Oral health

Introduction

The high prevalence and incidence of poor oral health worldwide makes it a major public health issue. As with many 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, and facial and dental injuries. At a societal level, oral diseases are responsible for reduced workforce productivity and are also a significant financial burden to society.

The long-term impacts of poor oral health cannot be underestimated particularly when considering quality of life. Oral health affects people physically and psychologically; and influences how they thrive, look, speak, eat and socialise; as well as contributing to feelings of social wellbeing. The introduction of fluoride toothpaste in the 1970s and water fluoridation schemes in various parts of the country have improved dental health for adults and children, however, not all have benefited from these improvements. Despite significant progress in improving oral health over the past 30 years in the UK, the distribution of dental decay has changed to become increasingly concentrated in vulnerable and socially disadvantaged groups. The strong association between oral diseases and deprivation, and the fact that oral diseases are largely preventable, makes oral health an important public health issue in Leicester.

Who’s at risk and why?

All age groups and populations are at risk of poor oral health even though it is largely preventable. The main modifiable risk factors for oral disease include having a diet high in sugar, smoking or chewing of tobacco, excessive consumption of alcohol, poor oral hygiene, trauma and irregular use of dental care services.

Oral diseases are not uniformly distributed but are increasingly concentrated in vulnerable and socially disadvantaged groups. Certain communities are more likely to have poor oral health and are less likely to use dental services. These include young adults, the elderly, the more deprived, socially excluded populations along with those with learning disabilities and those in long-term and short-term residential and institutional care. The link between poor oral health and deprivation is well evidenced. Those areas with the poorest oral health are generally the most deprived parts of the country where access to dental services and cost can also be significant barriers.

According to the Leicester Dental Survey (2015)¹:

- Asian men in employment living in the most deprived one third of the population aged 25 to 44 years are:
  - more likely to have described their teeth as bad or very bad
less likely to clean their teeth at least twice a day
likely only to attend the dentist when they have trouble with their teeth
less likely to have visited a dentist in the last two years.

- Homeless people are:
  - less likely to have reported good or very good dental health
  - less likely to clean their teeth twice a day
  - more likely to have had problems with their teeth or dentures very or fairly often in the last twelve months.

Of the respondents in Leicester⁴ who had not been to a dentist (in the last two years, or never having been), the top 3 reasons given were that:

- there was nothing wrong with their teeth
- they could not afford the NHS charges
- they couldn’t find an NHS dentist (however, it should be noted that this could be due to a lack of understanding of how to find a dentist rather than a dentist not being available – this issue requires further exploration)

Regularly consuming foods and drinks high in free sugars (those added to foods and drinks by the manufacturer, cook or consumer, as well as sugars naturally present in honey, all kinds of syrups and unsweetened fruit juices) increases the risk of tooth decay and obesity. Ideally, no more than 5% of the energy consumed should come from free sugars.

Tobacco use is a risk factor in most forms of oral health disease. 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 have specific cultural habits (e.g. betel quid chewing) which can place them at an increased risk from oral cancer.

There is an increased level of dental decay, tooth erosion, gum disease and oral cancer in people who misuse alcohol. When alcohol is used in conjunction with tobacco, the risk of developing oral cancer increases by a factor of 3⁸⁻¹³. Socio-economic differences in drinking patterns are complex: those unemployed as well as those on high incomes are most likely to drink above recommended levels and also to binge drink. The rate of alcohol-related mortality in England and Wales has increased significantly in recent years, and is
substantially greater for men aged 25-49 years from more disadvantaged socio-economic groups.

The level of need in the population

The information below is reported in the 2009 Adult Dental Health Survey (ADHS) and the 2015 Leicester Dental Survey:

Oral health status

- The proportion of adults in England with no natural teeth fell from 37% in 1968 to 6% in 2009. In Leicester in 2015, 4% of adults reported not to have any natural teeth.
- 59% of respondents in Leicester described their dental health as very good or good, compared to 70% of respondents in England (Figure 1).

Figure 1: Dental health status for adults

![Dental Health - Very good & good (%)](chart1)

Source: Leicester Dental Survey 2015

Dental hygiene for adults

- 74% of respondents in Leicester clean their teeth at least twice a day, similar to the ADHS where 75% of those with teeth cleaned their teeth at least twice a day (Figure 2).

Figure 2: Dental hygiene for adults

![How often do you clean you teeth? (Those with teeth) (%)](chart2)

Source: Leicester Dental Survey 2015
• There are significant differences in the proportion of respondents in Leicester who clean their teeth at least twice a day: women and respondents from ethnic groups other than White or Asian were significantly more likely to clean their teeth at least twice a day.

Dental attendance for adults

The National Institute for Health and Care Excellence (NICE) dental recall clinical guideline helps clinicians assign recall intervals between oral health reviews that are appropriate to the needs of individual patients. The guideline states that the recommended interval between dental check-ups should be determined specifically for each patient, and tailored to meet his or her needs, on the basis of an assessment of disease levels and risk of or from dental disease. In accordance with NICE guidelines, attendance intervals will vary between 3 months and 24 months dependant on patient clinical need.

• Figure 3 shows that of those adults with teeth, 40% of respondents in Leicester see a dentist at least every 6 months which is lower than the England average of 49%. Two-thirds (67%) of respondents with teeth see a dentist at least once a year, which is also lower than the England average of 70%. 15% of respondents in Leicester also reported that they only see a dentist when they have trouble with their teeth, this is slightly higher than the England average at 13% whilst 6% of respondents in Leicester never see a dentist at all.

Figure 3: Dental attendance for adults

Source: Leicester Dental Survey 2015

Dental anxiety for adults

• The proportion of Leicester respondents who would feel very or extremely anxious about dental treatment (14%) was similar to the England average (13%) – but the
The proportion of respondents who would not feel anxious (44%) was lower than the England average (53%) (Figure 4).

**Figure 4: Dental Anxiety for Adults**

If you went to your dentist for treatment tomorrow, how would you feel? (%)

<table>
<thead>
<tr>
<th>Leicester</th>
<th>ADHS England 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not anxious</td>
<td>44%</td>
</tr>
<tr>
<td>Slightly/fairly anxious</td>
<td>42%</td>
</tr>
<tr>
<td>Very/extremely anxious</td>
<td>14%</td>
</tr>
</tbody>
</table>

**Source:** Leicester Dental Survey 2015

**Oral Cancer**

In the last 30 years, there has been a 30% increase in the incidence of oral cancer in England. The risk factors which contribute to oral cancer are tobacco, diet and nutrition, alcohol, sunlight, human papillomavirus and immunosuppression. Ninety one percent of oral cancers in the UK are linked to lifestyle factors including smoking, alcohol and infections. Smoking is the main avoidable risk factor for oral cancer and is linked to 65% of oral cancer cases. The prevalence of cigarette smoking in Leicester is 21.5%, which is comparable to the national rate of 21%. The age-standardised incidence rate for oral cancer in Leicester is 18.9 per 100,000 population which is significantly higher than the England rate (14.2 per 100,000) and regional rate (13.8 per 100,000) for the time period 2011 to 2015 (Figure 5).
Figure 5: Rate of oral cancer - Leicester (2011 to 2015)

Source: Public Health England 2017

Figure 6 shows oral cancer incidence rate by age groups for Leicester City and England from 2011 to 2015. It can be seen that Leicester has a significantly higher rate in the 55-64 and 65-74 age groups in comparison to the England rate. These data must be read with caution due to the small numbers and wide confidence intervals involved.

Figure 6: Rate of oral cancer by age group (2011 to 2015)

Source: Public Health England 2017
Figure 7 shows oral cancer incidence rate by gender for Leicester City and England. In general, males tend to have a higher oral cancer incidence rate than females during the time period from 2011 to 2015 in Leicester and England. It can be seen that males and females in Leicester, have a significantly higher rate of mouth cancer in comparison to males and females in England.

**Figure 7: Rate of oral cancer by gender (2011 to 2015)**

![Incidence of Mouth Cancer (ICD10: C00-C14) Rate per 100,000 persons by Gender - 2011 to 2015](source)

Source: Public Health England 2017

**Current services in relation to need**

**General Dental Service**

The bulk of NHS dentistry in Leicester is delivered by General Dental Practitioners (GDP). According to NHS England (March 2018), there are 57 NHS dental practices in Leicester. According to NHS Choices (March 2018) there are:

- 40% of practices currently accepting new adult patients
- 42% accepting new patients who are exempt from paying for their NHS dental care

It should be noted that it is the responsibility of each dental practice to update NHS choices, the above data is based on only those dental practices that provided information on accepting new patients. 25% of dental practices did not provide this information, therefore, it may not reflect an entirely accurate picture.

Figure 8 shows that there is more provision of NHS dental services in areas of increased population density, however, Charnwood area has a high population density but the surrounding NHS dental practices are not accepting new NHS dental patients. The map also
differentiates the location of NHS dental practices that are accepting new NHS patients as of March 2018 (yellow) and those that are not (red).

**Figure 8: Location of NHS Dental Practices in Leicester**

It is important to note that NHS England do not commission NHS dental services on a patient population basis. Therefore, people are able to access NHS dentistry in any locality of their choice.

Figure 9 shows the proportion of adult residents in Leicester accessing a NHS dental practice in the previous 24 months from March 2013 to March 2017 at any dental practice location of their choice. It demonstrates that the proportion of resident adults in Leicester accessing NHS dental services (in any location of their choice) has throughout the period been significantly lower than the England average. Although an increasing trend was observed from 2014 to 2017, there was a 0.5% decline from 2013 to 2014. The inequality gap in terms of dental attendance has narrowed between Leicester and England from 2.8% in 2010 to 1.1% in 2017.

**Source:** ONS Mid 2016 Populations, NHS England and NHS Choices March 2018
Figure 9: Proportion of adult residents in Leicester accessing a NHS Dental Practice 2013 to 2017

Source: NHS Business Services Authority 2018

The Leicester Dental Survey (2015)\(^1\) demonstrated that 20% of respondents had experienced difficulty in obtaining either routine or emergency/urgent NHS dental appointments. Respondents who had found it difficult to get a routine or emergency/routine NHS appointment reported two main barriers to access:

- the dentist they wanted to visit did not have availability
- treatment was too expensive

Figures 10 and 11 show the proportion of adults (aged 18 to 64 years and 65+ years) in Leicester accessing an NHS dentist in the last 24 months by Middle Super Output Area (MSOA) as at March 2017. The map demonstrates variation across the City. There are significantly lower proportions of 18 to 64 year olds living in Leicester accessing NHS dental services in comparison to the England average (50%). Overall, the proportion of 65+ year olds accessing NHS dental services in Leicester is significantly higher in comparison to the England average for 65+ year olds (48%). There are significantly lower proportions of 65+ year olds Leicester residents living in fourteen specific MSOAs in accessing NHS dental services in comparison to the England average (48%).

It can be seen that there is less availability in terms of NHS dental practices accepting new dental patients in the east of the city, however it is important to note that 25% of dental practices did not provide availability data on NHS choices, therefore it is not accurate in terms of availability. It should also be noted that there will be a proportion of residents who have chosen to access private dentistry instead.

The data presented in the maps below were provided at MSOA level by the NHS Business Service Authority. Please note that MSOA areas are purely administrative and can include communities with different population characteristics which are shown as an average over the area.
Figures 10 and 11: NHS dental access rates for 18-64 and 65+ year residents in Leicester

Source: NHS Business Services Authority, NHS England and NHS Choices March 2018
Figure 12 shows that there is greater commissioning of Units of Dental Activity (UDAs) in areas of greater deprivation apart from Braunstone West and New Parks West. However, it is noted that there is a NHS dental practice located at the border of Braunstone (in the County) which may be serving the dental needs of residents in this area.

**Figure 12: Location of NHS Dental Practices and commissioned UDAs against deprivation in Leicester**

*Source: Index of Multiple Deprivation 2015 and NHS England*

**Projected services use and outcomes in 3-5 years and 5-10 years**

According to census figures, Leicester had a 17% increase in the population between 2001 and 2011. Leicester’s population growth is expected to continue rising with a 4% increase by 2020 and a 16% growth by 2041.

Although Leicester has a young population base, the older population is increasingly retaining a high number of teeth for life. This means that the need for dental services for older population groups, and those medically compromised, at a time when they may be less able to cope with treatment, will only increase. It also means that any dental treatment required may be more complex due to a higher need for advanced restorative dental treatment.
Unmet needs and service gaps

It is important to note that people are able to access NHS dentistry regardless of where they reside, therefore patients can access NHS dental services in any locality of their choice.

The information below has been gained from the Leicester Dental Survey (2015)\(^1\). Access to NHS dental services has been assessed as follows:

**Availability:** Although there are 57 dental practices providing NHS dental care in Leicester, only 40% of practices are accepting new NHS adult dental patients. 38% of Leicester residents who reported difficulty in obtaining an NHS dental appointment had found it difficult because the dentist they wanted to visit did not have availability. 5% of respondents also reported that they were not able to make an NHS dental appointment.

**Affordability:** Although NHS dental care is free for individuals claiming certain benefits, 33% of those who pay for NHS dental care and reported difficulty in obtaining an NHS dental appointment had found it difficult because treatment was too expensive. 23% reported having to delay NHS dental care/treatment due to cost. The Healthwatch Report\(^{10}\) also expressed concerns about the lack of information around NHS dental charges as most NHS services are free at the point of delivery.

**Acceptability:** Respondents aged 18-64 years were more likely not to have been to the dentist because they ‘could not find an NHS dentist’ and because they ‘cannot afford NHS charges’. Respondents aged 65 and over and respondents from more deprived areas were more likely to have found it difficult because of the ‘difficulties in making the journey to the dentist’ and because their ‘dentist is only treating privately’. Asian men aged 25 to 44 years were less likely to have rated their last visit to a dental practice as a good experience.
**Figure 13: Patient experience with NHS dental services in Leicester**

**How would you rate your experience with your most recent dental practice? (Mean Score)**

- **Overall**: 32.57
- **Male**: 32.04
- **Female**: 33.02
- **18 to 24**: 32.63
- **25 to 44**: 31.30
- **45-64**: 32.96
- **65+**: 35.33
- **White**: 33.42
- **Asian**: 31.03
- **Other**: 33.52
- **Most Deprived**: 32.38
- **2nd Most Deprived**: 31.79
- **Least Deprived**: 33.48

**Source: Leicester Dental Survey 2015**

**Accessibility:** Although 40% of dental practices in Leicester are currently accepting new NHS adult dental patients, 13% of Leicester residents who reported difficulty in obtaining an NHS dental appointment had found it difficult in making the journey to the practice.

Figure 14 shows the location of practices along with a walking time of 20 minutes for residents in Leicester to access a NHS dental practice. The map shows some areas without any access to NHS dental services in the areas of Beaumont Leys, New Parks, Braunstone Park, Aylestone, Evington and Humberstone.
Figure 14: Walking distances from NHS Dental Practices in Leicester

Source: MasterMap – Integrated Transport Network and Ordnance Survey, NHS England and NHS Choices March 2018

Figure 15 shows the population of over 65 year olds resident in Leicester and the spread of NHS dental practices (those with disabled access and those who are accepting new patients and offering disabled access). It can be seen that there are only 20 NHS dental practices with disabled access that are accepting new NHS patients in Leicester. Results from the Leicester Dental Survey 2015 showed that 12% of people aged over 65 years were limited in their ability to attend a dentist by a longstanding disability or infirmity (LSIDI). There are significant differences in those whose ability to attend the dentist was limited by LSIDI by neighbourhood area. Residents from the North (11%) neighbourhood area were
significantly more likely to be limited in their ability to attend the dentist in comparison to residents from North West (3%) and East (2%). According to NHS Choices (March 2018), 79% (45 dental practices) of NHS dental practices in Leicester have disabled access and 44% (20 dental practices) of these practices are currently accepting new patients. It can be seen from the map below that although there are NHS dental practices in the East area that offer disabled access, few are currently accepting new patients.

Figure 15: Population Over 65 years by ward and NHS Dental Practices

![Population Over 65 years by ward and NHS Dental Practices](image)


Appointments: Although 40% of dental practices in Leicester are currently accepting new NHS dental patients who pay for their NHS dental care and 42% of dental practices are currently accepting new NHS patients who are exempt from paying for their NHS dental care, 15% of Leicester residents who reported difficulty in obtaining an NHS dental appointment had found it difficult due to inconvenient surgery opening hours.

According to NHS Choices (March 2018)

- 16% of all NHS dental practices in Leicester offer evening appointments (after 6:30pm) and only 4 of these dental practices are currently accepting new NHS dental patients.
- Only 12% of all NHS dental practices in Leicester offer weekend appointments (Saturdays) but only 1 of these dental practices are currently accepting new NHS dental patients.
NHS Dental Services (Business Services Authority) carries out a survey on the provision of NHS dental services where a randomly selected sample of patients are asked to complete a brief questionnaire. The information below (figure 17) shows levels of patient satisfaction with NHS dental treatment reported and waiting times experienced for NHS dental appointments in Leicester.

Apart from 2012/13, patient satisfaction with NHS dental treatment reported has been below the England average with a 4.5% fall in patient satisfaction in 2016/17.

Source: NHS Choices March 2018
Figure 17: Patient satisfaction with NHS dental treatment received

Source: NHS Business Services Authority

Patient satisfaction with the length of time taken to obtain an NHS dental appointment has constantly remained below the England average since 2012/13.

Figure 18: Patient satisfaction with waiting times for NHS dental appointments

Source: NHS Business Services Authority

Analysis of the dental questions in the GP patient survey (Figure 19) provides further understanding of the overall experience of NHS dental services. This shows the percentage
of people who rated their experience of NHS dentistry services as ‘very good’ or ‘fairly good’. Leicester is below the national average across 2015 to 2017.

Figure 19: GP Patient Survey 2015 to 2017 (Patient satisfaction with NHS dental services)

Source: GP Patient Dental Survey (Jan to Mar 2015 to 2017)

Recommendations for consideration by commissioners

NHS England Central Midlands:
- Ensure that people understand how to access NHS dentistry in Leicester by providing and promoting:
  - up-to-date and accurate information regarding the availability of NHS Dentistry
  - information regarding the NHS low income scheme
  - how NHS dentistry works including charges and exemption information with particular efforts directed at particular groups such as Asian men aged 25 to 44 years and those on a low income.
- Encourage all NHS dental contractors to keep NHS Choices up-to-date with regards to availability of NHS Dentistry as required by their contracts
- Local Professional Network to work with the local dental profession to improve the patient experience of NHS dental services in Leicester (including the Friends and Family Test information).
- Continue to work with the local profession to improve access to dental services with particular efforts to ensure equity in access for vulnerable groups such as the homeless.

Although access is an absolute priority, there should be additional initiatives to help people improve their oral health through education, better diet, awareness of self-care etc. This is especially relevant in the priority locations where greater levels of inequalities have been
identified. The local authority is responsible for oral health promotion and therefore it is recommended that:

**Leicester City Council:**

- Strengthen all existing partnerships and explore new partnerships in delivering oral health promotion activities aimed at all adults with particular efforts directed at particular groups such as Asian men aged 25 to 44 years.
- Ensure oral health promotion is carried out by and with people and not on or to people.
- Work to improve the capacity of communities for oral health promotion which not only requires practical oral health education but also leadership training and access to resources thereby empowering them with the necessary skills and knowledge to effect change.

Ensure that oral health promotion activities include raising awareness of the links between oral cancer and excessive alcohol use and tobacco as well as non-communicable diseases such as diabetes and oral health.

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