

6. CHILDREN, YOUNG PEOPLE AND THEIR FAMILIES

6.15 Oral health of children

The most significant oral disease for children and young people is tooth decay (dental caries). Tooth decay is a preventable disease and risk factors, such as poor diet, are common to many other non-communicable diseases. Tooth decay occurs when the sugar in foods and drinks are converted to acid by bacteria found naturally in the mouth. This acid damages the surface of the teeth and is seen as “holes” in the teeth.

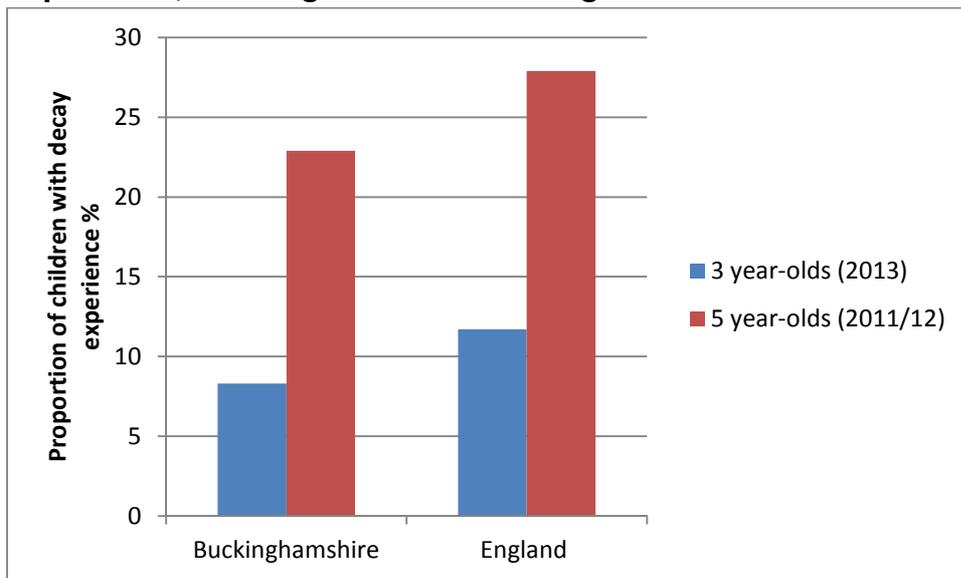
6.15.1 The importance of oral health in children

For children tooth decay has both physical and psychological effects. When severe, tooth decay will cause children to experience pain, disfigurement, infections, difficulty eating, sleep deprivation and days off school. It can also affect nutritional intake and weight gain in very young children and can negatively affect school readiness.

6.15.2 Information on oral health in children in Buckinghamshire

Tooth decay in children across Buckinghamshire is common, with over 1 in 5 (22.9%) 5-year-olds experiencing decay (figure 1)¹. Children do not usually have all their baby teeth until they are at least 2 years old, and the proportion of children who have experienced decay increases with age, so that 5-year-olds are more likely to have experienced tooth decay than 3-year-olds; in Buckinghamshire tooth decay was almost three times more common in 5-year-olds than 3-year-olds, and nationally it was more than twice as common (figure 1). Increased tooth decay with age is to be expected as their teeth have been exposed to acid attack for far longer. However this also suggests that there is significant scope for prevention in the early years to prevent these large increases in decay experience among young children.

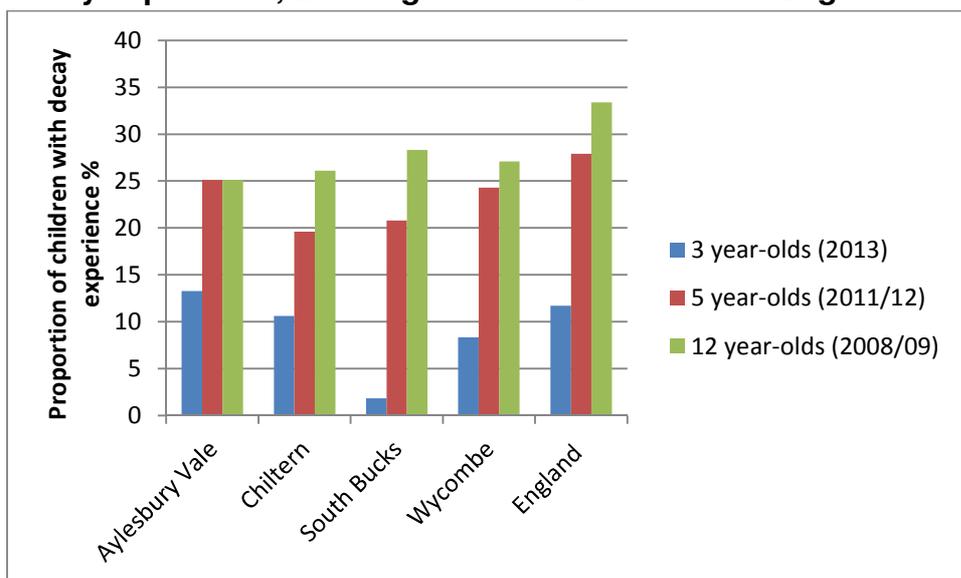
Figure 1 Proportion of 3-year-old and 5-year-old children with decay experience, Buckinghamshire and England



Source: PHE Dental public health intelligence programme: survey data.

Within Buckinghamshire variation in the distribution of tooth decay can be seen. The proportion of 3-year-olds with decay experience in South Bucks was statistically significantly lower than other areas, but by the age of 5 their decay experience was similar to other areas. The increase in the prevalence of tooth decay between the ages of 5 and 12 was much smaller than that between the ages of 3 and 5 (figure 2)¹.

Figure 2 Proportion of 3-year-old, 5-year-old and 12-year-old children with decay experience, Buckinghamshire Districts and England



Source: PHE Dental public health intelligence programme: survey data.

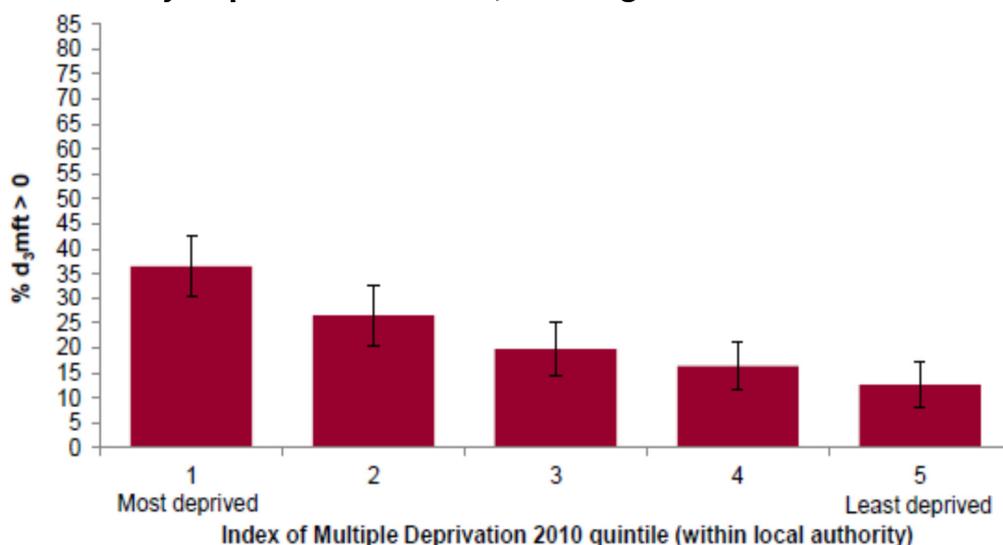
The data on decay experience is collected in surveys of children’s oral health. These surveys are usually carried out every year on different population groups. However, after the 2008/09 survey the process for gaining consent was revised, which means that it is not possible to compare data collected after 2009 with data collected before. Therefore trend data is not yet available for dental decay in children in Buckinghamshire, although release of data from the 2014/15 survey of 5-year olds is awaited, which provide two data sets for this age group.

Hospital data show that in 2012/13 401 children from Buckinghamshire had teeth extracted under a general anaesthetic². Data obtained from the Community Dental Service in Buckinghamshire show that in 2012 a total of 128 children aged 0-6 years underwent a general anaesthetic for dental treatment.

6.15.3 Oral health in different population groups

Tooth decay exists throughout all social groups but ends to be concentrated among particular groups of the population. A minority of children experience most of the decay, and children with decay experience have, on average, more than one tooth affected (see table 1 below). Tooth decay is associated with socio-economic deprivation which means that children from the more disadvantaged socio-economic groups tend to have the poorest oral health. This picture is seen in Buckinghamshire where significantly more children aged 5 in the most deprived quintile of the population had at least one decayed, missing or filled tooth than those in the three least deprived quintiles (figure 3)³.

Figure 3 Proportion of children aged 5 with at least one decayed, missing or filled tooth by Deprivation Quintile, Buckinghamshire 2011/12



Source: Public Health England. Dental Health Profile; Buckinghamshire: October 2014.

Children depend on their environment to establish favourable health behaviours and their dental health is influenced by their parents' involvement including family lifestyle habits and dental attendance patterns⁴. Therefore, certain groups of children are at greater risk of oral diseases (figure 4). These include vulnerable families, looked after children, young carers, teenage mothers, individuals in youth offending services and children in inpatient settings: acute hospitals, specialist and Child and Adolescent Mental Health Services (CAMHS). For children who are affected by chronic health conditions, certain medications, special diets, and difficulty in maintaining daily hygiene further affect their oral health and increase their risk of dental caries. Similarly children living in more deprived areas are more likely to have diets higher in sugars and less frequent use of fluoridated toothpaste at the correct concentration.

Figure 4 Groups of children at highest risk of oral diseases



Source: Public Health England. Thames Valley Oral Health Needs Assessment 2014

The reasons for children attending the dentist vary between socio-economic groups. Thames Valley data show that children from the most deprived populations are twice as likely to receive care for an urgent dental problem compared to those from the least deprived populations. This trend is also seen when admissions to hospital for dental treatment for children are considered. Recent data (April 2014-March 2015) for child admissions in England show that for under 15s, 35% of admissions came from the 20% most deprived areas⁵.

6.15.4 Oral health in different geographical areas

Table 1 compares oral health data for Buckinghamshire with other upper tier local authorities in the South East in 2012. Around 23% of 5-year-olds in Buckinghamshire had decay experience, and this is similar to the average for the South East (21%) but significantly better than the England average (28%). Children with decay experience each had an average of more than 3 teeth affected. Buckinghamshire ranked 8th out of 19 (where 1st is the worst) for the proportion of 5-year-olds with decay experience

and 7th out of 19 for the average number of teeth affected by decay in those with decay experience³ (Table 1).

Table 1 The proportion of 5-year-old children affected by dental decay, and the average d3mft* in those children with decay experience in Buckinghamshire, England and South East local authorities, 2012.

| Local authority | Average d3mft* | % of 5-year-olds with decay experience | Average number of teeth affected by decay in those with decay experience |
|--------------------------|----------------|--|--|
| Slough | 1.65 | 38.0 | 4.35 |
| Reading | 1.43 | 36.6 | 3.90 |
| Southampton | 1.14 | 29.9 | 3.79 |
| Oxfordshire | 0.98 | 32.9 | 2.97 |
| ENGLAND | 0.94 | 27.9 | 3.38 |
| Milton Keynes | 0.93 | 25.1 | 3.72 |
| Bracknell Forest | 0.78 | 27.6 | 2.84 |
| Portsmouth | 0.78 | 25.1 | 3.11 |
| Buckinghamshire | 0.76 | 22.9 | 3.31 |
| East Sussex | 0.68 | 22.4 | 3.03 |
| SOUTH EAST | 0.67 | 21.2 | 3.17 |
| Surrey | 0.63 | 19.9 | 3.17 |
| West Berkshire | 0.63 | 18.1 | 3.47 |
| Medway | 0.63 | 19.2 | 3.26 |
| Kent | 0.62 | 19.8 | 3.14 |
| Windsor and Maidenhead | 0.62 | 20.6 | 2.99 |
| Isle of Wight | 0.56 | 18.1 | 3.07 |
| Hampshire | 0.56 | 17.2 | 2.92 |
| West Sussex | 0.42 | 14.2 | 2.93 |
| Wokingham | 0.39 | 16.1 | 2.40 |
| Brighton and Hove | 0.35 | 12.5 | 2.82 |

*d3mft: average number of decayed, missing or filled teeth per child (all children)

Source: PHE: Dental Health Profile, Buckinghamshire

Figure 5 shows the average number of teeth affected by decay among all 5-year-olds in Buckinghamshire's CIPFA comparator group of Local Authorities. Buckinghamshire ranked 6th highest (where 1st is the worst) out of the group of 15 areas, all of which had levels of decay experience which were significantly better than, or similar to the England average.

Figure 5 Tooth decay in 5-year-olds (mean d3mft* per child), Buckinghamshire and CIPFA comparator group, compared with England average, 2011/12

| Area | Value | Lower CI | Upper CI |
|------------------|-------|----------|----------|
| England | 0.94 | 0.93 | 0.96 |
| West Sussex | 0.42 | 0.26 | 0.57 |
| Hampshire | 0.50 | 0.47 | 0.54 |
| Suffolk | 0.54 | 0.47 | 0.62 |
| Warwickshire | 0.56 | 0.46 | 0.66 |
| Essex | 0.57 | 0.51 | 0.64 |
| Surrey | 0.63 | 0.55 | 0.71 |
| Worcestershire | 0.64 | 0.58 | 0.70 |
| Hertfordshire | 0.69 | 0.61 | 0.77 |
| North Yorkshire | 0.72 | 0.64 | 0.80 |
| Buckinghamshire | 0.76 | 0.64 | 0.87 |
| Somerset | 0.86 | 0.74 | 0.97 |
| Gloucestershire | 0.87 | 0.76 | 0.98 |
| Northamptonshire | 0.94 | 0.84 | 1.05 |
| Leicestershire | 0.95 | 0.86 | 1.04 |
| Oxfordshire | 0.98 | 0.87 | 1.09 |

Source: National Dental Epidemiology Programme for England, Oral Health Survey of five year old children, 2012

*d3mft: average number of decayed, missing or filled teeth per child (all children)

Source: PHE Children and Young People's Health Benchmarking tool

6.15.5 Demand

Tooth decay can be treated. Treatment options which can preserve the tooth include fluoride varnish, which will halt very early decay (before a hole appears), or fillings. If it is not possible to preserve the tooth, extraction may be required, sometimes under a general anaesthetic, particularly if the child is young or needs multiple teeth removing.

Children in Buckinghamshire are more likely to attend an NHS dentist than adults in the county. Attendance is, however, not uniform. Approximately 85% of children aged 6-12 attend the dentist at least once every 24 months whereas attendance for 0-2- year-olds is as low as 15% in some parts of the county.

6.15.6 Horizon scanning

Buckinghamshire County Council estimates that the population of children (aged 0-19 years) in the county will increase by approximately 10,000 (8% increase) over the next 10 years. As the child population increases the oral health need and demand for dental services will also increase.

In 2013 the legal responsibility for monitoring the oral health of children and for ensuring that oral health improvement programmes are in place across Buckinghamshire was transferred from the NHS to Buckinghamshire County Council.

6.15.7 Conclusions

The oral health of children in Buckinghamshire is generally good; however, population averages mask inequalities in oral health. Disease experience is concentrated in a minority of the child population and certain groups of children are at greater risk of poor oral health, particularly those from lower socio-economic groups. Significantly more children in the most deprived quintile of the Buckinghamshire population are affected by tooth decay than in the three least deprived quintiles. Dental surveys show that the largest increases in the prevalence of tooth decay in children are seen between the ages of 3 and 5 years.

A 2014 Thames Valley Oral Health Needs Assessment made the following recommendations for local authorities as commissioners of oral health improvement programmes:

- Develop an oral health strategy in line with *Local authorities improving oral health: commissioning better oral health for children and young people*⁶;
- Integrate oral health within universal actions to improve health and wellbeing for children, to include:
 - Health improvement programmes tackling common risk factors, e.g. sugar reduction
 - Services for all children and young people at high risk of poor oral health, e.g. looked after children
 - Training on oral health and access to services for staff working with children
 - Community engagement – finding out what matters to families, children and young people around oral health
- Commission oral health promotion programmes, in line with *Local authorities improving oral health: commissioning better oral health for children and young people*, targeted at high risk children.
- Continue to commission epidemiological surveys as part of the National Dental Epidemiology Programme to allow monitoring of dental disease.

- Health and social services should have up to date information on local NHS dental services and should facilitate access to dental care.

In addition, recommendations for other bodies such as NHS England highlighted the importance of prevention and meeting the needs of high risk groups.

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 June 2016

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- ³ Public Health England. Dental Health Profile; Buckinghamshire: October 2014. Available at: <http://www.nwph.net/dentalhealth/> (accessed 16/2/2016)
- ⁴ Daly B et al (2003). Essential Dental Public Health, Oxford University Press.
- ⁵ Health and Social Care Information Centre. Hospital dentistry: 2015. Available at: <http://www.hscic.gov.uk/article/6466/New-figures-released-on-dental-care-in-hospital>⁵ PHE: Dental Public health Intelligence Programme <http://www.nwph.net/dentalhealth/> (accessed 16/2/2016)
- ⁵ Health and Social Care Information Centre. Hospital dentistry: 2015. Available at: <http://www.hscic.gov.uk/article/6466/New-figures-released-on-dental-care-in-hospital>
- ⁶ PHE (2014) Local authorities improving oral health: commissioning better oral health for children and young people. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/321503/CBOHMaindocumentJUNE2014.pdf (accessed 16/2/2016)