Better Oral Health in Bradford and Airedale

Oral Health Needs Assessment 2012

This document details the oral health of the people of Bradford district 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.
Acknowledgments

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Contents

Executive summary ................................................................................................................. 6
1.2. Key Findings ................................................................................................................. 6
1.2.1. People living in Bradford district ........................................................................ 6
1.2.2. Causes and impact of poor oral health .............................................................. 6
1.3. Epidemiology of oral diseases .................................................................................... 7
1.3.1. Children ............................................................................................................... 7
1.3.2. Adults .................................................................................................................. 7
1.3.3. Vulnerable groups .............................................................................................. 7
1.4.1. Costs .................................................................................................................... 8
1.4.2. Oral Health Promotion ...................................................................................... 8
1.4.3. Public View ........................................................................................................ 8
2.0 Introduction ..................................................................................................................... 9
2.1. Context for oral health improvement ......................................................................... 9
2.1.1. National context ................................................................................................ 9
2.1.2. Local context ..................................................................................................... 10
3.0 Oral health needs assessment ....................................................................................... 11
3.1. What is an oral health needs assessment? .................................................................. 11
3.2. Why an oral health needs assessment? ..................................................................... 11
3.2.1. Aims ................................................................................................................... 11
3.2.2. Methods ............................................................................................................ 11
3.3. Organisational context ........................................................................................... 12
4.0 Population and demographics – profile of people living in the Bradford district .... 13
4.1. Bradford’s population profile ................................................................................... 13
4.2. Bradford population structure ................................................................................ 13
4.3. Bradford’s ethnic population structure ................................................................... 14
4.4. Population change and migration in Bradford district ............................................ 15
4.4.1. Births and deaths .............................................................................................. 15
4.4.2. Migration ........................................................................................................... 15
4.5. Lifestyle profiles ..................................................................................................... 16
4.6. Deprivation across the Bradford district .................................................................. 17
4.7. Health deprivation and disability domain ............................................................... 18
5.1. Social determinants of oral disease .......................................................................... 20
5.2. Oral health challenges ............................................................................................. 21
5.2.1. Oral health impacts of diet and nutrition .......................................................... 21
5.2.2. Diet- lifestyle traits ............................................................................................ 22
5.2.3. Oral health impacts of oral hygiene practices ................................................... 23
5.2.4. Oral health impacts of fluoride use ................................................................... 23
5.2.5. Oral health impacts of tobacco ......................................................................... 25
5.2.6. Smoking – lifestyle traits .................................................................................. 25
5.2.7. Smokeless tobacco use- lifestyle traits ............................................................. 27
5.2.8. Oral health impacts of alcohol ......................................................................... 28
5.2.9. Alcohol- lifestyle traits ..................................................................................... 28
5.2.10. Oral health impacts: human papilloma virus ................................................. 28
5.3. Social impacts ........................................................................................................ 28
5.4. Financial impacts ................................................................................................... 28
5.5. Common risk factor approach ................................................................................. 29
6.0 Epidemiology of oral diseases ...................................................................................... 31
6.1. Epidemiology of oral disease in children and young people .................................. 31
6.1.2. Local information .............................................................................................. 31
6.1.3. Five year old children- comparisons overtime: trend analysis .......................... 35
6.2. Inequalities in the oral health of children and young people .................................... 36
6.2.1. Five year old children- Dental experience by ward ......................................... 36
6.3. Dental caries experience and material deprivation .................................................. 40
6.3.1. Dental caries experience and ethnicity .............................................................. 42
12.4. Capacity building- developing personal skills .................................................. 99
12.5. Practice based oral health promotion ................................................................. 100
  12.5.1. Health Promoting Dental Practice Award .................................................. 102
12.6. New dental practices- focused on oral health improvement ............................. 103
13.0 Public views ........................................................................................................... 104
  13.1. Bradford and Airedale’s residents attitudes to their oral health ....................... 104
  13.2. Bradford and Airedale’s residents perceived barriers to uptake of dentistry services ........................................................................................................................................................................... 104
  13.3. Bradford and Airedale’s adult residents perceived barriers to uptake of dentistry services ........................................................................................................................................................................... 104
  13.4. Bradford and Airedale’s residents child views on access and barriers to NHS dental attendance ........................................................................................................................................................................... 105
  13.5. Children and young people’s views on access to routine dental care for children 105
  13.6. Tong children's views of dental services .............................................................. 105
  13.7. Bradford District Care Trust salaried dental service ........................................... 107
    13.7.1. Barriers experienced by vulnerable groups ................................................. 107
14.0 References ................................................................................................................ 110
Executive summary

1.1. Introduction

Over the last thirty years there have been significant improvements in oral health however many people still suffer the pain and discomfort of oral diseases which are largely preventable and remain a major public health problem.

The World Health Organisation defines oral health in broad terms. ‘It means more than simply having ‘good teeth’: oral health is integral to general health, is essential for wellbeing, and is a determinant of quality of life. If allows us to speak, smile, kiss, touch, taste, chew swallow and cry’. Poor oral health ‘restricts activities in school, at work and at home causing millions of school and work hours to be lost each year the world over. Moreover, the psychosocial impact of these diseases often significantly diminishes quality of life’.

Recent NHS reforms will bring major changes to the commissioning of oral health programmes and dental services. Currently PCTs are responsible for assessing the needs of their population and commissioning appropriate oral health programmes and dental services to meet those needs. In future these will become the responsibilities of Local Authorities and the NHS Commissioning Board. However it is key that PCTs and in the future local authorities regularly review the oral health needs of their population. This will enable them to identify needs and inequalities take stock of services commissioned to meet these needs and look for the potential to redesign and prioritise services and programmes.

This document details the oral health of the people of Bradford district 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.

1.2. Key Findings

1.2.1. People living in Bradford district

Approximately 506,800 people live in the district and the population is growing. The population is younger relative to England and Wales and more deprived. Many people in the district have lifestyle traits that will have serious health consequences in the future. Evidence shows that people living in more deprived communities have higher levels of dental disease, and also are less likely to seek access to routine care accessing care when their need becomes urgent.

1.2.2. Causes and impact of poor oral health

Within Bradford district there are significant inequalities in healthy and oral health. Focusing solely on an individual’s behaviour change has only short term benefits it is therefore essential to focus on the wider determinants of health. Marmot in a recent review of health inequalities suggests six policy actions to reduce health inequalities all partnerships should contribute to this agenda. Lifestyle choices such as poor diet, oral hygiene practices and tobacco and alcohol use contribute to negative impacts on health and oral health there are opportunities for health and social care workers to make every contact count. Poor oral health results in social and financial impacts both for the individual and for society as a whole.
1.3. Epidemiology of oral diseases

1.3.1. Children

The oral health of young children in the district is poor in comparison with their peers regionally and nationally. It has not improved over the last 10 years and in 2007/08 five year olds in the district had the highest level of disease in Yorkshire and the Humber. Inequalities exist with those from the most deprived areas having 5 times the level of decay as those from the least deprived. Amongst 12 year olds again levels of disease are significantly higher than the regional and national averages, the improvement over the period 1989-2001 would now seem to have halted with no significant change to 2008/09. The oral health of children and young people is already high on the local strategic agenda. Oral health in children is one of the key public health outcome indicators and should remain a priority of the Health and Well Being Board and Children’s Trust.

1.3.2. Adults

The oral health of adults has increased significantly over the last 40 years with adults increasingly likely to keep some of their teeth for life. These adults are likely to need dental care into old age and this treatment is likely to more complex and includes the treatment of dental caries in the crown and roots of teeth and periodontal disease. The incidence of mouth cancer is rising particularly amongst younger groups and females.

1.3.3. Vulnerable groups

The needs of children in special schools adults with learning disabilities, adults in residential and nursing homes and the homeless are described. Many of these groups have higher levels of untreated disease or treatment in the form of extractions rather than fillings. Access to dental care can be difficult especially for those in residential care and the homeless. Further work is required to describe the needs of those in residential care.

1.4. Oral Health care services

Primary Care

There are 68 dental practices in the district with four limited to specialist orthodontic care provision. There is one specialist oral surgery practice and three dentists accredited with a special interest in endodontics and periodontics. Recent procurements have improved access across the district but with a limited number of dental practices taking on new patients and an increasing population dental access remains a challenge. The current reform agenda will see the transfer of dental contracts to the commissioning board and the introduction of a new dental contract it will be important to support and engage practices during this process to ensure continued access to dental care. It is likely that services will increasingly utilise skill mix and reorientate services to ensure a preventive focus. The district has a large salaried dental service providing special care dentistry, paediatric dentistry, unscheduled dental care, treatment under general anaesthesia and sedation. They also have a dental public health role providing oral health promotion programmes and carrying out dental epidemiological fieldwork. The re procurement of the unscheduled dental care will be taking place as part of the wider West Yorkshire recommissioning of urgent care. There is a need to ensure continued urgent care access for all including vulnerable groups.

Secondary Care

These services are provided mainly by Bradford Teaching Hospital Foundation Trust (BTHFT), Airedale Hospital Foundation Trust and the Leeds Dental Institute. Most of our patient provision is for orthodontics and oral surgery, with most inpatient activity for maxillofacial surgery. The most frequently provided oral surgery procedures are extractions
and surgical removal of teeth, impacted teeth and roots. There is a need to review the local oral surgery provision as recommended by the dental programme board of MEE to ensure that services are commissioned in the most appropriate setting for the complexity of care. There are currently insufficient orthodontic services to meet identified need, a re-procurement is planned for 2012/13. There is limited capacity to specialist restorative services. Consultant level restorative services in BTHFT prioritise supporting restorative care within the head and neck cancer pathway and do not accept referrals from primary care dentists. Primary care based restorative services are commissioned from accredited dentists with special interests in the restorative mono specialties of periodontics and endodontics.

1.4.1. Costs

The costs for primary care dental services in the district are approximately £31.5 million with a further £5.3 million spent in secondary care (2010/11). During transition dental funding will be transferred to the NHS Commissioning Board it is important that all contracts are identified and safely transferred. Through review and service redesign commissioners should be able to demonstrate that services are evidence based, high quality effective and deliver best value.

1.4.2. Oral Health Promotion

Oral health programmes in the district are focused on the oral health of young children. This reflects national and local priorities for oral health improvement. Building Brighter Smiles incorporated a series of evidence based programmes which adopt a life course approach they will be key in addressing the dental health indicator in the Public Health outcomes framework. Future commissioning of oral health programmes addressing local oral health needs will become the responsibility of the Local Authority. Dental practices are being supported to re-orientate their services towards prevention, this programme (Health Promoting Dental Practices Award) will enable practices to begin to reorganise for the anticipated delivery of a new contract focused on oral health improvement.

1.4.3. Public View

The views of district residents are key when assessing need and demand for dental care a number of data sources were accessed to examine patient’s views. For the first time data was collected from children and young people regarding their views of local dental services. The biggest barrier to accessing care was cost, however for those with a disability it was physical environment, communication and information and staff understanding. A quarter of primary school children and 14% of secondary school children last went to the dentists because they were having trouble with those from the most deprived quintile more likely to do so. In general practices cater well for children and young people however teenagers felt there was not much in dental waiting rooms to interest them. Only 5% of the total population thought their dental health was bad or very bad however amongst those with disabilities only 5% thought their oral health was good.

1.4.4. Next steps

This needs assessment provides a detailed picture of oral health needs throughout the district, commissioned dental services and oral health promotion services to meet those needs. It identifies gaps in provision and key issues to be addressed within future oral health and dental commissioning strategies.

The recent Single Integrated Plan 2012 to 2015 highlights oral health in Bradford District as one of the five partnership priorities. The reform agenda provides opportunities for further partnership development ensuring oral health becomes integrated within wider partnership agendas and improving health and oral health becomes everyone’s business.
2.0 Introduction

Over the last thirty years there have been significant improvements in oral health however many people still suffer the pain and discomfort of oral diseases which are largely preventable and remain a major public health problem.

The World Health Organisation defines oral health in broad terms. ‘It means more than simply having ‘good teeth’: oral health is integral to general health, is essential for wellbeing, and is a determinant of quality of life. If allows us to speak, smile, kiss, touch, taste, chew swallow and cry’. Poor oral health ‘restricts activities in school, at work and at home causing millions of school and work hours to be lost each year the world over. Moreover, the psychosocial impact of these diseases often significantly diminishes quality of life’.

Oral health is an integral part of general health; many of the key risk factors that lead to poor oral health are risk factors for other diseases. A common risk factor approach to health promotion recognises that chronic non communicable diseases and conditions such as obesity, stroke, heart disease, cancer diabetes and oral diseases share a set of common risk factors and by concentrating on a small number of risk factors which may impact on a number of diseases will result in greater efficiency than a disease specific approach.

The distribution and severity of oral diseases varies between and within countries and regions and whilst sections of society enjoy very good levels of oral health stark inequalities exist with some of the most vulnerable, disadvantaged and socially excluded facing significant oral health problems. It is important therefore that we not only aim to improve the oral health of the population but seek to address these inequalities.

In the UK health inequalities including oral health inequalities are a dominant feature nationally and across all regions. They 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 (Marmot 2010). Partnership working across key sectors and agencies is essential in order to develop and maintain effective strategies to improve health and oral health and to address health inequalities.

This oral health needs assessment (OHNA) provides a detailed picture of the oral health needs of Bradford and Airedale and the commissioned dental services and oral health promotion services to meet those needs. It identifies gaps in provision and identifies key issues to be prioritised and addressed within future oral health and dental commissioning strategies for the district.

2.1. Context for oral health improvement

2.1.1. National context

Since 2006 Primary Care Trusts (PCTs) were given specific responsibilities for dental public health and are required to deliver improvements in oral health. A number of key documents have been produced by the Department of Health to support PCTs in the delivery of evidence based oral health improvement and the delivery of high quality accessible and appropriate dental services

Delivering Better Oral Health: An evidence based tool kit for prevention (Department of Health and British Association for the Study of Community Dentistry, 2009).
Improving oral health and dental outcomes: Developing the dental public health workforce in England (Department of Health, 2010c).

Recently the NHS White Paper, Equity and Excellence: Liberating the NHS (Department of Health, 2010a) has again restated the important focus on improving the oral health of school children. It proposes the introduction of a new dental contract, one that is focused on improving quality capitation and registration. This contract is currently being piloted with approximately 70 national pilots (one within Bradford and Airedale). The commitment to improve the oral health of children is further emphasised in the Public Health Outcomes Framework where an oral health indicator regarding the dental health of 5 year old children is included.

Throughout the NHS transition year the NHS Operating framework requires PCTs to further improve access to NHS dentistry through improved efficiency and management of dental contracts. In addition they are expected to work with dentists and wider population strategies to improve the oral health of children.

In the future system architecture the responsibility for oral health improvement will be shared as the NHSCB will be required to commission appropriate dental services focused on oral health improvement whilst the LA will have responsibility for assessing the oral health needs of the population, developing oral health strategy and commissioning population based oral health improvement programmes to meet these needs.

### 2.1.2. Local context

Oral health and particularly the oral health of children and young people are already high on the local strategic agenda. Oral health in children is one of the key Public Health Outcome indicators and will remain as a priority area for the Health and Well Being Board and Children’s Trust.

The recent Single Integrated Plan 2012 to 2015 highlights oral health as one of 5 partnership priorities. The reform agenda provides opportunities for further partnership development ensuring oral health becomes integrated within wider partnership agendas and improving health and oral health becomes everyone’s business.
3.0 Oral health needs assessment

3.1. What is an oral health needs assessment?

Defining and assessing need is a critical element of the service planning process. An oral health needs assessment considers conditions and factors that might have a significant impact on oral health and function. In terms of oral health, tooth decay and gum diseases are both significant conditions that affect individuals, which can lead to a reduction in quality of life. Oral health needs can be assessed in a number of ways, including perceptions and expectations of the population and professionals, normative needs based on available information and utilisation of services.

Bradshaw (1972) gives definitions for different concepts of need, ‘normative need’ is that defined by the professional as need in a given situation (Bradshaw, 1972). ‘Felt need’ is that expressed by the lay person through their own assessment of their needs and ‘expressed need or demand’ is translating felt need into action either by use of services or request for information. ‘Comparative need’ is assessed by comparing the health needs of similar groups of people.

3.2. Why an oral health needs assessment?

PCTs are encouraged to undertake wider work to promote oral health and reduce inequalities so it is essential that the oral health needs of the population are regularly reviewed. The population identified for this oral health needs assessment are the residents of Bradford and Airedale. The results of this OHNA will inform the planning and implementing of appropriate services and population oral health improvement strategies.

3.2.1. Aims

- Provide an update of oral health needs and dental services in Bradford and Airedale
- Identify potential gaps in provision and areas requiring service redesign
- Provide needs based recommendations for the oral health strategy
- Support oral health improvement and dental commissioning functions through transition to LA and the NHSCB.

3.2.2. Methods

The methodology adopted for this OHNA follows the Oral Health Needs Assessment Toolkit (2006) published by Primary Care Contracting (Primary Care Contracting, 2006). It has involved working with local networks, consultants in dental public health CsDPH), dental practice advisors, clinical directors of salaried primary care dental services (SPCDS), Local Dental Committees (LDCs) and dental commissioners to develop and understand the current provision and to complete an oral health needs assessment.

During the oral health needs assessment, the PCT

- Identified and gathered sources of existing data which supported the needs assessment process
- Researched and described the characteristics of the population and identified their needs
- Identified gaps in knowledge and sought support to close them
- Measured the capacity of existing service provision to meet need
- Identified gaps and were appropriate new or alternative ways in which needs may be met
Following the oral health needs assessment, the PCT should
Prepare an oral health strategy based on the findings of the OHNA to inform the JSNA and to be agreed by JHWBS and the Dental local Professional Network
Develop a long term oral health and dental commissioning delivery plan which is relevant within the new system architecture during transition and in the future

3.3. Organisational context

This OHNA is part of a programme of strategic needs assessments (SNA) undertaken by the public health team. The aim is to cover all major health areas e.g. obesity, sexual health, CVD diabetes and mental health.

The SNAs are strategic in that they identify areas in need of development and make needs based recommendations which would be agreed by the health and wellbeing board (HWB) and generate a prioritised work programme which promotes equitable access to evidence based services.
4.0 Population and demographics – profile of people living in the Bradford district

In order to plan appropriate oral health care services for the different groups of the population, it is essential to consider the population profile of Bradford. This chapter describes the population characteristics and profile and relates this to oral health outcomes.

4.1. Bradford’s population profile

Bradford District is an area of approximately 400 square km around two thirds of which is rural, covering the towns of Shipley, Keighley, Bingley and Ilkley. The mid-year estimated population for Bradford in 2009 was 506,800 people living in the District (Office for National Statistics, 2009) and is one of the few Metropolitan Districts that are experiencing population growth (Figure 1).

Figure 1: Map of Bradford District

Bradford has a different population structure to the national average. Bradford’s population is relatively younger with more young people aged less than 16 years, (Bradford 22.6%, nationally 18.7%). Bradford has proportionally less people of pensionable age, (Bradford 16.0%, nationally 19.5%) and has similar proportions of working age people to the national average, accounting for just over 61% of the population (Figure 2).
4.3. Bradford’s ethnic population structure

74% of Bradford’s population are from a White background. People from an Asian background make up around 21% of the population, with the remaining 5% being made up from mixed race, black and other ethnic groups (Figure 3).

Evidence suggests that the oral health of 5 year old Pakistani children is poorer than that of their White peers. However amongst older groups Asians of Pakistani origin tend to have high levels of periodontal disease. There is further evidence to suggest that, despite high
levels of dental need, minority ethnic groups experience barriers to accessing oral health care. These include language, a mistrust of dentists, cost, anxiety, cultural misunderstanding and concern about standards of hygiene (although perceived barriers differ across ethnic groups). It is important to consider the cultural characteristics of each subgroup when designing oral health promotion activities for diverse ethnic groups.

4.4. Population change and migration in Bradford district

Bradford’s population has been increasing since around 2001. The increases have been brought about as a result of variations in births, deaths and migration. Since 2004 the population has increased by approximately 25,900 (5.4%) (Figure 4).

Figure 4: Population Change, Bradford district, 1991 to 2009

![Graph showing population change from 1991 to 2009.](image)

The population increase presents challenges for the delivery of the provision of equitable access to dental care. Dental access is monitored using the proportion of the population that have visited the dentist in the past 24 months. Whilst provision has been improved with increased investment since 2006, as the population is also increasing, the improvement in the proportion attending is not as great as would have been expected, or in comparison with other areas with smaller rates of growth in their populations.

4.4.1. Births and deaths

Births in the Bradford District have increased by around 15% over the last six years to around 8,600 in 2009. Increases have been seen particularly for South Asian and Eastern European families whilst birth rates for White families have remained static. Deaths have remained relatively static at around 4,600 a year over this time frame.

4.4.2. Migration

Each year there is more immigration into Bradford than emigration out of Bradford. There are around 13,700 people from other parts of the UK moving into Bradford each year and about 16,400 people moving out, going to other parts of the UK, resulting in an annual decrease of around 2,700 people.

Around 6,600 people move to Bradford each year from outside the UK and just over 3,900 people leave, going to destinations outside the UK. Overall, year on year migration accounts for an annual increase of around 1200 people.
Until recently most, around 2,000 – 3,000 per year, international migrants originated from the New Commonwealth. However, since the enlargement of the European Union (EU) in 2004, accession country migrants have made a significant addition to the population. This reached a peak in 2007 when approximately 4,000 migrants from the EU came to the district. As elsewhere in the country, this figure has fallen in the past few years and in 2008 Bradford was the destination of just over 2,500 migrants from Central and Eastern Europe (based on national insurance data).

40% of the people recorded by the Workers Registration Scheme (WRS) since the EU expanded in 2004 have been from Poland, with Slovakia and Latvia being the country of origin for 20% of WRS registrations respectively. Lithuania and the Czech Republic are the remaining important countries of origin for EU migrants to the district. Most of these migrants have settled in areas of cheaper housing in Bradford, for example in the Toller and Manningham wards. These groups may require the use of diverse interpreting services in order to access dental care. There is limited anecdotal evidence of children with high levels of dental decay and adults requesting replacement of advanced restorative work, however due to data recording issues oral health data has not been able to verify these statements.

4.5. Lifestyle profiles

Lifestyle profiles of Bradford indicate that we have a diverse multiethnic community, many of whom have working class and blue collar origins. The data also indicates that the population of Bradford is storing up a number of potential health issues relating to their smoking, drinking, eating and exercise habits. As tobacco use and alcohol drinking are the main causal factors of oral cancer, brief advice and signposting for patients who use tobacco and alcohol at a harmful level have been firmly placed within the remit of dental teams. Also ‘hazardous’ or ‘harmful’ alcohol consumption can lead to the increased risk of facial injuries and dental trauma. Hence the population characteristics in the different geographical locations should be considered before training dental staff regarding smoking cessation or brief intervention alcohol training.

Within Figure 5 a series of indicators for Bradford against Great Britain have been selected to demonstrate Bradford’s health profile. The graph shows that there are considerably higher numbers of smokers and individuals with a body mass index of over 30, as well as a higher than average number of people who fail to exercise, these findings have major health implications for the future.
4.6. Deprivation across the Bradford district

Deprivation covers a broad range of issues and refers to unmet needs caused by a lack of resources of all kinds, not just financial. The English Indices of Deprivation attempt to measure a broader concept of multiple deprivation, made up of several distinct dimensions, or domains, of deprivation. The English Indices of Deprivation 2010 use 38 separate indicators, organised across seven distinct domains of deprivation which can be combined, using appropriate weights, to calculate the Index of Multiple Deprivation 2010 (IMD 2010). This is an overall measure of multiple deprivation experienced by people living in an area and is calculated for every Lower layer Super Output Area (LSOA) in England. The IMD 2010 can be used to rank every LSOA in England according to their relative level of deprivation.

All the small areas in England have been ranked according to their Index of Multiple Deprivation score, which allows the identification of the most and least deprived areas in England and to compare whether one area is more deprived than another. An area has a higher deprivation score than another one if the proportion of people living there who are classed as deprived is higher. An area itself is not deprived: it is the circumstances and lifestyles of the people living there that affect its deprivation score. Most of the indicators used in the Indices of Deprivation 2010 are from 2008 although some of the indicators come from other time points such as the 2001 Census.

The seven domains used for the IMD 2010 are:
- Income Deprivation
- Employment Deprivation
- Health Deprivation and Disability
- Education, Skills and Training Deprivation
- Barriers to Housing and Services
- Crime
- Living Environment Deprivation

Bradford has 6% of its LSOAs which fall within the 1% most deprived nationally, similar to Hull (7%) and North East Lincolnshire (6%). At the 5% most deprived cut-off point this increases to 16% for Bradford, with Hull at 23% of LSOAs. Almost one-third (31%) of
Bradford’s LSOAs fall within the bottom 10% when compared nationally and this is second only to Hull (43%).

4.7. Health deprivation and disability domain

This domain measures premature death and the impairment of quality of life by poor health. It considers both physical and mental health. The domain measures morbidity, disability and premature mortality, but not aspects of behaviour or environment that may be predictive of future health deprivation. Health deprivation and disability is included as one of the seven domains because ill health is an important aspect of deprivation that limits an individual’s ability to participate fully in society. As it is generally accepted that the risk of ill health and death becomes greater as a person ages, and that this increase is not seen as socially unjust, this domain aims to capture unexpected deaths or levels of ill health by using age and sex standardised data. This means that the expected levels of health in a small areas, given their age and sex composition, are compared rather than the absolute levels of health.

The following figure demonstrates health deprivation across Bradford according to IMD 2010 showing that health related deprivation is highest across the inner city areas (Figure 6).

Figure 6: Map of health-deprivation within Bradford

Key Issues

Bradford has an estimated population of 506,800 people living in the district and is one of the few metropolitan districts that are experiencing population growth. Despite recent significant investments in dental care provision throughout the district securing equitable access to dental care remains a challenge now and in the future.

Compared with England and Wales as a whole Bradford’s population structure is relatively younger.

Almost one third of Bradford district’s LSOA’s fall within the 10% most deprived nationally. Bradford and Airedale 5 year olds have the poorest oral health in the
region with those from more deprived communities having significantly poorer oral health than those in least deprived groups. Many people within the district have lifestyle traits that are likely to have serious health consequences in the future. Adults aged 16-65 years are in general most likely to smoke and drink hazardous amounts of alcohol both significant risk factors for oral cancer. Bradford district benefits from a rich mix of ethnic groups and cultures. 74% of the population are from a White background with 21% from Asian communities. Evidence suggests that the oral health of 5 year old Asian children is significantly poorer than their white peers.
5.0 Causes and impacts of poor oral health

Good oral health is imperative to 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. In order 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 and these are found to range from economic and social policy to individual health behaviours (Figure 7). Individual behavioural changes approaches have been shown to have only short term benefits (Kay and Locker, 1996) and focussing on the wider determinants of health is necessary to achieve sustainable improvements in health related behaviours.

Figure 7: Influences on health

5.1. Social determinants of oral disease

The WHO defines the social determinants of health as ‘the conditions in which people are born, grow, live, work and age, including the health system. 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 - 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 nationally and across all regions. They 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. In November 2008 Professor Sir Michael Marmot was asked to chair an independent review to propose the most effective evidence based strategies for reducing health inequalities in England from 2010 (Marmot, 2010).
Key messages from the review include:
- There is a social gradient in health – the lower a person’s social position, the worse his or her health therefore action should focus on reducing the gradient in health.
- Health inequalities result from social inequalities. Therefore action on health inequalities 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’

Reducing health inequalities will require action on 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.

The relationship between oral disease and social determinants are inextricably bound together. As seen in the last chapter, it is a well recognised fact that oral health is influenced by a wide range of determinants starting from individual lifestyle choices (e.g. sugar intake), to national policy (e.g. smoke-free environments). It is essential that for a successful public health approach, these wider determinants must be focussed upon through a partnership approach.

5.2. Oral health challenges

Oral health is compromised by conditions such as gum disease (periodontitis), dental decay (caries) and oral cancers. Gum disease and dental decay are preventable and share some aetiological factors such as poor oral hygiene, diet and smoking. Various behavioural practices (outlined below) can affect oral and general health.

5.2.1. Oral health impacts of diet and nutrition

Dental decay occurs when a tooth undergoes the process of demineralisation in response to the acids produced as a result of interaction between dietary sugars and plaque bacteria. The acids start attacking the tooth causing it to lose minerals as soon as the sugar enters the mouth and this process can last for an hour, but if the tooth is given a rest phase without any sugar consumption, the chemistry of the mouth (particularly saliva) can then balance the lost minerals. However frequent intake of sugar with no periods of rest will result in prolonged demineralisation of the tooth leading eventually to tooth decay. Once decay has breached the outer layer of enamel it then 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, where gums have receded, dental caries can also attack the root surface of the tooth which has no outer protective layer of enamel. To summarise, the frequent and high consumption of sugar causes dental decay.

The sugars causing decay are derived mainly from confectionary, biscuits and soft drinks. The majority of the people of England consume more than the recommended 60gms of sugar per day. The groups that cause most concern are infants, preschool children, adolescents and the elderly especially those living in institutions.
Apart from dental decay, tooth tissue loss can also occur due to chemical, physical or mechanical causes. Tooth wear is more commonly seen as erosion (chemical dissolution of teeth). Children and young people, who consume excessive amounts of acidic fizzy drinks, including diet and sugar free varieties, are more likely to be affected. Less commonly erosion may be due to intrinsic factors such as the effects of frequent vomiting or regurgitation (e.g. in groups with stomach acidity problems or eating disorders such as bulimia). Diet is also a risk factor for oral cancer the most conclusive evidence stating the protective role of fruits and vegetables, particularly citrus fruit’s in the prevention of the development of cancers of the digestive and upper respiratory tract (Foschi, et al., 2010).

Factors such as costs, availability, access and clear information are all important in influencing what people eat and drink. Eating a healthy balanced diet containing fruit, vegetables that is low in fat, salt and sugar and based on whole grain products is important for good health. Delivering Better Oral Health (2009) supports dental teams to give clear and consistent evidence-based advice to their patients (Department of Health and British Association for the Study of Community Dentistry, 2009). Advice relates to infant feeding, the intake of sugars within the diet, a balanced diet and the 5 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.

5.2.2. Diet- lifestyle traits

The National Diet and Nutrition Survey (2000) recommended that young people aged 4 to 18 years maintain a high intake of fruit, vegetables, and cereals accompanied by low intakes of fatty, salty and sugary foods. This will help maintain good oral health status throughout childhood and into adulthood (Russell and Gregory, 2003).

Within Bradford & Airedale 25.9% (N=108,236) of the population are classified with a BMI>30 (Obesity Health Needs Assessment, Draft 2012). Amongst children the prevalence of obesity is approximately 10% for those aged 2 to 7 years. There is then an increase in the proportion of obese children between 7 and 10 years old which is also observed nationally.

The children's and young people's health and lifestyle survey in Bradford City (2009/10) surveyed 10,664 (3,948 primary school and 6,716 secondary school) children (Bradford Public Health Observatory, 2010). The survey found that, compared with an England sample, nearly the same proportion of young people in Bradford had consumed at least five portions of fruit and/or vegetables on the day before the survey (20%). Young people from a South Asian background were most likely to declare no portions and least likely to claim five portions of fruit and vegetables. As pupils get older, they were more likely to report consuming fizzy drinks on most days. Young people from a South Asian background were those most likely to eat snacks and sweets on most days; young people from a White background were those most likely to drink milk on most days and least likely to consume fried foods and fizzy drinks on most days.

With regard to adults the 2008 Bradford District Adult Lifestyle survey found that approximately 40% of the district population consume 5 portions of fruit and vegetables per day with 39% doing so in City and South and West and 43% in Airedale. The Health Survey for England (2004) suggested that people from a minority ethnic background were more likely to report eating 5 A DAY than the general population but there is a variation between the ethnic groups. Chinese (54%) and African-Caribbean (44%) groups reported the highest 5 A DAY intake, with South Asian respondents reporting the lowest (33% of Indian and 19% of Pakistani), the general population reported a 34% 5 A DAY intake (Leung, G and Stanner, S 2011). The Health Survey for England (2003-5) estimated fruit and vegetable consumption to be lowest in West Keighley, South Bradford and City ward. Young adults were found to be most likely to eat chocolate, crisps or biscuits on most days. Encouragingly 52% of the
sample reported they had changed what they ate in the past year with 58% doing so for health reasons.

5.2.3. Oral health impacts of oral hygiene practices

Teeth and gums have to be brushed regularly to keep the mouth healthy and prevent accumulation of dental plaque. Periodontal disease is caused by the retention of bacterial plaque on the tooth surface where it abuts the gum margin. The condition begins superficially in the gum and manifests itself through bleeding when brushing or probing by the dental professional. At this stage the disease process may be reversed by improving oral hygiene measures (brushing and using inter dental cleansing aids). However at a more advanced stage the disease gradually destroys the periodontal membrane and the surrounding bone. As this occurs a space called a periodontal pocket is created between the gum and root of the tooth. Once the bone has been destroyed this cannot be restored and professional intervention is required to clean the periodontal pocket preventing further bone loss. Without intervention bone loss will eventually lead to tooth mobility and loss.

The 12 year old (2008/09) survey asked the children about their frequency of brushing their teeth and found that only one child reported they never brushed (0.3%), 14 less than once per day (4%), 82 once per day (22%), 259 (70%) brushed twice per day and 10 (3%) more than twice per day.

Within the Adult Dental Health Survey (2009) of the 930 respondents in Yorkshire and the Humber 72% claimed to brush their teeth twice per day or more often, 22% once per day, 5% less than once per day and 1% never, this was comparable to the England responses (75%, 22%, 2% and 1% respectively) (The Health and Social Care Information Centre, 2009).

5.2.4. Oral health impacts of fluoride use

Fluoride acts in several ways to slow and prevent the decay process and also to reverse decay in its early stages. The most important course of action is to promote re-mineralisation – depositing minerals back into the tooth. Evidence demonstrates the effectiveness of fluoride in reducing levels of dental caries at an individual and community level. Fluorides can be applied by an individual (e.g. toothpaste), in surgery and through public health approaches.

Individual level

Fluoride toothpaste - Since the 1970’s fluoride has been added to most toothpaste and is widely recognised as having improved oral health in the UK. However amongst the most deprived communities children are less likely to own a toothbrush, brush their teeth twice a day and start brushing as soon as the teeth erupt with fluoride toothpaste. Programmes such as ‘Brushing for Life’ have been commissioned in Bradford and Airedale and involve the promotion of tooth brushing as soon as the teeth erupt.

Tablets, supplements and mouth rinses - The use of tablets and supplements are usually recommended for particular vulnerable groups. The long term commitment to daily consumption is not suitable for all.

Varnishes have been shown to be one of the most effective methods of caries reduction applied 6 monthly. These varnishes are professionally applied however a suitably trained dental nurse can do so at the direction of a dentist. Within Bradford and Airedale we have now had 3 cohorts of dental nurses who have completed such a course.
Communities

Water fluoridation – In areas with high levels of dental disease such as Bradford and Airedale, water fluoridation which is an effective and safe public health intervention, should be considered. Fluoride which is naturally present in water supplies can be boosted to the optimal level for dental health (1ppm). In the West Midlands 70% of the population consume fluoridated water and the figure below compares the oral health of 5 year old children in the West Midlands and Yorkshire and the Humber according to deprivation. As you can see the children in the West Midlands have better oral health at every level of deprivation with the most affluent children in Yorkshire and the Humber having a higher disease level than the most deprived group in the West Midlands (Figure 8). These inequalities were highlighted in the Chief Medical Officers annual report (2006). Bradford and Airedale and Kirklees PCTs have requested that Yorkshire and the Humber Strategic Health Authority carry out a water fluoridation feasibility study to ascertain if water fluoridation is technically feasible and if so what it might cost. This study is currently underway.

**Figure 8: Mean dmft of 5 year old children (2003/04)**

Mean dmft in five-year-old children in 2003/04 for Yorkshire and the Humber compared to the West Midlands Region by income deprivation quintile

Fluoridated milk is another possible method of community fluoridation. Currently in the UK approximately 30,000 children receive fluoridated milk. It has several advantages it is a healthy drink, benefits growth, reduces health inequalities and schemes can be targeted and allow for individual choice. The age of commencing does however mean that most of the benefits are seen in the permanent dentition.

Community tooth-brushing programmes - Although the use of fluoride toothpaste has generally been recognised as the most significant factor in the decline of caries prevalence worldwide, we know that amongst deprived communities the prevalence of tooth brushing amongst young children is low. Many children share a toothbrush with siblings and do not commence brushing with fluoride toothpaste much later than their affluent peers. School based tooth brushing programmes are evidence based with a significant reduction in DMFT demonstrated over a two year period.

Community fluoride varnish programmes: Fluoride varnish has been shown to be effective, easy to apply by members of the dental team, acceptable to very young children and with a high level of safety. The fluoride varnish programme currently
commissioned in Bradford and Airedale is aimed at very young children and provides twice yearly fluoride varnish applications for all. Other fluoride toothpaste distribution programmes include postal schemes where fluoride toothpaste is posted out in packs along with a toothbrush to targeted ‘at risk’ groups such as children. These schemes have been shown to be effective in reaching families and reducing dental decay levels.

5.2.5. Oral health impacts of tobacco

There are a range of impacts from tobacco use upon the oral cavity such as staining of the teeth, discolouration of 'tooth-coloured' restorations and dentures, reducing taste sensation and halitosis through to delayed healing, an increased risk of periodontal (gum) disease and the development of oral cancer and pre-cancer (Johnson and Bain, 2000). Oral cancer often progresses from a distinct pre-cancer stage and is usually associated with at-risk behaviours such as tobacco use.

‘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 India, squamous cell and verrucous carcinomas of the oral cavity and pharynx are more prevalent in smokeless tobacco users.

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 of smokeless tobacco are 11.4 times that of a non-user.

5.2.6. Smoking – lifestyle traits

The Adult Dental Health Survey (2008) gained information from across Yorkshire and the Humber on smoking prevalence and attitudes of smokers (Yorkshire and Humber Dental Public Health Observatory, 2009). In Bradford and Airedale 1,800 questionnaires were sent out (25,000 adults across Yorkshire and Humber) and 719 questionnaires returned (40%). There were 134 smokers (19%) within the survey respondents.
The respondents who currently smoked within Bradford and Airedale were mapped across the district and this revealed that the greatest proportion of smokers were in Royds, Tong, Toller and Keighley Central (Figure 9).

Figure 9: Respondents who reporting they were currently smoking

The smokers within the study were asked about their intention to quit, 44% stated they intended to quit, but have not set a quit date and 21% did not intend to quit. On a positive note 20% of responders were intending to quit either in the next month or the next 6 months (Table 1).

Table 1: Which of the following describes you (for smokers only)?

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>I intend to give up smoking within the next month</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>I intend to give up smoking within the next 6 months</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>I intend to give up smoking within the next year</td>
<td>14</td>
<td>11</td>
</tr>
<tr>
<td>I intend to give up smoking, but not in the next year</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>I intend to give up smoking but I’m not sure when</td>
<td>59</td>
<td>44</td>
</tr>
<tr>
<td>I don’t intend to give up smoking</td>
<td>29</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>135</td>
<td>100</td>
</tr>
</tbody>
</table>
Respondents who smoked were also asked if they had received any advice to stop. Of the 133 smokers, the highest proportion who accessed advice on stopping smoking did so from their GP nurse (26.8%) followed by doctor (23.7%) and then NHS Stop Smoking Service (19.2%) with 17% by their dentist or dental team member. However 67 respondents who smoke (50%) stated that they have not received any advice on giving up smoking (Table 2).

Table 2: Do you smoke cigarettes at all nowadays by where advice was accessed

<table>
<thead>
<tr>
<th>Advice on Giving Up Smoking</th>
<th>Yes Number</th>
<th>Yes Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHS Stop Smoking Service</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>GP Nurse</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>Doctor</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>Pharmacy Team</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Dentist</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Dental nurse/therapist</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Midwife</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Health visitor</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Other healthcare professional</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>97</td>
<td>100</td>
</tr>
</tbody>
</table>

5.2.7. Smokeless tobacco use- lifestyle traits

Smokeless tobacco products are mainly used by the South Asian community. A National Survey (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%) (The Health and Social Care Information Centre, 2004). In Table 3 the proportions of these communities within Bradford and Airedale are illustrated.

Table 3: Census data 2001

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>N=366,041</td>
<td>78.3 %</td>
<td>91.3 %</td>
</tr>
<tr>
<td>Pakistani</td>
<td>N=67,994</td>
<td>14.5 %</td>
<td>1.4 %</td>
</tr>
<tr>
<td>Indian</td>
<td>N=12,504</td>
<td>2.7 %</td>
<td>2.0 %</td>
</tr>
<tr>
<td>Mixed</td>
<td>N=6,937</td>
<td>1.5 %</td>
<td>1.3 %</td>
</tr>
<tr>
<td>Bangladeshi</td>
<td>N=4,968</td>
<td>1.1 %</td>
<td>0.5 %</td>
</tr>
<tr>
<td>Other</td>
<td>N=4,890</td>
<td>1.0 %</td>
<td>2.4 %</td>
</tr>
<tr>
<td>Black/Black British</td>
<td>N=4,333</td>
<td>0.9 %</td>
<td>1.1 %</td>
</tr>
</tbody>
</table>

In West Yorkshire, 95% of Bangladeshi women aged over 25 years were recorded as chewing ‘paan’, with 60% of the total sample adding tobacco. The age at which the habit (with or without tobacco) was first introduced ranged from 3 to 35 years of age (mean 17 years). Smokeless tobacco can be used by the whole family and children are often not discouraged (Summers, et al., 1994).

The conclusions from many studies suggest that individuals from South Asian backgrounds tend to have an increased risk of oral cancer when using smokeless tobacco. These individuals have increased morbidity and mortality rates associated with the use of smokeless tobacco. The debate around how to support smokeless tobacco users has begun
at a government policy level. The issues include regulations in the sale of these products (Longman, et al., 2010) along with the support to quit for its users.

To ensure that people who may use smokeless tobacco have the opportunity to give up with support NHS Bradford and Airedale Stop Smoking Service have ensured that specially trained staff can support potential quitters and this has been achieved by working in partnership across organisations such as Trading Standards and the Department of Health. Recent guidelines from the Department of Health stated they are working towards a tobacco cessation programme for smokeless tobacco users (Department of Health, 2010d).

5.2.8. Oral health impacts of alcohol

Along with tobacco use alcohol is a key risk factor for oral cancer. The effects of alcohol consumption and combined tobacco use potentiate the risk with heavy drinkers and smokers 30 times more likely to develop oral cancer than non-smokers and drinkers (Blot, 1992). Dento-facial injuries may occur for a variety of reasons including playing contact sports, violence and falls. However many major facial traumas are related to alcohol use including binge drinking.

Alcohol misuse contributes to increased mortality, chronic ill-health, violent crime and anti-social behaviour and places a considerable burden on the NHS. The annual cost to the NHS was estimated at £2.7 billion at 2006 - 2007 prices with alcohol accounting for 6% of all hospital admissions. Pro-rata this is £27 million in Bradford and Airedale but our high rate of alcohol-related hospital admissions suggests a higher local cost.

5.2.9. Alcohol- lifestyle traits

The Bradford Public Health Observatory estimates that there are 92,000 people in Bradford District drinking at increasing risk level (nearly a fifth of the population) and 17,000 people drinking at higher risk levels (Bradford Public Health Observatory, 2011).

5.2.10. Oral health impacts: human papilloma virus

Human papilloma virus (HPV) also has a role in the development of oral cancer development. There are over 100 genotypes in the HPV group of viruses. HPV6, 11, 16, and 18 are the viruses which infect the mucosal epithelial cells in the oral cavity and oropharynx (Ragin, et al., 2007). It has been suggested that 20-25% of head and neck cancers contain HPV (Ragin, et al., 2007).

5.3. Social impacts

Dental disease may cause pain and discomfort, sleepless nights, fear, 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 compromise food choices compromising nutritional status. For the first time in the 2003 National Child Dental Health Survey the Oral Health Impact (OHIP) profile of dental diseases was included. Further details regarding the impact of poor oral health may be found in Chapter 6.

5.4. Financial impacts

In England, in 2009 the total spend on NHS primary care dentistry treatment services was 2.25 billion with a further spend by patients of £550 million in patient charges. In Bradford & Airedale there have been significant investments in primary care dentistry both from the central dental allocation but in addition from the unified allocation, the expenditure on primary
care dental services for 2010-11 was approximately £25 million which accounted for 2.5% of the PCT’s total allocation.

These financial impacts are likely to increase as treatment options become more complex and costly; patients retain heavily restored teeth for longer and patient expectations regarding maintaining their teeth for life increase.

The impact of lifestyles choices such as alcohol and tobacco use can be seen within secondary care dental services where the treatment of head and neck cancer and facial trauma contribute to an approximate annual spend of £5.3 million (2010-11).

5.5. Common risk factor approach

Oral health problems share risk factors with other diseases such as cancer and cardiovascular disease (Sheiham and Watt, 2000). This approach was developed as there are identifiable risk factors which if controlled could have an impact on a multitude of conditions and diseases. Applying this approach would impact on patient health outcomes and enable health practitioners to work in a joined up and united way. For example by identifying and controlling a selection of risk factors there would be an overall improvement of many types of diseases.

Figure 10 demonstrates the links between the common risk factors for oral and general health. If we look at diet within Figure 10, it is possible to identify that it is a common risk factor for a multitude of general and oral health diseases and conditions such as, obesity, diabetes, cancers, cardiovascular diseases, dental caries and periodontal diseases. If each practitioner who comes into contact with a person who has an existing disease or condition which could be better controlled by dietary guidance and support, this risk could be reduced and impact on a variety of health outcomes. If we take smoking as an example of a common risk factor for severe periodontitis as it is three times more likely to occur in smokers than in non smokers (Johnson and Slach, 2001). Severe periodontal disease has a negative impact on the control of diabetes, when diabetes is poorly controlled this also has a negative impact on periodontal health (Genko 1996). Individuals with diabetes mellitus can suffer from peripheral vascular damage which can lead to amputation and severe disability. Smoking exacerbates the risk of vascular damage and increases the likelihood of the disease negatively impacting on the individuals chances of leading a full and healthy life (Luscher, et al., 2003).
Figure 10: The common risk factor approach

Key issues

Focusing solely on an individual’s behaviour change has only short term benefits, it is therefore essential to focus on the wider determinants of health and partnership delivery to achieve sustainable improvements. Marmot in his recent review of health inequalities suggests 6 policy actions to reduce health inequalities. All health improvement partnerships should contribute to this agenda addressing the wider determinants of health. A common risk factor approach will ensure healthy choices impact not only on oral health but the wider general health. There are opportunities for all health and social care workers to ‘make every contact count’. Lifestyle choices such as poor diet, poor oral hygiene practices tobacco and alcohol use all have negative impacts on oral health and indeed general health. Poor oral health results in social and financial impacts both for the individual and society as a whole.
6.0 Epidemiology of oral diseases

6.1. Epidemiology of oral disease in children and young people

6.1.1. National and information

National surveys of the oral health of children have been undertaken on a ten yearly cycle beginning in 1973. The last national children’s survey was in 2003 and demonstrated a continuing decline in dental disease experience in the permanent teeth of (12 and 15 year olds). However evidence for this in the primary dentition of (5 year olds) was more limited (Figure 11) with the improvement seen from 1973 to 83 having ceased.

**Figure 11: Average DMFT/dmft per child in England, 1973 to 2003**


The 2003 national survey also highlighted inequalities by social background with the probability of having obvious decay experience in the primary dentition 50% higher in the lowest social group than the highest.

6.1.2. Local information

Regular NHS dental epidemiological surveys take place which allow more detailed information at a local level. These surveys have in the past provided information on the oral health status of 5, 12 and 14 year old children since 1988, however recently the programme has been reviewed and information on other groups including adults have been included as part of the programme.

Dental caries in five year old children- regional and national comparisons

The most recent survey of the oral health of 5 year olds was carried out in 2007/08. A regional report of the survey methods and findings can be found on the Yorkshire and the Humber Public Health Observatory website [http://www.yhpho.org.uk/resource/item.aspx?RID=99050](http://www.yhpho.org.uk/resource/item.aspx?RID=99050) using this link, local findings and district sub analysis will be presented here.
Although the oral health of children has seen some improvement locally over the last 10 years, the data reveals that Bradford and Airedale 5 year olds have the highest dental disease experience in the region (decayed, missing and filled teeth, (dmft)) (Figure 12).

**Figure 12:**

![Bar chart showing the breakdown of dmft in five-year olds by PCT in Yorkshire and Humber 2007/08 (with 95% confidence intervals)](chart.png)

Source: NWPHO
The mean dmft in Bradford and Airedale was 2.42, significantly higher than the national (1.11) and regional (1.51) averages (NHS Dental Epidemiology Programme for England Oral Health, 2009) (Figure 13).

**Figure 13:**

Map of mean dmft by PCT

Source: NWFHO
The proportion of children with dental disease at age 5 years was 52%; again this was significantly higher than regional (39%) and national (31%) figures (Figure 14).

**Figure 14:**

When dental disease is examined only amongst the 5 year olds that have it the mean dmft in Bradford and Airedale is 4.42, in other words the children with dental disease aged 5 have on average approximately 4 and a half teeth affected. This is significantly higher than the average disease experience in Yorkshire and the Humber (3.70) and England as a whole (Figure 15).

**Figure 15:**
The care Index expresses the proportion of dental disease that has been treated by a restoration or filling. The care index is very low across the region however Bradford and Airedale restored 11.7% of teeth compared to 10.9% in Yorkshire and the Humber and 13.6% in England.

6.1.3. Five year old children- comparisons overtime: trend analysis

When interpreting data from the 2007-2008 survey and particularly when comparing trend data over time it is important to consider that, 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 the child’s parent or from someone with the competence to give consent on behalf of the child. In previous surveys, parents were informed about the survey and unless they objected, the children were examined.

When the mean dmft of 5 year olds is compared during the period 01/02 to 05/06 no significant improvement can be seen nationally, regionally or in Bradford and Airedale. The 07/08 data should be considered as a new baseline due to the new methodology regarding the consent process (figure 16).

Figure 16:
Figure 17 examines the proportion of children with dental disease over the same time period. Again there is no significant improvement over the period 01/02 to 05/06. With the 07/08 data to be considered as a new baseline.

**Figure 17:**

![Figure 17: % dmft >0](image)

6.2. Inequalities in the oral health of children and young people

The oral health of 5 year olds across Yorkshire and the Humber shows considerable variation however inequalities within our district are even greater.

6.2.1. Five year old children- Dental experience by ward

When the oral health of 5 year olds 2007-2008 was examined by ward, stark inequalities were demonstrated with areas such as Keighley Central (mean dmft 4.2), Bradford Moor (4.2) and Bowling and Barkerend (4.2) having significantly higher levels of dental disease than was the average for Bradford and Airedale, whilst Craven (0.7), Thornton and Allerton (0.8), Ilkley (0.9), and Wharfedale (0.9) had significantly lower levels of dental disease than the district average (Figure 18). Those wards with the highest levels of disease having approximately six times as much as those with the best oral health.
Results from the Manningham ward have been excluded owing to the small number of children from this ward within this survey.

When the proportion of children with dental disease was examined according to ward, whilst the confidence intervals around each figure suggest a lack of statistical significance between the wards the ranking of the wards is consistent with other analysis – which consistently places Keighley Central, Bowling and Barkerend, Bradford Moor and Tong amongst the district's most deprived wards (Figure 19).
Results from the Manningham ward have been excluded owing to the small number of children from this ward within this survey.
Figure 20 shows a map of the dmft data by ward illustrating the inequalities across the district with the darkest areas (central Keighley and inner city Bradford) having the highest levels of disease.

**Figure 20: Mean dmft of five year old children by Ward 2007-2008**
By ward City followed by Bradford Moor and Bowling and Barkerend and Keighley Central had the highest dmft scores for children with disease (Figure 21). Those children who had dental decay in city ward (dmft 6.2) have almost three times those in Bingley rural (dmft 2.2).

**Figure 21:**

<table>
<thead>
<tr>
<th>Ward</th>
<th>Mean number of dmft</th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>6.2</td>
</tr>
<tr>
<td>Bradford Moor</td>
<td>5.8</td>
</tr>
<tr>
<td>Bowling and Barkerend</td>
<td>5.7</td>
</tr>
<tr>
<td>Keighley Central</td>
<td>5.7</td>
</tr>
<tr>
<td>Queensbury</td>
<td>5.6</td>
</tr>
<tr>
<td>Keighley East</td>
<td>5.4</td>
</tr>
<tr>
<td>Heaton</td>
<td>5.4</td>
</tr>
<tr>
<td>Little Horton</td>
<td>5.4</td>
</tr>
<tr>
<td>Bingley</td>
<td>5.2</td>
</tr>
<tr>
<td>Windhill and Wrose</td>
<td>5.0</td>
</tr>
<tr>
<td>Bolton and Undercliffe</td>
<td>5.0</td>
</tr>
<tr>
<td>Great Horton</td>
<td>4.8</td>
</tr>
<tr>
<td>Idle and Thackley</td>
<td>4.7</td>
</tr>
<tr>
<td>Toller</td>
<td>4.7</td>
</tr>
<tr>
<td>Clayton and Fairweather Green</td>
<td>4.6</td>
</tr>
<tr>
<td>Keighley West</td>
<td>4.6</td>
</tr>
<tr>
<td>Ward not identified</td>
<td>4.3</td>
</tr>
<tr>
<td>Royds</td>
<td>4.2</td>
</tr>
<tr>
<td>Eccleshill</td>
<td>4.0</td>
</tr>
<tr>
<td>Wibsey</td>
<td>3.5</td>
</tr>
<tr>
<td>Tong</td>
<td>3.3</td>
</tr>
<tr>
<td>Wharfedale</td>
<td>2.9</td>
</tr>
<tr>
<td>Ilkley</td>
<td>2.8</td>
</tr>
<tr>
<td>Shipley</td>
<td>2.8</td>
</tr>
<tr>
<td>Baildon</td>
<td>2.8</td>
</tr>
<tr>
<td>Worth Valley</td>
<td>2.7</td>
</tr>
<tr>
<td>Wyke</td>
<td>2.6</td>
</tr>
<tr>
<td>Thornton and Allerton</td>
<td>2.5</td>
</tr>
<tr>
<td>Craven</td>
<td>2.3</td>
</tr>
<tr>
<td>Bingley Rural</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Results from the Manningham ward have been excluded owing to the small number of children from this ward included in the survey. NB the chart above relates to a sample within a sample i.e. this is not a description of all the children sampled within each ward, but of all children within each ward who also had at least 1 dmft.

6.3. Dental caries experience and material deprivation

Marked inequalities exist according to socio-economic status with children and young people residing in the most deprived areas having significantly higher levels of dental disease when compared to those from the least deprived. There is a positive association between increasing deprivation and mean dmft. In 2007/08 children in the least deprived (quintile 5)
had a mean dmft of 0.74, which is significantly lower than those from the most deprived (quintile 1), who had a mean dmft of 3.30 (Table 4), this gradient is also evident in 2005/06.

Table 4: Mean dmft of 5 year olds by Deprivation Quintile (IMD)

<table>
<thead>
<tr>
<th>Quintile</th>
<th>05/06</th>
<th>07/08</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>mean</td>
</tr>
<tr>
<td>1 most</td>
<td>447</td>
<td>2.17</td>
</tr>
<tr>
<td>2</td>
<td>456</td>
<td>2.39</td>
</tr>
<tr>
<td>3</td>
<td>434</td>
<td>1.97</td>
</tr>
<tr>
<td>4</td>
<td>451</td>
<td>1.42</td>
</tr>
<tr>
<td>5 least</td>
<td>465</td>
<td>0.83</td>
</tr>
</tbody>
</table>

When examining those with experience of dental disease by deprivation quintile we can see that within the most deprived group 63% of children had disease, significantly higher than within the least deprived (29%) (Figure 22).

Figure 22:
When only those children with disease are included (Figure 23) the gradient remains from most to least and those in the most deprived quintile have twice the level of disease (mean 5.22 v 2.58) rather than five times the level when those with no disease are included (3.28 v 0.66).

Figure 23:

6.3.1. Dental caries experience and ethnicity

South Asian 5 year old children have been found to have significantly higher levels of disease than their white peers living in areas of similar socio-economic status (Shahid, et al., 2003). Figure 5 shows that in the 07/08 survey children classified as ‘other Asian’ and ‘Pakistani’ had a significantly higher mean dmft than their ‘white’ counterparts.

Table 5: Mean dmft by ethnicity 2007-2008

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>Pakistani</th>
<th>Other Asian</th>
<th>Other</th>
<th>Not Known</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>737</td>
<td>201</td>
<td>560</td>
<td>60</td>
<td>20</td>
</tr>
<tr>
<td>Confidence intervals (Lower – Upper)</td>
<td>(1.34 – 1.71)</td>
<td>(3.83 – 5.11)</td>
<td>(3.42 – 4.05)</td>
<td>1.01 – 2.51</td>
<td>(0.72 – 3.72)</td>
</tr>
<tr>
<td>Mean dmft</td>
<td>1.53</td>
<td>4.47</td>
<td>3.73</td>
<td>1.76</td>
<td>2.22</td>
</tr>
</tbody>
</table>

Data regarding children’s ethnicity is recorded on school entry, parents/carers are asked to classify their child using the CRE categories. This data has been used within the present survey data analysis. There is some concern about whether children whose ethnicity is “Pakistani” has been recorded merely as “Other Asian”. This concern aside, it is quite clear that South Asian children have higher levels of disease than children whose ethnicity is “White”. When the proportion of children with dental disease was examined according to ethnicity ‘other Asian’ and ‘Pakistani’ respondents had a significantly higher proportion of children with a dmft above zero when compared to the ‘White’ group (Figure 24).
Higher levels of disease according to ethnicity may of course be due to differing proportions of each group within the most deprived quintiles. The data was therefore examined within deprivation quintiles comparing children with similar deprivation status (Figure 25). Due to small numbers within individual quintile groups quintiles 2 and 3 and 4 and 5 had to be combined however the comparison within all quintile groups of all Asian and White 5 year olds shows a higher level of dental caries in the all Asian group.
6.3.2. Five year old children- Care index

When looking at the proportion of dental decay that has been treated by fillings there were no significant differences found according to deprivation or ethnicity (Figure 24).

6.4. Dental caries levels in 12 year old children

6.4.1. Local report of 12 year old children 2008/09

The most recent survey of the oral health of 12 year olds took place in 2008/09 a regional report of the survey methods and findings can be found on the Yorkshire and the Humber Public Health Observatory website [http://www.yhpho.org.uk/resource/item.aspx?RID=127665](http://www.yhpho.org.uk/resource/item.aspx?RID=127665). Key findings are presented here alongside district sub analysis. Figure 26 & 27 show the mean DMFT of 12-year-olds in the Bradford & Airedale district was 1.37 which was significantly higher than the Yorkshire and Humber average of 1.07 and England (0.74).

Figure 26:

![Mean DMFT in 12-year-old children by PCT in Yorkshire and the Humber 2008/09 (with 95% Confidence Intervals)](image-url)
Within Bradford and Airedale 52% of 12 year olds had experience of dental disease (DMFT>0), this was higher than the Yorkshire and the Humber mean as well as the England mean (Figure 28).

However the mean DMFT of only those with at least one tooth affected was 2.62 for Bradford & Airedale which was above the Yorkshire and Humber average of 2.40 but not significantly different from other districts across the region. This implies that amongst 12 year olds those who have disease have similar average levels however in Bradford and Airedale we have very high proportions of children with disease (Figure 29).
### Figure 29:

**Mean DMFT of 12-year-old children experiencing decay**
by PCT in Yorkshire and the Humber 2008/09 (with 95% Confidence Intervals)

<table>
<thead>
<tr>
<th>Location</th>
<th>Mean DMFT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calderdale</td>
<td>2.91</td>
</tr>
<tr>
<td>Wakefield District</td>
<td>2.74</td>
</tr>
<tr>
<td>Bradford and Airedale</td>
<td>2.62</td>
</tr>
<tr>
<td>Kirklees</td>
<td>2.49</td>
</tr>
<tr>
<td>Leeds</td>
<td>2.37</td>
</tr>
<tr>
<td>Sheffield</td>
<td>2.35</td>
</tr>
<tr>
<td>Doncaster</td>
<td>2.32</td>
</tr>
<tr>
<td>Barnsley</td>
<td>2.32</td>
</tr>
<tr>
<td>N Yorks and York</td>
<td>2.25</td>
</tr>
<tr>
<td>NE Lincs</td>
<td>2.25</td>
</tr>
<tr>
<td>Rotherham</td>
<td>2.21</td>
</tr>
<tr>
<td>Hull</td>
<td>2.15</td>
</tr>
<tr>
<td>N Lincs</td>
<td>2.14</td>
</tr>
<tr>
<td>E Riding of Yorks</td>
<td>2.06</td>
</tr>
<tr>
<td>Yorkshire and the Humber</td>
<td>2.40</td>
</tr>
</tbody>
</table>

Source: The Dental Observatory (NHS DEP)

---

### 6.4.2. Twelve year old children- comparisons overtime: trend analysis

Figure 30 shows that the caries experience of 12 year old children between 1989-2001 has reduced in all children (Bradford overall, white and South Asian children) but the biggest decrease is amongst white children.

**Figure 30:**

[Graph showing dental caries experience of 12 year olds between 1989-2001]
6.1. Inequalities in the oral health of children and young people

6.1.1. Dental caries experience of 12 year olds by ward

Across the district it is possible to see graphically that within Bradford and Airedale areas such as Bowling and Barkerend and Manningham had the highest DMFT scores (Figure 31 & 32).

Figure 31:

Confidence intervals have not been applied to this chart for two related reasons. Firstly, as the numbers of individual children sampled in some wards is relatively small (fewer than 20), confidence intervals are not generally considered to be appropriate. Secondly, the different values for dmft are not ‘normally distributed’ around the mean: i.e. there will always be substantially more children who have fewer dmft than the mean, and relatively few children who have more dmft than the mean value within a population. With particularly large samples (i.e. where there are a large number of children), this second point is sometimes considered relatively trivial and confidence intervals are applied.
6.2. Dental caries experience and material deprivation

The majority of children within the sample belonged to the most deprived quintile (N=191, 52%) with only 5% in the least deprived quintiles (4 and 5) (Figure 32).

Figure 33:

The confidence intervals applied to this chart should be interpreted with caution: In particular, only a small number of individual children from the two least deprived quintiles participated in the survey, and confidence intervals are not generally considered to be
appropriate with such small samples. With increasing levels of deprivation the proportion of children with disease increased with 63% of those from the most deprived quintile having experience of dental disease in contrast with 32% in the least deprived quintile.

6.2.1. 12 year old children - dental caries experience and ethnicity

Of the 366 children within the survey the self classified ethnicity was predominantly ‘white’ (N= 187, 51%) followed by ‘Pakistani’ (N=126, 34%) with the rest classifying themselves as other (N=28) or other Asian (N=25) (Figure 34).

Figure 34:

![Mean DMFT, by Ethnicity](image)

When the proportion of 12 year olds with dental disease was examined according to ethnicity there were no significant differences between the groups (White 55%, Pakistani 60%). This agrees with the findings of the 2001 survey with similar disease levels in both groups.
6.2.2. 12 year old children - care index

The care index of 12-year-olds in the Bradford & Airedale district was 45.2% which was below the average for England (47%) but above the regional figure of 42.9% (Figure 35). Overall most PCTs had a very low care index which reflects the low proportion of obvious decay in permanent teeth being restored by fillings.

Figure 35:

Proportion of dental decay experienced treated with fillings (care index) in 12-year-old children by PCT in Yorkshire and the Humber 2008/09 (with 95% Confidence Intervals)

<table>
<thead>
<tr>
<th>PCT</th>
<th>Proportion of decay treated with fillings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bradford and Airedale</td>
<td>45.2%</td>
</tr>
<tr>
<td>Calderdale</td>
<td>41.4%</td>
</tr>
<tr>
<td>Doncaster</td>
<td>39.9%</td>
</tr>
<tr>
<td>E Riding of Yorks</td>
<td>50.2%</td>
</tr>
<tr>
<td>Leeds</td>
<td>38.1%</td>
</tr>
<tr>
<td>Kirkles</td>
<td>56.8%</td>
</tr>
<tr>
<td>N Yorks and York</td>
<td>52.1%</td>
</tr>
<tr>
<td>N Lincs</td>
<td>40.6%</td>
</tr>
<tr>
<td>NE Lincs</td>
<td>29.4%</td>
</tr>
<tr>
<td>Rotherham</td>
<td>45.4%</td>
</tr>
<tr>
<td>Sheffield</td>
<td>45.6%</td>
</tr>
<tr>
<td>Wakefield District</td>
<td>45.3%</td>
</tr>
<tr>
<td>Yorkshire and the Humber</td>
<td>42.9%</td>
</tr>
<tr>
<td>England</td>
<td>47%</td>
</tr>
</tbody>
</table>

Source: The Dental Observatory (NHS DEP)

6.2.3. 12 year old children - oral hygiene and periodontal disease

The children within the study were also assessed for the presence of plaque which revealed that 54% (N=199) had the appearance of clean teeth, 35% (N=129) had little plaque visible and 10% (N=38) had substantial plaque present on examination. The examinational also consisted of an assessment of bleeding on probing which revealed that 24% (N=88) experienced bleeding on probing out of 366 children.

6.2.4. Self reporting of dental conditions and impact on quality of life

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 6 shows the proportion that experienced problems in these domains and overall eating followed by cleaning teeth were reported most frequently at a regional and national level.
Table 6: Percentage of 12 year olds with oral health problems

<table>
<thead>
<tr>
<th>SHA N= number reporting problem</th>
<th>Eating</th>
<th>Speaking</th>
<th>Cleaning teeth</th>
<th>Relaxing including sleeping</th>
<th>Feeling</th>
<th>Smiling/laughing</th>
<th>School work</th>
<th>Mixing with friends/other people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yorkshire and the Humber N=2,786</td>
<td>35</td>
<td>6</td>
<td>27</td>
<td>8</td>
<td>13</td>
<td>13</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>England N=38,723</td>
<td>34</td>
<td>5</td>
<td>28</td>
<td>8</td>
<td>13</td>
<td>12</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

(British Association for the Study of Community Dentistry, 2011)

6.2.5. Orthodontics

Orthodontic treatment need is assessed using the Index of Orthodontic Treatment Need (IOTN). It is now used to identify those children eligible for NHS funded orthodontic treatment. Children must fall into the most severe categories, IOTN 4 and 5. In addition, children in category 3 with the most severe dental aesthetic components (categories 6-10) are also eligible for NHS treatment.

Orthodontic need is relatively stable across populations and ethnic groups (Brook and Shaw, 1989, Burden and Holmes, 1994, Richmond et al, 1994, Alkatib, et al., 2005). With approximately one third of the 12 year old population requiring treatment annually. Orthodontic needs assessment were carried out in Bradford and Airedale in 2009/10 and 2010/11. The most recent estimated the need and demand for orthodontic care (including historic patient flow) as between 2007 to 2126 cases per year.

6.2.6. Cleft lip and palate

Cleft lip and palate describes a group of congenital facial malformations that occur when the upper lip and/or palatal shelves fail to fuse during development of the embryo. The conditions within this definition vary from a simple notch of the upper lip to a full bilateral cleft of the lip, hard and soft palate.

Craniofacial abnormalities are among the most common of all birth defects. 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.

Orofacial clefts occur in around 1 in 500 live Caucasian births. Clefts occur more frequently in oriental people and less frequently in black people. Local data are currently unavailable.

Overall, 9630 children born between 1 January 2000 and 31 December 2010 with a cleft lip and/or palate were registered on the CRANE database by 31 August 2011 (children born between 1 January 2000 and 31 December 2010). Within England, Wales and Northern Ireland there are 15 centres where cleft lip and/or palate cases are registered. Within this time period there were 7% of cases were registered within Leeds (Clinical Effectiveness Unit, 2011).
Key issues

The oral health of 5 year olds in Bradford and Airedale is amongst the poorest in the region and nationally. There are significant inequalities in the oral health of 5 year olds throughout the district with regard to deprivation and ethnicity. Oral health in 5 year olds has not improved significantly over the last ten years. This will present a significant challenge in demonstrating improvement in relation to the indicator in the public health outcome framework regarding tooth decay in 5 year olds. The oral health of 12 year olds in the district is poor in comparison with peers regionally and nationally however there has been improvement over the past ten years. Inequalities exist according to deprivation however there are no differences according to ethnicity.
7.0 The oral health of adults

Information regarding the oral health of adults has been collected nationally through Office National Statistics co-ordinated socio-dental surveys, based on an interview schedule and a dental examination performed by trained and calibrated dental examiners. A substantial amount of oral health information has been collected among adults as part of this ten-yearly series begun in 1968.

The results of the most recent national adult dental health survey in 2009 have just been released (the full reports can be found online at the Information Centre http://www.ic.nhs.uk/pubs/dentalsurveyfullreport09) and for the first time have reported data at a Yorkshire and the Humber regional level (The Health and Social Care Information Centre, 2009).

In addition to the national decennial surveys, in 2008 a postal survey regarding adult’s oral health was carried out across the region by the Yorkshire and the Humber Dental Public Health Group (Yorkshire & Humber Public Health Observatory, 2008). It aimed to provide the first SHA and PCT level information on the self-reported oral health of adults living in the region. It was designed to inform the commissioning of oral health services and oral health related initiatives by PCTs. A full report of the survey is available on the Yorkshire and the Humber Public Health Observatory website, only key findings relating to Bradford and Airedale will be presented here http://www.yhpho.org.uk/resource/item.aspx?RID=10325

7.1. Number of teeth

In the 2009 national survey only 6% of adults in England were found to be edentate (have no teeth), with this figure rising to 7% in Yorkshire and the Humber. Edentulousness was found to increase with age, and vary by gender (4% male, female 7%) and material deprivation (managerial/professional 2%, intermediate 4% and 10% routine/manual). The overall trend with regard to edentulousness is clear with the proportion of edentate adults falling by 22 percentage points from 28% in 1978 to 6% in 2009. It is clear from age trends (Figure 36) that being edentate is more about generation than age and nowadays adults younger than 65 years rarely lose all their natural teeth.

Figure 36: Trends in percentage edentate by age, England (1978-2009)
The fact that even amongst the very old (85 and over) at least half have retained some natural teeth has important implications for the future in terms of good oral function as well as service implications related to the continued maintenance and advanced restorative care amongst a group of adults likely to be increasingly frail and with perhaps complex medical history and difficulties accessing dental services.

Adults have been shown to be able to reliably report whether they have any teeth and if they have how many teeth they have. Within Bradford and Airedale 7% (8% for Y&H) of adults reported they had no natural teeth (with those who were older, female or resident in areas of deprivation more likely to have no teeth), this cohort of adults will require denture care for many years.

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.

In a recent review of NHS dentistry Professor Jimmy Steele (Steele, et al., 2009) described three distinct cohorts within the adult population. Older age groups (those past retirement) are dominated by those with no teeth at all that 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 group between 30 and 65 years who have experienced high levels of disease which has been treated by fillings and other restorations-the ‘heavy metal generation’, who will have complex maintenance needs as they age. In a recent regional study, 73% of adults in Bradford and Airedale had 20 or more teeth, this group of adults are increasingly likely to retain their teeth into old age and thus require increasingly complex and advanced restorative care.

7.2. Dental caries (decay)

7.2.1. Coronal caries

Between 1998 and 2009 the prevalence of coronal caries in England has fallen from 46% to 29% with prevalence in Y&H in 2009 of 28%. There were reductions across all age groups but the largest reduction (21 percentage points) was within the 25-34 age bands.

The proportion with dental caries varied by age with the 25 to 34 years group having the highest prevalence (36%) and the older age group less (65-74, 22%). Men were more likely than women to have coronal caries as were those from socially deprived households.

7.2.2. Root caries

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. However as adults age the accumulated effects of gum disease may cause the widespread exposure of root surfaces, therefore with age the prevalence of root caries is likely to increase. 7% of adults in England and 4% in Yorkshire and the Humber had active decay on one or more root surface, the proportion increasing with age (20% in 75-84 years), being male, and social deprivation.

7.2.3. Wearing a denture

Respondents were asked if they wore a denture either complete or partial dentures were included in Bradford and Airedale 19% had an upper denture whilst 12% had a lower
denture. This compares to 21% and 12% across the region. In accordance with the loss of natural teeth denture wearing increased with age (Figure 37).

Figure 37: Percentages of denture wearers by PCT and SHA

7.3. Periodontal health

Periodontal diseases comprise a range of conditions characterised by inflammation of the gums and loss of the tissues supporting the teeth including bone. The disease can cause a variety of symptoms but are usually painless until the disease reaches an advanced stage. If affects a large proportion of the population and becomes more common with increasing age.

In 2009 42% of dentate adults in Y&H had evidence of pocketing of 4mm or more (45% in Eng), with 10% having pocketing over 6mm (9%, Eng) and 2% in Y&H and England having severe pocketing of 9mm or more.

Since 1998 there has been an overall reduction in the prevalence of pocketing of 4mm or more from 55-45% 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 6-9 percent in 2009 was observed.

7.4. Tooth wear

Tooth wear involves tooth surface loss other than that from tooth decay and includes erosion, attrition and abrasion. Typically these processes may occur together with the overall result loss of tooth tissue with a change in the shape and form of the tooth. Wear is a natural process but sometimes is rapid and destructive and may then require treatment.

The prevalence of tooth wear in the 2009 survey was high with 75% of adults in Yorkshire and the Humber (77% England) showing some tooth wear in their anterior teeth. This is an increase on levels found in the 1998 survey (66%, England). Of those with wear 10% (England, 15%) had moderate wear and 1% (England, 2%) had severe wear. As would be
expected wear increases with age (44% of 75-84 year olds have wear), however a proportion of younger age groups were also affected by moderate and severe wear.

Severe wear remains rare, but there are increasing proportions of younger adults with moderate wear which is likely to be clinically important.

**7.5. Self reported oral health**

Residents in Bradford and Airedale were asked to rate their oral health, 28% (25% Yorkshire and the Humber) felt it was fair, poor or very poor. Self reported oral health varied little with age but there were inequalities according to deprivation with those living in the most deprived quintiles (36% versus 18%) twice as likely to rate their oral health poorly (Figure 38).

**Figure 38:**

<table>
<thead>
<tr>
<th>District</th>
<th>Percentage Reporting Oral Health as Poor</th>
<th>Yorkshire and the Humber</th>
</tr>
</thead>
<tbody>
<tr>
<td>N Yorks and York</td>
<td>21.7%</td>
<td>22.4%</td>
</tr>
<tr>
<td>Calderdale</td>
<td>22.3%</td>
<td>23.8%</td>
</tr>
<tr>
<td>Sheffield</td>
<td>23.5%</td>
<td>24.7%</td>
</tr>
<tr>
<td>Barnsley</td>
<td>24.5%</td>
<td>25.8%</td>
</tr>
<tr>
<td>Leeds</td>
<td>24.4%</td>
<td>25.9%</td>
</tr>
<tr>
<td>Rotherham</td>
<td>24.4%</td>
<td>26.0%</td>
</tr>
<tr>
<td>Kirklees</td>
<td>24.4%</td>
<td>26.2%</td>
</tr>
<tr>
<td>Doncaster</td>
<td>24.3%</td>
<td>26.3%</td>
</tr>
<tr>
<td>E Riding of Yorks</td>
<td>24.3%</td>
<td>26.3%</td>
</tr>
<tr>
<td>Wakefield</td>
<td>24.3%</td>
<td>26.3%</td>
</tr>
<tr>
<td>N Lincoln</td>
<td>24.3%</td>
<td>26.3%</td>
</tr>
<tr>
<td>Bristol &amp; Avon</td>
<td>24.3%</td>
<td>26.3%</td>
</tr>
<tr>
<td>Hull</td>
<td>24.3%</td>
<td>26.3%</td>
</tr>
<tr>
<td>Y &amp; H</td>
<td>24.3%</td>
<td>26.3%</td>
</tr>
</tbody>
</table>

District residents were asked about the impact of oral health on their everyday life. They reported the highest prevalence of impact in the region with regard to pain in the mouth, self consciousness due to their mouth or teeth and discomfort when eating.

**7.5.1. Pain in the mouth**

35% (Y&H 29%) of our local residents had painful aching in their mouth in the last 12 months (occasional, fairly often or very often) with those living in the most deprived quintile more likely to report this than those in the least deprived.

**7.5.2. Self consciousness**

34% of respondents reported feeling self conscious occasionally or more often in the last 12 months because of their teeth, mouth or dentures, with 29% in Y&H reporting this.

**7.5.3. Discomfort when eating**

With regard to discomfort when eating because of problems with teeth, mouth or dentures 37% of residents (33% Y&H) reported occasional or more frequent discomfort.
7.5.4. 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 Bradford and Airedale 27% felt they would (25% Y&H) with more men than women and more in the most deprived quintile thinking so (Figure 39).

Figure 39:

7.6. Oral cancer

The International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD10) defines oral cancers within the ICD 10 classification. Mouth cancer is often defined as C00-C06, C09-C10 and C12-C14 (which include the lip, tongue, mouth, oropharynx, piriform sinus, hypopharynx and other and ill-defined sites of the lip, oral cavity and pharynx). As there is no standard definition of oral cancer and different studies report data using different combinations of ICD10 codes caution needs to be applied when making comparisons between analyses.

In 2008 there were 11,682 head and neck cancers cases in the UK which were 3.73% of all cancers (NYCRIS, Accessed: 25th May 2011). Cancer incidence increases with age, in the UK the majority of oral cancer cases (87%) occur in people aged 50 or over, however oral cancer cases are increasingly being seen in younger age groups and this has been attributed to excessive alcohol consumption and smoking (Cancer Research UK, 2012). In the UK oral cancer is more common in men than women although oral cancers within females have increased and this has been attributed to tobacco and alcohol use and HPV transmission. The concern is that oral cancers which have traditionally been seen in older people are now developing in young people as well as rises seen within middle-aged adults (Cancer Research UK, 2010). Mortality rates for oral cancer are similar to those for cervical cancer (Shetty and Johnson, 1999).

Within this analysis ICD-10 codes C00-C14, C30-C32 and C73 will be used and defined as head and neck cancers. In Bradford and Airedale (2008) the age standardised incidence rate per 100,000 population for head and neck cancers were 18.67, within the NYCRIS region
(covers North East SHA, Yorkshire and The Humber SHA and the North West SHA) 17.63, and for England 16.07. The incidence rates within NYCRIS are consistently higher than for England as a whole, with rates rising in England and NYCRIS over the period 2001 to 2008. Within Bradford and Airedale head and neck incidence rates from 2001-2008 did not change significantly (Figure 40).

**Figure 40:**

![Head and neck cancer incidence
ICD-10 (C00-C14, C30-C32, C73)](image)

The oral cancer age standardised mortality rate per 100,000 population in Bradford and Airedale was 3.13, within the NYCRIS region 4.73 and England 4.09 in 2009. The mortality rates for NYCRIS are consistently higher than for England as a whole but not statistically significantly so. Mortality rates for NYCRIS and England show no significant change over the period 2001 to 2009. The variability in the district data (and wide confidence intervals) demonstrates the small numbers involved and the data should be interpreted with caution (Figure 41).

**Figure 41:**

![Head and neck cancer mortality rates
ICD-10 (C00-C14, C30-C32, C73)](image)
**Key Issues**

88% of adults in Yorkshire and the Humber had 21 or more natural teeth, with only 7% having no natural teeth. Adults are increasingly likely to keep some of their teeth for life and require increasingly more complex and advanced restorative care. At the same time this group of increasingly elderly patients is more likely to have more difficulty receiving dental care either due to disability, or complex medical conditions.

With regard to periodontal disease although pocketing of 4mm or more has reduced since the last decennial survey, for the higher thresholds of over 6 and 9mm pocketing no decline has been observed with a 6-9 % increase in 6mm pocketing.

75% of adults in Y&H have some tooth wear in anterior teeth. Severe wear remains rare but with increasing proportions of younger adults with moderate wear this may in the future become clinically important.

28% of adults in Y&H rated their oral health as fair, poor or very poor with little variation according to age but those from the most deprived quintiles twice as likely think so.

Over a quarter of adults (27%) felt that if they went to the dentist tomorrow they would need dental treatment.

The incidence of mouth cancer is rising particularly amongst younger groups and females, evidence based partnership action is required to address this.
8.0 Vulnerable groups - treatment needs and provision of dental care

8.1. Children attending special schools

In Bradford and Airedale there are around 7,700 children in schools who are ‘statemented’ (given a statement of specific special educational needs by the local education authority) or have ‘school action plus’ status (where the school requests outside advice from the local education authority or from health or social work professionals), with 800 children in special schools and 80 in a designated specialist provision setting (Joint Strategic Needs Assessment, 2011).

With regard to dental health research highlights that children with special needs have similar caries experience but significantly different treatment patterns when compared with their healthy peers (Murray and McCleod, 1973; Maclaurin, et al., 1985; Nunn and Murray, 1987; Evans, et al., 1991). A local study in Bradford confirmed that children attending special schools (predominantly with learning disabilities) had similar levels of dental disease but were more likely to have teeth extracted rather than restored compared with their peers attending mainstream schools (Figure 42) (Godson, 1997).

Figure 42: Caries experience of children aged 5 years attending special and mainstream schools

The care index (%ft/dmft) of 5 year olds attending special schools was 6% compared with 12% in children attending mainstream schools. This pattern continues into the permanent dentition with special needs children having significantly fewer teeth filled than their peers at mainstream schools at the ages of 12 and 14 years.

In relation to periodontal health, children attending special schools had a higher prevalence of plaque and gingivitis than reported in the national child dental health survey of 1993. Children aged between 10 -14 years with severe learning difficulties had significantly more calculus than those with moderate learning difficulties. Orthodontic needs assessment found that 19% had a need for treatment according to the aesthetic component and 47% according to the dental health component. In comparison with children attending mainstream schools treatment need according to the aesthetic component was higher amongst those attending
special schools and the dental health component significantly higher amongst 14 year olds compared with mainstream schools.

8.2. Adults with learning disabilities

The following needs assessment data is available regarding adults with learning disabilities in Bradford District. Estimated numbers of adults with learning disabilities are shown in Table 7 (Joint Strategic Needs Assessment, 2011).

Table 7: Estimated numbers of adults with learning difficulties within NHS Bradford and Airedale

<table>
<thead>
<tr>
<th>Number</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presumed number of people in need of specialist services (health &amp; social)</td>
<td>2,200</td>
</tr>
<tr>
<td>People with a learning disability on the LD Primary Care register (Sept 2010)</td>
<td>1,706</td>
</tr>
<tr>
<td>Number of people with a learning disability that mainly use primary health care, but cope on their own</td>
<td>6,700</td>
</tr>
</tbody>
</table>

At present there is no national (as this group is excluded from the national adult dental health survey) or local information on the oral health needs of adults with learning disabilities (LD). However a recent survey was carried out of adults with LD regionally and the results are currently awaited. Local surveys have however been conducted elsewhere and highlight the poorer oral health and different treatment patterns in adults with learning disabilities compared with the general population.

A random sample of adults (or their carers) with LD aged between 18- 65 years listed on the Sheffield disability register were interviewed and examined by a calibrated examiner. The oral health of residents living in community homes, residential and attending day centres was compared. A significantly higher proportion of non responders were living in the community. Findings indicated that those living in community homes had more than twice as much untreated decay (DT 1.6 compared with 0.7) and poorer oral hygiene than those in residential care. Adults in residential care had significantly more missing teeth (MT=10.1) compared with those living in the community (Tiller, et al., 2001). This would suggest that adults living in residential care are more likely to have accessed dental care but also more likely to have had treatment in the form of extractions.

8.3. Adults in nursing homes

Reference to the CQC website indicates that there are over 200 care/ nursing homes in the Bradford and Airedale District. There are no recent data on the oral health needs of adults in nursing homes. However a screening survey of residents in nursing and residential homes
was conducted in 1993 (Godson, 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 dental caries.

More recently a postal survey of all nursing and residential home managers in Wales was conducted supplemented by a 10% sample involving face to face interviews. The survey indicated that the majority of residents were asked on admission if they had natural teeth (79% as part of the written plan and 12% verbally) or dentures (82% and 11.6% verbally). However a much lower response was noted in relation to the date of the last dental check, if residents have their own dentist, if they require a dental appointment or if they have dental problems (Welsh Oral Health Information Unit, 2008). For existing residents the survey highlighted that 48% stated a system was in place to ensure planned regular checks and in the majority of these cases (41%) it was part of the written care plan. However a third would only contact a dentist on request or when the resident had symptoms. Almost 34% of home managers stated that their staff had not received training in oral health care yet identified that their residents received help with cleaning teeth/dentures.

In Glasgow telephone surveys of oral health care provision in nursing and residential homes indicated that residents were significantly more likely to receive an oral health assessment on admission to a nursing homes rather than residential homes (78% vs. 24% p=0.001) (Sweeney, et al., 2007). 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 candidosis amongst those examined. Staff confirmed at interview that although mouth care was within their remit it was often not carried out.

8.4. Homeless people

Homeless people are a diverse group comprising of the roofless, single people and families living in temporary accommodation. Most research has focussed on the needs of the 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 been convenience samples.

Waplington (2000) examined the dental (expressed and normative) needs and attitudes of homeless people living in hostels in Birmingham (Waplington, et al., 2000). The sample included both men and women and of a wide age range (mean 55 years). Of those edentulous, 68% did not wear dentures. The mean DMFT of those that were dentate was 15.9. There were high levels of dental need (mean DT 3.6 and over half (54%) had one or more teeth with pulpal involvement. The periodontal condition was poor with 50% having mobile teeth. This supports finding from earlier studies reporting a high level of normative need but low levels of perceived need amongst homeless groups (Blackmore, et al., 1995).

More recent studies have also considered the impact of oral diseases using an oral health impact tool (Daly, et al., 2010). This study indicated a high level of normative need with 76% of predominantly homeless men requiring restorative work, 80% a need for oral hygiene or periodontal care and 38% having a need for dentures. In addition, 91% of the sample experienced at least one oral health impact the average being 5.9. The most commonly experienced oral health impact was pain (65%) and discomfort on eating (62%). Although disease levels were similar to the general population homeless people experienced poorer oral health and more oral health impacts compared with adults of the same age in the general population.

Similar findings were found in a sample of homeless people using a Healthy Living Centre in Wales. The most commonly reported impacts being toothache, discomfort, ability to relax.
and feeling ashamed regarding the appearance of their teeth. Of the different categories rough sleepers experienced significantly higher levels of impact (Richards and Keauffling, 2009).

The incidence of many cancers is known to be higher amongst lower socioeconomic groups. Within the lowest deprivation group there is further excess risk amongst homeless men for cancers of the oral cavity (Lamant, et al., 1997).

With regard to access to dental care studies have found that homeless people often do not access dental services routinely due to fear, cost, and difficulty in maintaining appointments. In Bradford and Airedale a dental service for homeless people is currently provided by the salaried dental services.

Key issues

Children with special needs are more likely to have teeth extracted than filled and have poorer periodontal health.  
Adults with learning difficulties have been found to have poor oral health, with those living in the community having poorer oral health than those who live in residential care.  
Surveys in care homes in Wales and Glasgow have found that not all care homes include oral health care as part of their care plans. Care home and nursing home staff have reported oral health training needs.  
Care home residents have been found to have high levels of oral health needs. Local data with regard to the needs of care home residents are not currently available. This data is essential in order to plan for their needs.  
Urgent dental care for all the above groups of people needs to be considered within the forthcoming procurement of urgent care.
9.0 Oral health care services

Primary care trusts currently have a statutory duty to secure primary care dental services to the extent that it considers necessary to meet all reasonable requirements of the population. The current reforms will transfer this responsibility including the commissioning of all dental care services to the NHS Commissioning Board (NHSCB).

The dental team plays a vital role in achieving oral health by giving preventative advice and treatment, diagnosing and treating the needs of their patients. As the oral health of the population has improved more people are keeping their teeth into old age. At the same time major technical advances are being made enabling provision of more complex care. 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. Recent investments in 4 new dental practices in Bradford and Airedale have been led by the normative and perceived needs of the population as described within two dental services needs assessments.

Dental care and treatment within Bradford and Airedale is provided in the General Dental Services (GDS) by dentists who are independent contractors and the salaried dental services (SDS).

The salaried services have important roles in relation to, delivering dental public health programmes, providing dental care for patients who, because of disability, have a need for specialised dental care, providing specialised dental services (e.g. general anaesthesia in a hospital setting, sedation services, teaching and research) and providing general dental services.

The Hospital Dental Service (HDS) specialist services are mainly commissioned from the Bradford Teaching Hospital NHS Trust, Airedale General Hospital, Yorkshire Clinic, Calderdale General Hospital and the Leeds Dental Institute. Patients are referred by dental or medical practitioners for treatment or advice. They provide specialist care in maxillofacial surgery, oral surgery, orthodontics and restorative dentistry.

In addition primary care based services are commissioned from specialists and dentists with additional competencies (DwSIs). NHS Bradford & Airedale identified primary care based services as a key area for improving access and believes that the addition of services delivered by a dental performer with special interests (DwSI) in a primary care setting will streamline care pathways, maximise use of the skills and expertise of primary care staff, provide seamless care and develop partnerships between primary and secondary services.

Dental care professionals (DCPs) also constitute a crucial element of the dental team and since July 2008 have been registered with the General Dental Council. They included registered dental nurses, hygienists, therapists, technicians including clinical dental technicians and orthodontic therapists. With an increasing emphasis on appropriate skill mix within the dental team and a focus on oral health improvement we may expect to see changes in the makeup of the dental team and an increase in the use of DCPs.

The following sections will describe these various service providers in more detail.

9.1. General dental services

General Dental Practitioners (GDPs) are the most significant primary providers of dental care for the population of Bradford with 223 dentists (this includes 3 orthodontists and 8 foundation dentists) working from 68 practices (including 3 orthodontic practices).
There are 68 primary dental care contracts. Forty four contracts are General Dental Service (GDS) and 24 are Personal Dental Service (PDS). The majority of practices will combine NHS contracts with varying amounts of private care. There are 6 practices that provide NHS care only for children and 1 providing care for children and adults exempt NHS charges.

Of the 24 PDS contracts within NHS Bradford and Airedale, 2 of the PDS contracts are for orthodontics only and 1 of the GDS contracts is for orthodontics only.

There are 3 accredited dentists with special interests (1 in endodontics, 1 in periodontics and 1 in both) based across 2 practices.

One specialist practitioner provides a primary care minor oral surgery service.

There are 4 'blended contracts' developed by the PCT to enable remuneration based not only activity but quality and oral health improvement.

One practice is currently involved in the national dental contract pilot programme.

The current dental contract which was introduced in 2006 has a payment system based on a currency of weighted courses of treatment (units of dental activity, or UDAs). The concept of patient registration was discontinued however in the vast majority of cases dentists continue to maintain a list of regular patients. The map below illustrates the distribution of NHS dental activity (expressed as UDAs per 1000 population at ward level. When considering the data it is important to bear in mind that many people may attend a dentist near their workplace rather than home, or if living in a rural community may travel to access care. Within the district there has been an overall increase in service provision since the previous oral health needs assessment (2009) (Figure 43).

Figure 43:

9.2. UDA provision by population density

Dental service provision currently is concentrated in areas with high population density. There are some services in less populated areas and the amount of activity commissioned is proportionate to the population density, with large contracts being located in areas of high population density (Figure 43).
The map (Figure 45) shows that dental service provision is concentrated around the deprived wards of Bradford (inner city areas) and Keighley with high levels of dental disease. Since 2006 there has been an increase in levels of dental service provision with investment in existing and four new dental practices. Oral health needs assessments conducted in 2007 and 2009 informed the location of these investments including the three new dental practices located in South East Bradford, Keighley and Ilkley.

Within Keighley current service provision continues to be concentrated in Keighley Central. Patients tend to travel from the east and west into central Keighley for their dental needs. The last oral health needs assessment (2009) found an increase in service provision and increase in access in this area. It also identified that the Manningham area was suffering from high need and low service provision and this has been addressed by the PCT investing in a new dental practice in the area which opened in summer 2011.
The present dental payment system divides care into 3 NHS charge bands which also generate Units of Dental Activity (UDA) for the dentist.

**Band 1:** includes an examination, diagnosis and advice. If necessary, it also includes, x-rays, a scale and polish and planning for further treatment (1 UDA).

**Band 2:** includes all treatment covered by Band 1, plus additional treatment, such as fillings, root canal treatment and removing teeth (3 UDA).

**Band 3:** includes all treatment covered by Bands 1 and 2, plus more complex procedures, such as crowns, dentures and bridges (12 UDA).

The UDA percentages within these bands are similar nationally and within Bradford & Airedale for the various bands of activity (Figure 46).

Figure 46:
The majority of care provided in the district involves Band 1 and 2 care, with the exception of diagnosis and endodontic treatment the majority of this care would be within the remit of a dental therapist. There is potential to further consider the use of skill mix within the dental team’s provision of routine dental care particularly in the future with the development of the new dental contract.

Figure 47 demonstrates the percentages of dentists by contract type for Bradford, Yorkshire & the Humber and for England. Within Bradford and Airedale between 2008 and 2009 the proportion of GDS contracts increased as providers requested transfers from PDS to GDS and new contracts were established under GDS arrangements this reflects the picture regionally and nationally. However within Bradford and Airedale the proportion of PDS contracts is greater than for Y&H and England. This reflects the number of providers who converted to PDS during 2006.

Dentists working with trust led dental services (TDS) remained stable.

**Figure 47:**

<table>
<thead>
<tr>
<th>Year</th>
<th>Bradford &amp; Airedale PCT</th>
<th>Yorkshire and The Humber SHA</th>
<th>England</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008/09</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2009/10</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

In 2009/10- there were a total of 22,080 dentists’ performer contracts for the whole of England. Yorkshire and the Humber had 2273 and Bradford and Airedale had 262 performers which was an increase from 247 in 2008/09 (NHS IC)

**Key Issues**

Continued management of the transition of dental commissioning to the NHSCB ensuring recent progress with regard to access to routine, enhanced and specialist dental care continues.

There should be a continued focus on oral health improvement within dental contacts to ensure patients are empowered to provide evidence based self care.

In the future it is likely that there will be an increased utilisation of skill mix within dental teams. It will be important to ensure appropriate training is available and local dental professional networks will need to ensure Local Education and Training Boards (LETBs) are facilitating this.

Continued training and support for dental team delivery of brief interventions regarding smoking and alcohol through the health promoting practices award.
With the future introduction of a new dental contract it will be important to manage any associated risk to provision and ensure engagement of the profession through transition to the new contractual arrangement.

9.3. The salaried dental services

The salaried dental services provide a dental service which is complementary and additional to that provided by other primary care dental providers and the hospital dental service.

Bradford District Care Trust Salaried Dental Service employs 21.6 whole time equivalent (wte) dentists which includes specialists in dental public (1.0wte), paediatric dentistry (1.9wte) and special care dentistry (1.4wte), senior dentists and dentists (May 2012). Skill mix is well developed in the service with a number of dental therapists/hygienists and additional skill dental nurses (radiography, fluoride varnish, oral health promotion, special care dentistry, sedation). The service has a dental public health role in addition to clinical services.

9.3.1. Special care dentistry

Special Care Dentistry is concerned with providing and delivering oral health care to people with an impairment or disability. In its broadest definition it includes individuals and groups in society who have a physical, sensory, intellectual, mental, medical, emotional or social impairment or disability. As services are provided to a diverse patient group with additional complex needs effective partnership working with a wide range of agencies is essential.

9.3.2. Paediatric dentistry

The full range of preventive and treatment services is provided for anxious children and children with special needs. In addition specialist management of children with oral and dental developmental problems is delivered and referral accepted form local dentists. Paediatric dentists are part of the multidisciplinary teams involved in the management of children with complex problems such as cleft lip and palate and hypodontia.

9.3.3. General anaesthetic services

Consultant led dental general anaesthesia services are provided at 2 hospital sites- Airedale General Hospital and Bradford Royal Infirmary. All patients are assessed for suitability and where possible alternatives are offered. Only those patients who have been shown to be unable to receive care in any other way are considered for dental general anaesthetic. Comprehensive dental care (fillings and extractions under general anaesthesia) is available for adults and children with special needs. Criteria for eligibility and the evidence based treatment to be provided have been developed and agreed.

Data relating to the waiting times and activity for patients on the general anaesthetic pathway is reported to the Department of Health via the unify system and locally to the commissioner via the schedule 5 reporting process. Since the 18 week target of 90% of admitted patients and 95% of non admitted patients was achieved in 2009/10 there has been a year on year improvement in performance. Currently over 98% of patients are seen within the 18 week target. However the median wait target is proving more difficult. The service is liaising with BTHT to try and access additional theatre lists however this has been difficult due to a shortage of beds to support the lists particularly in the winter period.
The number of children having a dental general anaesthesia for exodontia (extraction only) continues to decrease with 707 having teeth extracted in 2009/10 and 638 in 2010/11. Although there has been an apparent year on year reduction in the numbers of children treated this is, at least in part, due to the additional capacity utilised at LDI during 2008/09 and 2009/10 in order to get the waiting list size down as well as an increased emphasis on providing care with the use of local anaesthesia when possible. Current indications are that the numbers treated in 2011/12 will show a slight increase on 2010/11.

Most children will have at least 4 teeth extracted (Figure 48) with 32% having 10 or more teeth removed (2009-12).

**Figure 48: Number of teeth extracted for children on the routine exodontia pathway**

![Bar chart showing number of teeth extracted for children on the routine exodontia pathway](attachment:Figure_48.png)

The average age of children attending for extractions under general anaesthesia is 6 (2009-12). In 2011/12 most were aged 5 years with 53% being 5 years or less (Figure 49).

**Figure 49:**

![Bar chart showing exodontia patients by age](attachment:Figure_49.png)
9.3.4. Domiciliary services

For some people access to oral health care services is only achievable through the provision of domiciliary care as people with long term and/or progressive medical condition; mental illness, dementia or increasing frailty are not always able to travel to a dental surgery. The dental care is carried out in an environment where the patient is resident and normally includes residential units, nursing homes, day centres and the patient's own home. Domiciliary care is limited to simple treatments and due to limited resources the service is reactive.

9.3.5. Sedation dentistry

The effective management of dental pain and anxiety can be provided by the use of local anaesthesia alone or in conjunction with conscious sedation. The service is able to offer care with inhalation and intravenous sedation. Inhalation sedation offers an alternative to dental general anaesthesia especially for child patients and is available for SDS patients at six clinic sites. Intravenous sedation is also provided for adult patients. Patients are referred by general dental practitioners for care with intravenous sedation according to strict referral criteria. This service has limited capacity however further developments are being considered to include psychological therapies as part of the care pathway.

9.3.6. Oral health promotion

Through the public health white paper ‘Choosing Better Oral Health’ there is a developing agenda for tackling the causes of ill health and reducing inequalities. Priorities and targets are clearly set out. This provides the opportunity to further integrate oral health into the broader public health agenda using a common risk factor approach. Oral health promotion programmes are delivered by the salaried dental service in partnership with a range of agencies and sectors to promote oral health and disease prevention.

Programmes are provided in 3 settings (health, education and community) to a wide variety of groups. A key aim of the programmes is to enable and empower people to manage their own health and wellbeing. The ‘Building Brighter Smiles Programme’ encompasses a number of programmes from birth to school age with emphasis on increasing exposure to fluoride (further details of these programmes can be found in chapter 11).

9.3.7. Education and training

The SDS works in partnership with Leeds Dental Institute to provide outreach teaching of dental students and students of dental therapy and hygiene. This provides an opportunity for students to see the impact of socioeconomic and cultural influences on oral health. The service also provides training for foundation dentists and specialist training in paediatric dentistry. Special care dentistry is a key function of the service, with the creation of the latest specialist list in special care dentistry the service will need to consider developing a training post in specialty. All of these training posts are essential to ensure that the children and adults with special needs can continue to have their oral health needs managed in primary care. The service also delivers oral health training programmes for a range of health professionals.
9.3.8. Unscheduled dental care

Since April 2006 PCTs have taken on the responsibility for the provision of out of hours dental care. Following a tendering exercise, in 2008 the contract for unscheduled dental care was awarded to the NHS Direct for call handling and to the SDS for the clinical component. The service has undergone significant change with the emphasis being on the provision of definitive care. As a result antibiotic prescribing has reduced from being over 90% to less than 10%. At the end of the initial 3 year contract demand for the evening service was very low. The contract has been extended for a further 2 years however in response to patient needs there is now no evening out of hours service. Patients with urgent/ emergency dental care contact NHS Direct are triaged and booked in at either Wrose clinic or Horton Park. In 2013 this service will be re tendered with the call triage being part of the Yorkshire and the Humber 111 procurement and the dental service within a West Yorkshire procurement process with other unscheduled care services.

Between 2008 and 2011 the unscheduled dental care service (UDCS) provided 36716 appointments of which 401 were cancelled and not rebooked, patients have been seen predominantly in daytime sessions during the week (78%) followed by weekends (20%) (Table 8).

### Table 8: UDCS sessions and patient flow 2008-2011

<table>
<thead>
<tr>
<th>Breakdown of patients seen</th>
<th>2008/09</th>
<th></th>
<th>2009/10</th>
<th></th>
<th>2010/11</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Daytime Monday to Friday (9am-13.00pm &amp; 14.00pm-18.00pm)</td>
<td>9109</td>
<td>78</td>
<td>8546</td>
<td>78</td>
<td>8661</td>
<td>78</td>
</tr>
<tr>
<td>Daytime Weekends (9am-13.00pm &amp; 13.30pm-17.30pm)</td>
<td>2389</td>
<td>20</td>
<td>2267</td>
<td>20</td>
<td>2204</td>
<td>20</td>
</tr>
<tr>
<td>Bank Holidays (9am-13.00pm &amp; 13.30pm-17.30pm)</td>
<td>75</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>166</td>
<td>1</td>
</tr>
<tr>
<td>Evenings (no longer commissioned)</td>
<td>66</td>
<td>1</td>
<td>188</td>
<td>2</td>
<td>44</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>11639</strong></td>
<td><strong>100</strong></td>
<td><strong>11002</strong></td>
<td><strong>100</strong></td>
<td><strong>11075</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Table 9 describes the types of dental complaints that patients presented with, the majority presented with pain followed by swelling.

### Table 9: Dental complaints of patients attending the UDCS

<table>
<thead>
<tr>
<th>Presenting complaints</th>
<th>2008/09</th>
<th></th>
<th>2009/10</th>
<th></th>
<th>2010/11</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>6863</td>
<td>62</td>
<td>6649</td>
<td>62</td>
<td>6315</td>
<td>57</td>
</tr>
<tr>
<td>Swelling</td>
<td>2196</td>
<td>20</td>
<td>2288</td>
<td>21</td>
<td>2381</td>
<td>22</td>
</tr>
<tr>
<td>Acute mucosal/gum condition</td>
<td>740</td>
<td>7</td>
<td>767</td>
<td>7</td>
<td>880</td>
<td>8</td>
</tr>
<tr>
<td>Decay (no or occasional pain)</td>
<td>379</td>
<td>3</td>
<td>379</td>
<td>4</td>
<td>472</td>
<td>4</td>
</tr>
<tr>
<td>Post operative complication</td>
<td>369</td>
<td>3</td>
<td>352</td>
<td>3</td>
<td>363</td>
<td>3</td>
</tr>
<tr>
<td>Trauma</td>
<td>216</td>
<td>2</td>
<td>212</td>
<td>2</td>
<td>232</td>
<td>2</td>
</tr>
<tr>
<td>Bleeding</td>
<td>50</td>
<td>1</td>
<td>53</td>
<td>1</td>
<td>79</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>247</td>
<td>2</td>
<td>267</td>
<td>2</td>
<td>324</td>
<td>2</td>
</tr>
</tbody>
</table>

In 2010/2011 as part of the National Dental Epidemiology Programme the Bradford and Airedale Salaried Dental Service conducted a survey (http://www.nwph.net/dentalhealth/) where they interviewed and clinically examined 107 patients attending the UDCS. There
were 49% males and 54% females interviewed, the majority of respondents were ‘White’ (73%) followed by ‘Asian or Asian British’ (20%), ‘Mixed’ (2%), ‘Black or Black British’ (3%) and ‘Other ethnic group’ (1%). This reflects the ethnic population structure in the district. The age profile was as follows 18–24 (20%), 25–34 (35%), 35–44 (23%), 45–54 (14%), 55–64 (8%) and 65 or over (2%). Of these patients, 25% cited their usual reason for a dental visit was a regular check up and 71% only when having trouble with their teeth/dentures, there was only 1% had never been to the dentist.

Patients were also asked where they obtained their ‘usual dental care’? 15% of the respondents said at their ‘own dentist’ and 85% reported ‘nowhere - don’t have own dentist’. Their reasons for attending the out of hours service on that day were documented as ‘helpline advised coming to Out of Hours for care’ (80%), ‘tried to find a dentist but none would accept for care’ (10%), ‘couldn’t get convenient appointment with own dentist’ (7%) and ‘couldn’t see own dentist’ (2%). This service mainly provides care for those who have no dentist and only attend when they have problems. However, there are also a group of patients who regularly attend their own dentist but have problems out of hours. Those attending the UDCS were asked about how they found out about the service, ‘NHS direct / PCT Helpline’ 77%, ‘other’ 9%, ‘friend or colleague’ 7%, ‘other health care worker’ 4%, ‘dentist told me’ 3% and ‘general public information’ 2%. This data suggests that this service is being used for usual care which may have impacts on available sessions for urgent cases.

Key issues

There is a need to maintain capacity within the dental workforce to manage the complex needs of patients with learning disabilities. The SDS will need to consider the development of this specialist workforce in partnership with commissioners and the dental deanery.

In 2013 unscheduled dental care will be included within the West Yorkshire urgent care procurement. It will be important to maintain access to high quality unscheduled dental care services catering to local needs whilst managing transition of their commissioning to the NHSCB as part of a single operating model.

With an increasing elderly population and in particular those living in nursing residential and community homes there is a need to focus on assessing the needs of this group.

The waiting times for dental general anaesthesia have improved considerably since the application of the 18 week target to dental lists. The service is currently meeting 18 weeks however this is always a challenging target especially for the child comprehensive care list and access to beds.

The oral health programmes aimed at improving the oral health of young children will be key to the delivery of the dental target within the public health outcomes framework.

The sedation service for anxious/phobic patients has become well established. The further development of care pathways including psychological therapies (including CBT) is currently being developed.

Models for delivery of salaried dental services should continue to be explored considering wider footprints for delivery.

9.4. Specialist dental services

Patients from either the general dental service or salaried dental services are referred on to the primary care based specialist or accredited DwSI services or hospital dental services when the treatment is too complex to be provided within the primary care setting.

With regard to hospital based specialist services the Bradford Teaching Hospitals Foundation Trust (BTHFT) is the main provider. The specialist services commissioned are oral and maxillofacial surgery, restorative dentistry and orthodontics.
**Oral surgery** deals with the treatment and on-going management of irregularities and pathology of the jaw and mouth that require surgical intervention. This includes the specialty previously called Surgical Dentistry. A review of Oral Surgery (OS) was recommended as an outcome of the Review of Training in Oral and Maxillofacial Surgery (OMFS), conducted by the Postgraduate Medical Education and Training Board (PMETB). The Dental Programme board of Medical Education England published the review in 2011 – ‘Review of oral surgery services and training’.


The review describes the increasing OS referrals from primary to secondary care which are currently managed in oral and maxillofacial units at significant cost and identifies the need to provide high quality enhanced patient centred OS services that deliver better value for money. The review has 16 recommendations the first of which stated that ‘commissioners should review how OS services are provided in their area and improve their effectiveness, accessibility and cost efficiency, in the context of the remaining recommendations’. The review also considers oral surgery training and includes proposals to expand the OS consultant led services and training in the specialty.

**Maxillo-facial surgery** is a surgical specialty dealing with pathology of the oro-facial skeleton and surrounding soft tissues. The specialty deals with head and neck cancers, facial skin cancer, facial trauma, reconstructive surgery, orthognathic surgery, diseases of the temporomandibular joint and other more general pathology.

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 specialities of prosthodontics, endodontics and periodontics. Currently DwSI competencies have been published for both endodontics and periodontics.

**Orthodontics** is an elective procedure to correct anomalies in growth of the teeth and jaws. It is normally detected in the developing child as the permanent teeth erupt into the mouth, but operative care (apart from early interceptive treatment) is normally commenced after the eruption of all the permanent teeth except the third molars (wisdom teeth), at approximately 12 to 14 years old.

Secondary care dental services are supplied by the following providers:

- Bradford Teaching Hospitals Foundation Trust (BTHFT)
- Leeds Teaching Hospitals NHS Trust (LTHT)
- Airedale Foundation Trust (AHFT)
- Calderdale Hospital Foundation Trust (CHFT)
- Yorkshire Clinic (YC)
- Mid Yorkshire Hospitals Trust (MYHT)

### 9.5. Outpatient activity

The following Figure 50 shows the dental outpatient activity levels (including both first and follow-up attendances) for all the major secondary care providers for the period April 2010 to June 2011. It illustrates that BTHFT is the main provider of outpatient services followed by the Leeds Teaching Hospital Trust (LTHT) and Airedale Foundation Trust (AFT).
The total number of patients seen within an outpatient setting appears to show an overall increase between April 2010 to June 2011, there have been an increased number of first attendances and an increase in the level of follow up attendances. The greatest increase in first attendance appointments have been seen within subspecialties oral surgery, orthodontics and restorative dentistry respectively. Whereas an increase in follow up attendance appointments have been seen within subspecialties orthodontics, oral surgery and restorative dentistry respectively. The ratio of patients who attended a first outpatient appointment and subsequently attended a follow up appointment at BTHFT during 2010/11 is calculated as:

- Oral Surgery : 1 : 0.84
- Restorative Dentistry : 1 : 3.54
- Orthodontics : 1 : 6.82
9.5.1. Admitted Patient Care

The provision of admitted patient care is split into two main categories, planned care within a daycase or inpatient setting and unplanned inpatient care.

In Bradford and Airedale there has been an overall reduction in the levels of unplanned admitted patient care between April 2010 and June 2012.

There is an overall increase in the level of planned admitted patient care between April 2010 and June 2011.

Comparison of data between 2009/10 and 2010/11 suggests that whilst levels of planned admitted patient care, has risen the distribution of patients referred to all providers and the complexity of procedures undertaken at larger providers has changed. i.e. BTHFT have seen comparatively less patients during 2010/11 than 2009/10 but have performed more complex procedures than planned, whilst AFT have seen more patients during the same period but have undertaken less complex procedures.

Figure 52: gives an overview of the BTHFT Inpatient waiting list, the data is provided between the time period of April 2009 and March 2011. Wait times remained static during the time period of April 2009 and March 2010. However the number of patients awaiting treatment had increased by 46% between March 2010 and March 2011.
9.5.2. Referrals into BTHFT

Figure 53 provides an overview of the number of patient referrals from dental practitioners that are referred into BTHFT. The data is extracted for the time period April 2010 to July 2011. The majority of patients referred into BTHFT are recorded by the provider as oral surgery patients (approximately 200-300 per month) followed by orthodontics (approx. 75-125) per month and maxillofacial surgery (approximately 25-50 per month).
9.5.3. Oral surgery

Figure 54 gives an overview of the top 5 surgical procedures that have been undertaken within BTHFT, the biggest provider of inpatient care. The most frequently provided oral surgery procedures provided for Bradford and Airedale residents are based on extractions of teeth and surgical removal of teeth, impacted teeth and roots.

A recent audit of oral surgery referrals by clinicians within the Maxillo-Facial Unit in BTHFT estimated that approximately 44% of referrals could be treated within primary care.
Key issues

Commissioners should review how oral surgery services are provided in Bradford and Airedale as recommended by the Dental Programme board of MEE.
In the future the commissioning of all dental care will be carried out by the NHSCB there are opportunities to ensure that oral surgery is commissioned in the most appropriate setting for the complexity of the care required whilst ensuring appropriate quality and standards.
In order to establish if there has been a case mix shift to more complex care within the planned admitted care further work would be required.

9.6. Orthodontics

Treatment is provided in Bradford and Airedale by a clinical network of orthodontists including a consultant service based within BTHFT and specialist orthodontic practices. The network of clinicians meets regularly as an orthodontic sub group of the oral health and dental strategy group.

9.6.1. Hospital based orthodontic service

BTHFT provides an orthodontic service from St. Luke’s hospital. There are currently four consultant orthodontists (and three orthodontic therapists) who provide a treatment service predominantly for multidisciplinary (those requiring a joint surgical, restorative and orthodontic approach) and complex cases. Historically the service had a 3 year treatment waiting list from assessment to treatment however recent increased levels of activity have ensured that the service now complies with the 18 week wait standard. The service accepts only those patients with the highest need for care (IOTN 4 and 5 cases) through a standard referral process.

During the period 06/07 to 09/10 the number of first appointments- has risen from 461 to 967, whilst the follow-ups reduced in line with national benchmarking statistics but increased in 10/11 (Table 10).

Table 10 Summary of orthodontic activity BTHT

<table>
<thead>
<tr>
<th></th>
<th>First attendance</th>
<th>Follow up</th>
<th>Ratio 1st/follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>0607</td>
<td>461</td>
<td>5510</td>
<td>12.0</td>
</tr>
<tr>
<td>0708</td>
<td>467</td>
<td>5045</td>
<td>10.8</td>
</tr>
<tr>
<td>0809</td>
<td>644</td>
<td>5021</td>
<td>7.8</td>
</tr>
<tr>
<td>0910</td>
<td>706</td>
<td>5414</td>
<td>7.66</td>
</tr>
<tr>
<td>1011</td>
<td>967</td>
<td>6597</td>
<td>6.82</td>
</tr>
</tbody>
</table>

An orthodontic needs assessment was carried out in 2010/11 to inform orthodontic commissioning plans for the period 2011 to 2016. The needs assessment estimated the number of cases treated within the hospital annually as approximately 300 (Godson and Thatcher, 2009), in 2010/11 that figure rose to 350 cases.

9.6.2. Specialist orthodontic practice

The specialist orthodontists provide primary care based treatment for the majority of patients meeting the NHS criteria for care (IOTN 4, 5 and 3 with an aesthetic need of 6 and above). There are currently 4 specialist practices 2 based in Bradford (one in Shipley the other in Saltaire) and 2 in Ilkley. Two contracts are currently winding down. The intention is to
recommission these services in a more accessible part of Bradford for the majority of the population.

9.6.3. Current commissioned service from specialists in primary care
Assuming a ratio of 2 case assessments to each case start = 23 UOA’s per case

Table 11:

<table>
<thead>
<tr>
<th></th>
<th>Contracted 09/10</th>
<th>UOA’s 2009/10</th>
<th>Number of cases 2009/10</th>
<th>Contract value 2009/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>09/10</td>
<td>24,734</td>
<td></td>
<td>1075</td>
<td>1,486,752</td>
</tr>
<tr>
<td>10/11</td>
<td>25,075</td>
<td></td>
<td>1090</td>
<td>1,563,903</td>
</tr>
<tr>
<td>11/12</td>
<td>25,373</td>
<td></td>
<td>1103</td>
<td>1,571,722</td>
</tr>
</tbody>
</table>

The PCT currently commissions approximately 1103 cases within primary care; this is a reduction from 2009/10 as two clinicians are on wind down contracts.

9.6.4. Orthodontic patient flow
Dental patients (including orthodontic patients) may access care wherever they wish. They may therefore access care close to their work or school rather than where they live. These patients may therefore flow in and out of the district. NHS Bradford and Airedale funding for orthodontics in primary care funds the UOAs allocated to our specialist practitioners and whichever patients meet the IOTN criteria and access care within their practices. The agreement on the introduction of the new contract was that historic cross boarder flow would continue to be funded. However, in practices where additional PCT funding was invested patients from within the PCT could be prioritised. This is relevant to one specialist practice in the district.

The cross border flow in Bradford and Airedale has been investigated using data from the BSA DSD. There was a net inflow in the baseline period of 977 patients. In 2009/10 this net inflow continued but had fallen to 621 patients with the majority from North Leeds and North Yorkshire and York PCTs. This equates to an additional service provision for between 207 to 326 cases.

The orthodontic need and demand for care in Bradford and Airedale is estimated as 1,800 cases per annum (Godson and Thatcher, 2009). Accounting for a potential in flow of between 207 to 326 cases from outside the district equates to a total estimated commissioning requirement of 2007 to 2126 cases.

In NHS Bradford and Airedale we currently commission from specialist practitioner services 1103 cases per annum and from the Hospital services approximately 350 cases (10/11) through PBR tariff and additional non recurrent cases on primary care tariff (approximately 40 cases) in total 1465 commissioned cases. There is therefore a shortfall in commissioned cases. Recent orthodontic commissioning has reduced the UOA value across the district essentially commissioning more cases for the same spend whilst ensuring high quality outcomes for patients. However as 2 specialist practices are currently on wind down contracts existing capacity is further reduced. Currently only one orthodontic specialist is accepting new patients with waiting lists for treatment across the district of approximately 3 years (March 2012).

Significant work has been undertaken by the orthodontic clinical network to audit referrals, standardise referral process and guidelines and provide training sessions for referrers. Support has been provided to general dental practitioners to ensure that the quality of referrals are high, that they have appropriate IOTN gradings and are at an appropriate stage of dental development, whilst allowing for the few cases that require an early referral. A subsequent audit of referrals is taking place to assess any change.
Key issues

There is insufficient orthodontic provision in the district to meet need and demand for care. Waiting lists are currently increasing.
Re-procurement of the two contracts currently being wound down is urgently required.
Significant work has already been carried out to improve the appropriateness and quality of referrals.
There is a need to continue to demonstrate maximum value from existing spend.

9.7. Restorative dentistry

The restorative service within BTHFT had until recently two part-time restorative consultants however one has recently retired and the hospital trust have recently employed a part-time locum. The current contract with BTHFT has limited capacity and therefore the priority must be supporting the head and neck cancer pathway. The Restorative Dentistry service has therefore stopped accepting referrals from primary care. The restorative work carried out within the department in support of the head and neck cancer patients increasingly involves the use of dental implants. There is currently a lack of clarity regarding whether this procedure is included within the national head and neck cancer tariff.

Bradford and Airedale Oral Health Strategy and Action Plan 2007-2010 (Godson, 2007) and the Dental Commissioning Strategy 2009 (Thatcher, 2009) both acknowledged the need for the development of restorative dental services in the district particularly to support general dental practitioners with care of patients requiring complex restorative care.

The primary care trust subsequently commissioned primary care based services in the monospecialities of periodontics and endodontics from accredited dentists with a special interest. These services commenced in July 2011 and will accept referrals according to strict referral criteria. Currently there are three dentists with special interest who are accredited providers of these services.

Key Issues

There is a risk to the PCT that DwSI services will receive inappropriate referrals of patients that should be treated in primary care. Referral criteria have been agreed and an audit of the quality and outcomes of referrals to the service is underway.
Dental implants are not routinely commissioned however they are available through an IFR process for exceptional cases with significant trauma and hypodontia considered on an individual case basis.
10.0 Costs for all services

10.1 Primary care services

10.1.1 Dental budgets and UDA/UOA targets for primary care dental services

The net budgets and UDA/UOA allocation for the primary care dental services commissioned by NHSBA in 2010/11 are shown below.

### General Dental Services

<table>
<thead>
<tr>
<th>Description</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Budget for General Dental Practices</td>
<td>£18,508,804</td>
</tr>
<tr>
<td>Patient charges are expected to add further</td>
<td>£5,434,062</td>
</tr>
<tr>
<td><strong>Total GDS</strong></td>
<td><strong>£23,942,866</strong></td>
</tr>
</tbody>
</table>

**Orthodontic budget**

<table>
<thead>
<tr>
<th>Description</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net orthodontic budget</td>
<td>£1,571,722</td>
</tr>
</tbody>
</table>

**Salaried Dental Services**

<table>
<thead>
<tr>
<th>Description</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Budget</td>
<td>£4,652,497</td>
</tr>
<tr>
<td>Unscheduled dental care</td>
<td>£761,454</td>
</tr>
<tr>
<td>Fluoride varnish programme</td>
<td>£259,028</td>
</tr>
<tr>
<td>SDS sedation service (primary care budget)</td>
<td>£28000</td>
</tr>
<tr>
<td>SDS sedation service (Poswillo budget)</td>
<td>£28000</td>
</tr>
<tr>
<td>General Anaesthesia (Poswillo budget)</td>
<td>£29,000</td>
</tr>
<tr>
<td>Oral Health Action Plan</td>
<td>£53,000</td>
</tr>
<tr>
<td><strong>Total SDS</strong></td>
<td><strong>£5,810,979</strong></td>
</tr>
</tbody>
</table>

**NHS Direct**

<table>
<thead>
<tr>
<th>Description</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call Handling Triage</td>
<td>£250000</td>
</tr>
</tbody>
</table>

**Restorative dentists with Special interest service- DwSI Service**

<table>
<thead>
<tr>
<th>Description</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Budget</td>
<td>£150000</td>
</tr>
</tbody>
</table>

**Primary care minor oral surgery service**

<table>
<thead>
<tr>
<th>Description</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Budget</td>
<td>£61000</td>
</tr>
</tbody>
</table>

**Total Primary dental care spend**

<table>
<thead>
<tr>
<th>Description</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Primary dental care spend</strong></td>
<td><strong>£31,786,567</strong></td>
</tr>
</tbody>
</table>

N.B. in 2012/13 an additional £637855 will be added to the GDS budget to allow for a new and re-commissioned contract.
### Contracted activity

<table>
<thead>
<tr>
<th></th>
<th>Contracted</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units of Dental Activity (UDA’s) contracted in 2010/11</td>
<td>807,233</td>
<td>802,932 (99.5%)</td>
</tr>
<tr>
<td>Units of Dental Activity (UDAs) Contracted 2011/12</td>
<td>826,646</td>
<td></td>
</tr>
<tr>
<td>Units of Orthodontic Activity (UOA) contracted in 2010/11</td>
<td>25,075</td>
<td>25,600 (102%)</td>
</tr>
<tr>
<td>Units of Orthodontic Activity completed in 2011/12</td>
<td>25373</td>
<td></td>
</tr>
<tr>
<td>UDAs contracted with SDS 11/12</td>
<td>25921</td>
<td></td>
</tr>
<tr>
<td>UDAs contracted for unscheduled care 11/12</td>
<td>11718</td>
<td></td>
</tr>
</tbody>
</table>

The primary care dental spend has seen significant investment from the central and PCT allocation since the move to local dental commissioning in 2006. Maximum value for money has been sought through effective procurement, contract management, and quality assurance processes.

As part of the current NHS reorganisation PCT NHS general dental services including the salaried dental services spend in 2010/11 has been identified for transfer to the NHSCB. The spend (based on 2010/11 outturn) identified for Bradford and Airedale was £25,774,000. This spend is shown in comparison with other PCTs in Yorkshire and the Humber in Figure 55.

**Figure 55:**

![General Dental Service Total Spend 2010/11](image)

When spend is compared per head of population, North Lincolnshire is spending £34 per head in comparison with Doncaster (£60) spending almost twice that amount of North Lincolnshire in 2010/11 (Figure 55).
10.2. Secondary care services

Table 12 illustrates the total cost and patient contacts seen by providers for all secondary care (planned and unplanned) dental services, commissioned by NHSBA during 2009/10 and 2010/11. The information is shown at dental sub specialty level. The number of patients seen and costs have both increased from 2009/10 to 2010/11.
<table>
<thead>
<tr>
<th>Dental Sub Specialty</th>
<th>Number of outpatient contacts 09/10</th>
<th>Total cost of patients seen 09-Oct</th>
<th>Number of patients seen 10/11</th>
<th>Total costs of patients seen 10/11</th>
<th>Difference between number of patients seen in 09/10 &amp; 10/11</th>
<th>Difference between cost of patients seen in 09/10 &amp; 10/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental medicine</td>
<td>193</td>
<td>£120,124</td>
<td>217</td>
<td>£135,153</td>
<td>24</td>
<td>£15,029</td>
</tr>
<tr>
<td>Maxillo-facial surgery</td>
<td>1,416</td>
<td>£350,864</td>
<td>566</td>
<td>£149,286</td>
<td>-850</td>
<td>-£201,578</td>
</tr>
<tr>
<td>Oral surgery</td>
<td>9,527</td>
<td>£3,343,008</td>
<td>11,281</td>
<td>£3,891,989</td>
<td>1754</td>
<td>£548,981</td>
</tr>
<tr>
<td>Restorative dentistry</td>
<td>2,985</td>
<td>£345,717</td>
<td>3199</td>
<td>£312,784</td>
<td>211</td>
<td>-£33,321</td>
</tr>
<tr>
<td>Orthodontics</td>
<td>6,796</td>
<td>£649,064</td>
<td>7,947</td>
<td>£854,851</td>
<td>1,451</td>
<td>£205,797</td>
</tr>
<tr>
<td>Grand total</td>
<td>20,917</td>
<td>£4,808,777</td>
<td>23,210</td>
<td>£5,344,063</td>
<td>2,593</td>
<td>£535,295</td>
</tr>
</tbody>
</table>

Figure 57 provides an overview of data for the same time period illustrated in Table 12, and highlights patient contact levels by provider at subspecialty level.
Figure 58 shows data highlighted in Table 12 but changed to illustrate were patient contact activity has been seen between the period 2009/10 and 2010/11, at secondary care point of delivery: i.e. planned care; unplanned care; or outpatient.

**Figure 58:**

![Comparison of Secondary Care activity by Point of Delivery at Dental Specialty level 09/10- 10/11](image)

Figure 59 shows the costs associated with service delivery during the same time period. During 2010/11 outpatient and planned care levels have seen a significant increase in both patient contact numbers and cost, particularly within orthodontics and oral surgery. Oral surgery also shows much higher levels than in 2009/10, however note must be taken of the reduced levels of activity within maxillofacial and the changes to guidance on payment mechanisms for some dental specialties, including oral surgery and maxillofacial. Following this change some providers have changed their collection of data and coding practice, which has seen movement between dental specialties of both activity and cost. Changes also occurred within the national system for costing activity (SUS Grouper) and this combination of change has made it difficult for commissioners to quantify exactly where there has been real change to either cost or complexity levels within provider activity. Potential further in depth clinical analysis of patient level data is required to fully map out the changes seen.
Secondary care spend in Yorkshire and the Humber

As part of the current NHS reorganisation PCT NHS secondary dental care spend in 2010/11 has been identified for transfer to the NHSCB. These figures require validation which will take place prior to a further data collection round. The spend identified for Bradford and Airedale was £5,381,000. The spend is shown in comparison with other PCTs in Yorkshire and the Humber in Figure 60. The spend ranges from £1,396,000 in NE Lincolnshire to £8,711,000 in Sheffield.
When examined by spend per head of population Leeds spends least with £6 pounds per head in comparison with Rotherham £18 (Figure 61).

**Figure 61:**

<table>
<thead>
<tr>
<th>Secondary Dental Care Spend per head population 2010/11</th>
</tr>
</thead>
<tbody>
<tr>
<td>£</td>
</tr>
<tr>
<td>Leeds</td>
</tr>
<tr>
<td>5</td>
</tr>
</tbody>
</table>

**Key Issues**

As all dental commissioning is transferred to the NHSCB it is key to continue to ensure all funds are correctly identified. There is a risk to service provision if current funding is not correctly identified for transfer.

Within hospital dental specialties current coding of all cases to either Maxillo facial or oral surgery makes identification of activity relating to each specialty difficult.

Through care pathway development and service redesign it is important to demonstrate that services are evidence based, high quality, effective and deliver best value.
11.0 Access to primary care dental services

Access to primary care dental services has been a key issue both nationally and locally. Substantial investment has been made since March 2006 to increase access to dental care. Within Bradford and Airedale there has been investment in both existing and 4 new dental practices, this investment has been from the central dental allocation however in addition Bradford and Airedale have invested from their unified allocation. The dental access indicator used to assess dental access is a measure of unique patients accessing dental services over the previous 24 months. In order to allow comparison it is often expressed as a percentage of the population. It is referenced to the position on March 2006 when the new dental contract was introduced and access began to fall, many areas nationally are still striving to reach the levels of March 2006.

11.1 Dental access in Bradford and Airedale

In March 2006 at the introduction of the new dental contract 274,308 patients had been seen in Bradford and Airedale in the previous 24 months (56.4%) this compares with 58.4% in Yorkshire and the Humber and 55.8% for England as a whole. After an initial fall, since September 2008 there has been a consistent increase in dental access and in March 2011 had reached 301,622 patients, 59.5% (Yorkshire and the Humber; 60%, England; 56.2%) higher than the level in 2006 (Figure 62).

Figure 62: Percentage of all patients seen at a dental practice in the previous 24 months

These figures relate to all patients however the data is also available separately for adults and children. There has been a steady increase in access for both however a higher proportion of children have attended than adults.
In March 2006 193,669 adults (53.6%) attended and in March 2011 this figure increased to 211,517 (55.9%). Bradford and Airedales improved access in 2011 means that access is now not only better than average for England (52.3%) but approaching the average of the region (56.4%) (Figure 63).

**Figure 63:** Percentage of adult patients seen at a dental practice in the previous 24 months

This improvement in dental access has been achieved through PCT investment in both existing and 4 new dental practices. The site for these new practices was based on oral health need, demand and gaps in current provision identified in two needs assessments that supported the dental commissioning strategy. The Keighley practice opened in December 2008, followed by BD4 June 2009, Ilkley November 2009 and finally Manningham in July 2011.

With regard to children In March 2006 80,639 (64.7%) attended within the last 24 months this had increased to 90,105 (70.1%) by March 2011. The improvements with regard to child attendance mean that we are beginning to reach the national average (70.6% of children in England) and 73.4% in Yorkshire and the Humber attending within 24 months in March 2011 (Figure 64).

**Figure 64:** Percentage of child patients seen at a dental practice in the previous 24 months
Recently however there have been falls in the monthly access data which emphasises that dental access continues to be a challenge in the district.

### 11.2. Patients accessing dental care

Although access has improved there are still only a limited number of dental practices currently accepting new patients. Patients who are seeking access to dental care are directed to the NHS choices website. However dentists are still reluctant to state on NHS choices that they are currently accepting new patients for fear of their practice being inundated with requests which they are unable to fulfil and also affecting the running of the practice. PALS also regularly survey practices to ascertain if their list is open, recently (December 2011) out of 53 practices 5 had their list open with a further 8 reassessing the position within a month. PALS will help to support and advise patients who contact them because they are having difficulty accessing NHS dental care.

Analysis of dental calls to PALS (Table 13) shows that there has been a significant fall in the number of calls between 2010/11 (2467 calls) to the estimated full year effect for 2011/12 (906 calls). The table also shows a substantial reduction in those who were calling regarding dental access and were referred to NHS choices from 1114 to an estimated full year effect of 294.

**Table 13: Telephone calls to PALS 2010/11**

<table>
<thead>
<tr>
<th>Month</th>
<th>Total No. of Dental Calls</th>
<th>Patients referred to NHS Choices</th>
<th>Month</th>
<th>Total Dental Calls</th>
<th>Patients referred to NHS Choices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apr-10</td>
<td>404</td>
<td>186</td>
<td>Apr-11</td>
<td>79</td>
<td>39</td>
</tr>
<tr>
<td>May-10</td>
<td>294</td>
<td>74</td>
<td>May-11</td>
<td>121</td>
<td>70</td>
</tr>
<tr>
<td>Jun-10</td>
<td>240</td>
<td>98</td>
<td>Jun-11</td>
<td>110</td>
<td>78</td>
</tr>
<tr>
<td>Jul-10</td>
<td>345</td>
<td>158</td>
<td>Jul-11</td>
<td>60</td>
<td>35</td>
</tr>
<tr>
<td>Aug-10</td>
<td>333</td>
<td>178</td>
<td>Aug-11</td>
<td>86</td>
<td>60</td>
</tr>
<tr>
<td>Sep-10</td>
<td>168</td>
<td>79</td>
<td>Sep-11</td>
<td>66</td>
<td>40</td>
</tr>
<tr>
<td>Oct-10</td>
<td>162</td>
<td>85</td>
<td>Oct-11</td>
<td>111</td>
<td>17</td>
</tr>
<tr>
<td>Nov-10</td>
<td>125</td>
<td>56</td>
<td>Nov-11</td>
<td>92</td>
<td>5</td>
</tr>
<tr>
<td>Dec-10</td>
<td>71</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan-11</td>
<td>113</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb-11</td>
<td>73</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar-11</td>
<td>139</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2467</td>
<td>1114</td>
<td></td>
<td>725</td>
<td>725</td>
</tr>
<tr>
<td>Estimated year total</td>
<td></td>
<td></td>
<td></td>
<td>906</td>
<td>906</td>
</tr>
</tbody>
</table>

91
11.3. Dental access assessed through the GP Patient Experience Survey (PES)

The national GP patient experience survey (PES) has been running for several years. It asks questions about whether patients were able to get appointments with their GP, the standard of care they received and the care environment. Results can be broken down to individual practice level and are available via this link http://www.dh.gov.uk/en/Publicationsandstatistics/PublishedSurvey/GPpatientsurvey2007/index.htm.

In January 2010 new questions were added on the subject of access to dentistry. These results are only broken down to PCT level, in recognition of the facts that not everyone has a dentist, and many people choose to attend a dentist which is not particularly close to their home – unlike access to primary medical care. The survey results for this PCT therefore represent the views of patients who are registered with GP practices in Bradford and Airedale rather than patients who attend dental practices in this area.

The dental questions asked are:
- When did you last try to get an NHS dental appointment for yourself?
- What type of appointment were you trying to get (i.e. routine, urgent or other)?
- Was the appointment you were trying to get in a practice you’d been to before?
- Were you successful in getting an NHS dental appointment?
- If you haven’t tried to get an NHS dental appointment for yourself in the last 2 years, why not?

The section reports on responses gained between July-September 2011. The response rates for NHS Bradford and Airedale (31%) patients was lower than Yorkshire and the Humber (41%) and England (38%). The way that the survey is set up and administered by IPSOS Mori ensures that the response rate the PCT gets still produces scientifically valid results. However, a higher response rate is to be encouraged as it strengthens the validity of the results and reduces the confidence interval.

In response to the question ‘When did you last try to get an NHS dental appointment?’ Bradford and Airedale respondents replied ‘more than 2 years ago or never’ more than the national results. However, the percentage who replied ‘between six months and a year’ was higher in Bradford and Airedale than nationally. This may reflect the relatively higher numbers of patients who have urgent treatment needs. Figure 65 shows that a higher proportion of Bradford patients are seeking appointments for urgent, rather than routine, treatment.
When asked ‘Have you been to the practice before?’ the majority of Bradford (81%) patients had been to see the same dentist before, in Yorkshire and the Humber (86%) and in England (84%) (Figure 66). This suggests that people living in this district are less likely to have a regular relationship with a particular practice. It is undoubtedly the case that the most effective form of dental treatment comes within the context of regular, preventative appointments (based on NICE recall guidelines) with a single dentist or practice where the staff know and have a positive relationship with the patient. However it may also reflect the increased service provision in the last three years, this has enabled patients seeking appointments to move to a practice more convenient or easier to access.
Respondents were also asked if they were successful in getting an NHS appointment? Within Bradford 84% of respondents said they were successful which was the same the Yorkshire and the Humber figure but below the England figure of 92% (Figure 67).
11.4. Social segmentation of those having difficulty accessing dental care

Using a segmentation tool such as ACORN (A Classification of Residential Neighbourhoods) allows investigation of who your target audience or ‘market’ is by distinct sub-groups (segments) and this gives the ability to identify and cluster people with similar attributes to assist commissioning of services which respond more closely to user needs. The term ‘category’ is a broadest ACORN classification and has five identifiers, the next level down is ‘group’ and the lowest banding is ‘type’ which is the most descriptive ACORN classification (for further information on ACORN classifications see http://www.caci.co.uk/acorn2009/acornmap_ext.asp).

Adult patients were asked ‘is it difficult for you to get routine (e.g. check-up and fillings) dental care?’ and ‘if yes, what makes it difficult’ the respondents were provided a list which they could tick as many responses as they wished and could add free text (Csikar, et al., 2012).

26% of respondents had some difficulty accessing routine dental care. This is slightly higher than the regional figure of 22.6% for Yorkshire and the Humber.

In a multiple choice question the most common reason that respondents stated for having difficulty in accessing routine care were that ‘dentists are not taking new patients’ (51%), ‘treatments are too expensive’ (37%) and ‘dentists are only treating private patients’ (36%). Similar reasons were stated at the regional level.

There was a higher percent of respondents having access problems from the ‘comfortably off’ ACORN category (32%), closely followed by ‘moderate means’ category (31%). However within each ACORN category it can be seen that the ‘hard pressed’ group were disproportionally affected i.e. with 36% within group having difficulty accessing routine care.

The responses (‘is it difficult for you to get routine care’) were analysed spatially and this revealed the highest concentrations of patients having difficulty accessing routine treatment were located in the Keighley Central, Bingley Rural, Ilkley and Tong wards.

11.5. Future challenges

Providing care for a changing population presents a challenge for commissioners of services. One challenge within the population is the increasing proportions of patients classified as obese. These patients have needs that must be assessed and met if they are receive care equivalent to their peers. Most dental chairs can accommodate patients up to a maximum weight of 133 kgs (21 stones, although some do support weights up to 28.5 stones). Using estimates of average male and female heights this would equate to BMI of 43 for men and 52 for women.

Within Bradford and Airedale an assessment based on population figures has been carried out. Patients who have a Body Mass Index (BMI) of 42 and above account for 5,500 males and females with a BMI over 52 account for 2,000 within Bradford and Airedale. Therefore there are potentially 7500 people who would be unable to access dental services. These rates are suggested to increase by 2020 according to modelling by McPherson suggests that 41% of men and 36% of females aged 20-65 will be obese nationally (McPherson, et al., 2007).

Currently few such patients have required access to dental care and those that do are usually cared for in the hospital services and treated on a trolley. However it is unlikely that they could receive a full range of care in these circumstances.
Key issues

Although dental access has improved in Bradford and Airedale the challenge to maintain access for new patients still remains. Access for vulnerable groups including those who are obese must be prioritised and appropriate services available. There is a need to manage patients’ perceptions of dental access in the district through appropriate information for their needs and advertisement.
12.0 Oral health promotion services

12.1. Oral health promotion

The importance of best practice, preventive programmes and high quality dental services to improve oral health and reduce oral health inequalities is reflected in the government’s current reform plans Liberating the NHS “We will introduce a new dentistry contract, with a focus on improving quality, achieving good dental health and increasing access to NHS dentistry, and an additional focus on the oral health of school children” (Department of Health, 2010a). More detail was provided in the public health white paper ‘Healthy Lives, Healthy People: Our Strategy for public health in England’ (Department of Health, 2010b). This document states that the dental public health workforce will increase its focus on effective health promotions and prevention based on evidence based oral care focusing particularly on improving children’s oral health. The emphasis on improving the oral health of children continued with the recently published public health outcomes framework including an indicator regarding tooth decay in children aged 5 years (Department of Health, 2012).

A number of national documents support the strategic context


Delivering Better Oral Health (2nd edition 2009) which was designed to support dental teams and those commissioning preventative services to give clear and consistent evidence-based advice and support to their patients, the ultimate goal being to improve their oral health (Department of Health and British Association for the Study of Community Dentistry, 2009).

NHS Dental services in England (2009) the Steele Review which stated that there is a national drive to develop preventive strategies to reduce incidence and prevalence of dental disease and encourage a focus on prevention and health promotion as well as treatment (Steele, et al., 2009).


Key elements in these documents provide the basis for improving oral health:

- Combination of population and targeted approach adopting the principle of proportionate universalism.
- Clear, consistent evidence based preventative approach to oral health
- Take a common risk factor approach to oral health
- Focusing on partnership and multi agency working to improve effectiveness
- Provide accessible, high quality, prevention based dental services
- Ensure retention and development of an appropriate dental workforce

Bradford and Airedale’s Oral Health Strategy is in place to promote action:

- to improve diet and reduce sugar intake,
- to optimise exposure to fluoride,
- to improve oral hygiene
- to provide professional training and support to those involved in the care of young children.

The above document will be reviewed in the light of the findings of this oral health needs assessment http://www.phn-bradford.nhs.uk/NR/rdonlyres/46E55977-CA06-40CB-AD95-0B3A65B82263/0/BradfordandAiredaleOHAPFinal150207Colour.pdf

12.2. Oral health promotion in Bradford and Airedale

The evidence based interventions that focus on addressing oral health inequalities include:

Applying fluoride varnish to teeth at least twice yearly for pre and school children.

Cochrane Database of Systematic Reviews (2007)
Optimising fluoride uptake by daily tooth brushing programmes delivered over 2 year cycle.
Dietary advice based on government guidelines for a healthy diet and with controlled amount and frequency of sugar intake
Promoting breastfeeding
Community based programmes
Guidance from ‘Delivering Better Oral Health: An evidence based toolkit’

The following strategic principles to tackle wider determinants of health and reduce oral health inequalities are employed across the district

Creating supportive environments- making changes conducive to improving oral health e.g. smokfree agenda, First steps to healthy teeth award
Promoting oral health through public policy- e.g. infant feeding policy
Strengthening community action e.g. empowering communities to set oral health priorities, make decisions and plan and implement strategies to achieve better oral health
Developing personal skills- promote understanding develop personal, social and political skills to improve oral health e.g. additional skills dental nurses (fluoride varnish)
Re-orientating health services – refocusing on prevention and health improvement outcomes rather than curative treatment focus

12.3. Children and young people

There are a number of oral health improvement programmes commissioned by NHS Bradford and Airedale which form part of a ‘package of care’ for young children in the district. This overarching ‘package of care’ is called - ‘Building Brighter Smiles’. These programmes specifically address the poor oral health of young children taking an evidence based life course approach and will be key programmes in addressing the new dental indicator in the public health outcomes framework. Their success depends upon children accessing these programmes.

Bradford and Airedale Building Brighter Smiles

Brushing for life: This scheme takes a population approach and involves the distribution of fluoride toothpaste, tooth brush and oral health information to carers of all infants aged 6 – 9 months via the health visitor assessment. Additional distribution of information and oral health resources also takes place with older infants (2 years) in communities with the greatest identified needs.

Fluoride varnish: Fluoride varnish has been shown to be effective, easy to apply by members of the dental team, acceptable to very young children and with a high level of safety. The fluoride varnish programme provides twice yearly fluoride varnish applications to children’s teeth within early years and educational establishments and clinics. The programme is aimed at all children aged 2 – 4 years. The fluoride varnish is applied by dental teams predominantly dental nurses with additional skills trained in the application of fluoride varnish.

First Steps to Healthy teeth: Dental Health Award scheme supporting early years childcare settings to promote good oral health as part of general health. Priority childcare settings are targeted.

School based tooth brushing: 4-5 year old children attending schools where at least 25% or more of children have free school meals (FSM) carry out supervised, daily tooth brushing programme. All children in special schools can take part in the programme.

Early Years/ KS I & II: Education programmes delivered in nurseries and schools.
From birth to school age, children should pass through each element of the programme delivering a package of evidence based preventive care.

‘Smile with the Prophet’ Programme

This is an oral health education programme for children attending Mosque study classes, Islamic Schools and Madrassas. The programme consists of evidence based preventive advice and oral health resources. This programme has recently been reviewed and now provides a more targeted approach depending on the needs of the participating organisation.

All of these programmes are commissioned from the salaried dental service within the Bradford District Care Trust. Some of the programmes are commissioned from within the core block contract however the fluoride varnish programme is commissioned on a separate basis. Process targets regarding the programmes are performance managed through the contract monitoring board and are shown in Table 14.

Table 14:

<table>
<thead>
<tr>
<th>Performance Indicators</th>
<th>09/10</th>
<th>10/11</th>
<th>11/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>OH Imp 1 % of 6-9 month health visitor interviews to involve oral health intervention</td>
<td>82%</td>
<td>85%</td>
<td>87%</td>
</tr>
<tr>
<td>OH Imp 2 Number of children in target age range receiving a fluoride varnish application</td>
<td>1200</td>
<td>6000</td>
<td>12000</td>
</tr>
<tr>
<td>OH Imp 3 % of all schools where 25% or more children take free school meals taking part</td>
<td>71%</td>
<td>75%</td>
<td>75%</td>
</tr>
<tr>
<td>OH Imp 4 Number of dental practices to be recruited to Health Promoting Practice Award</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>OH Imp 5 % of childcare settings to achieve First Steps to Healthy Teeth award</td>
<td>30%</td>
<td>50%</td>
<td>65%</td>
</tr>
<tr>
<td>OH Imp 6 New target Number of children recruited to programme in Islamic Schools,</td>
<td></td>
<td></td>
<td>1000</td>
</tr>
<tr>
<td>OH Imp 6 New target Number of children recruited to programme in Islamic Schools,</td>
<td></td>
<td></td>
<td>1000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.4. Capacity building- developing personal skills

The Salaried Dental Service (SDS), Oral Health Promotion unit are commissioned to provide oral health promotion training, expertise and support to health professionals (e.g. health visitors, school nurses, carers of the elderly), community workers, early years and education staff that enable evidence based oral health promotion programmes to be delivered through multiple interventions by non dental professionals. They also provide Oral Health Education training to dental nurses with an NEBDN accredited course.
In addition, training has been provided since 2009 by NHS Bradford and Airedale in the University Certificate of Oral health education and fluoride varnish application course. The course is delivered in partnership with the Yorkshire Post Graduate Dental Deanery and The University of Central Lancashire (UCLan). There have been three intakes of students and training has been provided to forty seven dental nurses from across West Yorkshire who are now applying fluoride varnish and delivering oral health education to patients in general dental practices and the salaried dental service and in community settings. Thirty three dental nurses are from Bradford and Airedale district from fifteen general dental practices and the SDS. Work is being carried out to monitor if the dental nurses are continuing to use their skills in applying fluoride varnish and that the PCT can evidence that the training is benefitting patients and being utilised within practice.

12.5. Practice based oral health promotion

The new dental contract will be weighted towards prevention and patient education to provide a dental service that offers best practice, preventive advice and treatment as set out in Delivering Better Oral Health and the Department of Health uplift payment reflects this (Department of Health, 2011).

Local dental practices are being encouraged to increase the number of patients who receive fluoride varnish applications and fissure sealants. Across the region (Figure 68) the proportion of adult claims including a fluoride varnish application ranges between 2.6 to 0.48%. With Bradford and Airedale having one of the highest levels in the region.

Figure 68: Percentage of claims including fluoride varnish in adults 2010/11

![Adult % F Varnish Claims](source)

Adults deemed at risk of dental caries should have twice yearly applications whereas all for children should be have twice yearly applications. It is therefore disappointing to see the level of applications recorded in claims for children in 2010/11 (Figure 69). There are recording issues with regard to this clinical data which will underestimate the current level of application.
Dental teams are also increasingly advising patients regarding their alcohol and tobacco use as they are the main causal factors of oral cancer (Warnakulasuriya, 2009). When smoking and alcohol are used together the risks of oral cancers are multiplied rather than added. It is estimated that heavy consumers of tobacco and alcohol (people who smoke two or more packets of cigarettes and drink four or more units of alcohol a day) increase their risk of developing an oral and pharyngeal cancer by 37 times when compared to a non-smoker and moderate drinker. Oral cancer is not the only implication for the dental team to consider when they have a patient who is a heavy alcohol user. With the increased risk of ‘hazardous’ or ‘harmful’ alcohol consumption leading to facial injuries and dental trauma (Hutchison, et al., 1998).

Although dental team’s involvement in smoking cessation is now well established, there is a lack of research within the UK regarding dentists and their teams raising the issue of alcohol use with their patients. Due to the direct association between excessive alcohol consumption and oral health diseases it is appropriate that dental teams are trained to give alcohol advice to their patients. Within Bradford & Airedale dental teams have been invited to participate in alcohol brief intervention training specifically designed for dental teams. The training was conducted with two pilot dental practices in January 2011 to enable practitioners to identify patients who were drinking alcohol at a harmful or hazardous level and signpost appropriately.

The risk from drinking alcohol above the recommended amount can also be classified in the following categories:

**Hazardous drinking:** The term hazardous drinking is widely used. It is synonymous with “at-risk drinking” and can be defined as the regular consumption of:
- over 5 units per day for men
- over 3 units per day for women.

**Harmful drinking:** Harmful drinking is defined as a pattern of drinking that causes damage to physical (e.g. to the liver) or mental health (e.g. episodes of depression secondary to heavy consumption of alcohol).

The teams were trained to use a tool called AUDIT C which consists of the three questions on alcohol consumption (Bush, et al., 1998) (Table 15) and has been derived from a longer AUDIT which takes into account alcohol consumption, alcohol-related problems and adverse reactions, and dependence symptoms. This shorten tool has been reported to perform more efficiently than the full AUDIT in the detection of heavy drinking.
Table 15: AUDIT (C) Alcohol Use Disorder Identification Test

<table>
<thead>
<tr>
<th>Questions</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Your score</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you have a drink containing alcohol?</td>
<td>Never</td>
<td>Monthly or less</td>
<td>2-4 times per month</td>
<td>2-3 times per week</td>
<td>4+ times per week</td>
<td></td>
</tr>
<tr>
<td>How many units of alcohol do you drink on a typical day when you are drinking?</td>
<td>1-2</td>
<td>3-4</td>
<td>5-6</td>
<td>7-9</td>
<td>10+</td>
<td></td>
</tr>
<tr>
<td>How often have you had 6 or more units if female, or 8 or more if male, on a single occasion in the last year?</td>
<td>Never</td>
<td>Less than monthly</td>
<td>Monthly</td>
<td>Weekly</td>
<td>Daily or almost daily</td>
<td></td>
</tr>
</tbody>
</table>

**How many alcohol units do you consume on average over a week?**

If a score of 5-10 is achieved, then brief advice is given to the patient regarding adjusting their intake. If a score of 10+ score is achieved then the patient is given a signposting leaflet for alcohol services where free and confidential advice can be obtained. Patients were contacted a later date by NHS Bradford and Airedale to assess the patient perceptions of the advice they had received patients felt that it would be a good idea for dental team members to discuss alcohol use with the patients, help and support is offered without having to go looking for it. The hygienist was thought to be dealing with it very well and patients often asked for signposting cards for their relatives.

Understanding our patient’s disease profile and potential disease risk enables dental teams, community oral health programmes and the wider NHS to work together to focus on improving oral and general health.

12.5.1. Health Promoting Dental Practice Award

The ‘Health Promoting Dental Practice Award’ has been running since 2008 it is awarded to participating dental practices who have been accredited by the SDS oral health promotion team. This award scheme works with dental teams to identify the knowledge, skills and support necessary for dental practices to work with their patients to improve their oral health. Participating practices receive preventive training; oral health promotion resources and support to achieve the levels 1, 2, 3 and 3 plus.

This initiative also involves input from the wider public health team (for example, the oral health promotion team, smoking cessation, alcohol services) to ensure dental teams have the knowledge and skills necessary to affect change in their patients through knowledge, skills and motivation given by the dental team. The oral health promotion team work closely with dental practices to deliver evidence-based interventions laid out in Delivering Better Oral Health to patients. Currently, 30 dental practices have enrolled and are working through the programme.

In 2009 Bradford and Airedale PCT board approved the updated Dental Service Commissioning Strategy which provided additional funding to develop quality in existing dental practices. This included support for the HPDPA. Following evaluation it was decided to develop the programme with an emphasis on evidence based oral health improvement which not only builds on what practices have achieved but also follows the direction of the new dental contract.
Key developments are:
- Providing each practice with verifiable training on ‘Delivering Better Oral Health’
- Provide practices with targeted resources to support at risk patients personalised care plans.
- Smoking cessation and alcohol support programmes.

The HPDPA works to support practices in a variety of oral and general health promotion activities which enable them to work with their patients on issues such as alcohol and smoking cessation advice and signposting, understanding the evidence based to improve oral health using key guidance such as Delivering Better Oral Health.

12.6. New dental practices - focused on oral health improvement

To address where respondents were having difficulty accessing routine care NHS Bradford and Airedale have invested in four new dental practices. These practices are located in areas of high deprivation and identified as being an area of low dental access for patients. An innovative specification was developed to ensure an emphasis on quality, skill mix and oral health improvement, linking with population based oral health improvement programmes and the development of oral health risk assessment and evidence based oral health improvement care pathways.

These new investments work differently to those previously commissioned in that the remuneration focuses on quality and oral health improvement and not just dental activity. This new contract is ensuring any new innovation to improving patient’s oral health can be developed and delivered to benefit local residents. These services have been referred to as examples of good practice in the Steele review (2009).

Recently a research consortium including Sheffield and Leeds Dental Institutes and Leeds Institute of Health Sciences were successful in a bid for research monies to NIHR SDO funding stream to evaluate the outcomes of these new practices. The research is due to commence in April 2012.

Key Issues

The very poor oral health of young children in Bradford and Airedale supports the continued emphasis on commissioning evidence based programmes to improve the oral health of this group.

The effective delivery of these programmes will contribute to the delivery of the public health outcomes framework indicator regarding tooth decay.

Dental practices should continue to be supported to reorientate towards prevention. A new dental contract is currently being piloted nationally this will focus on oral health assessment and risk based oral health improvement care pathways. The HPDPA will ensure practices are prepared for such changes.

The commissioning or oral health improvement programmes will transfer to the local authority it is key that these programmes are identified and reviewed as part of the process.
13.0 Public views

The views of the Bradford district residents and those of patients are pivotal when assessing the need and demand for NHS dental services and also in planning such services. Using a number of sources of information this chapter looks at general attitudes to dentistry and oral health, as well as access and barriers to routine dental care.

13.1. Bradford and Airedale's residents attitudes to their oral health

Bradford District Resident’s Perceptions of Health and Wellbeing Survey 2010 of 6,727 adults aged 16+ across the Bradford District showed the following:

When asked what their opinion on the health of their teeth was?
- 27% of the respondents surveyed responded that it was very good.
- 45% good,
- 18% fair
- 5% either bad or very bad.

There was a social class gradient with those from higher social class groups more likely to think their oral health was good.

Only 5% of disabled responders thought their oral health was good.

According to age younger groups were more likely to think their oral health was good.

(42% of 16-24 year olds whilst for those aged 75 years plus only 5% said they had very good oral health).

13.2. Bradford and Airedale's residents perceived barriers to uptake of dentistry services

Understanding the barriers to the uptake of dental services in Bradford and Airedale is essential if we are to increase the numbers of residents accessing dental services and reduce inequalities.

13.3. Bradford and Airedale's adult residents perceived barriers to uptake of dentistry services

Cost
Cost was found to be one of the biggest barriers to uptake of dentistry (The Health and Social Care Information Centre, 2009):

- Overall, 39% of Bradford and Airedale respondents said that treatments were too expensive for routine care.
- 34% said that treatment too expensive when having problems

Anxiety
Data from the National Adult Dental Health Survey 2009, stated that 18% of respondents in Yorkshire and Humber said they would feel very or extremely anxious if they were to have dental treatment tomorrow compared with 13% nationally.

The same survey also found that 20% of adults in the Yorkshire and Humber region scored as very or extremely anxious regarding anxiety in the waiting room compared with 15% nationally.

Fourteen per cent of adults in Bradford and Airedale said that they were scared of dentists/treatment compared with 12% regionally when having problems (The Health and Social Care Information Centre, 2009).
Other reasons stated for Bradford and Airedale residents who reported difficulty in attending the dentist.

In Bradford and Airedale 18.5% of respondents reported that a lack of time/inconvenient surgery opening hours was a problem which was the same as regionally. The figure was 21% for routine care.

Twelve percent cited that it was difficult to make the journey to the dentist when having problems compared with 13% who had difficulty in getting a dentist for routine care.

### 13.4. Bradford and Airedale’s residents child views on access and barriers to NHS dental attendance

Children and young people have a right to be heard and taken seriously and their voice is crucial to improve dental services in Bradford and Airedale. The following section will give results from three surveys where children’s (or their parent’s/carer’s) opinions were canvassed on access to dental care and their perception of it (Health and Lifestyle Survey for Children and Young People 2009 – 10 (2010) (Every Child Matters in Bradford District, 2010), Yorkshire and Humber Adult Oral health survey (2008) and Children’s survey pilot Tong High School (2011)).

### 13.5. Children and young people’s views on access to routine dental care for children

In a recent lifestyle survey of children and young people they asked about access to dental services (NHS Bradford & Airedale, 2010):

- Seventy five percent of pupils surveyed in the Health and Lifestyle Survey for Children and Young People said that they had visited a dentist in the last 6 months.
- Compared with an England sample, young people in Bradford were about as likely to have visited the dentist in the last 6 months.
- Pupils in primary schools were more likely than those in secondary schools to have gone to the dentist because they were having trouble with their teeth. About a quarter of primary school pupils and 14% of secondary school pupils said they last went to the dentist because they were having trouble with their teeth (as opposed to having a check-up).
- Young people in the most deprived quintile were more likely than others to have gone to the dentist last time because they were having trouble with their teeth.
- On average, pupils brushed their teeth twice on the day preceding the survey.

In the Yorkshire and Humber Adult Oral health survey (2008) the Bradford and Airedale respondents were asked

‘Have you had any problems getting NHS dental care for your child?’ and if that was so could you provide details?’

- Seventy one percent of parents reported having ‘no difficulty getting NHS dental care for their children’. 17% of parents have had ‘some difficulty’ (16.5% Yorkshire & Humber). 12% of the respondents reported to ‘not having tried to get NHS dental care for their children’.
- Of the 17% that have had difficulties, the most common reasons cited are centred on ‘dentists not taking new NHS patients’, ‘long waiting lists’ and ‘difficulty in getting an appointment’.

### 13.6. Tong children’s views of dental services
In September 2011 Tong High School agreed to pilot a questionnaire regarding students’ opinions of dental services. The students were between the ages of 11-16. There were 599 questionnaires received from students aged between 11-16 (52% male and 48% female). Children were asked to assign their ethnicity status; 64% of children said ‘British’ (these children did not specify which ethnic group they belonged to) (N=375), followed by ‘Pakistani’ (N=79, 13%), followed by ‘White and Black’ (N=27, 5%), these are similar rates to the 2001 Census (Office for National Statistics, 2011).

Most children had seen a dentist (although surprisingly 20 children had not) with 83% attending for a routine check-up (Table 16). Satisfaction levels were generally high however waiting times, knowing how to make a complaint and privacy when taking a medical history are areas were services could improve.

**Table 16: Dental attendance feedback**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have seen a dentist before</td>
<td>579</td>
<td>97</td>
</tr>
<tr>
<td>The last time I went was for a regular check up</td>
<td>579</td>
<td>83</td>
</tr>
<tr>
<td>The staff were friendly and polite</td>
<td>576</td>
<td>95</td>
</tr>
<tr>
<td>I did not have to wait long in the waiting room</td>
<td>372</td>
<td>65</td>
</tr>
<tr>
<td>I had privacy when my oral health and medical history was taken</td>
<td>424</td>
<td>78</td>
</tr>
<tr>
<td>I had the chance to answer questions</td>
<td>453</td>
<td>82</td>
</tr>
<tr>
<td>I understood the treatment being offered</td>
<td>458</td>
<td>83</td>
</tr>
<tr>
<td>I knew how to make a complaint or suggestion</td>
<td>358</td>
<td>65</td>
</tr>
<tr>
<td>The dental practice catered for people my age</td>
<td>494</td>
<td>92</td>
</tr>
</tbody>
</table>

Children stated the following barriers to accessing care:

‘Because they were full’
‘Couldn’t get in’
‘Difficult to get a dentist straight away’
‘Huge waiting list’
‘I had to get an emergency appointment for my abscess in XX which is far from where I live’
‘It had shutters down so we thought it was closed’
‘It looked like a normal house’
‘It’s away from my home and not with a proper dentist’
‘Long waiting list’
‘There is nowhere to park’
‘We had to go through the NHS and wait 24 hours’

Children who responded that the practice did not cater for people their age were asked to state why:

‘Because they use scientific words’
‘Give us brave stickers’
‘Grown up posters and little kids toys but nothing for teenagers’
‘Making it more child friendly’
‘Speak to us on a level we understand’
‘There is nothing there for me to do’
It would appear that services may need to consider the interests and motivation of teenagers specifically although caterings well for younger children.

13.7. Bradford District Care Trust salaried dental service

The Salaried Dental Service aims to provide oral dental care to groups with the highest level of oral disease. A children’s satisfaction/experience survey was conducted during the period March – October 2011 to gain insight into children’s perspective of Bradford District Care Trust Salaried Dental Service – service, staff and experience of using (Shahid, 2012).

Whilst no respondent expressed a negative comment regarding waiting for the dentist such as being boring etc, there were many comments on what they would like to do whilst waiting to be seen.

The vast majority of children expressed positive opinions about the service, staff, treatment and overall experience. Children seemed to enjoy participating and were enthusiastic responders with lots of suggestions and comments. Valuable insights are lost if children are not involved. However, one respondent did state “I don’t really have anything to say”.

Staff were seen as friendly, caring and smiling. “The atmosphere is very friendly. They treated me really well” and “the dentist people are really friendly. I like them. I felt excellent today because they did didn’t hurt”.

Good communication is paramount and one of the strengths of the service is the way they communicate with children “Friendly staff. Willing to answer any questions. Overall very happy with the service” was how one patient described it. However, 6% (n = 7) of the respondents said that they did not have an opportunity to ask questions so there is still room for improvement.

13.7.1. Barriers experienced by vulnerable groups

There is limited knowledge on barriers experienced by vulnerable groups and more work is required to obtain a better understanding of their needs within NHS Bradford and Airedale. The literature shows that factors such as cost, fear, lack of perception of need, health information and literacy are the well documented barriers. However for vulnerable patients the impact of these barriers is more significant as these groups often have the poorest oral health and are reliant on carers and families.

Work carried out in Islington identified 3 main barriers: the physical environment, communication and information and finally organisational approach, staff attitude and understanding. All of these areas were highlighted as barriers by patients with disabilities in Bradford in 2010 when the equality and diversity team carried out a full equality impact assessment of patients with disabilities (Equality and diversity team NHS Bradford & Airedale, 2010).

Through focus groups methodology, patients with sensory disabilities and learning difficulties talked of their reliance on family members and support workers to find a dentist. Lack of information in an accessible format and the lack of language and communication support were barriers in locating a suitable practice. NHS choices and the internet were considered unhelpful and difficult to use.

“My son has used a website and whenever you call the dentist on the website they always say they’re fully booked, so how do patients go and find a dentist? Our oral health is
suffering, it is getting worse and worse, not ours but that of our children’s as well, and we are in real trouble because we cannot find a dentist and no one is listening to us (FG3).

Once a practice has been identified further barriers exist relating to the attitude and experience of the staff. Many patients including those with mental health problems, substance misuse, disabilities and limited English language skills feel that their needs are not addressed by the dental practice because they are in the minority:

“I said to a receptionist once that she needs training to think about how you speak and support people with disabilities and her response was “we don’t have many people who are visually impaired that come into the practice and wouldn’t have enough money to go on any training” (FG10).

As with other patient groups information on self care is important but it needs to be in a suitable format; DVDs being better for patients with hearing impairments, learning disabilities and mental health problems.

“We would like more advice and information about our oral health and the health of our teeth and what we need to be doing to looking after them, apart from just brushing our teeth (FG2).

“Dentists need to make their reception areas more attractive and clearer. There are lots of posters covering posters and you cannot see what is underneath. They need to tell us about their policies and regulations at their practice. What they can do is put up posters on their walls or gives us information to read. There is hardly anything there that I can understand (FG2).

Many practices have made physical adjustments (e.g. wheelchair ramp) and patient hoists, however wheelchair access does not mean that the practice has all the facilities a wheelchair user with limited mobility requires to be treated at the practice. A mystery shopper in the SDS identified heavy doors and size of the lift as potential barriers.

Behavioural barriers amongst adults with learning difficulties may make access to mainstream services more difficult due to a lack of experience within the dental team. In addition dental practices do not have access to resources such as the practical training unit (who can provide training on the use of restraint) which may lead to difficulties in the provision of care. An integrated model of dental care with clear patient pathways will ensure that patients with disabilities are treated in the most appropriate setting.

Vulnerable patients are often reliant on their carers or support workers not only for organising their dental appointment but also for maintaining their oral health. A lack of perceived need by either the patient and or their carer will impact on the oral health of vulnerable groups. Lester et al., (1998) investigated the attendance patterns of 263 housebound older adults in Hertfordshire and found that 93% would only attend if they had problems (Lester, et al., 1998). A lack of perceived need was cited in 86% cases.

Key issues

Only 5% of the total population felt that their dental health was bad or very bad, whilst only 5% if disabled responders thought their oral health was good.
Cost was found to be one of the biggest barriers to accessing dental care. About a quarter of primary school pupils and 14% of secondary school pupils said they last went to the dentist because they were having trouble with their teeth (as opposed to having a check-up). Young people in the most deprived quintile were more likely than others to have gone to the dentist last time because they were having trouble with their teeth. Children and young people felt that whilst practices catered well for younger children there was not much to interest 11-16 year olds. Seventeen percent of the population had difficulties accessing a dentist for their children. Main reasons cited were ‘dentists not taking new NHS patients’, ‘long waiting lists’ and ‘difficulty in getting an appointment’. Three main barriers have been identified by people with disabilities - the physical environment, communication and information and finally organisational approach, staff attitude and understanding. The vulnerable groups felt they required more information in preferably DVD format for self care.
14.0 References


British Association for the Study of Community Dentistry (2011). Dental Caries Experience of 5, 11, 12, and 14-year-old Children in Great Britain


