



Oral Health in Leicester: A Health Needs Assessment

Version 1 April 2013

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Introduction

Oral Health is defined as the '*standard of the oral and related tissues which enables an individual to eat, speak and socialise without active disease, discomfort or embarrassment and which contributes to general well-being*'¹

Poor oral health is a major public health problem, owing to its high prevalence and incidence around the world. As with other diseases, the greatest burden of poor oral health is upon disadvantaged and socially marginalized populations. Oral health problems are largely preventable and include tooth decay, tooth erosion, gum disease, oral cancer as well as facial and dental injuries. Poor oral health can lead to pain and sepsis, limitations in food choices and days lost from school and work. The long term impacts of poor oral health cannot be underestimated particularly when considering quality of life. Oral health therefore affects people physically and psychologically; and influences how they thrive, look, speak, eat and socialise, as well as contributing to feelings of social wellbeing.

Key issues and gaps

Although oral health of the UK population has improved significantly over the last 30 years, many challenges still remain, particularly for those living in Leicester. Leicester is unique as a city in its high proportion of people from different ethnic backgrounds as well as children and young people; and those living in areas of deprivation. As levels of oral health have improved in general, inequalities have widened. Socio-economic and cultural factors are recognised as being key determinants of oral health inequalities. Functional and psychosocial problems associated with poor oral health are particularly marked in already vulnerable populations such as low income groups. People in Leicester have some of the highest levels of oral diseases in the country.

The burden of dental disease for children in Leicester is significantly higher than the regional and national averages. Leicester also scores badly when compared against local authority comparators, which have been matched by population and demographic profile. There is a further significant difference in the level of decay experience in children when compared against local authority comparators where the public water supply has been fluoridated. Furthermore, the proportion of children requiring dental extractions under general anaesthesia due to dental decay in Leicester is double that compared to Leicestershire & Rutland. However, data analysis has shown that the proportion of children attending an NHS dental practice in Leicester is above national, regional and county averages. This indicates that dental attendance is symptomatic with a high level of discontinued and abandoned dental treatment being reported. When analysing the rates of dental attendance of children, the wards of Westcotes and Castle are particular outliers with the lowest proportion of those aged 0-19 attending NHS dental practices. Children living in these wards are also not benefiting from preventive dental treatment such as fluoride varnish and fissure sealant applications. The symptomatic dental attendance as well as the low attendance rate of children need to be investigated further where particular attitudes towards oral health behaviour as well as specific expectations of dental services are explored from a community perspective.

Oral cancer has poor survival outcomes and is closely linked with all forms of tobacco and excessive alcohol consumption. The prevalence of smoking in Leicester

is higher than the national average and the overall local rate of alcohol related hospital admissions is above the county, region and national averages. Oropharyngeal cancer has also been linked to the human papilloma virus which can be transmitted by oral sex. The sexual health picture in Leicester is similar to that reported nationally one with rising numbers of newly diagnosed sexually transmitted infections. The incidence of head and neck cancer for males in Leicester is higher than the national average.

The *Outcomes Benchmarking Support Packs* (NHS England 2012) reports a worse outcome for Leicester on the '*patient experience of dental services*' indicator. Patient satisfaction on dental services as collated by NHS Dental Services also reports lower levels when compared against the national and comparator averages. The reasons for this need to be better understood but information suggests that it may be due to the length of time that patients have had to wait in order to gain an NHS dental appointment in the City.

The responsibility for commissioning NHS dental services to meet the needs of the local population was transferred from Primary Care Trusts (PCTs) to NHS England in April 2013. At the same time, local authorities (LAs) were given the responsibility for commissioning dental public health services to improve the oral health of their local population. The *Public Health Outcomes Framework* has included a dental indicator (the level of dental decay in five year olds). The newly established Public Health England has also been providing dental public health expertise and advice as of April 2013.

Recommendations for consideration by Commissioners

NHS England (Area Team)

- Information gathered suggests that an increase in NHS dental commissioning may be required for the City due to:
 - a. Long waiting times for treatment
 - b. Decrease in the provision of all Bands of dental treatment
 - c. Increase of City residents in accessing NHS dental services in the County
 - d. Reduced dental commissioning compared to baseline
 - e. Spend and outcome showing lower spend with worse outcome
- Further investigation is required in order to understand the issues described above in more detail.
- The level of commissioning of dental sedation and domiciliary care should also be investigated in order to ensure that it is appropriate for the population's need.
- Public health and ward level data (where available) should be utilised to help inform any commissioning intentions and decisions.
- The needs, experiences and expectations of all sectors of the community should be appropriately understood in order to help inform commissioning decisions.
- Due to the population profile in the city, NHS dental services that are commissioned should provide a child friendly focus.
- Existing levers should be utilised within the management of dental contracts to maximise oral health improvement and decrease inefficiencies in the system.
- There should be an assurance of the implementation of *Delivering Better Oral Health* in NHS dental practices, focusing on the increase in fluoride varnish and fissure sealant applications. The utilisation of skill-mix in the system e.g.

extended duty dental nurses for the application of fluoride varnish could also be considered.

- Commissioners could explore levers to encourage the completion of dental treatment for all patients.
- The level of antibiotic prescribing locally should be investigated to ensure that they are prescribed along with national guidelines.
- The pathway for dental extraction under general anaesthesia should be investigated due to the lengthy wait.
- The reasons why the patient experience of NHS dental services is low should be investigated and understood.
- All CQC inspection reports should be closely monitored to ensure quality of service provision.

Local Authority (Public Health)

- Agree a multi-partnership Oral Health Promotion Strategy for the City which focuses on giving every child the best start in life.
- Oral health needs to be placed upon a wider agenda for change in order for collaboration with relevant agencies and sectors to take effect.
- Effective and evidence based oral health promotion programmes need to be developed and delivered e.g. community fluoride programmes alongside oral health promotion campaigns. The level of effort expended should be proportionate to the level of need and should focus on the wider determinants of health. There should also be an emphasis on:
 - a. creating sustainable long term funding for cost effective programmes
 - b. ensuring “every patient contact counts” through systematic public health advice delivered by all front line professionals
 - c. enabling all children, young people and adults in maximising their capabilities and having control over their own lives
- Strengthen multi-agency partnerships across all organisations (e.g. health, education, social care) and explore the opportunities for new arrangements on joint-commissioning.
- Ensure the continued commissioning of the dental epidemiology programme. A full census survey on oral health for children could be considered in order to provide ward level data which would enable further detailed understanding on the burden of dental disease being experienced by children in the City.
- The potential of social marketing techniques in reducing inequalities in oral health and access to care should be explored in order to develop and implement a social marketing campaign that improves oral health for all sectors of the population.
- Pursue fluoridation of the public water supplies.
- Explore tobacco cessation and alcohol training for dental practices.

1. Who's at risk and why?

Although oral health has been improving over the past 30 years in the UK, persistent inequalities remain in Leicester. Understanding the structure of the local population will assist in planning and commissioning as oral health needs differ between age, cultural and socio-economic groups. Inequalities in oral health reflect broader health differences across the population, both in terms of pattern and cause. Socio-economic and cultural factors are recognised as being key determinants of oral health inequalities.

Dental caries (tooth decay) can occur at any age but can occur more frequently in earlier years of life particularly in lower socio-economic groups. It is therefore important for good oral health as well as dietary behaviours to be established in the formative years of life. The *National Diet and Nutrition Survey*ⁱⁱ on dental health has shown that the prevalence of tooth decay increases with age and that inequalities in dental health exist and persist. Furthermore, according to the survey, children from families with low income and families in receipt of benefits are more likely to experience tooth decay than those from less deprived families. The *Family Food Survey*ⁱⁱⁱ also found that a significant proportion of the population consumes less than the recommended amount of fruit and vegetables, and more than the recommended amount of saturated fatty acids, salt and Non Milk Extrinsic Sugars (NMES; free sugars not bound in foods). The frequent consumption of NMES leads to tooth decay. People from lower socioeconomic groups tend to have higher intake of NMES.

The *Health Survey for England*^{iv} has stated that children from all minority ethnic groups (especially Pakistani and Bangladeshi children), are less likely to have ever visited a dentist. For those who had visited a dentist, the reason cited was because of a dental problem rather than for a routine dental check-up. There is also evidence that dental care needs for families from eastern European communities may be higher than white British communities – their experience and expectations of dental services may also be quite different.

Severe tooth decay remains a problem particularly among young children in disadvantaged communities with the associated problems of toothache, abscesses and extractions. Often in this age group, dental treatment may only be done under general anaesthetic. Morbidity following extractions under general anaesthesia is common and has distressing consequences for young patients and their carers. It is also undesirable in terms of potential mortality as well as cost. A key document^v which guides the use of general anaesthesia in dentistry states: '*The use of general anaesthesia to reduce pain and anxiety associated with dental treatment should be discouraged. General anaesthesia should be undertaken only when absolutely necessary.*'

Oral cancer has poor survival outcomes. All forms of tobacco increase the risk of oral cancer by a factor of three, and there is evidence that exposure to second hand smoke also increases the risk. Tobacco also increases the severity of gum (periodontal) disease which leads to premature tooth loss and poor wound healing in the mouth. Inequalities exist in the prevalence of smoking with a higher rate for those living in the most deprived areas compared to the rest of the population. There are also differences in smoking prevalence by occupation with a higher rate for routine

and manual workers. A number of minority ethnic groups also have specific cultural habits (e.g. betel quid chewing) which can place them at an increased risk from oral cancer. Furthermore, diabetes and oral health are also linked with diabetics having a greater risk of periodontal breakdown.

There is an increased level of dental decay, tooth erosion, gum disease and oral cancer in people who misuse alcohol. When used in conjunction with tobacco, the risk of developing oral cancer increases by a factor of 38.^{vi,vii} Socio-economic differentials in drinking patterns are complex: those unemployed as well as those on high incomes are most likely to drink above sensible levels and also to binge drink. Rates of alcohol-related mortality in England and Wales has increased significantly in recent years, and is substantially greater for men aged 25-49 from more disadvantaged socio-economic groups.

Many drugs, both prescription and illegal can also affect oral health. Some medications can cause gum problems such as inflammation, bleeding or ulceration. Sugar-containing liquid medication can also be prescribed or bought over the counter. If such medication is taken last thing at night when the flow of saliva is reduced, the medication remains in contact with teeth for longer which can then lead to dental decay. The British Dental Association's view is that sugar is not a necessary or active ingredient in liquid medicines.

2. The level of need in the population

Leicester's children have some of the worst levels of dental decay experience in England. The measure that is used to describe oral health, reflecting the extent of tooth decay/dental caries (rotting teeth) is the number of decayed, missing or filled teeth (dmft). Unfortunately, dmft data is not available below Local Authority level across England. Therefore, average ward-level figures mask the inequalities which exist within a local area.

Local data on the dental health status of five and twelve year olds is regularly collected through the NHS Dental Epidemiology Programme by the Dental Observatory. It should be appreciated that due to sample sizes, the confidence intervals can be large and therefore the data should be interpreted with caution. The information below is presented by comparing Leicester against its local authority comparators, which have been matched by population and demographic profile. It should be noted that information is currently being collected on 3 year olds, the results of which will be available in 2014.

Experience of dental decay in children

The proportion of children (five and twelve year olds) in Leicester with decay experience (having one or more teeth decayed, missing or filled) is significantly higher than the regional (East Midlands) and national (England) averages. At age 5, children in Leicester have the third highest proportion with decay experience when compared against its local authority comparators. However, by age 12, children in Leicester have the highest burden of dental disease when compared against the same comparators. It should also be noted that children living in Birmingham, Sandwell, Coventry, Walsall and Wolverhampton all benefit from water fluoridation with much reduced levels of dental decay experience.

Figure 1: Percentage of 5 year olds with decay experience, 2007-08

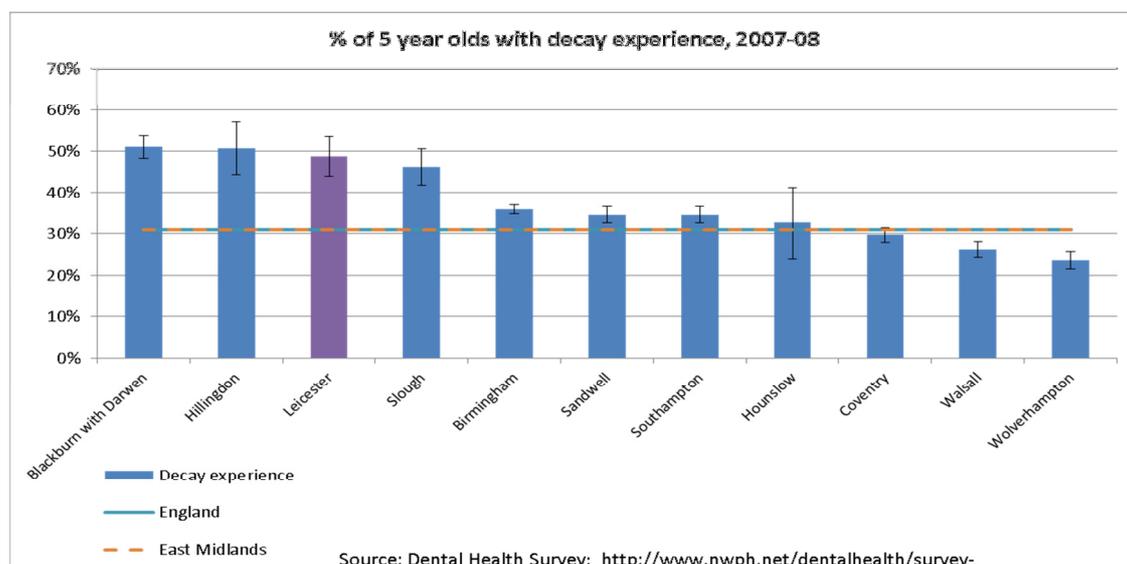
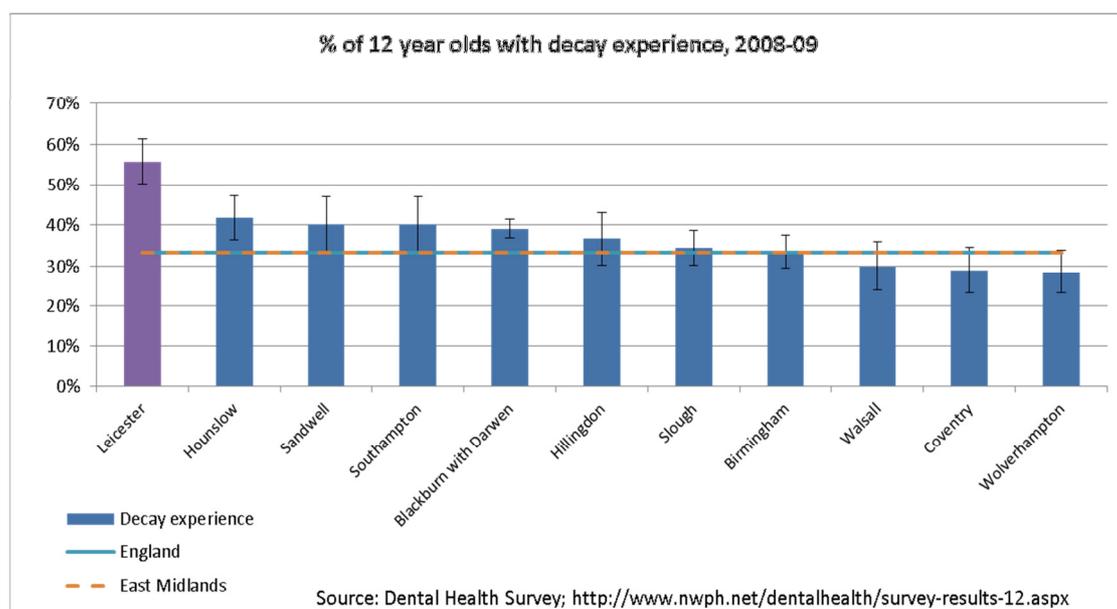


Figure 2: Percentage of 12 year olds with decay experience, 2008-09



Care Index

The care index is the proportion of teeth with decay that have been filled. The care index should be interpreted alongside other intelligence such as levels of deprivation, disease prevalence and the provision of dental services. The care index for children (five and twelve year olds) is significantly lower than the regional (East Midlands) and national (England) averages. At age five, the Care Index for Leicester is the fourth worst and by age 12, Leicester is the worst when compared against all local authority comparators. A low Care Index is consistent with high need populations in not accessing dental treatment in a timely manner.

Figure 3: Care Index (Percentage of teeth with decay experience which have been filled) in 5 year olds, 2007-08

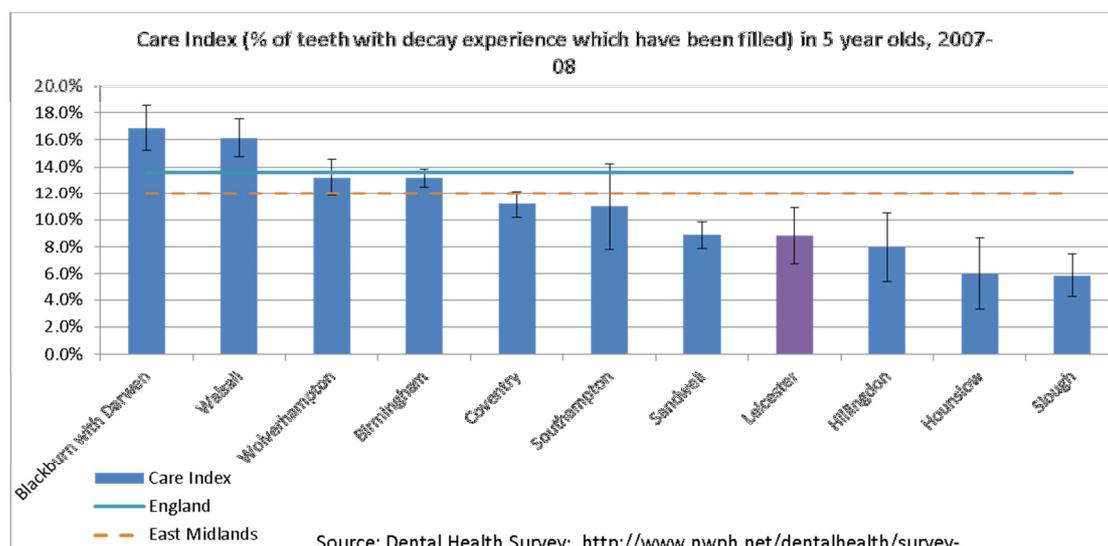
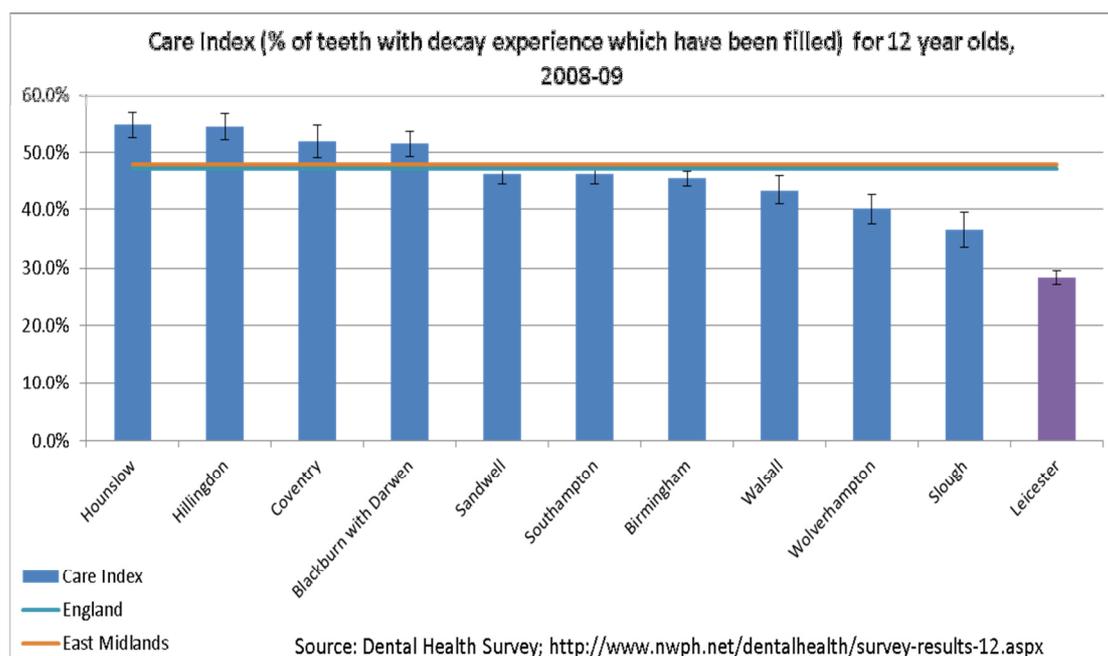


Figure 4: Care Index (Percentage of teeth with decay experience which have been filled) in 12 year olds, 2008-09

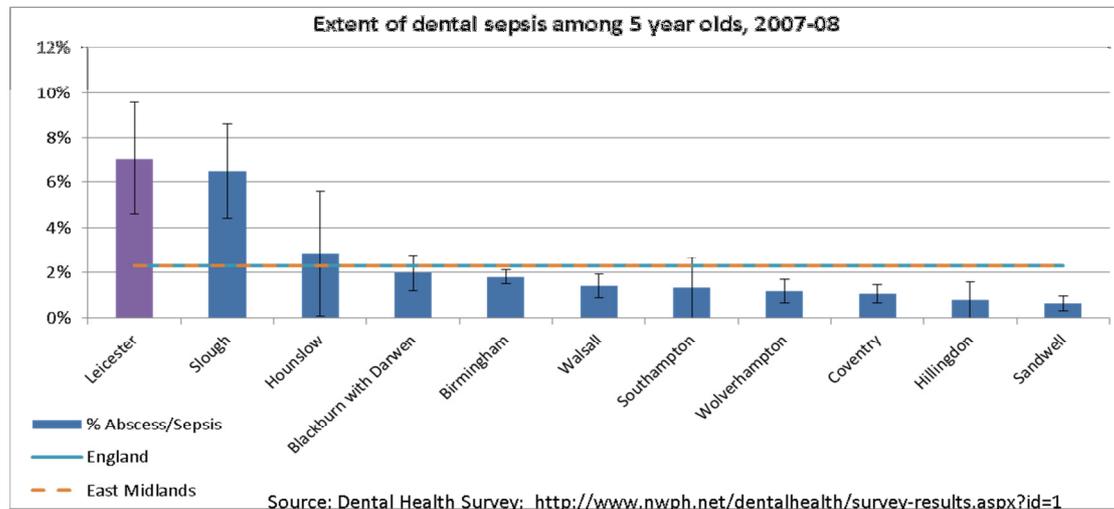


Extent of dental sepsis at age 5

Information on the extent of dental sepsis is not available for 12 year olds and therefore can only be presented for those aged 5. It is of extreme concern that the extent of dental sepsis for 5 year old children living in Leicester is significantly higher than the regional (East Midlands) and country (England) averages. 5 year old children in Leicester are also suffering from the highest burden of dental sepsis when compared against all other local authority comparators. This indicates that the burden of dental disease is extremely high for a proportion of children in the City. It should also be noted that for all areas where the public water supplies are fluoridated such

as Coventry, Sandwell, Birmingham, Walsall and Wolverhampton the extent of dental sepsis observed in 5 year olds is significantly lower than the national average.

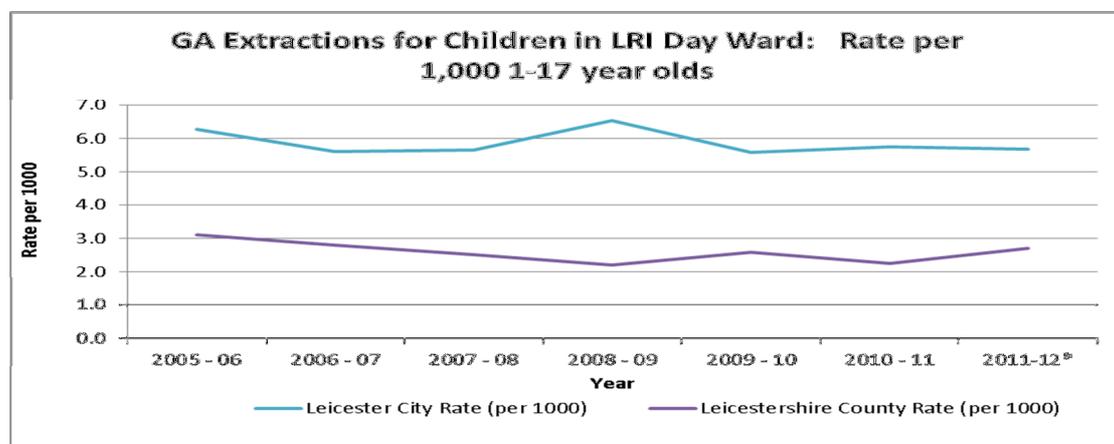
Figure 5: Extent of dental sepsis among 5 year olds, 2007-08



Extractions under General Anaesthesia

Another area of concern is the number of children requiring extractions of decayed teeth under general anaesthesia. General anaesthesia exposes children to unnecessary risk of complications. This is a serious issue which can and should be prevented. The procedure is typically undertaken on children who are unable to accept treatment under local anaesthesia or sedation and they generally require removal of a significant number of teeth. As well as having an impact on both the children involved and their families, this procedure also requires significant additional resources. In 2011/12, the rate of children living in Leicester requiring dental extractions under general anaesthesia was double that compared to Leicestershire and Rutland. It has also been reported by the provider that the waiting list for some children requiring dental extractions under general anaesthesia exceed the 18 week referral to treatment timescale.

Figure 6: Rate of children requiring extractions under General Anaesthesia



Source: Dental Services for Leicester, Leicestershire & Rutland, Derbyshire Community Health Services

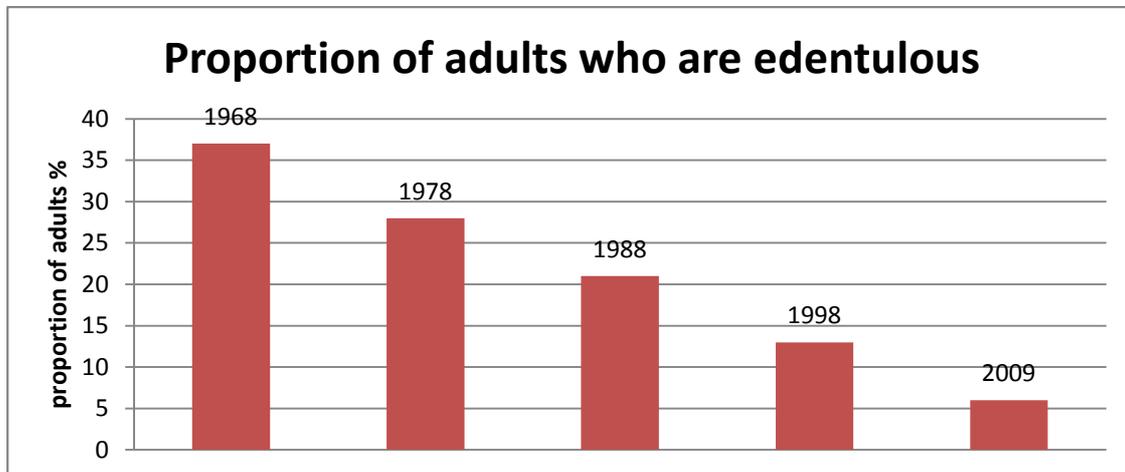
Adults

There is a lack of local information on adult oral health. Most information on adult dental health is provided by the Office of National Statistics decennial *Adult Dental Health Survey* which began in 1968. The main purpose of these surveys has been to gain a picture of adult dental health and how this has changed over time. The most recent survey was undertaken in 2009 and although the latest evidence demonstrates that there have been improvements since 1998, the same evidence identifies a serious underlying issue of social inequalities whilst particularly highlighting the link between poverty and oral health^{viii}.

The main key points are:

- The proportion of adults in England who are edentate (no teeth) has fallen by 31 percentage points (down from 37% with no teeth in 1968 to only 6% in 2009)
- The prevalence of tooth decay in England has also fallen in all age groups from 46% in 1998 to 28% in 2009
- The prevalence of moderate periodontal (gum) disease was 45%
- 61% of dentate adults said they attended the dentist for regular check-ups
- 9% of all adults reported suffering from dental pain
- 12% of all adults (who had ever been to the dentist) were classified as having extreme dental anxiety
- There is an increased need for complex dental treatment for those aged 45 years and over

Figure 7: Proportion of edentulous adults



Source: Adult Dental Health Survey, 2009

Although the survey points to an encouraging overall improvement in adult oral health, this situation is not universal with untreated and unrestorable decay being present in 23% of those who reported dental pain. This serves to provide a reminder of the association between social disadvantage and oral health. The increasing amounts of pain reported as well as the high levels of severe anxiety in the population suggest that there are groups of people who may need special types of care in order to return them to a pain free condition. It was also reported that those with dental pain and high levels of severe anxiety were more likely to be from routine and manual occupation households. The survey also reported substantial differences

in dental attendance patterns by socio-economic classification of households, with adults from the higher risk sections of society being more likely to report symptomatic attendance. This reinforces the point that those from lower socio-economic backgrounds are carrying more of the burden of dental disease but are not seeking routine dental care.

The survey has also shown that people from lower socio-economic households fare worse across a number of oral health indicators than their counterparts in higher socio-economic groups. They are more likely to have dental decay, fillings, poor gum health, pain and sepsis. Additionally, they are less likely to visit the dentist and adopt good oral hygiene behaviours. In fact, although the overall prevalence of decay has fallen, among those who have decay, the levels are disappointingly similar to 11 years previously.

The population as a whole is becoming less edentate with more adults retaining more teeth further into their lives. Dental disease has lifelong impacts through the need for continued maintenance of treatments provided, even long after the disease has been eliminated. Therefore, although there has been a general improvement in dental health, there is also an increased need for complex dental treatment for the older population.

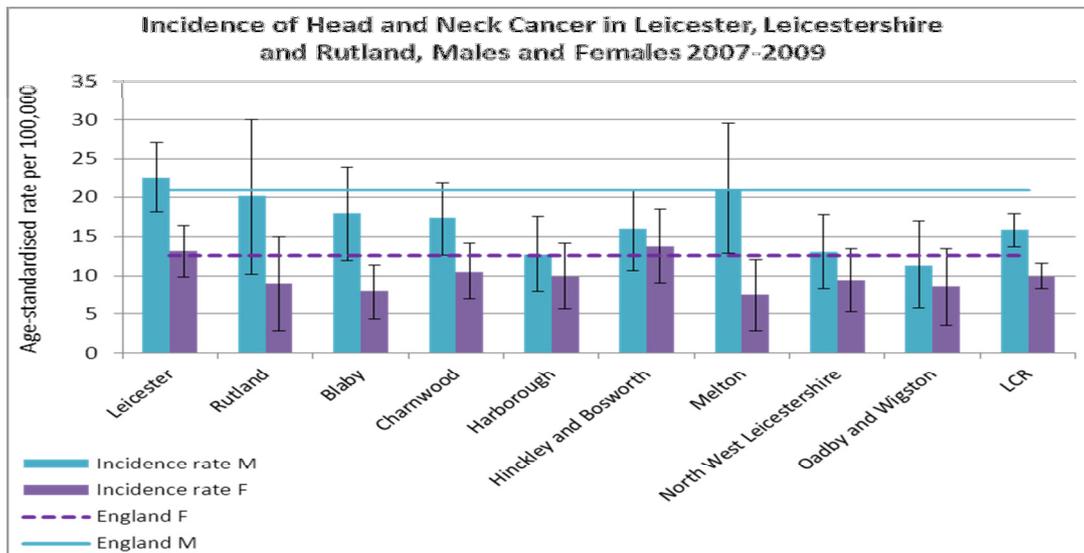
Dental teams are in a position to provide preventive advice not only on dental health but also on other health matters which impact on oral health such as diet, alcohol consumption and smoking. However only 9% of adults recalled being asked about smoking and two thirds said they had never been asked about their diet when visiting their dentist.

It was also reported that 75% of adults clean their teeth for the recommended amount (twice a day). However, 23% clean their teeth only once a day, with 2% of adults cleaning their teeth less than once a day and 1% never cleaning their teeth at all.

Oral Cancer

Oral cancer incidence in England has risen by more than 30%^{ix} in the last 30 years. The main risk factors include all forms of tobacco, alcohol, diet and nutrition, sunlight, human papillomavirus and immunosuppression. It has been suggested that immigration from the Indian subcontinent may have contributed to the increase as betel nut chewing is an important risk factor. The prevalence of cigarette smoking in Leicester is, at 25%, higher than the national rate of 22%^x. This does not take into account the use of smokeless tobacco. In 2010/11, the overall rate of alcohol related hospital admissions in Leicester showed that Leicester was above the County, East Midlands and England averages^{xi}. Oral cancer is 2-3 times more common in men than women, and most cases develop in people aged 40 years or over, with a steep rise in cases in those aged 60-65 years. However, in recent years, incidence and mortality in young and middle-aged adults have been rising. Figure 8 below shows that the incidence of head and neck cancer in males and females is higher in Leicester when compared against the county (Leicestershire and Rutland) and country (England) averages.

Figure 8: Incidence of Head and Neck Cancer in Leicester, Leicestershire and Rutland, Males and Females, 2007-2009



Source: UK Cancer Information Service, December 2010

Oropharyngeal cancer incidence has more than doubled in recent years, representing the biggest rise in any head and neck cancer. Recent research suggests a change in patterns of causation, with human papilloma virus (which can be transmitted by oral sex) being the primary risk factor in a younger subpopulation. The incidence of palate cancer has also increased by 66% nationally. The reasons for this are unclear.

Men and women, diagnosed with oral cancer between 2004 and 2006, living in the least deprived areas in England had higher survival rates at 1 and 3 years when compared to those in the most deprived areas. The 1-year relative survival for men varied from 70% to 83% between the most and least deprived areas in England, whereas 3-year survival ranged from 51% to 69% respectively. For women living in the most deprived areas in England, the 1-year and 3-year relative survival rates were 77% and 64% compared to 82% and 70% for those in the least deprived areas.

Figure 9: 1-year and 3-year relative survival for men (a) and women (b) diagnosed with oral cavity cancer between 2004 and 2006 in England by deprivation quintile

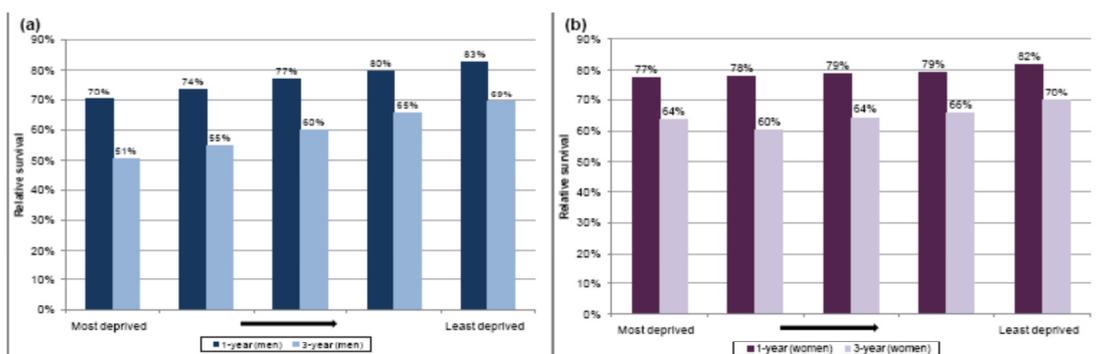


Figure 2: 1-year and 3-year relative survival for men (a) and women (b) diagnosed with oral cavity cancer between 2004 and 2006 in England by deprivation quintileⁱⁱⁱ

Source: National Cancer Intelligence Network^{xii}

Cancer is a major cause of death in Leicester, particularly for those under 75 years where it contributes to nearly a third (32%) of all mortality and results in over 3100 years of life lost every year. Ensuring early diagnosis and timely access to treatment is the only effective way of improving survival rates for cancer patients.

3. Current services and assets in relation to need

The NHS General Dental Services should be designed to fit closely with the needs of all sectors of the population whilst maximising the opportunity for those with the greatest need to receive appropriate and timely dental care. The vast majority of NHS dental care in Leicester is provided by General Dental Practitioners (high street dentists). The Primary Care Salaried Dental Services provides specialist dental treatment in a primary care setting for those with special needs. The Hospital Dental Services provides Consultant led services in Oral and Maxillofacial surgery (including Minor Oral Surgery), Orthodontics and Restorative dentistry.

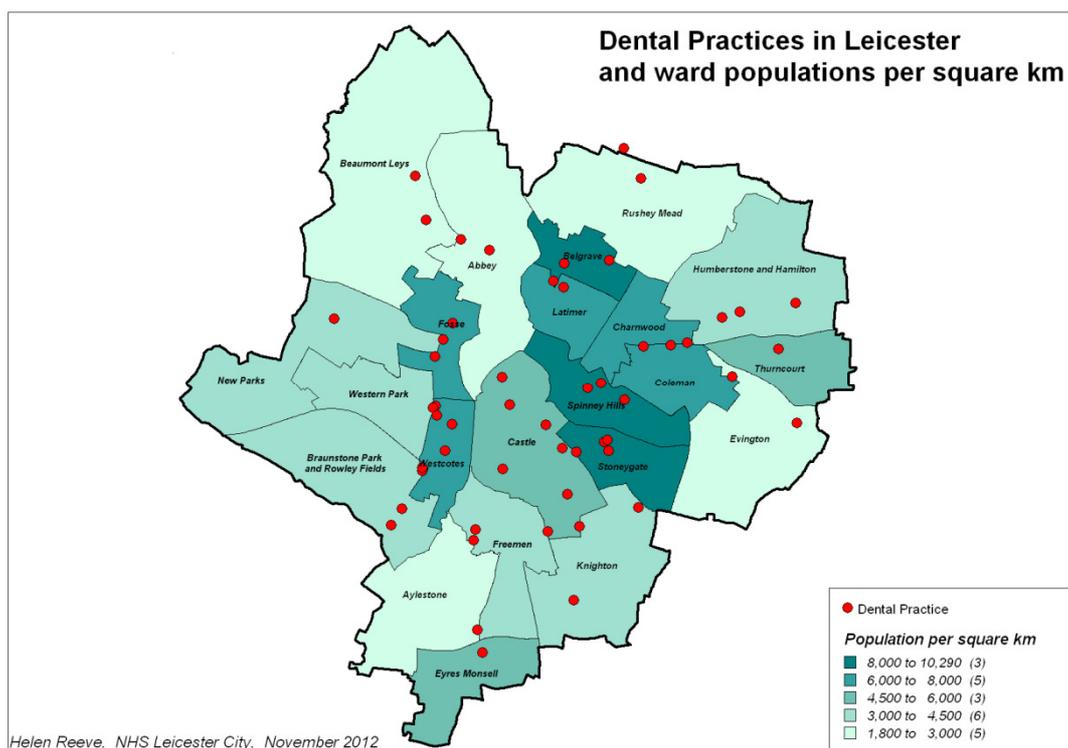
The responsibility for commissioning NHS dental services to meet the needs of the local population was transferred from the PCT to NHS England in April 2013. At the same time, local authorities were given the responsibility for commissioning dental public health services to improve the oral health of their local population. The *Public Health Outcomes Framework* has included a dental indicator (the level of dental decay in five year olds). The DH is also currently piloting a new dental contract which aims to encourage dentists to spend time assessing their patients and also in helping them take a greater responsibility for their oral health. In trialling these new ways of working, dentists will be paid for the number of patients they care for and the oral health outcome that is gained rather than the number of courses of treatment they perform.

The *Call to Action for Better Oral Health in Europe*^{xiii} asks for the European Commission to draw up a specific European Union (EU) Action Plan on oral health. This will define the EU's role in promoting dental public health in order to reduce the burden and costs of oral diseases across the EU by making it a priority under the Community Health Action Programmes. This in turn will address existing oral health inequalities as part of the implementation of the Strategy for Reducing Health Inequalities in Europe.

Dental practices

Within Leicester, there are 59 dental practices offering NHS dental care. Figure 10 below shows the location of dental practices against population density in Leicester. The map shows that there is more provision of dental services in areas of increased population density.

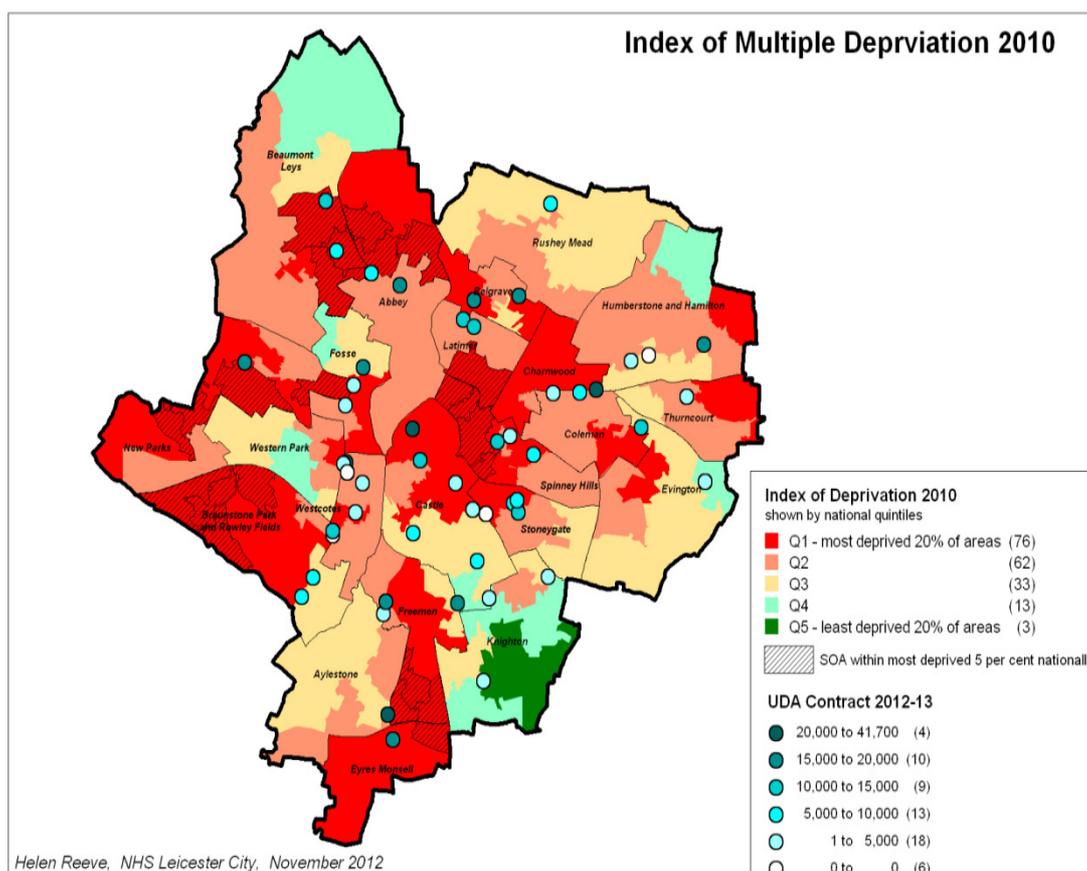
Figure 10: Dental Practices in Leicester and ward populations per square km, 2012



From April 2006, new dental contracts were introduced that severed the link between items of service provided and payments to dentists. For an agreed contract value, dentists are now commissioned by the NHS to deliver an agreed number of Units of Dental Activity (UDAs), which relate to courses of treatment weighted by their complexity. UDAs are the means of measuring performance and demand from the population against targeted activity that has been commissioned. Dentists are allowed to carry over up to 4% of UDAs to the next financial year. In situations where a provider has underachieved in delivering their contracted target by more than 4% (i.e. less than 96% achievement), the PCT was entitled to recover monies up to the value of 96% and carry forward the remaining 4% to the next financial year. Underperformance of less than 96% is a breach of contract; therefore a remedial breach notice was issued to the provider. Where consistent under performance (below 96%) was identified, the PCT entered a discussion with the provider on whether there was a need to re-base the contract. If an agreement was reached, the contract value was reduced in line with the reduction of UDAs. In 2007/2008 it was agreed that any underperformance funding recovered would be reinvested as non-recurrent activity to improve dental access. Any under-performance recovery was up to 100% of the contract value. This approach was taken in subsequent years until 2012/13 as the underperformance recovery was used to cover cost pressures in the dental budget relating to minor oral surgery and orthodontic pathways. From 1st April 2013 NHS England has ensured that policies are in place for managing contract delivery in accordance with the National Assurance Frameworks.

Figure 11 below shows the location of dental practices along with the commissioned UDAs against deprivation. It should be noted that due to the historical nature of NHS dentistry with the old contractual arrangements, dentists could set up an NHS practice anywhere they chose and not necessarily where one was needed. This is the system that the NHS 'inherited' in April 2006.

Figure 11: Location of dental practices and commissioned UDAs against deprivation in Leicester

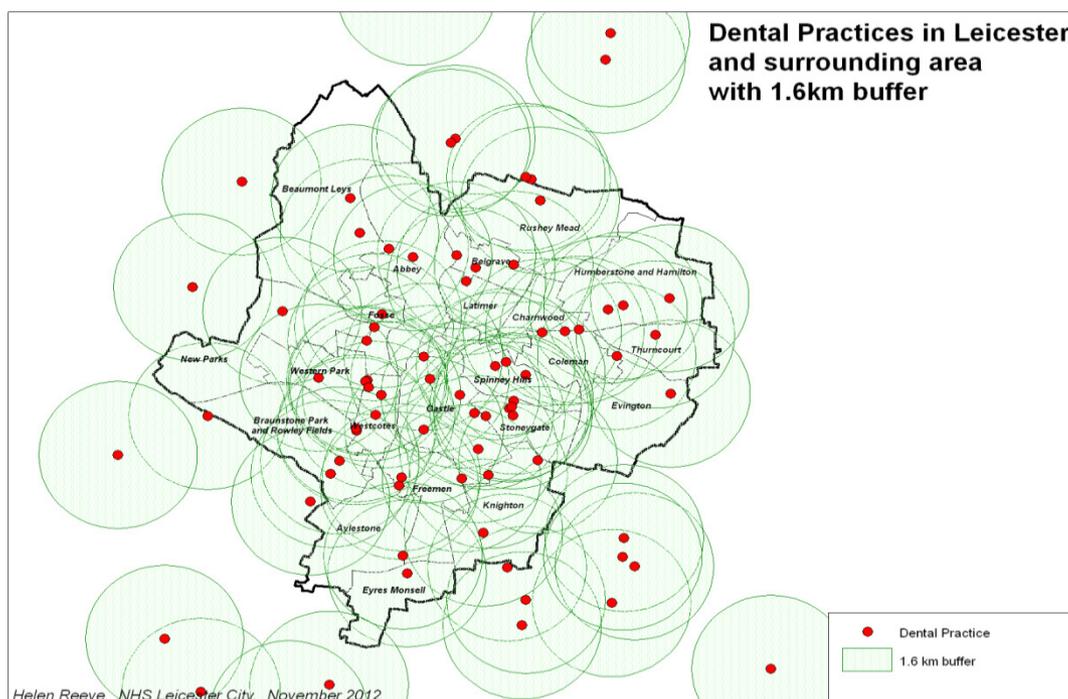


On the whole, figure 11 shows that there is greater commissioning of UDAs in areas of greater deprivation apart from the ward of Braunstone and Rowley Fields. However, it should be noted that there is a dental practice at the border of Braunstone located in the county (as depicted in figure 12). An investigation should be undertaken to ascertain whether this provision in the county border is sufficient for the residents of Braunstone and Rowley Fields. This is particularly important due to the fact that there are some Super Output Areas (SOAs) within the ward of Braunstone and Rowley Fields as well as in the neighbouring ward of New Parks that are in the most deprived 5% nationally. Another area of concern would be the SOAs in the most deprived 5% nationally within the wards of Latimer and Spinney Hills.

Figure 12 shows the location of NHS dental practices (excluding orthodontic practices) with a one mile radius (1.6km) depicting that all residents in Leicester can access a NHS dental practice within this distance, apart from a gap noted in the north of Beaumont Leys and also the boundaries of the wards of Rushey Mead and Humberstone and Hamilton. However, when these areas were analysed further, it was found that they are mainly industrial and not residential areas.

It should also be mentioned that NHS England Area Team is currently commissioning a Dental Access Centre which is sited in the City and provides access to emergency dental care.

Figure 12: Location of dental practices in Leicester and surrounding area with 1 mile (1.6km) buffer

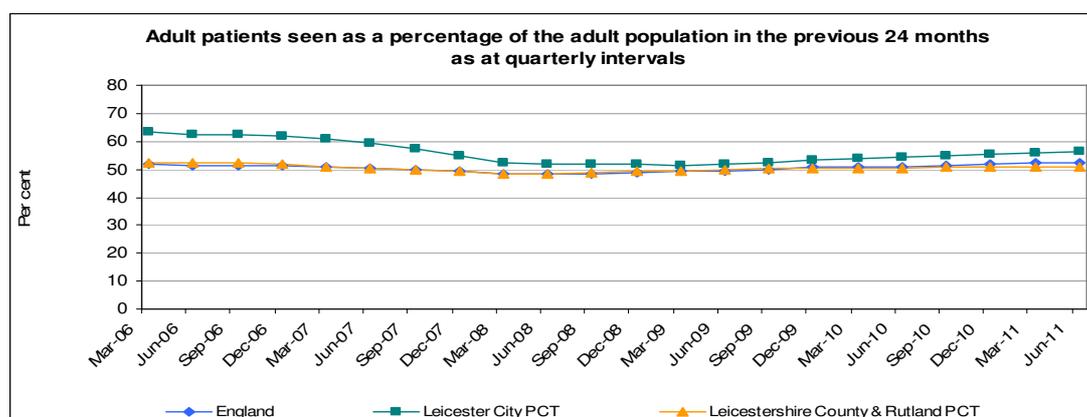


Patient attendance

Access to NHS dentistry is commissioned for anyone who seeks it, regardless of where they live. Therefore, patients may access NHS dental services in any locality of their choice. Those in employment may choose to access an NHS dentist close to where they work rather than where they live. In doing so, all family members may also follow suit. Under the current dental contractual arrangements (introduced in April 2006), patients do not have to be registered with a NHS dentist to receive NHS dental care. The closest equivalent measure to 'registration' is the number of patients receiving NHS dental services ('patients seen') over a 24-month period.

Figure 13 shows the proportion of Leicester adults seen by a NHS dentist within Leicester in the previous 24 months from March 2006 to June 2011. As can be observed, there was a steep downward trend for the first two years of the new dental contract (March 2006 – March 2008) which then levelled off and followed a slight increase from March 2010 to June 2011. Although the proportion of adults seen is still above the national and county averages, there has been a loss of 6.9% patients overall from March 2006 to June 2011. The proportion of the population accessing NHS dentistry at June 2011 was still below the level it was at prior to the introduction of the new dental contract in 2006. Furthermore, NHS Dental Services data also informs us that the proportion of discontinued/abandoned dental treatment for adults in Leicester ranges from 2.6% - 3.8% (2006-2012). This is twice the proportion of discontinued/abandoned dental treatment for adults in Leicestershire and Rutland. This information implies that adults in Leicester are mostly presenting symptomatically and not returning to complete their treatment after the initial presenting problem has been addressed.

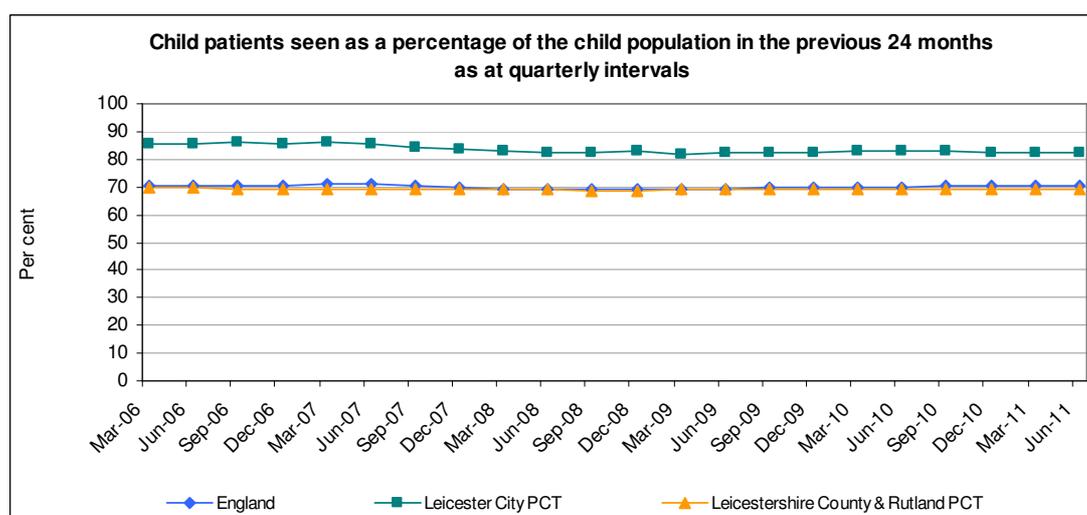
Figure 13: Proportion of Leicester Adults seen by a NHS dentist within Leicester in the previous 24 months from March 2006 to June 2011



Source: NHS Information Centre

Figure 14 shows the proportion of Leicester children seen by a NHS dentist in the previous 24 months. Although at the outset, it may be encouraging to see that the level in Leicester is above the County (Leicestershire and Rutland) and England averages, there has still been a 3.4% overall reduction in the proportion of child patients seen from March 2006 – June 2011. It should also be noted that the Care Index for 5 and 12 year old children showed that it was significantly lower in Leicester when compared against the regional and national averages with 12 year olds also being the lowest when compared against all local authority comparators. Furthermore, the extent of dental sepsis at age 5 in Leicester is the worst when compared against the regional, national and all local authority comparators. NHS Dental Services data also informs us that the proportion of discontinued/abandoned dental treatment for children in Leicester ranges from 1.1% - 1.5% (2006-2012), which is twice the proportion observed in Leicestershire and Rutland. This information implies that dental attendance for children in Leicester is symptomatic rather than routine.

Figure 14: Proportion of Leicester Children seen by a NHS dentist within Leicester in the previous 24 months from March 2006 to June 2011



Source: NHS Information Centre

The table below confirms that Leicester has suffered a bigger percentage loss of patients accessing NHS dentistry between March 2006 to June 2011 when compared against the County (Leicestershire and Rutland) and England. Furthermore, data received from NHS Dental Services also show that from 2006-2012, there was a 33% increase in Leicester residents (6,420 patients) attending NHS dental practices in Leicestershire and Rutland. This information may imply a lack of capacity of dental practices within Leicester, with patients having to resort to Leicestershire and Rutland for NHS dental care. The implications of this may further imply that increased commissioning of NHS dentistry may be required in the City.

Figure 15: Percentage points change in numbers of patients seen as a proportion of the population in the previous 24 months

Percentage points change in numbers of patients seen as a percentage of the population in the previous 24 months

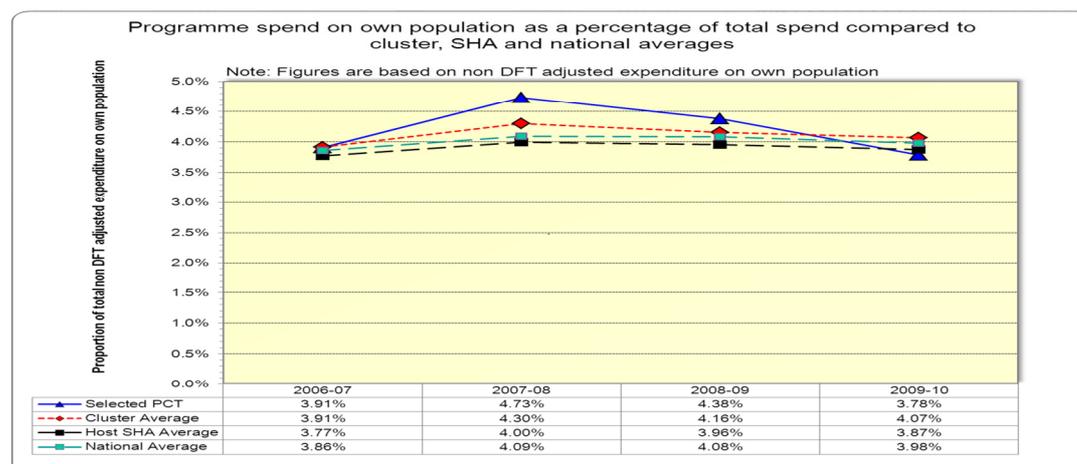
	Total patients seen			Adult patients seen			Child patients seen		
	Mar 06 to	Jun 10 to	Mar 11 to	Mar 06 to	Jun 10 to	Mar 11 to	Mar 06 to	Jun 10 to	Mar 11 to
	Jun 11	Jun 11	Jun 11	Jun 11	Jun 11	Jun 11	Jun 11	Jun 11	Jun 11
England	0.5	1.3	0.1	0.9	1.4	0.1	-0.1	0.6	0.0
Leicester City PCT	-6.2	1.4	0.2	-6.9	1.9	0.4	-3.4	-0.6	-0.1
Leicestershire County & Rutland PCT	-1.5	0.2	-0.2	-1.5	0.4	-0.2	-1.1	-0.3	-0.2

Source: NHS Information Centre

Programme Budgeting

Figure 16 shows that there was a substantial increase in the financial budget for NHS dentistry in Leicester for 2007-08. This was above the cluster, regional and national averages. However, this was followed by a very steep reduction in NHS dental spend from 2008 onwards ending below the baseline year of 2006-07 in 2009-10. This is against the cluster, regional and national trend which all show that NHS spend in 2009-10 was still higher than their relevant 2006-07 baseline.

Figure 16: NHS Dentistry Spend by PCT, Cluster, Regional and National Averages, 2006-07 to 2009-10

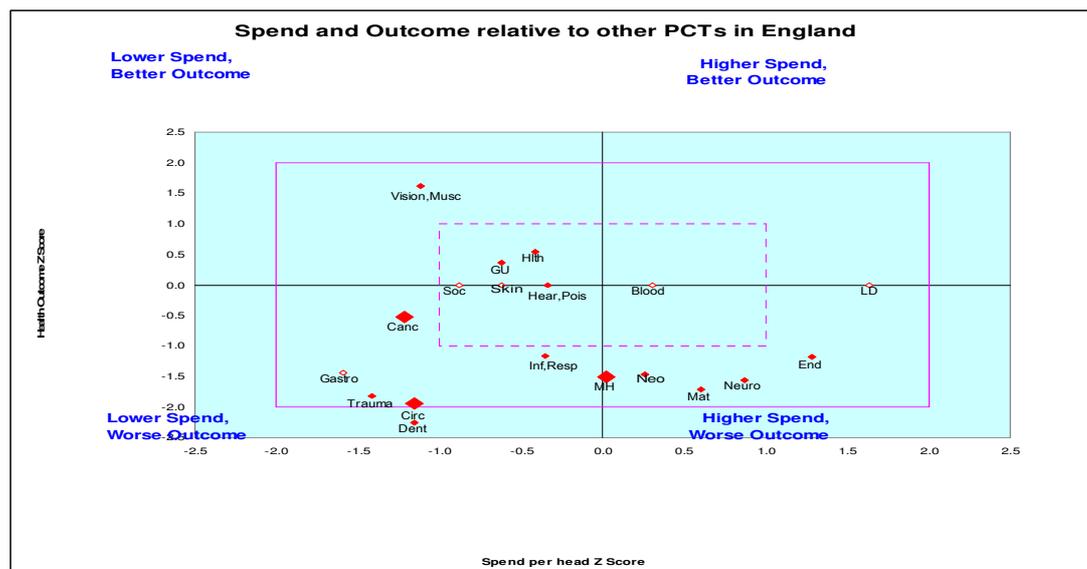


Source: Department of Health

When comparing spend on a programme, it is also important to consider outcomes. Information on spend and outcomes is available within information produced by the Yorkshire and Humber Public Health Observatory programme budgeting tool for each

Primary Care Trust (PCT). Figure 17 below shows the spend and outcome chart for Leicester. It categorises each programme into 4 quadrants in terms of spend and outcome to allow easy identification of those areas that require priority attention. Each dot represents a programme budget category. The three largest spending programmes nationally (Mental Health, Circulatory Diseases and Cancer) are represented by larger dots. It can be seen that Leicester City PCT has had a lower investment in NHS dentistry which has resulted in it being an outlier in terms of worse dental outcome (lower left quadrant).

Figure 17: Spend and dental health outcome of 12 year olds relative to other PCTs in England 2010/11



Source: Yorkshire & Humber Public Health Observatory

Dental treatment provision

There are 3 bands of NHS dental treatment that relate to the complexity of dental care. The number of UDAs a dentist can claim ranges from 1 to 12 UDAs:

- Band 1 equates to 1 UDA and covers examination, diagnosis and preventative dental treatment such as fluoride varnish and fissure sealants
- Band 2 equates to 3 UDAs and include Band 1 plus further treatments such as fillings, root canal work and extractions of teeth
- Band 3 equates to 12 UDAs and includes Band 1 and 2 plus further dental treatment requiring laboratory work such as crowns, bridges and dentures
- Unscheduled urgent care equates to 1.2 UDAs under a Band 1 course of treatment
- Issue of a prescription equated to 0.75 UDA. (this provision ceased in November 2012 due to National Regulatory changes).

Figure 18 below shows that there has been a decrease in the provision of all Bands of dental treatment in Leicester. This reduction is at twice the rate being observed in Leicestershire and Rutland. It can also be seen that the national (England) picture shows a complete contrast with a positive increase in all Bands of treatment in the same time frame. The reasons for this have to be explored further but could imply insufficient commissioning.

Figure 18: Units of Dental Activity by treatment band, 2009-10 and 2010-11

Units of Dental Activity, by treatment band: 2009/10 and 2010/11

	Band 1			Band 2			Band 3		
	2009/10	2010/11	% change	2009/10	2010/11	% change	2009/10	2010/11	% change
England	20,346,012	20,718,874	1.8	35,098,905	35,414,322	0.9	25,034,148	26,249,796	4.9
Leicester City PCT	131,914	128,099	-2.9	253,998	239,664	-5.6	156,300	152,724	-2.3
Leicestershire County & Rutland PCT	318,960	314,277	-1.5	435,357	423,315	-2.8	269,076	259,824	-3.4

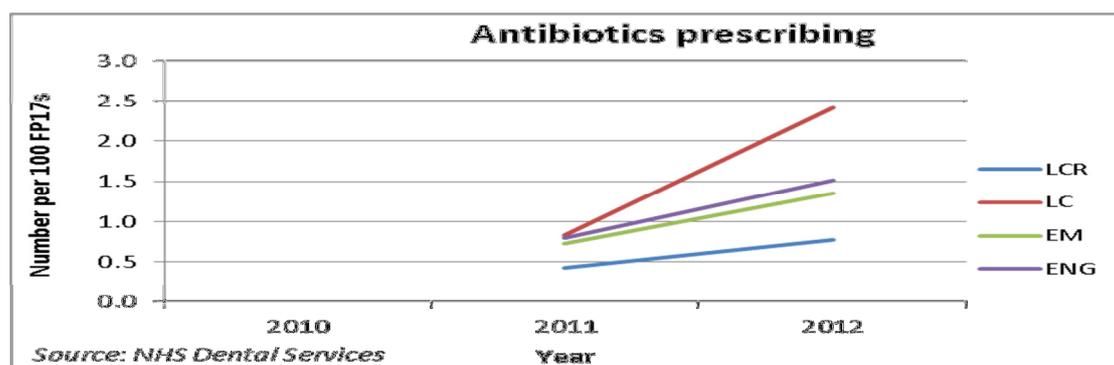
(continued)

	Urgent			Other			Total		
	2009/10	2010/11	% change	2009/10	2010/11	% change	2009/10	2010/11	% change
England	4,210,866	4,338,032	3.0	767,980	743,265	-3.2	85,457,911	87,464,289	2.3
Leicester City PCT	25,848	24,751	-4.2	7,301	7,081	-3.0	575,361	552,319	-4.0
Leicestershire County & Rutland PCT	47,123	48,313	2.5	10,366	9,936	-4.2	1,080,882	1,055,665	-2.3

Source: NHS Information Centre

When analysing the claim forms (FP17s) that has been sent to NHS Dental Services for processing, it can be noted that antibiotic prescribing is significantly above the county (Leicestershire and Rutland), region (East Midlands) and national (England) averages (Figure 19). This information implies symptomatic attendance in Leicester resulting the the prescribing of antibiotics at a significantly high rate. The increase in resistance to antibiotics is a major cause for concern and therefore the appropriate and judicious use of antibiotics in dental settings is a priority. Antibiotics should only be prescribed for a treatment of an infection and in conjunction with local measures.

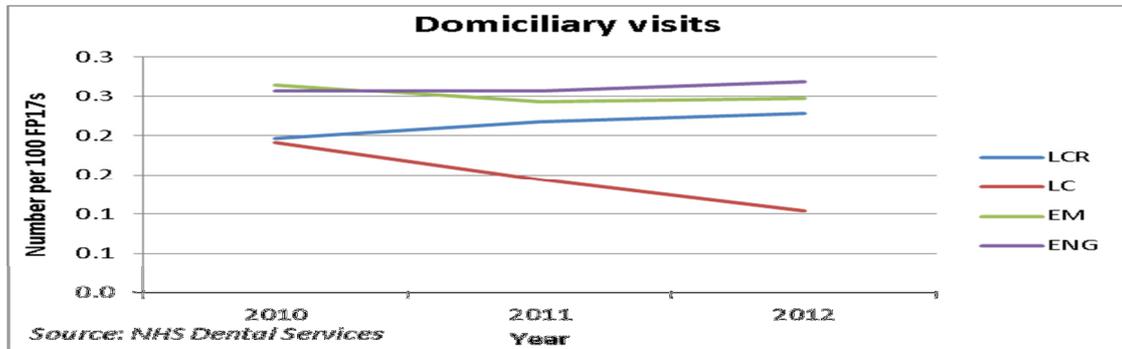
Figure 19: Antibiotics prescribing in Leicester NHS Dental Services, as compared to the Leicestershire and Rutland, East Midlands and England averages, (2010-11 and 2011-12)



Domiciliary dental care is dental treatment that is provided in the patient's home. Patients who have severe mobility problems that make it very difficult for them to leave their home for dental treatment may benefit from domiciliary dental care. However, it should be noted that it is in the patient's best interest to have dental treatment in a surgery wherever possible as all the equipment and materials are at hand. Patients who are unable to climb stairs or require wheel chair access can still be treated in a dental surgery and this would be in the patient's best interest as there are some treatments that cannot be provided in a domiciliary visit due to the complexity and the fact that some essential equipment is not transportable.

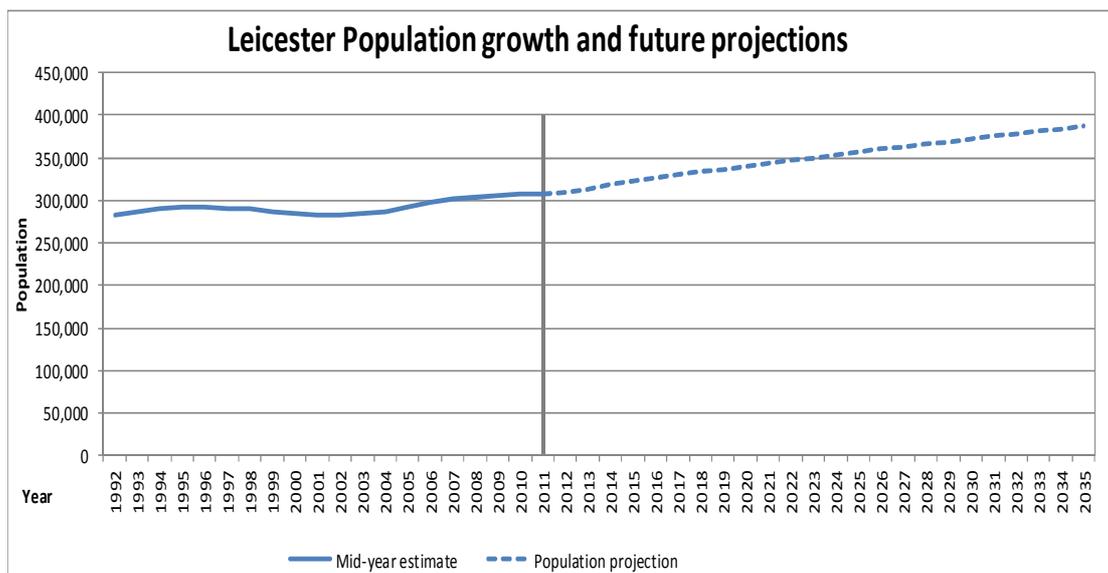
Information from NHS Dental Services shows that the provision of domiciliary visits in Leicester is about a third of that provided in the county (Leicestershire and Rutland), region (East Midlands) and country (England). The reasons for this should be investigated further to ensure equality of access in service provision.

Figure 20: Domiciliary Dental Care, 2010 – 2012



4. Projected service use and outcomes in 3-5 years and 5-10 years

Figure 21: Leicester Population Growth and Future Projections, 1992 – 2035



Population growth

The City's population has risen by 16% between 2001 and 2011 to 329,900. As can be observed in Figure 21, this growth is projected to continue. This presents a challenge as there's a clear additional burden on the provision of all health and social care services in meeting the increased need and demand of the growing local population. The population of Leicester is younger than the national average with a third of the population being under the age of 24. Although the full impact of economic migration into Leicester is difficult to quantify, the elderly population is

predicted to increase at a much slower pace compared to the increase in the working age population and younger children in Leicester.

Changes in demography

The demographics of Leicester is also changing with a new wave of migrants from the countries of the former Eastern Europe establishing roots in the city. The latest figures indicate that 74% of all new migrant workers are Polish^{xiv}. From 2014, Bulgarian and Romanian nationals will gain the right to live and work unrestricted in Britain under European “freedom of movement” rules. This could see Leicester welcoming further new arrivals in the next few years.

It should be noted that the prevalence rate of dental caries in children has remained high in most of Central and Eastern Europe^{xv}. This information indicates that significant proportions of the children from Central and Eastern Europe have a higher need of dental care. Recent surveys carried out in Eastern Europe and studies undertaken in Poland^{xvi} have shown that high numbers of children only attend the dentist when in pain with 70% of children having sweets every day or several times a week.

Deprivation

Poor health is largely driven by deprivation and exacerbated by lifestyle factors embedded within communities. A well-recognised association exists between socioeconomic status and oral health with oral diseases being increasingly concentrated in the lower income and more excluded groups in society. The health inequalities gap between Leicester and England is not narrowing and the gap between the more deprived and the more affluent communities within Leicester has remained a stubborn inequality. With the predicted increase in the population over the coming years, there is a concern that this inequalities gap may widen. The challenge in Leicester is in improving the health and wellbeing of the poorest fastest. Given the overall level of deprivation and the young population in Leicester, a focus is required on services for children, young people and families as well as those living in local areas that are in the most deprived 5% SOAs nationally.

Welfare Reforms

It has also been predicted that Leicester could expect a migration of low income families from inner London areas as the Comprehensive Spending Review welfare reforms are introduced. This prediction is based on the assumption that families may no longer sustain the higher living costs in London in times of austerity. Furthermore, it has also been estimated that 500 Leicester households would be worse off due to the capping of benefit income. There are concerns that this would increase child poverty and homelessness. This could in turn have a serious knock-on impact on the burden of dental disease in Leicester.

The cost of maintaining a functional dentition, especially for adults who frequently have heavily restored teeth is rising^{xvii}. It has already been reported that a growing number of people are cutting back on their oral healthcare as household budgets continue to be squeezed. The British Dental Health Foundation undertook a survey and found that 36% of adults are likely to delay any dental treatment needed due to cost and over a quarter say they are visiting their dentist less often as a result of the current economic problem. Not surprisingly, people on lower incomes are most at risk of deteriorating oral health in the current economic climate.

In this period of increasing austerity, all public bodies are also looking to reduce their spend in line with reduced budgets and the need to make savings in meeting rising demand. The challenge is to increase the efficiency of what is delivered, while maintaining effective and acceptable services. On going monitoring of actual impacts over time is required in order to keep track of and respond to the scale of adverse impact predicted. If no positive action is taken then the levels of oral health in Leicester may continue to decline.

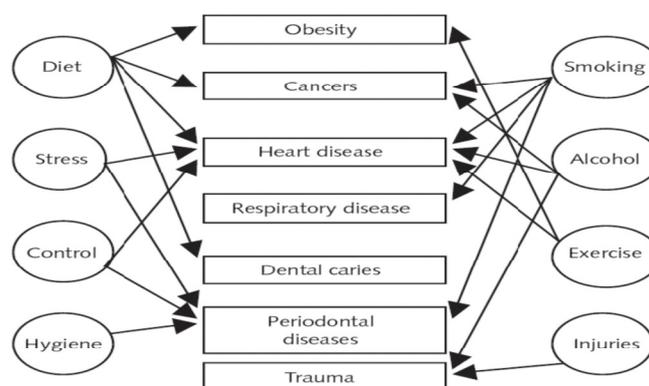
5. Evidence of what works

Public health research has shown that implementing educational interventions alone does not produce sustained improvements in health and has a limited effect on reducing the health gap. The *Ottawa Charter*^{xviii} (World Health Organisation) represents consensus agreement on good health promotion practice through a complementary range of actions:

- Build healthy public policy
- Create supportive environments
- Strengthen community action
- Develop personal skills
- Reorientate health services

A core theme of government public health policy is to promote partnership working across the NHS and beyond^{xix}. ‘*Choosing better oral health: an oral health plan for England*^{xx}’ emphasised the need for oral health to be integrated into the wider public health agenda. The adoption of an integrated common risk factor approach forms the basis of joint working. It addresses risk factors common to many chronic conditions within the context of the wider socio-environmental milieu. Oral health is determined by diet, hygiene, smoking, alcohol use, stress and trauma. As these causes are common to a number of other chronic conditions, adopting a collaborative approach is more rational than one that is disease specific. Thus, this approach focuses preventive action on a number of risk factors that impact on a large number of diseases. This in turn, increases effectiveness and efficiency.

Figure 22: Common Risk Factor Approach



Sheiham & Watt, 2000

The *Marmot Review*^{xxi} echoes the principles of the *Ottawa Charter*^{xxii} with the central ambition being the creation of conditions for people to take control over their own

lives. The starting point for the *Review*^{xvii} is that health inequalities that are preventable by reasonable means are unfair and therefore putting them right is a matter of social justice. Sustainability and the fair distribution of health and wellbeing are important social goals. If the conditions of daily life are favourable, and more equitably distributed, then people will have more control over their lives in ways that will influence their own and their family's health and health behaviours.

The concept of *Proportionate Universalism*^{xviii} provides a useful lens for commissioners when tackling local health inequalities. To reduce these inequalities, action should be universal but proportionate to the level of disadvantage and therefore an appropriate mix of whole population and targeted interventions should be considered. The highest priority recommendation from the *Review*^{xvii} was to give every child the best start in life, as disadvantage starts before birth and accumulates throughout life.

The total NHS expenditure on dentistry is approximately £6 billion (approximately £300 million is spent on children). Most of the expenditure is primarily spent on diagnosis and dental treatment. It has been suggested that oral disease is the fourth most expensive disease to treat in most industrialised countries^{xxiii}.

Fluoridation of public water supplies is a very effective method that has a beneficial effect on both unerupted and erupted teeth in controlling tooth decay. There is strong evidence for the benefits of water fluoridation in improving oral health and reducing health inequalities for the whole population. It provides 20-40% reduction of tooth decay over a life course^{xxiv}. Currently approximately 10% of England's population (about 6 million people) are gaining any benefit from fluoridated water at the optimum level for dental health^{xxv}. In terms of population coverage, the West Midlands is the most extensively fluoridated area, followed by parts of the North East of England. There are currently no water fluoridation schemes in operation or under consideration within Leicester. From April 2013, the responsibility for proposing and conducting consultations on local water fluoridation schemes will transfer from the NHS to local authorities.

In the absence of water fluoridation, the benefits of topical fluorides such as toothpastes, mouthrinses, gels or varnishes are firmly established based on a sizeable body of evidence. Every effort should be made to ensure affordable fluoride toothpastes are available to the general population. When considering commissioning/implementing preventative strategies, the Department of Health's evidence-based toolkit *Delivering Better Oral Health*^{xxvi} recommends fluoride varnish applications as one of the best options for consideration. There is high quality evidence of the beneficial effect of fluoride varnish in both permanent (adult) and primary (baby) teeth^{xxvii,xxviii}. It has been shown that twice-yearly applications of fluoride varnish produces a caries reduction rate of 33% in primary and 46% in permanent teeth^{xxix}. Fluoride varnish also has a number of practical advantages; it is well accepted, safe, simple to apply, requires minimal training and acts as a slow reservoir of fluoride^{xxi}.

Dental nurses can now be trained to apply fluoride varnish in dental surgeries and community settings^{xxx}. Utilisation of such skill-mix enables fluoride varnish to be applied in a cost-effective manner. A community fluoride varnish programme would need to be overseen by a Consultant or Specialist in Dental Public Health. In Scotland and Wales, the national child oral health improvement programmes *Childsmile*^{xxxi} and *Designed to Smile*^{xxxii} deliver supervised tooth brushing and fluoride varnish applications in nursery and school settings. It should also be noted that the

General Dental Council has recently approved direct patient access to dental care professionals. This allows dental care professionals to carry out their full scope of practice without first seeing a dentist.

The prevention of gum disease requires educational interventions on the related risk factors as well as regular, self-performed mechanical oral hygiene. As such, optimal oral health requires appropriate patient motivation, adequate tools and professional oral hygiene instruction. Evidence shows that avoidance or cessation of exposure to all forms of tobacco would lead to a decrease in oral cancer and gum disease. Stop smoking guidelines recommend that all health professionals (including dental professionals) should check the smoking status of their patients, and should motivate smokers to stop^{xxxiii, xxxiv}.

Social marketing has been shown to be effective across a wide range of public health settings, yet remains underused. It uses the principles of marketing to understand health-related behaviour and tailor appropriate interventions to population subgroups. Whilst commercial marketing capitalises on current demand for a tangible benefit, social marketing relies on stimulating behavioural change for future health gain. This means that the benefit (i.e. improvement in future health) must be attractive enough to stimulate the change in behaviour. In contrast many public health interventions rely on 'top-down' diffusion of health information. As a result, the relevance of the message conveyed can be limited and not lead to behaviour change. Further explorations should be undertaken to assess the potential of social marketing techniques in reducing oral health inequalities in Leicester.

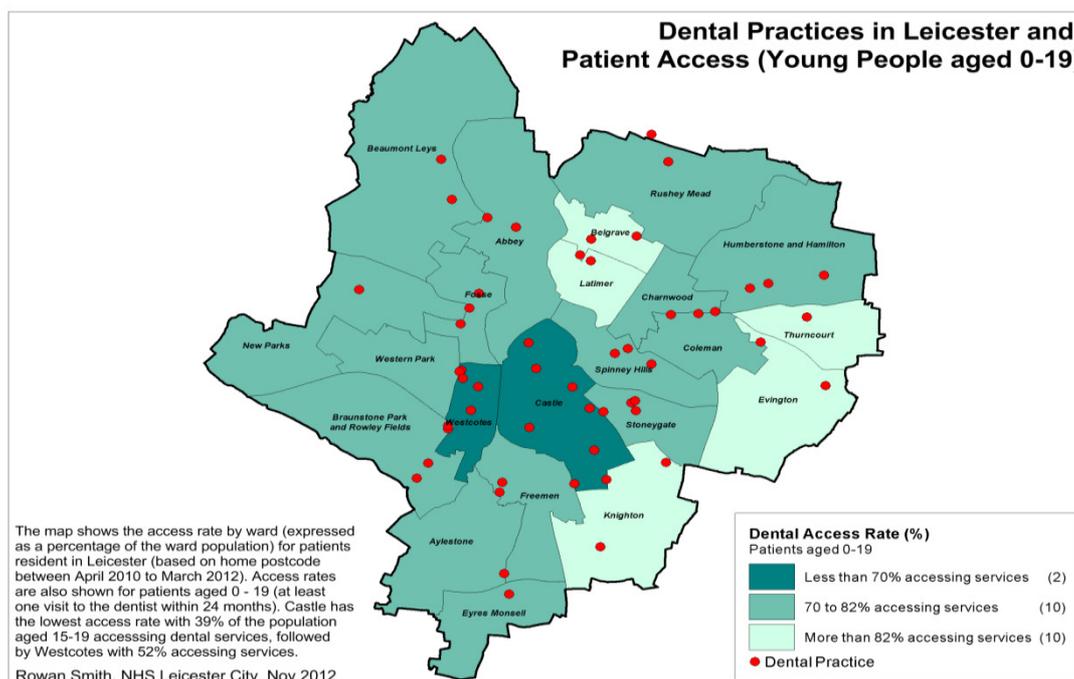
6. Unmet needs and service gaps

Child dental attendance

Although the proportion of children attending NHS dental services is above the national average, there is reason to believe that the attendance is symptomatic and not preventive in nature. The burden of dental decay and dental sepsis is above national average whilst the care index is low. It has also been shown that the proportion of discontinued/abandoned dental treatment is high. Analyses of child dental attendance (0-19 years) has shown that the proportion of children living in the wards of Westcotes and Castle is the lowest (Figure 23). The reasons for this need to be investigated. The link between deprivation and poorer health is not even across the city and that there is a complex interplay between ethnicity and deprivation. By developing an understanding of the unique characteristics of the different populations in the City, appropriate interventions could be designed in order to maximise the desired outcomes in oral health.

The oral health environment in childhood is important. Appropriate oral health attention from parents alongside conducive local environments lead to a better oral health outcome in adulthood.^{xxxv} It has also been shown that young, single or unemployed mothers are less likely to apply healthy behaviours or to improve knowledge of healthy choices. However, the later stages of pregnancy has been demonstrated to be a good time to impart oral health education and then again when teeth are a priority issue, such as when baby teeth start to erupt^{xxxvi}

Figure 23: Dental Practices in Leicester and Patient Access by Children and Young People aged 0-19, November 2012



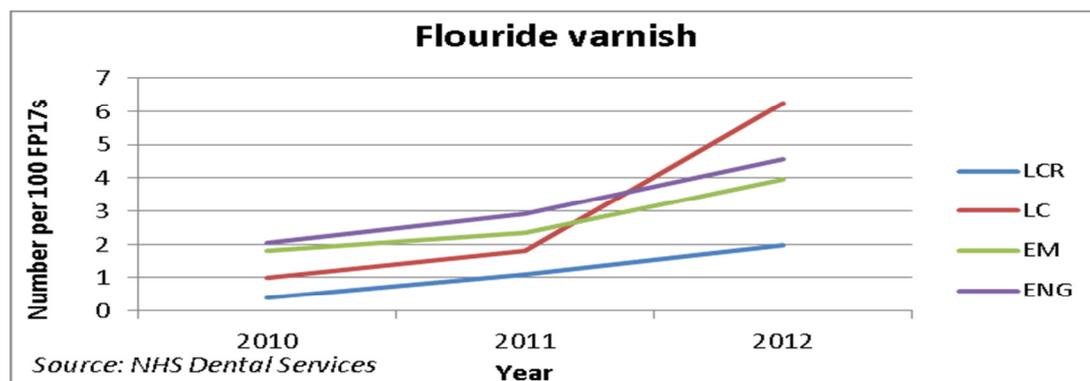
Fluoride varnish

Professionally applied fluoride varnish has been demonstrated to be effective in reducing dental caries^{xxi}, and is recommended for:

- All 3-16 year olds: to be applied twice yearly
- 3-16 year olds with a high risk of caries or special needs: to be applied 3-4 times per year

Historically, primary care general dental services have been treatment focused. The new dental contract was designed to encourage dentists to focus on prevention and health promotion. However, while the contract has removed incentives for over-treatment, there is still limited incentive for the dentist to take a more preventative approach. Preventative activity undertaken within general dental services tends to be largely undocumented and based on oral health education. Anecdotal evidence suggests that this education is mainly around oral hygiene instructions with limited advice on broader risk factors such as dietary choices, tobacco use or alcohol misuse. Figure 24 shows that there has been a dramatic increase in the rate of fluoride varnish applications in Leicester (2011 to 2012) which has superseded the county (Leicestershire and Rutland), region (East Midlands) and national (England) averages. The reason for this increase may be explained by the positive encouragement from the former NHS Leicester City which funded fluoride varnish training to dental nurses in City practices. There have been 4 training sessions with 10 dental nurses at each session. In addition, recurrent funding was awarded to 23 city practices in 2009. The 23 practices are required to deliver on specific key performance indicators (KPI) which were revised for 2012-2013 to include fluoride varnish applications.

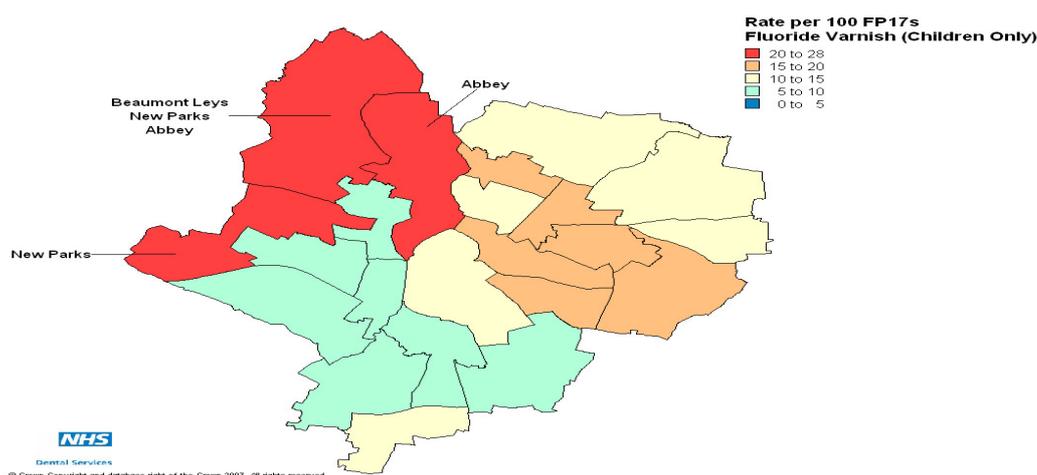
Figure 24: Rate of Fluoride Varnish Applications in Children in Leicester, as compared to the Leicestershire and Rutland, East Midlands and England, 2010 – 2012



However, although the increase in fluoride varnish applications is encouraging, there are still inequalities in the rate of these applications by ward level. Figure 25 shows that children living in the following wards have the lowest rates of fluoride varnish applications (this does not necessarily correspond with where dental practices are based):

- Fosse
- Western Park
- Westcotes
- Braunstone Park and Rowley Fields
- Aylestone
- Freeman
- Knighton

Figure 25: Rate of Fluoride Varnish Applications by Resident Ward of Patient (Children Only)

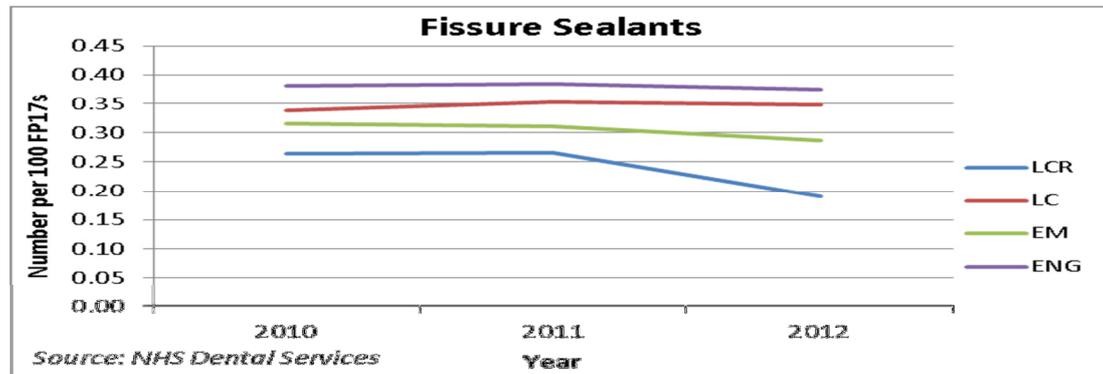


Fissure sealants

Fissure sealants are recommended^{xxi} for those at high risk of developing caries (e.g. those undergoing orthodontic treatment, those with special needs etc. Fissure sealants can only be applied by dentists, therapists or hygienists and is therefore resource and time intensive. Figure 26 shows that the rate of fissure sealants

applications is lower than the national (England) average but higher than the regional (East Midlands) and county (Leicestershire & Rutland) averages. It can also be seen that unlike the national, regional and county picture, which shows that the rate of fissure sealant applications have reduced in 2011-12, the rate in the City has remained constant.

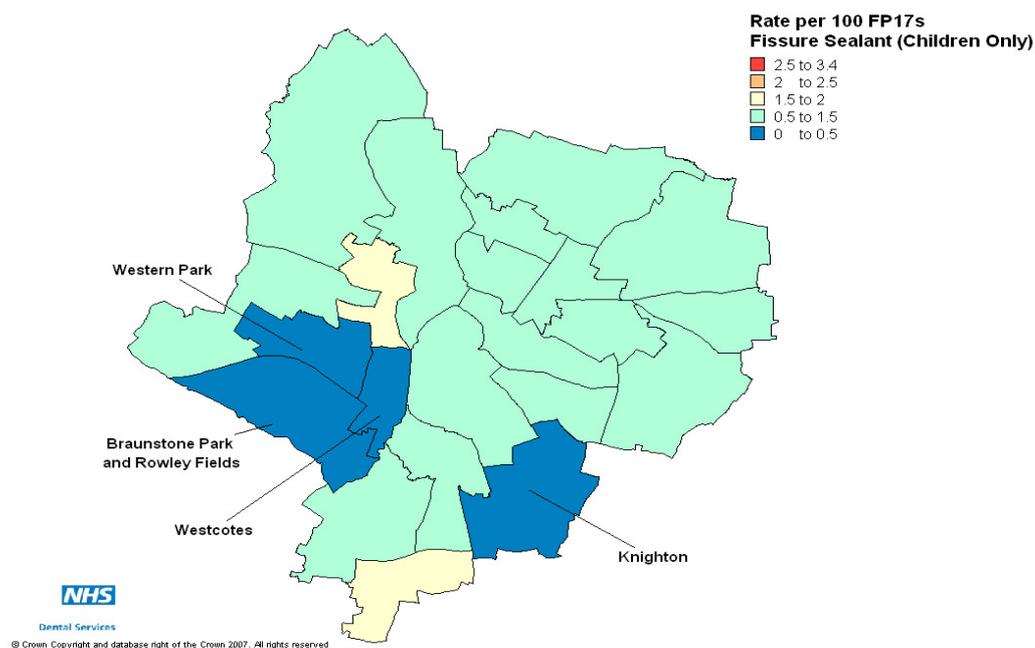
Figure 26: Rate of Fissure Sealants in Children in Leicester, as compared to the Leicestershire and Rutland, East Midlands and England, 2010 – 2012 rates



When analysing data down to ward level, it can be seen that children living in the following wards have the lowest rates of fluoride varnish applications (this does not necessarily correspond with where dental practices are based):

- Western Park
- Westcotes
- Braunstone Park and Rowley Fields
- Knighton

Figure 27: Rate of Fissure Sealant Applications by Resident Ward of Patient (Children Only)



Tobacco

Making every consultation count for health^{xxxvii} should be the goal of all health professionals. Tobacco is a risk factor for poor oral health and health in general. Dentists are able to identify patients who use tobacco and who may not be in contact with other health professionals. Assessment and management of risk forms part of the necessary action on tobacco cessation for all dental professionals^{xxxviii}. It should be provided consistently and combined with public health action on the wider determinants of health, so that health inequalities are addressed. One of the barriers expressed by dentists who do not raise tobacco cessation with their patients is their lack of training which makes them feel uncomfortable in discussing the topic^{xxxix}. However, despite that fact, for the financial year 2011/12, the local dental profession referred 72 patients into the STOP! Smoking Service. Members of the dental team can be trained to deliver Level 1 and 2 smoking cessation directly to patients but there are currently no dental teams that have undergone this training in Leicester.

Alcohol

Dentists are also appropriately placed to recommend the reduction of alcohol consumption to moderate levels and signpost patients to local alcohol misuse support services as appropriate^{xxi}. The Leicester Drug and Alcohol Action Team has recently commissioned (with public health funding) Druglink to deliver Identification and Brief Advice training to support a range of alcohol services and other services across the City. The training provides the necessary skills to enable staff to offer brief advice as an intervention. The training programme commenced in December 2012 and is available to all categories of staff including dental practitioners and their teams. Such training would also be useful in raising awareness of alcohol services in which to signpost patients to for assistance.

Diet

Oral health and nutrition have a fundamental relationship. Despite government campaigns, only 2.8 of the recommended five portions of fruit and vegetables are consumed daily in the UK, and when combined with alcohol intake and tobacco use, it is difficult for individuals to absorb the nutritional benefits they need from food. Dentists can assist patients in adopting good dietary practice^{xxi}. Poor diet continues to be a significant factor behind the level of poor oral health in the UK. There are large amounts of sugars in many foods that are often added as a cheap bulking agent. From the point of view of oral health, it is the frequency of sugar consumption rather than the quantity that is the main concern. Looking for hidden sugars often listed as sucrose, maltose, glucose and fructose can help the public cut down on how often they have sugary foods and drinks and help with both dental health and obesity. There are quite a few programmes that are delivered in Leicester which deal with healthy eating e.g. Food and Activity Buddies, nutritional health trainers. A programme on delivering cooking and eating sessions at Children's Centres has also recently commenced. It would be suitable to encourage discussions with some of the programmes in ensuring that oral health messages are also imparted. It would also be appropriate for dentists to be able to signpost patients accordingly if they require further assistance with dietary advice. Furthermore, all food companies should be lobbied to ensure that they consistently apply the traffic light colours in front of pack food labelling, as recommended by the Food Standards Agency.

Diabetes

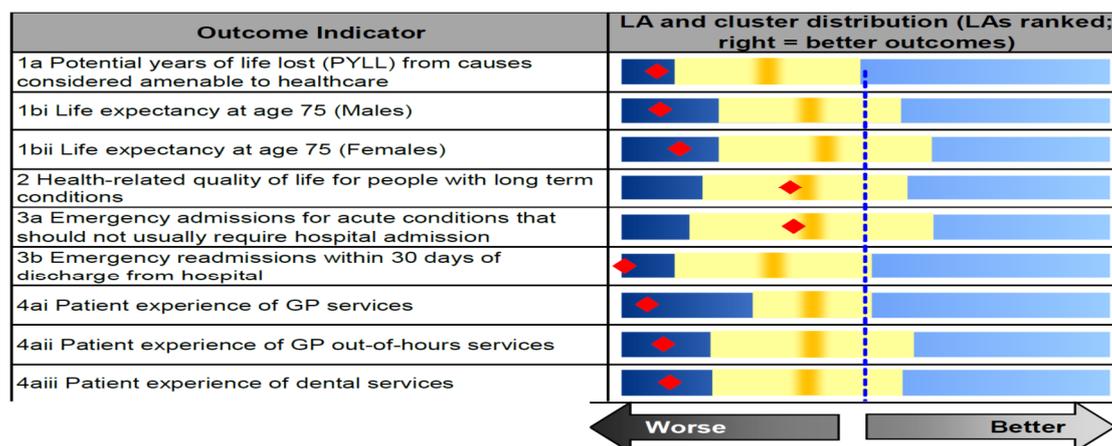
An increased consumption of sugar has been associated not only with obesity and dental caries but also type 2 diabetes. Leicester has a higher than average prevalence of diabetes with 7% of the City currently registered. It is also speculated that there is a further estimated 4k adults with undiagnosed diabetes in Leicester bringing the estimated total to 10%. Diabetes and oral health are linked with diabetics having a greater risk of periodontal (gum) breakdown. NICE has recently issued new guidance^{xi} that highlights the role of dental teams as a key player in identifying high risk individuals for diabetes by providing and interpreting risk assessments. High risk patients could then be signposted to their GP for a blood test and referral to a local, evidence-based quality assured lifestyle change programme, which should be tailored to individual needs. The cost of treatment and long term care for diabetes patients is estimated to account for one tenth of the NHS budget each year.

Patient experience

NHS England has published the *Outcomes Benchmarking Support Packs* at Local Authority and Clinical Commissioning Group level. Both packs present high level comparative information on the NHS, Adult Social Care and the Public Health Outcomes Framework.

The spine chart below shows the distribution of the LAs on each indicator in terms of ranks. Leicester's position is shown as a red diamond. The yellow box shows the interquartile range and median of LAs in the same ONS cluster as Leicester. Each indicator has been orientated so that better outcomes are towards the right (light blue). As can be seen in the spine chart below, the indicator affecting dentistry is 'patient experience of dental services'. This indicator shows worse outcomes for Leicester.

Figure 28: Leicester spine chart

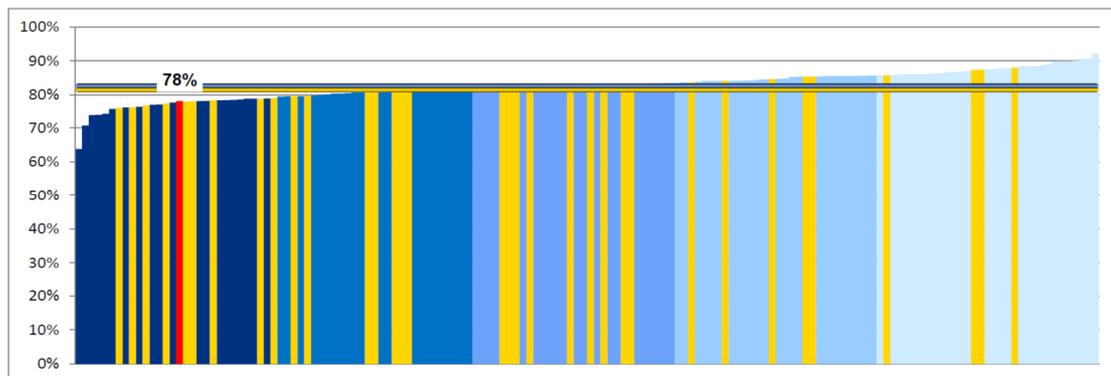


Source: *Outcomes Benchmarking Support Packs* (NHS England 2012)

The dental questions in the GP Patient Survey have been analysed to report on the patient experience indicator in the *Outcomes Benchmarking Support Packs* (NHS England 2012). The GP Patient Survey is sent to a sample of patients registered with a GP in Leicester. This does not necessarily mean that the patient surveyed is receiving dental treatment in Leicester, although the majority of Leicester dentists do see patients who are living in Leicester and who are registered with a Leicester GP. The indicator on *patient experience of dental services* is not age/sex standardised

but survey responses have been weighted for non response. Figure 29 below shows Leicester in red. Yellow bars represent other LAs in the same ONS Cluster as Leicester. Horizontal lines are the England and cluster averages. It can be seen from figure 29 that Leicester is below the England and cluster averages and is also the 5th worst performing LA when compared against other LAs in it's cluster.

Figure 29: NHS Outcomes Framework 4a(iii) Patient experience of primary care (Dentistry) - % of people who rate their experience of dentistry services as 'very good' or 'fairly good'



Source: Outcomes Benchmarking Support Packs (NHS England 2012)

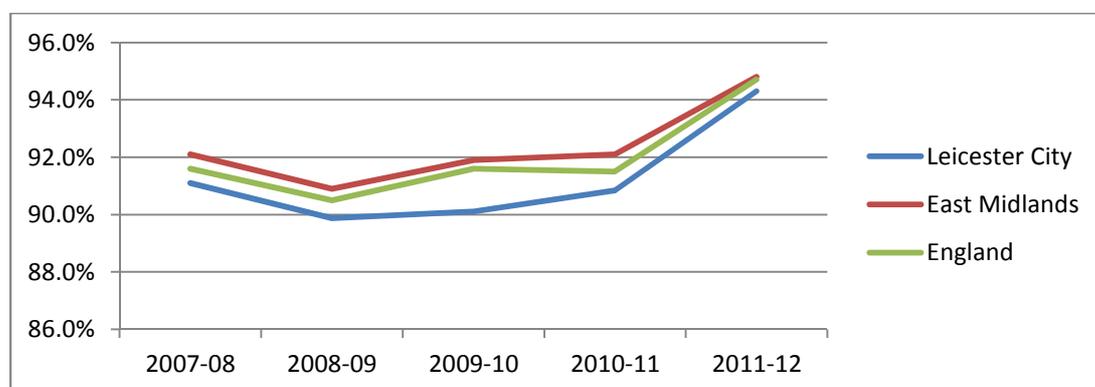
[NHS BSA Dental Services \(DS\)](#)

NHS DS included in their Vital Signs report for each PCT details of the percentage of patients satisfied with the:

- dentistry they have received
- time they had to wait for an appointment

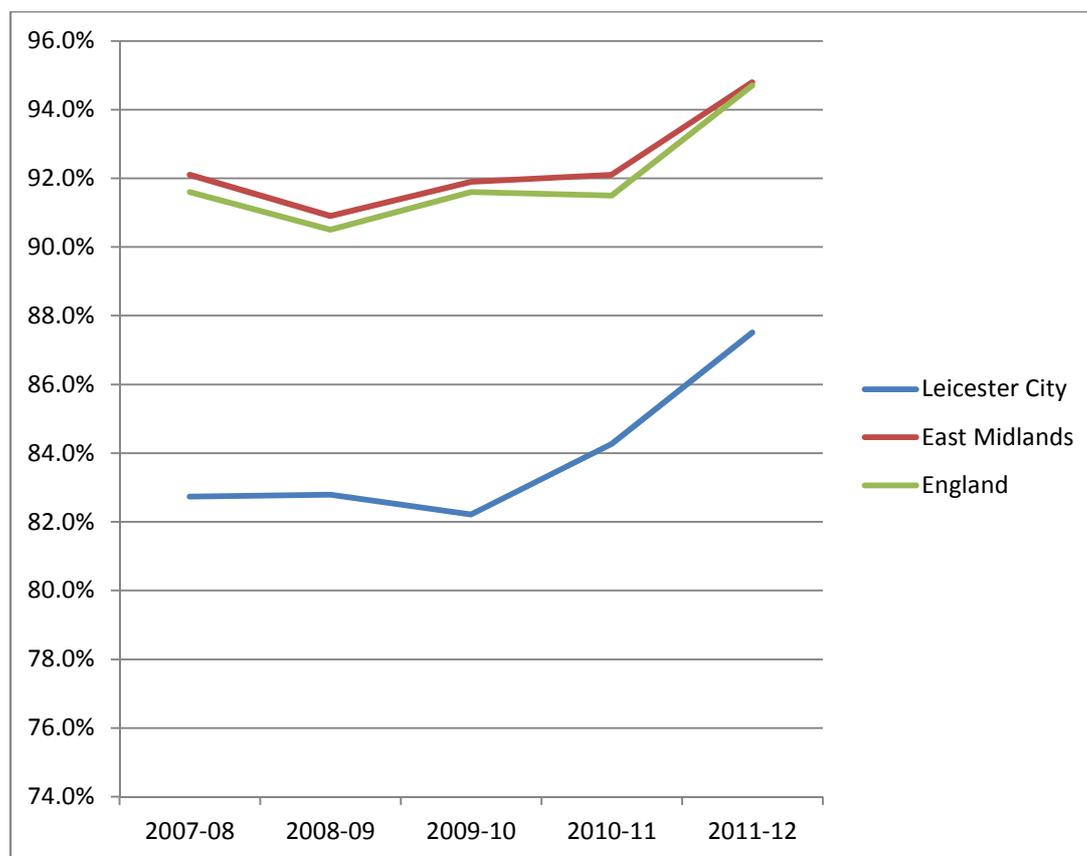
The figures below show the results of both indicators from April 2007 to March 2012. It can be seen that Leicester is (and has been constantly) below the national (England) and regional (East Midlands) averages on both indicators, with satisfaction on waiting times being alarmingly below the regional and national averages. This information correlates with the GP patient survey with waiting times possibly providing an explanation to the overall level of reduced patient satisfaction. Further investigation should be undertaken to understand the causes of the reduced level of patient satisfaction being experienced in Leicester.

Figure 30: Percentage of Patients satisfied with Dentistry received



Source: NHS Dental Services – Vital Signs

Figure 31: Percentage of Patients satisfied with Appointment wait time



Source: NHS Dental Services – Vital Signs

[NHS LLR Customer Services](#)

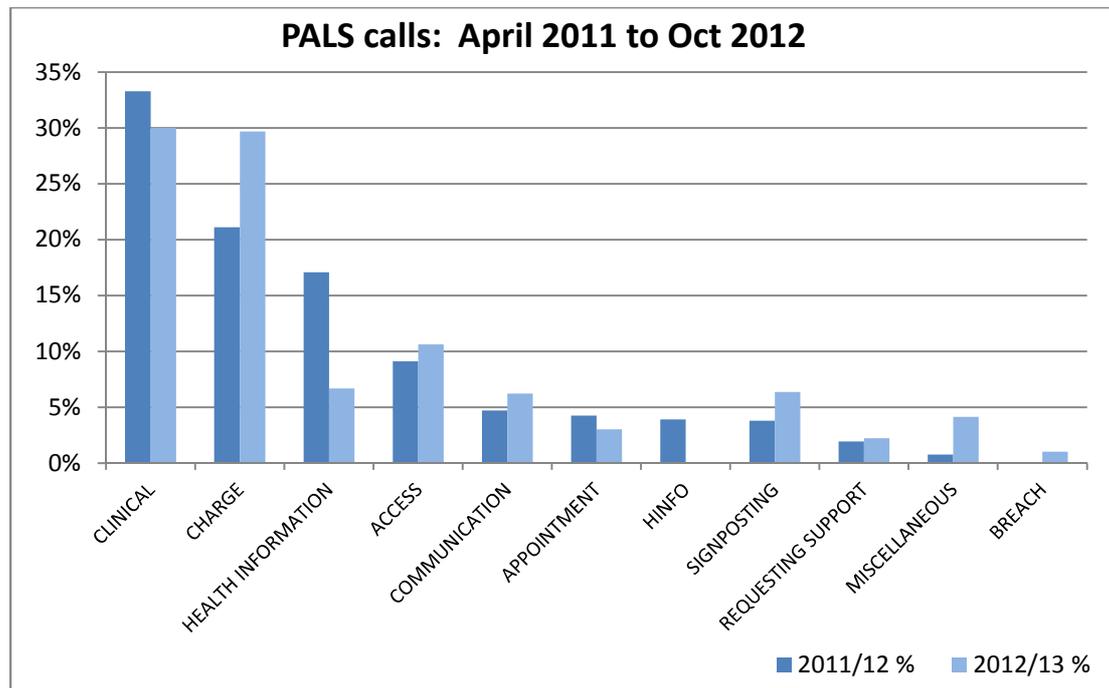
The Patient Advice and Liaison Service (PALS) was incorporated in Customer Services at the PCT. The service:

- helped to signpost enquiries to the nearest NHS dental practice.
- provided free confidential information for patients, their families, carers and staff who live in Leicester, Leicestershire & Rutland.

The service received on average 114 calls a month requesting assistance with signposting to the nearest and available NHS dentist. The service did not record whether patients have been successful in gaining an NHS appointment after signposting assistance and therefore the outcome is unknown. However, patients were encouraged to contact the service again if they had been unsuccessful in gaining an appointment from the information and signposting initially provided.

The service also assisted patients and carers with any issues that they may have had regarding NHS dentistry. The most common issues faced by patients are presented in figure 32 below. The information for 2012/13 does not represent the full financial year, but it can be seen that clinical issues regarding advice, decision and treatment provided, NHS dental charges, dental access and communication have been the main issues faced by residents in Leicester.

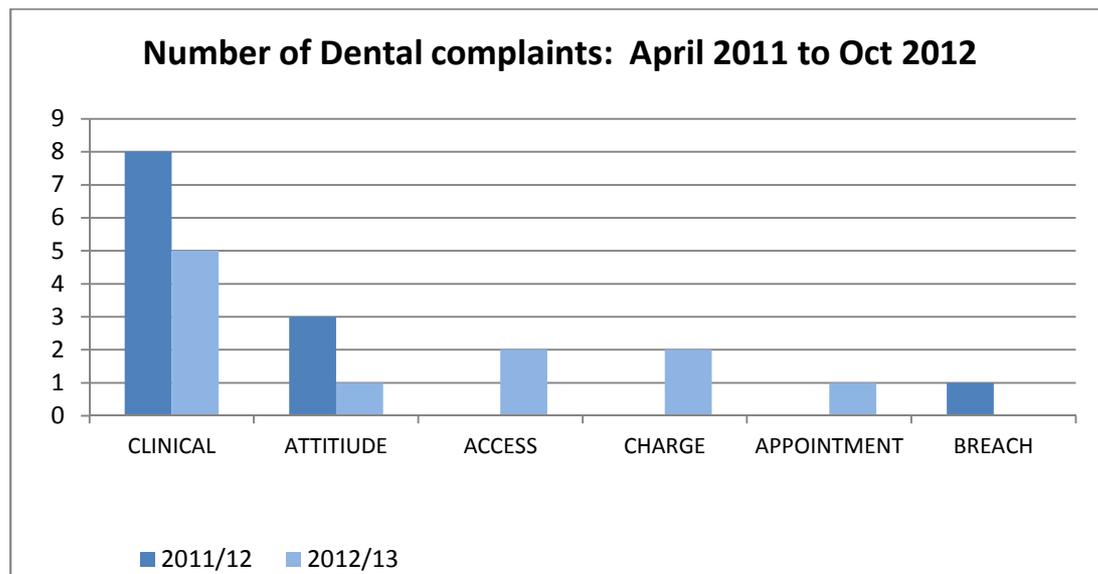
Figure 32: PALS calls around NHS Dentistry by Category/Issue, April 2011 – October 2012



Source: NHS Leicester City, Leicestershire and Rutland – Customer Services

Figure 33 shows the number of complaints that were received by the service regarding NHS dentistry according to category/issue. In the year 2011/12, in total 12 dental complaints were dealt with by the service. In the part-year 2012/13 (April to October), 11 dental complaints had already been received by the service. The main issues that have led to formal complaints are presented in the figure below.

Figure 33: NHS Dentistry-related Complaints by Category/Issue, April 2011 – October 2012



Source: NHS Leicester City, Leicestershire and Rutland – Customer Services

Care Quality Commission (CQC)

64 high street dental practices were registered with the CQC (including private and orthodontic practices) as of Dec 2012. Twenty-two practices have so far been inspected and the CQC has been satisfied with the majority of those visited. However, the CQC has also reported that they are currently reviewing one or more governance standards for three dental practices, with a further two dental practices requiring improvements on their standards of caring for people safely & protecting them from harm as well as their standards of management. The CQC intends to inspect all registered dental providers over the two years from 1 April 2012.

Dental Practice Advisor (DPA)

NHS Leicester City used to employ a DPA to provide clinical support and advice with regards to clinical issues of concern (including complaints and contract management). As can be seen from the figures above, clinical issues of concern to PALS as well as formal complaints of a clinical nature to the NHS have been the most frequently cited category. It is therefore important to ensure that appropriate clinical support and advice continues to be available in the NHS reforms. Whilst the DPA role post 1st April 2013 has been confirmed with regards to fitness to practice, it would also be appropriate to ensure clinical input from an operational view point with regards to contract management. This should not be confused with the strategic input that is provided from Public Health England (Dental Public Health). To this end, it is understood that there is currently on-going dialogue regarding access to appropriate clinical support and advice in the Commissioning Directorate of NHS England's Area Team at the time of writing.

Local Professional Network (LPN)

LPNs ensure that clinical leadership is at the heart of the local operating model by supporting and advising NHS England's Area Team in the commissioning of services. A pilot LPN for Leicestershire (including City and Rutland) was set up prior to the NHS re-structure with the following functions:

- To ensure that patients are at the centre of commissioning
- To ensure local implementation of dental care best practice
- Improving and assuring quality
- Planning and designing local care pathways
- Clinical and professional leadership and engagement

The pilot LPN was disbanded on the 31st March, 2013 and it is understood that a new LPN is to be established soon. This new LPN will be extended to include Lincolnshire. There will be an application process for the Chair of the LPN. Once the Chair is appointed, a Steering Group will then be set up for the Leicestershire and Lincolnshire area. The appointed Chair will decide on appropriate membership to the Steering Group and extend invitations accordingly.

Local Dental Committee (LDC)

The Leicestershire and Rutland LDC is the statutory body recognised by successive NHS Acts as the local professional consultative organisation representing local dental practitioners (irrespective of contractual status), either individually or collectively to the NHS. It is a democratic body of local dentists that have been elected by local dental practitioners. The LDC offers support and advice to its

electorate and has an Executive which comprises a Chair, Vice-Chair, Secretary and Treasurer. Meetings are held monthly in order to discuss any issues relating to the provision of effective oral healthcare and health promotion in the locality.

7. Recommendations for consideration by commissioners

NHS England (Area Team)

- Information gathered suggests that an increase in NHS dental commissioning may be required for the City due to:
 - a. Long waiting times for treatment
 - b. Decrease in the provision of all Bands of dental treatment
 - c. Increase of City residents in accessing NHS dental services in the County
 - d. Reduced dental commissioning compared to baseline
 - e. Spend and outcome showing lower spend with worse outcome
- Further investigation is required in order to understand the issues described above in more detail.
- The level of commissioning of dental sedation and domiciliary care should also be investigated in order to ensure that it is appropriate for the population's need.
- Public health and ward level data (where available) should be utilised to help inform any commissioning intentions and decisions.
- The needs, experiences and expectations of all sectors of the community should be appropriately understood in order to help inform commissioning decisions.
- Due to the population profile in the city, NHS dental services that are commissioned should provide a child friendly focus.
- Existing levers should be utilised within the management of dental contracts to maximise oral health improvement and decrease inefficiencies in the system.
- There should be an assurance of the implementation of *Delivering Better Oral Health* in NHS dental practices, focusing on the increase in fluoride varnish and fissure sealant applications. The utilisation of skill-mix in the system e.g. extended duty dental nurses for the application of fluoride varnish could also be considered.
- Commissioners could explore levers to encourage the completion of dental treatment for all patients.
- The level of antibiotic prescribing locally should be investigated to ensure that they are prescribed along with national guidelines.
- The pathway for dental extraction under general anaesthesia should be investigated due to the lengthy wait.
- The reasons why the patient experience/satisfaction of NHS dental services is low should be investigated and understood.
- All CQC inspection reports should be closely monitored to ensure quality of service provision.

Local Authority (Public Health)

- Agree a multi-partnership Oral Health Promotion Strategy for the City which focuses on giving every child the best start in life.
- Oral health needs to be placed upon a wider agenda for change in order for collaboration with relevant agencies and sectors to take effect.

- Effective and evidence based oral health promotion programmes need to be developed and delivered e.g. community fluoride programmes alongside oral health promotion campaigns. The level of effort expended should be proportionate to the level of need and should focus on the wider determinants of health. There should also be an emphasis on:
 - a. creating sustainable long term funding for cost effective programmes
 - b. ensuring “every patient contact counts” through systematic public health advice delivered by all front line professionals
 - c. enabling all children, young people and adults in maximising their capabilities and having control over their own lives
- Strengthen multi-agency partnerships across all organisations (e.g. health, education, social care) and explore the opportunities for new arrangements on joint-commissioning.
- Ensure the continued commissioning of the dental epidemiology programme. A full census survey on oral health for children could be considered in order to provide ward level data which would enable further detailed understanding on the burden of dental disease being experienced by children in the City.
- The potential of social marketing techniques in reducing inequalities in oral health and access to care should be explored in order to develop and implement a social marketing campaign that improves oral health for all sectors of the population.
- Pursue fluoridation of the public water supplies.
- Explore tobacco cessation and alcohol training for dental practices.

8. Recommendations for needs assessment work

- A patient survey should be carried out in order to fully understand patient expectations along with barriers and attitudes to accessing dental services as well as their perceived needs and perceptions of the importance of oral health.
- A full census survey on oral health of children should be undertaken in order to understand further the oral health inequalities that is being experienced by children in Leicester.
- The educational needs of local dental practitioners need to be understood.
- An Equality Impact Assessment will help to identify how existing services and pathways are:
 - impacting on oral health inequalities in Leicester, with a particular focus on the SOAs that are within the 5% most deprived nationally.
 - ensuring access to dental services for residents of nursing and care homes as well as those who are frail and house-bound.
 - improving access for patients who are dental phobics.
 - affecting those directly affected by the welfare reforms.
- Specific oral health needs assessments need to be undertaken in order to:
 - Understand the barriers affecting children particularly those living in the wards of Westcotes and Castle in attending a dental practice.
 - Understand the specific oral health needs of children who have had dental extractions under general anaesthetic.
 - Understand the challenges and accessibility of oral health services in terms of language and cultural differences.
 - Understand the oral health needs, experiences and expectations of new arrivals to the City.

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References

- ⁱ Department of Health (1994): **An oral health strategy for England**. London: HMSO
- ⁱⁱ Office of National Statistics (2000): **National Diet and Nutritional Survey – young people aged 4-18 years (Report of the oral health survey)**; available at: http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsStatistics/DH_4079563 (accessed 7th. November 2012)
- ⁱⁱⁱ Department for Environment, Food and Rural Affairs (2008): **Family Food Survey**. National Statistics Publication; available at: <http://www.statisticsauthority.gov.uk> (accessed 7th. November, 2012)
- ^{iv} NHS Information Centre (2004): **Health Survey for England – health of ethnic minorities**; available at: <http://www.ic.nhs.uk/pubs/hse04ethnic> (accessed 7th. November 2012)
- ^v Department of Health (2000): **A conscious decision – a review of the use of general anaesthesia and conscious sedation in primary dental care**; available at: http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4074702 (accessed 7th. November 2012)
- ^{vi} Araujo M.W., Dermen K., Connors G. (2004): Oral and dental health among inpatients in treatment for alcohol use disorders: a pilot study; **J Int Acad Periodontol**; 6:125-130.
- ^{vii} Blot, W.J.et al.(1998) Smoking and drinking in relation to oral and pharyngeal cancer; **Cancer Res**: 48(11) 3282-7.
- ^{viii} NHS Information Centre (2011): **Adult Dental Health Survey 2011**; available at: <http://www.ic.nhs.uk/statistics-and-data-collections/primary-care/dentistry/adult-dental-health-survey-2009--summary-report-and-thematic-series> (accessed 8th. November 2012)
- ^{ix} National Cancer Intelligence Network (2010): **Oral Cavity Cancer – Survival Trends in England**; available at http://www.ncin.org.uk/publications/data_briefings/oralcancer.aspx (accessed 8th. November 2012)
- ^x NHS Information Centre (2009): **Health Survey for England**; available at: <http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles-related-surveys/health-survey-for-england> (accessed 8th November 2012)
- ^{xi} **Local Alcohol Profile England** (2012); available at <http://www.nwpho.org.uk> (accessed 8th. November 2012)
- ^{xii} National Cancer Intelligence Network (2010): **Oral Cavity Cancer – Survival Trends in England**; available at http://www.ncin.org.uk/publications/data_briefings/oralcancer.aspx (accessed 8th. November 2012)
- ^{xiii} European Platform for Better Oral Health (2010): **Call to action for better oral health in Europe**
- ^{xiv} Leicester City Council (2007): **Report on European Union A8 Migrant Workers in Leicester**.
- ^{xv} World Health Organisation: **Changing oral health profiles of children in Central and Eastern Europe, challenges for the 21st. century**; available at:

http://www.who.int/oral_health/media/en/orh_eastern_europe.pdf (accessed 17th. December 2012)

^{xvi} Wierzbicka M, Petersen PE, Szatko F, Dybizbanska, E, Kalo I. (2002): **Changing oral health status and oral health behaviour profile of schoolchildren in Poland**; Community Dent Health 2002; 19: 243-250

^{xvii} Department of Health (2009): **NHS Dental Services in England – An independent review led by Professor Jimmy Steele**; London.

^{xviii} World Health Organisation (1986): **Ottawa Charter for Health Promotion**; WHO/HPR/HEP/95.1; Geneva

^{xix} Department of Health (2004): **Choosing Health – making healthy choices easier**; available at http://webarchive.nationalarchives.gov.uk/+/dh.gov.uk/en/publicationsandstatistics/publications/publicationspolicyandguidance/dh_4094550 (accessed 18th. November 2012)

^{xx} Department of Health (2005): **Choosing Better Oral Health – An oral health plan for England**; available at http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4123251 (accessed 18th. November 2012)

^{xxi} Marmot M. (2010): **Fair Society, Healthy Lives**; available at: <http://www.marmotreview.org/> (accessed 20th. November 2012)

^{xxiii} European Communities (2007): **Major and Chronic diseases report**; Luxembourg; EC Directorate-General for Health and Consumers

^{xxiv} Daly B, Watt RG., Batchelor P, Treasure E. (2002): **Essential dental public health**. Oxford: Oxford University Press.

^{xxv} **The British Fluoridation Society** (2010) available at <http://www.bfsweb.org> (accessed 18th. November 2012)

^{xxvi} Department of Health (2009): **Delivering Better Oral Health – an evidence based toolkit for prevention** (second edition); available at http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_102331 (accessed 20th. November 2012)

^{xxvii} Scottish Dental Clinical effectiveness Programme (2010): **Prevention and management of dental caries in children**; available at <http://www.sdcep.org.uk/?o=2858> (accessed 20th. November 2012)

^{xxviii} Scottish Intercollegiate Guidelines Network (2005): **Prevention and management of dental decay in the pre-school child**; available at <http://www.sign.ac.uk/pdf/sign83.pdf> (accessed 20th. November 2012)

^{xxix} Marinho et al. (2002): **Fluoride varnishes for preventing dental caries in children and adolescents**. Cochrane database of systematic reviews, issue 3.

^{xxx} Primary Care Commissioning (2009): **The use of fluoride varnish by dental nurses to control caries**; available at: www.pcc.nhs.uk/uploads/Dentistry/.../the_use_of_fluoride_varnish.pdf (accessed 20th. November 2012)

-
- ^{xxxvi} NHS Scotland: **Childsmile – improving the oral health of children in Scotland**; available at <http://www.child-smile.org.uk/index.aspx> (accessed 20th. November 2012)
- ^{xxxvii} Cynllun Gwen: **Designed to Smile**; available at: <http://www.designedtosmile.co.uk/home.html> (accessed 20th. November 2012)
- ^{xxxviii} NHS National Institute for Health and Clinical Excellence (2006): **Brief interventions and referral for smoking cessation in primary care and other settings**; available at: <http://www.nice.org.uk/nicemedia/live/11375/31864/31864.pdf> (accessed 20th. November 2012)
- ^{xxxix} Department of Health (2007): **Smokefree and smiling – helping dental patients to quit tobacco**; available at: http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_074970 (accessed 20th. November 2012)
- ^{xl} Holst D, Schuller AA (2012): Oral health in a life-course – birth cohorts from 1929 to 2006 in Norway; **Community Dental Health**; 29; 134-143
- ^{xli} Clifford H, Johnson NW, Brown C, Battistutta D (2012): When can oral health education begin? Relative effectiveness of three oral health education strategies starting pre-partum; **Community Dental Health**; 29; 162-167
- ^{xlii} NHS Future Forum (2012): **Summary report – second phase**. London; available at: http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_132085.pdf (accessed 12th. November, 2012)
- ^{xliiii} Department of Health (2007): **Valuing Peoples Oral Health**; product no 284832; gateway 8660.
- ^{xliv} Ramsier CA, Aurich P, Bottine C, Warnakulasuriya S, Davis J (2012): **Curriculum survey on tobacco education in European dental schools**; *British Dental Journal*; 213:E12
- ^{xlv} NICE (2012): **Preventing type 2 diabetes – risk identification and interventions for individuals at risk**; available at: <http://www.nice.org.uk> (accessed 23rd. November 2012)