

# The state of children's oral health in England



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## **About the Faculty of Dental Surgery**

The Faculty of Dental Surgery is a professional body committed to enabling dentists and specialists to provide patients with the highest possible standards of practice and care. Our members include paediatric dentists who see first-hand the serious consequences of poor oral health in children.

### Overview

The Faculty of Dental Surgery at the Royal College of Surgeons of England is seriously concerned about the state of children's oral health in England. Almost a third of five-year-olds are suffering from tooth decay, there are significant regional inequalities, and it is the most common single reason why five- to nine-year-olds are admitted to hospital. In some cases children are admitted for multiple tooth extractions under general anaesthetic, despite tooth decay being almost entirely preventable.

We highlight the following key recommendations:

- Children's access to NHS dental services must be improved so that they can visit a dentist regularly for preventive advice and receive early diagnosis for any problems so that appropriate treatment can be instigated promptly. More than 30 per cent of children in England did not see an NHS dentist between 2012 and 2014.
- The relative shortage (and in some areas absence) of specialist paediatric dentistry services in some parts of the country must be addressed to ensure all children with advanced tooth decay have timely access to specialists with appropriate skills and facilities.
- It is vital that NHS England and the profession work together to ensure that preventive care in primary care dentistry is adequately resourced and delivered.
- Dental statistics should measure whether children have accessed an NHS dentist in the previous 12 months, rather than 24 months, in line with National Institute for Health and Care Excellence (NICE) guidance on dental recall.<sup>1</sup> Public Health England should also consider a public campaign to stress the importance of children seeing a dentist.
- Parents and children should be educated about the risks of tooth decay and the importance of good oral health and prevention. We urge the government to invest in a national oral health programme to drive improvements in children's oral health in England, as these have proved successful in Scotland and Wales.
- Efforts should be made to raise awareness of the impact of sugar on tooth decay and explore ways to reduce sugar consumption.
- Local authorities without water fluoridation should be encouraged to introduce schemes to tackle the significant inequalities in children's oral health across the country.

This briefing outlines the current problems with children's oral health and the consequences for them and the NHS; how poor oral health can be prevented; and actions that the government, dental professionals and other stakeholders can take to address the issue.

### **The impact of poor oral health**

Tooth decay (dental caries) is caused when oral bacteria produce acids that gradually soften the enamel, leading to cavities in the teeth. Sugar plays a key role in tooth decay as it fuels the acid formation by oral bacteria. Acidic food and drinks can be just as harmful as they can wear away the tooth enamel and cause tooth surface loss, making them more prone to decay and sensitivity.

Children's primary (baby) teeth are more susceptible to decay than permanent (adult) teeth owing to differences in their chemical composition and physical properties. In particular, primary teeth have thinner and often less resilient enamel that does not provide as much protection from bacteria.<sup>2</sup> Infants' and toddlers' primary teeth can also be affected by an aggressive form of decay called early childhood caries. The disease is associated with the frequent consumption of sugary drinks in baby bottles or sipping cups as it occurs in the upper front teeth and spreads rapidly to other teeth.

The World Health Organization says oral health is integral to overall health and essential for wellbeing. Good oral health 'enables an individual to eat, speak and socialise without active disease, discomfort or embarrassment'.<sup>3</sup> Poor oral health in children therefore has a number of effects:

- Pain and infection, such as gum disease or dental abscesses. This can lead to difficulties with eating, speaking and sleeping.
- Children may require treatment with fluoride varnish, fillings or even dental extraction.
- Children may miss school and their parents or carers may have to take time off work for toothache or treatment.
- Children who experience early childhood caries are much more likely to develop subsequent problems, including an increased risk of further caries in both their primary and permanent teeth.<sup>4</sup> This is partly because extensive damage to the primary teeth can cause abscesses that harm the permanent teeth developing inside the gums.
- In the case of advanced tooth decay where dental extraction is required, these children are more likely to develop orthodontic problems as the premature loss of primary teeth can affect the alignment of permanent teeth.<sup>5</sup>

### **The prevalence of children's tooth decay in England**

Oral health has improved significantly since the 1970s owing to greater awareness of its importance and the widespread availability of fluoride. However, almost a third of five-year-olds in England are still suffering from tooth decay and the average child with decay has at least three teeth affected.<sup>6</sup> Moreover, dental caries is the number one reason why children aged five to nine are admitted to hospital in England, even though it can be largely prevented through regular brushing, adequate exposure to fluoride and reducing consumption of sugar.

A survey of the dental health of children in England, Wales and Northern Ireland takes place every ten years. The results of the 2013 survey are expected to be published by the Health and Social Care Information Centre in February 2015.

**Regional inequalities**

Regional inequalities in oral health persist with almost 64 per cent more five-year-olds suffering from the disease in the North West of England than in the South East.<sup>6</sup> The variation of tooth decay prevalence is particularly dramatic among three-year-olds, with approximately 34 per cent suffering in Leicester, compared with just 2 per cent in south Gloucestershire.<sup>7</sup> On average, three-year-old and five-year-old children affected by the disease have three decayed teeth (children in these age groups will normally have developed all 20 primary teeth).<sup>6,7</sup>

There are a number of reasons why decay varies by region, including socio-economic factors, the availability of water fluoridation and access to NHS dental care. Approximately 18 per cent more children in the North of England saw an NHS dentist between 2012 and 2014 than those in London.<sup>8</sup>

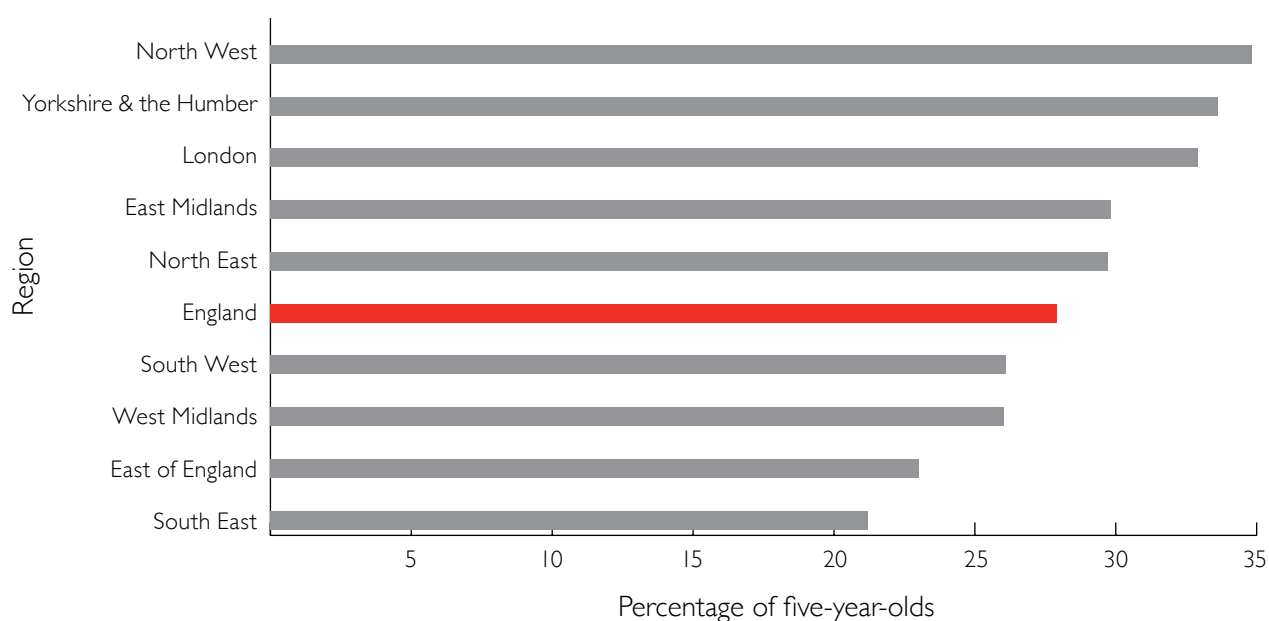


Figure 1: Percentage of five-year-old children with decay experience by region, 2012

**Hospital admission**

Where children with tooth decay are not diagnosed early and treated appropriately by primary care dentists (eg through the use of fluoride varnish or fillings), they may be referred to hospital for specialist care. If the teeth are too badly damaged to be restored, it will be necessary to extract them. General anaesthetic is often given to children undergoing multiple tooth extractions to reduce pain and anxiety as they may be frightened of the procedure or find it difficult to sit still. This was restricted to the hospital setting in 2000 following the Department of Health's report *A Conscious Decision*,<sup>9</sup> which recommended that patients undergoing general anaesthesia should have access to critical care facilities owing to safety concerns.

Approximately 46,500 children and young people under 19 were admitted to hospital for a primary diagnosis of dental caries in 2013–14. These numbers were highest in the five- to nine-year-old age group, which showed a 14 per cent increase between 2010–11 and 2013–14, from 22,574 to 25,812. The second highest admissions in 2013–14 were for tonsillitis, with approximately 11,500 cases, making dental caries by far the most common reason for children aged between five and nine to be admitted to hospital.<sup>10</sup> However, it is

not immediately clear why the number of hospital admissions for children with dental caries is increasing. One possible explanation is the similar percentage increase in the birth rates of these children, but there has not been a significant change in the level of treatment for children with dental caries in primary care. Other explanations could be that children are not being treated appropriately in primary care, or they are seeking dental treatment when the caries is already at an advanced stage so must be referred to specialist services. Alternatively, it could be that preventive measures such as moderating the consumption of sugar and/or brushing teeth are decreasing.

Irrespective of the reason, it is lamentable that tens of thousands of children need to be admitted to hospital when poor oral health is largely preventable. This needs to be addressed. Not only is the process a distressing experience for both children and parents, it is also costly for the NHS, with £30 million spent on hospital-based tooth extractions for children aged 18 years and under in 2012–13.<sup>11</sup>

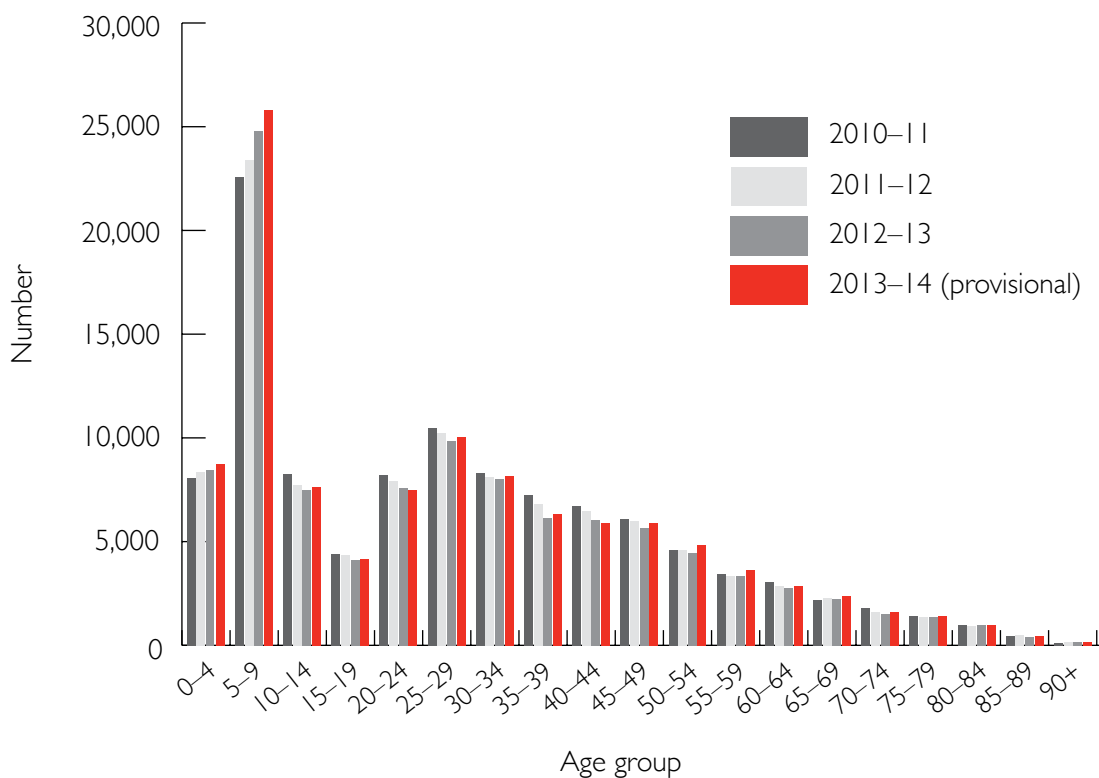


Figure 2: Number of people admitted to hospital for a primary diagnosis of dental caries by age group

### **What can parents, carers, and children do to maintain children's oral health?**

It has been estimated that around 90 per cent of dental caries are preventable<sup>12</sup> so keeping teeth and gums as healthy as possible can significantly reduce their likelihood. Moreover, tooth decay may not cause any symptoms until it has reached an advanced stage, so it is vital to visit the dentist regularly. Parents and carers of children should adhere to the following basic oral health and prevention guidance:

- Register children with a dentist as soon as the first teeth appear and visit regularly, as often as they recommend. NICE recommends that children visit the dentist at least once every year.
- Brush teeth with fluoride toothpaste for two minutes twice a day and supervise children's tooth brushing until they are at least eight years old.
- Ensure a healthy diet and limit consumption of sugary or acidic food and drinks to mealtimes. Even fruit juice is acidic and high in sugars, so parents should try to give young children only water or milk.
- Aim to introduce drinking from a free-flow cup when children are 6 months old and stop bottle feeding from 12 months. Unless otherwise instructed by a health professional, children over 12 months of age should drink nothing other than water during the night.
- Use only sugar-free medicines if possible.

If children develop tooth decay, they must be diagnosed early so that appropriate treatment can be instigated promptly. Referral to a specialist dentist should also be readily available when appropriate. This will help to prevent the need for multiple tooth extractions under general anaesthetic.

### **What can policy makers do?**

#### **Address children's access to NHS dental services**

Children should be registered with the dentist as soon as the first teeth appear and visit regularly to be given age-appropriate preventive advice and ensure any problems are identified early. However more than 30 per cent of children in England did not see an NHS dentist between 2012 and 2014,<sup>8</sup> in contrast with just 14 per cent of children in Scotland,<sup>13</sup> suggesting that issues surrounding access urgently need to be addressed.

**We recommend that dental statistics should measure whether children have accessed an NHS dentist in the previous 12 months, rather than 24 months.** This would be in line with NICE guidance on dental recall<sup>11</sup> and would provide greater clarity about whether children are accessing an NHS dentist at clinically acceptable intervals. We welcomed the Department of Health's recent decision to include dental indicators in the NHS Outcomes Framework for the first time by measuring the proportion of people with decaying teeth and the number of tooth extractions in secondary care for children under ten years old.<sup>14</sup>

We welcomed Public Health England's document *Delivering better oral health: an evidence-based toolkit for prevention*,<sup>15</sup> which provides guidance to dental teams on oral health assessments, age-appropriate preventive advice, and the use of toothpaste with high concentrations of fluoride. The government's proposals to introduce a preventive care pathway approach to NHS dentistry will also support children and their parents to follow advice.<sup>16</sup> Both initiatives should encourage dentists to identify children at high caries risk, who can be recommended a fluoride mouth rinse, fissure sealant or fluoride varnish to strengthen enamel and make it resistant to decay.



In addition to these initiatives, **we believe Public Health England should consider a public campaign to stress the importance of children seeing a dentist. It is vital that NHS England and the profession work together to ensure that preventive care in primary care dentistry is adequately resourced and delivered.**

### **Improve oral health education**

Education is the key to improving oral health, particularly in areas of social deprivation where rates of tooth decay are highest. Promoting good oral health in childhood will also help to ensure these lessons are continued into adulthood, thereby reducing the risk of decay in permanent adult teeth.

The Scottish government has been running the national *Childsmile* nursery, school and dental practice programme in disadvantaged communities since 2001. The programme costs approximately £1.8 million per year and has proved highly successful at reducing oral health inequalities and improving children's access to dental services. Through the initiative, children in nursery and primary schools are supervised daily when tooth-brushing; dentists are encouraged to provide twice-yearly fluoride varnish applications from two years of age to protect teeth; and families are offered advice on oral hygiene and diet, along with help to register children with an NHS dentist. The programme saved the Scottish government more than £6 million in children's dental treatment between 2001–2002 and 2009–2010, mainly owing to fewer tooth extractions, fillings and general anaesthetics. Moreover, the NHS costs associated with the dental disease of five-year-old children decreased dramatically over time, with the savings from the programme far outweighing the costs.<sup>17</sup>

Owing to the success of *Childsmile*, the Welsh government launched the *Designed to Smile* programme in 2009, which was modelled on the Scottish initiative. The most commonly reported effect of the scheme has been to raise parental awareness of tooth-brushing and oral health in general.<sup>18</sup> Although there has not yet been a study of any financial cost savings, approximately 41 per cent of 5-year olds in Wales had dental decay in 2011–2012, representing a decrease of 6 per cent since 2007–2008. The oral health of children in Wales is also improving across all social groups and there is no evidence of widening inequalities. It is expected that the full impact of the *Designed to Smile* programme will be shown when five-year-olds are surveyed in 2015–2016.<sup>19</sup>

We welcomed the NICE guidance, published in October 2014, which suggests that local authorities in England should ensure all early years' services provide oral health information and advice.<sup>20</sup> This builds on the important guidance in *Delivering Better Oral Health*<sup>15</sup> and includes recommendations for supervised tooth-brushing and fluoride varnishing programmes in nurseries and primary schools in areas where children are at high risk of poor oral health. However, we are concerned that many cash-strapped local authorities will ignore this advice. Therefore **we urge the government to go further and invest in a national oral health programme to drive improvements in children's oral health in England.**

### **Raise awareness of the impact of sugar on tooth decay**

Evidence shows that current intakes of sugar for children in the UK exceed recommendations set by the Committee on Medical Aspects of Food Policy in 1991.<sup>21</sup> Sugar plays a harmful role in tooth decay and awareness of its impact should be raised alongside public health messages on obesity, diabetes and heart

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disease. We welcomed Public Health England's report, *Sugar Reduction: Responding to the Challenge*,<sup>22</sup> which seeks to replicate the successful salt reduction programme that resulted in a 15 per cent drop in salt consumption in the UK.

The report highlights the government's plan to refresh the *5 a day* campaign and reconsider advice around fruit juice and smoothies owing to their high sugar content. Public Health England is also assessing the use of taxation in other countries to support sugar reduction and dietary health. **We encourage the government to raise awareness of the impact of sugar on tooth decay and explore ways to reduce sugar consumption.**

### **Ensure adequate priority for paediatric dentistry**

Children with advanced tooth decay must be referred to specialist services to be treated effectively by dentists with appropriate skills and facilities. Early referral may prevent children from requiring multiple tooth extractions under general anaesthetic.

However, there is currently wide variation in access to appropriate and high-quality dental care across England. The British Society of Paediatric Dentistry has highlighted concerns that there is a severe shortage of paediatric dentistry specialists within the community dental service following the recent loss of posts.<sup>23</sup> For instance, we understand at the time of writing that in the South West of England there are no consultants and just one specialist. **We urge the government to ensure that all children with advanced tooth decay have timely access to specialist paediatric dentistry services.**

### **Promote water fluoridation schemes**

Water fluoridation is proven to make a significant difference to children's oral health. We welcomed Public Health England's *Water fluoridation: health monitoring report for England 2014*,<sup>24</sup> which showed that children in local authorities with water fluoridation schemes have less tooth decay than those living without them. In fact, as many as 45 per cent fewer children aged 1 to 4 in fluoridated areas are admitted to hospital for tooth decay than those in non-fluoridated areas.

The British Society of Paediatric Dentistry recently published a position statement to support the introduction of water fluoridation in the UK. It states that the World Health Organization has consistently found water fluoridation to be safe and effective. Water fluoridation schemes exist in 25 countries, with 100 per cent of the population covered in Hong Kong and Singapore; 80 per cent covered in Australia; and 70 per cent covered in the US and Ireland.<sup>25</sup>

In England, only ten per cent of the population benefit from a water supply where the fluoride content, either naturally or artificially, is at the optimum level for dental health.<sup>15</sup> Water fluoridation schemes exist in 15 out of 152 local authorities – in the West Midlands more than two-thirds of the population are covered, while smaller schemes operate in parts of the North East, the East Midlands, Eastern England, the North West, and Yorkshire and Humber.<sup>26</sup> **We would like to see the government encourage all local authorities to introduce water fluoridation schemes to reduce the significant inequalities in children's oral health across the country.**

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