

JSNA 2017 Children's oral health

Executive summary

Tooth decay is the most common oral disease affecting children and young people in Ealing and as a borough it displays the highest child tooth decay rates in London as published by the most recent old oral health survey of 5 year old children (1). In addition in Ealing, tooth decay is the top cause of non-emergency hospital admissions for children.

There are persistent inequalities in oral health, with people living in deprived communities consistently having poorer oral health than people living in more affluent areas. With this disease burden impacting on both health and well-being affecting people physically and psychologically and influencing how children grow enjoy life, look, speak, chew, taste food and socialize (2).

Tooth decay is largely preventable by reducing the amount and frequency of sugar in the diet and optimising exposure to fluoride. Across Ealing there are a number of initiatives in place which employ these evidence based recommendations surrounding making oral health everybody's business, making every contact count, integration of oral health with other Public Health and Children's Programmes and increasing children's exposure to fluoride.

Recent data shows Ealing has the highest rate of child tooth decay in 5 year old children across London. There are ward level inequalities in dental access, fluoride varnish application and availability of dental services. Further action is required to address these issues.

- Tooth decay is the most common oral disease affecting children and the number one reason for non-emergency hospital admissions in children aged over 1 year, despite being a preventable disease
- Ealing has the highest child tooth decay rates in London with 39% of 5 year children having experienced dental decay, which is higher than the London (27.2%) and England (24.7%) averages.
- Children aged 1-18 years in Ealing have the second highest rate across London for hospital tooth extractions; double the England rate. 83% of these extractions were among children under 10 years old.
- Uptake of dental services for children (1-17 years) in Ealing is better than the average for London.
- In Ealing, there has been a year on year increase in the proportion of the resident child population receiving fluoride varnish applications from 2010 to 2016

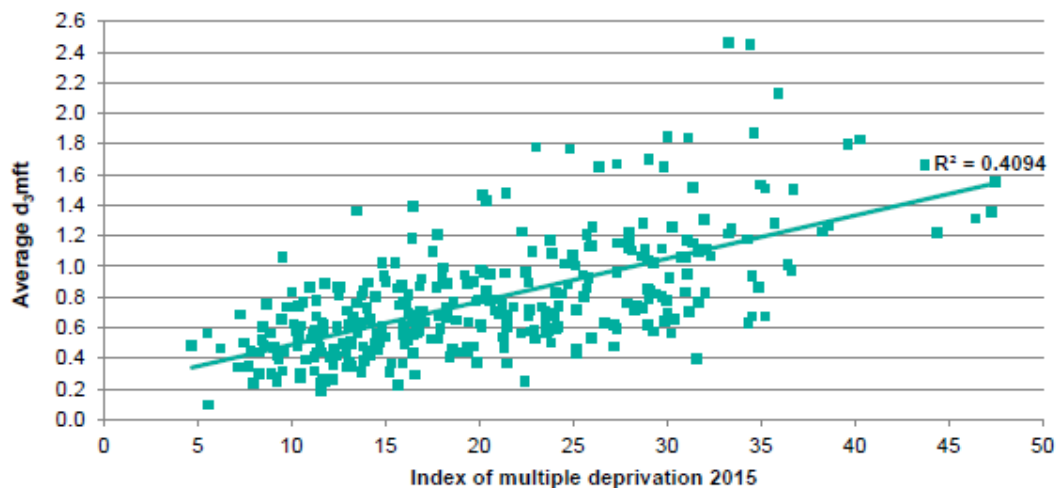
1. Introduction

Despite improvements in children's oral health over the past 30 years, tooth decay remains a significant public health problem. It is the most common oral disease affecting children and young people in England and can cause pain, discomfort, infection, and impaired nutrition and growth. It may impact on an individual's ability to sleep, eat, speak, play, concentrate and socialise with other children, thereby having the potential to affect health-related quality of life (2).

Often dental treatment for young children (such as extractions of decayed teeth) may only be done under general anesthetic, which is both distressing for the families concerned and expensive. Dental extractions are currently the number one reason why children are admitted for a general anaesthetic in England (3). However, tooth decay is largely preventable and as poor oral health shares the same common risks as a number of other chronic diseases, any action to reduce these risks (particularly sugars in the diet) has the potential to improve oral as well as general health (4).

People living in deprived communities consistently have poorer health than people living in richer communities and these inequalities run from the top to the bottom of the socioeconomic ladder (5). Tooth decay follows a similar social gradient, with 5 year old children living in areas with higher Index of Multiple Deprivation (IMD) scores displaying higher numbers of decayed, missing (due to decay) and filled teeth (dmft) (1).

Figure 1: Correlation between numbers of decayed, missing (due to decay) and filled teeth (d3mft) among five-year-old children and Index of Multiple Deprivation (IMD 2015) score (1)



Oral health is an integral part of general health and well-being, which contributes to children 'Getting the Best Start in Life' and school readiness. With the 2012 Health and Social Care Act the responsibilities for commissioning children's oral health changed. Commissioning of (primary, community and secondary care) dental services moved to NHS England and local authorities are now statutorily required to assess their local population's oral health needs, develop oral health strategies and commission or provide oral health improvement

programmes (6). They must also provide or commission oral health surveys as part of the Dental Public Health Intelligence Programme and are responsible for making proposals regarding water fluoridation schemes and for conducting public consultations in relation to these (6).

2 Policy context

2.1 National policy

- Oral health is a recognised Public Health England (PHE) priority with decay in 5 year olds part of the public health outcome framework (7). As a preventable disease, PHE aspire to produce “a generation free from decay”.
- The NHS “five year forward view” (8) seeks to address the challenges on the health service through strengthening and prioritising prevention
- Health Education England have committed to developing an appropriate health workforce to meet this need, as set out in the Health Education England Mandate (9)
- Guidance documents exist nationally to support practitioners to provide oral health prevention, “Delivering better oral health” (10) and to support local authorities to commission these services; ‘Commissioning Better Oral Health for Children and Young People’ (11)

2.2 Local Policy

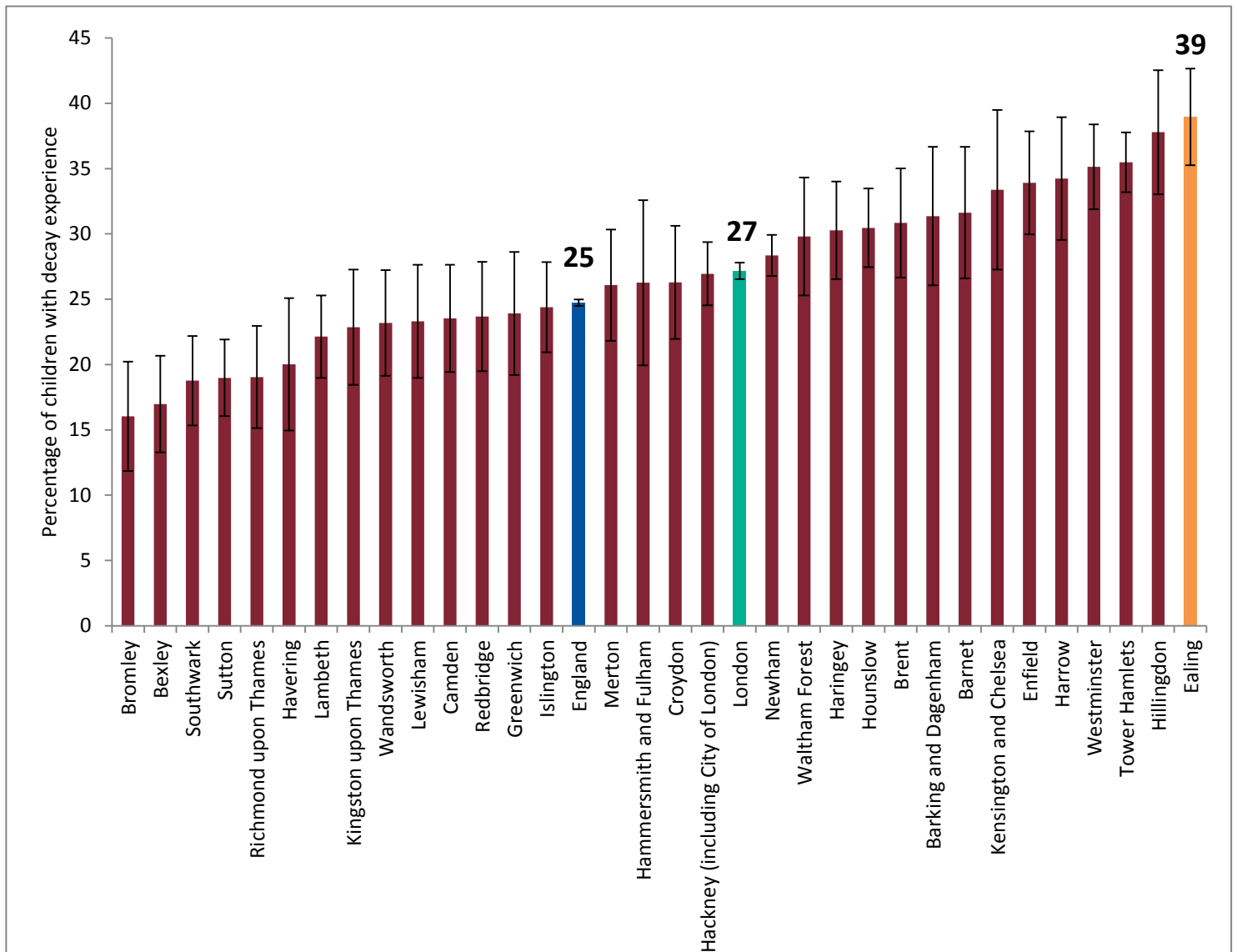
- Ealing currently have a draft oral health action plan and strategy (aimed at primary age children) which is anticipated for publication in mid-2017.
- Ealing’s obesity strategy (referred to as the Healthy Weight, Healthy Lives Strategy (2016-19)) was signed off in January 2017 and has crossover with the oral health agenda as recognized and encouraged by the Healthy Weight Steering group. This should be available on the Ealing Council website in mid-2017.
- Oral health, having been identified as a priority for the borough, is also included in the Health Visitor service, children’s centres and Early Start service work plans

3. Level of need in Ealing

3.1 Prevalence of tooth decay

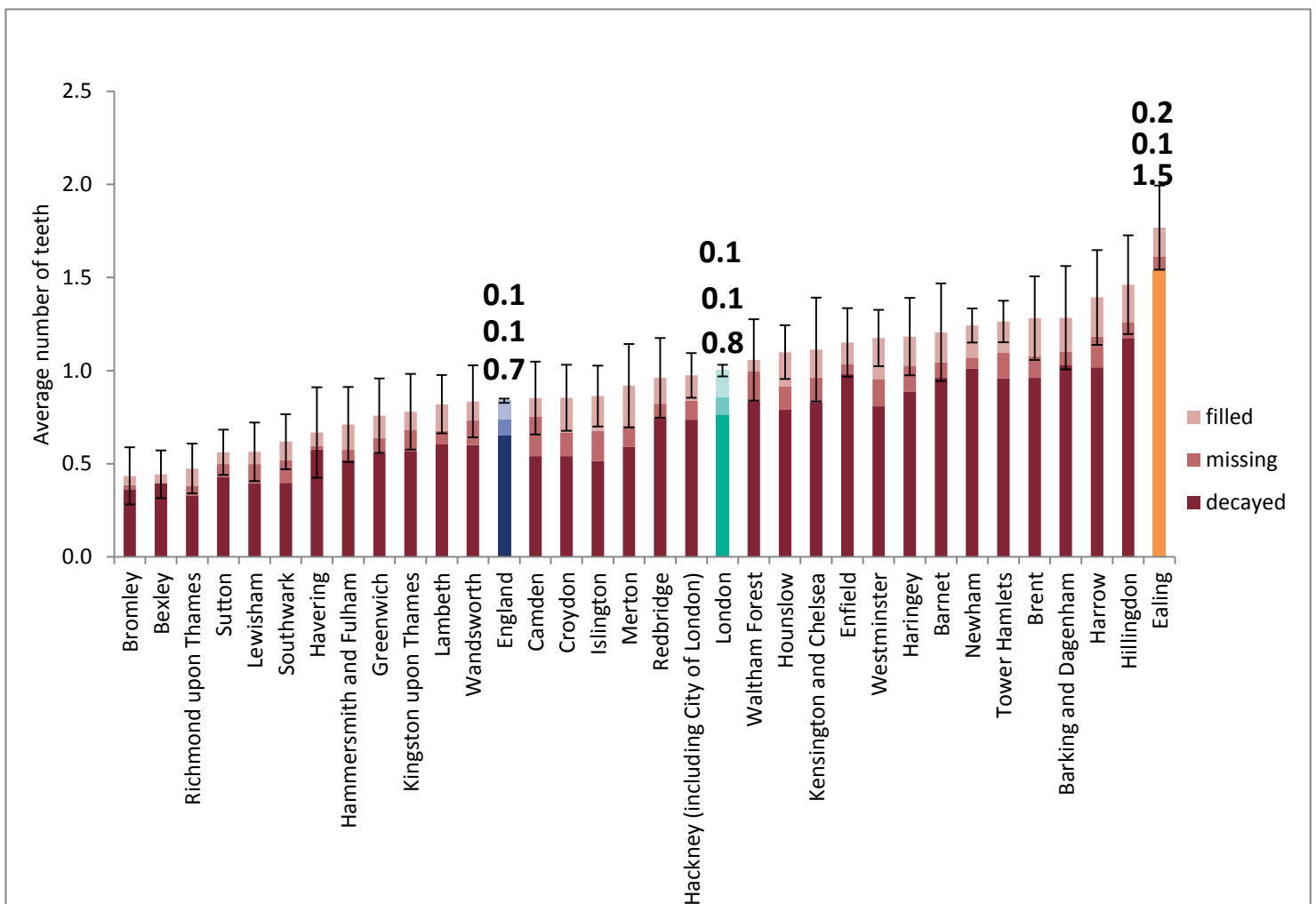
Tooth decay is the most common oral disease affecting children and young people in Ealing. Ealing has the highest child tooth decay rate in London, with 39% of 5 year old children having tooth decay. This is higher than the average rate in both London (27.2%) and England (24.7%) (1).

Figure 2: Percentage of children with decay experience in 2015 across London boroughs (12)



Decay experience is summarised by the index measure “dmft”, which is a composite of decayed, missing or filled teeth. In 2015, 5-year-old children in Ealing had an average dmft of 1.8, which was greater than the London figure of 1.0 and that in England at 0.8 (1). This total consisted of an average 1.5 decayed teeth, 0.1 missing teeth and 0.2 filled teeth. By the age of 5 years, untreated dental decay is responsible for the majority of the disease experience in Ealing.

Fig. 3: Average number of missing, filled and decayed teeth (dmft) in 5 -year old children in 2015 (12)



3.2 Severity of tooth decay

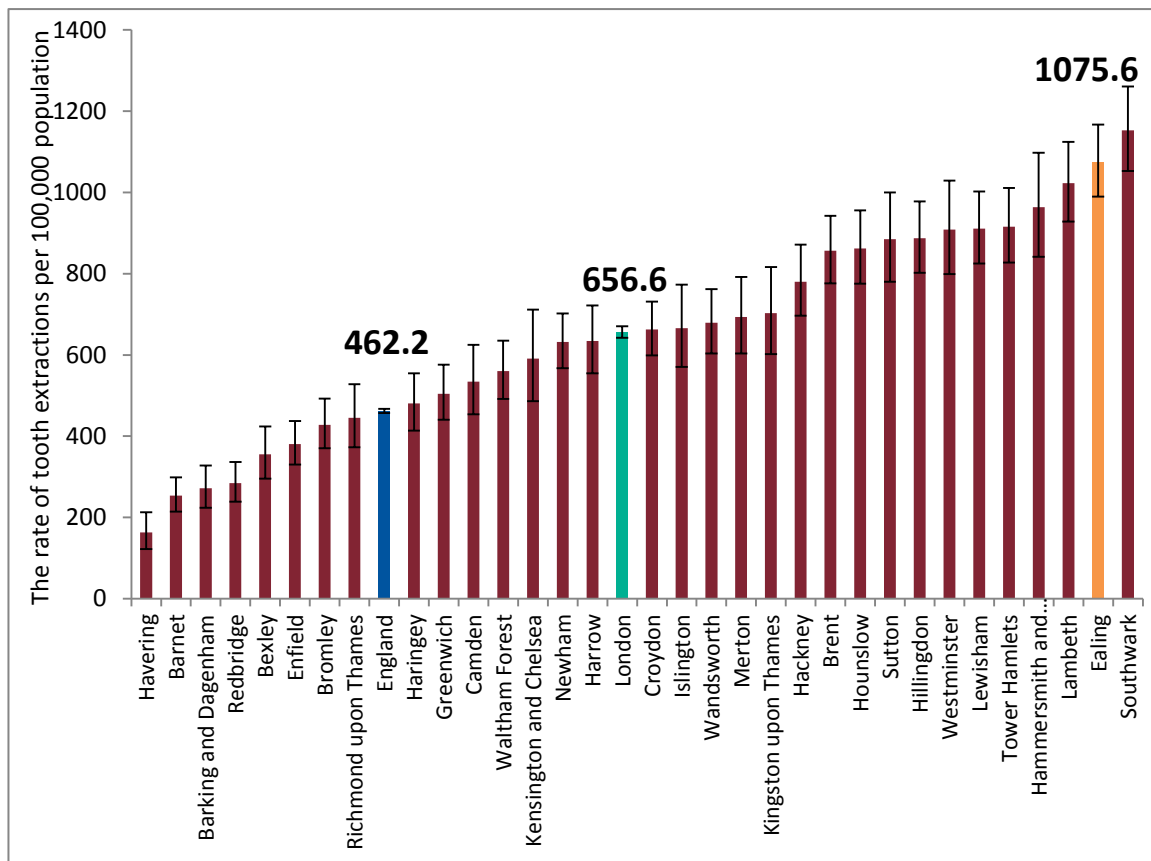
At the age of 5-years old, nearly all sepsis will be the result of the dental decay process rather than originating from gum problems (1) with a very small number of cases linked to traumatic injury of teeth. Sepsis is an indication of infection resulting from dental decay affecting the pulp (nerve tissue) of the tooth. Nationally, there are generally higher levels in those areas where there were higher levels of decay. The England average of

children having visual signs of sepsis is 1.4% and in London the average was slightly lower at 1.3%. However, Ealing reported 3.0% sepsis in those children examined; more than double the national average.

3.3 Child hospital admissions

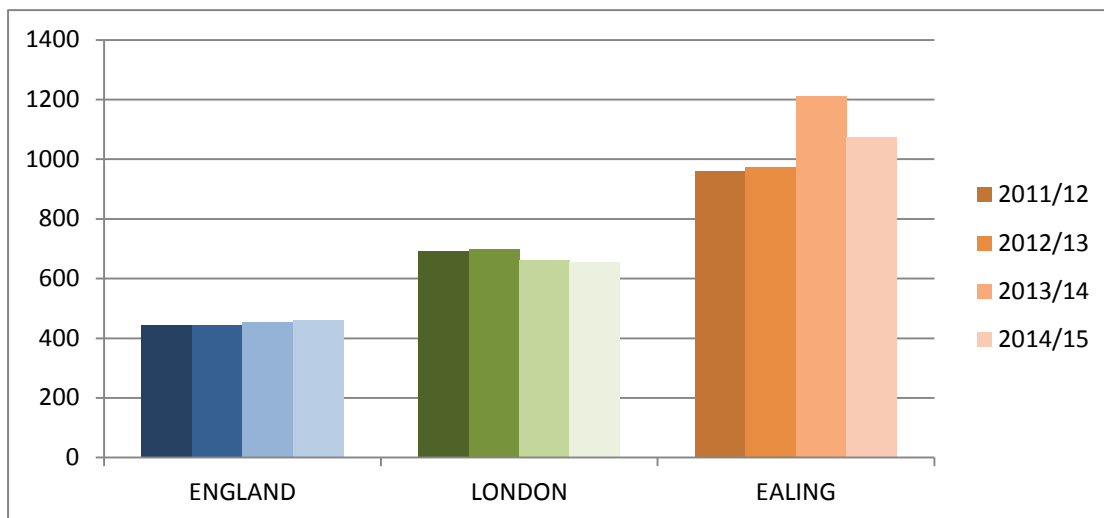
Despite being a preventable disease, dental decay is the most common reason for non-emergency hospital admissions in children aged over 1 year. In 2014/15, there were 863 hospital admissions due to dental decay for Ealing children aged 1-18 years, which was the second highest rate across London at 1,075.6 per 100,000. This was higher than the London rate and over double that for England. Eighty three percent of these hospital admissions in Ealing were for children under 10 years old.

Figure 4: (2014/15) rate of hospital tooth extractions in children aged 10 years and under per 100,000 across London boroughs (13)



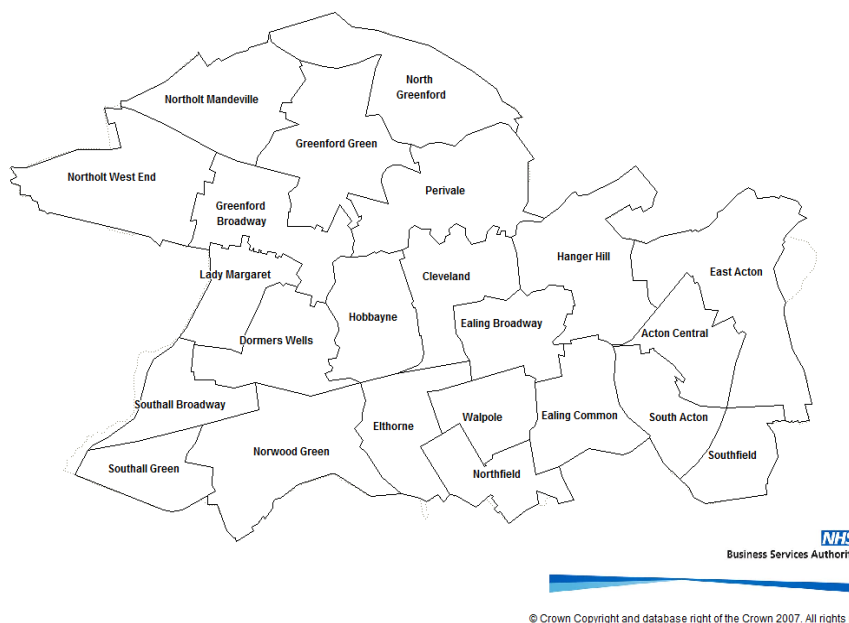
The rate of tooth extractions due to decay for children admitted as inpatients to hospital, aged 10 years and under in Ealing increased from 2011 to 2014 however the 2015 figures show a small drop in admissions.

Figure 5: Trends in the rate of hospital tooth extractions in children aged 10 years and under per 100,000 2011-2015(13)



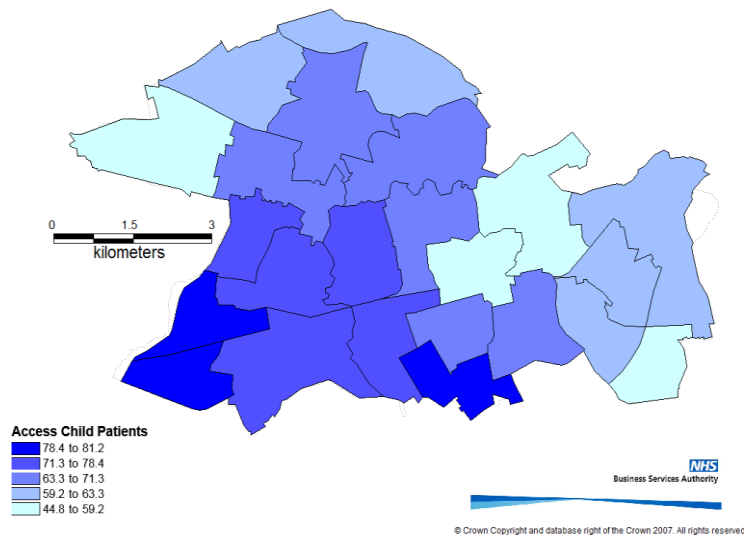
4 Access and uptake of dental services:

Individuals and families may access primary care dental services where ever they wish and are not constrained to access care within the borough where they reside or are registered with a GP. In the 24 months to September 2016, 52,709 child patients (defined as patients under 18 on the last day of the 24 month period) were seen in the borough of Ealing which accounted for 29.9% of all patients seen in that time period.



Map 1: Ward map of Ealing borough (14)

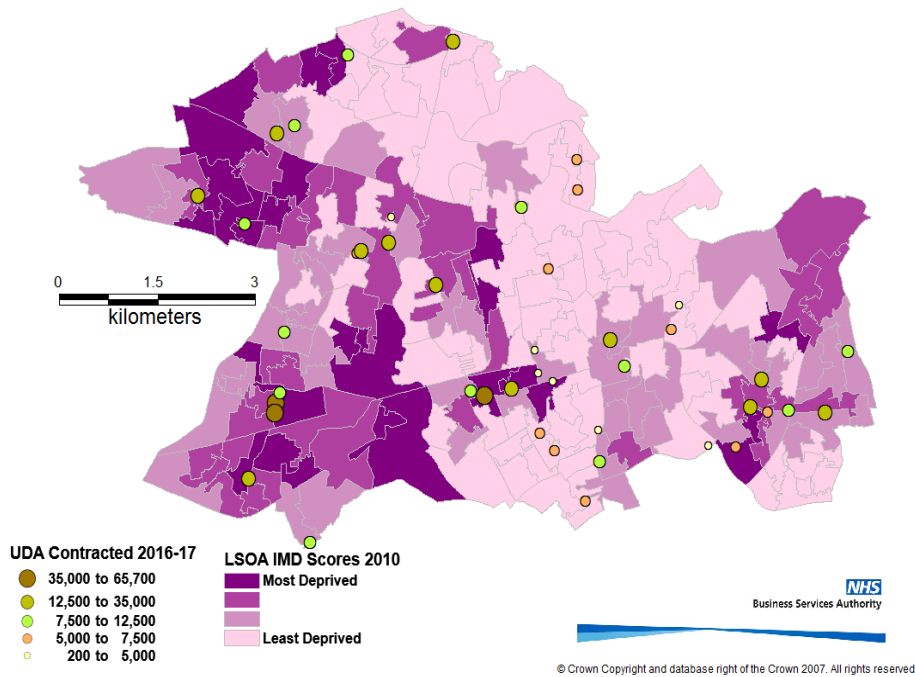
Ealing resident child uptake rates for NHS dentistry vary by ward across the borough, with the highest rates in the wards of Northfield, Southall Green and Southall Broadway, and the lowest in Southfield, Ealing Broadway, Hanger Hill and Northolt West End



Map 2: Child dental uptake rates in Ealing for the 24 month period ending September 2016 by ward of child's resident postcode (14)

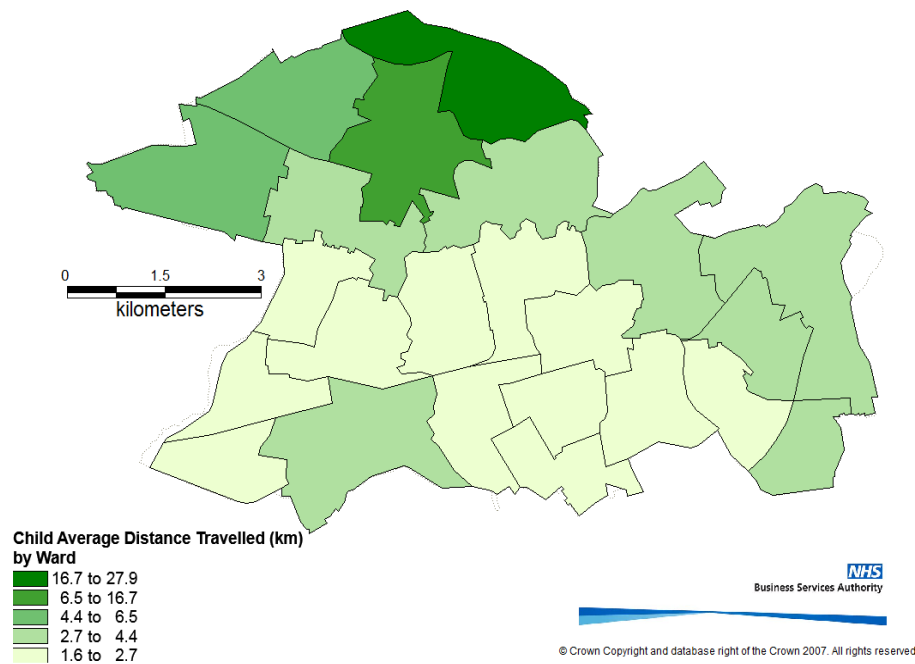
4.1 Inequalities

People living in deprived communities consistently have poorer oral health than people living in richer communities. There does not appear to be a pattern when comparing dental access with deprivation across Ealing, however when the available contracted units of dental activity (UDA) for adults and children for 2016/17 are mapped against deprivation, it appears that the most deprived areas have the highest NHS dental capacity across Ealing. The areas which are the lightest on the map and therefore least deprived have the fewest and smallest circles indicating the least NHS dental capacity.



Map 3: Levels of contracted UDA activity available for adults and children for 2016/17 by location of contract. (14)

The average distance travelled by child residents also varies by ward across Ealing. Those residents in the north of the borough travel the furthest for dental access.

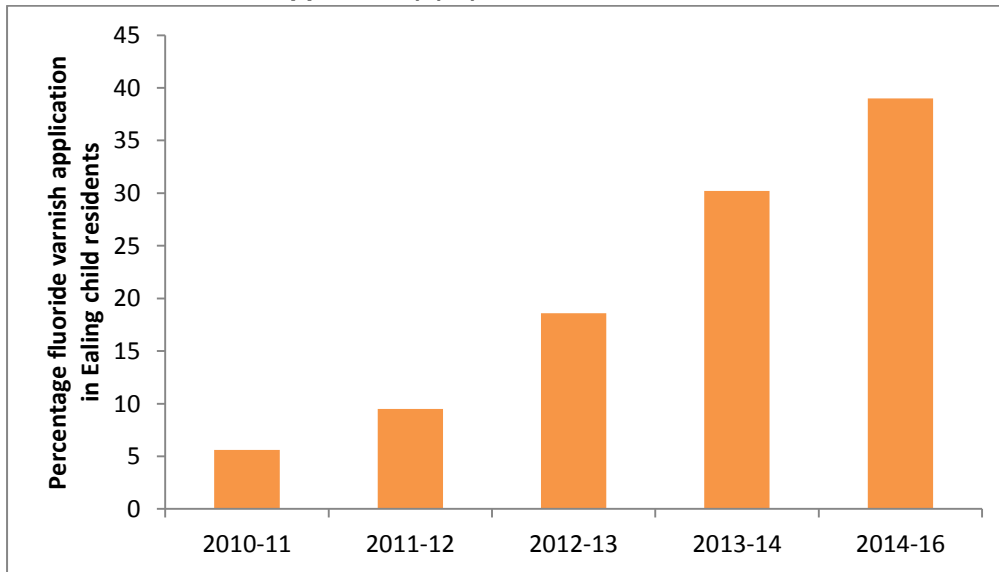


Map 4: Average distance travelled by child residents for dental access by ward across Ealing (calculated by measuring a straight line between the home postcode and contract location) (14)

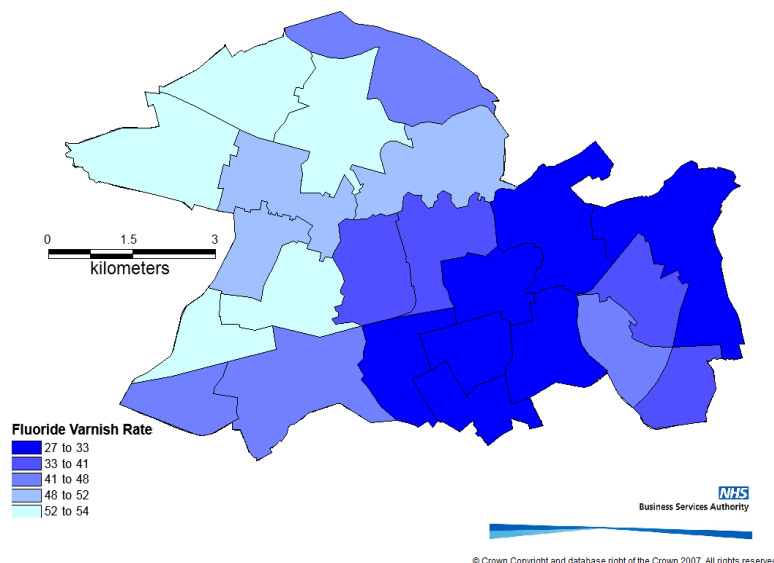
4.2 Fluoride varnish

There is strong evidence to support the application of fluoride varnish (FV) at least twice a year for children over 3 years of age and 3-4 times for those at higher risk of tooth decay. In Ealing, there has been a year on year increase in the proportion of child (3-17 years) NHS courses of treatment with a fluoride varnish application from 2010 to 2016, by child resident postcode. The FV rate for children with an Ealing resident postcode in the 24 months before September 2016 was 39% which was an increase from 30.2% in 2014.

Figure 6: Trends (2010-2016) in resident child fluoride varnish rates in Ealing (3-17 years FP17s with fluoride varnish application) (14)



There is variation in rates of FV application for children resident across the borough, with the highest rates in children residing in Southall Broadway (52.3%), Northolt Mandeville (51.2%) and Dormers Wells (50%) compared to the lowest rates for those children resident in Ealing Broadway (24.8%) and Elthorne (26.2%).



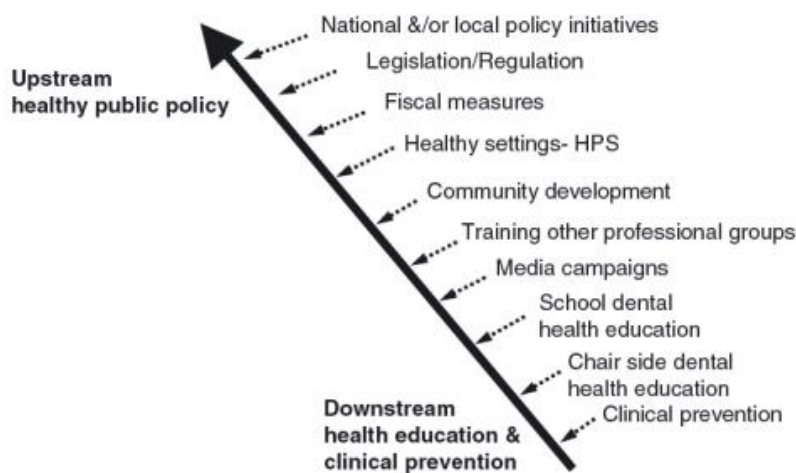
Map 5: Ealing child (3-17 years) fluoride varnish rates at ward level (14)

5 Evidence for addressing oral health inequalities

5.1 Principles of action

For the most sustainable gains in oral health and reductions in inequalities interventions should tackle the social determinants of health, adopting a whole population approach with varying degrees of effort and intensity depending on level of disadvantage. The Marmot Review coined this **proportionate universalism** (5). These “**Upstream**” actions at a societal level should be complemented by specific and appropriate “**downstream**” interventions at an individual level (15):

Figure 7: Upstream/downstream options for oral disease prevention sourced from victim blaming to upstream action: tackling the social determinants of oral health inequalities .
(Watt RG. From victim blaming to upstream action: tackling the social determinants of oral health inequalities. Community Dent Oral Epidemiol 2007;35: 1–11)



Oral health efforts should not be carried out in isolation but should be integrated with broader children’s and public health programmes such as those tackling obesity, improving diet and lifestyles, breastfeeding and weaning (16), following a **common risk factor approach** (4).

Interventions should start at an early age and continue throughout the life of a child, because what happens in early childhood has an impact on later life (**life course approach**) (17).

Sustainable improvements can be achieved by **improving diet and reducing sugar intake encouraging preventive dental care and increasing the use of fluorides** (10).

5.2 Prevention for individuals

- Children should be encouraged to brush their teeth twice a day with a tooth paste containing an appropriate level of fluoride (10). They should spit out the paste (and not rinse) and there should be supervision until at least the age of 7 years. Children who start brushing with **fluoride toothpastes** in infancy are less likely to experience tooth decay than those who start brushing later, by stimulating healthy dental behaviour from a young age. For children with active caries over 10 years of age,

2800 parts per million (ppm) fluoride toothpaste and over 16 years 5000ppm fluoride toothpaste is available on prescription.

- **Fluoride varnish** is a concentrated topical fluoride application which is applied professionally and has been found to substantially reduce tooth decay in children by up to 46% (18). National guidance is that application to the teeth of children should be at least twice a year and 3-4 times for those at higher risk (10).
- Regular supervised use of **fluoride mouth rinses** may be prescribed for children wearing orthodontic appliances at a different time to brushing with fluoride toothpaste or others at high risk of dental caries as this will reduce tooth decay (19)
- Where appropriate, dentists are recommended to cover the occlusal surfaces of molar teeth of children with a **resin-based sealant** as they are less likely to get dental decay in their molar teeth than children without a sealant (20).

5.3 Evidence base for community action

Public Health England has produced an evidence based tool kit to support local authorities in improving oral health, “Commissioning better oral health for children and young people” (11). This follows the overarching principles of action above and recommends specific evidence based interventions at a community level. These interventions include:

- Oral health training for the wider professional workforce
- Integration of oral health into targeted home visits by health and social care workers
- Targeted community-based fluoride varnish programmes
- Targeted provision of toothbrushes and tooth paste
- Supervised tooth brushing in targeted childhood settings
- Healthy food and drink policies in childhood settings

6 Current Interventions & Assets

Work is continuing within Ealing to implement the recommendations of the evidence-based “North West London Child Oral Health Improvement Strategy (2011-16)” (21) across three overarching priority areas:

- Making oral health everybody’s business and making every contact count
- Integration of oral health with other Public Health and Children’s Programmes
- Increasing children’s exposure to fluoride (both fluoride toothpaste and fluoride varnish)

This strategy together with stakeholder engagement from the Ealing Public Health Forum (2013) has provided the framework for the Ealing children and young people’s oral health improvement plan which aligns with recent national guidance for local authorities in Commissioning Better Oral Health (2014) (11). The following actions aim to improve child oral health in Ealing:

- Ealing has a draft oral health action plan for primary aged children, which is in the process of being agreed with partners.
- An oral health promotion campaign led by the public health team in May – June 2017 to align with National Smile week.
- The oral health promoter for Ealing is working across children’s centres and schools providing oral health workshops and training sessions with the aim of raising the profile of oral health and encouraging and empowering families to register with a dentist and to attend regularly
- Work is underway to promote the ‘Healthy teeth, Healthy Smiles Ealing’ leaflets (available at children’s centres, primary and junior schools), which aim to encourage registering with and regularly attending a dentist, promote fluoride varnish application and provide advice on diet and tooth-brushing. Also, “bottle to cup packs” are being disseminated to encourage the transition of children away from drinking from bottles to using cups.
- The oral health promoter is also assisting with the delivery of training and support to health and non-health professionals including School Nurses, Health Visitors, Early Years and children’s centre staff, other professionals and groups working with families such as nurseries, childminders and foster carers. This training aims to ensure that oral health becomes everybody’s business and support the “making every contact count” movement.
- A range of these professionals to be trained as oral health champions.
- Ealing will continue to support the ‘Now You Have Teeth’ project at Health Visitor clinics for child progress checks and children’s centres. This is a collaborative outreach programme delivered by young dentists to encourage parents to take their children to the dentist by the age of one year.
- Further work is being undertaken across the borough to achieve UNICEF baby friendly accreditation which will contribute to oral health through messaging around breastfeeding.
- Further communication of key messages will be undertaken across the borough at available opportunities such as in the family information service leaflet.

7 Identified Gaps

Tooth decay is the most common oral disease affecting children and young people in Ealing. As a borough Ealing displays the highest child tooth decay rates in 5 year old children across London. Untreated dental decay is responsible for the majority of the disease experience and the rate of sepsis reported is over double the national average. Work is continuing within Ealing to implement the recommendations of the evidence-based “North West London Child Oral Health Improvement Strategy (2011-16)” (21). However, with persistently high rates of tooth decay displayed in Ealing, further targeted action is required. The Ealing draft oral health action plan for primary aged children, which is in the process of being agreed with partners, should be treated as a priority.

In Ealing it appears that the most deprived areas have the highest NHS dental capacity. However, access rates vary across the borough. This indicates that a priority area should be to consider the barriers which may be preventing children from accessing the

available care and to increase awareness of dental services. There is also a large variation in rates of fluoride varnish application for children resident across the borough. Positively, there is a year on year increase in the proportion of child (3-17 years) NHS courses of treatment with a fluoride varnish application from 2010 to 2016. These increased rates are encouraging but proportionate action may reduce the inequality of applications across wards.

Ealing currently has a small and limited oral health promotion resource with which to address these identified gaps.

8 Recommendations for Commissioners

There are robust evidence based interventions available to support oral health at an individual (10) and community level (11) which should be considered when planning oral health services across Ealing. Current successful activities such as increasing fluoride varnish applications and engagement sessions like Now You Have Teeth (NYHT) should be supported and gaps in services such as uneven uptake of dental services should be addressed. It is crucial to embed oral health promotion within existing services through engagement with internal and external partners. It is recommended that Ealing has quarterly steering group meetings to facilitate the local oral health action plan. In addition the following proposals are made:

Build capacity in the wider professional workforce

- Provide training to key health and non-health professionals in a sustainable fashion in order to embed oral health within all children's services and health promotion activities.
- Ensure that children across Ealing receive consistent appropriate oral health advice from health and non-health professionals surrounding diet, tooth brushing, exposure to fluoride and supporting making every contact count (<http://makeeverycontactcount.co.uk/>). This will be done through the implementation of a programme currently in development, following a successful funding bid.
- Embed oral health as part of the specification for the wider workforce involved in delivering the 0-19 integrated healthy child programme. The new service specification will include specific reference to oral health to ensure that staff will be expected to discuss oral health with families.

Follow a common risk factor approach

- Align with the current local "sugar smart" obesity strategy to maximise reach and impact.
- Support the ambition that all Ealing primary and secondary schools sign up to the sugar smart project as supported by the Ealing Healthy Weight, Healthy Lives Strategy 2016-2019. Ealing will be implementing a borough wide Sugar Smart campaign in mid-2017, implementing the model

developed by Sustain and the Jamie Oliver Food Foundation to raise awareness of the risks of high levels of sugar consumption, and to promote alternatives (<http://sugarsmartuk.org>). This ties in with the evidence (see 5.3) around the introduction of healthy food and drink policies

- Identify and support healthy policy in childhood and family settings which support reducing sugar consumption.

Develop children's centres as an oral health promoting setting with the following Key Performance indicators

- Each centre should have a suitably trained named oral health champion as part of a rolling programme to ensure sustainability.
- Each centre should commit to hosting at least three parent workshops a year on oral health.
- Centres will make available written oral health advice and signposting information to parents and carers.

Increase exposure to fluoride

- Explore the feasibility of local supervised tooth brushing programmes
- Empower parents and carers to seek dental check-ups and request fluoride varnish application for their children.
- Within the Health Visitor service specification, include a brief intervention on oral health to be delivered during existing child progress checks.

Work with our collaborative partners

- Support the development of oral health promoting dental practices in Ealing in collaboration with NHS England.
- Support GPs and practice nurses to provide brief interventions on oral health, to support making every contact count and develop a prompt on their patient record software to facilitate this.
- Identify sugar ambassadors in the local council who can champion "sugar smart" within council directorates.

Explore novel interventions to increase service utilisation

- Assess the feasibility of sending out birthday cards to families to prompt dental check-ups.

For further information please contact: Claire Robertson, Consultant in Dental Public Health, Claire.Robertson@phe.gov.uk

1. PHE. 2014/15 Survey of 5 year old children, Public Health England 2016. Available from: [http://www.nwph.net/dentalhealth/survey-results%205\(14_15\).aspx](http://www.nwph.net/dentalhealth/survey-results%205(14_15).aspx).
2. Locker D. Health outcomes of oral disorders. *International journal of epidemiology*. 1995;24 Suppl 1:S85-9.
3. RCS. The state of children's oral health in England, RCS 2015. Available from: <https://www.rcseng.ac.uk/fds/policy/documents/fds-report-on-the-state-of-childrens-oral-health>.
4. Sheiham A, Watt RG. The common risk factor approach: a rational basis for promoting oral health. *Community dentistry and oral epidemiology*. 2000;28(6):399-406.
5. Marmot M, Bell R. Fair society, healthy lives. *Public health*. 2012;126 Suppl 1:S4-10.
6. Parliament Ao. NATIONAL HEALTH SERVICE, ENGLAND SOCIAL CARE FUND, ENGLAND PUBLIC HEALTH, ENGLAND - Statutory Instrument. 2012.
7. PHE. The Public Health Outcomes Framework 2016.
8. NHEngland. Five Year forward view, NHS England 2014.
9. DOH. HEE Mandate. 2015.
10. PHE. Delivering better oral health: an evidence-based toolkit for prevention, Third edition. 2014.
11. PHE. Commissioning better oral Health. 2014.
12. Programme PDPHI. Dental Public Health Epidemiology Programme for England, Oral Health Survey of five-year-old children 2015, lower tier local authority (LA) 2016.
13. HSCIC. NHS Outcome Framework Indicators 2016.
14. NHS Business Services Authority. 2016.
15. Watt RG. From victim blaming to upstream action: tackling the social determinants of oral health inequalities. *Community dentistry and oral epidemiology*. 2007;35(1):1-11.
16. Valaitis R, Hesch R, Passarelli C, Sheehan D, Sinton J. A systematic review of the relationship between breastfeeding and early childhood caries. *Canadian journal of public health = Revue canadienne de sante publique*. 2000;91(6):411-7.
17. Pearce MS, Thomson WM, Walls AW, Steele JG. Lifecourse socio-economic mobility and oral health in middle age. *Journal of dental research*. 2009;88(10):938-41.
18. Marinho VC, Worthington HV, Walsh T, Clarkson JE. Fluoride varnishes for preventing dental caries in children and adolescents. *The Cochrane database of systematic reviews*. 2013(7):Cd002279.
19. Marinho VC, Chong LY, Worthington HV, Walsh T. Fluoride mouthrinses for preventing dental caries in children and adolescents. *The Cochrane database of systematic reviews*. 2016;7:Cd002284.
20. Ahovuo-Saloranta A, Forss H, Hiiri A, Nordblad A, Makela M. Pit and fissure sealants versus fluoride varnishes for preventing dental decay in the permanent teeth of children and adolescents. *The Cochrane database of systematic reviews*. 2016(1):Cd003067.
21. health Do. Improving outcomes and supporting transparency Part 1A: A public health outcomes framework for England, 2013-2016. 2013.
22. PHE N, HEE. Making Every Contact Count (MECC): Consensus statement. 2016.