Oral Health Needs in Hull
(March 2017 Summary)

What’s the issue?
Despite improvements in oral health in England over the last forty years, many people continue to suffer the pain and discomfort associated with oral diseases, which are largely preventable.

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

The two main oral diseases are tooth decay (dental caries) and gum disease. Whereas tooth decay tends to be a problem in younger people, gum disease is more prevalent in the older population. Both these diseases can lead to loss of teeth and both conditions are preventable.

Tooth decay may be prevented by reducing sugary foods and drinks in the diet and optimising exposure to fluoride. Gum disease may be prevented by good oral hygiene and stopping smoking.

Hull City Council’s statutory dental public health responsibilities include ensuring the provision of oral health improvement programmes and oral health surveys. (NHS England is responsible for commissioning NHS dental services.)

What’s our situation?

Our Population
In line with the national trend, the population of Hull is expected to grow over the next twenty years, with the biggest increase in those people aged 65 and over.

Hull has high levels of deprivation compared with other local authorities. It is the third most deprived local authority in England. Just over 30 per cent of children under 16 live in poverty, which is the highest rate in the North Yorkshire and Humber region, and the tenth highest in England.

Hull has a higher proportion of under fives than other local authorities in North Yorkshire and Humber. The percentage of school children from Minority Ethnic Groups in Hull, at 17 per cent, is also greater than any other local authority area in North Yorkshire and Humber.

Oral Health of people living in Hull
Based upon national and local dental surveys, the following sections describe the oral health of adults and children living in Hull.

Detailed information is provided in the North Yorkshire and Humber Oral Health Needs Assessment (Yorkshire and Humber Dental Public Health Team, PHE, 2014) and the Joint Strategic Needs Assessment (Hull City Council and NHS Hull Clinical Commissioning Group 2016). [See References at the bottom of this document for weblinks].
Children

Whilst children’s oral health has improved over the last 20 years nationally, recent data for Hull shows that tooth decay continues to be the main oral health problem affecting children.

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

The ‘prevalence’ of tooth decay describes the proportion (or percentage) of the population experiencing tooth decay. The prevalence and severity of tooth decay in children increases with increasing deprivation.

Three Year Olds

The prevalence of tooth decay in three year old children in Hull, at 15.4 per cent, is more than one fifth higher than the regional and one third higher than the national average (Figure 1). Of the three year old children who had decay in Hull, each child had on average three decayed, extracted or filled teeth.

Figure 1. Prevalence of tooth decay experience in three year olds by local authority in North Yorkshire and Humber, 2013

(Source: PHE, 2014)

Five Year Olds

The most recent oral health data for five year old children shows that Yorkshire and the Humber remains the second worst region in England for the proportion of five year olds with tooth decay. The proportion of five year old children experiencing tooth decay in Yorkshire and the Humber (28.5 per cent) was significantly higher than the England average (24.7 per cent).

In Hull, about 38 per cent of five year old children have tooth decay, which is significantly higher than the regional and national figures, and the highest rate of all local authority areas in Yorkshire and Humber (Figure 2). Moreover, particularly in our most disadvantaged communities, poor oral health is likely to remain a significant problem.
The rates of children with tooth decay in Hull are improving. However, Hull has not seen the same improvement in rates of decay in five year olds that has been shown elsewhere in North Yorkshire and Humber/Yorkshire and Humber between 2008, 2012 and 2015. In Hull there has only been a six percentage point improvement since 2008, just half the improvement seen for the whole Yorkshire and Humber region. (Figure 3)
In Yorkshire and The Humber, the average number of teeth affected by tooth decay was the second highest regional average for all five year olds in 2014/15 (1.0) and significantly higher than the average for England (0.8). Five year old children in Hull had significantly more tooth decay experience (1.6) than the England average (Figure 4).

[Please note the length of the bars for Hull and Wakefield are different due to differences in the underlying survey data, which showed a higher dmft score for Wakefield, but resulted in the same figure of 1.6 when rounded up to one decimal place.]

**Figure 4. Average number decayed, missing and filled teeth among five year old children in Yorkshire and The Humber by local authority, 2015**

![Bar chart showing the average number of decayed, missing and filled teeth among five year old children in Yorkshire and The Humber by local authority, 2015.]

(Source: PHE, 2016)

Of those children in Yorkshire and The Humber who have tooth decay by age five, the number of decayed, missing or filled teeth averages 3.6, similar to the England average of 3.4. However, five year olds in Hull with tooth decay have on average four teeth affected, which is significantly worse than the England average (Figure 5).
As described previously, the prevalence and severity of tooth decay in children increases with increasing deprivation. Children in the most deprived fifth of the population in Yorkshire and Humber had about five times more decay than those in the least deprived fifth.

**Twelve Year Olds**

The most recent data locally and nationally for tooth decay rates in 12 year olds is from 2008/09. Nationally, the prevalence and severity of tooth decay in 12 year olds has been declining over the past 26 years.

However, in 2008/09 the rate and severity of tooth decay in 12 year old children in Yorkshire and The Humber was the worst in England.

The rate and severity of tooth decay among all 12 year olds in Hull was lower, but not significantly lower, than the figures for Yorkshire and the Humber. (Figure 5 and 6)
Of those 12 year olds in Hull who had tooth decay, each child had on average 2.15 teeth affected which was slightly lower, but not significantly lower than the national figure (Figure 7).
Similar to the picture for younger children, among 12 year olds the level of tooth decay increases with increasing deprivation.

**Hospital Admissions for Tooth Extraction**

In England in 2012-2013, the extraction of decayed teeth was the most common reason for hospital admission in children aged between five and nine.

Locally, children are still having extractions under general anaesthesia. Dental treatment under general anaesthesia is expensive for the NHS, disruptive for families and presents a small but real risk of life threatening complications for children.

Unfortunately, published data does not provide reliable figures for the number of children from Hull who have undergone tooth extraction under general anaesthesia because they do not include all activity carried out by a primary dental care provider at Hull Royal Infirmary or data for children referred to Leeds.

Local estimations suggest that at least 400 children per year aged under 10 are admitted to hospital for tooth extractions under general anaesthetic. Work is ongoing to get a better understanding of local information.

**Fluoride varnish**

Evidence from systematic reviews shows that the application of fluoride varnish between two and three times a year can reduce tooth decay by 37 per cent in baby teeth and 43 per cent in adult teeth (Marinho et al, 2013). Therefore evidence based guidance for dental professionals recommends application of fluoride varnish every six months for all children between three and 16 and more frequently for children up to 16 who may be at higher risk of tooth decay. For adults with a higher risk of tooth decay, it is recommended that fluoride varnish is applied twice a year (PHE, 2014).
Fluoride varnish applications are available as part of NHS dental treatment and are free for children as well as adults who are exempt from payment charges. Information describing fluoride varnish rates is dependent on the applications being recorded by dentists. Although fluoride varnish application rates are generally increasing, there appears to be a significant proportion of children in North Yorkshire and Humber who are not getting fluoride varnish applications from their dentist.

During 2013 and 2014, approximately 43 per cent of Hull children aged between three and 16, and less than 2 per cent of adults, who visited the dentist, received fluoride varnish applications.

**Adults**

Across the UK the oral health of adults has improved significantly over the last 40 years. More people are retaining more of their natural teeth into older age. Trends from national and local surveys show that the loss of all teeth is now uncommon amongst people over the age of 65, and even the very old (aged 85 plus) have in many cases retained some natural teeth.

Between 1998 and 2009 (the most recent national data) the prevalence of active tooth decay in England fell from 46 per cent to 30 per cent. There were reductions across all age groups but the largest reduction was in those aged between 25 and 34.

As we age, the effects of gum disease may cause exposure of root surfaces, so the rate of root surface decay is likely to increase. Seven per cent of adults in England had active decay on one or more root surface, the proportion increasing with age (20 per cent in the 75 to 84 age group), being male and social deprivation. (Figures for Hull are not available)

Inequalities exist in the oral health of adults both regionally and related to deprivation. The 2009 Adult Dental Health Survey reported that the average number of decayed teeth was higher in Yorkshire and the Humber than the England average.

A self-reported adult postal survey was carried out across Yorkshire and the Humber (YH Public Health Observatory, 2008) which revealed that Hull had a significantly higher proportion of adults (31 per cent) who rated their oral health as fair/poor/very poor compared to the figure for Yorkshire and the Humber (25 per cent).

After the age of 55 there are increasingly more adults in Hull who report having lost some of their natural teeth (or are wearing dentures) compared to the Yorkshire and the Humber averages. Just under a third of adults reported discomfort on eating and being self-conscious because of their mouth, which was comparable to the figure for Yorkshire and the Humber.

**Dental Services**

The proportion of adults and children in Hull visiting a dentist is showing a year on year increase. For the 24 month period ending 30 June 2016, over 70 per cent of adults in Hull accessed NHS dental services, significantly higher than the national average of 52 per cent. During the same period, the proportion of children accessing dental services was over 71 per cent, again higher than the national average of 58 per cent.

Based on Hull’s adult Health and Lifestyle Survey 2011-12, around 70 per cent of men and 76 per cent of women had seen a dentist within the last two years. From the Young People’s Health and Lifestyle Survey 2016, around four fifths of pupils had visited the dentist in the last six months, with over 90 per cent having been in the past year (and over 95 per cent in the last two years).

However, with increasing deprivation, dental access rates fall in both adults and children.
References

Hull’s Joint Strategic Needs Assessment
JSNA. Hull City Council and NHS Hull (2016).


Fluoride varnishes for preventing dental caries in children and adolescents.

Yorkshire and Humber Public Health Observatory (YHPO 2009).


North Yorkshire and Humber Oral Health Needs Assessment