



Public Health  
England

Protecting and improving the nation's health

# West Yorkshire oral health needs assessment 2015

This document details the oral health of the people of West Yorkshire and describes the services currently commissioned to meet those needs. It identifies key issues that should be addressed in future oral health and dental commissioning strategies.

## About Public Health England

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# Executive summary

## Introduction

Despite improvements in oral health in England over the last forty years, many people continue to experience the pain and discomfort associated with oral diseases, which are largely preventable. There are socio-demographic variations in the distribution and severity of oral diseases with vulnerable groups experiencing significant oral health problems.

This oral health needs assessment describes the oral health of people living in West Yorkshire and the services currently commissioned to meet those needs. It identifies the key issues that should be addressed in future oral health improvement and dental commissioning strategies in order to improve oral health and reduce oral health inequalities in the area.

## Population and demographics

- West Yorkshire is the most densely populated area of Yorkshire and The Humber with 42.1% of the population (2.2 million) and highest population density in Leeds, Bradford and Kirklees
- the population profile of West Yorkshire is broadly similar to England but with higher proportion of under 30-year-olds and lower proportions of over 45-year-olds than the England average
- over the next ten years there is a projected population growth in all West Yorkshire local authorities ranging of about 5 to 6 % the primary reason due to births being greater than deaths
- ethnic diversity in Leeds is similar to the England average but Wakefield and Calderdale have higher proportions of White ethnic groups. Bradford and Kirklees have lower proportions of White ethnic groups and much higher proportions of Asian ethnic groups and this is reflected in the higher proportions of school children from ethnic minority groups found in these two local authorities
- the proportions of the population living in the lower two quintiles of deprivation is higher than the England average ranging between 46.7% to 55.7% in Calderdale, Leeds, Kirklees and Wakefield; however in Bradford an even higher proportion of the population (63.3%) fall into the lower two quintiles of deprivation. Compared to the England average a significantly higher proportion of children live in poverty in Bradford, Leeds and Wakefield

- compared to other West Yorkshire local authorities Bradford (31.0%) and Leeds (19.3%) have the highest proportion of their population living in LSOAs which fall into the most deprived deprivation decile
- life expectancy is lower than the England average. In addition men living in the most deprived areas can on average expect a shorter life expectancy of nine or more years than men in living the least deprived areas; and women in the most deprived areas can expect a shorter life expectancy of seven or more years than women living in the least deprived areas
- healthy behaviours can contribute to the prevention and control of non-communicable diseases such as cardiovascular diseases, chronic respiratory diseases, diabetes and cancers. Healthy eating adults in all local authorities were significantly worse than the England average of 28.7%. In all local authorities adult obesity was significantly worse than the England average; in four to five-year-olds and 10 to 11-year-olds child obesity was not significantly different than the England average except for 10 to 11-year-olds in Bradford where it is significantly worse
- tobacco use was significantly worse in Kirklees (23.6%), Leeds (23%) and Wakefield (23%)

### Determinants and impacts of oral health

- poor oral health results in social and financial impacts both for the individual and society as a whole. A wide spectrum of factors has been identified as influencing oral health including economic and social policy and individual health behaviours. However, focusing solely on individual behaviour change has only short term benefits for oral and general health. It is therefore essential to focus on the wider determinants of health and partnership delivery to achieve sustainable improvements

### Epidemiology of oral diseases

- there has been a significant decline in tooth decay and improvements in oral health over the past 40 years. However, a substantial proportion of the population in Yorkshire and The Humber experience high levels of oral disease
- the prevalence of tooth decay in three-year-olds in West Yorkshire local authorities was higher than the England average and is significantly higher in Wakefield and Leeds
- the severity of tooth decay in three-year-olds in West Yorkshire local authorities was higher than the England average
- there are inequalities in levels of tooth decay between and within local authorities in West Yorkshire

- children in deprived areas experience much greater levels of disease than those residing in more affluent areas
- the prevalence of tooth decay in five-year-olds in West Yorkshire local authorities was significantly higher than the England average. Bradford and Kirklees were also significantly higher than the Yorkshire and The Humber average
- the severity of tooth decay in five-year-olds in West Yorkshire local authorities was significantly higher than the England average. All local authorities other than Leeds were also significantly higher than the Yorkshire and The Humber average
- a trend analysis showed a significant decline in the prevalence of tooth decay in five-year-olds in Leeds and Bradford
- five-year-old children in Wakefield experienced relatively higher levels of tooth decay, yet a smaller proportion of these decayed teeth are treated with a filling demonstrating an inverse care relationship
- the prevalence of tooth decay in 12-year-olds in West Yorkshire local authorities was significantly higher than the England average. Bradford was also significantly higher than the Yorkshire and The Humber average
- the severity of tooth decay in 12-year-olds in West Yorkshire local authorities was significantly higher than the England average. Bradford and Calderdale were also significantly higher than the Yorkshire and The Humber average
- fewer teeth with tooth decay in 12-year-olds were filled in Leeds and Calderdale compared to the England average however in Kirklees more teeth had been restored
- an estimated 10,239 of 12-year-old children in West Yorkshire are likely to benefit from orthodontic treatment
- it has not been possible to describe the approximate number of children born in West Yorkshire each year with a cleft lip and/or palate
- the oral health of adults has improved significantly over the last 40 years with more of the population retaining their natural teeth throughout their lifetime
- in Yorkshire and Humber, 30% of adults had tooth decay and 2% had severe gum disease
- men from materially deprived backgrounds were more likely to experience higher levels of tooth decay and gum disease but least likely to visit a dentist
- people in Bradford were more likely to report poorer oral health as compared with those living in other local authority areas
- people in Wakefield were more likely to report a perceived need for treatment

- people in Yorkshire and Humber were more likely to wear a denture than nationally
- the incidence of mouth cancer in Kirklees is increasing.
- information describing the oral health of vulnerable groups locally is limited
- Bradford has significantly more children with learning disabilities relative to the national average
- children with learning disabilities are more likely to have teeth extracted than filled and have poorer gum health
- Kirklees, Wakefield, Bradford and Calderdale have significantly more adults with learning disabilities known to GPs relative to the national average
- adults with learning disabilities are more likely to have poor oral health than the general population.
- adults with learning disabilities living in the community are more likely to have poorer oral than their counterparts living in care.
- approximately a quarter of the population experiences some kind of mental health problem in any one year. However, there is no local information on the oral health needs of this group.
- vulnerable adults living in the community have difficulty accessing dental services
- prisoners experience poorer oral health than the general population. This oral health needs assessment does not consider this group.
- homeless people are more likely to have greater need for oral healthcare services than the general population
- severely obese people may be at higher risk of oral disease. Dental services for severely obese people are available in all the local authority areas in West Yorkshire
- looked after children are likely to have greater oral health needs than their peers. In West Yorkshire, most children in care live in Leeds and Bradford

### Oral healthcare services

- the majority of primary care dental services in the area are provided by general dental practitioners
- the cost of a unit of dental activity varies significantly across the local authority areas
- it has not been possible to describe the availability of NHS dental services at local authority level in West Yorkshire
- access to care is better than the England average across all the local authority areas but access to care is not reflective of need. In more deprived areas, where oral health tends to be poorer, lower proportions

- of children access primary care dental services, although access rates remain higher than the England average
- access to services inequitable in terms of deprivation and age. It was not possible to assess equity by gender and ethnicity.
  - the average unit of dental activity per resident adult patient is similar across all local authorities but is slightly lower than the England average, whereas the average unit of dental activity per child patient is similar to the England average
  - adults exempt from paying NHS dental charges are more likely to have a higher need for band 3 treatments as well as urgent dental care. This may be reflective of their higher needs for dental care.
  - fluoride varnish application rates are increasing in children and are significantly higher in Bradford. However, a significant proportion of children do not receive fluoride varnish applications
  - it was not possible to determine if the guidance on recall intervals is being implemented in general dental practice
  - domiciliary care provided by all the community dental services, the majority being provided by some primary care dental practitioners. Provision at a local authority level is not described. Capacity to support increasing demand is reported. Information describing the current domiciliary care pathways is unavailable
  - inhalation sedation services are provided by all the community dental services. Intravenous sedation is provided at three dental practices in Leeds and by the community dental service in Bradford. Bradford Salaried Dental Services provides cognitive behavioural therapy as part of the anxious patient care pathway
  - current urgent care delivery models vary across West Yorkshire and it is reported that there are difficulties in accessing timely care. Information also suggests inequity of access to the urgent dental service. A Local Dental Network sub-group is currently exploring different unscheduled dental care models to support a consistent approach to ensure equity of provision. This will inform the forthcoming procurement of services across West Yorkshire
  - the community dental services provide primary dental care for vulnerable groups as well as those with more complex special care needs. The common data reporting schedule will help inform future commissioning intentions. Except for Bradford, there is no information about screening programmes that the community dental service may deliver. As a preliminary step, NHS England has completed a review of the West Yorkshire community dental services
  - general anaesthetic services are available across West Yorkshire. Information describing the care pathway including costs of services is not described

- the quality assurance process in primary dental care includes reference to the national Dental Assurance Framework, Care Quality Commission registration and requirements and support from clinical advisors
- the primary care dental workforce consists of dentists and dental care professionals. The contract reform programme has highlighted the importance of greater use of skill mix
- NHS England have commenced work focusing on community dental service and unplanned dental care which is aligned to the key findings of this OHNA
- there is inconsistent provision of primary care specialist oral surgery and restorative services in the area. Currently there is no oral surgery provision in Calderdale, Kirklees and Wakefield. Information describing the care pathway including tariffs amongst providers is not described. Specialist services are predominately provided in secondary care
- there are inconsistencies in the commissioning of primary care based orthodontic services across the area including non-specialist provision.
- in respect to quality of orthodontic services, some providers are not PAR scoring sufficient cases, although review rates are higher than the England average
- equity of access to orthodontic services could not be established.
- the orthodontic local dental network sub-group work includes a review of the care pathways, and waiting lists to inform any future non-recurrent investment
- based upon Stephen's Formula only and considering the limitations of this methodology, there may be a shortfall in orthodontic provision in West Yorkshire
- most hospital activity is provided on an outpatient basis.
- the spend on outpatient and inpatient activity are broadly similar
- the majority of activity and spend is on oral surgery.
- there are significant numbers of non-elective oral surgery inpatient cases
- there is an agreed CQUIN with secondary care providers
- it is unclear what quality assurance processes are in place for secondary care specialist services

### Dental public health services

- local authorities are responsible for improving the oral health of their population. They have responsibility for commissioning oral health improvement programmes and oral health surveys. They also have powers relating to making proposals regarding water fluoridation for their local population

- all local authorities have a specified budget for commissioning oral health improvement programmes except Kirklees Council
- a range of universal and targeted oral health improvement programmes are implemented by local authorities in West Yorkshire most for which there is some, sufficient or strong evidence base
- all local authorities' commission oral health surveys although sample sizes vary and may be not adequate to provide valid data at a local authority level
- most oral health improvement programmes are directed towards children
- local authorities are responsible for commissioning care homes and school nursing services and will soon be responsible for commissioning health visiting services. This will provide an opportunity for integration of oral health into these services
- local authorities in Leeds, Bradford and Wakefield have developed Oral Health Advisory groups

### Patient and public engagement

- the majority of adult residents in West Yorkshire reported not having problems accessing NHS dental services. A lack of accurate signposting information to NHS dental services has been highlighted.
- the literature reports that vulnerable groups experience poorer oral health and have difficulties accessing dental services. Limited amount of information is available regarding the views and experiences of local children, young people, and vulnerable adult groups regarding NHS dental services
- local authority led public engagement work exploring local residents' views and experiences of NHS dental services has been carried out in Calderdale, Kirklees, Leeds and Wakefield. Patients and carers reported being highly satisfied with the NHS dental services provided by Wakefield Community Dental Services and the hospital services and treatment received via the paediatric and adults with special needs general anaesthesia services. Parents and carers of children with additional needs reported being very satisfied with the dental care provided by Leeds Community Dental Service. Children reported being very satisfied with the dental care provided by Bradford Salaried Dental Service
- based upon available information, the majority of parents/carers of children reported not having problems accessing NHS dental services for their children. In a more recent survey some parents/carers of young children in Wakefield report that they are not taking their children to the dentist

- local survey work led by Wakefield Council, suggested that whilst many preschool children were accessing NHS dental services, a significant proportion were not. Majority of parents/carers reported not having problems accessing dental care when their child had a problem
- young people in Bradford appear to be accessing dental services for routine care and a small proportion report having problems accessing NHS dental care. Young people in Bradford attending secondary schools in the most deprived quintiles are more likely to attend dental services for urgent rather than routine care

## Key issues for consideration

This needs assessment has helped identify the oral health needs and gaps in oral healthcare provision for the residents of West Yorkshire. Outlined below are key issues for consideration by NHS England and local authorities to support them in developing commissioning strategies.

## Population and demographic variation

- oral health and oral health improvement strategies should seek to address the health inequalities between and within local authority areas across West Yorkshire
- NHS England should ensure that commissioning plans consider the expected increases in population size in all the local authorities in West Yorkshire.

## Determinants and impacts of oral health

- a common risk factor approach focusing on the wider determinants as well as facilitating healthy choices will impact not only on oral health but wider general health

## Epidemiology of oral diseases

- strategies for dental services and oral health improvement services should focus on addressing the inequalities in oral health that exist between and within local authority areas.
- prevention of tooth decay and identification and restoration of decayed teeth in children's permanent dentitions should be a priority for dental services in West Yorkshire.
- oral health improvement strategies in Kirklees should include actions to address the increasing incidence of mouth cancer in this area.

- undertaking a more detailed oral health needs assessment of vulnerable groups should be considered by NHS England and local authorities.
- dental services including urgent care should be accessible to people with learning disabilities and provide preventive and treatment services.
- NHS England, local authorities, PHE and clinical commissioning groups should work together to ensure access to dental and oral health improvement services for people with mental health problems.
- need for and access to dental services for severely obese people should be reviewed across West Yorkshire.
- need for and access to dental services for looked after children should be reviewed across West Yorkshire.

### Oral healthcare services

- the feasibility of undertaking a health equity audit of access to dental services should be explored in view of variations in availability of and access to dental services across and within local authority areas and across different groups.
- dental practices need to be supported to ensure that ethnicity data is captured on dental service activity forms to inform future needs assessment and health equity audits.
- dental practices need to be supported to ensure that evidence-based guidance on fluoride varnish applications and recall intervals is implemented in practices. Key performance indicators to encourage evidence-based practice should be considered for inclusion in any new dental contracts.
- current domiciliary provision is likely not to be sufficient to meet current and increasing demand. Equity of provision should be confirmed.
- NHS England may wish to consider commissioning or undertaking a more in-depth review of sedation service provision to support the development of a consistent service model for anxious patients that incorporate sedation services and behaviour management techniques.
- building on the review of the community dental services in West Yorkshire, information should be collated to support commissioning intentions to ensure vulnerable patient groups with more complex and special care needs are able to access appropriate care.
- to help inform a more in-depth needs assessment for special care dental services in preparation for implementation of the national commissioning guide, robust activity indicators should be considered, for incorporation into current community dental service contracts together with the development of a managed clinical network in special care dentistry.
- NHS England may wish to consider commissioning or undertaking a more in-depth review of general anaesthesia service provision to

support the development of accessible, high quality, safe and patient centred services.

- to identify and help address the gaps in provision of primary care specialist oral surgery and restorative services in West Yorkshire a review should be considered. This should be in line with the forthcoming NHS commissioning guidance
- a more detailed orthodontic needs assessment including a review of provision of orthodontic services across West Yorkshire against the commissioning framework due to be published in 2015. It is important to explore ways of providing more equitable access; and to inform the development of a service model with a consistent UOA rate that incorporates key performance indicators including PAR scoring and that is delivered by specialists
- NHS England may wish to consider working with secondary care providers to review secondary care local tariffs and develop and agree standard coding for secondary care dental activity to contain spend on secondary care and ensure value for money
- NHS England may wish to consider working with local clinical networks, PHE and providers to develop and incorporate quality assurance into secondary care contracts and in preparation for implementation of the soon to be published NHS England commissioning guides

### Dental public health services

- local authorities should ensure that oral health needs are considered in JSNAs and health and wellbeing strategies
- all local authorities West Yorkshire should review their oral health improvement programmes in line with *Commissioning Better Oral Health and NICE* guidance
- local authorities may wish to consider engaging with partners integrating commissioning across organisations and across bigger footprints to support the efficient management of limited resources
- all local authorities in West Yorkshire should ensure that contracts are supported by service specifications which detail a process of assuring quality of programmes
- a combination of evidence based universal and targeted activities are required to support reducing inequalities in oral health. Upstream interventions should be complemented by downstream interventions.
- local authorities should consider the case for water fluoridation in the context of local needs and the range of oral health improvement programmes currently commissioned and with reference to *Commissioning Better Oral Health* and NICE guidance.

- consideration should be given to ensuring programmes effectively support improving the oral health of more vulnerable adults group
- evaluation should be an integral part of all oral health improvement programmes to guide future commissioning
- in addition, local authorities should consider integrating oral health improvement into existing commissioned programmes
- oral health improvement should be an integral part of the work of health visitors and schools nurses and should be included in the service specification for these services
- service specification for care homes should include a responsibility for oral health that incorporates an oral health assessment on entry, daily mouth care in care plans for residents and regular access to an NHS dentist
- a MECC trained dental workforce should be developed across West Yorkshire
- local authorities may wish to explore using cost benefit analysis tools to evidence effective use of resources to support improvements in oral health
- local authorities, who have not already done so, may wish to consider establishing Oral Health Improvement/Oral Health Advisory Group.
- all local authorities in West Yorkshire should continue to commission oral health surveys which include surveys to support the public health outcomes framework (2013-16). This includes tooth decay in five- year- old children” as an outcome indicator
- service specifications should be in place to support the planning and delivery of the surveys to facilitate the collation of reliable data which is representative of the local population. This should include robust performance monitoring arrangements to ensure that the survey is completed in line with the national protocol
- where appropriate, consideration should be given to increasing consent rates and sample sizes to provide reliable data to support the planning and evaluation of dental services and oral health improvement programmes
- PHE should explore developing a Yorkshire and The Humber oral health improvement commissioners network to facilitate learning and sharing of good practice

### Patient and public engagement

- NHS England, local authorities and PHE should engage with local Healthwatches to ascertain public views regarding access to and quality of dental services. Local people’s views should be reflected when

commissioning services and developing oral health improvement strategies

- NHS England, PHE and local Healthwatch organisations should work together to ensure that people receive accurate information on how to access dental services and which practices are accepting new NHS patients
- the results of the Kirklees Healthwatch led survey of patients accessing urgent dental care should be reviewed and inform the development of the urgent care service model across West Yorkshire
- PHE should ensure the views of the public are sought in the consultation process of this needs assessment

### Next steps

This needs assessment is an on-going shared planning resource to enable locally prioritised actions. The next stage is for NHS England, local authorities and PHE to develop a prioritised list of actions based on the evidence of effectiveness, local organisational structures and the potential for greatest impact. Review of the actions should be planned from the outset to evaluate their impacts.

# 1. Introduction

Despite improvements in oral health in England over the last forty years, many people continue to experience the pain and discomfort associated with oral diseases, which are largely preventable. A healthy mouth and smile mean that people can eat, speak and socialise without pain or discomfort and play their parts at home and in society. Oral health is an integral part of health and wellbeing and many of the key risk factors for poor oral health are associated with other diseases.

The distribution and severity of oral diseases varies between and within areas. Unacceptable inequalities exist with more vulnerable, disadvantaged and socially excluded groups experiencing more oral health problems.

This oral health needs assessment describes the oral health of the people living in West Yorkshire in detail and the services currently commissioned to meet those needs. It identifies the key issues that should be addressed in future oral health improvement and dental commissioning strategies.

In developing this oral health needs assessment, the national and local context has been considered.

## National background

### Health and Social Care Act 2012

The Health and Social Care Act 2012 created a new commissioning framework for the provision of health, social care and public health in England. From April 2013, NHS England became the single commissioner for the totality of dental services including primary, secondary and unscheduled dental care. In addition, local authorities became responsible for improving the oral health of their communities and for commissioning oral health improvement services.<sup>2</sup>

Statutory dental public health responsibilities of local authorities include:

- securing the provision of oral health improvement programmes to improve the health of the local population, to the extent that they consider appropriate in their areas
- securing the provision of oral health surveys to facilitate
  - I. the assessment and monitoring of oral health needs
  - II. the planning and evaluation of oral health promotion programmes
  - III. the planning and evaluation of the arrangements for provision of dental services as part of the health service

- IV. where there are water fluoridation programmes affecting the authority's area, the monitoring and reporting of the effect of water fluoridation programmes
- participation in any oral health survey conducted or commissioned by the secretary of state
  - making proposals regarding water fluoridation schemes, including a duty to conduct public consultations in relation to such proposals and powers to make decisions about such proposals

Chapter 7: Dental Public Health Services provides further detail regarding the role of local authorities in relation to oral health improvement.

The Health and Social Care Act 2012 also describes the joint and equal responsibilities of local authorities and clinical commissioning groups to prepare both joint strategic needs assessments (JSNA) and joint health and wellbeing strategies through the health and wellbeing board. The purpose of JSNAs and joint health and wellbeing strategies are to improve the health and wellbeing and reduce inequalities in the local population by promoting integration and partnership working between the NHS, social care, children's services, public health and other local services, and to improve democratic accountability in health. A JSNA describes the current and future health and social care needs of a community within the health and wellbeing board area. Joint health and wellbeing strategies are strategies for meeting the needs identified in the JSNAs. Health and wellbeing boards are tasked to consider the demographics of the area, and the needs of local people including vulnerable groups.

This oral health needs assessment should be a useful resource for local authorities to inform JSNAs, joint health and wellbeing strategies and oral health improvement strategies.

This oral health needs assessment has been written within the context of a number of national guidance documents.

**Healthy Lives, Brighter Futures the strategy for children and young people's health<sup>3</sup>**

*Healthy Lives, Brighter Futures* describes policy recommendations to inform collaborative working between the NHS, local authorities and partners working across child health services to reduce inequalities in children and young people, particularly for more vulnerable groups. It sets out the *Healthy Child Programme* and it is essential that oral health is considered as an integral part of this programme across West Yorkshire.

## Fair Society, Healthy Lives<sup>4</sup>

The Marmot report *Fair Society, Healthy Lives* set out a strategy on health inequalities that calls for actions that are universal but proportionate. Key messages from the review include:

- there is a social gradient in health and the lower a person's social position, the worse his or her health. Action should therefore focus on reducing the gradient in health
- health inequalities result from social inequalities. Action on health inequalities therefore requires action across all the social determinants of health. Focusing solely on the most disadvantaged will not reduce health inequalities sufficiently
- to reduce the steepness of the social gradient in health, actions must be universal, but with a scale and intensity that is proportionate to the level of disadvantage 'proportionate universalism'

Commissioning strategies should work across six policy objectives:

- give every child the best start in life
- enable all children young people and adults to maximise their capabilities and have control over their lives
- create fair employment and good work for all
- ensure healthy standard of living for all
- create and develop healthy and sustainable places and communities
- strengthen the role and impact of ill health prevention

## Healthy Lives, Healthy People: our strategy for public health in England<sup>5</sup>

In response to the Marmot report, *Healthy Lives, Healthy People* describes the government's plan for public health, which from April 2013 became the responsibility of local authorities rather than the NHS. This strategy promotes the adoption of a life course approach for tackling the wider social determinants of health.

## Improving outcomes and supporting transparency. A public health outcomes framework for England 2013 - 2016<sup>6</sup>

The public health outcomes framework describes the overarching vision for public health together with outcomes and indicators for monitoring purposes. Two high level outcomes, which cross four domains of indicators, have been developed to cover the whole life course from preconception to old age. Those indicators to which oral health improvement and dental services will contribute are:

- mortality from cancer
- tooth decay in children aged five years
- indicators related to smoking and overweight and obesity

- diet
- pupil and sickness absence

### The NHS Outcomes Framework 2014/15<sup>7</sup>

The purpose of the NHS Outcomes Framework 2014/15 is to drive improvements in the quality of the NHS placing a focus on improving health and reducing inequalities. Indicators in the NHS Outcomes Framework are grouped around five domains, which describes the high-level national outcomes that the NHS should be aiming to improve.

It is expected that NHS dental services will contribute to the following indicators:

- one year survival for all cancers
- five year survival for all cancers
- emergency admissions for acute conditions that should not usually require hospital admission
- positive experience of NHS dental services
- patient experience of outpatient services
- access to dental services

In the Mandate from Government to NHS England 2015 to 2016<sup>8</sup> two new indicators for dental health were included:

- tooth decay in children aged five years
- tooth extractions in secondary care for children under 10

### Transforming participation in health and care<sup>9</sup>

NHS England is required to engage with patients and the public with regard to their commissioning responsibilities. This guidance supports the two legal duties described below:

- patients and carers to participate in planning, managing and making decisions about their care and treatment
- effective public participation in the commissioning process itself, so that services reflect the needs of local people

The views of local people are captured within this needs assessment (chapter 8).

## Choosing Better Oral Health: an Oral Health Action Plan for England<sup>10</sup>

Choosing Better Oral Health: an Oral Health Plan for England sets out the strategy for oral health in England. The Oral Health Plan is underpinned by several principles including:

- the common risk factor approach, which recognises that risk factors for poor oral health are also the risk factors for other common chronic conditions, namely diet, tobacco, hygiene and alcohol
- basing decisions on the best available evidence
- taking a targeted population approach to reduce inequalities in oral health
- partnership working within the NHS and with education and social care professionals

The document suggests a variety of ways to improve diet and oral hygiene, optimise exposure to fluoride, control tobacco use and promote sensible alcohol use. Oral health promotion and commissioned dental services across West Yorkshire should incorporate the recommendations of Choosing Better Oral Health.

## Valuing People's Oral Health<sup>11</sup>

*Valuing People's Oral Health* aims to improve the oral health of disabled children and adults, who have the same entitlement to good oral health as the rest of the population and an equal right to responsive high quality oral health services.

The oral health needs of children and adults with disabilities are less well documented than those of the general population and should be considered in future work to inform the commissioning of appropriate high quality dental and oral health improvement services for this vulnerable group. The recommendations from this guide should be incorporated into oral health promotion activities across West Yorkshire.

## Securing Excellence in Commissioning NHS Dental Services<sup>12</sup>

NHS England is responsible for commissioning of NHS dental services. *Securing Excellence in Commissioning NHS Dental Services* proposed a care pathway approach that supports evidence-based decision making and the seamless organisation of care across different care settings for each dental speciality. The care pathway is regarded as a journey through the clinical experience, where co-ordination, consistent high standards, appropriateness of care in relation to best practice and the evidence base and a focus on patient related outcomes are fundamental.

*Securing Excellence in Commissioning NHS Dental Services* also described the establishment of local dental networks, an integral part of NHS England to ensure clinically led commissioning drives improvements in the quality of dental services, thereby improving oral health and reducing inequalities locally.

To support commissioning based on a care pathways approach, NHS England has established four multi-stakeholder commissioning guide working groups with a view to developing commissioning guidance for the four dental care pathways:

- orthodontics
- oral surgery
- restorative
- special care dentistry

Local Dental Networks will play an important role in supporting the implementation of the commissioning framework locally.

### Local Authorities Improving Oral Health: Commissioning Better Oral Health for Children and Young People<sup>13</sup>

*Commissioning Better Oral Health for Children and Young People* provides guidance to local authorities to support the commissioning of evidence informed oral health improvement programmes for children and young people aged up to 19 years of age across the life course. The guidance enables local authorities to review and evaluate existing oral health improvement programmes and consider future commissioning intentions that meet the needs of the population, providing an evidence based approach with examples of good practice. The guidance encourages the adoption of an integrated approach to commissioning with partner organisations including NHS England, PHE and clinical commissioning groups to ensure that all local authority services for children and young people have oral health improvement embedded at both a strategic and operational level.

### Oral Health: approaches for local authorities and their partners to improve the oral health of their communities<sup>14</sup>

Recent guidance from the National Institute for Health and Care Excellence (NICE) on oral health approaches for local authorities and their partners to improve the oral health of their communities has made recommendations aiming to: promote and protect oral health by improving diet and reducing consumption of sugary foods and drinks, alcohol and tobacco; improve oral hygiene; increase the availability of fluoride; encourage people to go to the dentist regularly and increase access to dental services. The 21 evidence-based recommendations include:

- ensuring oral health is a key health and wellbeing priority with information and advice on oral health in local policies

- carrying out an oral health needs assessment using a range of data sources and developing an oral health strategy
- ensuring public service environments and workplaces promote oral health
- ensuring frontline health and social care staff can give advice on the importance of oral health
- incorporating oral health promotion and staff training in existing services for all children, young people and adults at high risk of poor oral health
- commissioning tailored oral health promotion services for adults at high risk of poor oral health
- including oral health promotion in specifications for all early years services
- considering supervised tooth brushing and fluoride varnish schemes for nurseries and primary schools in areas where children are at high risk of poor oral health
- raising awareness of the importance of oral health, as part of a 'whole-school' approach in all primary and secondary schools
- introducing specific schemes to improve and protect oral health in primary schools in areas where children are at high risk of poor oral health

### Tackling poor oral health in children. Local government's public health role<sup>15</sup>

Recently published Local Government Association guidance describes the important role that upper tier and unitary authorities have in contributing to oral health improvement particularly in children. Key areas for action include:

- ensuring joint strategic needs assessments (JSNAs) consider oral health needs, including information on vulnerable groups as recommended in recent NICE guidance (PH55)
- developing a locally tailored oral health strategy
- promoting local leadership and advocacy for oral health improvement at all levels
- the key role PHE consultants in dental public health have in supporting oral health improvement across the public health and healthcare system by working closely with local authority public health teams, NHS England Area Teams, Local Professional Networks, Health Education England and other partners

National examples of best practice are described.

## Delivering Better Oral Health<sup>16</sup>

Delivering Better Oral Health provides guidance on evidence based interventions and advice on how dental team members can improve and maintain both the oral health and general health of their patients. Smoking, alcohol misuse and a poor diet are risk factors for a number of general health and oral health conditions. A patient facing version of the guidance will be published to help patients to better understand the preventive messages.

It is essential that the document is disseminated to all dental team members to support local implementation of the guidance to underpin the delivery of prevention in all dental practices. Implementation of the guidance should form part of the oral health promotion approach across West Yorkshire and should be implemented by Primary Care Dental Teams, including, general dental practice teams and the Community Dental Service and should be disseminated to other health, education and social care professionals to support improvements in general and oral health thereby reducing inequalities across the area.

## Smokefree and Smiling 2nd edition<sup>17</sup>

*Smokefree and Smiling* describes how dental teams, commissioners and educators can contribute to reducing rates of tobacco use, and highlights resources available to support them. The document acknowledges that dental teams are well placed to provide very brief advice to their patients who use tobacco to help them understand the benefits of stopping and be offered support to do so with a referral to their local stop smoking service.

Oral health promotion services and primary care dental teams should work closely with local stop smoking service to implement *Smokefree and Smiling*.

NICE are currently developing the following guidance documents related to oral health:

- *Oral Health Approaches for Dental Teams*. This guidance will describe approaches for general dental practice teams on promoting oral health and is due for publication in October 2015
- *Oral health in nursing and residential care*. This guidance is for nursing and residential care homes on promoting oral health, preventing dental health problems and ensuring access to dental treatment and is due for publication in June 2016

## NHS dental contract reform programme

In 2010, the government's plans for the NHS included a commitment to introduce a new NHS dental contract that would focus on achieving good oral health and

increasing access to NHS dentistry, with a particular focus on improving the oral health of schoolchildren.<sup>18</sup> The Department of Health subsequently established the contract reform programme, with the establishment of seventy dental contract pilots in 2011 to inform the development and implementation of a new more prevention-orientated contract. Fundamentally, the aims of the new dental contract are to improve the quality of patient care, including access to NHS dental services and oral health of the population especially children. Two reports have since been published which describe the preliminary and later findings from the dental contract pilots.<sup>19,20</sup> More recently, the Department of Health published four documents aimed at engaging and seeking the views of the dental profession and the wider dental community in the contract reform programme.<sup>21</sup>

Building on its engagement programme, NHS England's *Improving dental care and good oral health – a call to action*<sup>22</sup> obtained views across local communities, including health, dental and social care professionals and patients to inform the future development of NHS dental services. The challenge remains to address inequalities in oral health and access to dental services across England, placing a greater focus on prevention and improved outcomes.

## Local context

The West Yorkshire Area Team Commissioning Plan identifies a number of priorities for 2014-16. Table 1.1 describes the work programme and incorporates the Local Dental Network work plan for 2014-16.

**Table 1.1 West Yorkshire Area Team Commissioning Plan**

	Initiative	Measures of Success	Key Actions	Milestones
Overall				
1	Commission new national pathways to ensure quality, consistency and value for money	Improved quality of care Improved access Improved value for money	Roll-out new pathways as they are released by NHS England.  Review capacity and capability in primary care and extended services	Autumn 2014 onwards  July 2014
2	Introduce an electronic referral and booking service (across all sectors)	Improved utilisation of services Improved access	Deliver NHS net connectivity for GDP contractors  Collaborate in north of England procurement  Mobilise new service	October 2014  April 2014  April 2015
3	Understand implications for workforce and training of pathway redesign	Workforce strategy for dental services.  Safe roll-out of new primary care dental contract.  Develop education and training of dentists with enhanced skills.	Establish task & finish group of LPN with HEE  Scope current workforce and future models of care Link to national work on dental workforce  Agree strategy between NHS England (West Yorkshire) and HEE	Summer 2014 onwards.
Primary Care				
4	Review urgent care provision and consider future commissioning intentions	One stop service for patients and public  Same day access for urgent care  Promote a shift from unscheduled to planned care  Reduced attendances in other care settings (GP / ED)  Improved value for money	Local Dental Network task and finish group  Scope service to inform the future commissioning intentions, looking not only at local influences but also national pathways. The outcome is to develop a consistent service model across West Yorkshire	March 2015
5	Improved access to primary dental care	Improved patient satisfaction Improved patients seen / 24	Improved management of contract year-end	May 2014 and on-going

		months	Additional investment based on health needs analysis at ward level  Establish monitoring system for new patients seen / contract  Communication strategy for primary care access.	
6	Review orthodontic service provision (also in community providers)	Improved patient satisfaction  Reduced waiting times for treatment  Improved utilisation of UOAs	Review waiting lists in current providers and identify opportunities to reduce waiting times  Consider case for non-recurrent investment to reduce waiting times.  Establish and roll-out assessment protocol for GDPs and community services	September 2014  September 2014  April 2015
7	Ensure level 1 procedures carried out in primary care	Improved patient satisfaction  Reduced utilisation of secondary care	Audit outpatient attendances with no treatment  Action plan for individual GDP contractors based on outcome of audit  Develop training and education programme with HEE	6-monthly  Autumn 2014 and on-going
8	Strengthen quality assurance and governance of primary care	Improved performance against national standards in dental assurance framework	Agree quality surveillance programme with QSG sub-group and CCGs  Action plans for individual contractors in place	June 2014 and on-going
Community Services				
9	Review current service offer and standardise across West Yorkshire	Standard service offer and outcomes in each contract  Improved value for money	Review of services by LPN and commissioning team (with providers)  Re-negotiate contracts and agree interim service specifications to develop a more co-ordinated Extend contracts to April 2015  Revised contracts in place	July 2014  November 2015  April 2016

10	Consider how best to meet the need for frail elderly, disabled adults & children and looked after children for accessible primary dental care services	Improved access to care for patients with specific needs	Review of services by LPN and commissioning team (with providers)  Revised contracts in place	July 2014  April 2016
Secondary Care				
12	Introduce mandatory tariffs for outpatient procedures	Improved value for money  Common price irrespective of care setting	2014/15 contracts	April 2014
13	Link to specialised commissioning for OMFS (cancer & trauma) pathways	Improved quality of care for patients requiring specialised services.  Sustainable local access to routine care	Map roll-out of national dental pathways against specialised commissioning plans for oral cancer and trauma.  Agree implementation plan for reconfiguration of providers	2015 onwards.

The commissioning plan acknowledges that this oral health needs assessment will inform the development of more detailed work plans to ensure that dental services meet the needs of the population of West Yorkshire.

### Health and wellbeing strategies across West Yorkshire

This oral health needs assessment should consider the Health and Wellbeing Strategies developed by each of the local authorities across West Yorkshire.

The Leeds Joint Health and Wellbeing Strategy 2013-2015<sup>23</sup> identifies the following priority areas:

- people will live longer and have healthier lives
- people will live full, active and independent lives
- people's quality of life will be improved by access to quality services
- people will be involved in decisions made about them
- people will live in healthy and sustainable communities

The Bradford Joint Health and Wellbeing Strategy 2013-2017<sup>24</sup> identifies the following priority areas:

- give every child the best start in life: 'Starting well'; oral health of five-year-olds is identified as a priority in the Health Improvement Action Plan which underpins the delivery of the Health and Wellbeing Strategy
- enable all children, young people and adults to maximise their capabilities and have control over their lives
- create fair employment and good work for all: "Working well"
- ensure a healthy standard of living for all
- create and develop healthy and sustainable places and communities
- strengthen the role and impact of ill health prevention

The Kirklees Joint Health and Wellbeing Strategy 2014-2020<sup>25</sup> identifies the following priorities:

- people in Kirklees are as well as possible, for as long as possible, both physically and psychologically
- local people can control and manage life challenges
- people have a safe, warm, affordable home in a decent physical environment within a supportive community
- people take up opportunities that have a positive impact on their health and wellbeing

The Health and Wellbeing Strategy for Wakefield 2013-2016<sup>26</sup> identifies the following priorities:

- more equal experiences of health and wellbeing between different communities and areas within the Wakefield District
- people making healthier choices and having a good quality of life
- early years with every child experiencing the best start in life
- improving the mental wellbeing of individuals, families and the population addressing the social determinants and consequences of mental health
- ensuring people with long term conditions are those at risk, are supported to reduce harm
- safeguarding the ageing population they feel supported and experience a good quality of life

Calderdale's Joint Wellbeing Strategy 2012-2022<sup>27</sup> describes following six priority outcomes:

- local people experience good health which includes a focus placed upon helping them adopt healthier lifestyles
- ensuring Calderdale has a balanced and dynamic local economy
- reducing the number of children under 5 years old who live and are born into poverty

- ensuring children and young people are ready for life and ready for learning
- ensuring older people live fulfilling and independent lives
- local people have a sense of pride and belonging based upon mutual respect

By commissioning evidence based oral health improvement programmes and by ensuring equity of access to high quality evidence based, patient centred dental services, future dental commissioning and oral health improvement strategies will contribute to the overarching aims of the Health and Wellbeing Strategies across West Yorkshire.

It is essential that this oral health needs assessment underpins the development of local oral health improvement strategies, ensuring that oral health is included in local Joint Strategic Needs Assessments and Joint Health and Well-Being Strategies. In light of recently published guidance<sup>13</sup>, it is recommended that all oral health improvement programmes should be reviewed and this includes the commissioning and integration of such programmes within commissioning arrangements for other programmes for children and young people.

## 2. Context for oral health needs assessment

Oral health is an important part of health and wellbeing. Good oral health is that without active disease, pain or discomfort, which allows good functioning such as eating, speaking and socialising without embarrassment.<sup>28</sup> Oral healthcare includes provision of both clinical treatments and oral health improvement initiatives.

An oral health needs assessment is a tool for identifying the oral health needs and oral healthcare needs of a population to target resources towards improving the oral health of those at specific risk or in underserved population subgroups.<sup>29</sup> The process involves establishing and describing the oral health of a population, ascertaining their needs, measuring the capacity of existing services to meet these needs and where gaps exist, identifying new or alternative ways in which such gaps can be prioritised and filled'(p18).<sup>30</sup>

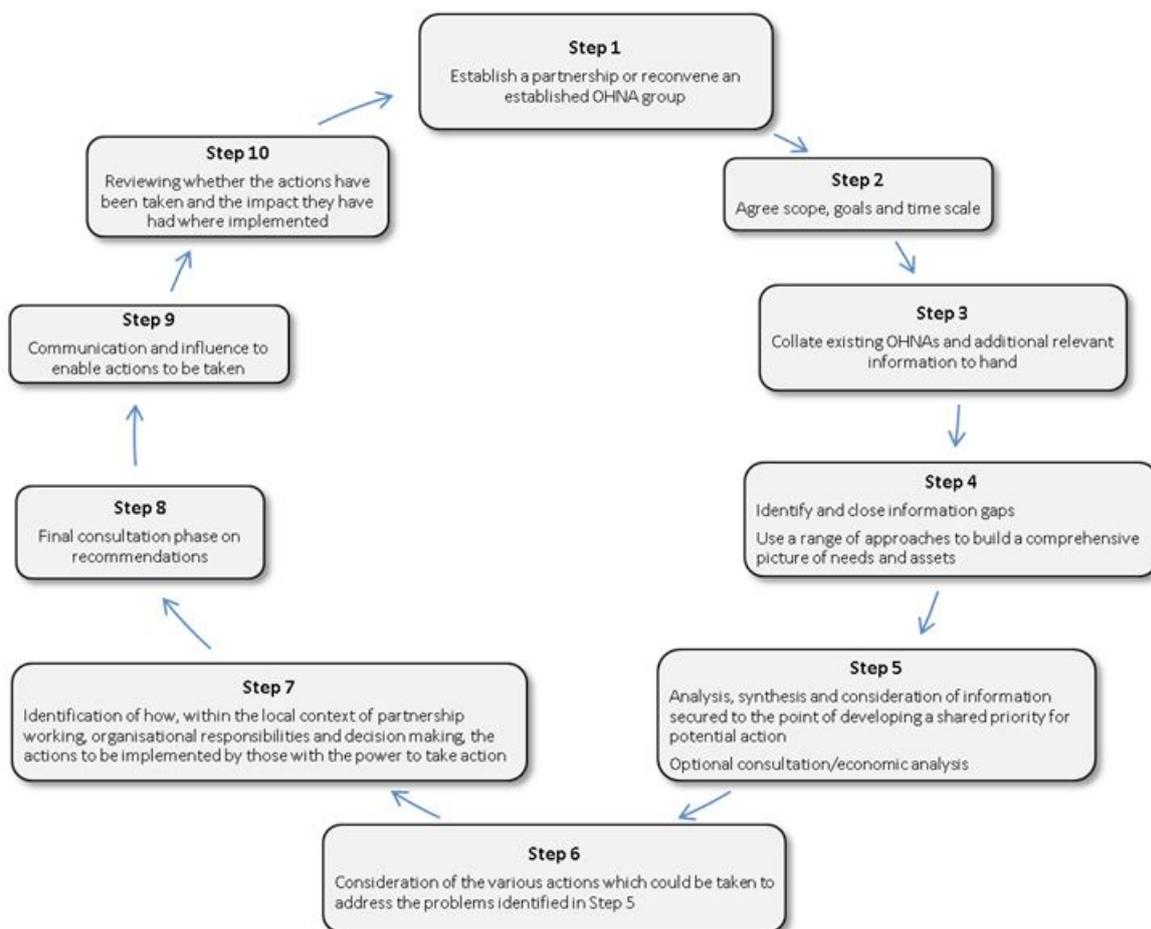
The restructuring of the NHS in April 2013 followed the passing of the Health and Social Care Act 2012.<sup>1</sup> The Act conferred the responsibility for the commissioning of NHS dental services to NHS England and conferred the responsibility for health improvement, including oral health improvement to local authorities.

Local authorities now have a statutory requirement to assess their local population's oral health needs.<sup>2</sup> An oral health needs assessment can help local authorities identify the oral health needs in their local communities for inclusion in the joint strategic needs assessment.<sup>13</sup>

New guidance has been produced by NICE to inform local authorities on how to undertake oral health needs assessments and develop local strategies for delivery of community-based interventions and activities.<sup>14</sup> Informing the NICE guidance is a recent review of existing methods for undertaking oral health needs assessments<sup>30</sup>. This review found that there was no one format for them and no evidence on how to conduct an ideal oral health needs assessment that results in changes that are clinically effective and cost effective.

Hence a definitive approach to undertaking an oral health needs assessment needed to be established in the context of the broader JSNA and a 10 step approach for carrying out an oral health needs assessment was proposed<sup>30</sup> that incorporated the key operating principles for a joint strategic needs assessment<sup>31,32</sup> (Figure 2.1).

**Figure 2.1 The 10 step approach for an oral health needs assessment**



Source: Modified from Chestnutt *et al.*, 2013, p56<sup>30</sup>

The 10 step approach is consistent with the key operating principles for quality joint strategic needs assessment and joint health and wellbeing strategies:

1. Establish a partnership to undertake the oral health needs assessment. Engage key people to ensure 'sponsorship' of the process by those with the power to make the necessary decisions to change if required and involve corporate partners and health alliances where appropriate. Involve patients and the public
2. Agree scope, agree goals and timescale (where geography boundaries differ to agree the population of interest)
3. Review and learn from previous oral health needs assessments
4. Close the information gaps. Build up a comprehensive range of data, evidence, and information on oral health needs and provision of dental services and oral health improvement activities. A range of approaches may be undertaken to engage with the local population;

5. Analysis, synthesis and consideration of the information. Develop a list of priority problems. Prioritisation should be based on issues requiring the greatest attention and where the greatest impact can be made from available resources
6. Consider actions to be taken to address the problems identified in Step 5, reviewing the evidence on the predictability of the effectiveness of those actions. Develop a prioritised list of actions
7. Identify how, within the local context of partnership working, organisational responsibilities and decision making, the actions will be implemented by those in power to take action
8. Final consultation with key stakeholders on proposed recommendations
9. Communication and influence to enable actions to be undertaken. The oral health needs assessment is an on-going shared planning resource
10. Review of the actions undertaken and their impact where they have been implemented. The end of one planning cycle is used to inform the next oral health needs assessment

This approach has been used to develop this oral health needs assessment to give a comprehensive description of oral health needs in West Yorkshire and to make recommendations on targeting of resources to meet those needs.

## Aim

To undertake an oral health needs assessment across West Yorkshire to support the planning of oral healthcare services and dental public health services for the local population.

## Objectives

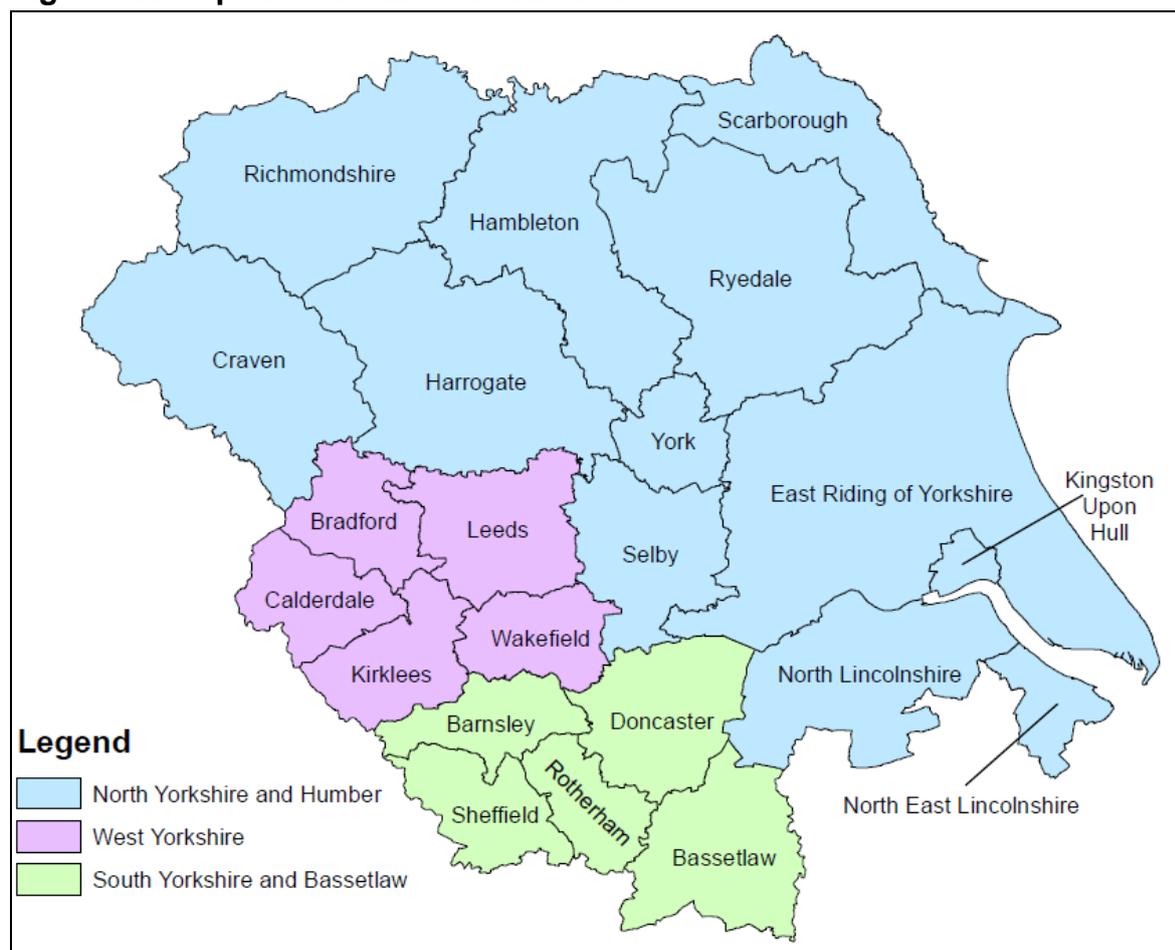
- to describe the oral health needs in the West Yorkshire population
- to describe the current oral healthcare and dental public health services provision
- to identify any gaps in service provision
- to identify the key issues to consider for the future development of high quality, evidence based and outcomes focused oral healthcare and dental public health services across West Yorkshire

### 3. Population and demographic variations

#### Population of West Yorkshire

West Yorkshire is located in Yorkshire and The Humber. Yorkshire and The Humber is situated in the north of England and is one of nine areas of England (previously known as Government Offices of the Regions) reflecting administrative boundaries at the highest sub-national division and used for the regional statistics. The north and east of Yorkshire and The Humber are largely rural and the south and west are more urban.<sup>33</sup> It is divided into three areas, North Yorkshire and Humber, West Yorkshire, and South Yorkshire and Bassetlaw. West Yorkshire is a metropolitan county with the five metropolitan districts of; Leeds, Wakefield, Kirklees, Calderdale, Bradford (Figure 3.1).

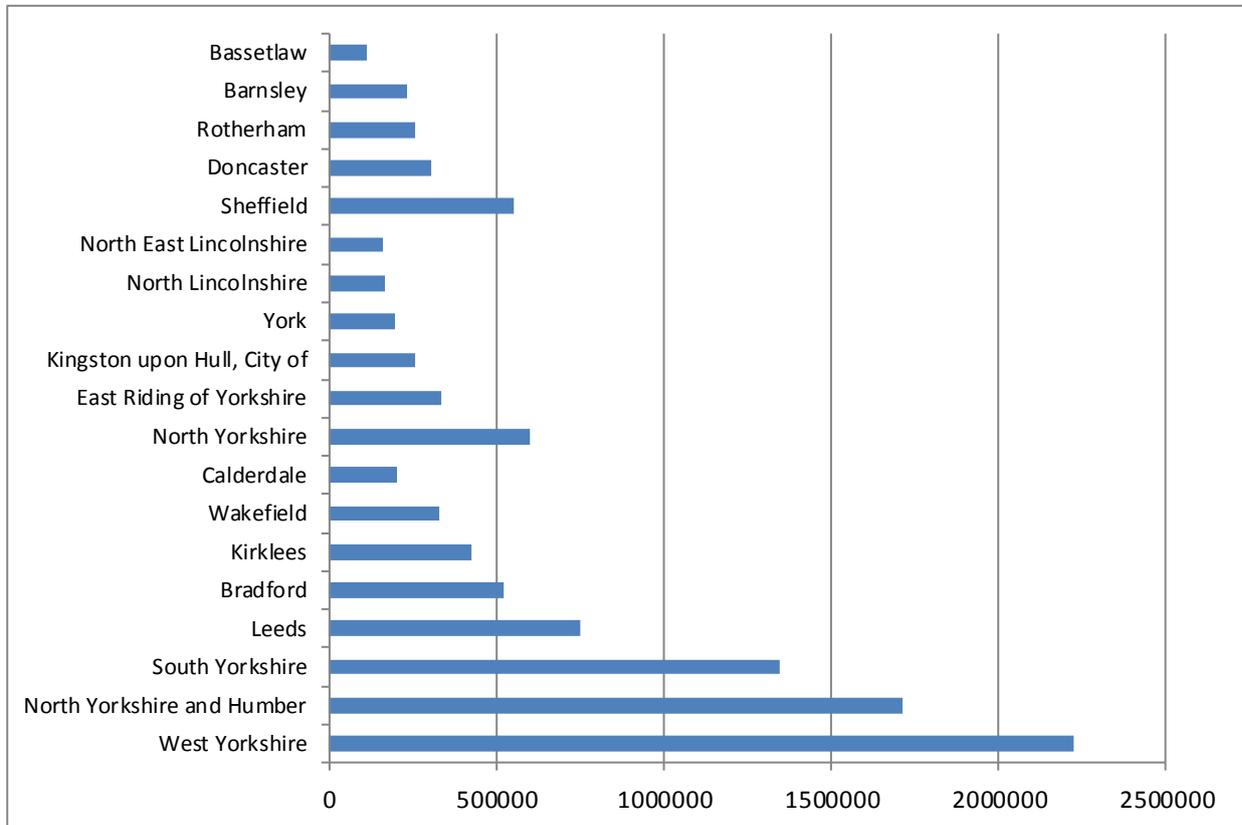
**Figure 3.1 Map of Yorkshire and The Humber**



Source: University of Sheffield, 2014

The population of West Yorkshire was 2,226,058 in 2011<sup>34</sup> (Figure 3.2). There were slightly fewer males, 1,093,264 than females 1,132,794.

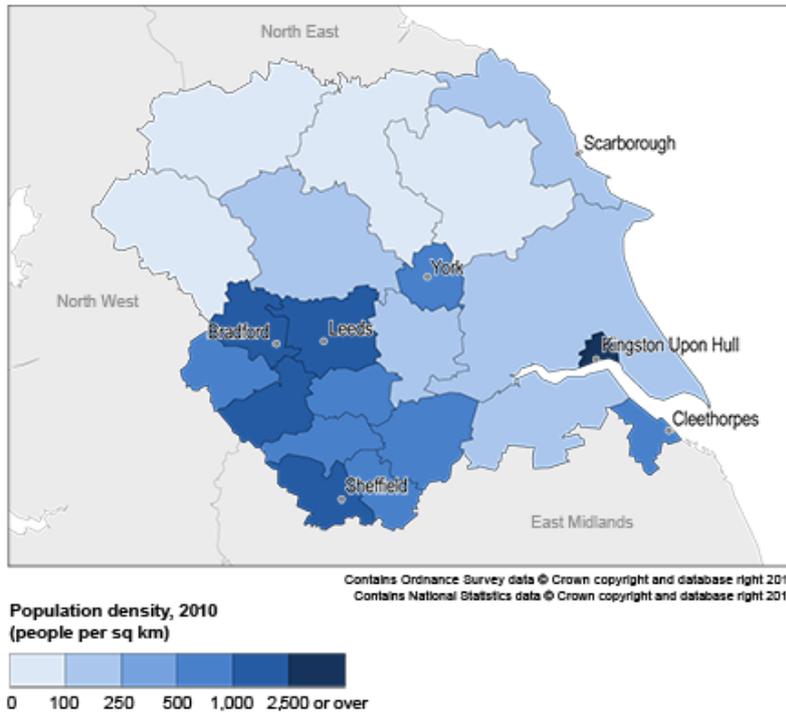
**Figure 3.2 Population of Yorkshire and The Humber (including Bassetlaw, Nottinghamshire)**



Source: Office for National Statistics, Census Sex, 2011 (QS104EW) 2011

Eighty per cent of the population of Yorkshire and The Humber live in urban areas.<sup>35</sup> West Yorkshire is the most densely populated sub-area of Yorkshire and The Humber with 42.1% of the population and the population density is highest in Leeds, Bradford and Kirklees<sup>36</sup> (Figure 3.3).

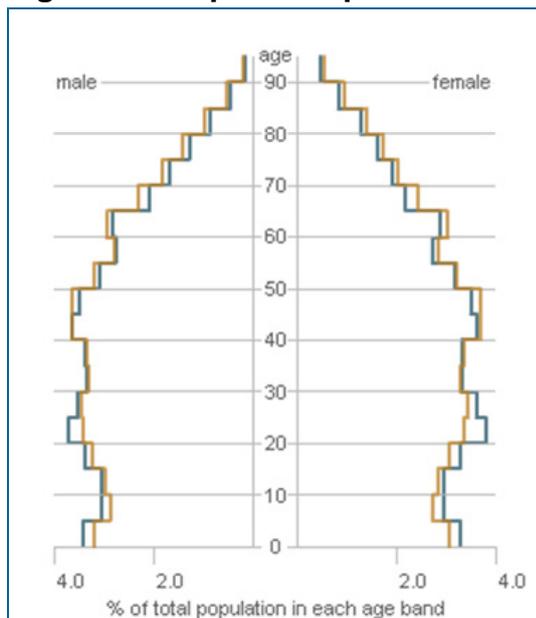
**Figure 3.3 Yorkshire and The Humber population density by local or unitary authority, 2010**



Source: Office for National Statistics, Regional profiles, 2012

The population profile of West Yorkshire is broadly similar to England but with higher proportions of under 30-year-olds and lower proportions of over 45-year-olds (Figure 3.4). The population profiles of each of the five metropolitan district in West Yorkshire are similar to England with differences in Leeds which has higher proportions of 20 to 30-year-olds in part accounted for students attending the two universities; and differences in Bradford and Kirklees which have higher proportions of under 20-year-olds and under 15-year-olds respectively.

**Figure 3.4 Population profile for West Yorkshire**



Blue West Yorkshire population 2,226,058

Brown England population 53,012,456

Source: Office for National Statistics licensed under the Open Government Licence v.2.0.

### Births, deaths and migration in West Yorkshire

The population of Yorkshire and The Humber is increasing. The population estimates for mid-2011 to mid-2012 found that births were at 67,383 were higher than deaths at 49,053. Population change at regional and local authority level can also be attributed for by internal migration in and out of the areas as well as by international immigration or international emigration. There was a net internal migration out of 2,209 and a net international immigration of 11,040 which together accounted for an increase from 5,288,212 to 5,316,691, a 0.5% increase in the population.<sup>37</sup>

Within West Yorkshire the growth in the population during mid-2011 to mid-2012 was primarily due to births being greater than deaths, 11,816. People movement in and out of West Yorkshire for all reasons accounted for a 1,524 increase in the population over the same period<sup>37</sup> (Table 3.1).

**Table 3.1 Births, deaths and population change in West Yorkshire**

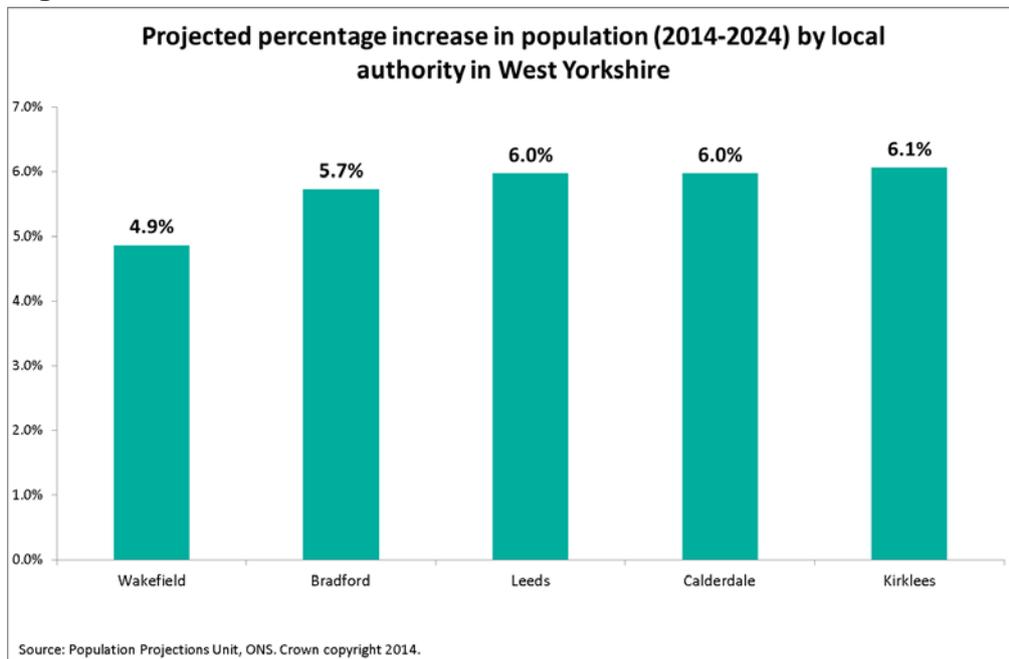
Area	Mid 2011 Population	Births	Deaths	Net Migration in (+)and out (-)	Net International immigration (+) or emigration (-)	Other	Mid 2012 Pop'n	Change
Yorkshire and The Humber	5,288,212	67,383	49,053	-2,209	11,040	1,318	5,316,691	+0.5%
West Yorkshire	2,227,371	31,289	19,473	-3,388	4,941	-29	2,240,711	+0.6%
Leeds	750,683	10,388	6,434	1,397	1,619	2	757,655	+0.1%
Bradford	523,115	8,356	4,337	-3,978	1,452	11	524,619	+0.3%
Kirklees	422,970	5,777	3723	-527	1,041	-21	425,517	+0.6%
Wakefield	326,433	4,104	3,126	-260	492	-16	327,627	+0.4%
Calder-dale	204,170	2664	1853	-20	337	-5	205,293	+0.6%

Source: Office for National Statistics, Population Estimates Mid 2001 Mid 2012 (MYE6CC3), 2014

## Population projections

There is a projected percentage increase in population in all local authorities in West Yorkshire (Figure 3.5).

**Figure 3.5**



## Ethnic diversity in West Yorkshire

While the ethnic profile of Yorkshire and The Humber differs from England with a higher proportion of White ethnic groups and slightly lower proportions of all other ethnic groups, West Yorkshire differs from that of both England and Yorkshire and The Humber with lower proportions of White ethnic groups and with much higher proportions of Asian and Asian British ethnic groups. However within West Yorkshire there is wide variation<sup>38</sup> (Table 3.2).

**Table 3.2 Proportions of ethnic groups in West Yorkshire**

<b>Geographical Area</b>	<b>White Ethnic Groups</b>	<b>Asian or Asian British</b>	<b>Black or Black British</b>	<b>Mixed/Multiple Ethnic Group</b>	<b>Other Ethnic Groups</b>
England	85.4	7.8	3.5	2.3	1.0
Yorkshire and The Humber	88.8	7.3	1.5	1.6	0.8
West Yorkshire	81.8	13.1	2.0	2.2	0.9
Leeds	85.0	7.8	3.5	2.6	1.1
Bradford	67.4	26.8	1.8	2.5	1.5
Kirklees	79.1	16.1	1.9	2.3	0.6
Wakefield	95.4	2.6	0.8	0.9	0.3
Calderdale	89.7	8.3	0.4	1.4	0.2

Source: Office for National Statistics, Census Ethnic Group 2011(QS201EW), 2011

There are further differences between each of the five West Yorkshire metropolitan districts. Leeds has an ethnic profile very similar to England; however Bradford has a marked difference with a much lower proportion of White ethnic groups (67.4%) and a high proportion of Asian and Asian British ethnic groups (26.4%). Kirklees also has lower proportions of White ethnic groups (79.1%) and a higher proportion of Asian and Asian British ethnic groups (15.7%). Conversely Wakefield has a marked difference with a much higher proportion of White Ethnic groups (95.4%).

In Yorkshire and The Humber the proportion of school children from a minority ethnic group is lower than the England average. Within West Yorkshire, Leeds and Calderdale have proportions similar to England and Yorkshire and The Humber respectively, however, Wakefield has a much lower proportion of children from minority ethnic groups (10.3%) and conversely Kirklees (39.5%) and Bradford (53.2%) have much higher proportions of school children from ethnic minority groups,<sup>39</sup> reflecting the higher proportions of Asian and Asian British ethnic groups in their districts<sup>38</sup> (Table 3.3).

**Table 3.3 Percentage of school children from minority ethnic groups in West Yorkshire**

<b>Minority Ethnic Groups</b>	<b>England</b>	<b>Yorkshire and The Humber</b>	<b>Leeds</b>	<b>Bradford</b>	<b>Kirklees</b>	<b>Wakefield</b>	<b>Calderdale</b>
% of school children	26.7	21.2	26.8	53.2	39.5	10.3	21.3

Source: PHE, Child Health Profile, March 2014

## Deprivation

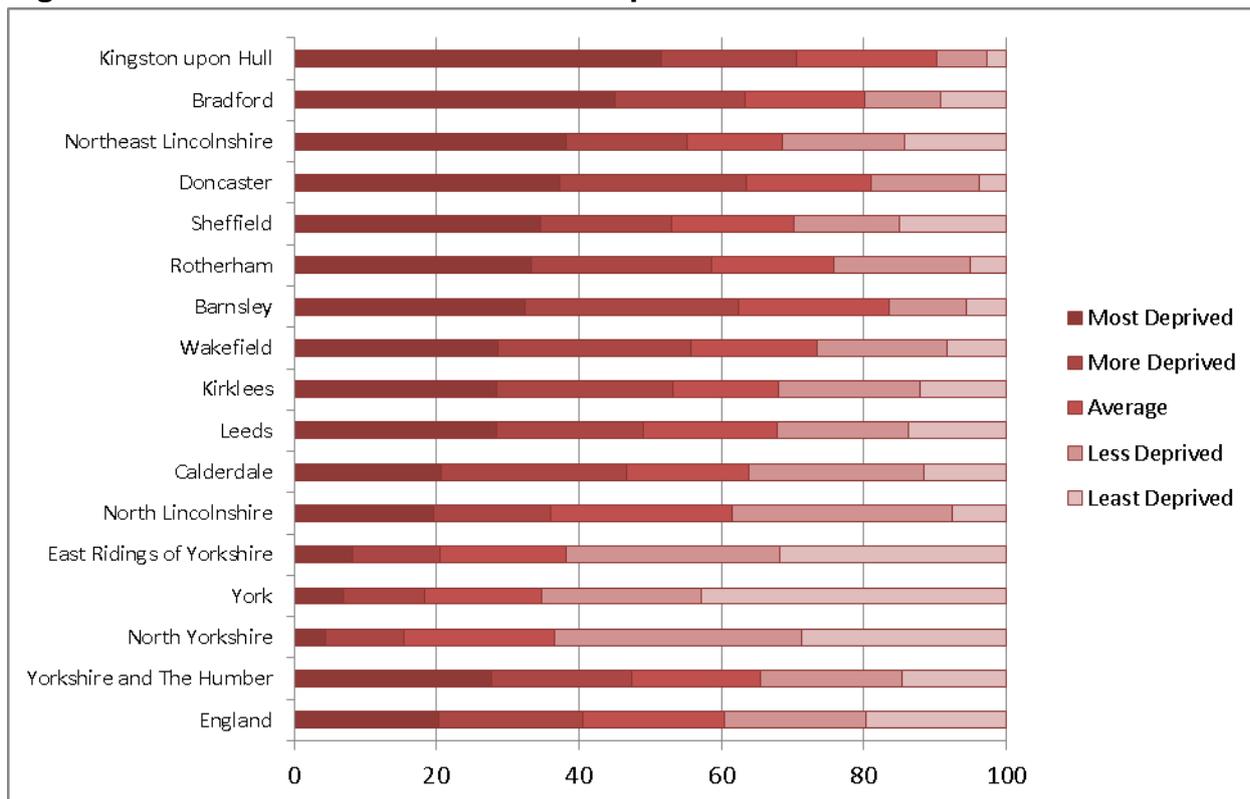
In England, local measures of area deprivation are calculated from the English Indices of Deprivation (2010) which measures a broad concept of multiple deprivation, made up of 38 indicators organised across seven distinct domains of deprivation; income deprivation, employment deprivation, health deprivation and disability, education skills and training deprivation, barriers to houses and services, living environment deprivation, and crime.

The measures across the seven domains are combined, using appropriate weights, to calculate the Index of Multiple Deprivation (IMD 2010) for every area, which is known as Lower layer Super Output Area (LSOA). LSOAs are homogenous small areas of relatively even size of about 1,500 people of which there are 32,482 in England. The IMD 2010 is then used to rank every LSOA in England according to their relative level deprivation.<sup>40</sup>

The ranked list may then be divided into national deprivation quartiles, quintiles or deciles, with the lowest score 1 relating to the most deprived and the highest score relating to the least deprived, according to the overall IMD. All people living in an LSOA are allocated the IMD deprivation score of that LSOA<sup>41</sup> however, not every person in a highly deprived area will themselves be deprived and some deprived people will live in the least deprived areas.<sup>40</sup>

Deprivation in Yorkshire and The Humber is higher than the England average with 47.4 % of the population in the lower two national quintiles of deprivation<sup>42</sup> (Figure 4). In West Yorkshire the proportions of the population living in the lower two quintiles of deprivation is similar to Yorkshire and The Humber ranging between 46.7% to 55.7% in Calderdale, Leeds, Kirklees and Wakefield; however in Bradford a much higher proportion of the population (63.3%) are in the lower two quintiles of deprivation<sup>42</sup> (Figure 3.6).

**Figure 3.6 Yorkshire and The Humber Deprivation Quintiles**



Source: Health profiles. Data Tables for 2013. Deprivation quintiles 2010, PHE, 2013

In Yorkshire and The Humber 23.6% of children aged under 16 live in poverty, slightly higher than the England average of 20.6%. In West Yorkshire a significantly higher proportion of children live in poverty in Bradford, Leeds and Wakefield than the England average<sup>39</sup> (Table 3.4).

**Table 3.4 Children under 16 living in poverty in West Yorkshire**

Children living in poverty	England	Yorkshire and The Humber	Leeds	Bradford	Kirklees	Wakefield	Calderdale
% of children	20.6	23.6	22.5	25.5	20.0	21.4	20.9

Source: Child Health Profile March 2014, PHE, 2014

Maps of West Yorkshire local authorities' showing Index of Multiple Deprivation (IMD) 2010 national deprivation deciles at Lower Super Output Area level (LSOA) can be found in Appendix 1.

## Health inequalities

Variations in health follow a continuum<sup>43</sup> between different socioeconomic groups in society. Higher socioeconomic groups enjoy the best health whereas those of the lowest socioeconomic status experience the worst health,<sup>10,44</sup> as measured by key health indicators such as mortality and morbidity.<sup>45</sup>

In Yorkshire and The Humber, life expectancy is lower than the England average with men living on average to 78.3 years and women to 82.2 years. In West Yorkshire average life expectancy for men is lower than the average for Yorkshire and The Humber and is also lower for women except for Calderdale<sup>39</sup> (Table 3.5).

**Table 3.5 Life expectancy at birth 2010-2012 in West Yorkshire**

	England	Yorkshire and The Humber	Leeds	Bradford	Kirklees	Calderdale	Wakefield
<b>Males</b>	79.2	78.3	78.0	77.5	78.2	77.5	77.8
<b>Females</b>	83.0	82.2	82.1	81.5	82.0	82.2	81.3

Source: Child Health Profile March 2014, PHE, 2014

Within West Yorkshire there is a marked gradient in life expectancy. Men and women living in the most deprived areas can on average expect to live fewer years than men and women in the least deprived areas<sup>41</sup> (Table 3.6).

**Table 3.6 Gap in Life expectancy in years between men and women in the most deprived areas compared to men and women in the least deprived areas in West Yorkshire**

	Leeds	Bradford	Kirklees	Calderdale	Wakefield
<b>Males</b>	12.4	12.0	10.6	11.4	9.9
<b>Females</b>	8.2	8.3	7.6	8.3	7.9

Source: Health Profile September 2013, PHE, 2013

Infant and child mortality rates in West Yorkshire are similar to the England average except for Bradford where both infant and child mortality is significantly worse and in Kirklees where child mortality is significantly worse.<sup>39</sup> Early deaths from heart disease and cancer are higher in West Yorkshire than the England average<sup>41</sup> except for Kirklees where early deaths from cancer are similar to the England average. Throughout the country there is a downward trend in deaths from these diseases and an upward trend in life expectancy.<sup>41</sup>

## Health related behaviours in West Yorkshire

Healthy behaviours can contribute to the prevention and control of non-communicable diseases such as cardiovascular diseases, chronic respiratory diseases, diabetes and cancers.<sup>46</sup> The Health Survey for England monitors trends in the nation's health<sup>47</sup> and health related behaviours as measured by health eating adults, physical activity, alcohol use and tobacco use.<sup>41</sup> Health related behaviours in West Yorkshire local authorities are compared with the England data in Table 3.7.<sup>41</sup>

**Table 3.7 Prevalence of health related behaviours in West Yorkshire local authorities and England**

Health related behaviours	England %	Leeds %	Bradford %	Kirklees %	Calderdale %	Wakefield %
Healthy eating adults	28.7	25.0	24.3	24.5	25.6	21.2
Physically active adults	56.0	61.3	49.4	55.8	50.3	58.0
Increasing and higher risk drinking	22.3	22.3	19.7	21.1	22.1	22.2
Smoking	20.0	23.0	21.5	23.6	22.0	23.0
Smoking in pregnancy	13.3	12.7	16.1	13.3	11.1	21.7

Significantly worse than England average	
Not significantly different from England average	
Significantly better than England average	

Source: Health Profile September 2013, PHE, 2013

## Healthy eating in West Yorkshire

A healthy diet is important in preventing diseases such as cardiovascular disease and diabetes.<sup>48</sup> The annual cost of food related ill health to the NHS was estimated to be £6 billion.<sup>49</sup> A minimum intake of five portions of fruit and vegetables is an important component of a healthy diet<sup>48</sup> and is the measure used for healthy eating in adults.<sup>50</sup> Fewer adults in all West Yorkshire ate healthily than the England average<sup>41</sup> (Table 3.7).

## Physically active adults in West Yorkshire

Lack of physical activity is an important risk factor for chronic non-communicable diseases such as ischemic heart disease and stroke<sup>51</sup> with an estimated direct cost to the NHS of £1.1billion.<sup>52</sup> Guidelines for physical activity for all ages suggest adults (aged 16 and over) should have 150 minutes of activity of moderate intensity a week.<sup>53</sup>

Comparison of physically active adults (aged 16 and over) with the England average of 56.0% found that Leeds was significantly better (61.3%); there was no significant difference in Kirklees and Wakefield however it was significantly worse in Bradford (49.4%) and Calderdale (50.3%)<sup>41</sup> (Table 3.7).

## Obesity in West Yorkshire

Whilst not a health related behaviour, being overweight or obese reflect an unhealthy diet and lack of physical activity. Overweight and obesity are defined as abnormal or excessive fat accumulation that may impair health.<sup>54</sup> Obesity in adults is associated with cardiovascular diseases, diabetes, musculoskeletal disorders and some cancers.<sup>54</sup> Obesity in children is linked to long term physiological and psychological health risks and can persist into adulthood.<sup>55</sup> The estimated cost to the NHS of excess weight is £5 billion each year.<sup>56</sup>

The WHO definition of obesity is a Body Mass index (BMI) greater than or equal to 30. BMI is calculated by weight (kg) divided by height squared (m<sup>2</sup>)<sup>54</sup> (WHO, 2014). In children those classified as obese are those above the 95<sup>th</sup> BMI centiles of the 1990 reference population.<sup>55</sup>

Obesity is associated with low income in women but is evenly distributed across income groups in men.<sup>57</sup> Obesity prevalence in children is highest for both boys and girls in the two most deprived IMD quintiles (16% and 19% compared with 9% and 14% in higher quintiles).<sup>55</sup>

In all local authorities in West Yorkshire adult obesity is significantly worse than the England average; in four to five-year-olds and 10 to 11-year-olds child obesity is not significantly different than the England average except for 10 to 11-year-olds in Bradford where it is significantly worse<sup>39,41</sup> (Table 3.8).

**Table 3.8 Obesity prevalence in West Yorkshire**

Obesity	England %	Leeds %	Bradford %	Kirklees %	Calderdale %	Wakefield %
Adult obesity	24.2	26.0	25.6	27.0	27.0	28.5
Child obesity 4 to 5 years*	9.2	8.7	9.8	9.2	8.3	9.3
Child obesity 10 to 11 years*	18.9	19.6	20.5	18.5	17.6	18.9

Significantly worse than England average	
Not significantly different from England average	
Significantly better than England average	

Source: Health Profile September 2013, PHE; \*Child Health Profile March 2014, PHE, 2014

## Alcohol use in West Yorkshire

Alcohol use can affect health and increases the risks of accidents, injury and violence. The health harms of alcohol are 'dose -dependent'; that is the risk increases with the amount drunk. In England hospital admissions related to alcohol consumption doubled from half a million to over a million between 2002 and 2012.<sup>58</sup>

The recommended limits to avoid the risk of alcohol-related harm are no more than 21 units in men and 14. Adults who regularly drink more than these amounts are considered to be at increased risk. Men who regularly drink more than eight units a day (or 50 units a week) and women who regularly drink more than six units a day (or 35 units a week) are higher risk drinkers at particular risk of harm.<sup>58</sup>

In West Yorkshire local authorities the proportion of adults over the age of 16 years who are higher risk drinkers is not significantly different from the England average<sup>41</sup> (Table 3.7).

## Tobacco use in West Yorkshire

Tobacco use is a risk for cancers and chronic respiratory and circulatory disease.<sup>59</sup> In England tobacco smoking 'is the greatest cause of preventable illness and premature death'<sup>60</sup>(p152). Approximately 102,000 people died from smoking related diseases in the UK in 2009.<sup>61</sup> It costs the NHS an estimated £2.7 billion to treat smoking related diseases.<sup>62</sup>

Twenty per cent of English adults aged 18 years and over smoke tobacco. Tobacco use was not significantly different than the England average in Bradford and Calderdale but was significantly worse in Kirklees (23.6%), Leeds (23.0%) and Wakefield (23%).<sup>41</sup> Smoking in pregnancy (% smoking in pregnancy where smoking status is known) was not significantly different than the England average of 13.3% in

Calderdale, Leeds and Kirklees but was significantly worse in Wakefield (21.7%), Bradford (16.1%)<sup>41</sup> (Table 3.7).

The 2009 Adult Dental Health Survey<sup>60</sup> reported that more men than women smoked and that smoking was socially patterned, with 8.8% of participants smoking in the least deprived areas compared to 26.4% in the most deprived. Despite this prevalence only 6.8% of smokers reported receiving quitting advice from a dentist and only 2.9% reported receiving advice from a member of the dental team.

### Oral hygiene practices

The most prevalent oral diseases, tooth decay and gum diseases can both be reduced by regular tooth brushing with fluoride toothpaste. The fluoride in toothpaste is the important element of tooth brushing to control tooth decay, as it prevents, controls and arrests tooth decay. Higher concentrations of fluoride in toothpaste lead to better control.<sup>16</sup> By contrast the physical removal of plaque is the important element of tooth brushing to control gum disease as it reduces the inflammatory response of the gums and its consequences.<sup>16</sup>

In 2008/09, most 12-year-old schoolchildren reported brushing their teeth twice daily<sup>63</sup> (Table 4.1).

**Table 3.9 Frequency of tooth brushing among 12-year-olds, 2008/09**

Area	Never (%)	Once a day or less (%)	Twice daily (%)	More than twice daily (%)
Yorkshire and The Humber	0.2	22.3	73.1	3.8
England	0.2	22.8	72.9	3.7

Source: Survey of 12-year-old children 2008/9, NHS DEP 2011

In the 2009 Adult Dental Health Survey 72% of adults in Yorkshire and the Humber claimed to brush their teeth twice or more often per day, 22% once per day, 5% less than once per day and 1% never, which was comparable to the England responses (75%, 22%, 2% and 1% respectively).<sup>60</sup>

### The relationship of health related behaviours to deprivation

Health behaviours are related to deprivation with those in the most deprived quintile having the lowest physical activity<sup>51</sup> more likely to drink alcohol in the previous week, more likely to smoke tobacco and less likely to consume five or more portions of fruit and vegetables.<sup>64</sup>

## Summary

- West Yorkshire is the most densely populated area of Yorkshire and The Humber with 42.1% of the population (2.2 million) and highest population density in Leeds, Bradford and Kirklees
- the population profile of West Yorkshire is broadly similar to England but with higher proportion of under 30-year-olds and lower proportions of over 45-year-olds than the England average
- over the next ten years there is a projected population growth in all West Yorkshire local authorities ranging of about 5 to 6 % the primary reason due to births being greater than deaths
- the ethnic diversity in Leeds is similar to the England average but Wakefield and Calderdale have higher proportions of White ethnic groups. Bradford and Kirklees have lower proportions of White ethnic groups and much higher proportions of Asian ethnic groups and this is reflected in the higher proportions of school children from ethnic minority groups found in these two local authorities
- the proportions of the population living in the lower two quintiles of deprivation is higher than the England average ranging between 46.7% to 55.7% in Calderdale, Leeds, Kirklees and Wakefield; however in Bradford an even higher proportion of the population (63.3%) fall into the lower two quintiles of deprivation. Compared to the England average a significantly higher proportion of children live in poverty in Bradford, Leeds and Wakefield
- compared to other West Yorkshire local authorities Bradford (31.0%) and Leeds (19.3%) have the highest proportion of their population living in LSOAs which fall into the most deprived deprivation decile
- life expectancy is lower than the England average. In addition men living in the most deprived areas can on average expect a shorter life expectancy of nine or more years than men in living the least deprived areas; and women in the most deprived areas can expect a shorter life expectancy of seven or more years than women living in the least deprived areas
- healthy behaviours can contribute to the prevention and control of non-communicable diseases such as cardiovascular diseases, chronic respiratory diseases, diabetes and cancers. Healthy eating adults in all local authorities were significantly worse than the England average of 28.7%. In all local authorities adult obesity was significantly worse than the England average; in four to five-year-olds and 10 to 11-year-olds child obesity was not significantly different than the England average except for 10 to 11-year-olds in Bradford where it is significantly worse

- tobacco use was significantly worse in Kirklees (23.6%), Leeds (23%) and Wakefield (23%)

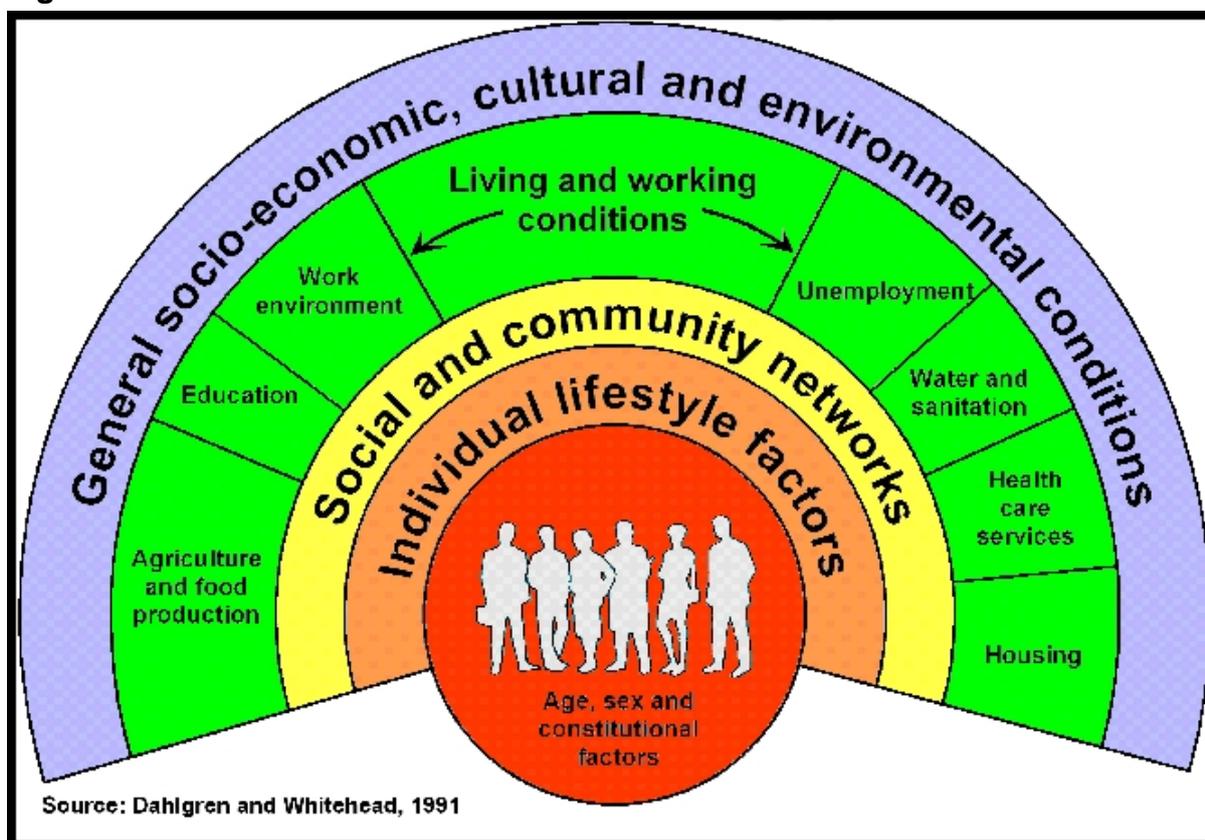
### Key issues for consideration

- oral health and oral health improvement strategies should seek to address the health inequalities between and within local authority areas across West Yorkshire
- NHS England should ensure that commissioning plans consider the expected increases in population size in all the local authorities in West Yorkshire

## 4. Determinants and impacts of oral health

Good oral health is imperative for good general health as it influences the general wellbeing and quality of life of people by allowing them to eat, speak and socialise without active disease.<sup>28</sup> To achieve sustainable improvements in oral health and reduce inequalities it is necessary to consider the underlying factors influencing poor oral health. A large spectrum of factors have been identified by contemporary public health research as influencing oral health including economic and social policy to individual health behaviours (Figure 4.1). Individual behavioural change approaches to improving oral health have been shown to have only short term benefits<sup>65</sup> and focussing on the wider determinants of health is necessary to achieve sustainable improvements in health related behaviours.

Figure 4.1 Influences on health



## Social determinants of oral health

The World Health Organisation defines the social determinants of health as the conditions in which people are born, grow, live, work and age, including the health system.<sup>66</sup> These circumstances are shaped by the distribution of money, power and resources at global, national and local levels, which are themselves influenced by policy choices. The social determinants of health are mostly responsible for health inequities, which are the unfair and avoidable differences in health status seen within and between countries.

In the UK health inequalities including oral health inequalities are a dominant feature both nationally and across all areas. Health inequalities are not inevitable; they stem from inequalities in income, education, employment and neighbourhood circumstances throughout life and can be reduced. Avoidable inequalities are unfair and remedying them is a matter of social justice. As described in Chapter 1 Marmot proposed the most effective evidence based strategies for reducing health inequalities in England.<sup>4</sup>

The relationship between oral diseases and the social determinants of health are inextricably bound together. As discussed above, it is well-recognised that oral health is influenced by a wide range of determinants starting from individual lifestyle choices such as sugar intake, to national policy, for example smoke-free environments and policies tackling sugar and alcohol availability. It is essential that for a successful public health approach, these wider determinants must be focussed upon through a partnership approach.

## Oral diseases and conditions

Good oral health is threatened by conditions such as gum (periodontal) disease, tooth decay (dental caries), trauma and oral (mouth) cancers. The common oral diseases and conditions are described below together with their impacts on individuals and society.

### Tooth decay

Tooth decay (dental caries) occurs when a tooth demineralises in response to the acids produced when plaque bacteria use dietary sugars for energy. The acids attack the tooth causing it to lose minerals shortly after sugar enters the mouth and the process can last for an hour. If the tooth is given a rest phase without any sugar, the chemistry of the mouth (particularly saliva) can then replace the lost minerals. Unfortunately frequent sugar intakes with fewer periods of rest shift the balance towards demineralisation of the tooth, eventually leading to tooth decay. Once decay has breached the outer layer of enamel it spreads widely in the dentine beneath. As

it reaches the central pulp (nerve), it causes severe pain and infection often leading to the loss of the tooth. In older people, tooth decay can also attack the root surface of the tooth where gums have receded, which has no outer protective layer of enamel. The groups at highest risk of tooth decay include infants, preschool children, adolescents and older people, especially those living in institutions.

The sugars causing tooth decay are present mainly in confectionary, biscuits and soft drinks. The WHO currently recommends sugar should make up less than 10% (approximately 50g) of people's energy intake per day with a further reduction to below 5% offering additional benefits.<sup>67</sup> Most people in England consume more sugars than the recommended amount.

Factors such as costs, availability, access to healthy foods and clear information are all important in influencing what people eat and drink. Eating a healthy balanced diet containing fruit and vegetables that is low in fat, salt and sugar and based on whole grain products is important for good health. *Delivering Better Oral Health*<sup>16</sup> supports dental teams to give clear and consistent evidence-based advice to their patients. Advice relates to infant feeding, the intake of sugars within the diet, a balanced diet and the five a day message. Current dietary advice is to reduce not only the amount of sugar within the diet but also the frequency of its intake to reduce the risk of tooth decay

## Fluoride use

Fluoride acts in several ways to slow and prevent the tooth decay process and also to reverse tooth decay in its early stages. The most important modes of action are to reduce demineralisation and promote re-mineralisation so that minerals are deposited back into the tooth surface. The effectiveness of fluoride in reducing levels of tooth decay at an individual and community level is well documented.<sup>16</sup>

### Individual level

Fluoride has been added to toothpaste since the 1970s and this is widely recognised as the main reason for improved oral health in the UK. The preventive fraction ie the relative effectiveness of fluoride toothpaste in reducing tooth decay is 24%.<sup>68</sup> Programmes such as *Brushing for Life* have been commissioned for example in Leeds, Bradford and Calderdale and involve the promotion of tooth brushing as soon as the teeth erupt in order to increase the delivery of fluoride to children from lower socio-economic groups.

Fluoride varnishes are applied professionally, usually six monthly and have a preventive fraction of 37% in baby teeth and 43% in adult teeth.<sup>69</sup>

Fluoride rinses can be prescribed for people aged eight years and above for daily or weekly use, in addition to twice daily brushing with fluoride toothpaste. Rinses

require patient compliance and should be used at a different time to tooth brushing to maximise the topical effect of fluoride, which relates to frequency of availability. The preventive fraction for fluoride rinses is 26%.<sup>70</sup>

### Community level

In areas with high levels of tooth decay water fluoridation is an effective and safe public health intervention. The level of fluoride, which is naturally present in water supplies, can be adjusted to the optimal level, one part per million (ppm) to improve dental health. In the West Midlands 70% of the population consume fluoridated water and children living in these areas have better oral health at every level of deprivation. In West Yorkshire there is no naturally or artificially fluoridated water.<sup>71</sup>

Water fluoridation became the responsibility of local authorities from April 2013. Local authorities are responsible for conducting public consultations and for meeting the costs the water companies incur for implementing and operating water fluoridation schemes.<sup>1</sup>

Fluoride varnish and tooth brushing may also be provided at a community level such as tooth brushing clubs in schools.<sup>14</sup>

### Tooth wear

Apart from tooth decay, tooth tissue loss can also occur due to tooth wear. Tooth wear is a natural part of life, so the extent and severity of wear is age related. The wear can have chemical, physical or mechanical causes. The tooth tissue can dissolve in dietary or other acids (erosion), be worn away by contact with something else, such as a toothbrush and abrasive paste (abrasion) or the top and bottom teeth may grind against each other and be worn away (attrition). Typically, these processes all occur together with the overall result being loss of tooth tissue changing in the shape and form of the tooth. Whilst wear is a natural process, sometimes it can be rapid and destructive and requires treatment.

Tooth wear is most commonly seen as erosion. Children and young people, who consume excessive amounts of acidic fizzy drinks (including diet and sugar free varieties), are more likely to be affected by tooth erosion. Less commonly, erosion rises from intrinsic factors such as frequent vomiting or regurgitation in groups with stomach acidity problems or eating disorders such as bulimia.

Whilst severe tooth wear can have significant impacts on individuals, affecting function and appearance, it is not considered to be a public health problem.

### Gum (periodontal) diseases

Gum (periodontal) diseases *comprise a range of conditions* characterised by inflammation of the gums and loss of the tissues supporting the teeth, including bone. The diseases are caused by the interaction between the plaque bacteria and the body's immune system. The mild forms of disease, where there is only inflammation of the gums (gingivitis) are very common, affecting 54% of adults in England and Wales. In the more severe forms the attachment between tooth and gum is lost, causing a pocket. Forty five per cent of dentate adults have pocketing, most of which (37% of adults) is mild, between 4 and 6mm deep. Nine per cent have deeper pockets. As the pocketing progresses slowly it is more common amongst older people.

Gum diseases can cause a variety of symptoms but are usually painless until an advanced stage. Gum diseases affect a large proportion of the population and become more common with increasing age. The progressive loss of the supporting structures of the teeth, can ultimately lead to looseness. Loss of untreated teeth is the most important manifestation of gum disease.

### Mouth (oral) cancers

Although mouth cancer is relatively uncommon it has a significant impact on the lives of those people affected because the disease and its treatments may cause difficulty in speaking and swallowing and sometimes affect facial appearance. The average 5-year survival rate is 50%. Early diagnosis increases five year survival to 80% but small tumours are often undetected because of low awareness and their painless nature mean that people often only seek help when the cancer is advanced.

The International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD 10) defines oral cancers. Mouth cancers include ICD 10 codes C00-C14, C30-C32, which can be defined as head and neck cancers, excluding the thyroid gland.<sup>72</sup>

The main risk factors for oral mouth cancer are use of tobacco, combined with alcohol consumption. These two factors act synergistically and this multiplies the risk of developing mouth cancer by up to 40%. Smokers are 7-10 times more likely to suffer from an oral cancer when compared to those who have never smoked and those who regularly use smokeless tobacco have 11.4 times the risk of a non-user.<sup>73</sup> Diet is also a risk factor for oral cancer with some evidence stating the protective role of fruits and vegetables, particularly citrus fruits in the prevention of the development of cancers of the digestive and upper respiratory tract.<sup>74</sup>

In the last 15 years mouth cancer incidence has increased from approximately 5000 cases per year in the UK to more than 7000. This increase appears to be related to alcohol use and infection with Human Papilloma Virus.

## Tobacco use

As well as causing mouth cancer, tobacco use affects the mouth by staining of the teeth, discolouring 'tooth-coloured' restorations and dentures, reducing taste sensation, causing bad breath, delaying healing and strongly increasing the risk of gum disease.

Tobacco products may be smoked or used in smokeless.

## Smokeless tobacco

Smokeless tobacco refers to over 30 different products worldwide. The main products used in the UK are betel quid (paan) with tobacco, gutkha and niswar. All forms of smokeless tobacco, whether or not combined with other ingredients, increase the risk of mouth cancer, pancreatic cancer, gum disease and heart disease. In England smokeless tobacco products are mainly used by the South Asian community. The Health Survey for England<sup>75</sup> (2004) recorded the highest self-reported use of smokeless tobacco among Bangladeshi women (16%) and men (9%), followed by Indian men (4%), Pakistani men (2%) and Indian and Pakistani women (both 1%).

Smokeless tobacco is sometimes used by the whole family and children are often not discouraged.<sup>76</sup> There is compelling evidence that people from South Asian backgrounds are at increased risk of mouth cancer with increased morbidity and mortality rates because of smokeless tobacco use. The debate around how to support smokeless tobacco users has begun at a national government policy level. The issues include regulations in the sale of these products<sup>77</sup> along with the support to quit for user.<sup>16,17</sup>

## Shisha smoking

Shisha is a device for smoking tobacco that is traditionally used in Middle Eastern cultures. Shisha is operated through a water filter and indirect heat; consequently smokers often feel it is less harmful than cigarettes.

## Khat chewing

Khat or Qat is an edible flowering plant and mild stimulant that the WHO classifies as a drug of abuse, though it is not considered to be very addictive. Until July 2013, the UK was the only European country where khat was legal. Since July 2013 khat has been classified as a class C substance under the Misuse of Drugs Act 1971. Khat is often chewed and kept in the mouth for prolonged periods, up to six hours. Consequently, negative oral effects are to chemical and mechanical irritation of the

mouth. These effects include: white changes in the mouth, mucosal pigmentation, dry mouth and gum disease.<sup>78,79</sup>

## Alcohol

Together with tobacco use alcohol is a key risk factor for mouth cancer. The effect of alcohol consumption and combined tobacco use potentiates the risk of developing mouth cancer in heavy drinkers and smokers to 30 times that of non-users to develop mouth cancer.<sup>80</sup> Many major facial traumas are related to alcohol use.<sup>81,82</sup>

Alcohol misuse contributes to increased mortality, chronic ill-health, violent crime and antisocial behaviour and places a considerable burden on the NHS. The annual cost to the NHS due to alcohol misuse was estimated at £2.7 billion at 2006/07 prices with alcohol accounting for 6% of all hospital admissions.

## Human papilloma virus

The human papilloma virus has a role in the development of oral cancer. There are over 100 genotypes in the human papilloma group of viruses. However, human papilloma virus types 6, 11, 16 and 18 are the viruses which infect the mucosal epithelial cells in the oral cavity and oropharynx. It has been suggested that 20-25% of head and neck cancers contain human papilloma virus.<sup>83</sup> In England, incidence rates of human papilloma virus associated oral pharyngeal cancers rose sharply between 2005 and 2010, from 2.1 per 100,000 to 6.2 per 100,000 of the population.

Currently all females aged 12 years to 13 years are offered vaccination against some human papilloma virus to reduce the risk of developing cervical cancer. It is estimated that this programme will eventually prevent up to 400 deaths a year. The British Dental Association is supporting calls for gender-neutral human papilloma virus vaccination, in a bid to reduce the number of oro-pharyngeal cancers although no trials of its use against oral cancer have been reported.

## Facial and tooth abnormalities

Tooth alignment problems occur because of a discrepancy between jaw size and the number of teeth present. Commonly, there is a lack of space in the mouth for all the adult teeth. Problems with tooth alignment may also occur in association with other syndromes such as cleft lip and palate.

Irregularly positioned teeth may be treated with orthodontic care. Eligibility for NHS orthodontic care is dependent on the severity of misalignment. Orthodontic treatment need is assessed using the Index of Orthodontic Treatment Need (IOTN). The IOTN consists of two separate components, the aesthetic component and the dental health

component. The aesthetic component is graded from 1-10, looking at the overall attractiveness of the anterior teeth by comparison with a visual chart. The dental health component is a five point scale which looks at different aspects of malocclusion including missing teeth, overjet, crossbite, displacement of contact points and overbite. It is considered that children who fall into the most severe categories of misaligned teeth, IOTN 4 and 5 are most likely to benefit from orthodontic care as the improvement in dental health in these children is likely to outweigh the risks. In addition, children in category 3 with the most severe dental aesthetic components (categories 6-10) are also considered to need orthodontic treatment.

## Cleft lip and palate

Clefts occur when the upper lip and/or palatal shelves fail to fuse during development of the embryo. The type of cleft and how severe it is can vary widely between children. The exact cause of clefts is not known, although evidence suggests they are caused by a combination of genetics and environmental factors, such as smoking and drinking in early pregnancy and a lack of folic acid in the mother's diet. Cleft lip and palate can occur on its own (non-syndromic) or can sometimes be part of a wider series of birth defects (syndromic).

Cleft lip and/or palate can affect a variety of functions, including speech and hearing. Appearance and psychosocial health may also be compromised in those with a cleft. Typically, children with these disorders need multidisciplinary care from birth to adulthood and they have higher morbidity and mortality throughout life compared with unaffected individuals.

## Social impacts of oral disease

Good oral health is essential for good general health and wellbeing. Oral disease may cause pain and discomfort, sleepless nights, loss of function and self-esteem. The discomfort may disrupt family life and lead to time off work or school. Decayed or missing teeth or ill-fitting dentures may lead to social isolation and loss of confidence. Limited function of the dentition may also restrict food choices compromising nutritional status. The 2010 Global Burden of Disease study reported that children aged five to nine years experienced the most disability caused by poor oral health, with the level of disability exceeding that caused by vision or hearing loss and diabetes mellitus.<sup>84</sup>

There is a substantial body of treatment that links the oral diseases described in this report to impacts on people's quality of life. Furthermore, treatment of these diseases improves quality of life. There is also appreciable evidence that the appearances of oral diseases influences the social judgements of others so that people with poor

dental appearance are deemed to be less intellectually or socially competent. Judgements such as these will influence the life chances of people with visible oral disease.

## Financial impacts of oral disease

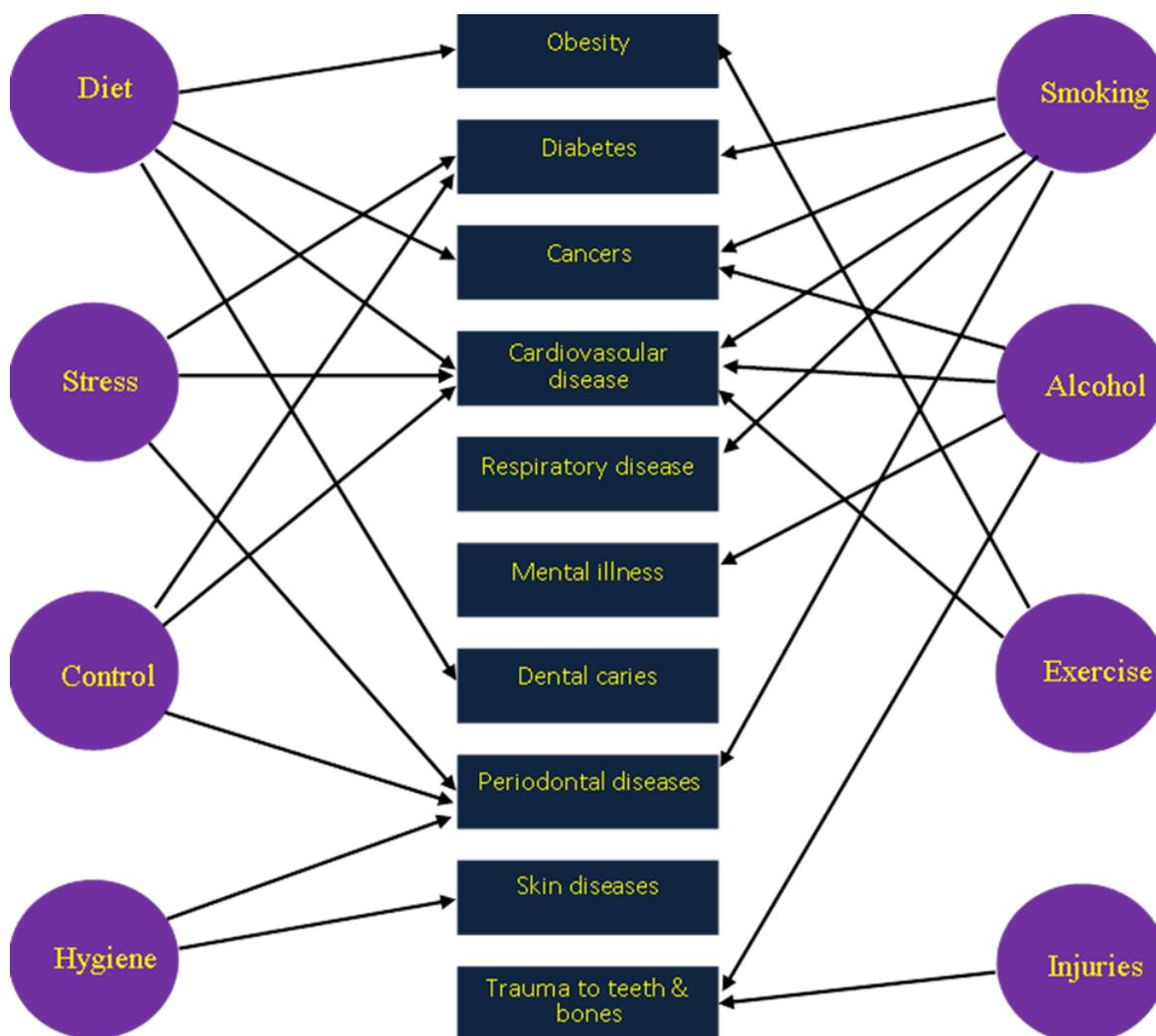
In England, in 2012/13 the spend on NHS dental services was £3.58 billion with a further spend of £660 million in patient charges. The costs locally are detailed in Chapter 6. In addition, expenditure on private dentistry outside the NHS is likely to exceed £2.5 billion in England. These financial impacts are likely to increase as treatment options become more complex and costly for an aging population retaining heavily restored teeth for longer and public expectations regarding maintaining teeth for life increase.

## A common risk factor approach

Oral diseases and conditions share risk factors with other diseases such as cancer, cardiovascular disease and obesity.<sup>85</sup> A common risk factor approach was developed as there are identifiable risk factors which, if controlled, could have an impact on a multitude of conditions and diseases. Applying a common risk factor approach to multiple public health strategies would impact on multiple health outcomes and ensure more effective use of limited resources.

The links between the common risk factors for oral and general health are shown below for a multitude of general and oral health conditions such as, obesity, diabetes, cancers, cardiovascular diseases, tooth decay and gum diseases (Figure 4.2).<sup>85</sup>

Figure 4.2 The common risk factor approach



Source Sheiham and Watt, 2000

## Summary

- poor oral health results in social and financial impacts both for the individual and society as a whole
- the main oral diseases are preventable through optimising exposure to fluoride, limiting consumption of dietary sugars, good oral hygiene and reducing tobacco and alcohol consumption
- however, focusing solely on individual behaviour change has only short term benefits for oral and general health. It is therefore essential to focus on the wider determinants of health and partnership delivery to achieve sustainable improvements
- Marmot's review of health inequalities advocated six policy actions to reduce health inequalities. All health improvement partnerships

should contribute to this agenda addressing the wider determinants of health

- lifestyle choices such as poor diet, poor oral hygiene practices, tobacco and alcohol use and sexual behaviours all have impacts on oral health and general health

### Key issues for consideration

- a common risk factor approach focusing on the wider determinants as well as facilitating healthy choices will impact not only on oral health but wider general health

## 5. Epidemiology of oral diseases

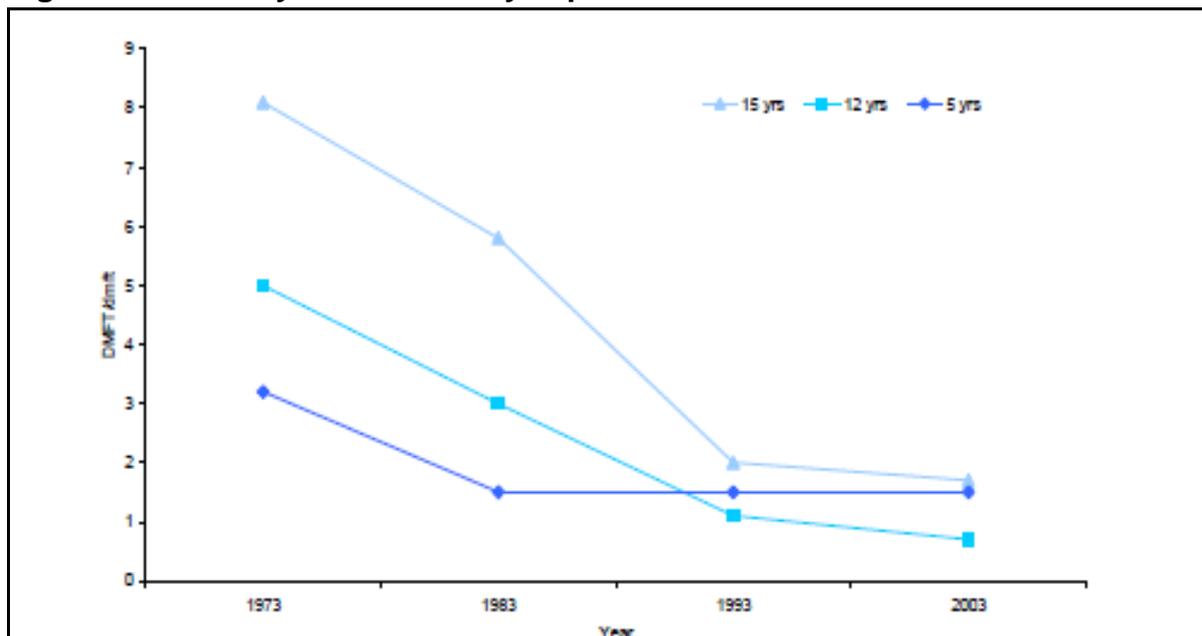
There has been a significant decline in tooth decay and improvements in oral health over the past 40 years. However, a substantial proportion of the population experiences high levels of oral disease. The main oral diseases and their impacts have been described in Chapter 4. This chapter will describe the common oral diseases in children, adults and vulnerable people using national and local oral health survey data. Tooth decay is the main oral disease affecting children in West Yorkshire. It has significant impacts on the daily lives of children and their families including pain, sleepless nights and time missed from school and work. As discussed previously, the main risk factors for tooth decay are diets high in sugars and lack of exposure to fluoride therefore tooth decay is largely preventable.

### Epidemiology of oral diseases in children

A commonly used indicator of tooth decay and treatment experience, the dmft index, is obtained by calculating the average number of decayed (d), missing due to decay (m) and filled due to decay (f) teeth (t) in a population. In five-year-old children, this score will be for the baby teeth and is recorded as lower case (dmft). In 12-year-old children it reports the adult teeth in upper case (DMFT). The average (mean) dmft/DMFT is a measure of the severity of tooth decay experience.

As tooth decay in children is highly polarised towards lower socio-economic groups another indicator, (% of children with a dmft>0) demonstrates the proportion of children with obvious tooth decay experience. A further useful indicator, mean dmft>0 demonstrates the severity of tooth decay after excluding those children with no obvious tooth decay experience. The Care Index is the proportion of decayed teeth that have been treated by fillings or restorations.

National surveys of the oral health of children have been undertaken on a ten yearly cycle beginning in 1973. Since then there has been a decline in the average number of teeth with tooth decay which was also associated with a decline in the number of children experiencing tooth decay. This rapid decline is attributed to the introduction of fluoridated tooth paste in the 1970s. The last national children's survey in 2003 demonstrated a continuing decline in decay experience in the permanent teeth of 12 and 15-year-old children. However evidence for this in the baby teeth of five-year-olds was more limited (Figure 5.1) with the improvement seen from 1973 to 1983 having curtailed. However the findings from the last two NHS Dental Epidemiology surveys of five-year-old children in England (2007-2008 and 2011-12) showed a significant decline with a fall in average dmft from 1.11 in 2008 to 0.93 in 2012.

**Figure 5.1 Severity of tooth decay experience in children from 1973 to 2003<sup>86</sup>**

Source: National Children's Dental Surveys 1973 to 2003, Harker and Morris, 2005

The 2003 national survey also highlighted inequalities by social status in five-year-old children. Children from the lowest social groups were twice as likely to have tooth decay as children from the highest social group.

Regular NHS dental epidemiological surveys allow more detailed information at a local level and have provided information on the oral health status of 5, 12 and 14-year-old schoolchildren since 1985. In this chapter a broad overview of findings will be given and more detailed findings of the last 5 and 12-year-old surveys may be found in Appendix 2 (Table I and II). In 2013 a national survey of three-year-old pre-school children was carried out for the first time.

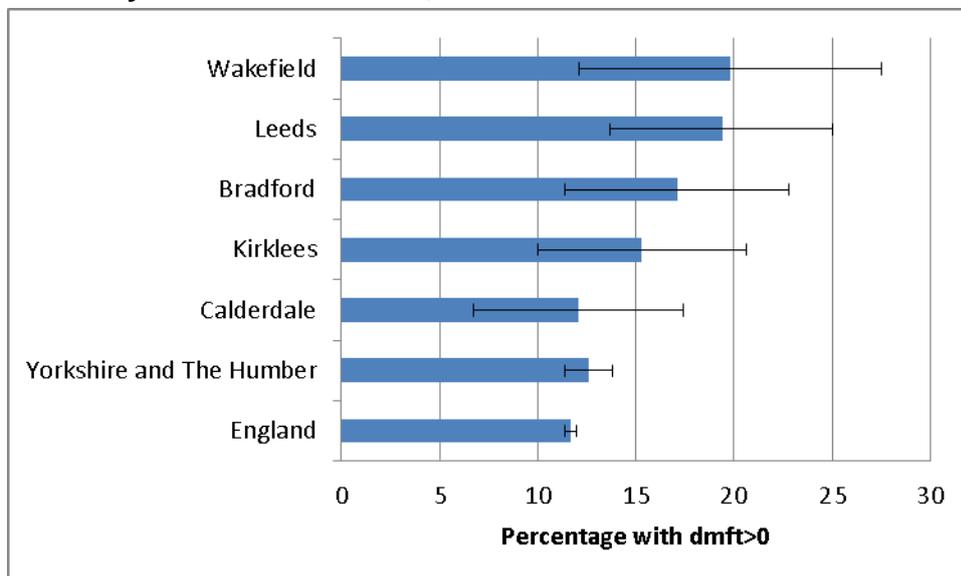
### Tooth decay in three-year-old preschool children

The 2013 national survey examined three-year-old children, attending private and state funded nurseries and nursery classes attached to schools and play groups.<sup>87</sup> Yorkshire and The Humber was amongst the worst four areas in England for oral health for this age group.

The proportion of three-year-old children experiencing tooth decay is an indicator of prevalence of tooth decay. Although the large majority of three-year-olds were free from visually obvious tooth decay, the prevalence of tooth decay in three-year-olds in England was 11.7% and in Yorkshire and The Humber the prevalence (12.6%) was higher than the England average, the fourth worst area in the country. The proportion of three-year-olds in West Yorkshire with experience of tooth decay was higher than

the England average in all local authorities, ranging from 12.1% in Calderdale to 19.8% in Wakefield (Figure 5.2).

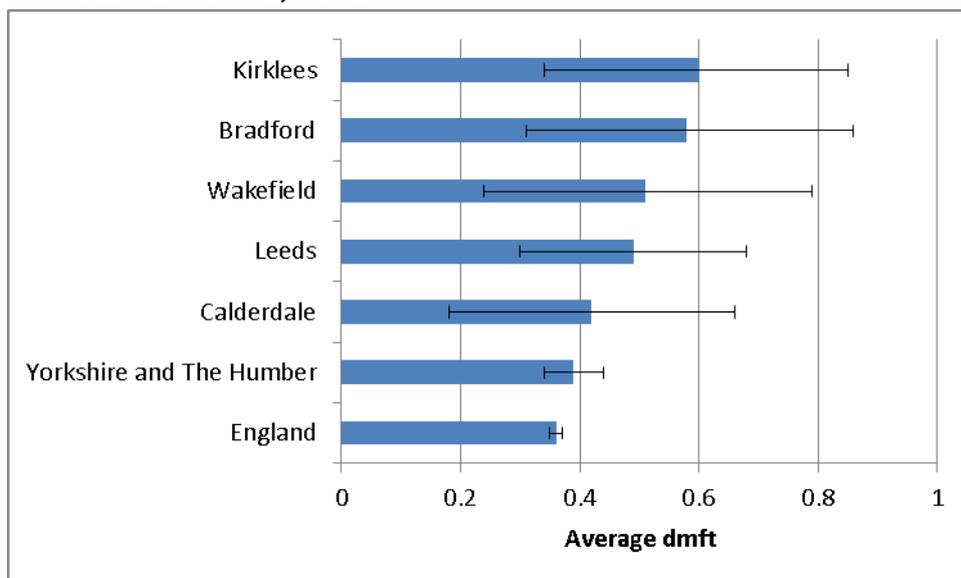
**Figure 5.2 Prevalence of tooth decay experience in three-year-olds by local authority in West Yorkshire, 2013**



Source: Oral health survey of three-year-old children, PHE, 2014

The severity of tooth decay is measured by average number of teeth per child affected by tooth decay (decayed, missing or filled teeth (dmft)). The severity of tooth decay in three-year-olds in England was 0.36 and in Yorkshire and The Humber the severity was 0.39, the fourth worst area in the country. In all West Yorkshire local authorities the severity of tooth decay was higher than the England average ranging from 0.42 in Calderdale to 0.60 in Kirklees (Figure 5.3).

**Figure 5.3 Severity of tooth decay experience in three-year-olds by local authority in West Yorkshire, 2013**



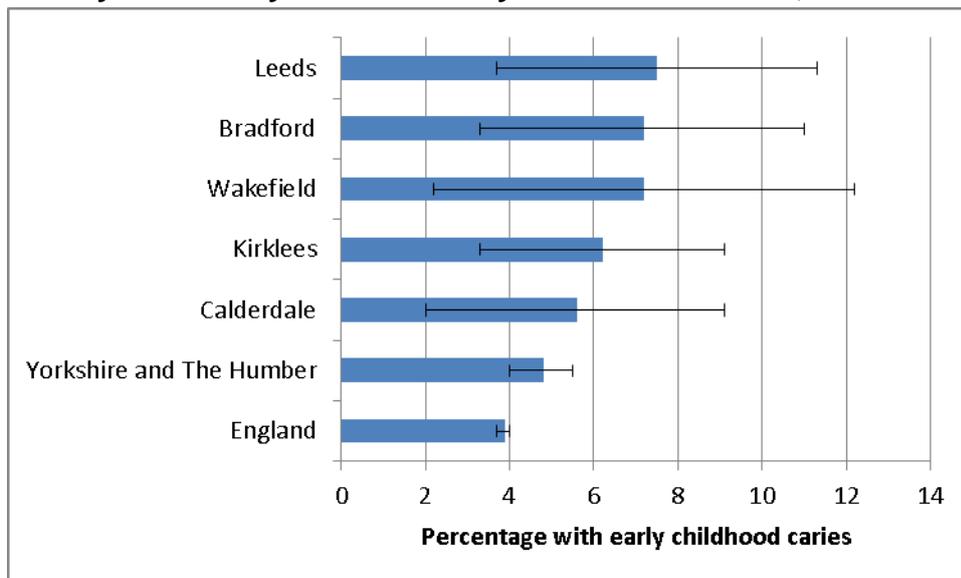
Source: Oral health survey of three-year-old children, PHE, 2014

Of the three-year-old children who had decay, each child had on average three decayed, extracted or filled teeth. The numbers of affected children were too small to allow for robust comparison of severity in these children across local authorities.

### Prevalence of early childhood caries

For the first time data were collected that allowed for investigation into a type of tooth decay called early childhood caries. This is tooth decay that affects the upper front teeth (incisors) and can be rapid and extensive. It is associated with long term use of a bottle containing sugar-sweetened drinks, especially when these are given overnight or for long periods of the day. The definition of early childhood caries used here is tooth decay affecting any surface of one or more upper primary incisors, regardless of the decay status of any other teeth. Overall the prevalence of early childhood caries was 3.9% (Figure 5. 4).

**Figure 5.4 Prevalence of early childhood caries (tooth decay) experience in three-year-olds by local authority in West Yorkshire, 2013**



Source: Oral health survey of three-year-old children, PHE, 2014

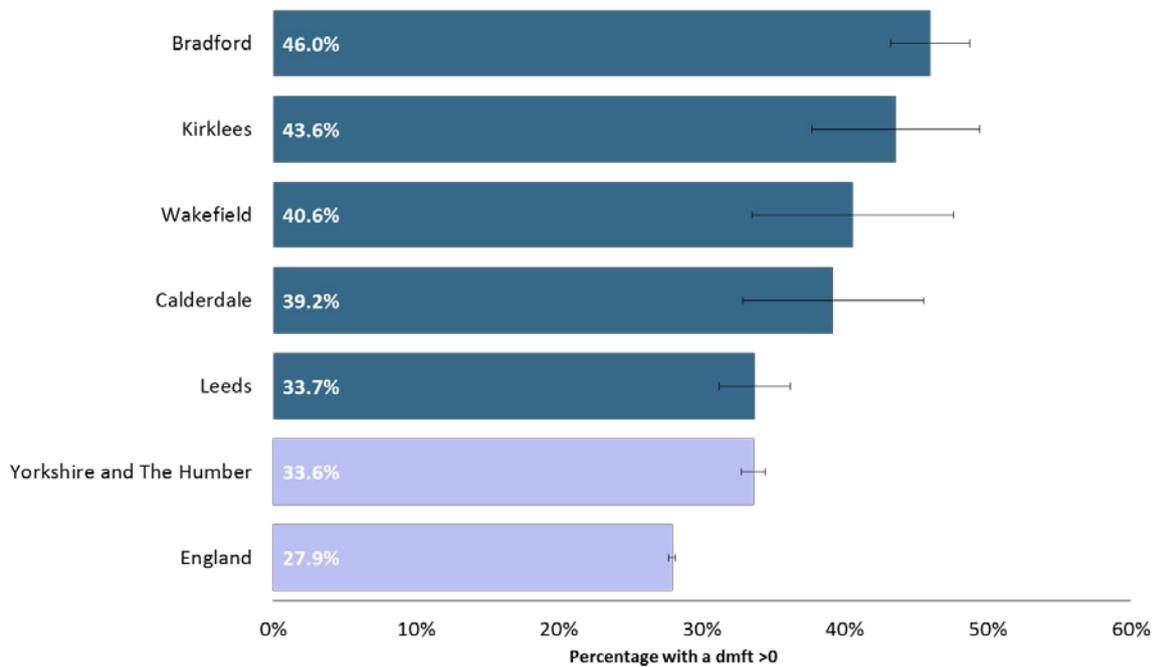
There was a strong association between levels of dental decay and level of deprivation, deprivation explaining 19% of the variation in prevalence and 25% of the variation in severity of dental decay.

A moderate association was found between prevalence of tooth decay at age three and at age five.

### Tooth decay in five-year-old schoolchildren

In 2011/12, the prevalence of tooth decay in 5-year-olds<sup>88</sup> in Yorkshire and The Humber was the second highest in the country (33.6%). The proportion of five-year-olds in West Yorkshire with experience of tooth decay was significantly higher than the England average (27.9%) in all local authorities, ranging from 33.7% in Leeds to 46.0% in Bradford (Figure 5.5).

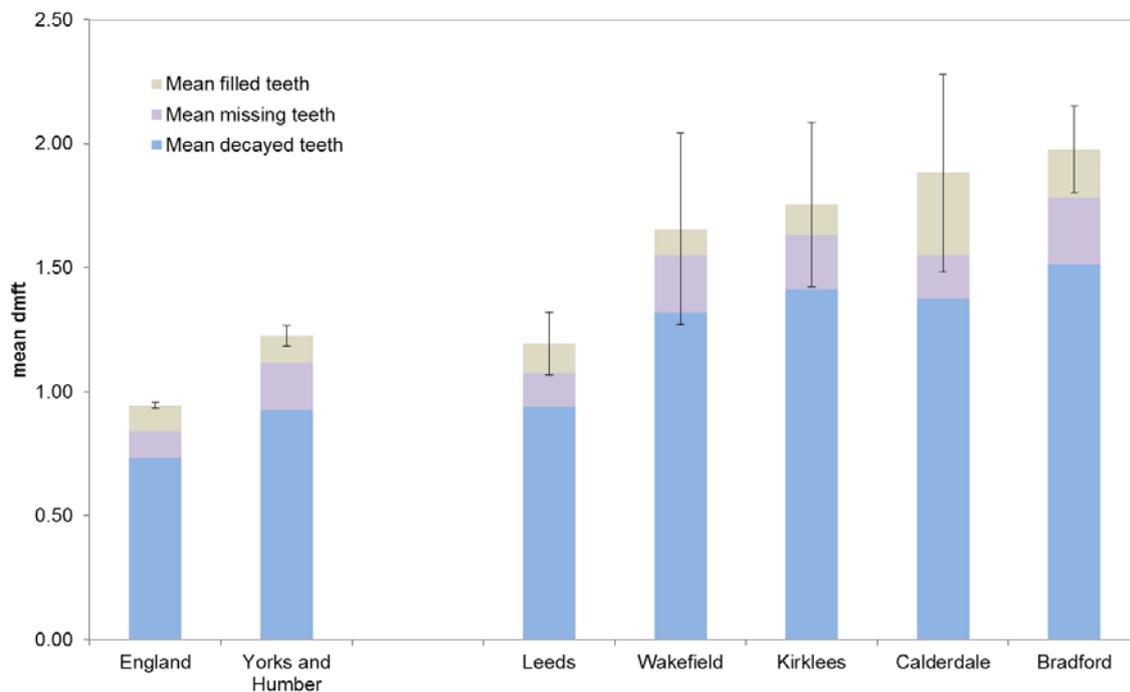
**Figure 5.5 Prevalence of tooth decay experience in five-year-olds by local authority in West Yorkshire, 2011/12**



Source: PHE National Dental Epidemiology Programme for England.  
Chart produced by PHE Knowledge and Intelligence Team Northern and Yorkshire

The severity of tooth decay in five-year-olds in the Yorkshire and The Humber was the third worst in England (1.23). In all West Yorkshire local authorities five-year-olds had significantly higher tooth decay experience than the England average (Figure 5.6).

**Figure 5.6 Severity of tooth decay experience in five-year-olds by local authority in West Yorkshire, 2011/12**



Source: PHE National Dental Epidemiology Programme for England.  
 Chart produced by PHE Knowledge and Intelligence Team Northern and Yorkshire

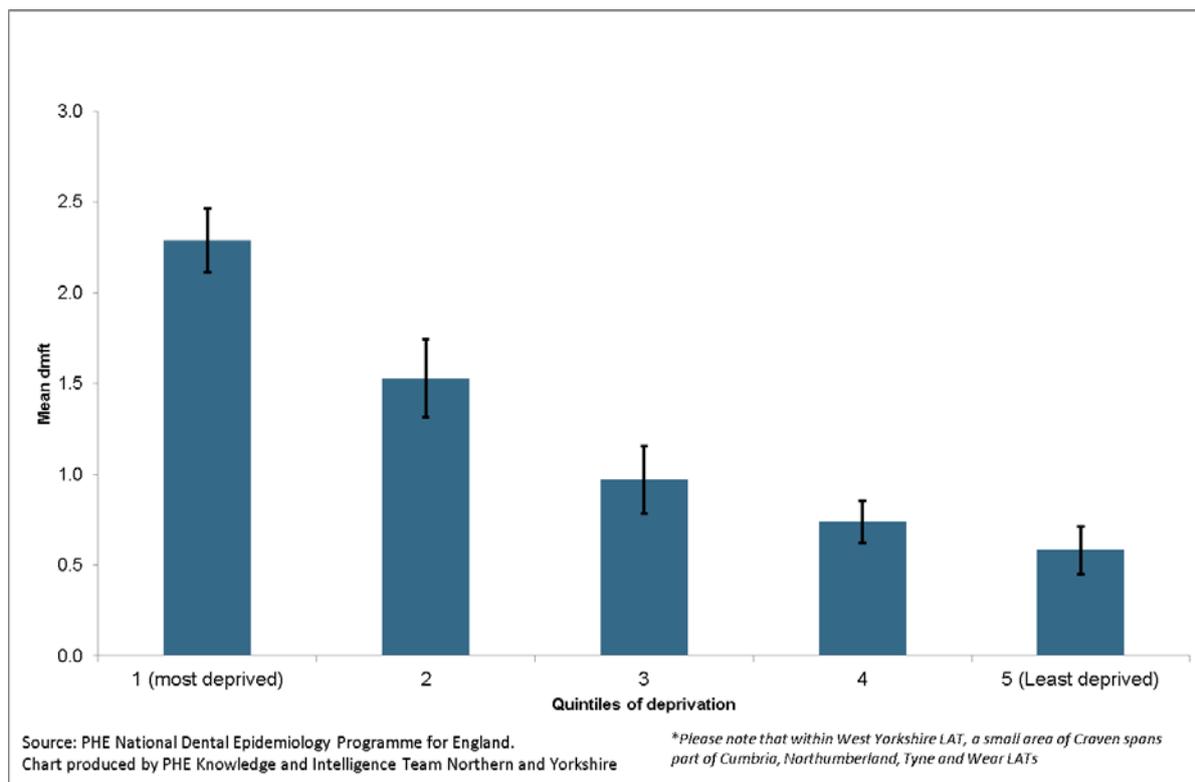
While the average (mean) dmft gives the average number of teeth with experience of tooth decay divided between all five-year-olds, in those children with tooth decay they have on average 3 to 4 teeth with experience of tooth decay.

### Inequalities in the oral health of five-year-olds

Inequalities in the prevalence and severity of tooth decay in five-year-olds were found between local authorities (Figure 5.5; Figure 5.6) and also within local authorities. The prevalence of tooth decay in five-year-olds increases with increasing deprivation. In West Yorkshire over half (51.2%) of children in the most deprived decile experienced decay compared with 18.9% in the least deprived quintile.

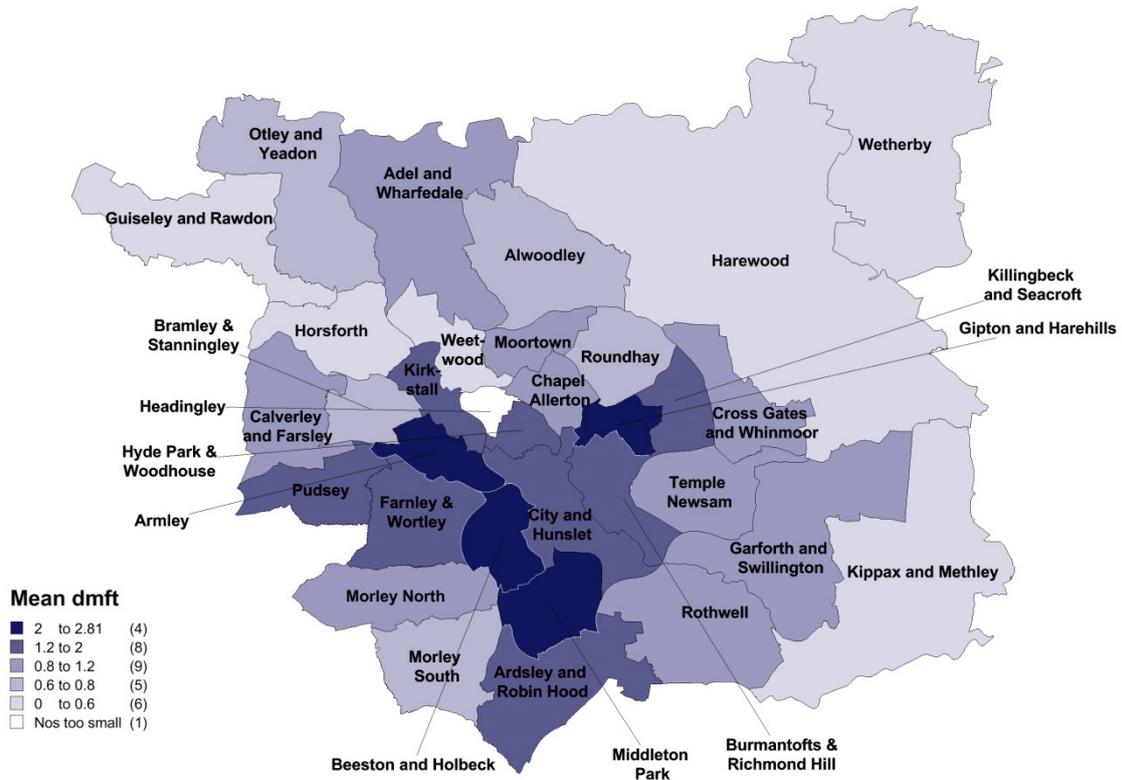
The severity of tooth decay in five-year-olds also increased as deprivation increased. The children in the most deprived quintile had an average dmft score over four times higher than those in the least deprived quintile (Figure 5.7).

**Figure 5.7 Severity of tooth decay experience in five-year-olds by quintiles of deprivation in West Yorkshire, 2011/12**



Inequalities in the severity of tooth decay in five-year-olds at ward level can be seen in Figures 5.8 to 5.12.

**Figure 5.8 Severity of tooth decay experience in five-year-olds by ward in Leeds 2011/12**

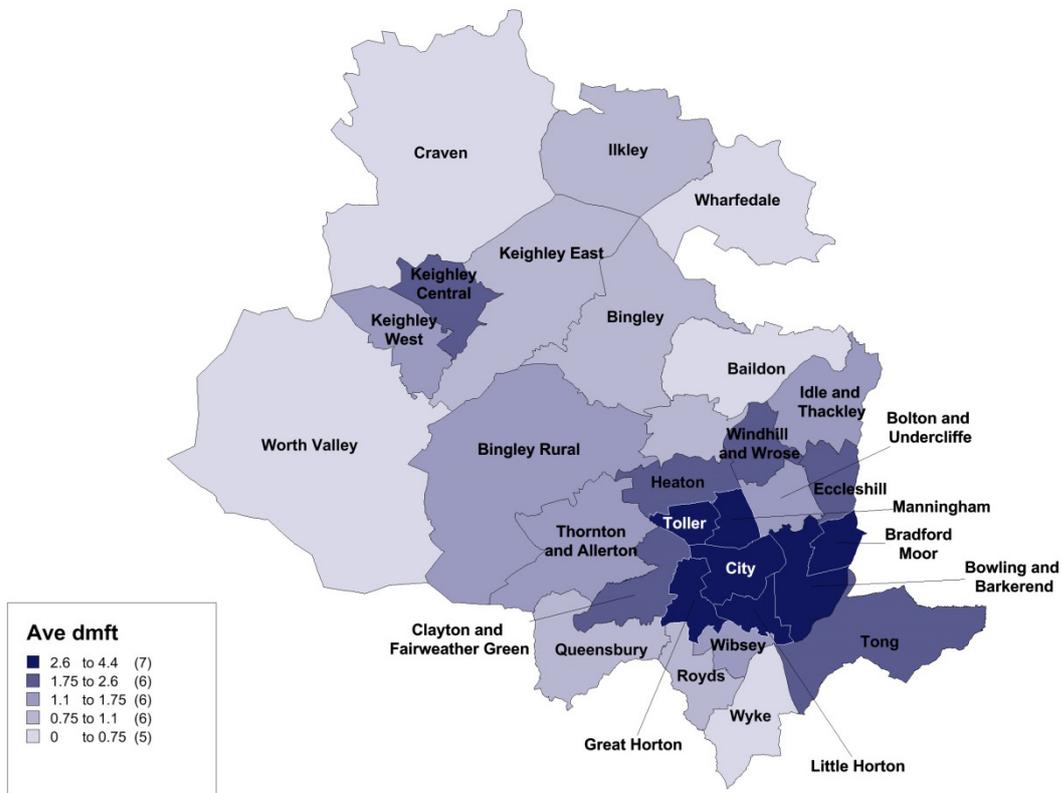


Source: PHE National Dental Epidemiology Programme for England.

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The wards in Leeds in which five-year-olds had the worst severity of tooth decay with an average of two or more teeth with decay were Armley; Beeston and Holbeck; Gipton and Harehills; and Middleton Park.

**Figure 5.9 Severity of tooth decay experience in five-year-olds by ward in Bradford 2011/12**

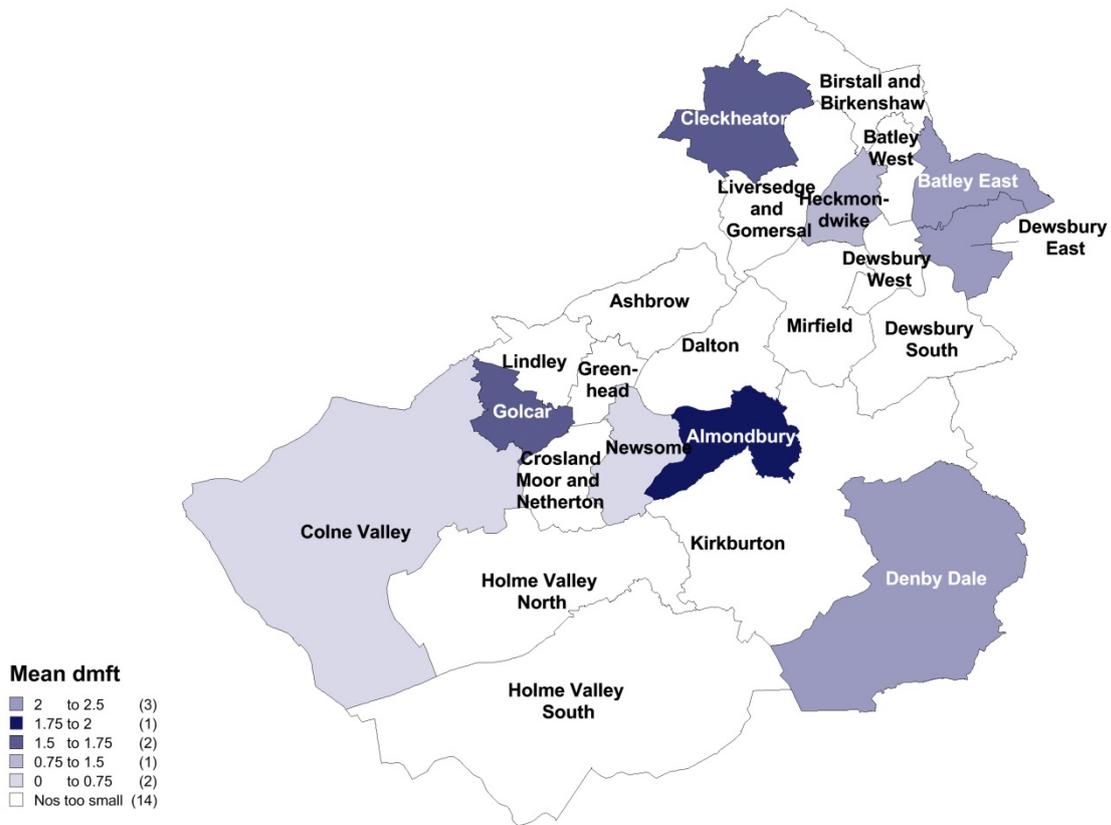


Source: PHE National Dental Epidemiology Programme for England.

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The wards in Bradford in which five-year-olds had the worst severity of tooth decay with an average of two or more teeth with decay were Bowling and Barkerend; Bradford Moor; City; Little Horton; Great Horton; Manningham; and Toller.

**Figure 5.10 Severity of tooth decay experience in five-year-olds by ward in Kirklees 2011/12**

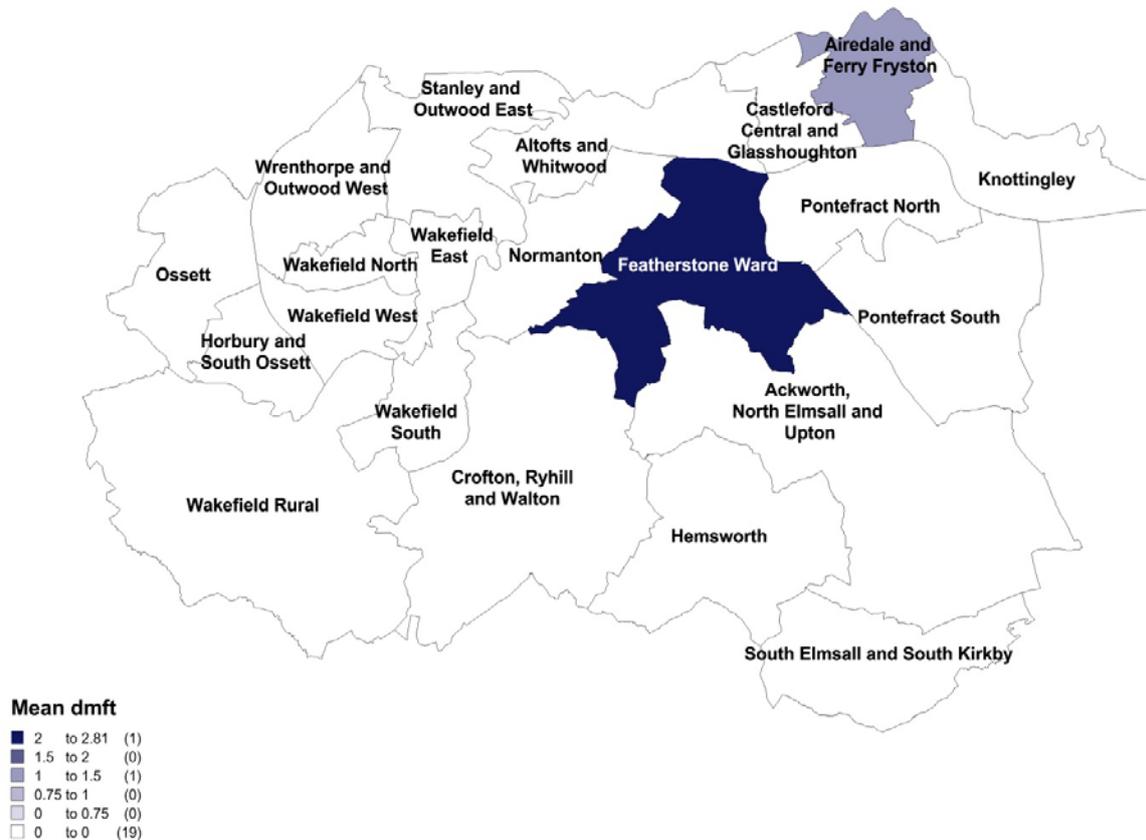


Source: PHE National Dental Epidemiology Programme for England.

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Where data was available at ward level, the ward in Kirklees in which five-year-olds had the worst severity of tooth decay with an average of two or more teeth with decay was Almondbury.

**Figure 5.11 Severity of tooth decay experience in five-year-olds by ward in Wakefield 2011/12**

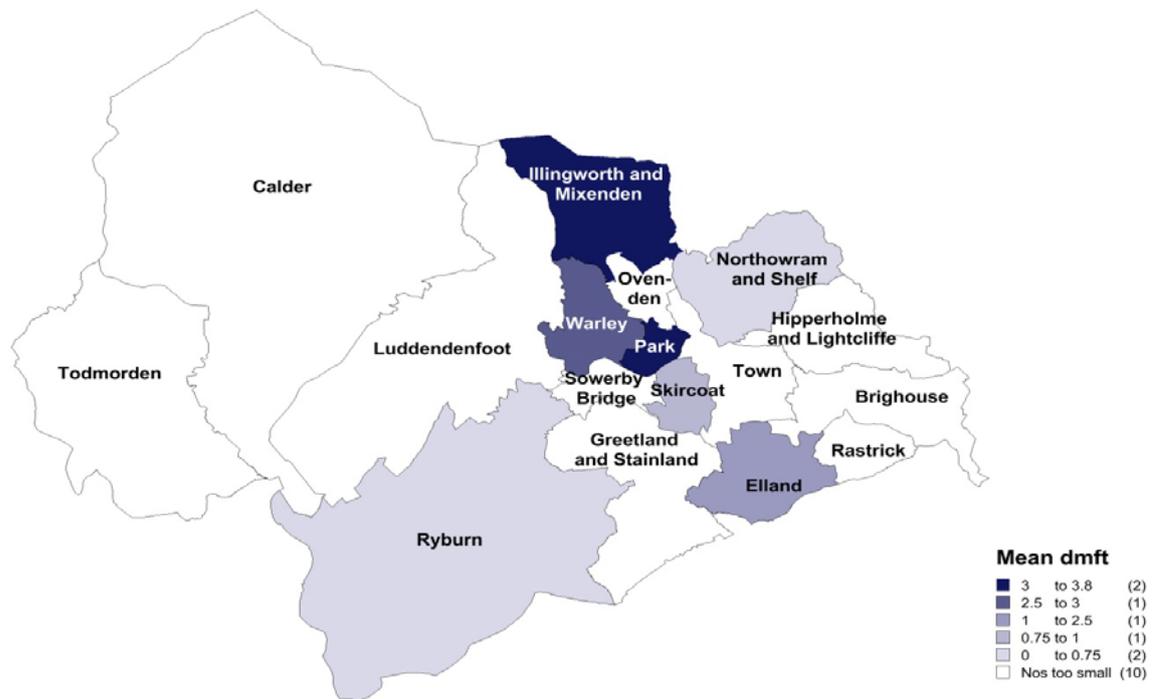


Source: PHE National Dental Epidemiology Programme for England.

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Where data was available at ward level, the ward in Wakefield in which five-year-olds had the worst severity of tooth decay with an average of two or more teeth with decay was Featherstone Ward.

**Figure 5.12 Severity of tooth decay experience in five-year-olds by ward in Calderdale 2011/12**



Source: PHE National Dental Epidemiology Programme for England.

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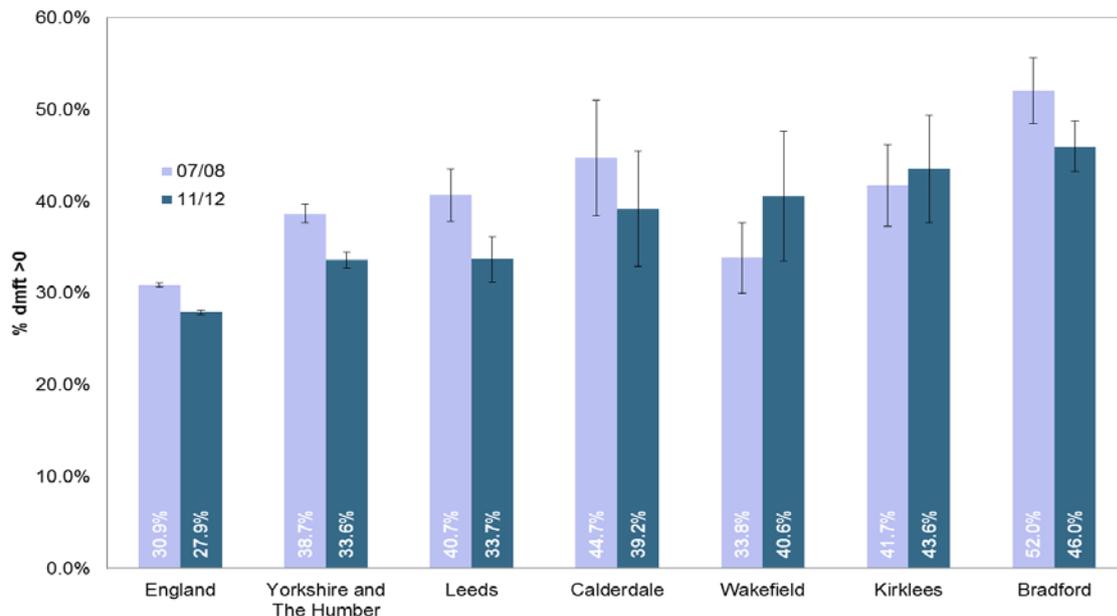
Where data was available at ward level, the wards in Calderdale in which five-year-olds had the worst severity of tooth decay with an average of two or more teeth with decay were Illingworth and Mixenden and Park.

### Trends in tooth decay in five-year-olds

The trend analysis uses data from the 2007/08 and 2011/12 survey as following guidance from the Deputy Chief Dental Officer in 2005, the protocol in 2007-2008 required that positive consent was obtained prior to the survey from someone with parental responsibility to give consent on behalf of the child and as such the 07/08 data can be used as the baseline. In surveys prior to 2007 parents were informed about the survey and unless they objected, the children were examined.

The prevalence of tooth decay showed a significant decline for five-year-old children in Leeds, Bradford, Yorkshire and The Humber as well as England as a whole between the 2007/08 and 2011/12 surveys showing an improvement, however in Wakefield the proportion had increased but this was not statistically significant (Figure 5.13).

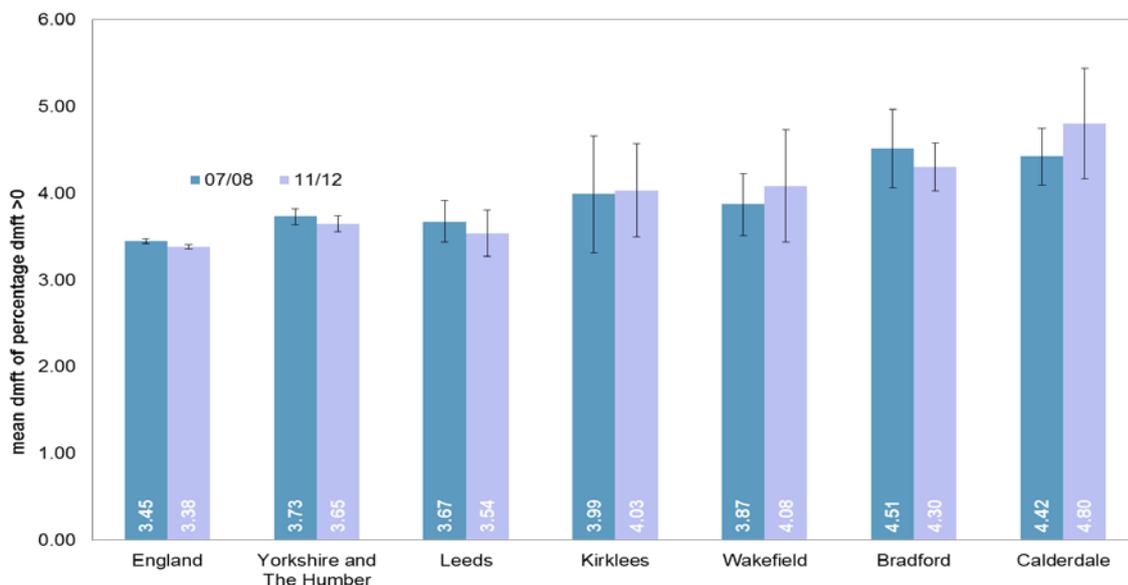
**Figure 5.13 Trends in prevalence of tooth decay experience in five-year-olds by local authority in West Yorkshire, 2007/08 and 2011/12**



Source: PHE National Dental Epidemiology Programme for England.  
 Chart produced by PHE Knowledge and Intelligence Team Northern and Yorkshire

There were reductions in the severity of tooth decay in five-year-olds between the 2007/08 and 2011/12 surveys in Leeds and Bradford however not in Kirklees, Wakefield and Calderdale but these changes were not statistically significant (Figure 5.14).

**Figure 5.14 Trends in severity of tooth decay experience in five-year-olds by local authority in West Yorkshire, 2007/08 and 2011/12**



Source: PHE National Dental Epidemiology Programme for England.  
 Chart produced by PHE Knowledge and Intelligence Team Northern and Yorkshire

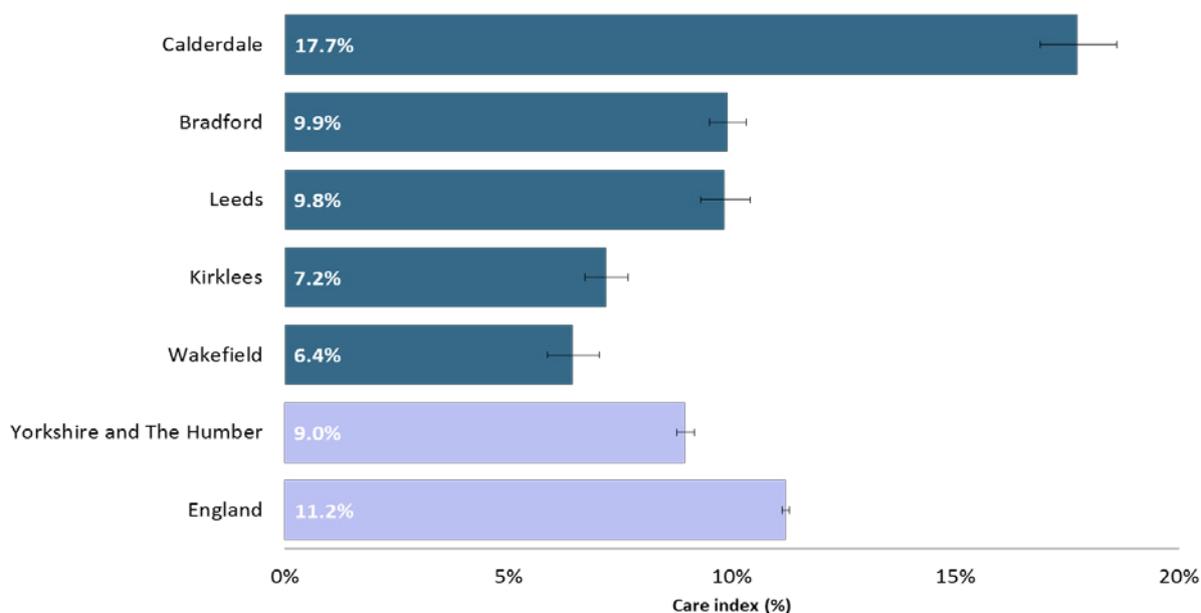
*\*Please note that within West Yorkshire LAT, a small area of Craven spans part of Cumbria, Northumberland, Tyne and Wear LATs.*

## Care Index

There is a lack of definitive evidence-based guidance regarding the appropriateness and benefit of filling decayed primary teeth. In using the Care Index, caution should be taken in making assumptions about the extent or the quality of clinical care available. The Care Index was 11.2% across England as a whole showing that just over a tenth of decayed teeth are treated by fillings.<sup>88</sup>

In Calderdale the Care Index was significantly higher than the England average and all other West Yorkshire local authorities (Figure 5.6). It is important to assess factors such as deprivation, dental service provision (including access to care and types of treatments provided) and disease prevalence data when interpreting findings using the care index data not in isolation. This data could be linked to units of dental activity (UDAs) commissioned to provide an indication of the level of NHS dental service provision by area team location or by local authority (Figure 5.15).

**Figure 5.15 The Care Index in five-year-olds in West Yorkshire local authorities, 2011/12**

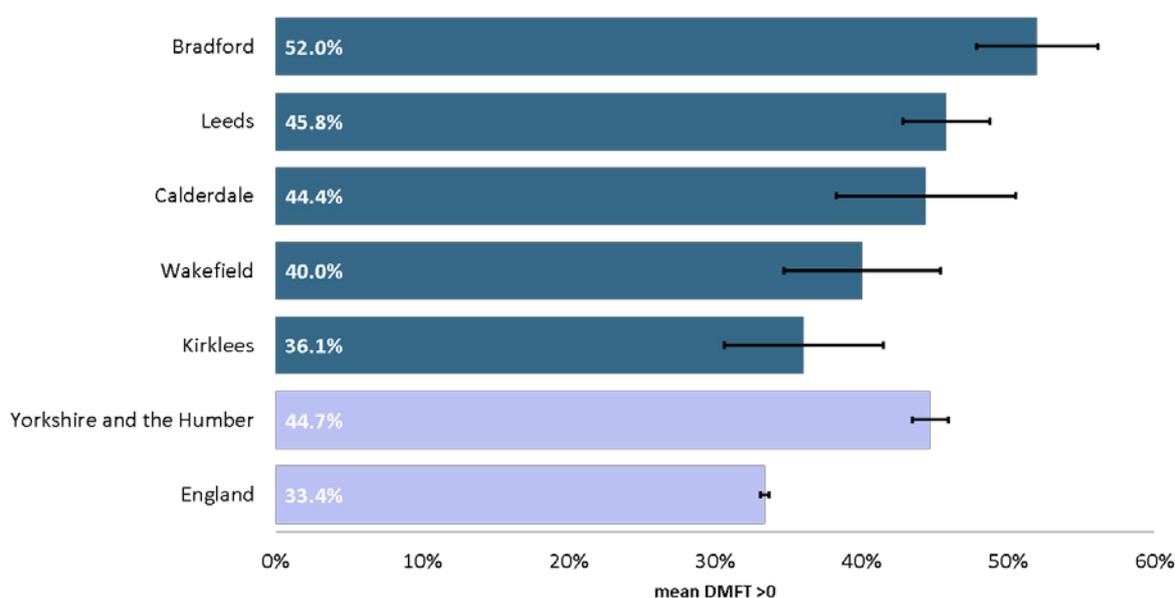


Source: PHE National Dental Epidemiology Programme for England.  
 Chart produced by PHE Knowledge and Intelligence Team Northern and Yorkshire

### Tooth decay in 12-year-old children

In 2008/09, the prevalence of tooth decay in 12-year-old children<sup>89</sup> in Yorkshire and The Humber area was the worst in the country (44.7%). The proportion of 12-year-olds in West Yorkshire with experience of tooth decay was significantly higher than the England average (33.4%) in all local authorities, ranging from 36.1% in Kirklees to 52.0% in Bradford (Figure 5.16).

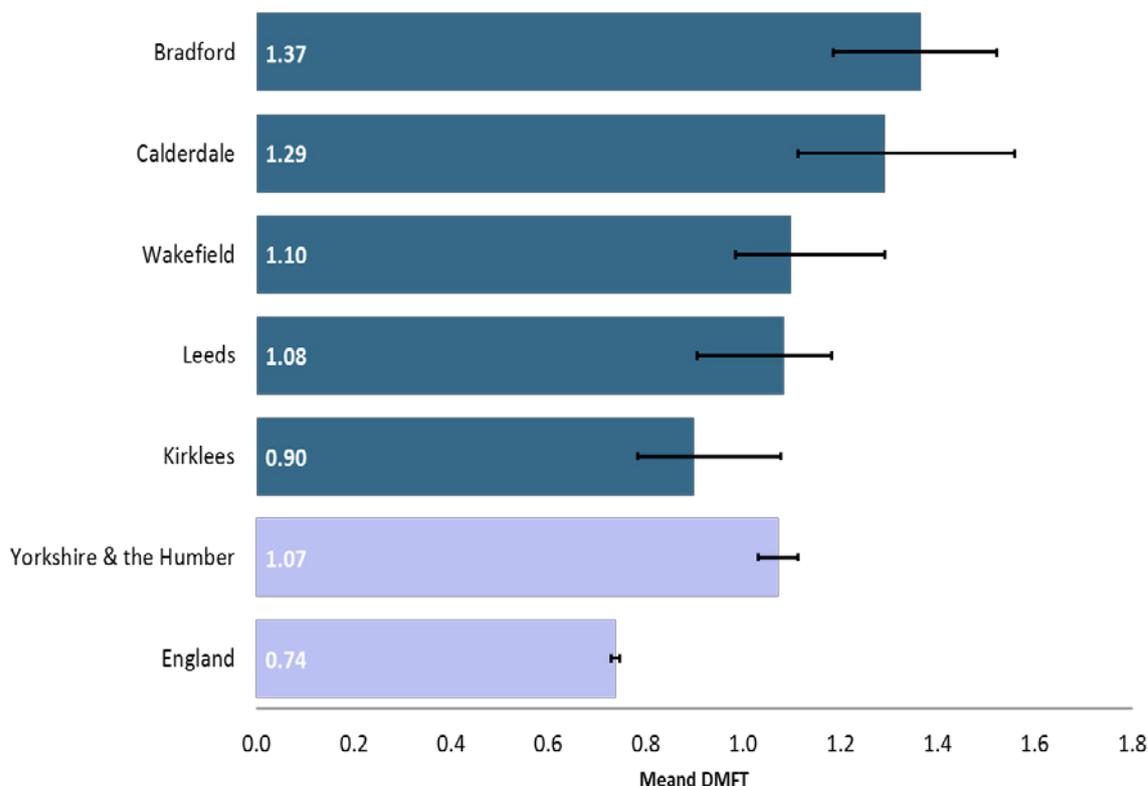
**Figure 5.16 Prevalence of tooth decay experience in 12-year-olds by local authority in West Yorkshire, 2008/09**



Source: PHE National Dental Epidemiology Programme for England.  
 Chart produced by PHE Knowledge and Intelligence Team Northern and Yorkshire

The severity of tooth decay in the Yorkshire and The Humber area is the worst in England (1.07). In all West Yorkshire local authorities' 12-year-olds have significantly higher tooth decay experience than the England average ranging from 0.90 in Kirklees to 1.37 in Bradford (Figure 5.17).

**Figure 5.17 Severity of tooth decay experience in 12-year-olds by local authority in West Yorkshire, 2008/09**



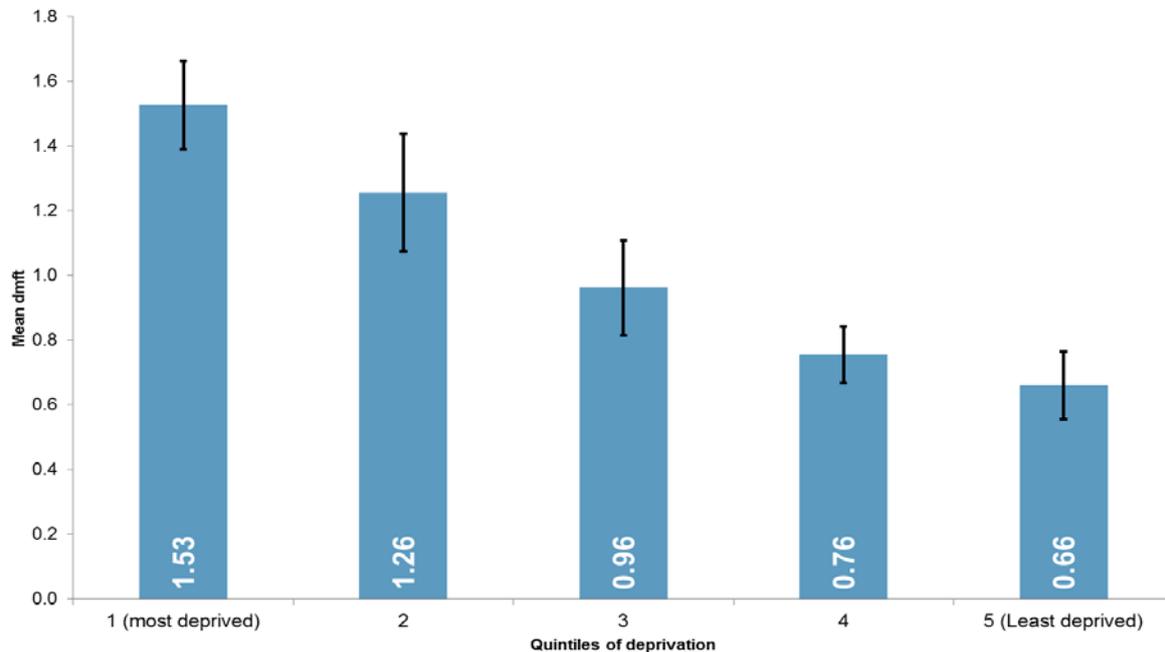
Source: PHE National Dental Epidemiology Programme for England.  
 Chart produced by PHE Knowledge and Intelligence Team Northern and Yorkshire

### Inequalities in the oral health of 12-year-olds

Inequalities in the prevalence of tooth decay in 12-year-olds are seen between and within local authorities. The proportion of 12-year-olds with tooth decay was significantly higher than the England average in all West Yorkshire local authorities. The average number of teeth with tooth decay in 12-year-olds with experience of tooth decay in West Yorkshire was significantly higher than the England average (DMFT 0.7) in all local authorities except Kirklees.

Significantly higher proportions of 12-year-old children in the most deprived quintile of deprivation experienced tooth decay (54.1%) compared to children in all other quintiles with just over one third of children (32.5%) in the least deprived quintile experiencing tooth decay. The average DMFT score of children in the most the most deprived quintile was 2.3 times higher than those in the least deprived quintile (Figure 5.18).

**Figure 5.18 Severity of tooth decay experience in 12-year-olds by quintiles of deprivation in West Yorkshire, 2008/09**



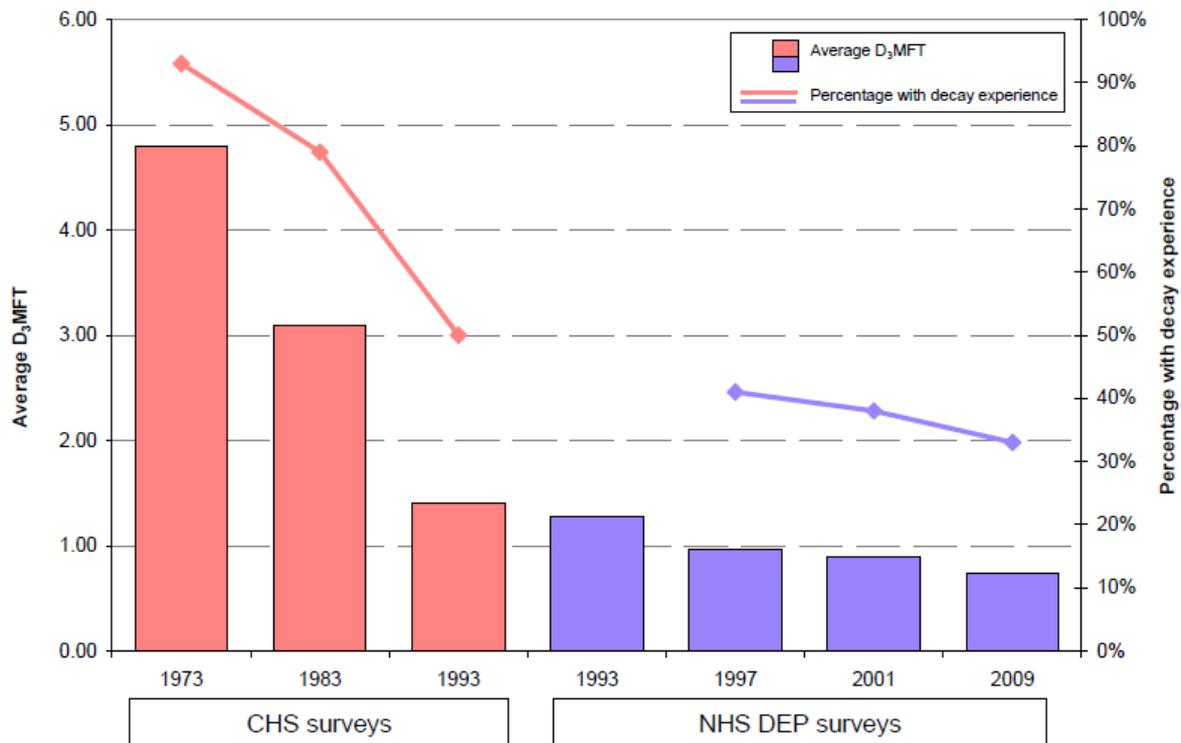
Source: PHE National Dental Epidemiology Programme for England.  
Chart produced by PHE Knowledge and Intelligence Team Northern and Yorkshire

Of the 12-year-old children who had experience of tooth decay (DMFT>0) those in the most deprived quintile had significantly higher average DMFT scores (2.82) than children in quintiles 3, 4 and 5.

### Trends in tooth decay in 12-year-olds

The prevalence and severity of tooth decay in 12-year-olds has been declining over the past 26 years. Figure 5.19 combines the prevalence and severity of tooth decay levels in the National Child Health (CHS) surveys over the time period 1973 to 1993 and the NHS Dental Epidemiology Programme (NHS DEP) surveys over 1993 to 2008/09.

**Figure 5.19 Results of tooth decay surveys of 12-year-olds in England from National Child Health Surveys and NHS DEP surveys over 6 time periods**

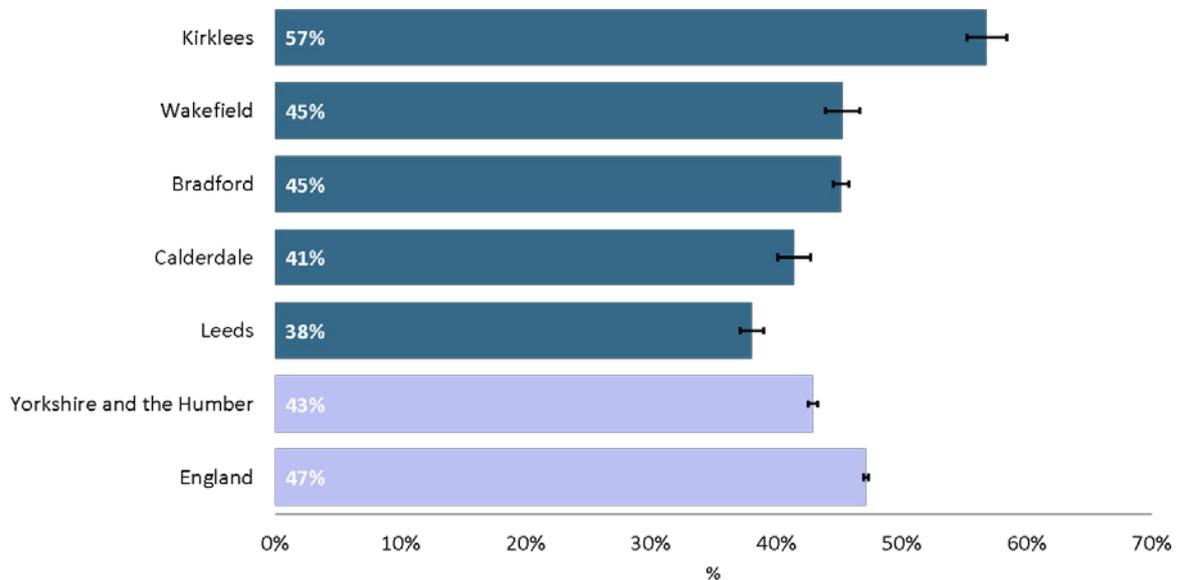


Source: Oral Health Survey of 12-year-old Children in England 2008 / 2009, NHS Dental Epidemiology Programme 2010

### Care Index

The proportion of permanent teeth with tooth decay that had been filled in 12-year-olds in Yorkshire and The Humber was the third worst in England. The Care Index was lower in Leeds (38%) and Calderdale (41%) than the England average (47%), and much higher in Kirklees (57%) (Figure 5.20).

**Figure 5.20 The Care Index in 12-year-olds in West Yorkshire local authorities, 2008/09**

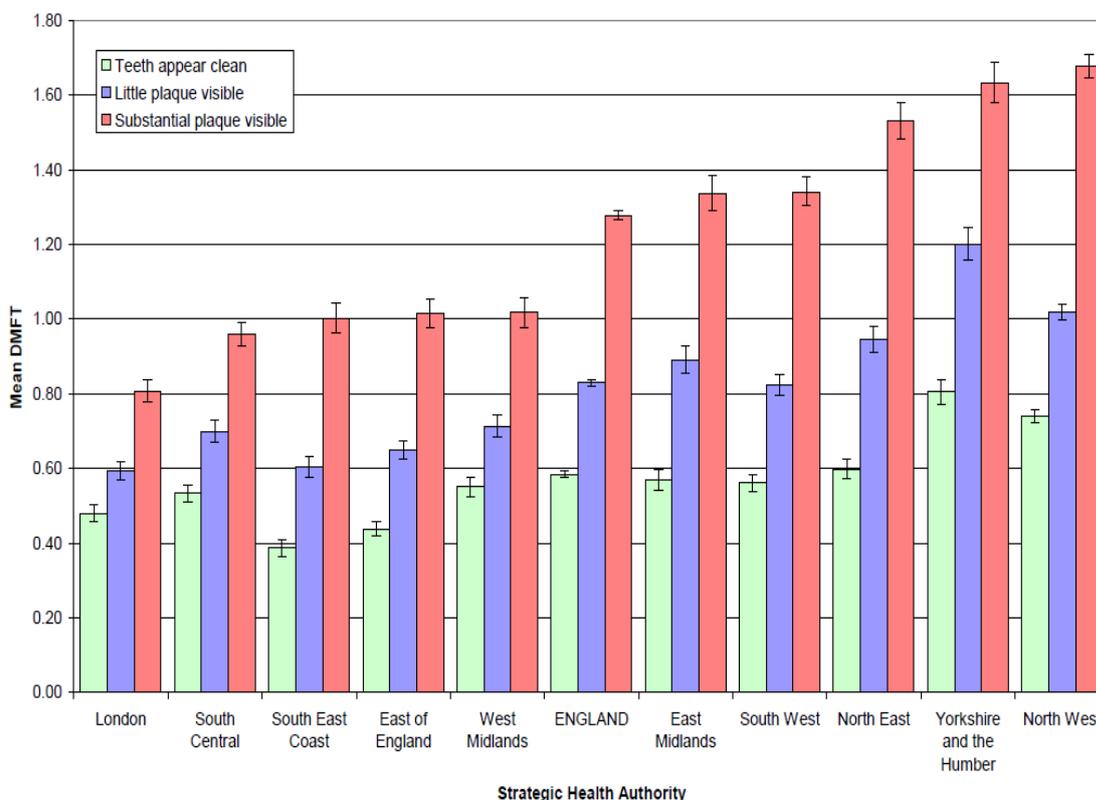


Source: PHE National Dental Epidemiology Programme for England.  
Chart produced by PHE Knowledge and Intelligence Team Northern and Yorkshire

### 12-year-old children oral hygiene: comparison of Yorkshire and The Humber and England

The children within the study were also assessed for the presence of plaque which revealed that in Yorkshire and The Humber 54% had the appearance of clean teeth, 33% had little plaque visible and 12% had substantial plaque present on examination (England: 51%, 38% and 11% respectively). Figure 5.21 shows the variation of plaque levels by average DMFT score by area.

**Figure 5.21 Severity of tooth decay experience in 12-year-olds with differing plaque levels, 2008/09**



### Self-reporting of dental conditions and impact on quality of life: comparison of Yorkshire and The Humber and England

Within the 12-year-old survey children were asked questions on the impact of diseases and disorders. The children were asked in the past 3 months have you had toothache or sensitive teeth, had bleeding or swollen gums, been aware of decay in your teeth or a broken adult tooth, had ulcers or a loose baby tooth or had a problem because of tooth colour, shape, size or position'. Those children who had experienced one or more of these problems were then asked 'have any of these problems with your teeth and mouth led to difficulties with: eating, speaking, cleaning your teeth, relaxing (including sleeping), your feelings (for example being more impatient irritable, easily upset), smiling or laughing, doing your schoolwork and mixing with friends and other people. Table 5.1 shows the proportion that experienced problems in these domains. Overall problems with eating followed by cleaning teeth were reported most frequently at a regional and national level.

**Table 5.1 Percentage of 12-year-olds reporting oral health problems**

<b>N= number reporting problem</b>	<b>Eating</b>	<b>Speaking</b>	<b>Cleaning teeth</b>	<b>Relaxing including sleeping</b>	<b>Feelings</b>	<b>Smiling/ laughing</b>	<b>School work</b>	<b>Mixing with friends /other people</b>
Yorkshire and The Humber N=2,786	35	6	27	8	13	13	3	5
England N=38,723	34	5	28	8	13	12	4	4

### Misaligned teeth

Stephen's Formula<sup>90</sup> can be used to predict the number of people needing orthodontic treatment in a population and takes into account demand for it, that is those children in IOTN categories 4 and 5 who will decline orthodontic treatment despite their level of need. This offsets the children with an IOTN of 3 and an aesthetic component of 6 and above who are not taken into consideration in the formula. Additional factors are also taken into account, such as younger children needing early corrective treatment (interceptive treatment (9%) and adults requiring treatment (4%).

Stephen's Formula is expressed as:

$$\frac{\text{12-year-old population}}{3} \times \frac{100 + \text{Interceptive Factor (9)} + \text{Adult Factor (4)}}{100}$$

Orthodontic treatment need is relatively stable across populations and ethnic groups.<sup>91</sup> Therefore, adjustments to the formula in the more ethnically diverse local authorities in West Yorkshire are not required.

The estimated level of need for orthodontic treatment in West Yorkshire using Stephen's Formula is 10,239 people per year (Table 5.2). However this is likely to be an overestimation as the 'adult factor' in Stephen's Formula will only be applied to those being treated in hospital as no adult orthodontic care is commissioned in primary care.

**Table 5.2 Orthodontic treatment need in West Yorkshire**

Area	12-year-old population (based on 2011 census)	Number of people needing orthodontic treatment
Bradford and Airedale	7402	2788
Calderdale	2556	963
Kirklees	5331	2008
Leeds	8137	3065
Wakefield	3757	1415
<b>West Yorkshire</b>	<b>27183</b>	<b>10239</b>

Source: Office for National Statistics 2011 Census data

An orthodontic needs assessment was carried out in West Yorkshire in 2013 which considered two different methodologies. This oral health needs assessment only considers Stephen's Formula when estimating orthodontic need in the 12 year population in West Yorkshire. This makes no allowance for the fact that some children do not attend the dentist and therefore will not be referred for care. It is difficult to make an accurate prediction of commissioning need but the true commissioning need is likely to be somewhere between the two estimates.

### Cleft lip and palate

Cleft lip and palate is the most common facial birth defect in the UK. One in every 700 babies is born with a cleft. Approximately half of all affected babies are born with a cleft lip and palate, a third with a cleft palate only and 1 in 10 have a cleft lip only or a submucous cleft. A cleft lip or combined cleft lip and palate are more common in boys, but a cleft palate on its own is more common in girls. Clefts occur more frequently in East Asian people and less frequently in Black people.

Overall, 10,204 children born between 1 January 2003 and 31 December 2012 with a cleft lip and/or palate, were registered on the CRANE database.<sup>92</sup> Within England, Wales and Northern Ireland there are 15 centres where cleft lip and/or palate cases are registered. Within this time period 7% of cases were registered within Leeds.

## Summary of oral health in children

- the prevalence of tooth decay in three-year-olds in West Yorkshire local authorities was higher than the England average and is significantly higher in Wakefield and Leeds
- the severity of tooth decay in three-year-olds in West Yorkshire local authorities was higher than the England average
- There are inequalities in levels of tooth decay between and within local authorities in West Yorkshire
- children in deprived areas experience much greater levels of disease than those residing in more affluent areas
- the prevalence of tooth decay in five-year-olds in West Yorkshire local authorities was significantly higher than the England average. Bradford and Kirklees were also significantly higher than the Yorkshire and The Humber average
- the severity of tooth decay in five-year-olds in West Yorkshire local authorities was significantly higher than the England average. All local authorities other than Leeds were also significantly higher than the Yorkshire and The Humber average
- a trend analysis showed a significant decline in the prevalence of tooth decay in five-year-olds in Leeds and Bradford
- five-year-old children in Wakefield experienced relatively higher levels of tooth decay, yet a smaller proportion of these decayed teeth are treated with a filling demonstrating an inverse care relationship
- the prevalence of tooth decay in 12-year-olds in West Yorkshire local authorities was significantly higher than the England average. Bradford was also significantly higher than the Yorkshire and The Humber average
- the severity of tooth decay in 12-year-olds in West Yorkshire local authorities was significantly higher than the England average. Bradford and Calderdale were also significantly higher than the Yorkshire and The Humber average
- fewer teeth with tooth decay in 12-year-olds were filled in Leeds and Calderdale compared to the England average however in Kirklees more teeth had been restored
- an estimated 10,239 of 12-year-old children in West Yorkshire are likely to benefit from orthodontic treatment
- it has not been possible to describe the approximate number of children born in West Yorkshire each year with a cleft lip and/or palate

## Oral health of adults

Information on the oral health of adults has been collected nationally through the Office for National Statistics co-ordinated socio-dental surveys on a decennial basis since 1968. The survey consists of an interview schedule and a dental examination performed by trained and calibrated dental examiners. The most recent survey was undertaken in 2009.<sup>60</sup>

In addition to the national decennial surveys, in 2008 a postal survey of adult oral health was carried out across Yorkshire and Humber.<sup>93</sup> It aimed to provide information on the self-reported oral health of adults living in the area to inform the commissioning of oral health services and oral health related initiatives.

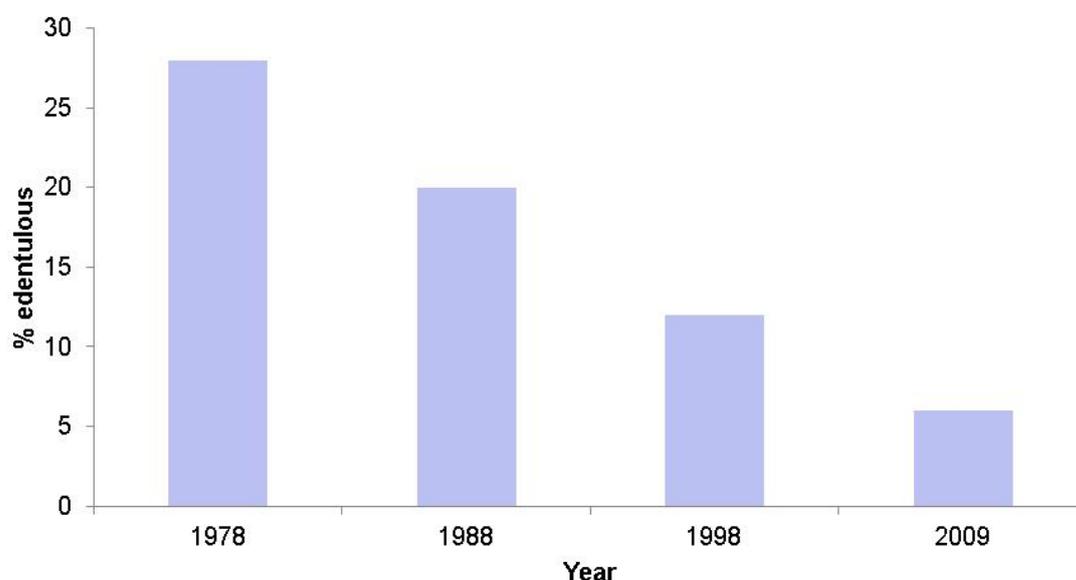
No local clinical surveys of adult oral health have been undertaken.

### Number of teeth

In the 2009 national decennial survey,<sup>60</sup> only 6% of adults in England were found to be edentate (having no natural teeth) with this figure rising to 7% in Yorkshire and The Humber. Edentulousness increased with age and varied by gender (4% male, female 7%) and material deprivation (managerial/professional 2%, intermediate 4% and 10% routine/manual).

There has been a profound overall decline in edentulousness over the last five decades with the proportion of edentate adults falling from 28% in 1978 to 6% in 2009 (Figure 5.22). Trends from national and local surveys show that edentulousness is now uncommon amongst people over 65 years of age and even the very old (85 and over) have retained some natural teeth. These data have important implications for the future in terms of good oral function but carry service implications related to the continued maintenance and advanced restorative needs of older adults who are likely to be increasingly frail with complex medical histories and difficulties accessing care.

**Figure 5.22 Proportion of adults with no natural teeth in England (1978-2009)**



Source: ONS, 2010

The presence of 21 or more natural teeth has been used as an additional marker of the health of the population's teeth. In the national 2009 survey 86% of adults in England had 21 or more teeth with 88% in Yorkshire and The Humber, this indicator displayed a clear social gradient with 92% having 21 or more teeth in managerial/professional occupation households and 86% intermediate and 79% from routine and manual occupation households.

The Steele review of NHS dentistry<sup>94</sup> described three distinct cohorts within the adult population. Older age groups (those past retirement) with no teeth at all who will need denture care for many years, a young generation under the age of 30 years who have lower levels of decay than their parents and have low restorative needs and a 'heavy metal generation' group aged between 30 and 65 years who have experienced high levels of disease that has been treated by fillings and other restorations and who will have complex maintenance needs as they age.

In a survey<sup>93</sup> published in 2008 undertaken in Yorkshire and The Humber the majority of respondents reported having 20 teeth or more (Table 5.3).

**Table 5.3 How many natural teeth have you got (percentage)?**

Location	None	<10	10-19	20+
Yorkshire and The Humber N=10,864	8	4.9	14.3	71.6
Bradford N=719	7.1	4.2	13.3	73.4
Calderdale N=789	7.5	3.7	12.4	75.4
Kirklees N=787	6	4.2	16.1	72.3
Leeds N=701	6.6	4.4	13.1	73.3
Wakefield N=828	9.3	5.2	14.5	70.6

### Tooth decay (dental caries)

Between 1998 and 2009 the prevalence of active tooth decay in England fell from 46% to 29%. There were reductions across all age groups but the largest reduction was within the 25-34 age band. The proportion with active tooth decay varied by age with the 25 to 34 years group having the highest prevalence, 36% and those aged 65-74 years the lowest, 22%.

Men were more likely than women to have untreated decay as were those from socially deprived households. The average number of decayed teeth of adults in England was 0.8. Men experienced higher levels of tooth decay (1.0) than women (0.6).

In normal healthy mouths the root surfaces of teeth are covered by the gums, although there may be some gum recession as part of the aging process. As adults age the accumulated effects of gum disease may cause exposure of root surfaces, therefore with age the prevalence of decay on the root surface is likely to increase. Seven per cent of adults in England had active decay on one or more root surface, the proportion increasing with age (20% in 75-84 years), being male and social deprivation<sup>60</sup> (NHS Information Centre, 2011).

### Health of gums

Gum (periodontal) diseases are assessed by measuring the depth of the pockets between the inflamed gum and the tooth. The presence of pocketing up to 3.5mm is regarded as generally healthy. It is possible to classify pocketing as mild, moderate and severe. Mild periodontal pocketing reflects pocketing between 4mm and 6mm, moderate between 6mm and 9mm and severe above 9mm.

In 2009, 37% of dentate adults in England had mild periodontal pocketing, a further 9% of the population had moderate and 1% severe pocketing. Since 1998, there has been an overall reduction in the prevalence of pocketing of 4mm or more from 55% to 45% signifying an overall reduction in disease. However for more severe forms of disease an overall increase from 6% to 9% was observed.<sup>60</sup>

Proportionately more adults in Yorkshire and The Humber had mild, moderate and severe gum (periodontal) diseases relative to the national average, as 42% of adults had mild pocketing, 10% moderate and 2% severe pocketing.

Since 1998 there has been an overall reduction in the prevalence of pocketing of 4mm or more from 55% to 45% signifying an overall reduction in disease however for both higher thresholds of disease pocketing of over 6 and 9mm no decline in prevalence has been observed in fact for pocketing at 6mm an overall increase from 6 to 9 per cent in 2009 was observed.<sup>60</sup>

### Tooth wear

The prevalence of wear is reported at three thresholds: any wear, wear that has exposed a large area of dentine on any surface (moderate wear) and wear that has exposed the pulp or secondary dentine (severe wear). The 2009 Adult Dental Health Survey<sup>60</sup> reported more prevalent tooth wear in England from 66% in 1998 to 75%. However, only 15% had moderate and 1% severe wear.

As would be expected wear increases with age (44% of 75 to 84-year-olds have wear), however a proportion of younger age groups were also affected by moderate and severe wear. Men experienced greater levels of tooth wear than women; however, there were no significant differences with respect to deprivation. Severe wear remains rare, but there are increasing proportions of younger adults with moderate wear which is likely to be clinically important. Regional figures are comparable with national averages.<sup>60</sup>

### Urgent conditions

Urgent conditions include: dental pain, open dental pulps (tooth nerves), oral sepsis (infection) and untreated teeth with extensive tooth decay. In the 2009 Adult Dental Health Survey, 9% of dentate adults reported current dental pain. Older adults and those from routine and manual occupation households were more likely to report pain.<sup>60</sup>

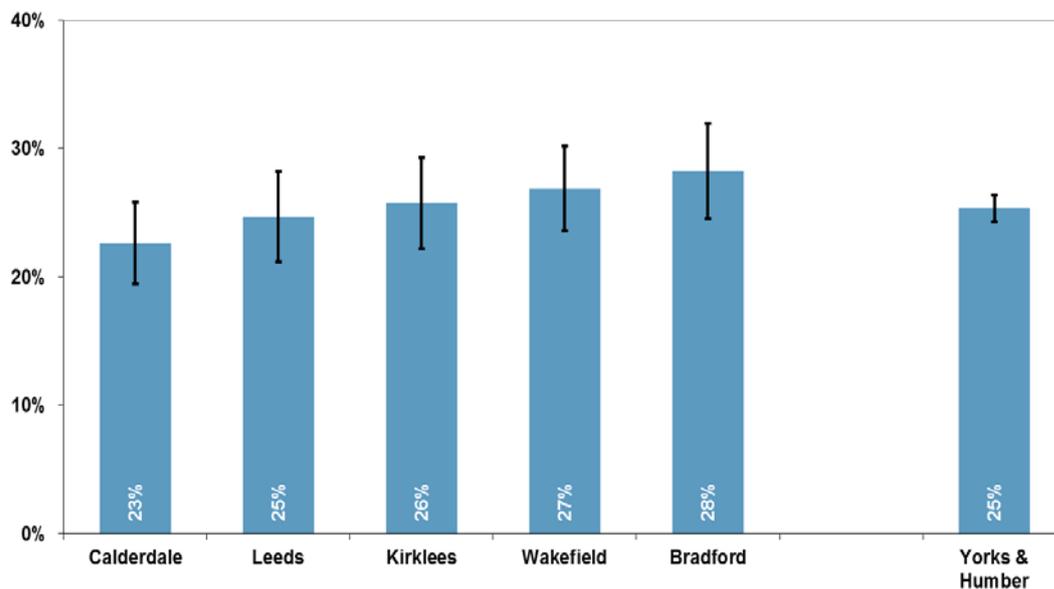
Eight per cent of dentate adults reported experiencing pain in their mouths fairly or very often in the previous 12 months. Women were slightly more likely than men to report this pain. There was untreated or unrestorable tooth decay in 23% of those who reported current dental pain and 20% of those who reported frequent pain or discomfort in the past 12 months.<sup>60</sup> In a local survey, 29% of the residents in Yorkshire and The Humber reported painful aching in the mouth in the last 12 months.<sup>93</sup>

Adults had an increased likelihood of both pain and extensive tooth decay or sepsis if they did not attend a dentist for regular check-ups, never brushed their teeth or brushed less than once a day, were smokers or had high levels of dental anxiety.<sup>60</sup>

### Self-reported oral health and oral health impacts

An oral health survey of adults in Yorkshire and The Humber<sup>93</sup> (YHPHO, 2008) assessed impacts of oral health from the responses to a self-reported postal questionnaire. Participants were asked to rate their oral health; 25% Yorkshire and The Humber felt it was fair, poor or very poor (Figure 5.23).

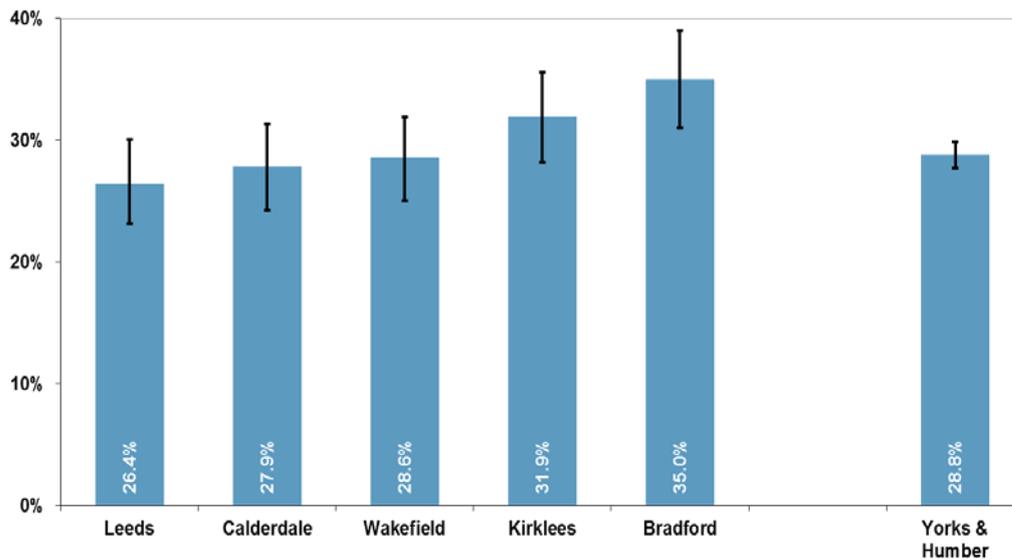
**Figure 5.23 Percentage of adults who describe their oral health as fair/ poor/ very poor**



Source: Yorkshire and Humber Oral Health Adult Survey 2008

In Yorkshire and The Humber 29% reported they had painful aching in their mouth in the last 12 months (occasional, fairly often or very often) and this was significantly higher in Bradford (Figure 5.24). Those living in the most deprived quintile more likely to report this than those in the least deprived.

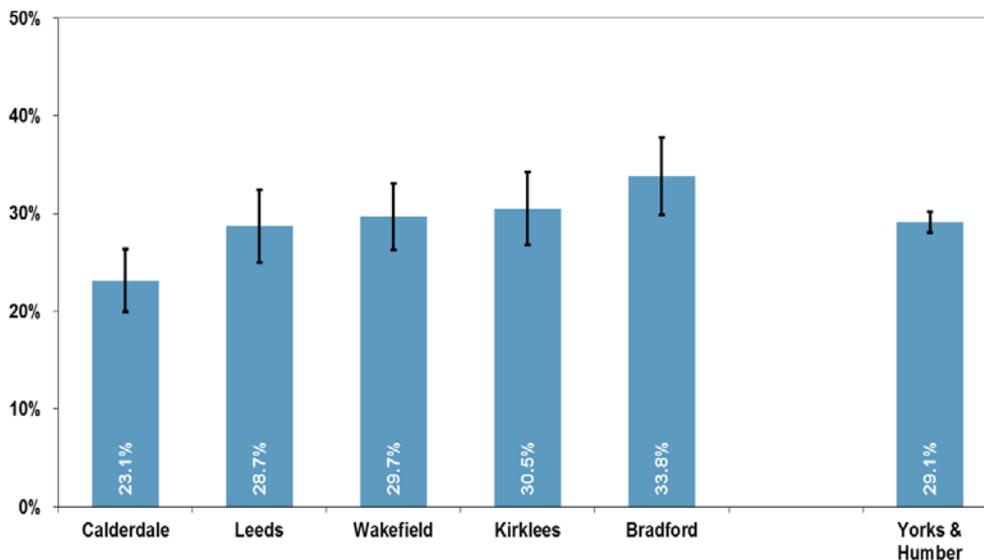
**Figure 5.24 Percentage of adults who describe painful aching in mouth - Occasionally /fairly often /very often**



Source: Yorkshire and Humber Oral Health Adult Survey 2008

There were 29% of respondents, who reported feeling self-conscious, occasionally or more often, in the last 12 months because of their teeth, mouth or dentures in Yorkshire and The Humber and this was significantly higher in Bradford. (Figure 5.25).

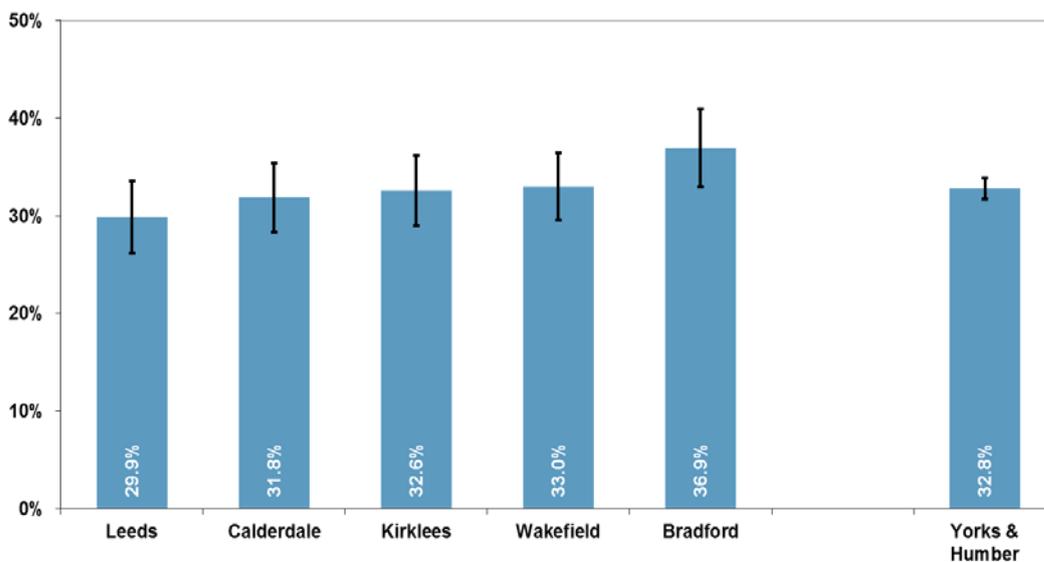
**Figure 5.25 Percentage of adults who have been self-conscious occasionally or more often**



Source: Yorkshire and Humber Oral Health Adult Survey 2008

Over one third of respondents from Yorkshire and The Humber (33%) felt discomfort when eating because of problems with teeth, mouth or dentures on an occasional or more frequent basis (Figure 5.26).

**Figure 5.26 Percentage of adults who describe uncomfortable to eat foods because of problems occasionally or more often by PCT in West Yorkshire**

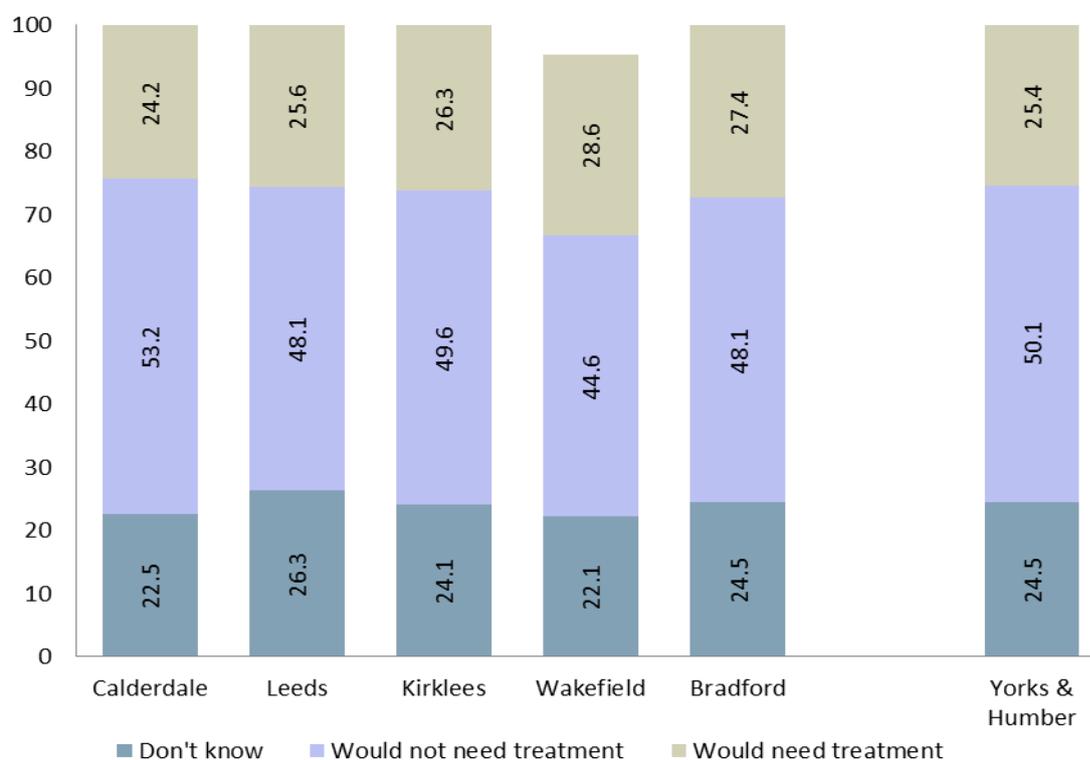


Source: Yorkshire and Humber Oral Health Adult Survey 2008

### Perceived need for treatment

Respondents were asked the global oral health question ‘If you went to the dentist tomorrow, do you think you would need treatment?’ Within Yorkshire and The Humber 25% felt they would, with more men than women and more in the most deprived quintile thinking so (Figure 5.27).

**Figure 5.27 Percentage of participants who perceived they would need treatment**



### Dental health inequalities

Inequalities exist in the oral health of adults both regionally and related to socio-economic status. The 2009 Adult Dental Health Survey reported that the average number of decayed teeth was higher in Yorkshire and The Humber than the England average. The average number of decayed teeth in people in managerial and professional jobs was 0.6 compared to 1.2 in those with routine and manual jobs. The average number of decayed teeth was 5.2 in people who had never visited the dentist.

Gum (periodontal) disease levels were higher amongst men and in those from socially deprived backgrounds. People who had never visited the dentist were four times more likely to have severe levels of gum disease.<sup>60</sup>

### Levels of restorative care

This section describes levels of commonly carried out dental treatments reported in the 2009 Adult Dental Health Survey.

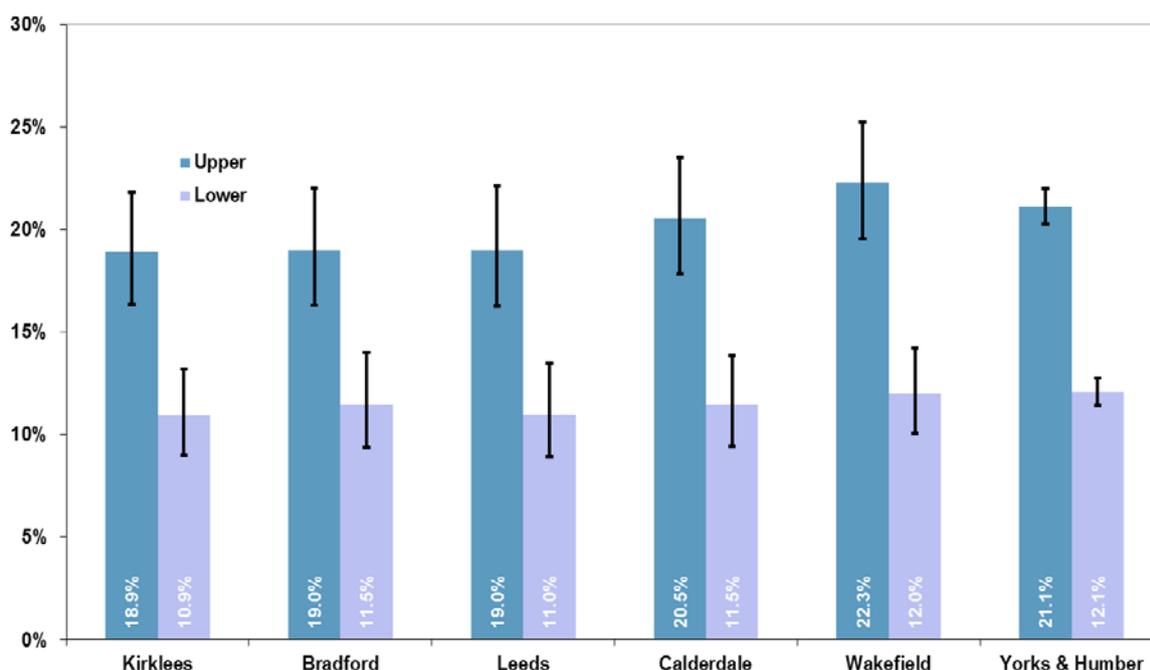
#### Fillings and crowns

Fillings and crowns are placed on teeth as a form of treatment after dental disease in an attempt to remove the disease and restore the tooth to function. Nationally, the average number of restored teeth fell from 8.1 in 1978 to 6.7 in 2009. However, in 2009 85% of dentate people had restored teeth, either with a filling or a crown, out of which 26% needed some form of further treatment due to secondary disease or the restoration failing.<sup>60</sup>

#### Dentures

People wear dentures to replace some or all of their missing teeth so that with the decline in the number of people losing all their teeth and fewer people wearing dentures, although more may wear partial dentures replacing some missing teeth. In 2009, 19% of people in England wore a denture compared to 22% in Yorkshire and The Humber. Women were more likely than men to wear a denture, 21% and 17% respectively in England. Also, people in routine and manual jobs were more likely to wear a denture (27%), than people in professional and managerial jobs (17%).<sup>60</sup>

In the local postal survey in Yorkshire and The Humber<sup>93</sup> respondents were asked if they wore a denture, complete and/or partial dentures were included, 21% had an upper denture whilst 12% had a lower denture across the area. Across West Yorkshire it is possible to see that Wakefield had the greatest proportion of respondents who had an upper and lower denture, however this was not significantly higher than the other areas (Figure 5.28).

**Figure 5.28 Percentage of adults who have dentures by upper and lower jaw**

Source: Yorkshire and Humber Oral Health of Adults Survey 2008

### Dental bridges

Dental bridges provide an often preferable alternative to dentures. If the space to be filled is small enough and the surrounding teeth are in reasonable condition, bridges may be fixed in the mouth. In England, 7% of the adult population had a dental bridge and in Yorkshire and The Humber people the figure was 6%. Women were more likely to have a dental bridge than men, 7% and 8% respectively. Those in intermediate jobs were most likely to have a bridge (9%), whilst the prevalence was 8% amongst those in professional and managerial jobs and 7% in those with routine and manual jobs.

### Dental implants

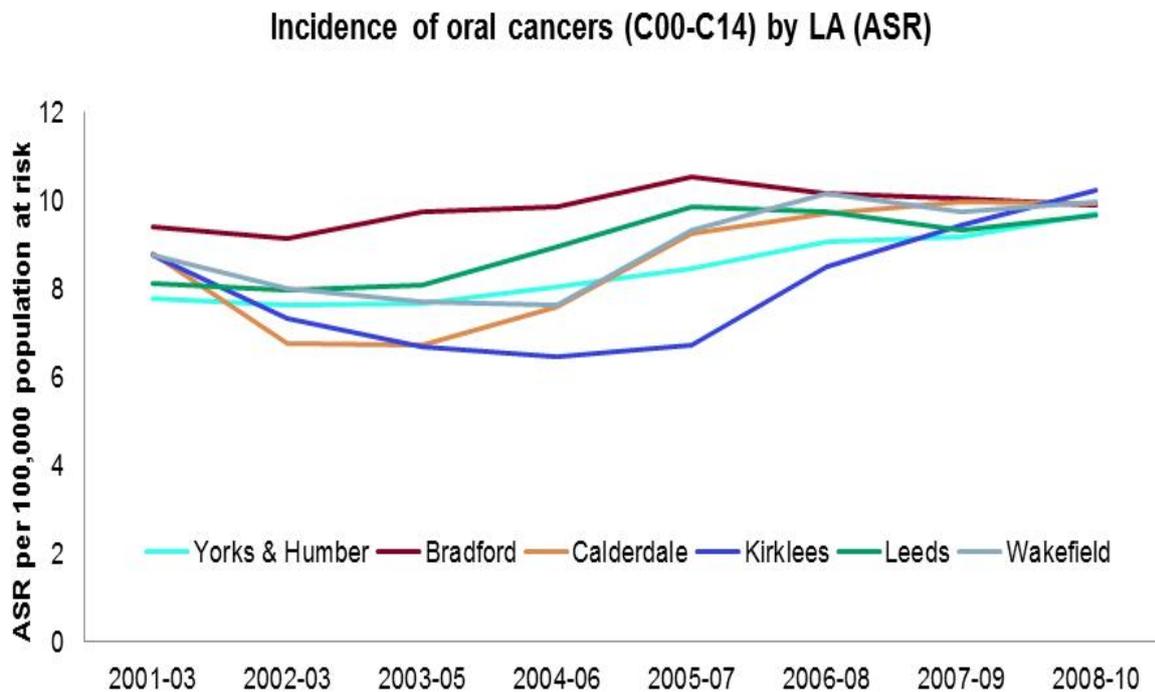
Dental implants are titanium screws placed into the jaws to support a crown or a denture. They are an increasingly mainstream part of dental care, but they are not routinely available on the NHS. In England, Yorkshire and The Humber and the East Midlands, 1% of the population had dental implants with the prevalence being equal amongst men and women. However, those with intermediate jobs were twice as likely to have implants as those in routine and manual or professional and managerial jobs.

## Mouth cancer

In 2011 there were nearly 6,800 new cases of mouth cancer representing 2% of all new cancer cases in UK with occurrence in men was twice that of women.<sup>95</sup> Cancer incidence is more common in older people there are increasing numbers occurring in younger and middle aged people. The risk factors (described in Chapter 4) includes: smoking tobacco, excessive alcohol, chewing tobacco, betel quid with tobacco, poor diet, Human papilloma virus (HPV) and sun exposure.<sup>96</sup> Five year survival rate for men with mouth cancer is 40% and for women 43%; with highest survival rates for lip cancer (89%).<sup>97</sup>

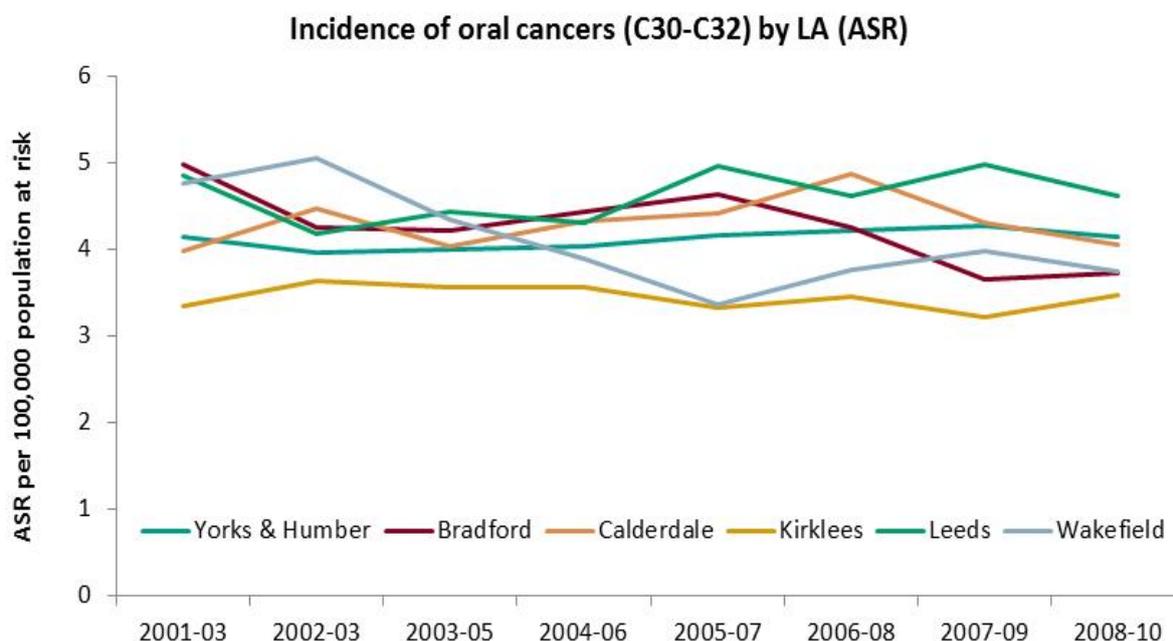
Age standardised rates take into account that mouth cancer is age related and allow comparison of incidence rates across areas with different age structures. Figure 5.29 shows that the annual average of new cases (Age Standardised Rate: European) per 100,000 population at risk varied little across time and are similar to the trends seen in Yorkshire and The Humber, although the incidence of mouth cancer in Kirklees is increasing.

**Figure 5.29**



Source: UKCIS Extraction date: 18th March 2014

**Figure 5.30**



Source: UKCIS Extraction date: 18th March 2014

### Summary of adults' oral health

- the oral health of adults has improved significantly over the last 40 years with more of the population retaining their natural teeth throughout their lifetime. However a substantial proportion of the population of Yorkshire and The Humber experience high levels of oral disease
- in Yorkshire and Humber, 30% of adults had tooth decay and 2% had severe gum disease
- men from materially deplete backgrounds were more likely to experience higher levels of tooth decay and gum disease but least likely to visit a dentist
- people in Bradford were more likely to report poorer oral health as compared with those living in other local authority areas.
- people in Wakefield were more likely to report a perceived need for treatment
- people in Yorkshire and Humber were more likely to wear a denture than nationally
- the incidence of mouth cancer in Kirklees is increasing

## Oral health of vulnerable groups

Vulnerable groups are those people whose economic, social, environmental circumstances or lifestyle place them at high risk of poor oral health or make it difficult for them to access dental services. It is not possible to provide a comprehensive list of all these groups, but they include people:

- who live in a disadvantaged area or who are from a lower socioeconomic group
- who have physical or mental disabilities
- who have mental health problems
- who are older and frail
- who are socially isolated or excluded
- who are homeless or frequently move, such as traveller communities;
- who smoke or misuse substances (including alcohol)
- who have a poor diet;
- from some black, Asian and minority ethnic groups for example, people of South Asian origin
- who have dental anxiety or dental phobia
- who are medically compromised
- who are, or who have been, in care<sup>14</sup>

These groups often require special treatment or treatment in a special setting to accommodate their needs. Epidemiological studies such as the ten yearly national dental health surveys of children and adults and the annual children's dental health surveys, have not routinely gathered information from children and adults with special needs.

### Older people

The UK population is ageing. This change is predicted to continue over the coming decades with the largest increase seen in those aged 85 years and over. The proportion of the English population aged 65 years and over is expected to increase from 17% in 2010 to 23% in 2035.<sup>98</sup> The future oral health improvement and dental service implications for older people with complex medical and dental needs have been discussed (Chapter 4).

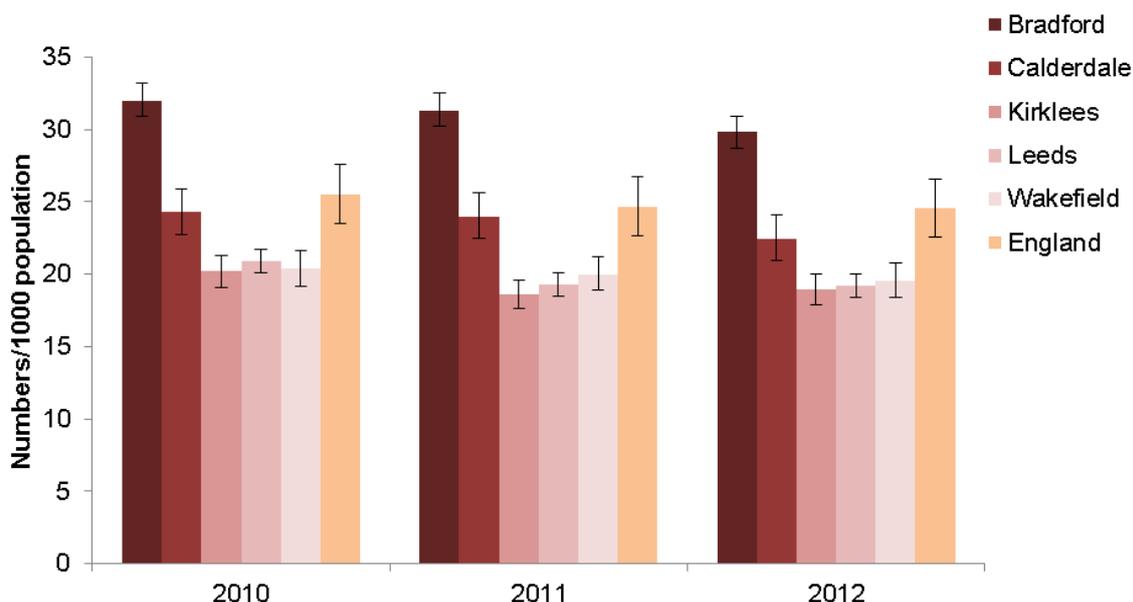
### People with learning disabilities

There is a national and local increase in the number of children and adults with learning disabilities. However, this may be due to improved reporting. The prevalence of children with a learning disability in England is 24.5 per 1,000 children known to schools. Information for this indicator is reported by schools through their school census. It is based on those children attending primary, secondary and

special schools and includes all those children that have a school action plus or a statement of need. Learning disabilities may be moderate, severe, profound or multiple disabilities. These following figures are not based on a medical diagnosis and some children may travel to schools outside their area.

The graph in Figure 5.31 shows that Bradford have proportionately more children with learning disabilities than England and the other local authorities.

**Figure 5.31 Children with learning disabilities known to schools, 2010 to 2012**

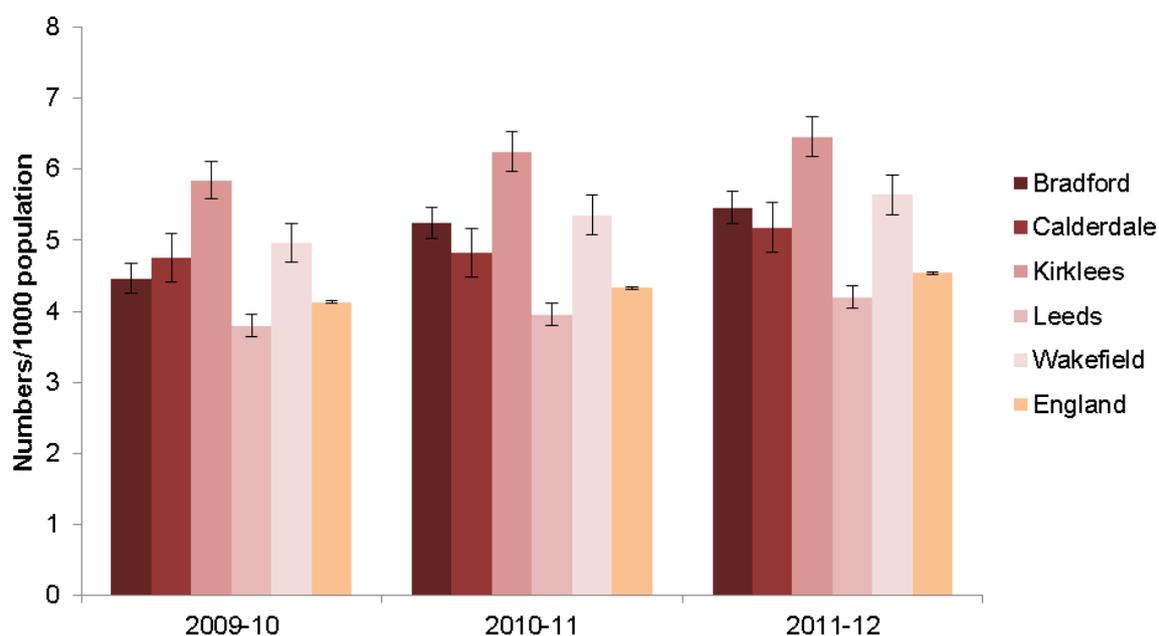


Source: Learning Disabilities Observatory (Improving health and lives)

Children with additional needs, such as learning disabilities have similar tooth decay experience but are more likely to have their teeth extracted than their healthy peers. Children with additional needs are more likely to have poorer gum health.<sup>99,100</sup>

The first national survey of children in special support schools was undertaken in 2013/14. The results are expected to be published in early 2015.

Nationally, the prevalence of adults (18-64 years) with a learning disability is 4.3 per 1,000 people registered with a general medical practitioner. This indicator is collected annually as part of the QOF, general medical practitioners are asked to record how many patients over the age of 18 years on their list have a learning disability. The Figure 5.32 below shows the numbers per 1000 that are recorded as having a learning disability across West Yorkshire compared with England.

**Figure 5.32 Adults with learning disability known to GPs, 2010 to 2012**

Source: Learning Disabilities Observatory (Improving Health and Lives)

During the period 2009 to 2012 a significantly higher level of adults with learning disabilities were known to their GPs in Bradford, Calderdale, Kirklees and Wakefield compared with England as a whole. As life expectancy of children with disabilities improves it is expected that these figures will increase.

Adults with learning disabilities are excluded from national surveys of oral health. Therefore, there are no national data on the oral health needs of this population. However, local surveys highlight the poorer oral health and different treatment patterns in adults with learning disabilities compared with the general population.

### People with mental health problems

Mental health problems are very common. Approximately a quarter of the population experience some kind of mental health problem in any one year. The classification of mental health problems remains problematic, as some diagnoses are controversial and there is concern that some people may not get the appropriate treatment. The classification is sub-divided into 'neurotic' and 'psychotic'. 'Neurotic' covers those symptoms that can be regarded as severe forms of 'normal' emotional experiences such as depression, anxiety or panic. Conditions formerly referred to as 'neuroses' are now more frequently called 'common mental health problems.' Less common are 'psychotic' symptoms, which interfere with a person's perception of reality, and may include hallucinations such as seeing, hearing, smelling or feeling things that no one else can.

Overall someone with a severe mental health problem can expect to die almost 20 years earlier than the rest of the population. Therefore, there has been a drive to improve mental health services and improves the general health of people with mental health problems. There are no national and local data on the oral health needs of people with mental health problems. There is a need for dental commissioners to tie oral health into any local commissioning arrangements that are set to improve the physical health of this vulnerable group.

### Adults in care homes

The care home resident population for those aged 65 and over has remained almost stable since 2001 with an increase of 0.3%, despite growth of 11.0% in the overall population at this age. The resident care home population is also ageing. The proportion of the older care home population aged 85 and over rose from 56.5% in 2001 to 59.2% in 2011 (Table 5.4)<sup>101</sup>.

**Table 5.4 Care home population aged 65 years and over by age group in England and Wales, 2011**

Age	Care home residents	Care home population (%)
65-74	31,000	10.5
75-85	88,000	30.3
85 and over	172,000	59.2
Total 65 and over	291,000	100

Source: Office for National Statistics

There are no national and very limited local data on the oral health needs of adults in nursing homes. However a local screening survey of residents in nursing and residential homes in Bradford was conducted in 1993. The screening programme indicated that 70% of residents had some treatment need; mainly a reline or remake of the upper or lower denture (16% and 22% respectively). However it was observed that naming of dentures was the main treatment need (72% of full dentures and 75% of partial dentures). Of those residents who were dentate 46% had tooth decay.<sup>102</sup>

In Glasgow, telephone surveys of oral healthcare provision in nursing and residential homes indicated that people were significantly more likely to receive an oral health assessment on admission to nursing homes than residential homes (78% compared with 24%). In addition nursing homes were more likely to have a formal mouth care policy (58% compared with 8%). Oral examination of a sub sample of residents confirmed high levels of disease including oral candidiasis (oral thrush) amongst those examined. Staff confirmed at interview that although mouth care was within their remit it was often not carried out.<sup>103</sup>

## Socially excluded people

Socially excluded people are accommodated in prisons, young offenders' institutes, secure children's homes, police custody suites or courts. They often have chaotic lifestyles and low aspirations for health, making it difficult for them to navigate systems and access healthcare.

Socially excluded people are more likely to smoke, misuse drugs and or alcohol, have mental health problems, report having a disability, self-harm, attempt suicide and die prematurely compared to the general population. Health and wellbeing needs of offenders in the community are worse than those in custody or the general population with significantly higher premature death rates.

## Prisoner population

Whilst oral health has improved in the general population over the last forty years, the limited research published on the oral health of prisoners suggests that they have significantly greater needs than the general population with fewer natural teeth, more decayed teeth and higher levels of gum disease.<sup>104</sup> They are also reported to experience more frequent impacts from poor oral health including pain and difficulty eating. Tobacco, alcohol and drug abuse are more common in the prison population and these behaviours contribute to poorer oral health.

There is strong evidence that oral health is related to level of deprivation and a high percentage of prisoners are unemployed before being imprisoned and often come from areas with high levels of deprivation and social exclusion.<sup>105</sup> General health levels are also reported to be poorer in prisoners than among the general population<sup>106</sup> with, for example, higher levels of illicit drug use, blood borne virus infections and mental health problems.<sup>107,108</sup> Such factors will also impact on oral health and provision of oral healthcare.

Prisoners have been reported to be demanding customers and this together with high turnover of the prison population, particularly in local prisons, can lead to difficulties in providing care with interrupted treatments and non-attendance common. In addition, demand for dental services within prisons is increasing due to the increasing prison population.<sup>109</sup> This oral health needs assessment does not include detailed information relating to prison population across Yorkshire and Humber.

NHS England is responsible for directly commissioning health services, including dental services for persons who are detained in prison or in other secure accommodation. West Yorkshire Area Team commissions all prison dental services across Yorkshire and Humber. This responsibility includes the planning, securing

and monitoring of dental services. Importantly, the quality of dental services should be equivalent to those in the wider community.

Currently, dental services are commissioned at the following prisons and children secure units:

- HMP and YOI Askham Grange
- HMP Leeds
- HMP Whelstun
- HMYOI Wetherby
- HMP Wakefield
- HMP New Hall
- HMP and YOI Doncaster
- HMP and YOI Moorlands and Hatfield
- HMP Lindholme
- HMP Hull
- HMP Humber
- HMP Full Sutton
- Adel Beck Secure Children's Home
- Aldine House Secure Children's Centre

During 2014, The Yorkshire and Humber PHE Dental Public Health Team have been working closely with West Yorkshire Area Team Health and Justice Team with regards to completing prison dental service reviews and actively supporting the procurement of dental services at HMPs Humber, Full Sutton and Hull. A prison dental service review was also completed at HMYOI Wetherby. Procurement of the healthcare services including dental services at the seven establishments in West Yorkshire is planned for 2015.

### Homeless people

Homeless people are a diverse group comprising of the roofless and those living in temporary accommodation. Most research has focussed on the needs of single men especially rough sleepers. There is no information regarding health problems relating to other groups such as families with children. Many of the studies conducted have used convenience samples and so the data may not be representative.

The expressed and normative dental needs and attitudes of seventy homeless people living in hostels in Birmingham were examined in 2000. Treatment needs were high. Of those who were edentulous, 68% did not wear dentures. There were high levels of tooth decay amongst those with teeth as the average number of teeth with decay experience was 15.9. Most participants had one or more teeth with pulpal involvement and half had mobile teeth.<sup>110</sup>. This supports findings from earlier studies

reporting a high level of normative but low levels of perceived need amongst homeless groups.<sup>111</sup>

More recent studies have also considered the impact of oral diseases on the quality of life of homeless people. As well as high levels of dental treatment need with 76% requiring restorative work, 80% oral hygiene or gum care and 38% needing dentures 91% experienced at least one oral health impact, with the average number of impacts being 5.9. The most common impacts were pain (65%) and discomfort on eating (62%).<sup>112</sup> Similar observations were made among homeless people using a healthy living centre in Wales. The most commonly reported impacts were toothache, discomfort, ability to relax and feeling ashamed regarding the appearance of their teeth. Rough sleepers experienced significantly higher levels of impact.<sup>113</sup>

The incidence of many cancers is known to be higher amongst men in lower socioeconomic groups. Within the lowest deprivation group there is further excess risk. Consequently, there is a high incidence of cancers of the mouth amongst homeless men.<sup>114</sup>

### Severely obese people

Severely obese people are those who have a body mass index (BMI) in excess of 40 or over 30 with significant health problems. BMIs of 50 or more may render people housebound requiring specialist care and support. Obesity is predicted to rise, with projections indicating that by 2050 there will be approximately 50% of the population classed as obese (with a BMI of 30+), suggesting that numbers of people with a BMI over 40 will also continue to rise.

Severely obese people are in a high risk category for tooth decay due to diets high in refined sugars. They often have co-morbidities such as diabetes that can affect their oral health. However, severely obese people are often unable to visit conventional dental practices because of lack of disabled access and normal dental chairs will not support their weight or facilitate their size. Dental practices do not have links with the ambulance service for transporting severely obese people.

Dental services that accommodate severely obese people are provided by all the community dental services providers in West Yorkshire. There is no information regarding the numbers of severely obese people requiring dental care.

## Looked after children

Looked after children tend to have poorer health and well-being than their peers. Although some national data to describe the health needs of looked after children, their oral health needs are not routinely monitored in West Yorkshire. In West Yorkshire there are 3,640 looked after children (Table 5.5).

**Table 5.5 Looked after children, below 18 years old, in West Yorkshire 2014.**

Area	Looked after children
England	68,840
West Yorkshire	3,640
Leeds	1,340
Bradford	880
Kirklees	610
Wakefield	490
Calderdale	320

Source: Department of Education

## Other vulnerable groups

There are other potentially vulnerable groups such as travellers, refugees and asylum seekers, the medically compromised, as well as those with dental anxiety and dental phobia. All vulnerable groups have the right to good oral health but they are the very groups in society that are at increased risk of poor oral health. To ensure equality of oral health outcomes additional support is required.

## Summary

- information describing the oral health of vulnerable groups locally is limited.
- Bradford has significantly more children with learning disabilities relative to the national average.
- children with learning disabilities are more likely to have teeth extracted than filled and have poorer gum health.
- Kirklees, Wakefield, Bradford and Calderdale have significantly more adults with learning disabilities known to GPs relative to the national average.
- adults with learning disabilities are more likely to have poor oral health than the general population.
- adults with learning disabilities living in the community are more likely to have poorer oral than their counterparts living in care.

- approximately a quarter of the population experiences some kind of mental health problem in any one year. However, there is no local information on the oral health needs of this group.
- vulnerable adults living in the community have difficulty accessing dental services.
- prisoners experience poorer oral health than the general population. This oral health needs assessment does not consider this group.
- homeless people are more likely to have greater need for oral healthcare services than the general population.
- severely obese people may be at higher risk of oral disease. Dental services for severely obese people are available in all the local authority areas in West Yorkshire.
- looked after children are likely to have greater oral health needs than their peers. In West Yorkshire, most children in care live in Leeds and Bradford.

### Key issues for consideration

- strategies for dental services and oral health improvement services should focus on addressing the inequalities in oral health that exist between and within local authority areas
- prevention of tooth decay and identification and restoration of decayed teeth in children's permanent dentitions should be a priority for dental services in West Yorkshire
- oral health improvement strategies in Kirklees should include actions to address the increasing incidence of mouth cancer in this area.
- undertaking a more detailed oral health needs assessment of vulnerable groups should be considered by NHS England and local authorities
- dental services including urgent care should be accessible to people with learning disabilities and provide preventive and treatment services
- NHS England, local authorities, PHE and clinical commissioning groups should work together to ensure access to dental and oral health improvement services for people with mental health problems.
- need for and access to dental services for severely obese people should be reviewed across West Yorkshire
- need for and access to dental services for looked after children should be reviewed across West Yorkshire

## 6. Oral healthcare services

NHS England currently has a statutory duty to secure all NHS dental services. Those services must reflect the improved oral health of the population with more people keeping their teeth into old age. At the same time major technical advances enable more complex care with further implications for commissioning. It is recognised that dental services are demand led, but that they should be increasingly targeted towards those whose oral health is poor or who are at high risk of disease.

The current dental contract was introduced in April 2006 with a greater emphasis on locally commissioned dental care. A consequent benefit of this is that commissioners now have greater flexibility in addressing dental health care needs. The analyses in this report relate to patients resident in an area, as opposed to patients treated by dentists practising in the area.

This chapter describes current NHS dental service provision in West Yorkshire.

### Primary care dental services

Dental services are predominantly provided in primary care. In West Yorkshire, the cost of primary care dental services was £116,133,013 in 2013/14. This includes general dental services, community dental services, advanced mandatory services, primary care based specialist services and unplanned dental care. Approximately, 25% of this funding revenue is generated from patient charges.

Most primary dental care is provided in general dental practice. However, the community dental services play an important role in providing primary dental care for vulnerable groups who may need treatment in a setting to accommodate their needs. The community dental services deliver dental public health programmes, advanced mandatory services, and some specialist dental services such as paediatric dentistry and special care dentistry.

Other primary care based specialist services in West Yorkshire consist of orthodontic, oral surgery and restorative services.

Unplanned dental care services provide access to people who require urgent dental care in or out of hours due to pain, swelling, infection, dental trauma and bleeding. The following sections describe these services in more detail.

## General dental services

The current primary care NHS dental contracts, the General Dental Service Contract and the Personal Dental Service Agreement, were introduced in 2006. The dental contracting currency of these contracts is the units of dental activity (UDA). A general dental service provider is contracted for an annual agreed number of units of dental activity.

Dental practices provide services according to four different bands of care with the provider awarded a number of UDAs for each band:

- **Band 1:** includes an examination, diagnosis and advice. If necessary, it also includes x-rays, a scale and polish, application of fluoride varnish or fissure sealants, prevention advice and planning for further treatment (1 UDA);
- **Band 1 urgent:** includes urgent care such as removal of the tooth pulp, removal of up to two teeth, dressing of a tooth and one permanent tooth filling (1.2 UDAs);
- **Band 2:** includes all treatment covered by Band 1, plus additional treatment, such as fillings, root canal treatment, gum treatments and removal of teeth (3 UDAs); and
- **Band 3:** includes all treatment covered by Bands 1 and 2, plus more complex procedures, such as crowns, dentures and bridges (12 UDAs).

Fee paying adults contribute towards the costs of NHS dental treatment with the contribution determined by the band (the patient contribution for band 1 and band 1 urgent is the same).

In 2013/14, 262 dental practices across West Yorkshire were contracted to provide a total of 3,920,712 UDAs (Table 6.1). The total spend on UDAs across West Yorkshire is £105,844,056.47. It has not been possible to describe the spend by local authority area. The amount dentists are paid per UDA varies considerably from £18.35 to £38.32. These values were calculated by analysing historical activity data for each practice when the 2006 national contract was introduced but no longer reflect current practice. Across West Yorkshire, there was under delivery of total contracted activity by 41,302 UDAs.

**Table 6.1 Primary care provision West Yorkshire, 2013/14**

Locality	Contracts (n)	Practices (n)	Average UDA value (£)	UDA Range 13/14 (£)	Total annual contracted UDAs (n)
Bradford	63	57	27.47	21.28 - 37.11	815,848
Calderdale	26	25	26.64	21.53 - 35.65	387,295
Kirklees	52	52	28.00	19.34 - 37.40	778,602
Leeds	103	98	26.21	18.71 - 38.32	1,280,365
Wakefield	36	30	27.63	18.35 - 36.25	650,504
Total	280	262	N/A	N/A	3,920,712

Source: NHS England 2014

In 2013/14, 97.89% of contracted UDAs were delivered in West Yorkshire. There was some degree of under delivery of contracted activity in all the local authority areas, although exact figures could not be confirmed. It has not been possible to describe this information at local authority level.

Three dental practices in West Yorkshire based in Leeds, Bradford and Wakefield are participating in the national dental contract reform pilot scheme to help inform the reform of the national primary dental care contract.

### Availability of general dental services in West Yorkshire

Leeds, Bradford and Kirklees have more commissioned UDAs per head of population than Wakefield and Calderdale.

Currently, information is not available that describes the availability of dental services at ward level across each of the local authority areas in West Yorkshire. The concept of patient registration was discontinued in 2006. However, most dental practices maintain a list of regular patients. As people may attend a dental practice anywhere, a health equity audit of service utilisation would determine the equity of provision at ward and local authority level.

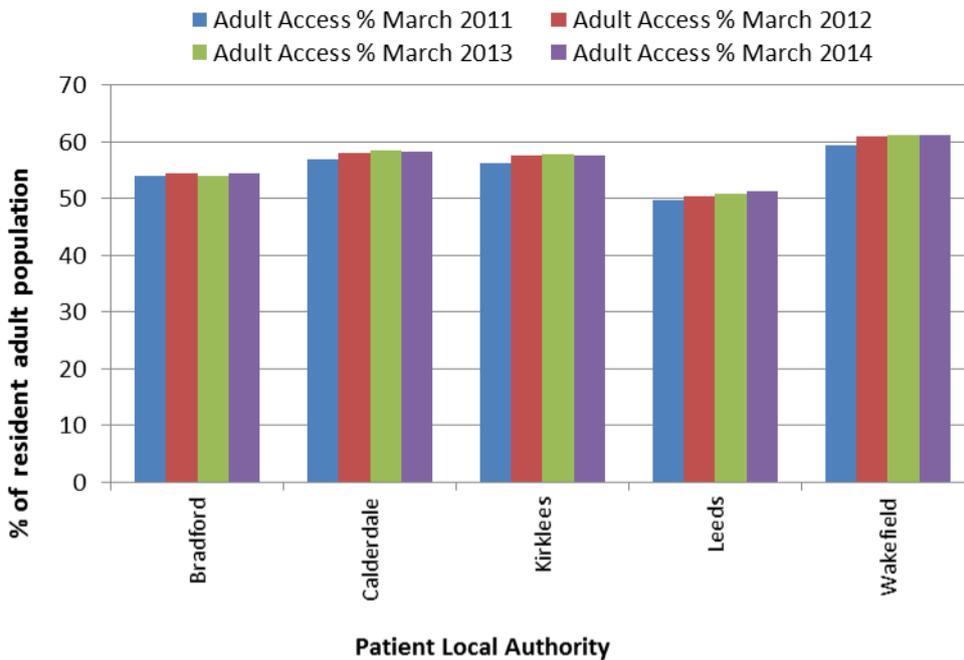
### Access to care

Access to primary care dental services has been a key issue both nationally and locally. Since March 2006 substantial investment has been made to increase access to dental care. The indicator used to assess dental access is the number of unique people accessing dental services over the previous 24 months. This metric is based upon NICE guidance which recommends the longest interval between dental examinations for adults should be 24 months<sup>115</sup>. Access is measured by comparing

the proportion of the population who have attended within the last 24 months against the position in April 2006 when the current dental contract was introduced. The NHS Constitution states that comprehensive NHS services, which include NHS dental services, should be available to all.<sup>116</sup> It is important to understand the factors that influence health related behaviour. Whilst NHS dental services for pregnant mothers up to the time the child is one year of age and children are free, adults pay for dental care unless they are exempt from payment. Reasons for exemption include low income and cost has been identified as a barrier to accessing care in a number of studies. Moreover, there is evidence which shows that people from more deprived backgrounds including ethnic groups access dental services less regularly.

The adult access rate between 2011 (54.0%) and 2014 (55.3%) shows a year on year increase in the proportion of West Yorkshire residents accessing an NHS dentist in a 24 month period, with the figure remaining higher than the figure for England over the same four year period.<sup>117</sup> Figure 6.3 describes trends in access rates by local authorities in West Yorkshire. The highest adult access rates are seen in Wakefield, the lowest being in Leeds, although over the four year period, at each of the local authority, rates have largely remained at a consistent level.

**Figure 6.1 Trends in access rates by local authorities in West Yorkshire**



Source: Dental Public Health Report, NHS Business Services Authority, 2014

A greater proportion of children and adults accessed a dentist in West Yorkshire relative to the national average in 2013/14 (Table 6.2). Wakefield had the highest proportion of adults, whilst Calderdale had the highest proportion of children accessing a dentist. However, it is important to note that a significant proportion of

children and adults do not access primary care dental services, with non-attendance rates being higher in adults.

**Table 6.2 Proportion of population seen in previous 24 months, 2013/14**

Area	Adults (%)	Children (%)
Bradford	54.5	68.1
Calderdale	58.3	78.6
Kirklees	57.7	75.5
Leeds	51.3	69.7
Wakefield	61.2	72.4
West Yorkshire	55.3	71.4
England	51.4	68.0

Source: Dental Public Health Report, NHS Business Service Authority, 2014

Amongst children for whom NHS dental care is free, there was good overall access however, those in the most deprived areas of West Yorkshire have lower access rates than those in the least deprived areas, although they remain higher than in England. This reflects inequity in service use and reasons for this need to be explored (Table 6.3).

In West Yorkshire the adult attendance pattern is more complex with both those in the most and least deprived quintiles having similar access rates. This is in contrast to England where adult access rates are lower amongst the least deprived quartile which may be explained by a proportion of adults attending dentists privately (Table 6.3).

**Table 6.3 Adult and child access by IMD 2010**

IMD 2010 Quartiles	Children West Yorkshire (%)	Children England (%)	Adults West Yorkshire (%)	Adults England (%)
25% Most deprived	70.4	67.5	53.1	53.3
25-50% More deprived	74.1	69.2	53.7	52.0
50-75% Less deprived	77.1	71.1	55.6	51.9
25% Least deprived	75.7	72.3	53.5	51.0

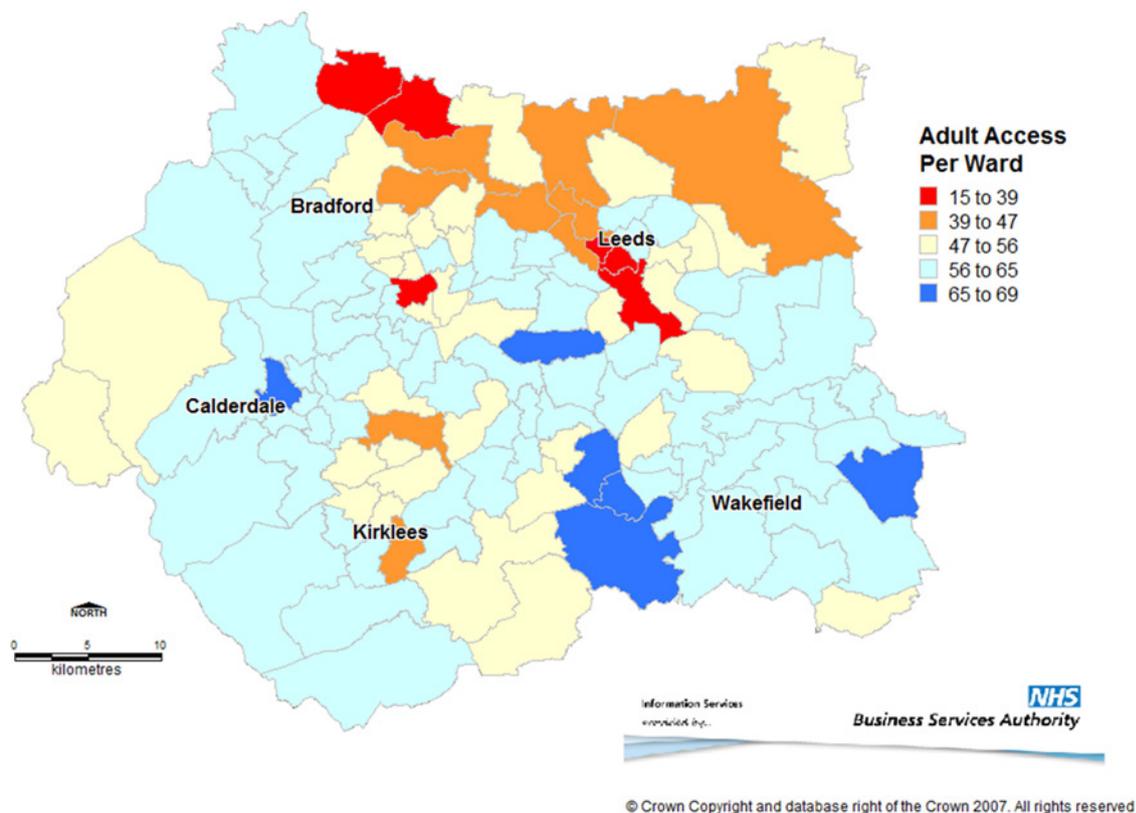
Source: Dental Public Health Report, NHS Business Service Authority, 2014

Adult access rates at ward level in West Yorkshire can be seen in Figure 6.2. Wards shaded red have the lowest access rates and those shaded blue the highest. The wards with the lowest adult access rates in Bradford are Ilkley, Wharfedale and City in Bradford. In the least deprived wards of Ilkley and Wharfedale, many local residents access private dental care. In contrast, City ward is a significantly more

deprived ward with historic levels of lower access rates. This was addressed through the provision of a new general dental practice in Manningham ward (adjacent to City ward).

The wards with the lowest adult access rates in Leeds are Headingley, City and Hunslet, Hyde Park and Woodhouse. In the least deprived ward of Headingley many residents are likely to access private dental care. The more deprived wards of City and Hunslet, Hyde Park and Woodhouse also have very low access rates.

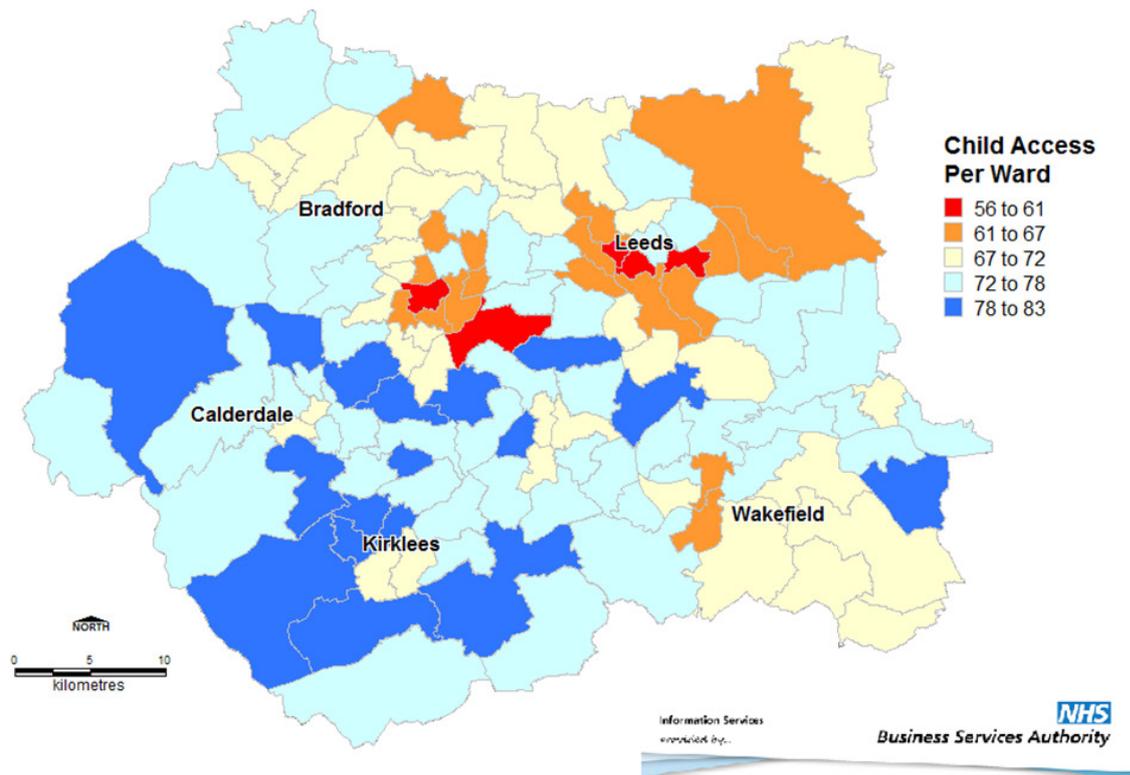
**Figure 6.2 Proportion of adults accessing dental care in previous 24 months (2013/14) at ward level in West Yorkshire**



Source: Dental Public Health Report, NHS Business Service Authority, 2014

The map below shows child access rates by ward across West Yorkshire. Those wards shaded red have the lowest rates, those shaded blue the highest (Figure 6.3).

**Figure 6.3 Proportion of children accessing dental care in previous 24 months (2013/14) at ward level in West Yorkshire**



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Source: Dental Public Health Report, NHS Business Service Authority, 2014

The wards with the lowest child access rates are in the wards with most deprivation of Tong and City in Bradford; and Hyde Park and Woodhouse, Gipton and Harehills in Leeds. Low rates of access from the less deprived ward of Headingley may be due to residents accessing private dental care.

Attempts to address access problems in Bradford resulted in additional investment which has included new practices being established in Tong during 2009 and in Manningham during 2012. In 2014, NHS England West Yorkshire Area Team invested a further £156, 000 recurrently to improve access in Bradford, in the more deprived wards of City and Tong. This should help address the lower access rates of both adults and children living in these wards.

As people may visit access a dental practice anywhere in the country, it is useful to look at cross border flow for two reasons. First, large numbers of patients accessing services from outside an area can limit access to services for residents. Secondly, such patterns may indicate of lack of service availability or poor service quality. The vast majority of people in West Yorkshire who access care, access care in the area,

and approximately 2% of people accessing care in West Yorkshire live outside the area.

Access also varies by age group with children aged 0-2 years having much lower access than older children.

### Patient information

It is difficult to determine the number of dental practices accepting new patients. People seeking access to dental care are signposted to the NHS Choices website. This is not ideal for people without internet access. Moreover, the information on NHS Choices is not always up to date. The Leeds Dental Advice Line still offers some support in signposting patients to dental services, although no data is available to describe those currently accessing this service.

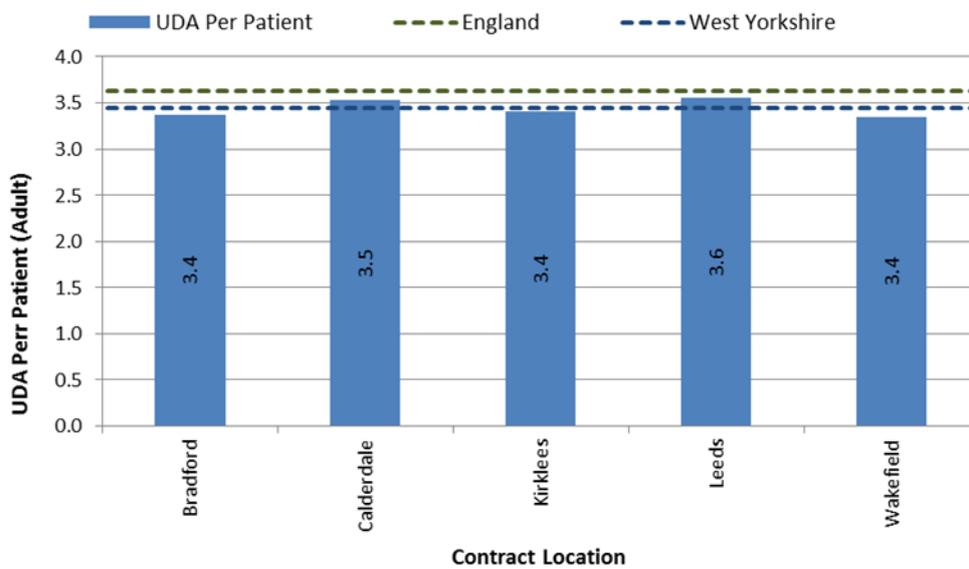
Local Healthwatch organisations provide information and signposting to help local people access local health and social care services and it is important that this includes dental services. NHS England needs to work with local Healthwatch organisations to ensure people receive accurate information on how to access dental services and which practices are accepting new NHS patients. West Yorkshire Area Team has confirmed that new local dental contracts will include a requirement to update availability of dental services on NHS Choices.

The dental service activity form (FP17) includes information describing ethnicity but this is not always completed. No robust data were available on access to services by ethnic group.

### Dental service usage

The average number of UDAs claimed for each patient is a measure of the intensity of resource use. The average UDA per adult patient resident in West Yorkshire is similar across all local authorities but is slightly lower than the England average (Figure 6.4).

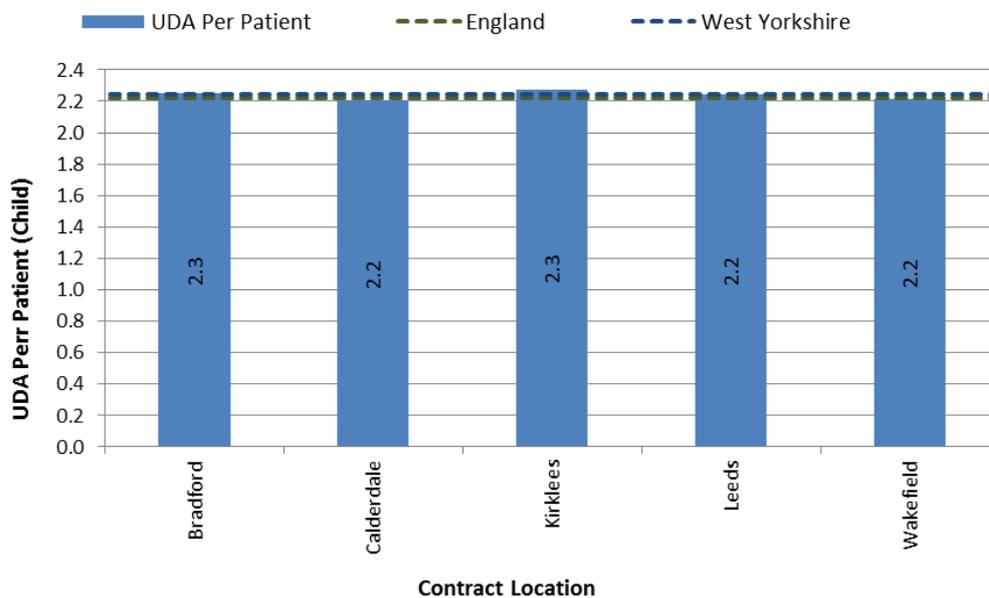
**Figure 6.4 Average UDAs per adult patient 2013/14**



Source: Dental Public Health Report, NHS Business Service Authority, 2014

The average UDA per child patient resident in each of the local authority areas in West Yorkshire are similar and comparable with the England average (Figure 6.5).

**Figure 6.5 Average UDAs per child patient 2013/14**



Source: Dental Public Health Report, NHS Business Service Authority, 2014

Given the inequalities in oral health in residents across West Yorkshire, it is important that more vulnerable groups with high treatment needs are able to receive appropriate dental treatment by encouraging more regular care.

## Complexity of care

The proportion of courses of treatment provided in each band in each of the five local authority areas in West Yorkshire is described in Table 6.4.<sup>118</sup> Leeds has the highest proportion of people attending for urgent courses of treatment and may indicate difficulties in accessing routine care in primary dental care.

**Table 6.4 Proportion of courses of treatment in each band 2013/14**

Local Authority	Band 1 (%)	Band 2 (%)	Band 3 (%)	Band 1 Urgent (%)	Other (%)
Bradford	57.9	29.2	3.9	8.5	0.4
Calderdale	55.4	29.3	5.4	9.4	0.5
Kirklees	58.4	28.9	4.1	8.0	0.6
Leeds	54.8	29.4	4.7	10.6	0.5
Wakefield	58.9	27.8	4.4	8.2	0.7
West Yorkshire	57.0	29.0	4.4	9.1	0.5
England	54.5	29.7	5.6	9.7	0.5

Source: NHS Dental Statistics for England 2013-14: Annex 4 (UDA by LA), HSCIC, 2014

## Variations in dental service utilisation

Comparison of data from patients by paying status is a useful proxy for comparison by social gradient (Table 6.5).<sup>118</sup>

**Table 6.5 Proportion of courses of treatment in each band by patient status**

Local Authority	Band 1 (%)			Band 2 (%)		
	Paying adult	Exempt adult	Child	Paying adult	Exempt adult	Child
Leeds	52.1	15.5	32.3	47.7	28.8	23.5
Bradford	40.6	20.4	39.1	36.8	34.2	29.0
Kirklees	48.0	16.1	35.9	45.4	28.7	26.0
Wakefield	56.3	14.4	29.4	53.8	25.1	21.0
Calderdale	50.7	15.3	34.0	46.4	28.7	25.0
	Band 3 (%)			Band 1 Urgent (%)		
Leeds	44.7	52.8	2.5	47.9	37.2	14.8
Bradford	39.5	58.3	2.2	40.0	43.3	16.8
Kirklees	45.5	51.0	3.4	47.1	37.8	15.1
Wakefield	51.5	46.3	2.2	53.4	32.9	13.6
Calderdale	46.7	50.8	2.5	47.6	38.6	13.8

Source: NHS Dental Statistics for England 2013-14: Annex 4 (UDA by LA), HSCIC, 2014

Those adults who are exempt from paying NHS dental charges due to low income, are more likely to have a higher need for treatment in band 3 and urgent dental care. However, paying adults, who are more likely to have improved oral health, are more likely to have band 1 treatment. The lowest proportion of paying adults for all bands of treatment, live in Bradford.

## Evidence based care

### Fluoride varnish application

Evidence from systematic reviews shows that application of fluoride varnish between two and three times a year can reduce decay by 33% in baby teeth and 46% in adult teeth.<sup>119</sup> Therefore evidence based guidance recommends application of fluoride varnish every six months for all children between 3-16 years old and more frequently for all children (0-16 years old) at higher risk of tooth decay.

Information describing fluoride varnish rates is dependent on the applications being recorded on FP17s. Whilst the number of children receiving fluoride varnish is increasing year on year, a significant proportion of children in West Yorkshire who visit the dentist do not appear to be receiving fluoride varnish application, with children in Calderdale, Leeds and Wakefield having the lowest levels of application (Table 6.7). Children in Bradford are the most likely to have applications in dental practice and in addition Bradford Council commission a community base fluoride varnish scheme applying varnish in community settings such as children centres.

For adult patients with a higher risk of tooth decay, it is recommended that fluoride varnish is applied twice a year. Very few adults in West Yorkshire receive fluoride varnish applications. The greatest proportion of adults in West Yorkshire receiving fluoride varnish applications are in Bradford. This demonstrates that dental practices are implementing this evidence based prevention intervention and suggests the benefit of local training in varnish application and prevention advice being provided. An evaluation was undertaken in Bradford to assess the impact of training dental nurses to apply fluoride varnish and give oral health advice to patients and this showed that training can increase the number of applications.<sup>120</sup>

**Table 6.6 Fluoride varnish application by age group, 2013/14**

Local Authority	Children (3-16 years) (%)	Adults (%)
Bradford	45.7	4.4
Calderdale	32.1	1.5
Kirklees	39.2	1.7
Leeds	30.6	1.8
Wakefield	27.6	1.7

Source: NHS BSA 2014

Appropriately trained, competent dental nurses with additional skills are able to apply fluoride varnish on patients on prescription by a dentist or as part of a community based scheme as overseen by a consultant or specialist in dental public health. Training courses have been provided in Bradford. Yorkshire and Humber Health Education England have agreed to commission three training courses in Yorkshire in Humber, which includes a venue in Leeds.

### Recall interval

The NICE has published evidence based guidelines for dental recall intervals. Adults should be seen for dental recall at intervals from 3 to 24 months and children should be seen for a dental recall at an interval from 3 months to 12 months depending on their level of risk of oral diseases.<sup>115</sup>

Adults with low levels of disease should usually have a recommended recall interval of 24 months. It has not been possible to describe the dental recall interval for patients with a low risk of disease (interval between band 1 treatments). Extending dental recall interval for people at low risk of oral diseases in line with the NICE guidance would increase the availability of dental services.

Primary dental care treatments are also provided at Leeds Dental Institute and its associated outreach clinics, predominantly by dental students. Dental care is limited to band 1 urgent and patients are offered one course of treatment. Information is not forwarded to the NHS Business Services Authority and activity data for these services were not available.

### Additional services

Additional services are provided under the standard national general dental service contracts and include domiciliary care, sedation, orthodontics and dental public health services. No dental public health services are commissioned from general dental services in West Yorkshire.

### Domiciliary services

Domiciliary oral healthcare service reaches out to those people who cannot visit a dentist. Care is provided where the patient permanently or temporarily resides, including patients' own homes, residential units, nursing homes, hospitals and day centres.<sup>121</sup> In accordance with the Disability Discrimination Act,<sup>122</sup> domiciliary services ensures that dental services are provided via a reasonable alternative route. With an ageing population, it is likely that many will live alone and in order to maintain their independence, will require help and support. Dental services should

be accessible and older people may be prevented from accessing the service due to progressive medical conditions, mental illness or dementia and increasing frailty.

All the community dental services in West Yorkshire provide domiciliary care within their core contract although capacity to support increasing demand is reported. There were 24 contracts in 2013/14 that delivered domiciliary visits to adults in the area. Approximately 21% of this activity was carried out by the community dental service, the remaining delivered in General Dental Services. As reported by FP17s, 75% of domiciliary claims were for patients aged 65 years and above and the highest proportions of claims were in Calderdale. The community dental service in Calderdale provides the majority of domiciliary care in Calderdale. Information describing the care pathway in each local authority area is not described.

### Sedation services

Control of patients' anxiety is an integral part of patient care and requires practitioners to consider the range of non-pharmacological and pharmacological methods of anxiety management when planning treatment for patients. Guidance includes a number of recommendations to ensure that it is provided both safely and effectively.<sup>123</sup> Conscious sedation for children and adults must be provided only by those who are trained and experienced and where the appropriate equipment and facilities are available. In conscious sedation, verbal contact and protective reflexes are maintained, whereas in general anaesthesia these are lost. Sedation may be administered by inhalation or intravenously. Nitrous oxide/oxygen is usually the technique of choice for conscious sedation of paediatric dental patients, and should be considered as an alternative to general anaesthesia. However, intravenous sedation is a safe and effective alternative for adult dental patients. Sedation services are usually expensive and have limited capacity. However, services help to avoid the use of general anaesthetic services and support patients to receive dental care in combination with local anaesthesia.

There are three dental practices in Leeds that provide intravenous sedation services. Two of these practices provide treatment on referral. The community dental service in Bradford provides intravenous sedation including treatment on referral. Bradford Salaried Dental Services provides cognitive behavioural therapy as part of the anxious patient care pathway. All the community dental services in West Yorkshire provide inhalation sedation services. Information describing the current care pathways including referral criteria, waiting lists including activity data is not described.

## Unplanned dental care

In West Yorkshire, urgent dental care is provided for patients who do not have/or choose not to have a regular dentist but have an urgent need for treatment and to provide dental care to all patients who consider they have an urgent need outside of normal surgery hours. The unplanned dental service in West Yorkshire consists of three elements, a call answering service, an appointment booking service and a clinical service. Since September 2013, all calls for unplanned dental care are triaged through NHS 111 using national protocols. The call handling service for NHS 111 is provided by the Yorkshire Ambulance Service. Across West Yorkshire, there is an additional telephone triage, which includes the booking of appointments and this is provided by Local Care Direct. Urgent dental care is provided in all the local authority areas in West Yorkshire but contractual and operational arrangements differ. Urgent dental care provision in West Yorkshire is summarised in Table 6.7. The availability of the service varies across the five local authority areas.

**Table 6.7 Urgent dental care provision in West Yorkshire**

Local Authority	Provider
Leeds	Local Care Direct
Bradford	Bradford Salaried Dental Service
Kirklees	18 NHS dental practices (in hours) Local Care Direct (out of hours – 2 sites)
Calderdale	3 NHS dental practices (in hours) Locala Dental Care (children only if slots full) Locala Dental Care (out of hours)
Wakefield	NHS dental practices (in hours) (number not available) Local Care Direct (out of hours)

The current spend on urgent dental care in West Yorkshire is £1.6 m. During 2013/14, 9.1% of FP17 claims were categorised as urgent, which is slightly lower than the England average (9.7%).

The current urgent dental care service across West Yorkshire has not been reviewed although information suggests inequity of access across West Yorkshire and inappropriate use of the service. Following an unsuccessful procurement of urgent dental services across West Yorkshire in 2014, a local dental network sub-group has been established to explore different models of delivery of unscheduled dental care across West Yorkshire. All contracts have been extended until the end of September 2015 with a view to re-procuring the services reflecting an improved and more consistent service model.

## Community dental services

The community dental services (salaried dental services) are the main providers of special care dentistry and provide primary care for groups of people who cannot be treated in the general dental service. Priority groups may include:

- adults and children with learning disabilities
- children and adults with severe dental anxiety who cannot be managed by general dental practitioners
- children with complex dental treatment needs requiring care from a specialist paediatric dentist
- adults with mental health problems
- frail older people who cannot receive care in general dental practice
- adults and children who are severely physically and/or medically compromise who cannot receive care in general dental practice
- looked after children
- homeless people

The community dental services in West Yorkshire provide services that are complementary and additional to those of other primary care dental providers and the hospital service. Community dental services are available in a variety of places to ensure everyone can have access to dental health. Settings include hospitals, health centres and mobile clinics as well as people's own homes and residential nursing and care homes.

NHS England – West Yorkshire Area Team commissions all four Salaried Dental Services in West Yorkshire:

- Bradford District Care Trust - Bradford Salaried Primary Care Dental Service;
- Locala Dental Care, Locala Community Partnership CIC – providing community dental services in Calderdale and Kirklees;
- Leeds Community Healthcare NHS Trust - Community Dental Service; and
- Mid Yorkshire Hospitals NHS Trust - Wakefield Community Dental Service.

The contract values can be seen in Table 6.8. Activity data and waiting times were not available for the services in West Yorkshire.

**Table 6.8 Contract value of community dental services in West Yorkshire**

<b>Community Dental Service</b>	<b>Contract value (2013/14)</b>
Leeds	£2,643,544.00
Wakefield	£1,074,921.00
Bradford	£4,230,073.00
Kirklees and Calderdale	£2,340,419.00

The core clinical, additional and specialist services including commissioning and performance monitoring arrangements differ across West Yorkshire. There is no information describing screening programmes that the community dental service may deliver, apart from the special school screening programme in Bradford. Under the direction of the local dental network, a review of the salaried dental services across West Yorkshire was recently completed and all contracts have now been extended to March 2016. NHS England have now agreed a common data reporting and this information will help inform a more in-depth needs assessment for community dental services and inform the future procurement of the services. It would be helpful if activity data is reviewed and this includes a description of the complexities of the client groups of the individual services.

### General anaesthetic services

Only those patients who have been shown to be unable to receive dental care in any other way are considered for treatment under general anaesthetic. It should only take place in a hospital setting that has critical care facilities on site. The anaesthetist has to be supported by someone who is specifically trained and experienced in the necessary skills to help monitor the patient's condition, and help in any emergency.<sup>124</sup> Comprehensive dental care under general anaesthetic is available for children and adults with special needs. Evidence-based guidance has been published on the management of children and young people who are referred for dental extractions under general anaesthesia to support the care pathway from referral to discharge.<sup>125,126</sup>

As well as the community dental services, the hospital oral and maxillofacial surgery department provide general anaesthetic services. General anaesthetic services for children and adults with special needs are available in all the local authority areas in West Yorkshire. Information describing the care pathway in each service is not described. All providers report that they meet the UK Government's 18 week referral to treatment waiting times target. Information describing service activity and costs was unavailable.

Bradford community dental service has a cost pressure relating to the GA service for adults with learning disabilities, where comprehensive dental care is provided. It is

important that this vulnerable group of patients continue to be able to access appropriate dental care, as limited co-operation, inability to tolerate dentures and extent of required treatment may mean that this cannot be effectively provided under local analgesia in combination with sedation safely. NHS England is working with the provider to ensure the service is protected.

Hospital admission data for extraction of teeth under general anaesthesia in 0 to 19-year-olds is available and describes the rate of hospital admissions of children, for extraction of one or more decayed primary or permanent teeth.<sup>127</sup> Data were derived from the Hospital Episode Statistics dataset which records inpatient care from NHS hospitals across England. The majority of teeth extracted will have been removed because of tooth decay. Extractions under general anaesthesia should only be performed in circumstances where it is considered to be the most clinically appropriate method of management.<sup>126</sup> However, the community dental service, in some areas, may provide this service from hospital premises and this activity may not be included in the hospital data and therefore data described here may underestimate the number of admissions. In addition, differences in coding used between hospital sites may account for some of the variation. The hospital admission rate for extraction of teeth in children may act as a marker for the prevalence and severity of tooth decay.<sup>128</sup>

Between 2012/13, 0.5% of 0 to 19-year-olds in England were admitted to hospital for extraction of one or more decayed teeth which is slightly lower than the figure for Yorkshire and Humber (0.7%).<sup>127</sup> In terms of number of children admitted for extractions, the figure for the Yorkshire and Humber region was the third highest figure, as compared with other regions in England. In West Yorkshire at local authority level, during both 2011/12 and 2012/13, more children and young people living in Kirklees were having extractions under general anaesthesia, whereas the lowest number were children living in Wakefield (Appendix 3, Table I).

### Quality assurance of primary care dental services

The Dental Assurance Framework is designed to provide a standardised approach for area teams to engage with providers and performers to secure and improve service quality across four domains:<sup>129</sup>

- delivery – based upon the UDA/UOA currency
- patient safety – based upon discussions with the Care Quality Commission
- patient experience – using patient reported experience as measured in the BSA patient survey, complaints and other information; and
- quality/clinical effectiveness – including both process and outcome measures

From April 2011, any primary care dental service should be registered with the Care Quality Commission by meeting the determined requirements. Dental practices will be monitored by Care Quality Commission and must comply with any conditions of registration. Currently there are no peer review processes or audits being undertaken. No additional local quality assurance processes are in place.

The West Yorkshire Area Team appraises the quality of dental services against the framework. An assessment of outliers is made quarterly and a dental advisor from the area team may visit practices that are of concern. The framework may also be used by contractors and performers to reflect on their delivery of care.

### Primary care workforce

The primary care dental workforce consists of dentists and dental care professionals. Dental care professionals include dental nurses, hygienists, therapists, orthodontic therapists, and technicians including clinical dental technicians. All dentists and dental care professionals must be registered with the General Dental Council to practice. The scope of practice of dental care professionals was recently reviewed and their remit expanded.<sup>130</sup>

The key findings of a dental workforce review in England recommended that reductions in dental student intake would need to be implemented to address the forecasted oversupply and demand for the dental workforce. A review of the future dentist workforce and student intake every three years together with a workforce review of dental professionals was also recommended.<sup>131</sup>

Greater emphasis on appropriate skill mix, prevention and improved oral health outcomes, suggest that increased skill mix utilisation in general dental practice should be encouraged. It is also anticipated that dentists with enhanced skills will deliver more complex care in future primary care dental contracts. Specifications are being developed by the Royal College of Surgeons for the recognition of dentists with enhanced skills in oral surgery, paediatric, and special care dentistry.

A workforce analysis in West Yorkshire has not been carried out. However, in 2013/14 the population size per NHS dentist in West Yorkshire (2,255) is higher than the national average of 2,032 people per dentist. Although, we cannot describe the exact number of primary care dentists working in West Yorkshire, Table 6.1 gives an indication of the number of dental practices in the area.

## Summary

- the majority of primary care dental services in the area are provided by general dental practitioners
- the cost of a unit of dental activity varies significantly across the local authority areas
- it has not been possible to describe the availability of NHS dental services at local authority level in West Yorkshire
- access to care is better than the England average across all the local authority areas but access to care is not reflective of need. In more deprived areas, where oral health tends to be poorer, lower proportions of children access primary care dental services, although access rates remain higher than the England average
- access to services inequitable in terms of deprivation and age. It was not possible to assess equity by gender and ethnicity
- the average unit of dental activity per resident adult patient is similar across all local authorities but is slightly lower than the England average, whereas the average unit of dental activity per child patient is similar to the England average
- adults exempt from paying NHS dental charges are more likely to have a higher need for band 3 treatments as well as urgent dental care. This may be reflective of their higher needs for dental care
- fluoride varnish application rates are increasing in children and are significantly higher in Bradford. However, a significant proportion of children do not receive fluoride varnish applications
- it was not possible to determine if the guidance on recall intervals is being implemented in general dental practice
- domiciliary care provided by all the community dental services, the majority being provided by some primary care dental practitioners. Provision at a local authority level is not described. Capacity to support increasing demand is reported. Information describing the current domiciliary care pathways is unavailable
- inhalation sedation services are provided by all the community dental services. Intravenous sedation is provided at three dental practices in Leeds and by the community dental service in Bradford. Bradford Salaried Dental Services provides cognitive behavioural therapy as part of the anxious patient care pathway
- current urgent care delivery models vary across West Yorkshire and it is reported that there are difficulties in accessing timely care. Information also suggests inequity of access to the urgent dental service. A Local Dental Network sub-group is currently exploring different unscheduled dental care models to support a consistent

approach to ensure equity of provision. This will inform the forthcoming procurement of services across West Yorkshire.

- the community dental services provide primary dental care for vulnerable groups as well as those with more complex special care needs. The common data reporting schedule will help inform future commissioning intentions. Except for Bradford, there is no information about screening programmes that the community dental service may deliver. As a preliminary step, NHS England has completed a review of the West Yorkshire community dental services
- general anaesthetic services are available across West Yorkshire. Information describing the care pathway including costs of services is not described
- the quality assurance process in primary dental care includes reference to the national Dental Assurance Framework, Care Quality Commission registration and requirements and support from clinical advisors
- the primary care dental workforce consists of dentists and dental care professionals. The contract reform programme has highlighted the importance of greater use of skill mix
- NHS England have commenced work focusing on community dental service and unplanned dental care which is aligned to the key findings of this OHNA

## Specialist dental services

This section describes the different dental specialities and the provision of specialist dental services in primary and secondary care setting in West Yorkshire.

Specialist services in West Yorkshire are provided primarily in the hospital setting. The district general hospitals primarily provide orthodontic and oral surgery services. Leeds Dental Institute provides the full range of dental specialities. However, there is specialist orthodontic, oral surgery and restorative provision in primary care in some of the local authority areas in West Yorkshire. Quantifying the need for specialist care is difficult as the gateway to care is largely managed by primary care dental practitioners. There is limited opportunity for self-referral to specialist care. Currently all the secondary care based specialist activity is provided free from patient charges whilst specialist activity in primary care setting accrues charges in line with the NHS regulations.

## Special care dentistry

The speciality of special care dentistry is concerned with the improvement of the 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 these factors, which results in them being unable to access routine dental care. It pertains to adolescents and adults. The speciality was formally recognised by the General Dental Council in 2008.

### Paediatric dentistry

Paediatric Dentistry is concerned with comprehensive oral healthcare for children from for children from birth to adolescence, including care for children who demonstrate intellectual, medical, physical, psychological and/or emotional problems. In addition, the specialty is concerned with the management of children with oral and dental developmental problems. Paediatric dentists form part of the multidisciplinary teams involved in the management of children with complex problems such as cleft lip and palate and hypodontia. Services are delivered locally where possible in the community dental services. Children with complex problems are treated at Leeds Dental Institute.

### Oral surgery

Oral surgery deals with the treatment and on-going management of irregularities and pathology of the jaw and mouth that require surgical intervention. A review of Oral Surgery services was published by the Dental Programme Board of Medical Education England recommended that commissioners should review how the oral surgery services are provided in their area and improve their effectiveness, accessibility and cost efficiency.<sup>132</sup>

### Restorative dentistry

The specialty of restorative dentistry involves the study, diagnosis and integrated effective management of patients with diseases of the oral cavity, the teeth and supporting structures including the care of those who have additional needs associated with disability. Restorative dentistry is the parent discipline for the mono specialties of prosthodontics, endodontics and periodontics. Prosthodontics involves the replacement of missing teeth and the associated soft and hard tissues by prostheses (crowns, bridges and dentures) which may be fixed or removable, or may be supported and retained by implants. Endodontics involves the diagnosis and treatment of diseases and injuries of the tooth root, dental pulp and surrounding tissue. Periodontics involves the diagnosis, treatment and prevention of disease and disorders (infections and inflammatory) of the gums and other structures around the teeth.

## Oral medicine

The specialism of oral medicine involves the oral health care patients with chronic recurrent and medically related disorders of the mouth and their diagnosis and surgical management.

## Oral and maxillofacial surgery

The specialism requires a dual qualification in medicine and dentistry and involves treating conditions such as head and neck cancers, salivary gland diseases, facial disproportion, facial pain, temporomandibular joint disorders, impacted teeth, cysts and tumours of the jaws as well as numerous problems affecting the oral mucosa such as mouth ulcers and infections.

## Oral and maxillofacial pathology and oral microbiology

Oral and maxillofacial pathology and oral microbiology are clinical specialities undertaken by laboratory based personnel. The speciality of oral microbiology involves the provision of reports and advice based on the interpretation of microbiological samples following the clinical assessment of facial infection. The speciality of oral and maxillofacial pathology involves the diagnosis and assessment made from tissue changes characteristic of disease of the oral cavity, jaws and salivary glands.

## Dental and maxillofacial radiology

This speciality involves all aspects of medical imaging which provide information about the anatomy, function and diseased states of the teeth and jaws.

## Orthodontics

The development, prevention, and correction of irregularities of the teeth, bite and jaw.

## Primary care specialist services in West Yorkshire

The primary care based specialities in West Yorkshire are orthodontic, oral surgery and restorative dentistry. Special care dentistry and paediatric dentistry are the specialist services provided by the community dental services. Patients from either the general dental service or community dental services are referred onto the primary care based specialist or hospital dental services when the treatment is too complex to be provided within the primary care setting.

### Oral surgery

Specialist primary care oral surgery provision in West Yorkshire is available in Bradford, Leeds, Kirklees and Wakefield. Information describing the number of referrals to the service and referral protocols, specification of the services, activity and waiting lists are not described. All the providers are on a standard NHS contract and have one year contracts in place.

The total spend on primary care oral surgery services across West Yorkshire is £1,675,288. There is currently no primary care specialist oral surgery provision in Calderdale. NHS England is currently leading the development of commissioning framework for oral surgery and provision of services in West Yorkshire should be reviewed against this framework when published in April 2015.

### Restorative dentistry

Primary dental care restorative services are located in Bradford (2 practices). Information describing the number of referrals to the service and referral protocols, specification of the services, activity, waiting lists, costs and contract end dates are not described.

### Orthodontics

Specialist orthodontic services in West Yorkshire are provided in both primary care and in the hospital setting. The majority of cases are treated in a high street practice by specialists or generalists, whereas secondary care hospital consultants tend to treat those needing multidisciplinary care, for example children with cleft palates.

### Orthodontics in primary care

Orthodontic treatment in primary care is commissioned from specialist and generalist providers using a currency of units of orthodontic activity (UOAs), usually via Personal Dental Service Agreements (Table 6.10). A number of units of orthodontic activity are associated with courses of orthodontic treatment:

- 1 UOA - full and comprehensive orthodontic assessment
- 4 UOAs - orthodontic assessment and case treatment (patient below 10 years)
- 21 UOAs - orthodontic assessment and case treatment (patient aged 10-17 years)
- 23 UOAs - orthodontic assessment and case treatment (patient aged 18 years and over).

The total cost of the orthodontic-only contracts in West Yorkshire is £7,755,174.82. The total cost of the mixed general and orthodontic contracts is £163,001.92. The total financial value of contracts in West Yorkshire is £7,918,176.74 and the price range across the contracts for a UOA varies from £51.97 to £61.03.

Orthodontic treatment in West Yorkshire is commissioned from specialist and generalist providers in primary care under personal dental service (PDS) contracts (Table 6.9). There are 16 orthodontics-only contracts with 132,493 UOAs commissioned. In addition there are 4 mixed general and orthodontic contracts with 2,657 UOAs commissioned. This needs assessment only considers recurrent funding and additional cases may have been funded using non-recurrent monies. Table 6.10 highlights the distribution of orthodontic need in the 12 year population in West Yorkshire at local authority level and emphasises the need to ensure equity of provision across West Yorkshire.

**Table 6.9 Primary care orthodontic need and commissioned activity in West Yorkshire 2013/14**

<b>Local authority</b>	<b>Commissioned UOAs</b>	<b>Average Cost per UOA (£)</b>	<b>Orthodontic need in 12 year population using Stephen's Formula (number of cases)</b>	<b>Providers</b>
Bradford	20,770	£51.97	2,788	Specialist provision
Calderdale	6,044	£59.97	963	Specialist and generalist provision
Kirklees	34,227	£58.48	2008	Specialist and generalist provision
Leeds	49,893	£61.03	3065	Specialist and generalist provision
Wakefield	26,845	£59.94	1415	Specialist and generalist provision
<b>Total</b>	<b>137,779</b>		<b>10,239</b>	

Primary care orthodontics is being provided by both specialists and generalists in all local authorities except for Bradford where primary care providers are all registered specialists in orthodontics. Only Kirklees has key performance indicators included in the contracts to incentivise high quality service provision. The distribution of commissioned UOAs across West Yorkshire reflects historic location of services prior to local commissioning and does not equitably reflect comparative need across West Yorkshire.

Most providers delivered their contracted activity in 2012/13 apart from those in Bradford which may be due to one practice winding down its contract (Table 6.10) with a recent retirement and procurement process.

**Table 6.10 Proportion of contracted UOA activity delivered in 2013/14**

Local authority	Contracted UOAs delivered (%)
Bradford	93
Calderdale	105
Kirklees	101
Leeds	98
Wakefield	108

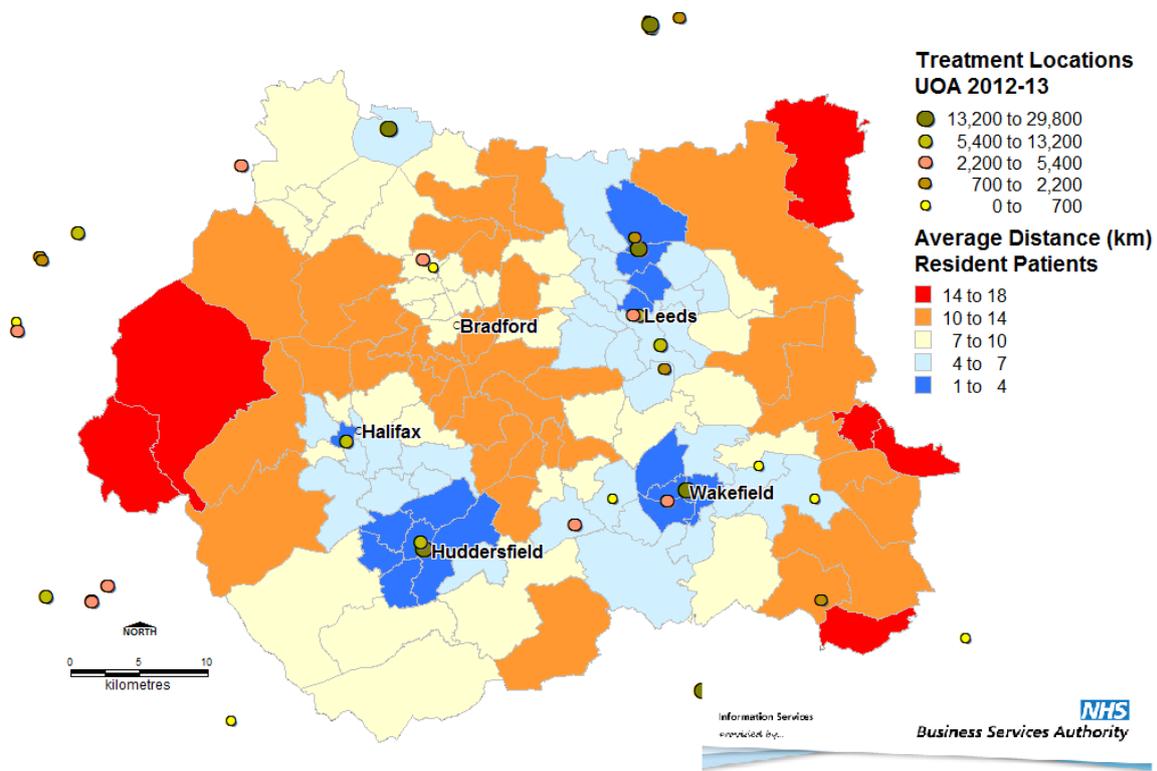
Based on the premise that 21 UOAs are awarded to assess and treat one person and 1 UOA is awarded for an assessment alone and that there are two case assessments/reviews for every case start, primary care based orthodontic services in West Yorkshire should be able to provide orthodontic care to 6,263 people each year. In addition non recurrent funding has in the past been spent on orthodontics and would increase this figure non recurrently.

As described in Chapter 5 the orthodontic need can be established using Stephen's Formula. Table 6.9 describes the orthodontic need at local authority level in West Yorkshire. This method gives an upper limit of predicted orthodontic need in the 12 population and in West Yorkshire equates to 10,239 cases. The current primary care commissioning of 6,263 cases equates to 61% of the need established using the Stephen's Formula. However this methodology does not take account for those children who do not attend the dentist and would therefore not be referred or demand care. In addition, secondary care activity also needs to be taken into account when determining if commissioned activity meets the needs of the population (see below). Taking both of these factors into account means that the need is likely to be lower than established with the Stephen's Formula and commissioned activity higher as secondary care activity is taken into account.

### Access to primary care orthodontic services

Residents in Bradford travelled further to receive orthodontic care when compared to other local authority areas in West Yorkshire (Figure 6.6). This may have improved more recently with a new practice opening in the centre of Bradford.

**Figure 6.6 Delivered UOA treatment locations and average distance travelled at ward level by resident patients attending NHS orthodontist (24 months to March 2014).**



Source: Orthodontics Public Health Report: West Yorkshire, NHS BSA, 2014

Patient flows affect access to orthodontic services. Ninety-eight per cent of patients treated in West Yorkshire were local residents. However, almost 3% attended orthodontic practices in West Yorkshire from other areas. Significant numbers of patients attending from outside an area can limit access to services for residents. Over 4% of residents of West Yorkshire accessed treatment outside the area, particularly in North Yorkshire and Humber, a small net outflow.<sup>133</sup>

## Quality

The quality of orthodontic services is monitored by the NHS Business Services Authority, which provides information to NHS England on whether contracts are outliers in certain areas of performance. In 2013/14 the proportion of assessments which lead to fitting an appliance, refusing treatment and review were similar to the average for England (Table 6.11). However there are a greater number of courses of abandoned or discontinued treatment in West Yorkshire relative to the national average.

A greater proportion of contracts in West Yorkshire did not complete Peer Assessment Rating (PAR) scoring relative to the England average. The PAR index is a way of assessing the standard of orthodontic treatment that an individual provider is achieving. NHS England should consider working with practices to ensure this information is collected and submitted in line with contractual requirements for orthodontic providers.

In West Yorkshire orthodontics is being provided by generalists as well as specialists. There is inconsistency in the UOA rates across the area. Specialist providers often have a lower UOA rate than non-specialist providers. This inconsistency may be exacerbated when it is considered that generalists may also need treatment planning and review by secondary care, which further inflates the cost of a course of treatment as in addition to the primary care UOAs the case will also require PBR tariff for a first attendance when the treatment planning takes place by a consultant.

**Table 6.11 Outcome of orthodontic assessments in West Yorkshire**

	<b>England (%)</b>	<b>West Yorkshire (%)</b>
Assessments that are assess to fit appliance	42.6	41.7
Assessments that were assess and refuse	12.8	14.0
Assessments that are assess and review	44.6	44.5
Contracts not PAR scoring enough cases	34.2	50*
Abandoned or discontinued courses of treatment	10	13.3

Source: NHS England, 2014

\*Does not include contracts/providers where data was missing or outlying for specific reasons.

An orthodontic local dental network sub-group has been established and the group's key priorities include:

- reviewing waiting lists for current providers and identify opportunities to reduce waiting times
- review care pathways to promote consistency across West Yorkshire;
- consider the case for non-recurrent investment to reduce waiting times
- establish and roll-out a universal assessment and referral protocol for GDPs and community services

The West Yorkshire managed clinical network should support consistency of quality and service provision across the area. NHS England is currently leading the development of a commissioning framework for orthodontics and provision of services in West Yorkshire should be reviewed against this framework when published in April 2015.

## Orthodontics in secondary care

Patients from the general dental service, specialist practices or community dental services are referred on to the hospital dental services when the orthodontic treatment or patient management is too complex to be provided within the primary care setting. It is expected that the majority of these cases will require interdisciplinary care, for example, in Bradford only the most severe cases are accepted for care.

In West Yorkshire, hospital orthodontic services are provided by hospitals in Bradford, Leeds, and Wakefield.

Orthodontic care may occasionally be provided as an inpatient if the patient's treatment or their condition requires them to stay in the hospital. However, most orthodontic secondary care is provided on an outpatient basis. Treatment may involve joint planning with other specialities such as restorative dentistry and oral and maxillofacial surgery.

Within secondary care outpatient dentistry, oral surgery, orthodontics, maxillofacial surgery and paediatric maxillofacial surgery have nationally agreed tariffs (Table 6.13). The activity for West Yorkshire is summarised in Table 6.12.

**Table 6.12 Orthodontic outpatient activity, 2013/14**

	(n)	(£)
First appointment	2,398	446,926
Follow-up	14,787	1,211,109
Procedure first appointment	104	14,028
Procedure follow-up	9,115	1,306,245
<b>Total cost</b>		<b>2,978,308</b>

Source: West and South Yorkshire and Bassetlaw Commissioning Support Unit, 2014

It is important to recognise that the activity and costs in the tables above may not be entirely accurate as secondary user services (SUS) data which feeds into the Hospital Episode Statistics (HES) database is notoriously poorly coded. More accurate data would need to be collected by auditing individual hospitals. The spend on outpatient orthodontics in 2013/14 for residents of West Yorkshire was £2,978,308. This was the second highest spend for the dental specialties West Yorkshire, the highest being oral surgery.

The total spend on orthodontic care in hospital setting for West Yorkshire residents was £2,978,308. The cost of treating a case consisting of one first appointment (single professional) plus 18 follow-ups (single professional) is £1,641.

A rough estimation of the number of cases seen in 2013/14 in West Yorkshire may be calculated by dividing the total number of follow-up and procedure follow-up appointments by 18, giving 1,328.

As there is an orthodontic retention phase at the completion of each treatment case, the number of retainers fabricated per year or number of cases PAR scored could be used as a more accurate proxy for the number of cases seen in secondary care in the future.

Secondary care activity is not considered at a local authority level.

### Orthodontic need and provision in primary and secondary care

It is estimated that 6,263 people received orthodontic care in primary care and approximately 1,328 people received orthodontic care in secondary care. The total number of cases treated in primary and secondary care is estimated to be 7,591.

In Chapter 5, it is estimated using Stephen's Formula that 10,239 people need orthodontic treatment in West Yorkshire, which is likely to be the upper limit of predicted need. Not all children who require treatment will access dental services or be suitable for care due to poor oral hygiene for example, so in reality the actual figure is likely to be lower. As described in Chapter 5, the West Yorkshire orthodontic needs assessment completed in 2013, considered two methodologies and reported that that the true need was between upper and lower limit figures.<sup>134</sup>

However, based upon Stephen's Formula only and considering the limitations of this methodology, there may be a shortfall in orthodontic provision in West Yorkshire. In addition the historic provision of orthodontic services did not reflect level of need and there is therefore an inequitable distribution of service provision across West Yorkshire (Table 5.2).

A more comprehensive orthodontic needs assessment across West Yorkshire is required to consider these issues in more detail.

### Summary

- there is inconsistent provision of primary care specialist oral surgery and restorative services in the area. Currently there is no oral surgery provision in Calderdale, Kirklees and Wakefield. Information describing the care pathway including tariffs amongst providers is not described. Specialist services are predominately provided in secondary care

- there are inconsistencies in the commissioning of primary care based orthodontic services across the area including non-specialist provision
- in respect to quality of orthodontic services, some providers are not PAR scoring sufficient cases, although review rates are higher than the England average
- equity of access to orthodontic services could not be established.
- the orthodontic local dental network sub-group work includes a review of the care pathways, and waiting lists to inform any future non-recurrent investment
- based upon Stephen's Formula only and considering the limitations of this methodology, there may be a shortfall in orthodontic provision in West Yorkshire

## Hospital dental services

Specialist services in a secondary care (hospital) setting are accessed on referral only. No information is described on referral processes for the secondary care providers.

In West Yorkshire, hospital dental services are provided by Leeds Dental Institute, part of Leeds Teaching Hospital NHS Foundation Trust, Bradford Teaching Hospital NHS Foundation Trust, Airedale NHS Foundation Trust, Mid Yorkshire Hospitals NHS Trust and Calderdale and Huddersfield NHS Foundation Trust. The district general hospitals primarily provide orthodontic and oral surgery services. Leeds Dental Institute provides the full range of dental specialities.

Care may be provided as an inpatient case, where a patient's treatment or their condition requires them to stay in the hospital. Alternatively care may be provided on an outpatient basis. Additionally care may be provided on a planned (elective) or unplanned (non-elective) basis.

Under the terms of the Health and Social Care Act 2012, responsibility for currency and tariff design and price-setting rests with NHS England. Payment by results (PbR) is the payment system in England under which commissioners pay healthcare providers for each patient seen or treated, taking into account the complexity of a patient's healthcare needs. The two fundamental features of PbR are nationally determined currencies and tariffs. Currencies are the unit of healthcare for which a payment is made and can take a number of forms covering different time periods from an outpatient attendance or a stay in hospital, to a year of care for a long term condition. Tariffs are the set prices paid for each currency. Within secondary care dentistry, oral surgery, orthodontics, maxillofacial surgery and paediatric maxillofacial

surgery have nationally agreed tariffs. The tariffs for outpatient episodes of care are shown below (Table 6.13).<sup>135</sup> There are numerous national tariffs for inpatient care depending on the complexity of care provided. Additional factors determining the tariff include complexities in a patient's medical condition and length of stay in hospital.

Despite nationally agreed tariffs, data reveal differences between secondary care providers in recording and coding of the classification of patients and the procedures. This prevents commissioners understanding the needs of the local population or the activity undertaken. Work being undertaken in Greater Manchester to develop a single operating model to code procedures and classify patients will enable informed commissioning decisions and provide robust benchmarked intelligence data.<sup>136</sup>

Where there are no nationally agreed tariffs, local tariffs are used. A number of case studies show how local health economies have successfully used tariff flexibilities to support innovation.<sup>137</sup> These arrangements facilitate commissioners and providers to develop innovative care pathways, introduce new technologies and negotiate local prices to drive and improve quality. Local tariff information was not available for this needs assessment.

**Table 6.13 National tariffs for secondary care dentistry 2013/14**

Speciality	First appointment (single professional)	First appointment (multi-professional)	Follow-up (single professional)	Follow-up (multi-professional)
Maxillofacial surgery	£191	£381	£135	£268
Paediatric maxillofacial surgery	£115	£181	£75	£75
Oral surgery	£120	£149	£76	£106
Orthodontics	£183	£251	£81	£115

Source: Payment by results guidance for 2013/14, NHS, 2014

### Activity and costs of care

In 2013/14, there were 101,090 episodes of care provided at a cost of £19,849,300. Most of activity in West Yorkshire was carried out on an outpatient basis although the differences in tariff meant that spend on inpatient and outpatient activity was similar (Table 6.14). Data prior to 2013/14 was unavailable hence between year comparisons were not possible.

**Table 6.14 Hospital activity, 2013/14**

	<b>Activity</b>	<b>Cost</b>
Inpatient	12,992	£10,416,674
Outpatient	88,098	£9,432,626
<b>Total</b>	<b>101,090</b>	<b>£19,849,300.00</b>

Source: West and South Yorkshire and Bassetlaw Commissioning Support Unit, 2014

The main provider of care was Leeds Teaching Hospitals NHS Trust (Table 6.15).

**Table 6.15 Activity and costs by provider, 2013/14**

<b>Provider</b>	<b>Inpatient and Outpatient Activity (n)</b>	<b>Cost (£)</b>
Airedale NHS Foundation Trust	5,095	1,067,576
Bradford Teaching Hospitals NHS Foundation Trust	21,358	4,748,489
Calderdale and Huddersfield NHS Foundation Trust	13,542	2,337,549
Leeds Teaching Hospitals NHS Trust	45,857	7,221,914
Mid Yorkshire Hospitals NHS Trust	15,238	4,473,772
<b>Total</b>	<b>101,090</b>	<b>19,849,300</b>

Source: West and South Yorkshire and Bassetlaw Commissioning Support Unit, 2014

Most activity and spend was in the specialty of oral surgery, which was provided by all hospitals (Table 6.16). The second highest level of activity was in orthodontics, which was provided by all hospitals apart from Calderdale and Huddersfield. Leeds teaching hospital, the only provider to have a dental hospital, provided the full range of dental specialities.

**Table 6.16 Activity and costs by specialty, 2013/14**

<b>Specialty</b>	<b>Activity (n)</b>	<b>Cost (£)</b>
Oral medicine	3,196	402,164
Maxillofacial surgery	1,339	1,805,107
Oral surgery	49,366	12,007,401
Orthodontics	26,406	2,978,553
Paediatric dentistry	5,216	936,859
Restorative dentistry	15,567	1,719,216
<b>Total</b>	<b>101,090</b>	<b>19,849,300</b>

Source: West and South Yorkshire and Bassetlaw Commissioning Support Unit, 2014

## Inpatient care

Ideally hospital care is planned as an elective procedure. However urgent cases may require non-elective treatment. In 2013/14, there were 12,971 episodes of care. Most inpatient activity is carried out as a day case procedure. There were a significant number of non-elective cases in West Yorkshire (Table 6.17) which warrants further exploration.

**Table 6.17 Inpatient activity 2013/14**

	<b>Activity (n)</b>	<b>Cost (£)</b>
Day case	9,742	5,725,459
Elective	981	1,772,115
Non-elective	2,248	2,919,100
<b>Total</b>	<b>12,971</b>	<b>10,416,674</b>

Source: West and South Yorkshire and Bassetlaw Commissioning Support Unit, 2014

After paediatric dentistry day cases the greatest cost for inpatient activity is non-elective oral surgery (Table 6.18). It may be that patients do not have adequate access to routine oral surgery appointments which then translates into urgent cases. The inpatient paediatric dentistry activity is likely to be extraction of teeth under general anaesthesia.

**Table 6.18 Inpatient activity by specialty, 2013/14**

<b>Specialty</b>	<b>Day case activity</b>	<b>Day case cost (£)</b>	<b>Elective activity</b>	<b>Elective cost (£)</b>	<b>Non elective activity</b>	<b>Non elective cost (£)</b>
Dental medicine	181	101,877	15	7,924	2	1,150
Maxillofacial surgery	379	£302,169	268	£556,913	684	£946,025
Paediatric dentistry	837	£491,353	14	£9,948	4	£3,258
Restorative dentistry	17	£8,567	0	-	1	£3,865
Oral surgery	8,327	£4,821,248	684	£1,197,330	1,557	£1,964,802
Orthodontics	1	£245	0	-	0	-

Source: West and South Yorkshire and Bassetlaw Commissioning Support Unit, 2014

## Outpatient care

Outpatient appointments form the majority of the activity in hospital dentistry. In 2013/14 there were 87,467 outpatient appointments. Restorative dentistry and paediatric maxillofacial surgery have the highest tariffs for care however, there are only a relative small number of cases for the latter (Tables 6.19 and 6.20).

**Table 6.19 Outpatient activity by appointment type, 2013/14**

Appointment type	Activity (n)	Cost (£)
First appointment	26,714	3,267,621
Follow-up appointment	44,415	3,666,717
Follow-up procedure	16,338	2,405,273
Total	87,467	9,339,611

The majority of outpatient activity is the specialty of oral surgery which also accounts for the majority of outpatient spend.

**Table 6.20 Outpatient activity by specialty, 2013/14**

Specialty	First appointment		Follow-up		Procedure first appointment		Procedure follow-up		Total costs (£)
	(n)	(£)	(n)	(£)	(n)	(£)	(n)	(£)	
Oral medicine	947	80,495	1,738	158,158	114	17,581	199	34,979	291,213
Paediatric dentistry	1,600	144,000	2,050	159,900	55	9,860	656	118,540	432,300
Restorative dentistry	4,033	454,772	7,953	733,978	99	15,061	3,464	502,973	1,706,784
Oral surgery	17,736	2,141,428	17,887	1,403,572	234	36,485	2,904	442,536	4,024,021
Orthodontics	2,398	446,926	14,787	1,211,109	104	14,028	9,115	1,306,245	2,978,308

Source: West and South Yorkshire and Bassetlaw Commissioning Support Unit, 2014

No data were available prior to April 2013 so it was not possible to undertake an analysis of trends in hospital activity. No data were available on source of referral or waiting times or queues.

Hospital activity by provider, specialty and case type for 2013/14 is summarised in Appendix 3, Table II.

### Quality assurance in secondary care

Commissioning for Quality and Innovation (CQUIN) and Quality, Innovation, Productivity and Prevention (QIPP) provide frameworks to drive quality and cost effectiveness in secondary care. CQUIN monies are used to incentivise providers to deliver quality and innovation improvements above the baseline requirements set out in the Standard NHS Contract. CQUIN for 2013/14 was set at a level of 2.5% for all healthcare services commissioned through the NHS Standard Contract.<sup>137,138</sup>

NHS organisations at regional and local level have QIPP plans in place to address the quality and productivity challenge. Supporting these are twelve national work-

streams designed to help NHS staff successfully deliver these changes. QIPP work-streams relate to running and staffing within NHS organisation as well as commissioning, contracting and digital technology.<sup>137</sup>

Some work has been completed in the North West to support a more consistent approach to coding and production of a more reliable and consistent commissioning data set in secondary care oral surgery and oral maxilla-facial surgery services.<sup>136</sup> WY AT colleagues are currently exploring developing a similar model locally. NHS England has agreed that the CQUIN for secondary care providers will be based upon the electronic discharge summaries to all general dental practitioners within 72 hours.

## Summary

- most hospital activity is provided on an outpatient basis
- the spend on outpatient and inpatient activity are broadly similar
- the majority of activity and spend is on oral surgery
- there are significant numbers of non-elective oral surgery inpatient cases
- there is an agreed CQUIN with secondary care providers
- it is unclear what quality assurance processes are in place for secondary care specialist services

## Key issues for consideration

- the feasibility of undertaking a health equity audit of access to dental services should be explored in view of variations in availability of and access to dental services across and within local authority areas and across different groups
- dental practices need to be supported to ensure that ethnicity data is captured on dental service activity forms to inform future needs assessment and health equity audits
- dental practices need to be supported to ensure that evidence-based guidance on fluoride varnish applications and recall intervals is implemented in practices. Key performance indicators to encourage evidence-based practice should be considered for inclusion in any new dental contracts.
- current domiciliary provision is likely not to be sufficient to meet current and increasing demand. Equity of provision should be confirmed
- NHS England may wish to consider commissioning or undertaking a more in-depth review of sedation service provision to support the development of a consistent service model for anxious patients that

incorporate sedation services and behaviour management techniques

- building on the review of the community dental services in West Yorkshire, information should be collated to support commissioning intentions to ensure vulnerable patient groups with more complex and special care needs are able to access appropriate care
- to help inform a more in-depth needs assessment for special care dental services in preparation for implementation of the national commissioning guide, robust activity indicators should be considered, for incorporation into current community dental service contracts together with the development of a managed clinical network in special care dentistry
- NHS England may wish to consider commissioning or undertaking a more in-depth review of general anaesthesia service provision to support the development of accessible, high quality, safe and patient centred services
- to identify and help address the gaps in provision of primary care specialist oral surgery and restorative services in West Yorkshire a review should be considered. This should be in line with the forthcoming NHS commissioning guidance
- a more detailed orthodontic needs assessment including a review of provision of orthodontic services across West Yorkshire against the commissioning framework due to be published in 2015. It is important to explore ways of providing more equitable access; and to inform the development of a service model with a consistent UOA rate that incorporates key performance indicators including PAR scoring and that is delivered by specialists
- NHS England may wish to consider working with secondary care providers to review secondary care local tariffs and develop and agree standard coding for secondary care dental activity to contain spend on secondary care and ensure value for money
- NHS England may wish to consider working with local clinical networks, PHE and providers to develop and incorporate quality assurance into secondary care contracts and in preparation for implementation of the soon to be published NHS England commissioning guides

## 7. Dental public health services

### Prevention of oral health diseases

Good oral health is essential for general health and wellbeing. Poor oral health can affect the ability to eat, speak and socialise normally. The main oral diseases are dental tooth decay, gum disease, and cancer. These are all largely preventable and are described in detail in chapter 4.

Tooth decay may be prevented by reducing the amount and frequency of consumption of sugary foods and drinks and optimising exposure to fluoride. Gum disease may be prevented by good oral hygiene and stopping smoking. The risk of oral cancer may be reduced by stopping smoking, drinking alcohol within recommended safe limits, eating a healthy diet and practising safer sex.

### Approach to prevention

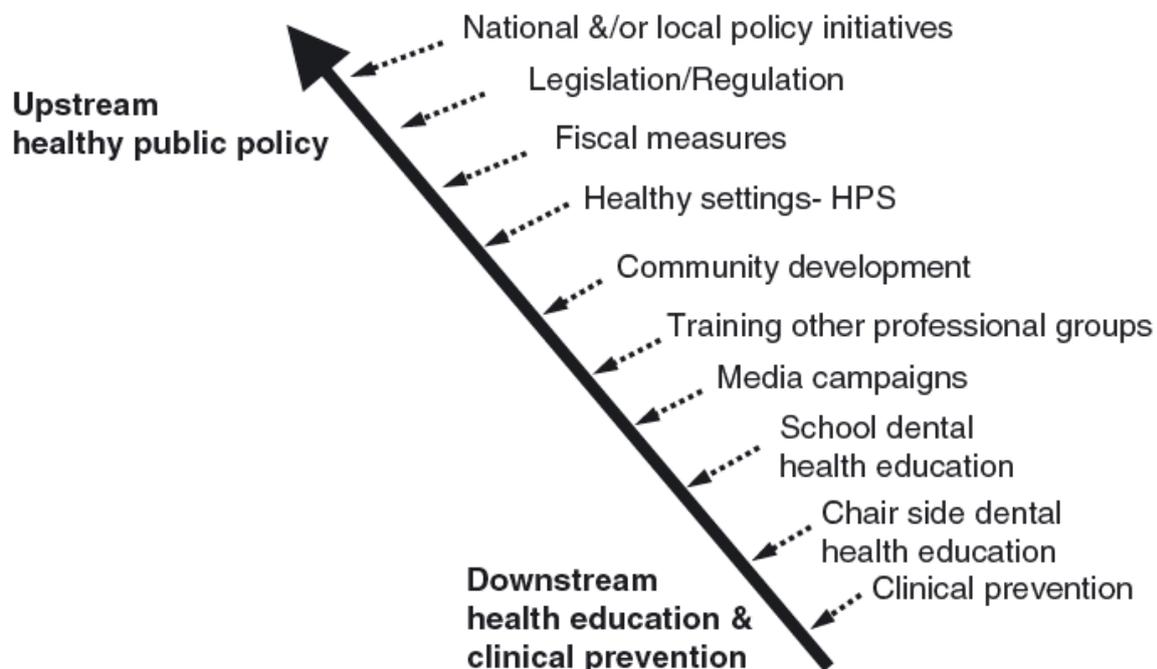
Previous government documents have highlighted inequalities in oral health<sup>10,139,140</sup> and emphasised oral health promotion and preventive care for those perceived to be at higher risk of disease. *Choosing Better Oral Health: An Oral Health Plan for England* described a move away from a dental healthcare service focused mainly on treatment to a more preventive model.<sup>10</sup> Recent thinking suggests that everyone should be given the benefit of advice regarding their general and dental health, not just those thought to be ‘at risk’, as not all new disease can be anticipated.<sup>141</sup>

*Commissioning Better Oral Health for Children and Young People*<sup>13</sup> and *Oral Health: approaches for local authorities and their partners to improve the oral health of their communities*<sup>14</sup> provides guidance for local authorities on commissioning evidence-based oral health improvement programmes. The guidance advocates a population approach with advice and actions for all with additional interventions aimed at those people at higher risk of developing disease.

Population prevention can adopt many different approaches and options. Marmot<sup>4</sup> (2010) who suggests that focusing solely on the most disadvantaged will not reduce health inequalities sufficiently, as everyone experiences some degree of health inequality. To reduce the steepness of the social gradient in health, actions must be universal, but with a scale and intensity that is proportionate to the level of disadvantage. This has been termed ‘proportionate universalism’. As described in chapter 4, actions are needed to tackle the underlying causes of health inequalities. Figure 7.1 highlights the “upstream” actions that should complement specific

“downstream” interventions (such as the widespread delivery of fluoride) to effectively prevent oral disease.

**Figure 7.1 Upstream/downstream: options for oral disease prevention**



Source: Watt, 2007<sup>142</sup>

The common risk factor approach, outlined in Chapter 4 integrates general health promotion by focusing on a small number of shared risk factors that can potentially impact a large number of chronic diseases, which includes oral health.

The Ottawa Charter<sup>143</sup> describes five priority areas for health promotion:

- building healthy public policy
- create supportive environments for health
- strengthen community action for health
- develop personal skills
- reorient health services

Population strategies include the whole population and targeted population approach (risk approach).<sup>43</sup> The whole population approach assumes that everyone has some disease risk so targets interventions at the whole population. An example is water fluoridation. The targeted approach recognises that some population groups are at higher risk and targets prevention interventions accordingly, for example, supervised tooth brushing programmes in schools in more deprived areas.

## Commissioning oral health improvement

Local authorities became responsible for improving the oral health of their population in April 2013. They are responsible for commissioning oral health promotion programmes and oral health surveys as part of the PHE dental public health intelligence programme. These surveys allow assessment of oral health needs, and aid the planning and evaluation of oral health programmes and monitoring of water fluoridation schemes.<sup>2</sup> Local authorities also have the power to propose regarding water fluoridation schemes, a duty to conduct public consultations in relation to such proposals and powers to make decisions about such proposals.

It is essential that there is an integrated approach to commissioning and delivering oral health improvement programmes between local authorities, NHS England and PHE, and that local oral health needs are considered in joint strategic needs assessments and joint health and wellbeing strategies.<sup>14</sup> Bradford, Wakefield and Leeds local authorities have recently established Oral Health/Oral Health Improvement Advisory Groups which includes key stakeholder representation. The main purpose of these groups is to enable each local authority to fulfil its statutory duties with regards to oral health improvement and oral health inequalities.

Local authorities will be monitored on health improvement through the Public Health Outcomes Framework<sup>6</sup> and Children's and Young People's Health Benchmarking Tool.<sup>144</sup> Those indicators to which oral health improvement programmes will contribute are:

- tooth decay in children aged five
- mortality from cancer
- indicators related to smoking and overweight and obesity
- pupil and sickness absence

## Evidence-base for oral health improvement programmes

Smoke Free and Smiling,<sup>17</sup> Delivering Better Oral Health,<sup>16</sup> Commissioning Better Oral Health<sup>13</sup> and Oral Health: Approaches for Local Authorities and their Partners to Improve the Oral Health of their Communities<sup>14</sup> provide the evidence base for oral health improvement interventions. These are summarised under the Ottawa Charter principles with the strength of recommendation in Appendix 4 (Table I). The strategic principles described in the Ottawa Charter to tackle the wider determinants of health and reduce oral health inequalities should be the basis of oral health improvement approaches. The summary should be considered in the context of the explanatory evidence<sup>16</sup> published recommendations.<sup>14</sup> Commissioned oral health improvement programmes should be based upon the evidence base and the needs of the population.

Guidance for local authorities, *Tackling poor oral health in children. Local government's public health role*, provides case studies of oral health improvement activities at local authority level<sup>15</sup>.

### Commissioning oral health improvement across West Yorkshire

All the West Yorkshire local authorities directly commission oral health improvement and oral health surveys and this should be supported by comprehensive service specifications. The budget spent on oral health improvement is variable (Table 7.1). The oral health of five-year-olds is identified as a priority in the Health Improvement Action Plan which underpins the delivery of the Health and Wellbeing Strategy in Bradford and the historical and current spend reflect this. Bradford, Wakefield, Calderdale and Kirklees and Calderdale local authorities are intending to develop oral health improvement strategies, whilst the focus of the strategy in Leeds will be children and young people. It is essential that all the local authorities ensure that local oral health needs are considered in joint strategic needs assessments and joint health and wellbeing strategies.

**Table 7.1 West Yorkshire local authority oral health improvement providers**

<b>Local authority</b>	<b>Oral Health Improvement Provider</b>
<b>Leeds</b>	Leeds Community Healthcare NHS Trust Community Dental Service Oral Health Promotion Team
<b>Bradford</b>	Bradford District Care Trust SDS Oral Health Promotion Team
<b>Kirklees</b>	N/A
<b>Wakefield</b>	Mid Yorkshire Hospitals NHS Trust Wakefield SDS Oral Health Promotion Team
<b>Calderdale</b>	South West Yorkshire Partnership NHS Foundation Trust Oral Health Promotion Team

## Oral health improvement programmes in West Yorkshire

West Yorkshire local authorities commission a range of oral health improvement programmes with a particular focus on improving the oral health of children and vulnerable adult groups. 'Midstream' interventions include oral health training for the wider professional workforce and public health events held during Oral Cancer Action Month and National Smile Month. Examples of 'downstream' interventions include targeted supervised tooth brushing schemes and fluoride varnish schemes which focus on improving the oral health of more vulnerable young children who are at risk of poor oral health. Local authorities should ensure approaches are complimented by 'upstream' policies by influencing national government policy and implementing local policies to improve oral health. This may include affordable healthier food/drink in libraries and leisure centres.

## Oral health improvement for children and young people

Tackling inequalities requires collaborative and partnership working to improve health outcomes. Oral health pathways should be integrated and embedded in all children services at strategic and operational levels. It is recommended that oral health improvement should incorporate a suite of evidence based programmes which adopt a life course approach and based upon the principles of 'proportionate universalism' as outlined previously.<sup>4</sup> Programmes should have a population wide and targeted elements so from birth to school age, children should pass through each element of the programme receiving a package of evidence based preventive care. The overall level evidence based recommendation for oral health improvement programmes for children and young people aged up to 19 years of age is summarised in Appendix 4 (Table II).

Based on the totality of the evidence, health visitor led programmes where young children are provided with dental packs including fluoridated toothpaste; toothbrush and a dental information leaflet are recommended and are commissioned by Wakefield, Bradford, Calderdale and Leeds local authority. Similarly, supervised tooth brushing with fluoridated toothpaste delivered over a two year programme in targeted childhood settings to prevent tooth decay is recommended and is commissioned in Bradford, Calderdale, Leeds and Wakefield.

Targeted community fluoride varnish schemes, where varnish is applied to children within a two year programme with at least twice yearly applications are recommended and are currently commissioned in Wakefield and Bradford. In Kirklees, oral health is integrated into existing public health programmes and healthy food and drink policies in childhood setting and infant feeding policies promote oral health. Oral health training of the wider professional workforce working with families and young children is also recommended and programmes are commissioned by all

the local authorities in West Yorkshire. Appendix 4 (Table II) describes the range of oral health improvement programmes focusing on children and young people which are commissioned by each of the local authorities in West Yorkshire. The strength of evidence is included. A range of universal and targeted oral health improvement programmes are implemented by local authorities in West Yorkshire most for which there is some, sufficient or strong evidence base.

### Oral health improvement programmes for vulnerable adults in West Yorkshire

Certain circumstances may place people at higher risk of poor oral health including:

- frail elderly and housebound
- medical conditions which have a direct effect on the oral cavity or side-effects of medications eg dry mouth
- disabilities which affect the ability to maintain good oral hygiene
- homelessness
- traveller communities
- prison communities
- drug and alcohol abuse

Maintaining good oral and general health in later life is also important. Oral health improvement programmes for vulnerable groups should reflect the changing needs of society including the expectations of ageing adults who retain natural teeth throughout life. Many frail or dependent adults may also have potentially complex dental care needs. Improved oral health may contribute to older people enjoying independent living.

Regular training for front line health and social care staff working with adults at high risk of poor oral health and incorporation of oral health promotion in existing services for all adults at high risk of poor oral health are both recommended. For example community health and social care service specifications should ensure oral health is included in care plans and is in line with safeguarding policies.<sup>14</sup> Details describing this guidance are included in Chapter 1.

Oral health training for the wider health and social care professional workforce working with more vulnerable adult groups including older people and those with additional needs is commissioned by all the local authorities in West Yorkshire.

Currently commissioned oral health improvement programmes in each of the local authorities in West Yorkshire that place focus on improving the oral health of more vulnerable groups are summarised in Appendix 4 (Table III).

## Developing capacity of the oral health improvement workforce

The most efficient way to improve oral health is to embed it within existing services at strategic and operational levels. Across West Yorkshire in many local authorities, oral health promotion teams predominantly from community or salaried dental services are commissioned to provide oral health promotion training, expertise and support to a range of groups including: health, social care and education professionals. This enables evidence based oral health improvement programmes to be delivered through multiple interventions by non-dental professionals.

The transfer of the commissioning of the Healthy Child Programme 0-5 years to local authorities provides opportunities to integrate oral health in local service specifications for health visitors and school nursing. Local authorities also have responsibilities for commissioning residential care which provides an opportunity to integrate oral health into residents' care plans.

Dental nurses can apply fluoride varnish to teeth either on prescription from a dentist or direct as part of a structured dental health programme. Training dental nurses to apply fluoride varnish may support community programmes and dental practices to deliver this intervention and increase the availability of fluoride to priority groups. Previously, dental nursing training in fluoride application has been provided in Bradford. Yorkshire and Humber Health Education England have agreed to commission training in Leeds, York and Sheffield during 2015.

## Reorienting dental practices towards prevention

Oral health promotion teams have been working with local general dental practices in some parts of Yorkshire and Humber to promote prevention in practice in line with Delivering Better Oral Health.<sup>16</sup> This guidance provides evidence based interventions to prevent oral disease including applications of fluoride varnish and fissure sealants as well as dietary advice and advice to patients regarding alcohol and tobacco use with signposting to relevant services when indicated. It is important that clinical care provided by primary care dental teams is underpinned by evidence based prevention.

Dental practice data demonstrates that whilst fluoride varnish rates are increasing, large proportions of children in West Yorkshire do not receive applications (Chapter 6), fissure sealant rates are low and limited data are available on dental practice referrals to NHS stop smoking services. These clinical prevention based interventions are funded by NHS England through the General Dental Services Contracts. However, some local authorities in Yorkshire and Humber including Bradford fund additional practice based prevention programmes. During 2015, Yorkshire and Humber Health Education England are commissioning training for

primary care dental teams, to support the implementation of Delivering Better Oral Health.

A new NHS dental contract is being developed and will be weighted towards prevention and oral health improvement and should facilitate preventively orientated health care.

*Making Every Contact Count* (MECC) is a long-term strategy developed by NHS Yorkshire and the Humber in 2010, which ensured that all NHS staff take every opportunity to help patients make informed choices about their health related behaviours, lifestyle and health service utilisation. In the Humber a tailored primary dental care team Level 1-MECC training programme was developed. This training, now commissioned by the Humber local authorities, recognises that dental teams are well placed to help patients adopt healthier lifestyles thereby contributing to improving and reducing inequalities in health by providing 'healthy chats' to their patients.

### Taking forward local oral health improvement within local authorities

As described previously, some local authorities in the Yorkshire and the Humber have developed oral health improvement advisory groups. These include representatives from key stakeholder groups. They provide a forum in which oral health improvement strategies and programmes can be developed and monitored. Currently there are oral health improvement advisory groups set up in Bradford and Wakefield.

The majority of the current oral health improvement programmes in West Yorkshire follow a targeted population approach. As described previously, whole population prevention approaches are also important to further reduce inequalities in oral health in line with the Marmot principle of universal proportionality.

Water fluoridation is considered as a whole population approach to improving oral health and is associated with reductions in tooth decay in populations.<sup>145-149</sup> It was also found to have an effect over and above that of other sources of fluoride, particularly toothpaste. There are no water fluoridation schemes in West Yorkshire.

In light of their statutory role and responsibilities, local authorities should consider the case for water fluoridation in the context of local needs and the range of oral health improvement programmes currently commissioned and with reference to *Commissioning Better Oral Health and NICE guidance*.<sup>13</sup> The legal aspects and the technical issues regarding the introduction of water fluoridation scheme should also be considered. Local authorities can also influence local, national government including local fiscal policies to improve oral and general health.

## Dental public health intelligence programme

Standardised and nationally co-ordinated surveys of oral health have been undertaken annually since 1985, which means that England has one of the best oral health databases in the world. The most recently completed survey (2013/14) focussed on children aged five and on 12-year-old children attending special support schools. The 2014/15 survey will focus on five-year-old schoolchildren.

The *NHS Bodies and Local Authorities (Partnership Arrangements, Care Trusts, Public Health and Local Healthwatch) Regulations 2012 SI 3094<sup>2</sup>* outlined the responsibilities of local authorities to secure the provision of oral health surveys to facilitate:

- the assessment and monitoring of oral health needs
- the planning and evaluation of oral health promotion programmes
- the planning and evaluation of the arrangements for the provision of dental services
- the reporting and monitoring of the effects of any local water fluoridation schemes

The surveys are now undertaken on an annual basis as part of the dental public health intelligence programme to provide detailed estimates of disease prevalence and severity. Data are provided at lower tier local authority level. The surveys of five-year-old schoolchildren, undertaken every two years, provide data for the dental indicator included in the Public Health Outcomes Framework. The national dental public health intelligence programme is coordinated by PHE, which has a national lead and the North West PHE Knowledge and Intelligence team are responsible for developing the national protocols and quality assuring the programme. The national lead for the programme is supported locally by a team of dental epidemiology coordinators at PHE centre level. Information describing the dental public health intelligence programme and published survey results can be accessed at:

<http://www.nwph.net/dentalhealth/>

Local authorities are also required to participate in any oral health survey conducted or commissioned by the secretary of state. National surveys of both child and adult dental health are used by the Department of Health and the NHS to set both national and local targets for health improvement to target preventive resources to areas of highest need and to assist in workforce planning and research.

All local authorities in West Yorkshire commission oral health surveys. The details are described in Table 7.2 below. It is essential that service specifications are in place to support the planning and delivery of oral health surveys. Protocols recommend a minimum sample size of 250 examined children per lower-tier local authority, from a minimum of 20 schools. This is unlikely to produce a sufficiently

large sample to facilitate local planning for many areas, thus larger samples will be required. Discussion between local authority commissioners and consultants in dental public health on the size and type of sample required to meet local needs will be helpful. For the latest survey of three-year-old children, the sample size in some local authority areas was too small to give reliable population estimates. Service specifications should include performance indicators to ensure providers deliver the surveys in line with national protocols.

**Table 7.2 West Yorkshire local authority dental survey providers**

<b>Local authority</b>	<b>Provider</b>
<b>Bradford</b>	Bradford District Care Trust (Salaried Dental Service)
<b>Calderdale</b>	Locala Dental Care
<b>Kirklees</b>	Locala Dental Care
<b>Leeds</b>	Leeds Community Healthcare NHS Trust (Community Dental Service)
<b>Wakefield District</b>	Mid Yorkshire Hospitals NHS Trust Wakefield (Community Dental Service)

Currently, there is a limited network support network available for local authorities to fulfil their statutory dental public health functions. Developing a Yorkshire and The Humber oral health improvement commissioners network to facilitate learning and sharing of good practice across the region may improve outcomes.

### Summary

- local authorities are responsible for improving the oral health of their population. They have responsibility for commissioning oral health improvement programmes and oral health surveys. They also have powers relating to making proposals regarding water fluoridation for their local population
- all local authorities have a specified budget for commissioning oral health improvement programmes except Kirklees Council
- a range of universal and targeted oral health improvement programmes are implemented by local authorities in West Yorkshire most for which there is some, sufficient or strong evidence base.
- all local authorities' commission oral health surveys although sample sizes vary and may be not adequate to provide valid data at a sub local authority level
- most oral health improvement programmes are directed towards children

- Local authorities are responsible for commissioning care homes and school nursing services and will soon be responsible for commissioning health visiting services. This will provide an opportunity for integration of oral health into these services.
- Local authorities in Leeds, Bradford and Wakefield have developed Oral Health Advisory groups.

### Key issues for oral health improvement

- local authorities should ensure that oral health needs are considered in JSNAs and health and wellbeing strategies
- all local authorities West Yorkshire should review their oral health improvement programmes in line with *Commissioning Better Oral Health* and NICE guidance
- local authorities may wish to consider engaging with partners integrating commissioning across organisations and across bigger footprints to support the efficient management of limited resources
- all local authorities in West Yorkshire should ensure that contracts are supported by service specifications which detail a process of assuring quality of programmes
- a combination of evidence based universal and targeted activities are required to support reducing inequalities in oral health. Upstream interventions should be complemented by downstream interventions.
- local authorities should consider the case for water fluoridation in the context of local needs and the range of oral health improvement programmes currently commissioned and with reference to *Commissioning Better Oral Health* and NICE guidance
- consideration should be given to ensuring programmes effectively support improving the oral health of more vulnerable adults group.
- evaluation should be an integral part of all oral health improvement programmes to guide future commissioning
- In addition, local authorities should consider integrating oral health improvement into existing commissioned programmes
- oral health improvement should be an integral part of the work of health visitors and schools nurses and should be included in the service specification for these services
- service specification for care homes should include a responsibility for oral health that incorporates an oral health assessment on entry, daily mouth care in care plans for residents and regular access to an NHS dentist
- a MECC trained dental workforce should be developed across West Yorkshire

- local authorities may wish to explore using cost benefit analysis tools to evidence effective use of resources to support improvements in oral health
- local authorities, who have not already done so, may wish to consider establishing oral health improvement/oral health advisory group

### Key issues for oral health surveys

- all local authorities in West Yorkshire should continue to commission oral health surveys which include surveys to support the public health outcomes framework (2013-16). This includes tooth decay in five-year-old children as an outcome indicator
- service specifications should be in place to support the planning and delivery of the surveys to facilitate the collation of reliable data which is representative of the local population. This should include robust performance monitoring arrangements to ensure that the survey is completed in line with the national protocol
- where appropriate, consideration should be given to increasing consent rates and sample sizes to provide reliable data to support the planning and evaluation of dental services and oral health improvement programmes
- PHE should explore developing a Yorkshire and The Humber oral health improvement commissioners network to facilitate learning and sharing of good practice

## 8. Patient and public engagement

The views of the residents of West Yorkshire are pivotal when assessing the need and demand for NHS dental services and also in planning these services. The Health and Social Care Act 2012 describes the legal duty of NHS England<sup>1</sup> to enable both patients and carers to effectively participate in the commissioning process. Dental services should reflect the needs of local people and be focused on improving patient outcomes. Engaging communities in the planning, design, delivery and review of dental services promotes the commissioning of more co-ordinated and efficient services that are more responsive to the needs of the local community, addressing both the local priorities and rights that people have as described in the NHS Constitution.<sup>9,116</sup> Service reviews should seek public views and provides an opportunity to understand how services can be improved in the interest of patients.<sup>9,116</sup>

Regulation states that commissioners should secure high quality and efficient NHS services that meet the needs of service users. This should include consulting publicly on procurement proposals, engaging with patients, patient groups and carers.<sup>150</sup>

Using a number of sources of information this chapter looks at residents' views of access and experience of NHS dental services in West Yorkshire.

### West Yorkshire adult residents' views and experiences of NHS dental services

The following section summarises the results from two surveys: GP patient survey<sup>151</sup> and the Yorkshire and Humber Adult Oral Health Survey.<sup>93</sup>

#### The GP patient survey

The GP patient survey provides information to Commissioning organisations, GP practices and patients, and on patients' experiences of their local primary care services including GP and dental services. The results are provided at national, regional and CCG level<sup>151</sup> however here the results are shown at West Yorkshire level.

The access indicator assesses the proportions of the population that have tried to get an NHS dental appointment and those who have been successful in getting an appointment. Due to changes to the questionnaire and methodology comparisons cannot be made prior to 2011/12.

For the January to March 2014 GP patient survey,<sup>152</sup> 1.3 million adult GP patients were contacted and 460,000 replies were received (35%). The response rate in West Yorkshire was 32%.

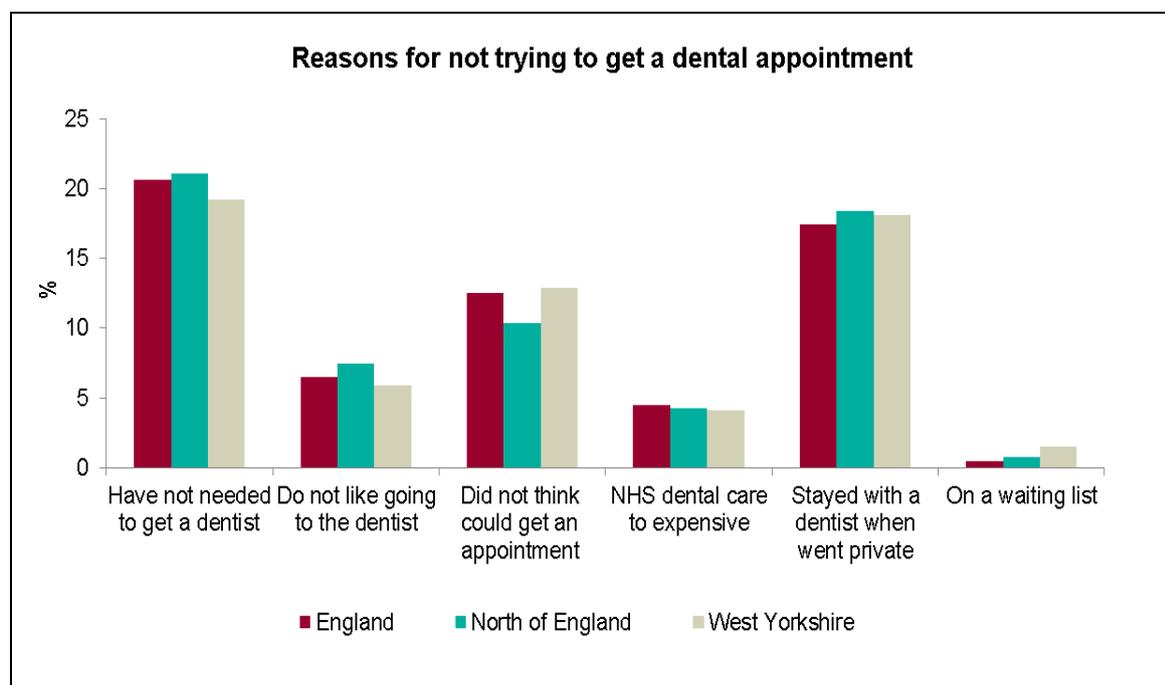
Slightly fewer West Yorkshire residents who tried to get a dental appointment (91%) were successful compared with North of England (93%) and England (93%). Experiences of NHS dental services were rated positive by 82% of West Yorkshire respondents (North of England 86 %, England 84%) however in West Yorkshire, 9% of the respondents rated their experience as fairly poor and very poor (North of England 7% and England 7%).

In response to the question ‘When did you last try to get an NHS dental appointment?’ 65% of West Yorkshire residents tried to get an NHS appointment in the last 2 years (North of England 65% and England 61%).

Nineteen per cent of residents in West Yorkshire had never tried to get an NHS dental appointment (North of England 18% and England 21%).

The most common reasons cited for people in West Yorkshire not attempting to visit an NHS dentist were that they have not needed to visit a dentist (19%); or stayed with their dentist when they went private (18%) (Figure 8.1).

**Figure 8.1**



## Yorkshire and Humber postal adult survey

The Yorkshire and Humber Postal Adult Dental Survey<sup>93</sup> in 2008 explored resident's experience of accessing NHS dental services and the following section describes the key findings in West Yorkshire, at Primary Care Trust level.

### Bradford

- well over half of respondents reported that their last visit to the dentist was within the last year (73%), which is similar to the regional (Yorkshire and Humber) figure
- for those respondents without any natural teeth, 50% reported that their last visit was at least 5 years ago, which is slightly higher than the regional figure (46%)
- the proportion of respondents reporting they visited the dentist for regular dental check-ups was 67%, which is very slightly lower than the regional figure (69%). A lower proportion of respondents only reported visiting the dentist when they experienced problems (21%), which is slightly higher than the regional figure (20%). However, about half of respondents aged 75 years and above reported that they visited the dentist for a dental check-up, which was comparable to the regional figure (51%). Moreover, 30% of this older cohort reported attending the dentist when they had a problem, which once again, is similar to the regional figure
- two thirds of respondents stated that they did not experience difficulties with accessing routine care (68%) or when they had a problem (63%), which are comparable to the regional figures (70% and 65% respectively). However the key reported barriers in accessing routine care included, no dentist taking patients (56%), dentists only treating privately (41%), too expensive treatment (39%)
- the key barriers to accessing care when experiencing problems included: no dentist taking on patients (59%), dentists only treating privately (37%), treatment too expensive (34%). For those who stated they had found it difficult to access care when they were having problems, well over half of respondents did not need to seek help from others however, some respondents did approach the pharmacist (20%), Accident and Emergency Departments (15%) and the doctor (10%)

## Calderdale

- a significant proportion reported that their last visit to the dentist was within the last year (78%), which is slightly higher than the regional figure (73%)
- for those respondents without any natural teeth, 53% reported that their last visit was at least five years ago, which is higher than the figure regionally (46%)
- the proportion of respondents reporting they visited the dentist regular dental check-ups was 71%, which is higher than the regional figure (69%). Whilst a lower proportion of respondents only reported visiting the dentist when they experienced problems (17%), which was slightly higher than the regional figure (20%), the proportion was significantly higher in respondents who were 75 years and above in age (39%), higher than the regional figure (32%). However, 49% of this older age group reported that they visited the dentist for a dental check-up, which was slightly lower than the regional figure (51%)
- over 70% of respondents stated that they did not experience difficulties with accessing routine care which is very similar to the regional figure. However, 72% of participants reported having no difficulties when accessing care when they had a problem, which is higher than the regional figure (65%). However, the key reported barriers in accessing routine care included: too expensive treatment (41%), dentists only treating privately (39%), no dentist taking patients (34%)
- the key barriers to accessing care when experiencing problems, included: dentists only treating privately (45%), treatment too expensive (38%) no dentist taking on patients (36%). For those who stated they had found it difficult to access care when they were having problems, 67% respondents did not need to seek help from others however, some respondents did approach Accident and Emergency Departments (12%), the doctor (15%) and the pharmacist (8%)

## Kirklees

- three quarters of respondents reported that their last visit to the dentist was within the last year (74%), which is very similar to the regional figure
- for those respondents without any natural teeth, 48% reported that their last visit was at least five years ago, which is comparable to the regional figure also (46%)

- the proportion of respondents reporting they visited the dentist for regular dental check-ups was 69%, which is very similar to the regional figure (69%). Whilst a lower proportion of respondents only reported visiting the dentist when they experienced problems (21%), which is similar to the regional figure (20%), the proportion was significantly higher in respondents who were 75 years and above in age (31%), once again, similar to the regional figure. However, 60% of this older age group reported that they visited the dentist for a dental check-up, which was noticeably higher than the regional figure (51%)
- close to 70 % of respondents stated that they did not experience difficulties with accessing routine care or when they had a problem and both figures are similar to the regional figures (70% and 65.0% respectively). However the main reported barriers in accessing routine care included, too expensive treatment (48%), no dentist taking patients (42%)
- the key barriers to accessing care when experiencing problems, included: no dentist taking on patients (48%), treatment too expensive (44%), dentists only treating privately (46%). For those who stated they had found it difficult to access care when they were having problems, nearly half of respondents did not need to seek help from others however, some respondents did approach the pharmacist (31%) the doctor (11%), and Accident and Emergency Departments (10%)

## Leeds

- a significant proportion reported that their last visit to the dentist was within the last year (75%), which is comparable to the figure regionally (73%)
- for those respondents without any natural teeth, 36% reported that their last visit was at least five years ago, which is significantly lower than the figure regionally (46%)
- the proportion of respondents reporting they visited the dentist for regular dental check-ups was 68%, which is similar to the regional figure (69%). Whilst 18 % of respondents only reported visiting the dentist when they experienced problems, which is slightly lower than the regional figure (20%), the proportion was significantly higher in respondents who were 75 years and above in age (29%), slightly lower than the regional figure (32%). However, 57 % of this older age group reported that they visited the dentist for a dental check-up, which was slightly higher than the regional figure (51%)

- just over 70% of respondents stated that they did not experience difficulties with accessing routine care and 67 % reported having no difficulties when accessing care when they had a problem, which were very similar to the regional figures (70% and 65.0% respectively). However the main reported barriers in accessing routine care included no dentist taking on patients (46%), dentists only treating privately (42%), and too expensive treatment (32%)
- the key barriers to accessing care when experiencing problems, included: no dentist taking on patients (48%), dentists only treating privately (48%), treatment too expensive (32%). For those who stated they had found it difficult to access care when they were having problems, just under half of the respondents reported that they did not need to seek help from others however, some respondents did approach the pharmacist (24%), the doctor (10%) and Accident and Emergency Departments (9%)

## Wakefield

- over half of respondents reported that their last visit to the dentist was within the last year (68%), which is slightly lower than the figure regionally (73%)
- for those respondents without any natural teeth, 49% reported that their last visit was at least five years ago, which is very slightly higher than the figure regionally (46%)
- well over half of respondents reported that the reason they visited the dentist was for regular dental check-ups (65%) which is slightly lower than the regional figure (69%). Whilst a lower proportion of respondents only reported visiting the dentist when they experienced problems (24%), which is higher than the regional figure (20%), the proportion was slightly higher in respondents who were 75 years and above in age (50 %), significantly higher than the regional figure (32%). However, 35 % of this older age group reported that they visited the dentist for a dental check-up, which is significantly lower than the regional figure (51%)
- two thirds of respondents stated that they did not experience difficulties with accessing routine care (67%) or when they had a problem (62%) , which are comparable to the regional figures (70% and 65% respectively). However, the main reported barriers in accessing routine care included, no dentist taking patients (45%), too expensive treatment (36%), dentists only treating privately (35%)
- the key barriers to accessing care when experiencing problems included no dentist taking on patients (53%), dentists only treating privately (42%), treatment too expensive (39 %). For those who

stated they had found it difficult to access care when they were having problems, well over half of respondents did not need to seek help from others (62%) however, some respondents did approach the pharmacist (14%), and the doctor (11%) and Accident and Emergency Departments (8%)

### Friends and Family Test<sup>153</sup>

From April 2015, dental practices will be required to implement the Friends and Family Test. This will provide an opportunity for patients to provide feedback on their experience of dental services so that this information can be used to improve services. The results will be displayed by dental practices and published on the NHS Choices website.

### Other patient and public engagement activities in West Yorkshire

The following section describes children's and young persons, adults and vulnerable groups' views on access and experience of NHS services in West Yorkshire.

#### Adults' views on access and experience of NHS dental services

##### Kirklees

During 2013, Healthwatch Kirklees explored local residents' views of access and experiences of NHS dental services. The main findings included:

- inaccurate information regarding availability of NHS dentists
- local residents reporting difficulties in accessing routine NHS treatment and inequities in access across Kirklees. Residents between 70-85 years reported significant problems accessing care to have dentures made
- examples of poor practice in a few NHS dental practices which need to be addressed by NHS England

A number of actions were described and include:

- local dentists should be encouraged to update information on NHS choices on a weekly basis
- NHS England – West Yorkshire Area Team to develop dental access strategy for Kirklees to ensure commissioning of dental services that meet the needs of local residents
- improve access to NHS dental services, including urgent dental treatment for more vulnerable people to ensure continuity of care

- Kirklees Healthwatch to share information regarding poor performance issues relating to NHS dental practices with NHS England and Care Quality Commission
- updating the oral health section of the JSNA with consideration of dental access

Healthwatch Kirklees are currently looking at access to NHS dentistry in residential care and also access to unplanned dental care.

## Calderdale

Calderdale Council's Citizen Panel – 'Talkback', has provided feedback on a range of issues with local services including NHS dental services<sup>154</sup>. This panel of residents, whilst broadly reflective of the diversity of the population, under-represents people over 65 years old and people with learning disabilities. The survey explored local residents' views on access and experience of dental services.

The key findings from the 2012 survey:

- 63% of respondents said they had seen an NHS dentist whilst 23% stated that they had seen one privately
- 87% of respondents reported that they had seen a dentist within the last 2 years
- 10% of respondents reported that they did not have a dentist but would like to access dental services
- 78% of respondents stated that they attended the dentist on a regular basis, whilst 14% reported attending on an emergency basis only
- 10% of respondents reported difficulties accessing dental care when they were experiencing dental problems
- a small number of respondents reported that they accessed Accident and Emergency Department (4%), their general medical practitioner (5%) and local pharmacists (4%) to seek support and advice regarding dental problems
- 90% respondents reported that the dentist surgery was clean and comfortable
- 96% of respondents stated that the dentist put them at their ease during their examination and 74% reported that the dentist fully explained the treatment to them
- the main barriers to accessing dental services included fear (25%), treatment too expensive (47%), lack of availability of NHS dental services (21%) and lack of time/inconvenient surgery opening hours (30%)

## Children and young people's views on access and experience of NHS dental services

It is essential that the views of children and young people are sought to inform improvements in NHS dental services to ensure they are child-centred. A limited amount of information was available regarding children and young people's views on dental services.

In the Yorkshire and Humber Adult Dental Survey<sup>93</sup> (2008), parent's/carer's experience of accessing NHS dental services was explored. Table 8.1 highlights the variation across West Yorkshire, but the majority reported not having had problems accessing NHS dental services, and lower proportions, largely similar across West Yorkshire, reported not having tried to access services.

**Table 8.1 Parent/carer reported children's access West Yorkshire**

Primary Care Trust	Parents/carers of children under 18 years old	
	No problems accessing NHS dental services (excluding orthodontic treatment) (%)	Not tried to access NHS dental services (%)
Bradford	68	12
Calderdale	80	13
Kirklees	70	13
Leeds	75	11
Wakefield	68	15
Yorkshire and Humber	71	12

Source: YHPHO, 2009

### Bradford

The Bradford Salaried Dental Service provides dental services for more vulnerable priority groups often with the highest levels of oral disease. As part of a child centred service evaluation, the views of children were collated. Similar to previous surveys the key findings were:

- the majority of children and young people expressed positive comments about the service, treatment received, staff and their overall experience. Comments included 'perfect, very relaxed atmosphere and made to feel very calm and welcome' and 'this service is great and the staff are friendly'
- ninety nine per cent of children asked stated that the dentist and nurse were friendly and talked to them during treatment

- seventy per cent of 7 to 15-year-old children described the service as being very good and comments included 'Please can I come here all the time' and 'at first I felt nervous but afterwards I felt calm'
- ninety one per cent of two to six-year-old children described the service as excellent
- in the older age cohort, 90% (n = 91) reported that they would recommend the service to friends and family

However, 26% of children surveyed stated that that they did not have the opportunity to ask any questions, which is significantly higher than the survey carried out during 2011, highlighting an area for improving children's involvement in their care. Interestingly, suggestions for improvement from the children included the addition of waiting room activities including fish tanks, toys, and colouring.

Based upon the results of the survey, the Bradford Salaried Dental Service intend to demonstrate improvements in the service via the 'you said and we did' posters, which are routinely displayed in clinic waiting rooms.

In the 2013 Bradford Health and Lifestyle Survey<sup>155</sup> carried out in Bradford schools, children and young people described experience of access to NHS dental services. 111 primary schools and 21 secondary schools took part with a total of 9,372 children completing the sample. Overall, 69% of all schools in Bradford district participated. Schools included were all of the Pupil Referral Units (three secondary, one primary) and three of the Special Schools across the District. The survey looks just at those pupils in Year 4 (aged 8 and 9) and in Years 7 and 10 (aged 11- 12 and 14-15). The key findings were:

- pupils were asked when they usually brushed their teeth. The most common times of day were before bed, and before and/or after breakfast
- on average, pupils brushed their teeth twice on the day preceding the survey
- the main reason for visiting the dentist on the last occasion was for a check-up, with nearly 10% of the respondents who gave a reason stating that it was because they were having trouble with their teeth
- 5% of secondary pupils reported having trouble recently finding an NHS dentist
- nearly two thirds of Bradford district secondary school pupils think the health of their teeth is at least 'good'
- in secondary schools, young people in the most deprived quintiles were more likely than others to have gone to the dentist last time because they were having trouble with their teeth

## Leeds

In 2014, Leeds City Council led a piece of work which included exploring the views of parents with children with additional needs on accessing NHS dental services via a focus group (7 parents/carers from 2 families ) and brief interviews with parents/carers of children waiting for dental treatment (n=17). The key findings were:

- the work highlighted that Leeds Community Dental Service provided a service parents were very satisfied
- parents felt that their children's confidence was increased over time allowing treatment to be completed
- where parents/carers have limited English, it was felt that dental literature should be written in other languages

## Wakefield

During 2014, Wakefield Council completed a survey which explored access and experience of dental services as reported by parents of pre-school children (n=299). The key findings from the survey were:

- nearly half of parents reported that their child's last visit to the dentist was in the last 6 months (45%) or between 6-12 months ago (11%)
- a significant proportion reported that they had never taken their child to the dentist (39%), a notable proportion of this group having children at least 2 years old (77%)
- when parents were asked if it is difficult to access routine dental care for their child, the vast majority (68%) stated that they did not experience difficulties, 9% reported having problems and the remaining proportion either did not answer the question or said that they did not know
- where difficulties were expressed, the key issues included dentists not taking on patients, travel problems, fear and dentist not being child-friendly
- with regards to accessing dental care when their child had a problem, over half of parents reported not experiencing difficulties (58%), 6% reported not having problems and the remaining; and proportion either stated 'don't know' or did not answer the question. The most common reasons included fear and no dentist taking on patients

## Calderdale

Calderdale Council's Citizen Panel 'Talkback' feedback reported that 86% of respondents who were parents/carer reported did not have difficulties accessing

dental care for their child, whilst 5% reported experiencing difficulties. This did not include accessing NHS orthodontic services<sup>154</sup> (Calderdale Council, 2012). In the 2014 survey of almost 4,000 secondary school pupils in Calderdale (11 to 12-year-olds and 14 to 15-year-olds), 93% of children reported that they see a dentist and 4.4% reported that they had serious problems with their teeth.

### Vulnerable adults' views on access and experience of NHS dental services

Vulnerable people have an equal right to access high quality dental services and have optimal oral health as the general population. Very little information was available describing vulnerable people's views on access and experience of NHS dental services in West Yorkshire and more work is required to gain a better understanding of their needs to inform improvements in local NHS dental services.

Vulnerable patients are often reliant on their carers or support workers for their daily oral health care and organising regular dental appointments. The barriers to oral health that people with a learning disability experience will vary by age, be influenced by the level of parental or social support received and will change throughout life.<sup>156</sup>

Barriers to access and utilisation of dental services include a lack of perceived need, inability to express need, lack of ability for self-care,<sup>157</sup> fear and anxiety,<sup>158</sup> mobility problems and physical access to dental services.<sup>159-161</sup> Other potential barriers may include physical and emotional effort, availability of ambulance transfer, taxis with wheel chair access, and financial costs.<sup>162</sup>

Dentists' lack of experience of people with learning disabilities and the NHS dental contract may potentially contribute to creating additional barriers to accessing dental care.<sup>163</sup>

Their resulting complex needs often require dental care to be provided by specialists in special care dentistry and their teams within community dental services. An integrated model of care with clear patient pathways will ensure that patients with disabilities are treated in the most appropriate setting by an appropriately skilled clinician.

### Wakefield

In 2014, Wakefield Council<sup>164</sup> conducted a survey of people in contact with mental health secondary services. As a significant number of responses were collected in the community memory clinic (which serves a mainly older population), the sample was not representative of the intended target group (n=104). The key findings were:

- over half of respondents reported that they had visited the dentist in the last year (59%)

- over 10% had not been in the last 5 years
- over two-thirds of respondents (68%) stated they did not have any problems accessing routine dental care
- nearly three-quarters of respondents stated they did not have problems accessing urgent dental care if they were having problems (74%)

In addition, a survey was undertaken of older adults (over 50 years old) via community pharmacies and Age UK community service (n=74). The key findings were:

- over 80% of respondents reported that their last visit to the dentist was within the last two years
- all respondents reported that had visited the dentist in the last 5 years
- the vast majority (78%) stated they had no difficulties accessing routine dental care, approximately 10% of respondents reported having problems and 12 % of respondents did not know or did not answer the question
- the majority of respondents reported not having problems accessing urgent dental care when they had problems (81%)

During 2013/14, Wakefield Community Dental Service completed three audits, where patient satisfaction was assessed: paediatric and adults with special needs general anaesthesia services and community clinics<sup>165-167</sup> (Mid Yorkshire NHS Hospital Trust, 2013; Mid Yorkshire NHS Hospital Trust, 2013; Mid Yorkshire NHS Hospital Trust, 2014).

There is extremely positive feedback from on-going questionnaires received from the carers/parents of the special needs GA adult and child patients. The key findings were:

- respondents reported that care provided was excellent, that they felt they were treated with respect and dignity and in a friendly but professional atmosphere, with staff taking time to understand the patients' special needs
- with regards to the children's extraction GA list, 96% of parents/carers found the experience and service offered in clinic and at the hospital excellent or good
- nearly all respondents reported that they treated with dignity and respect (97%)
- that they benefitted from the preventive advice provided by the oral health promotion team (98%)

Working in partnership with the Learning Disability Team has assisted in improving patient experience.

With regards to the general community dental service clinics the key findings were:

- patients reported being very satisfied with all aspects of the service
- patients were happy with the professionalism of the team
- all patients said that the dentist and nurse put them at ease and felt that treatment was explained in clearly
- Kirklees Health Watch are currently completing a survey of patients accessing Unplanned Dental Care in West Yorkshire
- the results of the Kirklees Healthwatch survey of residential care homes should be reviewed and inform any future work ensuring older dependent adults are able to access NHS dental services including urgent care

## Summary

- the majority of adult residents in West Yorkshire reported not having problems accessing NHS dental services. A lack of accurate signposting information to NHS dental services has been highlighted.
- the literature reports that vulnerable groups experience poorer oral health and have difficulties accessing dental services. Limited amount of information is available regarding the views and experiences of local children, young people, and vulnerable adult groups regarding NHS dental services
- local authority led public engagement work exploring local residents' views and experiences of NHS dental services has been carried out in Calderdale, Kirklees, Leeds and Wakefield. Patients and carers reported being highly satisfied with the NHS dental services provided by Wakefield Community Dental Services and the hospital services and treatment received via the paediatric and adults with special needs general anaesthesia services. Parents and carers of children with additional needs reported being very satisfied with the dental care provided by Leeds Community Dental Service. Children reported being very satisfied with the dental care provided by Bradford Salaried Dental Service
- based upon available information, the majority of parents/carers of children reported not having problems accessing NHS dental services for their children. In a more recent survey some parents/carers of young children in Wakefield report that they are not taking their children to the dentist.
- local survey work led by Wakefield Council, suggested that whilst many preschool children were accessing NHS dental services, a significant proportion were not accessing services. Majority of

parents/carers reported not having problems accessing dental care when their child had a problem

- young people in Bradford appear to be accessing dental services for routine care and a small proportion report having problems accessing NHS dental care. Young people in Bradford attending secondary schools in the most deprived quintiles are more likely to attend dental services for urgent rather than routine care

### Key issues for consideration

- NHS England, local authorities and PHE should engage with local Healthwatch to ascertain public views regarding access to and quality of dental services. Local people's views should be reflected when commissioning services and developing oral health improvement strategies
- NHS England, PHE and local Healthwatch organisations should work together to ensure that people receive accurate information on how to access dental services and which practices are accepting new NHS patients
- the results of the Kirklees Healthwatch led survey of patients accessing urgent dental care should be reviewed and inform the development of the urgent care service model across West Yorkshire
- PHE should ensure the views of the public are sought in the consultation process of this needs assessment.

## 9. Next steps

This needs assessment is an on-going shared planning resource to enable locally prioritised actions. The next stage is for NHS England, local authorities and PHE to develop a prioritised list of actions based on the evidence of effectiveness, local organisational structures and the potential for greatest impact. Review of the actions should be planned from the outset to evaluate their impacts.

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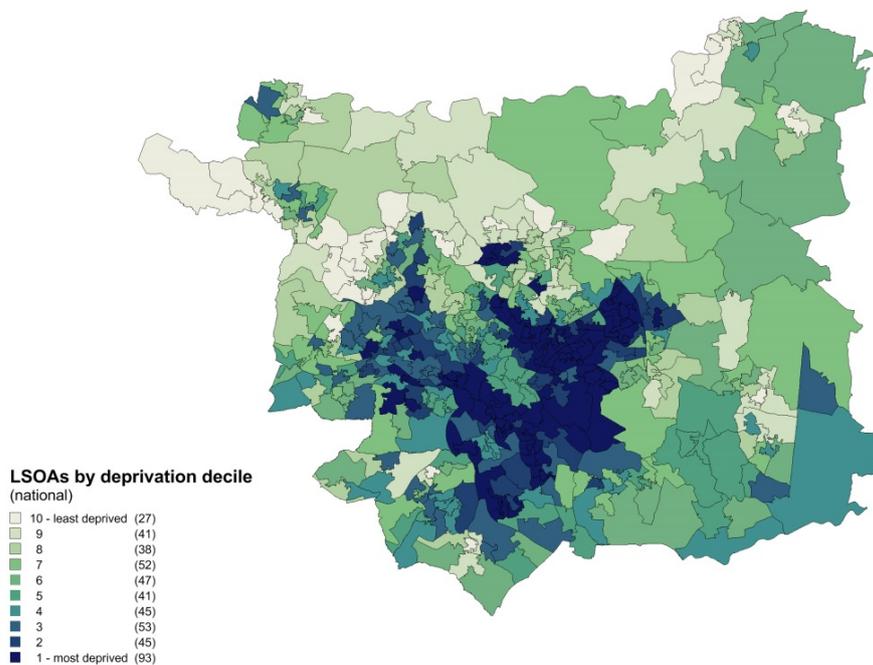
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## Appendix 1

### Maps of West Yorkshire local authorities' showing Index of Multiple Deprivation (IMD) 2010 national deprivation deciles at Lower Super Output Area Level (LSOA)

Compared to other West Yorkshire local authorities, Bradford (31.0%) and Leeds (19.3%) have the highest proportion of their population living in LSOAs which fall into the most deprived deprivation decile.

**Figure I Map of Leeds LA showing national deprivation deciles (IMD 2010) at LSOA**



Source: English indices of deprivation 2010, DCLG

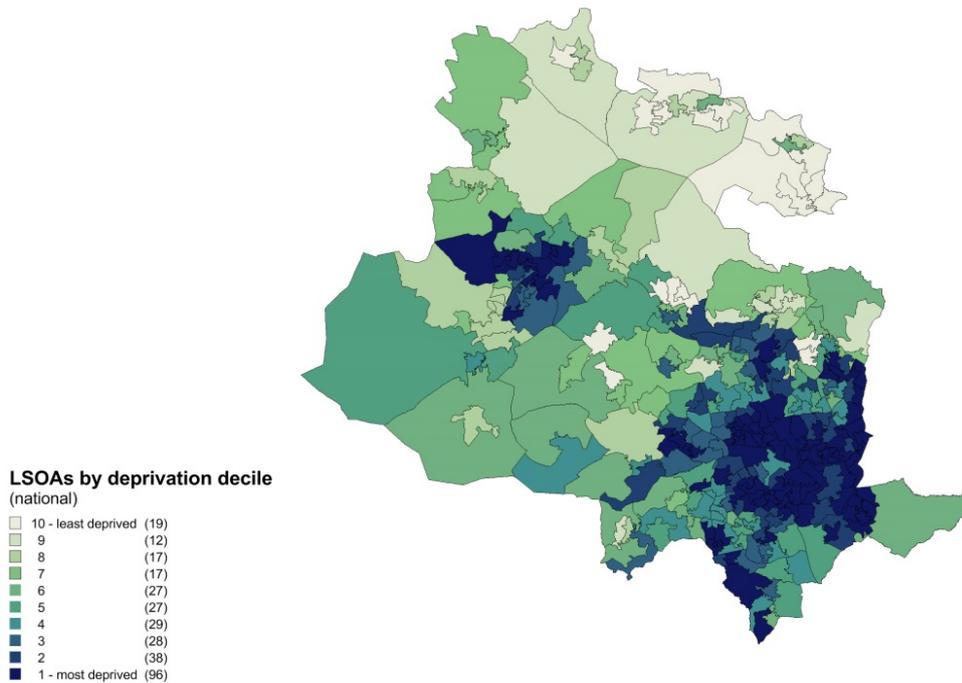
Map produced by PHE Knowledge and Intelligence Team Northern and Yorkshire

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In West Yorkshire Leeds has the second highest proportion of LSOAs in the most deprived decile (19.3%) which are located primarily in and near the city of Leeds.

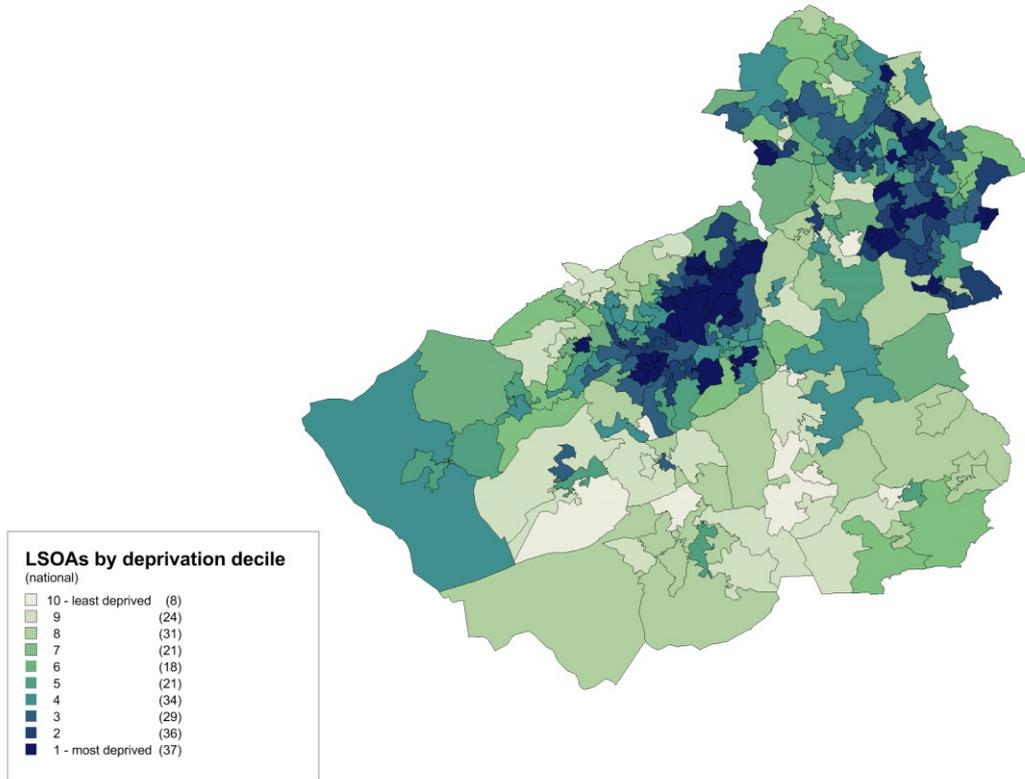
**Figure II Map of Bradford LA showing national deprivation decile (IMD 2010) at LSOA**



Source: English indices of deprivation 2010, DCLG  
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In West Yorkshire Bradford the highest proportion of LSOAs in the most deprived decile (31.0%) which are located primarily in and near the city of Bradford and Keighley.

**Figure III Map of Kirklees LA showing national deprivation decile (IMD 2010) at LSOA**



Source: English indices of deprivation 2010, DCLG

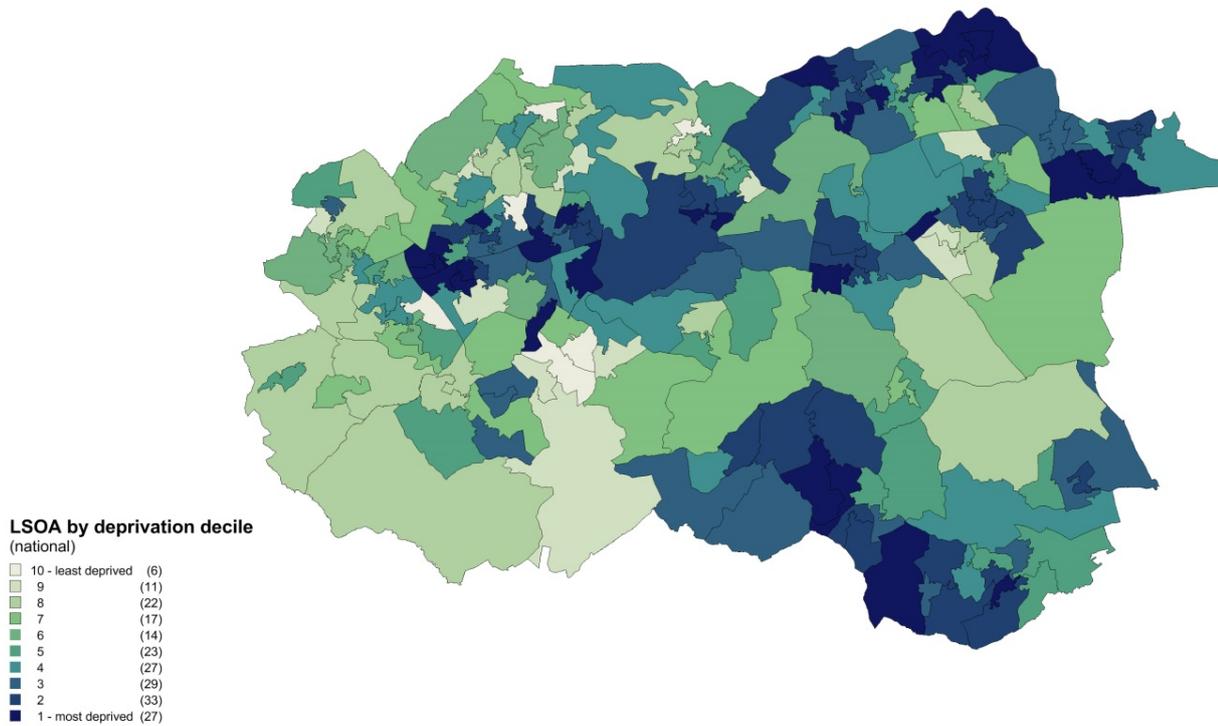
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In Kirklees the proportion of LSOAs in the most deprived decile (14.3%) are located primarily in and near Huddersfield and Dewsbury.

**Figure IV Map of Wakefield LA showing national deprivation decile (IMD 2010) at LSOA**



Source: English indices of deprivation 2010, DCLG

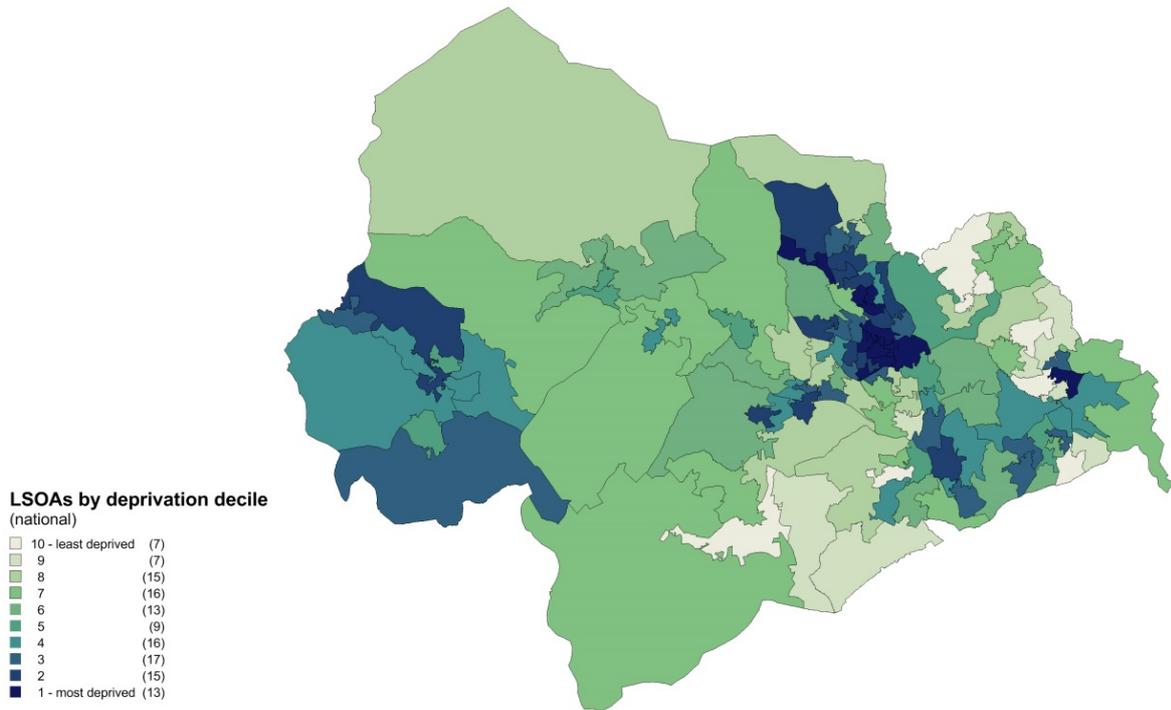
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In Wakefield the proportion of LSOAs in the most deprived decile (12.9%) are located primarily in and near Wakefield, Castleford and Pontefract.

**Figure V Map of Calderdale LA showing national deprivation decile (IMD 2010) at LSOA**



Source: English indices of deprivation 2010, DCLG  
Map produced by PHE Knowledge and Intelligence Team Northern and Yorkshire  
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In Calderdale the proportion of LSOAs in the most deprived decile (10.6%) are located primarily in and near Halifax.

## Appendix 2

Table I Summary of five-year-old oral health in Yorkshire and The Humber

Local Authority	Severity of tooth decay experience in 5-year-olds	Prevalence of tooth decay experience in 5-year-olds	Severity of tooth decay in 5-year-olds experiencing decay	The proportion of teeth with tooth decay that have fillings or crowns	95% Confidence intervals							
					Mean d <sub>3</sub> mft	(% d <sub>3</sub> mft > 0)	Mean d <sub>3</sub> mft (% d <sub>3</sub> mft > 0)	Care Index %	Lower d <sub>3</sub> mft	Upper d <sub>3</sub> mft	Lower % d <sub>3</sub> mft > 0	Upper % d <sub>3</sub> mft > 0
Leeds	1.19	33.7%	3.54	9.8%	1.07	1.32	31.2%	36.2%	3.27	3.81	9.3%	10.4%
Bradford	1.98	46.0%	4.30	9.9%	1.80	2.15	43.2%	48.7%	4.02	4.57	9.5%	10.3%
Kirklees	1.75	43.6%	4.03	7.2%	1.42	2.09	37.7%	49.4%	3.50	4.56	6.7%	7.7%
Calderdale	1.88	39.2%	4.80	17.7%	1.48	2.28	32.9%	45.5%	4.16	5.44	16.9%	18.6%
Wakefield	1.66	40.6%	4.08	6.4%	1.27	2.04	33.5%	47.6%	3.43	4.73	5.9%	7.0%
Barnsley	1.61	41.0%	3.94	6.3%	1.29	1.94	35.0%	47.0%	3.41	4.46	5.6%	7.0%
Doncaster	1.33	33.6%	3.95	10.3%	1.05	1.61	28.3%	39.0%	3.40	4.50	9.5%	11.1%
Rotherham	1.44	40.4%	3.56	7.2%	1.15	1.73	34.5%	46.4%	3.03	4.08	6.5%	8.0%
Sheffield	1.30	35.8%	3.62	8.1%	1.22	1.37	34.3%	37.3%	3.47	3.77	7.6%	8.7%
Bassetlaw	0.43	20.3%	2.10	19.2%	0.30	0.55	15.8%	24.8%	1.71	2.50	15.7%	23.5%
East Riding of Yorkshire	0.75	22.7%	3.29	11.2%	0.53	0.96	18.1%	27.3%	2.63	3.95	10.0%	12.5%
Kingston upon Hull, City of	1.54	43.4%	3.56	10.1%	1.21	1.88	36.7%	50.0%	3.01	4.12	9.4%	11.0%
North East Lincolnshire	1.19	31.4%	3.78	5.9%	1.05	1.32	28.6%	34.2%	3.49	4.07	5.0%	6.9%
North Lincolnshire	0.60	20.8%	2.89	10.3%	0.50	0.71	18.4%	23.3%	2.52	3.27	8.7%	12.3%
York	0.81	24.7%	3.27	13.8%	0.57	1.05	19.5%	29.9%	2.61	3.94	12.2%	15.7%
Ryedale	0.30	11.7%	2.52	14.2%	0.16	0.43	7.6%	15.9%	1.75	3.29	9.3%	21.8%
Scarborough	0.78	26.2%	2.97	11.7%	0.57	0.98	20.6%	31.8%	2.49	3.44	9.7%	14.3%
Selby	0.62	21.7%	2.84	6.6%	0.42	0.81	16.8%	26.7%	2.19	3.48	4.9%	9.0%
Richmondshire	1.40	43.8%	3.21	4.9%	1.04	1.77	36.6%	50.9%	2.57	3.85	3.6%	6.7%
Hambleton	0.87	29.2%	2.97	8.3%	0.65	1.08	23.9%	34.6%	2.49	3.44	6.5%	10.4%
Harrogate	0.55	24.2%	2.27	16.1%	0.38	0.72	18.8%	29.7%	1.80	2.75	13.8%	18.8%
Craven	0.64	23.0%	2.79	14.3%	0.47	0.81	18.2%	27.8%	2.32	3.27	11.0%	18.7%
Yorkshire and The Humber	1.23	33.6%	3.65	9.0%	1.18	1.27	32.8%	34.4%	3.56	3.73	8.8%	9.2%
<b>England</b>	<b>0.94</b>	<b>27.9%</b>	<b>3.38</b>	<b>11.2%</b>	<b>0.93</b>	<b>0.96</b>	<b>27.7%</b>	<b>28.1%</b>	<b>3.36</b>	<b>3.41</b>	<b>11.1%</b>	<b>11.3%</b>

Table II Summary of 12 year old oral health in Yorkshire and The Humber

Local Authority	Severity of tooth decay experience in 12-year-olds	Prevalence of tooth decay experience in 12-year-olds	Severity of tooth decay in 12-year-olds experiencing decay	The proportion of teeth with tooth decay that have fillings or crowns	95% Confidence intervals							
	Mean D <sub>3</sub> MFT	% D <sub>3</sub> MFT > 0	Mean D <sub>3</sub> MFT (% D <sub>3</sub> MFT > 0)	Care Index %	Lower D <sub>3</sub> MFT	Upper D <sub>3</sub> MFT	Lower % D <sub>3</sub> MFT > 0	Upper % D <sub>3</sub> MFT > 0	Lower D <sub>3</sub> MFT (% D <sub>3</sub> MFT > 0)	Upper D <sub>3</sub> MFT (% D <sub>3</sub> MFT > 0)	Lower Care Index %	Upper Care Index %
Leeds	1.08	45.8%	2.37	38%	0.99	1.18	42.8%	48.8%	2.22	2.52	37%	39%
Bradford	1.37	52.0%	2.62	45%	1.21	1.52	47.8%	56.2%	2.41	2.84	45%	46%
Kirklees	0.90	36.1%	2.49	57%	0.72	1.08	30.6%	41.5%	2.17	2.81	55%	58%
Calderdale	1.29	44.4%	2.91	41%	1.02	1.56	38.3%	50.5%	2.46	3.35	40%	43%
Wakefield	1.10	40.0%	2.74	45%	0.90	1.29	34.7%	45.4%	2.42	3.07	44%	47%
Barnsley	1.01	43.4%	2.32	39%	0.83	1.18	38.2%	48.6%	2.01	2.62	38%	41%
Doncaster	1.24	53.5%	2.32	40%	1.07	1.42	48.2%	58.8%	2.10	2.55	39%	41%
Rotherham	0.99	44.7%	2.21	45%	0.81	1.16	38.7%	50.6%	1.96	2.46	44%	47%
Sheffield	0.97	41.4%	2.35	46%	0.78	1.16	35.6%	47.2%	2.03	2.66	44%	47%
Bassetlaw	0.62	31.6%	1.97	51%	0.48	0.76	25.7%	37.5%	1.70	2.24	47%	56%
East Riding of Yorkshire	0.78	37.7%	2.06	50%	0.62	0.93	31.2%	44.3%	1.82	2.29	48%	52%
Kingston upon Hull, City of	0.84	38.8%	2.15	23%	0.63	1.04	31.4%	46.2%	1.83	2.47	21%	25%
North East Lincolnshire	1.16	51.6%	2.25	20%	0.94	1.37	45.0%	58.2%	1.93	2.56	19%	22%
North Lincolnshire	0.72	34.2%	2.12	40%	0.55	0.90	27.9%	40.4%	1.79	2.45	37%	43%
York	0.98	40.6%	2.41	50%	0.73	1.23	33.8%	47.4%	1.96	2.86	47%	52%
Ryedale	0.87	40.8%	2.13	55%	0.67	1.07	33.5%	48.0%	1.82	2.44	51%	60%
Scarborough	1.42	56.2%	2.52	46%	1.18	1.65	49.3%	63.0%	2.24	2.80	45%	47%
Selby	0.71	35.2%	2.01	69%	0.52	0.90	28.0%	42.5%	1.66	2.36	64%	74%
Richmondshire	1.30	48.4%	2.69	27%	0.97	1.63	40.1%	56.7%	2.20	3.19	25%	30%
Hambleton	1.23	51.0%	2.42	27%	0.98	1.48	43.0%	59.0%	2.10	2.73	25%	30%
Harrogate	0.67	35.7%	1.89	74%	0.49	0.86	27.7%	43.8%	1.57	2.20	70%	78%
Craven	0.75	37.9%	1.98	72%	0.64	0.87	33.3%	42.5%	1.80	2.17	67%	78%
Yorkshire and the Humber	1.07	44.7%	2.40	43%	1.03	1.11	43.5%	45.9%	2.33	2.46	43%	43%
<b>England</b>	<b>0.74</b>	<b>33.4%</b>	<b>2.21</b>	<b>47%</b>	<b>0.73</b>	<b>0.75</b>	<b>33.1%</b>	<b>33.7%</b>	<b>2.19</b>	<b>2.23</b>	<b>47%</b>	<b>47%</b>

**Appendix 3 Table I Number of hospital admissions for removal of teeth in 0 to 19-year-olds in West Yorkshire 2012/13**

	Number of admissions										Admissions % of population	
	Age 0-4 yrs		Age 5-9 yrs		Age 10-14 yrs		Age 15-19 yrs		Total		2011 /12	2012 /13
Area	2011 /12	2012 /13	2011 /12	2012 /13	2011 /12	2012 /13	2011 /12	2012 /13	2011 /12	2012 /13	2011 /12	2012 /13
Leeds	143	157	388	451	143	160	114	117	788	885	0.4%	0.5%
Bradford	141	161	214	241	115	134	138	132	608	668	0.4%	0.4%
Kirklees	129	141	449	367	165	141	104	88	847	737	0.8%	0.7%
Calderdale	60	67	218	222	54	71	45	48	377	408	0.8%	0.8%
Wakefield	11	17	49	54	94	52	96	64	250	187	0.3%	0.2%
Yorkshire and Humber	1439	1487	4404	4620	1873	1836	1249	1257	8965	9200		0.7%
England	9033	9082	24524	25459	15627	15014	11576	11128	60760	60683	0.5%	0.5%

Source: Hospital Episode Statistics, 2014 (PHE, 2014)

**Table II Provider activity and costs by speciality and case type, 2013/14**

Specialty	Provider	Case Type	Activity (n)	Cost (£)	
Maxillofacial surgery	Bradford	DC	129	70,031	
		EL	34	63,443	
		NEL	351	496,836	
	Leeds	DC	250	232,138	
		EL	234	493,470	
		NEL	333	449,189	
Oral Medicine	Airedale	DC	181	101,877	
		EL	15	7,924	
		NEL	1	1,150	
	Leeds	OP	2,998	291,213	
Oral surgery	Airedale	OP	2,796	282,324	
		DC	1,045	576,497	
		EL	5	2,188	
	Bradford	OP	6,052	588,564	
		DC	2,180	1,185,771	
		EL	340	622,263	
		NEL	521	716,948	
	Calderdale and Huddersfield	OP	11,792	1,328,744	
		DC	1,737	1,002,454	
		EL	12	6,351	
	Leeds	OP	11,474	1,111,898	
		DC	525	365,999	
		EL	34	73,170	
		NEL	183	231,400	
		Mid Yorkshire	OP	712,491	6,671
			DC	2,840	1,690,527
			EL	293	493,358
	NEL		853	1,016,454	
	Orthodontics	Airedale	OP	1,052	95,616
		Bradford	OP	10,734	991,956
DC			1	245	
Leeds		OP	10,060	1,329,794	
Mid Yorkshire		OP	4,559	560,942	
Paediatric dentistry	Leeds	OP	4,361	432,300	
		DC	837	491,353	
		EL	14	9,948	
		NEL	4	3,258	
Restorative	Bradford	OP	988	0	
		DC	17	8,567	
		NEL	1	3,865	
	Leeds	OP	14,544	1,706,784	
	Mid Yorkshire	OP	17	0	

Source: West and South Yorkshire and Bassetlaw Commissioning Support Unit, 2014

## Appendix 4

**Table I Evidence-based oral health improvement interventions for children and young people aged up to 19 years (Commissioning Better Oral Health, 2014)**

Ottawa Charter Principle	Oral health improvement intervention	Overall level evidence-based recommendation
<b>Reorienting health services</b>	Targeted community-based fluoride varnish programmes	Recommended
	Targeted provision of toothbrushes and toothpaste (ie postal or through health visitors)	Recommended
	Targeted community-based fissure sealant programmes	Limited value
	Targeted community-based fluoride rinse programmes	Limited value
	Facilitating access to dental services	Limited value
	Using mouth guards in contact sports	Limited value
<b>Developing personal skills</b>	Oral health training for the wider professional workforce (eg health education)	Recommended
	Integration of oral health into targeted home visits by health/social care workers	Recommended
	Social marketing programmes to promote oral health and uptake of dental services by children	Limited value
	Person-centred (one-to-one) counselling based on motivational interviewing outside of dental practice settings	Limited value
	One off dental health education by dental workforce targeting the general population	Discouraged
<b>Creating supportive environments</b>	Supervised tooth brushing in targeted childhood settings	Recommended
	Healthy food and drink policies in childhood settings	Recommended
	Fluoridation of public water supplies	Recommended
	Provision of fluoridated milk in schools	Limited value
	Fluoride toothpaste and toothbrushes provided in food banks	
<b>Build healthy public policy</b>	Influencing local and national government policies	Recommended
	Fiscal policies to promote oral health	Emerging
	Infant feeding policies to promote breast feeding and appropriate complementary feeding practices	Emerging
<b>Strengthening community actions</b>	Targeted peer (lay) support group/peer oral health workers	Recommended
	School or community food cooperatives	Emerging

**Table II Oral health improvement programmes children and young people in West Yorkshire**

<b>Local authority</b>	<b>Intervention</b>	<b>Strength of evidence</b>	<b>Target group</b>
Bradford	'Brushing for Life' (tooth brushing scheme delivered by health visitors)	Some	Pre school
	Community based fluoride varnish scheme	Strong	Pre-school children
	Supervised tooth brushing programme in targeted setting	Strong/ sufficient	School children
	First Steps to Healthy Teeth award: Healthy food and drink and oral health policies in childhood setting	Some	Pre-School children
	Loan of oral health resource boxes to primary schools and oral health training for wider professional workforce	Some	School children
	Oral Health training for wider professional workforce	Some	Pre-school; children and young people
	'Smile with the Prophet' programme: targeted provision of toothbrushes and toothpaste; oral health training and delivery of key oral health messages	Some	Children & Young people
	Health Promoting Dental Practice Award: Oral health training	Some	Families
Calderdale	Brushing For Life (tooth brushing scheme delivered by health visitors)	Some	Preschool
	Supervised tooth brushing programme in targeted setting	Strong/ sufficient	Pre-school and school children
	'Cute Fruit Plus' Dental Health Award: Healthy food and drink and oral health policies in childhood setting	Some	Pre-school children
	Smiling for Life Resource boxes: Loan of oral health resource boxes to primary schools and oral health training for wider professional workforce  Also offer 'Laughing for Life'	Some	School children

Local authority	Intervention	Strength of evidence	Target group
	Oral Health training for wider professional workforce eg pharmacists; post natal support groups and children centres where these are part of the schemes above. Updates (Q and As are also provided to pharmacists and there have been pharmacy campaigns)	Some	Pre-school; children and young people
Kirklees	Breastfeeding friendly places Oral health in infant feeding policies		Pre school
	Training: Infant feeding specialists delivering key food and nutrition messages and address oral health.	Some	Pre school
	FINE- Healthy Choice Award (HCA): Healthy food and drink policies in childhood settings (which considers the oral health of children ).	Some	Children and Young People
	Oral health and nutrition training for wider professional workforce (health; social care and education)	Some	Children and young people
Leeds	'Brushing for Life' (targeted tooth brushing scheme delivered by health visitors)	Some	Preschool children - universal
	Supervised tooth brushing programme in targeted settings	Strong/ sufficient	Pre-school; primary school children
	Sensory packs and sensory resource boxes	tbc	Children with disabilities
	Oral health training for wider professional workforce (health; social care and education)	Some	Pre- school
	Fluoride varnish programme delivered in CDS clinics by OHP service	Strong	Children
	Loan of oral health resource boxes to primary schools	Some	Primary school children
	One to one preventive sessions at CDS clinics	Inconclusive	Children
	Oral health training for wider professional workforce (health; social care and education) and carers	Some	Older adults
	Oral health training for the wider workforce	Some	Vulnerable adults

Local authority	Intervention	Strength of evidence	Target group
	Brush and toothpaste distribution with advice sheet for people of no fixed abode		Vulnerable groups
	One to one preventive sessions at CDS clinics	Inconclusive	Vulnerable groups
	Annual public health events: National Smile Month; No Smoking Day; Mouth Cancer Action Week	tbc	Wider population public
Wakefield	Midwife intervention	tbc	Pre school
	'Brushing for Smiles': Health visitor led initiative providing dental packs, free flow cups and information leaflet at 6-9 month child checks. Targeted toothbrushes and toothpaste delivered by health visitors	Some	Pre school
	'Work together, Smile Forever' Targeted community based fluoride varnish programme in targeted children centres	Strong	Pre-school
	Just Brush' Supervised tooth brushing programme in targeted nurseries	Strong/sufficient	Pre-school/nursery based in school settings
	Oral Health training for wider professional workforce	Some	Pre-school; children and young people
	Loan of oral health resource boxes (children 0 – 16 years old) and oral health training	Some	Children
	Chair side clinical prevention advice		High risk children and adults
	Public health campaigns raising awareness of oral health eg National Smile Month and Oral Cancer Action Month		

**Table III Oral health improvement programmes for adults and vulnerable groups in West Yorkshire**

<b>District</b>	<b>Intervention</b>	<b>Target group</b>
<b>Bradford</b>	Health Promoting Dental Practice Award: Oral health training. Participating practices receive preventive training to deliver evidence-based advice in line with Delivering Better Oral Health; oral health promotion resources and support to achieve the award. The initiative also involves input from the wider public health team (smoking cessation, alcohol services)	Families
	Oral Health training for wider professional workforce (Health, social care and education)	Vulnerable adults
	Alcohol dental training: dental teams participate in alcohol brief intervention training specifically designed for dental teams.	At risk
	Annual public health events: No Smoking Day; Mouth Cancer Action Month; National Smile Month.	Wider population
<b>Calderdale</b>	Oral Health training for wider professional workforce (health; social care and education)	Older adults/vulnerable groups
	Provide training for care home staff and LD services staff in partnership with Locala targeting older people	
<b>Kirklees</b>	Training for wider social care workforce around food, nutrition and oral health	Older adults
	Training for staff who work with adults at risk of poor oral health in oral health and nutrition.	Vulnerable adults
<b>Leeds</b>	Oral health training for wider professional workforce (health; social care and education)	Older adults
	Working with the homeless: mouth cancer screening; oral health advice.	Vulnerable groups
	One to one preventive sessions at preventive dental unit at Wealstun prison	Adults
	One to one preventive sessions at CDS	Vulnerable

<b>District</b>	<b>Intervention</b>	<b>Target group</b>
	PDU clinics and St James hospital	groups
	Annual public health events: National Smile Month; Mouth Cancer Action Week; No Smoking Day	Wider population
<b>Wakefield</b>	Oral health promotion in clinical setting Chair side	
	Oral health promotion within prisons	At risk
	Oral Health training for wider professional workforce (health; social care and education)	At risk
	Annual public health events: National Smile Month; Mouth Cancer Action Week; No Smoking Day; Children Centre events	Older adults, vulnerable groups

## Appendix 5

### Feedback from consultation on the oral health needs assessments

Feedback on the final drafts of the oral health needs assessment documents for North Yorkshire and Humber, West Yorkshire and South Yorkshire and Bassetlaw was sought through a Public Health England online survey of stakeholders and an online survey of the public administered by local authority Healthwatch teams between March and April 2015.

#### Professional consultation

The consultation feedback on the final drafts of the OHNAs fell into two themes:

- aspects that needed to be looked at in more detail
  - access and availability
  - vulnerable groups
  - service information
- accuracy of information

The feedback informed and strengthened key issues identified in the OHNAs and accuracy details have been addressed.

We are grateful to the following stakeholders for their comments:

Hull and East Riding of Yorkshire LDC, North Yorkshire and Humber Area Team, Teeth Team Limited, North Lincolnshire Council, North East Lincolnshire Council, School of Clinical Dentistry, University of Sheffield, Charles Clifford Dental Hospital, Michael and Margaret Naylor and Associates, Healthwatch Kirklees, Leeds City Council, Community Dental Service, Clinical Advisor (NHS England), Wakefield Local Dental Committee, Bradford District Care Trust and Wakefield Council.

#### Public consultation

The consultation feedback on the OHNAs collated by Healthwatch fell into three themes:

- difficulty in accessing up to date information about NHS dental practices taking on new NHS patients
- difficulty in accessing NHS dental care
- confusion about registration status, recall status and patient payment charges

These issues have informed and strengthened the key issues identified in the OHNAs.

We are grateful to the Healthwatch teams for administering the consultation survey and reporting on the results and to members of the public who participated in the survey.