciliary Visit FP17s rate per 100 FP17s	Sedation FP17s	Sedation FP17s rate per 100 FP17s	Total FP17s
Adur	0	0.0	49	0.4	12,387
Arun	1	0.0	25	0.1	28,863
Chichester	0	0.0	34	0.2	20,138
Crawley	0	0.0	91	0.3	30,970
Horsham	0	0.0	47	0.1	34,079
Mid Sussex	5	0.0	2,800	6.8	41,426
Worthing	4	0.0	43	0.2	21,181
West Sussex	10	0.0	3,089	1.6	189,044
England	1,310	0.0	54,321	0.5	11,818,218

Source: NHS BSA 2017

Appendix 7: Consultation with stakeholders

Consultation Period: LDC 18th April 2018

- Introduced the oral health needs assessment for children and young people and explained the areas covered within it. Explained that I am now consulting on the document and in particular, trying to obtain feedback from the dental community around the findings.
 - The Oral Health Needs Assessment was distributed to the members beforehand for them to read.
 - Explained that there were a few topics that I wanted to highlight with them and gain their input:
1. Presented *Figure 4.5*, demonstrating that untreated dental decay may have worsened in recent times. Members of the committee felt that the most likely reason for this is the small sample sizes in the survey. This has been the case since the move towards recruiting children to the epidemiological survey through positive consent. Furthermore, there was a general feeling in the group that children who are “opted in” are more likely to have dental decay as it gives children who do not visit the dentist the opportunity to have their teeth checked.
However, the group did admit that untreated dental decay in recent times could not be completely overlooked. The group mentioned an increase in the number of children from migrant families in recent years and felt this may have contributed to worsening dental decay.
 2. Presented *Figure 5.5*, demonstrating that Chichester and Worthing have overall, worse access rates in children compared to nationally. This is unexpected as West Sussex has better access rates compared to the rest of England. It was highlighted that Chichester has pockets of deprivation which may contribute to poor access. No concerns were raised around the provision of dental services in West Sussex as a contributing factor towards poor access.
 3. Presented the data around access rates in 0-2 year olds, explaining rates are lower in all West Sussex districts compared to England. One member raised an issue around dentists turning young children away from their practice. However, the issue could also be dental receptionists turning parents away due to a belief that a dental check is not required in the first couple of years of life. Another point raised was the fact that dentists may be reluctant to accept new children into their practice to avoid over-performing on their contracts. Although, I explained most areas of West Sussex significantly under-performed in their contracts in 2016/17, resulting in clawbacks.
 4. Presented *Figure 6.4*, highlighting that Crawley, Worthing and Chichester have a higher proportion of urgent banding treatment than nationally. The group informed me that these districts were the locations of the emergency dental services and so this is an expected finding.
 5. Provided each of the members with a copy of a draft of the oral health needs assessment recommendations and asked them to contact me if they would like to feedback.
- One member of the group highlighted that when reading the oral health needs assessment, they noticed that the number of fluoride varnishings performed was high in West Sussex. They wanted to make known that this is unlikely to be because of an increased need, but because there is a push for dentists to perform these in all treatments as a preventative measure.

Consultation Period: Focus event 24th April 2018

- Attendance from a number of stakeholders including Public Health, the dental community, Integrated Prevention and Earliest Help (IPEH), Oral Health Promotion at SCFT and wellbeing hubs.
- Presented the core themes of the oral health needs assessment for children and young people, including the proposed recommendations.
- Raised a number of questions around the findings of the needs assessment which I was keen to gain views around. The group broke into small groups to discuss the questions:

Question 1: It appears that untreated dental decay has worsened in recent years. Does this feel right with you? Why do you think this might be the case?

- The data may be inaccurate. Positive consent means that parents who have children who have not seen the dentist recently use it as an opportunity for an examination. This means the level of dental decay may appear worse.
- The sample may have been picked based on catching areas with worse dental decay. This was challenged as either not being an issue or only in a very small sample. This was identified in the 16/17 survey and not any of the data which has been published.
- Assuming that untreated dental has worsened, an issue was raised around dentists not promoting capacity at their practice when it becomes available.
- The message people relay back is “the dentist does not want to see me”.
- Support workers deliver key oral health promotion messages but in the context of more complex social issues, dental health is not a top priority for families.
- Missed appointments in children are common. It is not clear why parents plan a visit and then decide not to attend.
- Important to have a conversation early.

Question 2: Are the risk factors/wider determinants outlined in the needs assessment correct? Are any being missed? Do we have any local data to support these?

- SEN highlighted as a priority group. Especially as they have greater anxieties about seeing a dentist so they are more likely to require extraction under GA. We therefore need to focus on them having no dental decay.
- Diet instead of obesity. Could argue this because obesity does not have an association with dental decay in the South East. Also, it does not take into account things like acidic foods.
- Anecdotal evidence seeing people in their mid 20's with poor oral health.
- Migrants
- Parent and carers views on the importance of oral health in a risk factor. This is strengthened by the fact that on average 50% of adults see a dentist and 58% of children. Children tend to see a dentist if their parents do.
- Travelling community.
- Being “Looked after” is not a risk factor in itself. The most common reason for oral health is dental neglect before entering care.
- Parents with mental health problems: This risk factor is difficult to quantify as data is not available. This is an area that needs to be explored more.

- Domestic violence: Again, difficult to quantify but is an area which should be explored further in the future.

Question 3: Does the summary of dental services in West Sussex seem correct? Are there any gaps or issues you have noticed in the provision of dental services in the county?

- Parents and their views
- Reluctance of schools to get involved. Heard this can be an issue when trying to promote good oral health messages. However, the oral health promotion team did not find this to be a big issues.
- Cost: even though children are free, dental practices may make their parents register privately
- Clarity of the offer. Was raised that the maximum that can be charged for a treatment is approx £250. Are people aware of this or do they not seek treatment because they think it will cost them thousands? Also, dentists are not always clear what the treatment programme will be.
- Previous bad experiences.
- Rural Chichester may be an issue for access but people go elsewhere (different county).
- Connection to social care could be improved
- Care leavers don't go because they have to pay all of a sudden (they do have a pot of money for health but not sure if this is being taken advantage of).
- In general, children tend to register with a dentist close to home and not close to school. This is because children start seeing a dentist before going to school and build that relationship. Orthodontics tends to be closer to home.
- The culture needs to be changed, visiting the dentist needs to become normal behaviour.

Question 4: Why are access rates in the under 2's lower than nationally?

- With the previous contract, seeing children under 2 was almost discouraged because dentists received hardly any money for doing it (less than £1).
- In the past, dentists have gone through disciplinary reviews for seeing and taking money from children too young to have teeth. Thought to be some kind of fraud and earning money for no work. This has created a culture within the dental profession where they do not want to see young children because they do not want to get into trouble.
- Sometimes shock tactics should be used to provide a hard-hitting message.

Question 5: Is the summary of oral health promotion in West Sussex correct? Is there anything missing?

Oral health promotion team send updates to the IPEH team on new documents and resources.

- The oral health promotion team deliver education on good oral health practices to foster carers three times a year.
- Sugar reduction toolkit
- Dentists would be willing to help with oral health promotion but not doing much at the moment.
- Hubs are not getting any info and not being utilised to help deliver key messages (they can use their social media and engage with parent groups)
- The gaps are engaging school nurses and attending the SEN information days (the oral health promotion team used to attend to provide advice but no one goes since their contract was not reviewed)

Question 6: Are the priority areas highlighted in the needs assessment correct? Is there anything else that should be added?

- Switch sugar to diet to capture more (acidic foods).
- Those moving house
- Tooth brushing: There is no clarity of messages. The generic message is once before bed and one other time. However, it depends on what you are eating. If it is something with sugar, it is good to brush your teeth soon after but if it is acid you do not want to brush that into teeth. Therefore, children should be seeing dentists who can tailor specific advice to the patient.
- Parents

Future ideas for an oral health improvement strategy

- Patients with alcohol and substance misuse problems have higher dental complexity needs as well as social difficulties accessing care. Restoring mouth function and aesthetics can have a hugely positive effect. A pathway for people recovering from substance/alcohol misuse would be great
- Better communication between CAMHS and dental services (either GDS or SCD)
- Oral desensitisation programmes in SEN schools
- Using Family Assist
- School breakfast clubs: What do they serve? Can they be used in a strategy
- Orthodontics should be used to deliver a strategy
- Better partnership working
- Need to involve the practice safeguarding lead.
- Should oral health be used as an indicator for parental care?
- Looking for a charity contributor for supply child toothbrushes
- Involvement of MASH (Multi Agency Safeguarding Hub)
- Can an oral health message go into bounty packs?
- Dripping tap messages: need consistent messages from all so oral health promotion is reinforced and joined up.