Oral Health Promotion Strategy

For children and young people in Surrey

Foreword *by Helen Atkinson*

It is with great pleasure that I present the oral health promotion strategy for children and young people in Surrey. Oral health is important and our aim in Surrey is for all children to be free from oral disease. Approximately one fifth of children start school in Surrey with an experience of dental decay, this position has remained relatively unchanged for the last ten years. Another concerning fact is that the fourth most common reason why a child is admitted to hospital in England is for the extraction of teeth.

Although the oral health status of children and young people in Surrey is above the England average, the national and local surveys give a generalised picture of decay levels which may mask poorer oral health in our more deprived communities. The Marmot Review shows us with staggering clarity that health inequalities arise from social inequalities, and action on inequalities require a focus on prevention. Prevention has also been the theme of our annual public health report this year and is one of the five priorities of the Health and Wellbeing Board.

This is the first oral health promotion strategy produced in Surrey County Council, acknowledging that local authorities now have a statutory responsibility to deliver oral health programmes. The strategy emphasises the partnership opportunities for building a preventative and early intervention system for oral disease in Surrey. With this in mind, the strategy aims to reduce dental decay, and its burden on health across Surrey with a strong focus on an evidence based approach.

I look forward to seeing this work further develop across Surrey and the oral health improvements that it will create for our children and young people.

Helen Atkinson FFPH, Director of Public Health.

Executive Summary

Good oral health is important; the aim of this strategy is for children and young people in Surrey to be free from oral disease. Over the decades, the oral health status among children across the United Kingdom has been steadily improving. However, dental decay remains one of the most common non-communicable childhood diseases. In Surrey the oral health status of children and young people is above the England average, national and local surveys give a generalised picture of decay levels which can mask poorer oral health which may be present in existing pockets of deprivation within Surrey. In line with Marmot's principles it is a matter of fairness and public justice to reduce such health inequalities locally. A blanket approach to oral health promotion risks entrenching inequalities therefore our recommendations are tailored and targeted to specific subgroups.

Oral disease is one of the most common chronic diseases, making it an important public health issue. Approximately one fifth of children start school in Surrey with an experience of dental decay, a position that has remained relatively unchanged for more than ten years. Additionally in 2012 Surrey had one of the worst NHS dental access rates in the UK. With the recent changes in the NHS the Local Authority has the opportunity to become more involved with oral health promotion.

This strategy identifies underlying issues and in collaboration with local partners aims to improve the oral health of children and young people in Surrey. The effects of dental diseases include pain, difficulties eating, school absence and impaired nutrition and growth which can have a significant impact on a child's quality of life and overall wellbeing. The impact of oral disease is not only detrimental to the individual but also has an economic impact on families and the wider population. The fourth most common reason why a child is admitted to hospital in England is for the extraction of teeth. This strategy has a preventative focus, as a curative approach is not cost effective and will not eliminate dental disease.[1]

This is the first oral health promotion strategy produced in Surrey, acknowledging that local authorities have a statutory responsibility to provide or commission oral health programmes.[2] This strategy attempts to bridge the gap across the boroughs in Surrey and tackle inequalities that exist between areas such as Woking and Weybridge.

The strategy contains recommendations and an implementation plan to achieve our aims. The focus is on prevention and developing links with other health promotion programmes to enhance the effectiveness and to utilise a common risk factor approach. The strategy advocates an integrated approach with local partners ensuring that oral health improvement is embedded at a strategic level.

We are pleased to release the first Oral Health Promotion Strategy for Surrey. We look forward to its implementation whilst working alongside all our partners and stakeholders to overcome the dental inequalities facing children and young people across Surrey and improve their oral health and wellbeing.

Key Messages

- ✓ Local Authorities have a statutory responsibility in providing oral health programmes and ensuring sustainability in oral health improvements
- ✓ One fifth of children in Surrey start school with dental decay
- ✓ Oral health has an important role in general health
- ✓ A healthy diet and good oral hygiene are the best preventative measure in tackling decay
- ✓ The benefits of fluoride need to be maximised. Essentially after brushing rinsing should be avoided i.e. “spit don’t rinse”!

Recommendations

- ✓ Deliver advice following “Delivering Better oral health 3rd edition”
- ✓ Empower young people and families in the self management of oral care
- ✓ Implement a holistic approach to oral health promotion
- ✓ Promote registration of all children with an NHS dentist
- ✓ Train health professionals in oral health promotion
- ✓ Train education workers to deliver oral health advice and support behaviour change

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Introduction

Introduction

Definition

Oral health promotion is *'any planned effort to build supportive public policies, create supportive environments, strengthen community action, develop personal skills or re-orientate health services in the pursuit of oral health goals'*.[3]

From April 1st 2013 Public Health was transferred to the Local Authorities. The Local Authority now has a statutory responsibility to provide a range of activities within Dental Public Health that support the local population to improve their oral health.2 One of these responsibilities relates to the establishment of an oral health programme for its population. The recent document Commissioning Better Oral Health set out guidelines for Local Authorities and how they could improve oral health, which is a Public Health Outcomes Framework indicator (PHOF).[4]

The field of dentistry has recognised the steady rise in oral health over the last few decades[5]. Oral health is important as it enables people to eat, speak, smile and socialise without pain, discomfort or embarrassment. The World Health Organisation (WHO) highlighted the fact that causative factors in oral health share a commonality with risk factors implicated in major diseases.[6] Therefore the strategy is embracing this "common risk factor approach". To reach the standard set by WHO[7] this strategy should be:

- Empowering
- Participatory
- Holistic
- Equitable
- Sustainable

In addition the Ottowa[8] charter defined five key areas of oral health promotion:

Key area	How it is addressed in this strategy
"Promoting health through public policy: by focusing attention on the impact on health of public policies from all sectors, not just the health sector."	This requires dental public health (DPH) to work with the Local Authority and utilise contacts within public health to link with other agencies such as schools, health visitors, the family support team and social care.
"Creating supportive environments: by assessing the impact of the environment and clarifying opportunities to make changes conducive to health."	It is unlikely that DPH can influence the environment alone; however they can influence and work with other agencies to promote supportive environments. This relies on DPH being collaborative and open to opportunities with other agencies.
"Developing personal skills: by moving beyond the transmission of information, to promote understanding and to support the development of personal, social and political skills which enable individuals to take action to promote their health."	DPH can address this by ensuring that training packages, advice and support promotes understanding. And that advice and support for partners such as health visitors is not based purely on the transmission of didactic information and that when 'training the trainers' they have a deeper understanding of the causes.
"Strengthening community action: by supporting concrete and effective community action in defining priorities, making decisions, planning strategies and implementing them to achieve better health."	The purpose of this strategy is to strengthen community action by providing guidelines and recommendations to improve oral health in Surrey.
"Reorienting health services: by refocusing attention away from the responsibility to provide curative and clinical services towards the goal of achieving health gain."	The strategy aims to have a preventative rather than a curative approach.

This strategy is intended to be used as a reference and guidance document for all people who work with children and young people in Surrey. The strategy discusses tooth decay, the commissioning of oral health services and the "gold standard" preventative approach for Surrey County Council to endorse.

To improve dental health, it is essential to motivate individual behaviour at home i.e. self-care, as well as receiving professional support from dentists. This is because many oral diseases are prevented and controlled by effective oral hygiene and fluoride application.[9]

Oral health promotion programmes can be made cost-effective if their effects on the population are targeted and consciously designed not to entrench inequalities; this is more likely if interventions are designed for whole populations.[10] For the purpose of this strategy the chosen group is children and young people, in addition a number of cohorts within this subgroup have been identified as priorities which are discussed later in the document.

The messages within this strategy should be incorporated where possible e.g. when developing policies, activities, or delivering health awareness training. The strategy should be supported by all those who are directly or indirectly in contact with children and young people or their carers.

Why develop a strategy?

This strategy is Surrey County Council's first strategic approach in promoting and supporting the prevention and improvement of oral disease among children and young people. Last year the most common reason for 5-9 year olds to be admitted to hospital, in England, was for the extraction of teeth[10a]. The dental Joint Strategic Needs Assessment for Surrey[11] states that oral disease among children still persists.

Key Points:

1) Oral health promotion seeks to achieve sustainable improvements in oral health and reduce inequalities through action directed at the underlying determinants of oral health. To tackle oral health inequalities this requires action to be implemented across all the social determinants of health, including education, occupation, income, home and community based oral health promotion. [12]
Therefore, Local Authorities should integrate oral health promotion into general health promotion.[13] Effective oral health promotion strategies should involve the local community, agencies and health workers.[13]

2) The Marmot report states that *'disadvantage starts before birth and accumulates throughout life'*. [14] A Marmot approach should be taken when looking at improving the oral health of children. Although dental decay can affect any child, children living in more deprived areas are more likely to have a higher prevalence of decay[15]. It is important to be aware that homeless children, travellers, people who smoke, consume excessive alcohol or use illegal drugs will also have an increased risk of developing health problems, which includes oral disease.[16]

3) Oral health promotion that maximises the use of fluoride can be the most cost-effective method in reducing decay.[9,17]The most effective programmes usually involve some sort of fluoride vehicle e.g. the use of fluoride toothpaste, the provision of toothbrushes or the use of fluoride varnish

programmes[18]. Reviews have shown the use of Fluoride toothpaste to be the most effective. [19, 20,21]

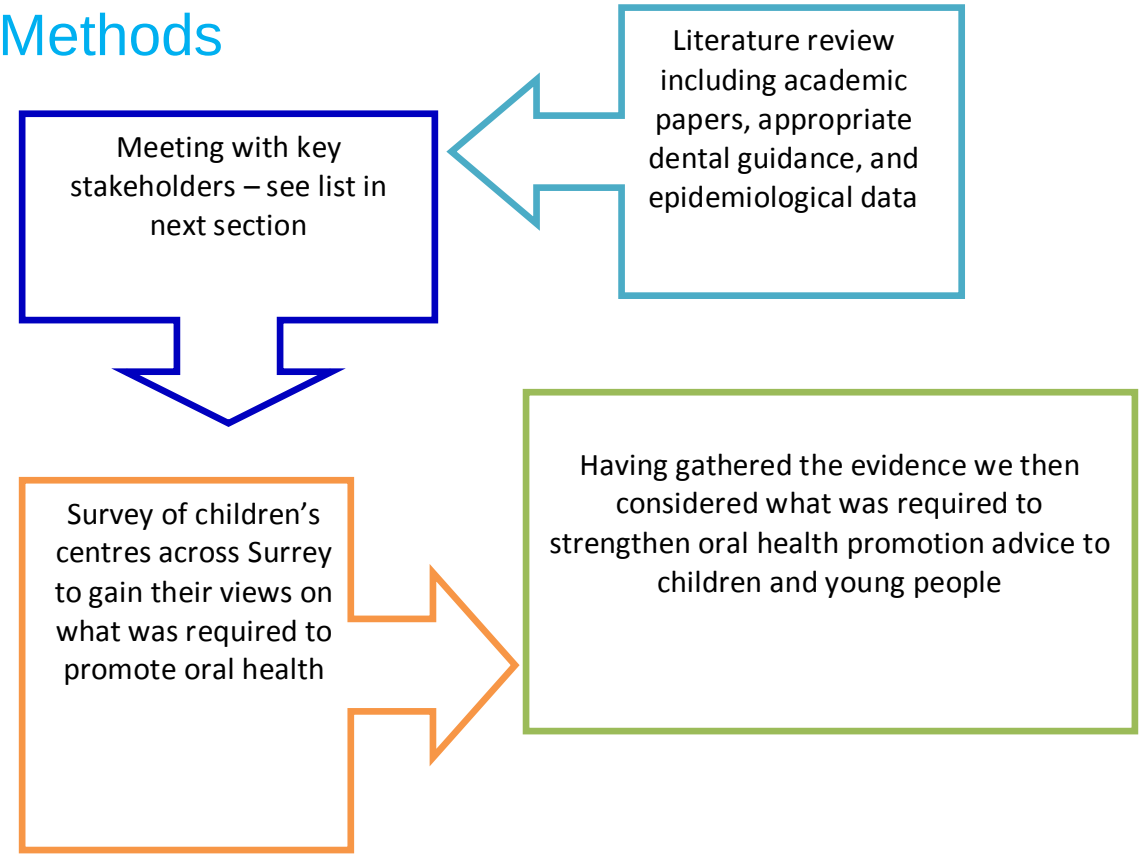
Aim

To improve the oral health of children and young people in Surrey through prevention and oral health promotion initiatives with a vision to ensure they are free from oral disease.

Objectives

- Promote oral health in children and young people
- Provide local leadership for the prevention and control of oral diseases
- Address oral health inequalities across Surrey
- Support the improvement of oral health through prevention and early intervention programmes
- Develop strong collaborations between Surrey County Council and relevant local partners
- Promote healthy behaviours

Methods



Stakeholders: *For a list of stakeholders please see appendix 1*

Context

Barbara Billington Oral Health Promoter

Context

NHS commissioning; the role of NHS England

The Department of Health is the overarching organisation that sets the Secretary of State's expectations and requirements for the NHS, including NHS dental services. The Department of Health has responsibility for Public Health which it discharges to Public Health England and Local Authorities. NHS dental services are commissioned by NHS England, formerly known as the NHS Commissioning Board. Area teams are involved at local level and are the direct point of contact for dental service and stakeholders.

Public Health England and Oral Health

Public Health England works closely with NHS England to deliver dental services. Consultants in dental public health assist the local commissioning teams and local professional networks in enabling improvements in dental services and supporting the reduction in health inequalities.

Local Authorities and Oral Health

Local Authorities commission the majority of public health services for people in their area, including oral health programmes and oral health promotion services. At the time of writing Clinical Commissioning Groups (CCGs) are not yet involved with the delivery of dental services but there are plans in place for these groups to be responsible for the commissioning of complex pathways of care such as the treatment for oral cancer.[22]

Dental registrants

Dentists and dental care professionals (DCPs) deliver oral health promotion, treatment, support and maintenance in Surrey. They are the main frontline workforce delivering these services. Oral health promotion is currently done primarily through face-to-face contact with individual patients in a clinical setting and more rarely by presentations in schools and other small groups. Oral health promoters can be based in the Community Dental Service and also within local authorities.

The World Health Organisation's draft guidelines on sugar intake recommends that sugars should make up less than 10% of total energy intake per day, with a further recommendation to reduce this to 5%. Brett Duane, Dental Public Health Consultant Kent, Surrey, Sussex

[23]

What is Oral Health?

"Oral health is a state of being free from chronic mouth and facial pain, oral and throat cancer, oral sores, birth defects such as cleft lip and palate, periodontal (gum) disease, tooth decay and tooth loss, and other diseases and disorders that affect the oral cavity."[24]

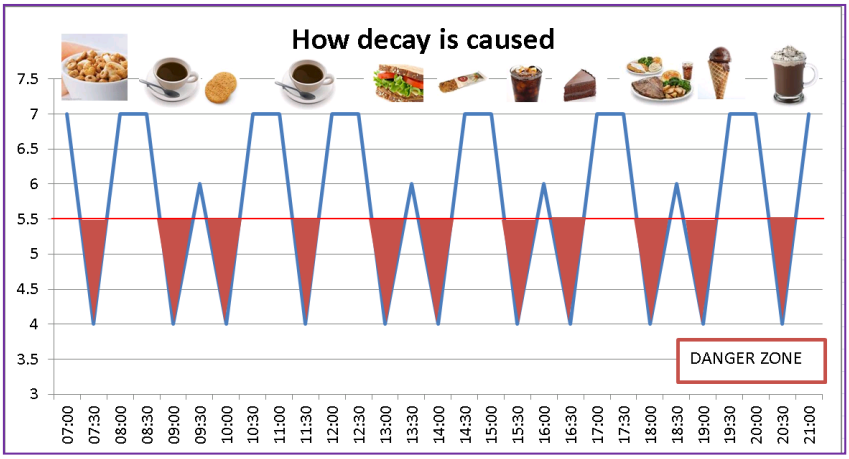
What is Tooth Decay?

Tooth decay (caries) is the destruction of the tooth surface, which can lead to holes, pain and infection. Plaque is a film that sticks to the surface of the teeth; it contains a mixture of bacteria and sugars and constantly forms on the teeth.

Tooth decay occurs when sugars, from the diet, interacts with plaque bacteria to form an acid. The cyclical process of demineralisation and remineralisation can contribute to the breakdown of the tooth surface.
The main factors influencing demineralisation are:

- The frequency of sugar consumption[25,26]
- Type of bacteria; some bacteria may be more harmful at causing dental decay than others[27].
- Exposure of the teeth to fluoride.[28]
- Local factors (some teeth may be more susceptible to dental decay)[29, 30].

Figure 1 How decay is caused?



Every time you eat or drink sugary substances the pH level in your mouth drops; below a pH of 5.5 is the danger zone. The more time that is spent in this zone the more likely you are to develop tooth decay. More time is spent in this zone with an increased frequency of eating and drinking food and drinks high in sugar

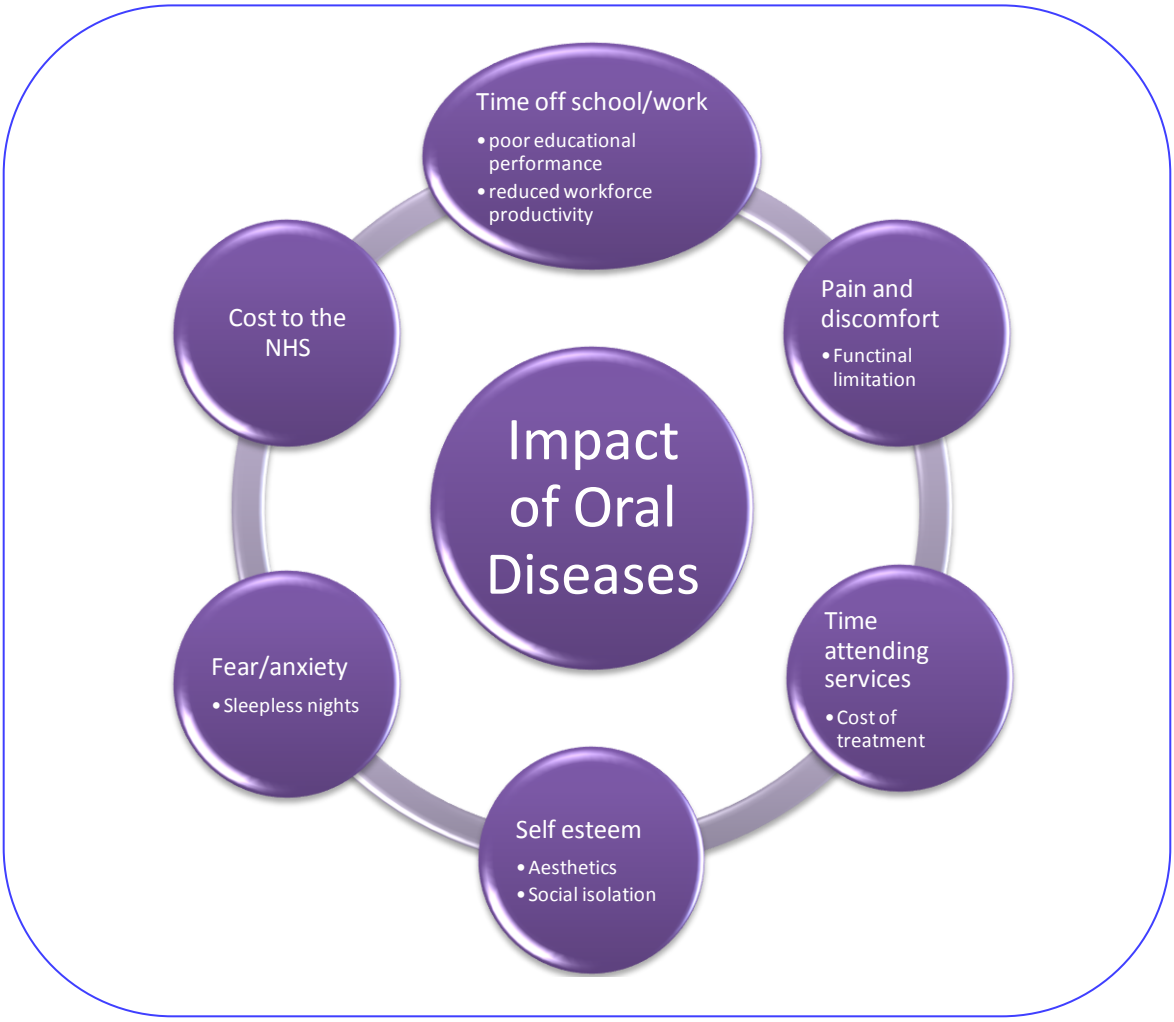
Effects of Poor Oral Health

Pain is often the most associated consequence of poor oral health but poor oral health can also lead to difficulty eating, social exclusion and embarrassment, which can affect self confidence, oral related activity, emotions, social functioning, general health and life in general.[31] Specifically poor oral health in children can lead to:

- Failure to thrive
- Impaired growth development
- Low self-esteem
- School absence

Treating oral disease is costly[32], however savings have been reported in countries where investment has been made into preventative care.[33, 34]

Figure 2 The impact of oral diseases



What is the prevalence of disease?

National trends in children's caries

The NHS Dental Epidemiology programme supports the gathering, analysis and publishing of data on children's dental health in England.[35] This has traditionally been carried out on 3, 5 and 12 year old children on alternate years. The dmft for 3 year olds in Surrey in 2013 was 0.11 (below England's average of 0.36).

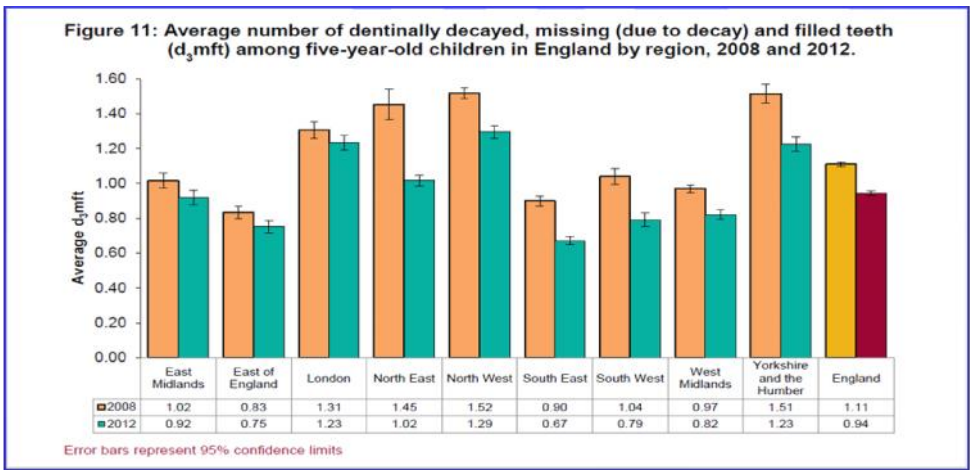
In 2011/12, the average number of decayed missing and filled teeth (dmft) was 0.94 in England. There was a wide variation in the rates of decay, with the north of the country in more deprived Local Authorities tending to have poorer oral health.
There has been a reduction in decay rates and severity from 2008 to 2012. The prevalence reduced from 30.9% to 27.9%, in all regions apart from London. The mean dmft rate reduced from 1.11 to 0.94.

5 years

In 2008/09 33.4% of 12 year old children had experience of dental decay. However there is a wide variation in decay experience between regions in the country. In Southwark only 12.9% of 12 year olds had decay experience, in Knowsley the decay experience was much higher at 56.1%. There is a continued trend for a reduction in disease levels however, there are consistently high levels of dental disease in the north of the country compared with levels in the south.[1]

12 years

Figure 3 Average dmft 5-year-olds 2008 and 2012



The graph compares dmft levels from 2008 and 2012. The South East has a lower average than the England average for 2008 and 2012.

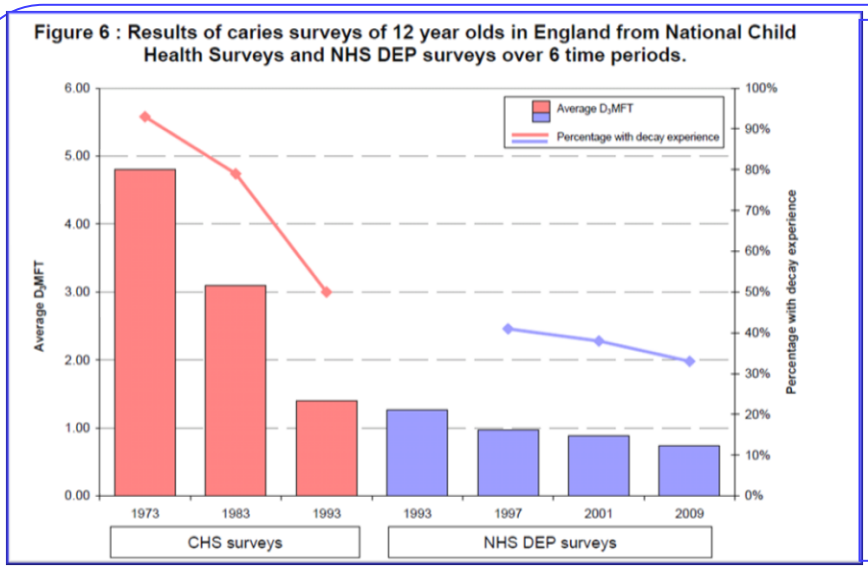
Dental Health survey of children and young people- *key results*

Every 10 years

1973 1983 1993 2003 2013

5 years	*5 year olds' oral health has improved, but the rate of improvement has levelled*
12 years	*DMFT of 12 year olds in England second best internationally (0.7) and the best in Europe*
12/15 years	*12/15 year olds' oral health has improved over the past years of the survey*
12/15 years	*1993-2003 decay experience and no. Of fillings in adult teeth has decreased*

Figure 4 Surveys of 12-year-old children



This graph shows the survey results from the Child Dental Health survey and the NHS DEP surveys. There has been a decrease in the dmft from 1973 to 2009

Who is at risk?

Risk indicators

The main indicators that lead to a child having an increased risk of decay, which are evidence based and important to consider are:

- Past caries experience [36]
- The amount of fluoride exposure [37]
- The child's dietary sugar intake[38]
- Overall oral health status of the family[39]
- Deprivation- higher levels of deprivation are associated with an increase in dental disease experience. [40]

Specific groups at risk include[13];

- Children and young people from low socio economic groups
- Children and young people with special needs, including children and young people with learning difficulties
- Looked after children and young people
- Children and young people not in education, employment or training
- Children and young people from some black and minority ethnic (BME) groups including the Gypsy, Roma and traveller population
- Young offenders

Children need to see a dentist, even if parents have had poor experiences themselves in the past. Building good oral health habits will benefit the children for their entire lives.
Jackie Sowerbutts, Public Health Consultant and Dentist

What can be done?

What can be done?

Guidelines and toolkits

NICE is developing a public health guideline on 'Oral Health: local authority oral health improvement strategies'. A draft guideline has set out provisional recommendations[13].

NICE Guidance

This guideline makes recommendations on undertaking oral health needs assessments, developing a local strategy on oral health and delivering community-based interventions and activities in order to:

- Improve diet and reduce consumption of sugary food and drinks, alcohol and tobacco (and so improve general health too)
- Improve oral hygiene
- Increase the availability of fluoride
- Increase access to dental services.

The document states that Local Authorities should ensure that:

Oral health is a core component of the Joint Health and Wellbeing Strategy ensuring that an oral health strategy and a needs assessment group exist.

Providers of health care, social care, childcare and education staff are aware of the 'advice for patients' in delivering better oral health.

They use a range of data sources to inform the process of carrying out an oral health needs assessment and to develop an oral health strategy.

Information and advice on oral health is provided in local health and wellbeing policies, including policies covering nutrition, breastfeeding weaning and local food policies in educational settings. This should be included with information about the common risk factors for ill health.

Systems are in place to monitor and evaluate the effect of the local oral health improvement programme as a whole.

Frontline staff in early years services including education and health understand and can apply the principles and practices that promote oral health.

Recommendations for each age group from NICE guidance

Early years recommendations

Where there is a higher risk of poor oral health:

- Include oral health promotion in early years service specifications
- Provide tailored information and advice through early years services
- Provide supervised tooth brushing schemes in nurseries
- Provide fluoride varnish programmes in nurseries
- Provide supervised tooth brushing schemes and fluoride varnish programmes in nurseries

0-5 years

Primary school recommendations

Recommendations for primary school children where children are at higher risk of poor oral health:

- Promote oral health in the primary school curriculum
- Provide supervised tooth brushing
- Provide supervised tooth brushing and fluoride varnish programmes (very high risk) format this

5-11 years

Secondary school recommendations

Secondary school recommendation:

- Include information about oral health in the secondary school curriculum

11-18 years

Toolkit

In June 2014 PHE published the following document: Local authorities improving oral health: commissioning better oral health for children and young people. An evidence based tool kit.[41]

The document recommends local authorities to ensure that:

Children and young people (CYP) and their families are at the heart of commissioning.

There is an integrated approach with partners for oral health improvements.

Commissioning for oral health improvement is across the life course, adopting the principle of universal proportionalism.

CYP are supported through their families, early years, schools and community settings to maintain good oral health, adopting a place based approach.

Commissioning frameworks integrate oral health improvement within existing programmes e.g. healthy child programme.

Delivering Better Oral Health

The Delivering Better Oral Health toolkit[42] was first produced in 2007. It was created by the Department of Health and the British Association for the Study of Community Dentistry (BASCD). The third edition was released in June 2014. The working group are also working on a public facing document, which will be available on the Internet and includes information that is more accessible for other health professionals and the public.
The toolkit is evidence based and easy to read and it is designed as a guide for dental care professionals to deliver oral health advice, promotion and prevention. The advice is ordered in sections covering, dental decay, periodontal disease, diet, oral cancer and smoking. Dental care professionals should be encouraged to use this existing resource to better deliver prevention within their community.

Common risk factor approach

Oral health promotion and oral disease prevention should embrace what is termed "the common risk factor approach"[43]. This approach assumes that the chronic, non-communicable diseases such as obesity, heart disease, stroke, cancer, diabetes, mental illness, and dental disease share similar risk factors. Poor hygiene, tobacco use, stress, trauma, are factors linked to the development of several chronic conditions including oral diseases.

Action towards common risks= improves a range of chronic diseases.
A cost-effective approach

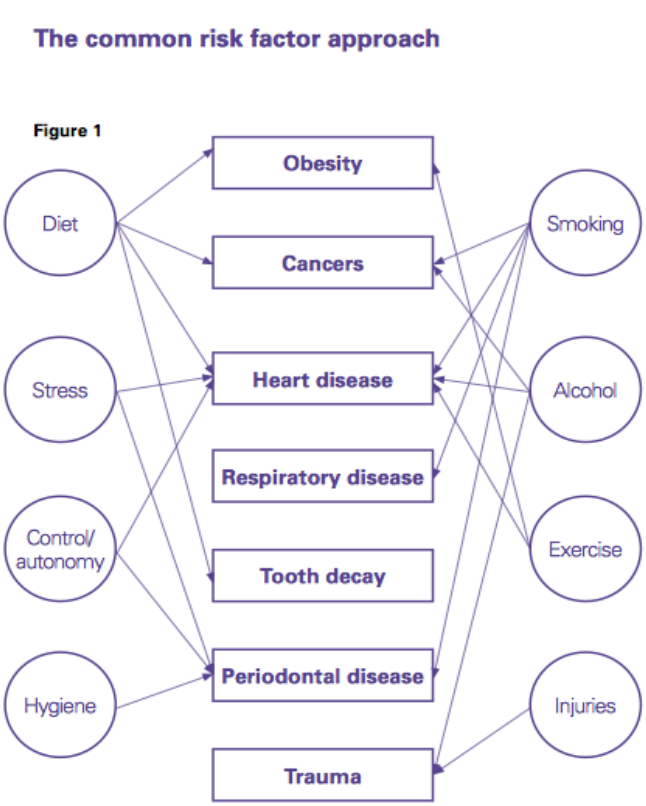
Dental caries is a significant public health problem and is related to obesity but the relationship is moderated by socio-economic strata and child age. [44]

Working directly on a 1:1 basis with patients will bring individual improvements in oral health. This approach does have its limitations by:-

- Being ineffective in reducing inequalities
- Being individualist - ignores determinants of health
- Being costly – requiring a high professional input
- Being non-sustainable
- Causing duplication
- Being theoretically flawed
- Causing public apathy and resistance
- Reducing one-off interventions

Individual behaviours are influenced by a range of social and psychological factors, and are rarely changed by good advice alone. Dental professionals should work with a holistic approach with other medical and non-medical professionals to achieve positive oral health outcomes among children.

Figure 5 Common risk factor approach



This figure illustrates the common risk factor approach: Adapted from Sheiham and Watt 2000

The common risk factor approach focuses preventive efforts on the main risk factors for the major diseases. A co-ordinated consistent message between different health promotion providers will improve health outcomes across a broad range of non-communicable diseases.[45]

A health promotion approach targeted towards those with greater need aims to assist individuals and communities to provide a supportive environment to improve health behaviours. To deliver this policy, organisations, communities and legislation may be required to address the broader determinants of oral health. Behaviours are influenced by political, psychological and social factors therefore require involvement by key stakeholders such as policy makers who can influence change to sustain the heath promotion. [46]

Unhealthy behaviours can often be linked with a smaller number of the population taking part in more than one of the poor health behaviours such as smoking, poor consumption of fruit and vegetables and lack of physical activity. This necessitates a collaborative common risk factor approach so as not to isolate the behaviours in health promotion messages as they are often linked. Health promotion that covers wider determinants and risk factors can be more efficient and effective. [47]

Prevention

Fluoride

Fluoride has made a substantial contribution to the decline of dental decay over the last few decades. Fluoride is linked with the reduction of dental decay with the use of toothpastes and topical fluoride applications[42].

Fluoridated toothpaste

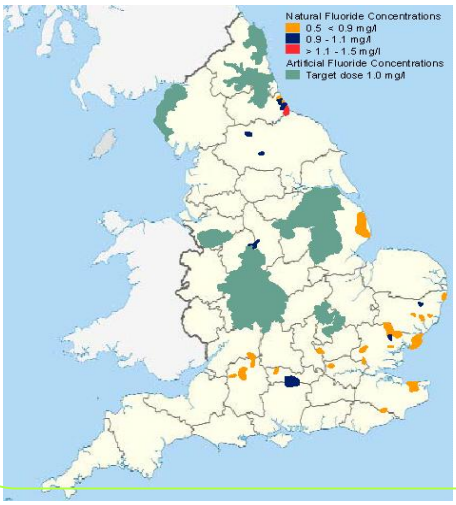
The use of fluoridated toothpaste became prominent from the mid 1970's and as a result tooth decay rates have fallen significantly. It is recommended that children up to age of 3 years should use toothpaste containing at least 1000 parts per million (ppm) fluoride and it is good practice to use only a smear of toothpaste. All children aged 3-6 years are encouraged to use fluoridated toothpaste containing more than 1000ppm fluoride and use a pea size amount. For maximum protection against decay for children aged 7+ and young adults (provided there is no risk of swallowing the toothpaste) is between 1350ppm-1500ppm[42].

Water Fluoridation

Over 6.1 million people in the UK are exposed to fluoridated water; either naturally or artificially. However, in most places where the water contains fluoride naturally, the level of fluoride is too low to yield any dental benefit although in some places, the level of fluoride is close to or higher than that seen in the fluoridation schemes. There are no fluoridation schemes in Surrey. Parts of the country with fluoridation schemes include Cumbria,

Cheshire, Tyneside, Northumbria, Durham, Humberside, Lincolnshire, Nottinghamshire, Derbyshire, the West Midlands and Bedfordshire. [48]

Figure 6 Fluoride concentrations in England



Fluoride concentration in England

The key dental benefit from water fluoridation is that it reduces the prevalence of dental caries among children (and adults) and it does not require action on the parts of the individuals such as attending professional fluoride varnish application. A preventative goal is to maintain consistent levels of fluoride in the mouth at low concentrations, hence the importance of water fluoridation which would act as a good defence mechanism against decay.

Studies have suggested that the most cost effective policy for reducing tooth decay is fluoridation of water supplies[48]. This is further supported by the World Health Organisation (WHO) who state that 'community water fluoridation is safe and cost-effective and should be introduced and maintained wherever it is socially acceptable and feasible'. [49]

The main health issues raised include; dental fluorosis, bone fracture and bone cancer. There is a consistent level of evidence from systematic reviews that water fluoridation does increase dental fluorosis.[50] However most clinical findings indicate that such fluorosis remains mild and is not considered being of 'aesthetic concern'[50]. Reviews suggest that water fluoridation at levels aimed at preventing dental decay has little impact on fracture risk[50]. With regards to concerns over cancer, an existing systematic review concluded that there is no clear association between water fluoridation and overall cancer incidence or mortality.[51] Public Health England recently published a health monitoring report which showed no apparent association between water fluoridation and a range of health indicators, other than dental decay, where it was associated with reduced levels of decay and dental fluorosis where there was an association with mild fluorosis.[52]

In conclusion water fluoridation may be another option for Surrey County Council to consider and it should be looked at further with perhaps an outline feasibility study and development of a more advanced public health case and option appraisal.

Topical Fluoride application

Fluoride varnish is used as a topical treatment for primary and permanent teeth; its caries preventative effectiveness is supported by a high level of evidence. Fluoride varnish is well accepted and safe. Evidence shows, from systematic reviews, that applications two or more times a year produce a mean reduction in caries increment of 37% in primary teeth[42].

Fluoridated supplements

Fluoride supplements (drops, tablets, lozenges) are occasionally prescribed for children in non-fluoridated areas as first line management[42]. Furthermore, evidence concludes that the effect of fluoride supplements on deciduous teeth is unclear. This requires child and parental compliance over an extended period to achieve the effect and, if effective in some children, is likely to widen oral health inequalities.

Fluoridated milk

Milk was first used as a vehicle for fluoride in the UK in 1993, in St Helens, Merseyside and there are currently a few schemes across England which now supply fluoridated milk. The Cochrane review reports "that there are insufficient studies with good quality evidence examining the effects of fluoridated milk in preventing dental caries. However, the included studies suggested that fluoridated milk was beneficial to school children, especially their permanent dentition.[53] Surrey has not implemented the scheme; however national schemes are currently targeted to non-fluoridated areas where dental decay levels are high.

Fluoridated Salt

Fluoridated salt is another preventative measure against tooth decay. It is currently not endorsed in the UK. The addition of fluoride to salt has been taken up by a number of countries as an alternative to water fluoridation. European countries which now have fluoridated salt on the market include Switzerland, Germany, France and Belgium.[54]

Fluoridated areas have fewer children aged one to four admitted to hospital for tooth decay compared to non-fluoridated areas. (BDHF)

Current Oral heath promotion initiatives

Scotland and Wales

Wales and Scotland had a high prevalence of decay amongst children.[55] These rates were a significant driver in the implementation of a preventative programme to promote oral health and reduce decay experience among children.

Figure 7 Childsmile

In 2006 in Scotland a scheme called “Child Smile”[56] was introduced. In Wales a similar programme called “Designed to Smile”[57] (CynllunGwen) was also implemented. They have both been a successful and sustained initiative.[58]

The preventative programme encompassed in Childsmile involves:

- a supervised national nursery tooth brushing programme
- a targeted fluoride varnish programme
- the delivery of toothbrush packs to children aged 3, 4 and 5 years.

Childsmile also supports targeted families in good oral health practice and early registration with a dental professional.

The Childsmile and Designed to Smile websites[56, 57] contain a wealth of resources for dental professionals and the public. It is updated with local new and events and has a section of resources that can be printed to use for oral health promotion.

National Smile Month

This is the UKs largest and longest running oral health campaign.
Over the last 40 years National Smile Month has provided support to facilitate events and projects. In the last two years more than 1,200 oral health events have been organised throughout the UK[59].

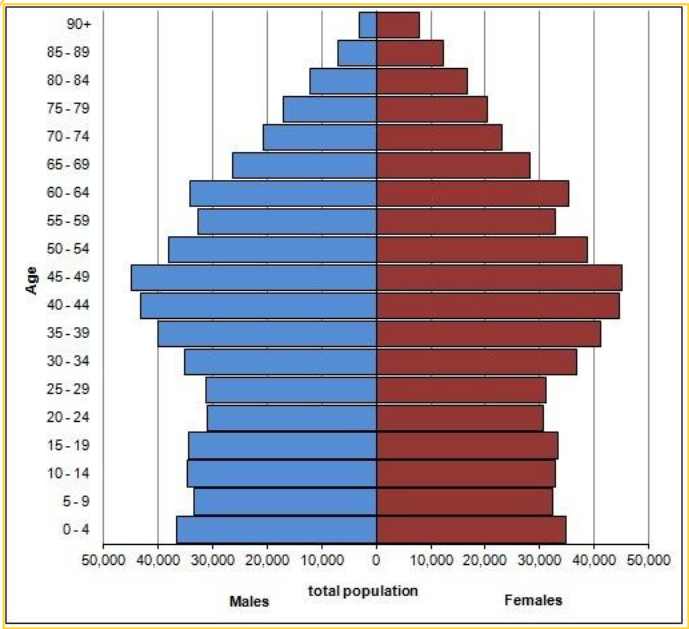
Figure 8 National Smile Month website

The Local Picture

Karen Ridgewell and Barbara Billington Oral health promoters during smile month 2014

Who is at increased risk of oral disease in Surrey?

Figure 9Demographic profile[60]



This diagram shows the proportion of people in specific age categories in Surrey, and their relationship to one another. The most prevalent age group in Surrey is 45-49, and the least unsurprisingly is the 90+.
There is a high proportion of 0-4 year olds and less 20-29 year olds resident in Surrey

Comparatively 12 year olds have the best teeth in Europe but our 5 year olds are generally significantly worse than their European counterparts.
Yasmin Allen, Dentist and Dental Public Health trainee

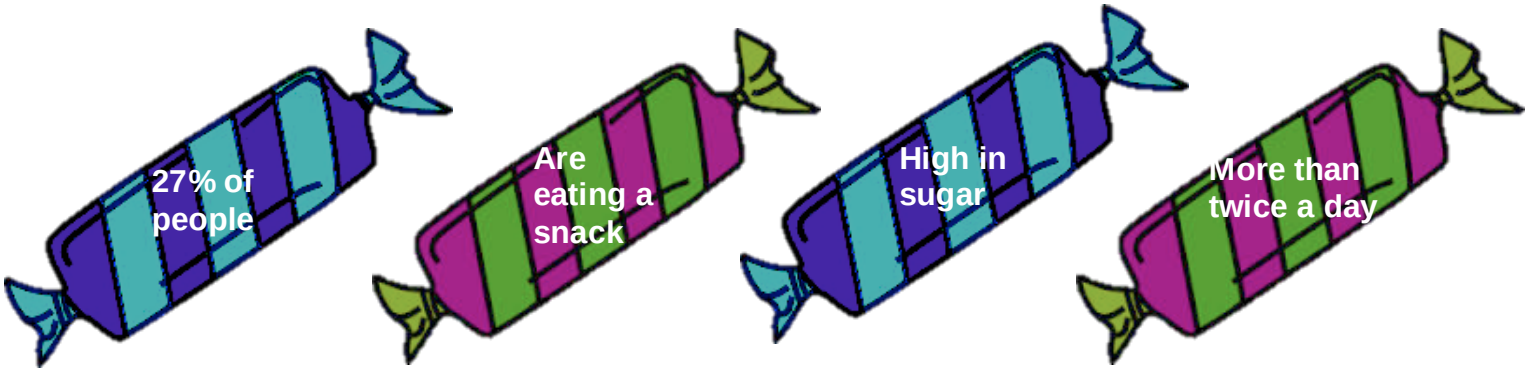
Table 1 Oral health and demographic factors

Oral health and demographic factors

Area	Key facts	Oral health considerations
Age	Surrey population:1,132,400 increase of 73,400 (6.9%) since 2001[60] birth rates are projected to remain constant	High proportion of the population under 5 in Surrey, early prevention is important.
Income	The Gross Disposable Household Income (GDHI) index demonstrates that Surrey is the most affluent county in the South East region	There are still existing pockets of both significant and relative deprivation. Inequalities exist between the most and least deprived in terms of oral health.
Ethnicity	Surrey has become more ethnically diverse with rising numbers of people identifying with minority ethnic groups in 2011 [61]	Ensure accessibility and that there is no discrimination in access to dental treatment. Language and cultural issues may be a barrier to access to care.
Specific groups		
The Homeless	Children of homeless families- access a priority [62] Risk of additional health problems	High risk group for oral and dental disease face barriers in access to dental care, have low incomes and poor awareness of oral health
Looked after children	Good access and uptake to dental services currently [62a]	Maintain access to services and ensure that there are no barriers to specific services such as orthodontic services
Gypsy Roma Traveller (GRT)	GRT community in Surrey is the fourth largest in Britain.[63] They have an increased risk of developing health conditions. Lack of access affects long term illness outcomes, and there is a low expectation and sense of fatalism relating to health in the population.[64]	Dental health in traveller children and young people is a major concern. There is anecdotal evidence of difficulty accessing services and discrimination.[65] Face additional barriers to access. .
Young Carers	A young adult carer in Surrey is someone who is aged between 16 – 24 years old. The 2011 census shows 6021 children and young people age 0 – 24 years old are providing unpaid care in Surrey.[66]	It may be difficult for young carers to get to a dental practice and dental health may be low on their list of priorities due to the pressures of full time caring.

Young people Not in Education, Employment or Training	In 2013 917 people aged 12-14 were not in education employment or training[67].In Surrey the amount of 16- 18 year olds not in education, training or work is 1.8%, less than the south east average of 5.1%. However there is a greater number of 16-18 year olds whose activity is not known in Surrey (15.7%) compared to the South East average of 10.2%.[68]	Dental treatment is free for those under 18, and those who are under 19 and in full time education. 18-25 year olds may find it difficult accessing services and paying for treatment.
Special Care and people with Learning disabilities	The Special Care dental service in Surrey support and treat adult and child patients who have special needs. Office of National Statistics population projections estimate that between 8,227 and 13,535 children and young people aged 0 to 19 are disabled in Surrey.[69]	Learning disability is associated with poorer outcomes socially and physically. Promote the availability of community dental services that specialise in treating patients who have learning difficulties and medical complications. People with mild learning difficulties and medical problems can be treated in general practice.
Substance misuse/ Alcohol	The amount of young people consuming alcohol has doubled. Alcohol consumption in Surrey for 12-16 year olds is similar to England. There has been no change in drinking behaviour for this age group between the Tell us surveys in 2007 and 2009.[70]	People who drink at higher risk levels are more likely to experience ill health related to alcohol.
Young offenders	In Surrey, in line with the Governments recommendations, a restorative justice system has been applied.[71]	A ' Surrey needs assessment of young people' found that one in ten demonstrated a strong link between social problems and income deprivation[71]. May find it difficult to access services, if no fixed abode, moving to different locations regularly and if in young offender institutions. Dental and oral care may be low on their list of priorities.

For further information and links to relevant resources please see appendix 4



Dental health of children in Surrey

Children's dental health is measured using the dmft index. The dmft is the amount of decayed, missing or filled teeth due to dental disease. The care index is an indicator of treated dental disease.

Of the 14,605 3 year olds in Surrey, 511 of them were examined for the Public Health National epidemiology programme survey of 3 year olds. In Surrey the dmft level (amount of decayed, missing and filled teeth) was 0.11 (5%), significantly below the England average of 0.36.[72]

Table 2 dmft 5 year old Surrey 2011/2012[73]

dmft 3 yr olds Surrey 2013		
	Surrey	England average
Mean dmft	0.11	0.36
Sepsis %	0.00	0.4
Early Childhood Caries (ECC) %	1.6	3.9

3 years

dmft 5 yr olds Surrey 2011/2012		
	Surrey	England average
Mean dmft	0.63	0.94
Abscess/ sepsis %	0.4	1.7
Care index %	11.2	15.2

5 years

Overall Surrey is performing better than England's average. For 5 year olds in Surrey the decayed missing and filled teeth is lower than England's average. The amount of sepsis or dental abscesses present at examination was less than double England's average. The care index or treated dental disease was higher than the England average demonstrating that children in Surrey are able to access dental services for treatment. While 0.4% of children with a dental abscess is low, the symptoms and level of pain can be very distressing. Furthermore, very young children often need to have teeth extracted under general anaesthesia, which requires a hospital admission. The survey of 5 year olds includes a South East average.

Table 3 dmft 5 year olds 2012[73]

Programme for England: oral health survey of five-year-old children 2012	
Borough	Mean dmft
Tandridge	0.39
Epsom and Ewell	0.42
Mole Valley	0.43
Reigate and Banstead	0.45
Surrey Heath	0.48
Guildford	0.5
Waverley	0.53
Elmbridge	0.58
Woking	1.02
Runnymede	1.13
Spelthorne	1.21
England average	0.94
South East average	0.67

5 years

Table 4 DMFT 12 year olds 2008/2009[74]

DMFT 12 year olds 2008/2009		
	Surrey	**England average**
Mean DMFT	0.45	0.74
Care index %	61	47

12 years

The 5 year old data is more recent than the 12 yr old data as the NHS Dental Epidemiology Programme (NHS DEP) studies are carried out every two years[35].

Oral health in 12 years olds has improved steadily over the years but the level of decay in young children has remained the same for some years.

The dmft target in 5 year olds has been reached in Surrey, the target as set by the Oral Health Strategy for England 1994 was <1 decayed missing or filled tooth.[75] However it is important to note that there is an element of bias in the collection method. In 2007 the requirement for positive consent for epidemiological surveys was introduced. This means that the figures may be biased in favour of children with healthy mouths. Children who are surveyed opt into it-therefore there is a risk that children with dental disease are being overlooked. It is important to note that despite the fact that Surrey enjoys

lower disease levels than the rest of England, there will be pockets of children experiencing high dental disease.

Approximately one fifth of children start school in Surrey with an experience of dental decay, a position that has remained relatively unchanged for more than ten years. The NHS Dental Epidemiology Programme (NHS DEP) survey of 5 year old children in 2007- 2008 showed that children entering primary school in Surrey had a mean dmft of 0.72 compared to 1.1 nationally.[76]

In 2012-2013 the most common reason for hospital admission in children aged 5-9 was tooth decay[10a]. In this situation general anaesthesia is used to provide dental treatment. It should be noted that dental decay requiring general anaesthesia is costly, avoidable and not without risk. A single child having multiple extractions under general anaesthesia cost £673 in 2011/2012, this equates to a total cost to the NHS of £23 million.[41,77]

Table 5 ***Hospital admissions for extraction of one or more decayed primary or permanent teeth Surrey***[78]

Number of Finished Consultant Episodes (FCEs) for children and adolescents aged 0 to 19 in England admitted to hospital for extraction during 2012/13 by lower tier local authority (LA) of residence, (surgical removal or simple extraction of tooth)					
	Admissions % of Population				
	Age 0-4yrs	Age 5-9yrs	Age 10-14yrs	Age 15-19yrs	Total 0-19yrs
Elmbridge	0.2	0.8	0.6	0.4	0.5
Guildford	0.2	0.9	0.6	0.4	0.5
Mole Valley	0.1	0.9	0.6	0.3	0.5
Surrey Heath	0.2	0.7	0.5	0.5	0.5
Waverley	0.2	0.9	0.5	0.3	0.5
Epsom and Ewell	0.4	1.0	0.6	0.4	0.6
Woking	0.3	1.0	0.6	0.5	0.6
Reigate and Banstead	0.2	1.1	0.9	0.4	0.7
Runnymede	0.3	1.4	0.8	0.4	0.7
Spelthorne	0.3	1.4	0.8	0.4	0.7
Tandridge	0.1	1.2	0.9	0.5	0.7
ENGLAND	**0.3**	**0.8**	**0.5**	**0.3**	**0.5**

Dental Access

Child dental access in Surrey and Sussex from March 2014 was 68.8%, Table 6 demonstrates the access rates for Surrey boroughs, the figures in bold demonstrating where the access rate is lower than the average.

Surrey is a relatively affluent county. This affluence can be misleading when commissioning services, as there are pockets of deprivation that may get overlooked. Many patients also elect to have some of their care provided on a private basis e.g. tooth whitening.
Increasing access to dental services has the obvious function of treating established disease but regular visits to the dentist are the main delivery of preventative advice. Such visits are useful to help prevent dental disease but also in the wider public health context to give dietary advice and smoking cessation. It has been shown that people who attend the dentist regularly suffer with less dental disease than those who visit sporadically or not at all.[79]

Table 6 Access rates for Surrey Boroughs (NHS BSA)

Access Rates	Child Access % March 2014	*For 24 Months up to March 2014 by age*				
		0-2 Yrs	3 to 5 Yrs	6 to 12 Yrs	13 to 17 Yrs	18 to 24 Yrs
Surrey and Sussex	68.8	15.5	66.8	85.7	80.3	53.4
Elmbridge	60.6	15.0	60.0	75.2	71.3	56.2
Epsom and Ewell	70.4	17.5	71.9	87.4	78.5	57.7
Guildford	66.5	10.6	62.2	84.1	82.0	33.2
Mole Valley	67.6	15.3	68.6	83.3	74.5	66.3
Reigate and Banstead	70.0	15.6	69.7	89.0	80.4	62.1
Runnymede	64.9	13.8	60.1	82.4	79.6	29.5
Spelthorne	69.0	13.8	65.0	90.8	79.7	55.8
Surrey Heath	70.9	13.7	65.8	86.4	86.2	64.5
Tandridge	72.9	16.8	74.0	91.1	82.1	66.6
Waverley	65.5	13.3	70.8	82.8	71.3	61.8
Woking	69.5	16.6	64.8	90.2	83.4	64.6

Dental trauma

Dental injuries are common; 6-34% of children aged 8-15 have had experience of damage to their permanent teeth.[80, 81]Damage to teeth in preschool children, school age children and young adults comprise of 5% of all injuries for which people seek treatment.[82, 83]

A review of the dental literature showed that 25% of all school children have experienced some kind of dental trauma, and 33% of adults have had some

trauma to their permanent teeth, most of these injuries occur before 19 years of age. [84]

Dislodgment of the tooth is the most common injury for baby teeth, whereas breaks in the crown of the tooth are more commonly reported for the permanent teeth. [85, 86]

When a tooth is knocked out it has a poor chance of long-term survival. The factors that influence its prognosis are the amount of time spent out of the mouth, how it is stored whilst out of the mouth and what damage has occurred to the root during the incident.[87, 88] Permanent teeth that have been knocked out can be placed back into the socket, this should be done ideally in under 30 minutes, but some teeth have survived being replaced up to 60 minutes after they have come out of the mouth. [89] A tooth that has been knocked out should not be allowed to dry; it should be stored in milk or saline solution. If these are not available the persons own saliva can be used to store the tooth so that it does not dry out. [90]

A mouth guard can protect the teeth and jaws from damage, and it is important to wear a professionally made mouth guard during contact sports such as cricket, rugby, hockey, and football.[89] Due to growth of the jaws and teeth it may be more economical to purchase over the counter mouth guards at younger ages and then use a professionally made mouth guard once all the permanent teeth have erupted. Professionally made mouth guards are custom-made and therefore fit better and are less likely to be loose. [91]

The incidence of accidental damage to the teeth in 2003 was 5%, 11% and 13% for 8, 12, and 15-year-olds respectively (Child Dental Health Survey). [92] There was a higher incidence in boys compared to girls across all age groups and there has been a decline in accidental tooth injury from previous surveys. Local data on dental trauma is not available.

Gum (Periodontal) health

The table below shows the percentages from the visual assessment of the gums, presence of plaque and presence of calculus (tartar). These measures give an indication of gum health and oral hygiene as plaque will be removed with effective tooth brushing. Plaque causes gum disease and tooth decay. Participants were also asked about their tooth brushing habits, more frequent brushing was generally associated with less gum problems and less plaque, apart from in 8 year old children.[92]
The results of this survey demonstrate that oral hygiene promotion is necessary to improve the gum health scores for children in the United Kingdom to prevent gum problems later on in life.

Table 7 Proportion of children with unhealthy gums, plaque or calculus (in any sextant) by age UK 1983, 1993, 2003.

	Country			
Age	England	Wales	Northern Ireland	United Kingdom
	Percentage of children:			
Unhealthy gums				
5 year olds	32	25	36	32
8 year olds	65	52	63	63
12 year olds	67	61	68	65
15 year olds	53	56	65	52
Visible plaque				
5 year olds	50	44	56	50
8 year olds	78	71	75	76
12 year olds	74	72	77	73
15 year olds	63	63	77	63
Calculus				
5 year olds	6	2	4	6
8 year olds	25	14	19	23
12 year olds	32	24	27	30
15 year olds	41	32	35	39

Oral Cancer

Oral cancer is the 16th most common cancer and is primarily linked to tobacco and alcohol consumption. The oral cancer incidence in the UK is rising.[93] Before the age of 20, 80% of adult smokers started smoking, and 2/3's started smoking before the age of 18.[94] However the percentage of regular smokers between the ages of 11-15 has declined over the years and is now 3%. There is a strong link between smoking and other substance use such as alcohol,[95] If a person smokes, or drinks alcohol, they have a much higher risk of developing oral cancer.[96]

Smoking uptake in the younger age group is associated with higher mortality, heavier subsequent smoking, higher dependency and lower chances of quitting.[97] Smoking and alcohol cessation in children and young people should therefore be promoted to reduce the risk of developing oral cancer and other diseases in later life. Smoking uptake is most common in the under 17 age group with 39% (<16 years) and 27% (16-17years) taking up smoking compared to 6% taking up smoking when they were >25 years.[98] Dentists are well place to offer cessation advice on smoking[99] and alcohol[100] within a practice setting.

What oral health promotion is being delivered?

The Oral Health Promotion workforce is divided into East Surrey and Surrey, relating to the respective Community Dental Services that serve these areas

The current oral health promoters deliver oral health promotion to as many different groups as they can. However, due to the limited manpower they may not be able to reach the groups most at need. Sometimes these sessions are request based which may inadvertently entrench some inequalities. This strategy in collaboration with wider stakeholders needs to support the oral

health promoters to deliver targeted, evidence based and equitable oral health promotion that can be delivered within the capacity of the current workforce.

Surrey Oral Health Promotion- *what is currently being done*

The workforce consists of 4 promoters working part time, working time equivalent of 3 days per week for the majority of Surrey and working 6 sessions per week in East Surrey.

The work that is done includes a :
Blog (internal to staff)
Training program for staff in special needs homes.

Visiting:

Primary Schools
Colleges
Children's centres
Care Homes
Prisons
Special needs schools
Postnatal groups on their 6 week rolling programme
Stay and play groups
Young mums groups
Groups for children with additional needs
The rural bus for traveller sites
Special schools
General Anaesthetic clinics

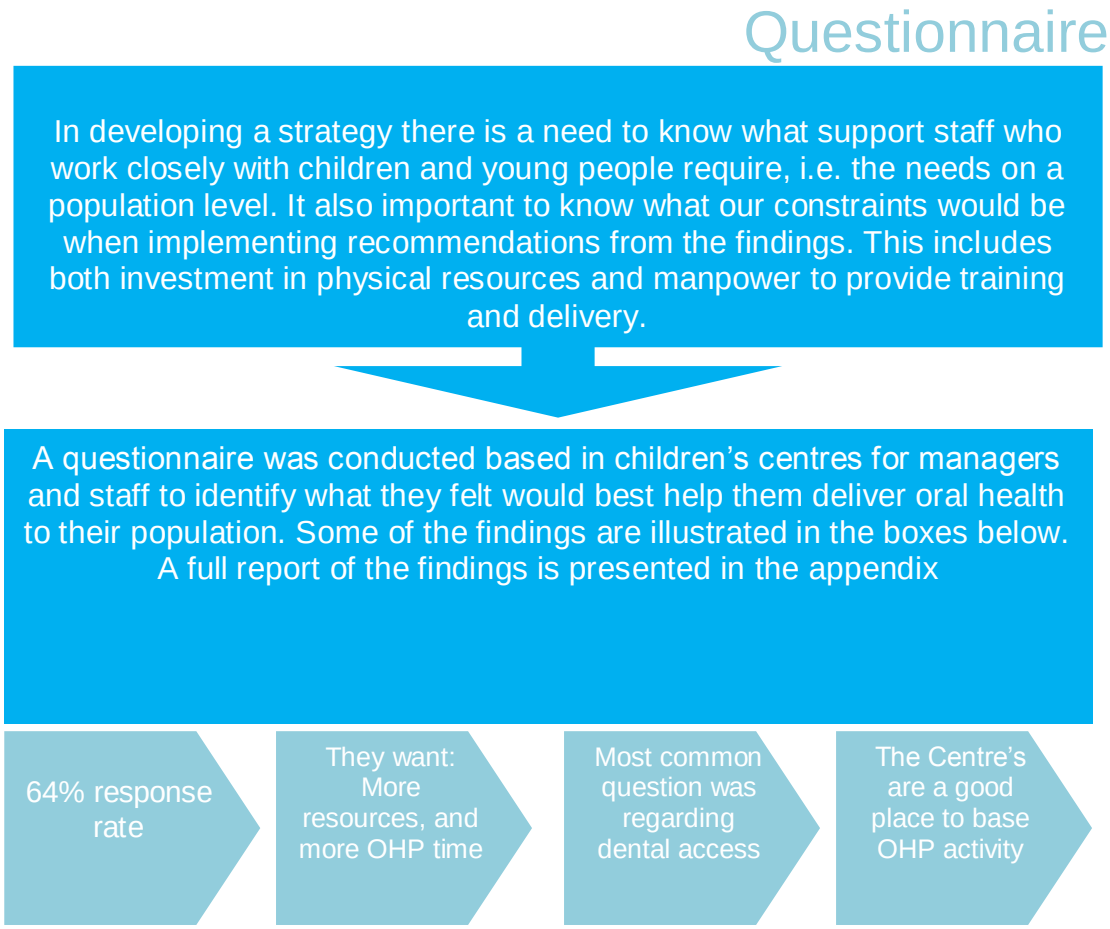
Promoting:

Tooth brushing
The use of fluoride toothpaste,
Healthy diet
When to see a dentist
Use fluoride mouth rinse at a different time to brushing

It can often be quite difficult to brush teeth effectively on children with special needs. You could consider substituting their current toothbrush with a specially designed one e.g. 'Superbrush'. Please speak to your dentist for further advice.
Sharan Thillainathan, Dentist and Dental public health trainee

Pic

Local needs assessment: Questionnaire based in children's centres



Conclusions from the data

We are confident that dentists and their teams have access to the information that they need and are aware that Public Health England has just released the third edition of Delivering Better Oral Health.[42] However dentists still do not use this consistently in their work.[101] One of the recommendations of this strategy is to provide training to support the implementation of this document

What needs to be delivered, GAP analysis

There are very few local measurable outcomes for dental health, one of which is the dmft (decayed missing and filled teeth index for children). Surrey has achieved the Public Health outcome framework target for the dental health of 5 year olds.[102]

Recommendations

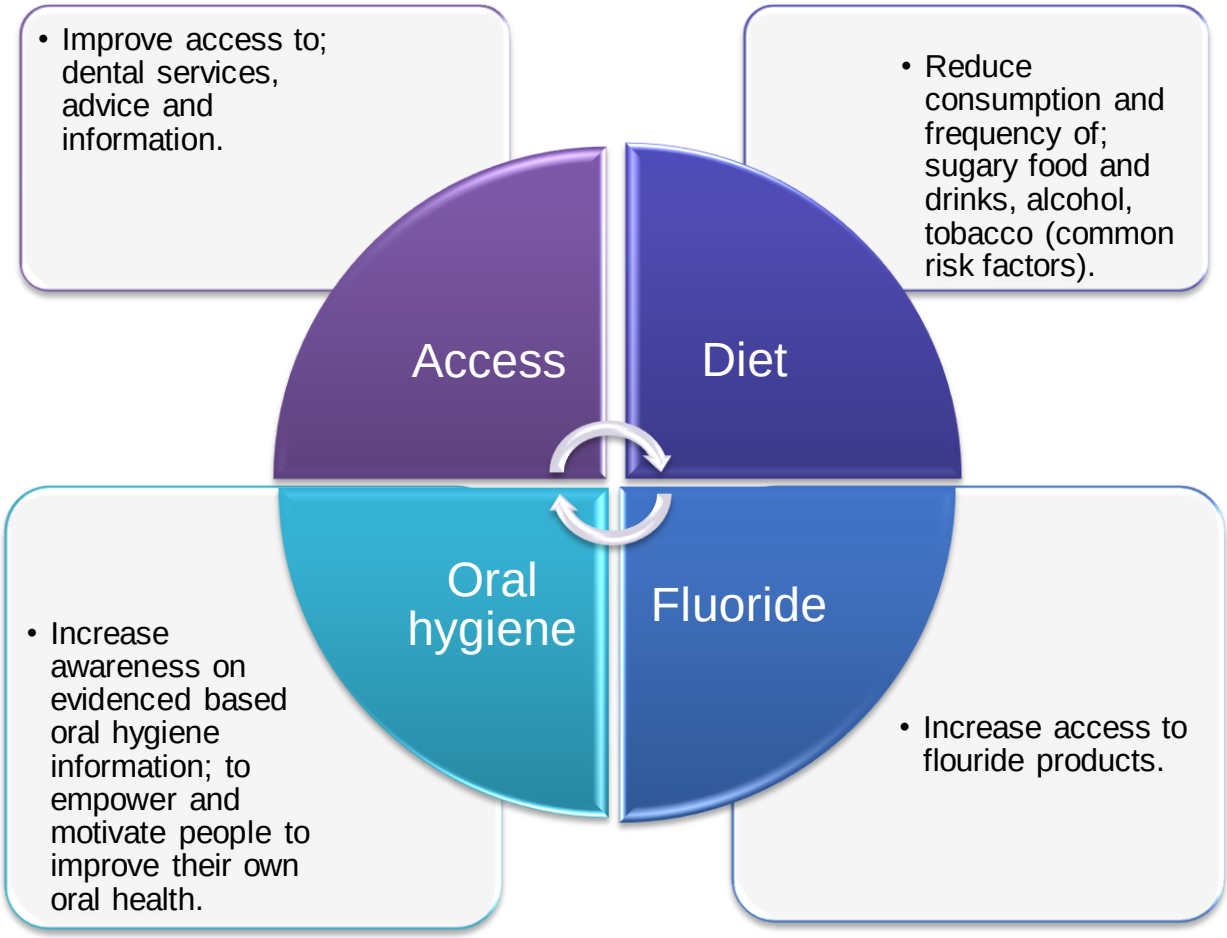
Recommendations

Having gathered the evidence consideration was given to requirements needed to strengthen oral health promotion advice to children and young people in Surrey.

Recommendations are made in alignment with the current NICE guidelines on "Oral Health: approached for local authorities and their partners to improve the oral health of their communities". [103]

The strategy aims to make recommendations by engaging with partners who have frontline position to improve the oral health of children and young people.

Figure 10 Key areas for prevention



1. Dental registrants who work with children

a. Delivering Better Oral Health

The new Delivering Better Oral Health prevention toolkit is now in its third edition[42]. The whole practice team should be using this valuable resource to promote good oral health among all children especially those who are at risk of decay. This includes the siblings of children with decay.

b. Schools and Children's Centres

The survey (appendix 5) showed strong interest from children centre staff who would like greater input on a regular basis from visiting healthcare staff. The Surrey-wide oral Health Promotion service is too small to do this on a systematic and comprehensive basis. Therefore local dental professionals could take up this role of engaging with the wider community. Dentists should be encouraged to work more closely with their local children's centre and primary schools by team members visiting regularly and providing helpful information e.g. surgery opening times and preventative advice. This support should not just be limited to dentists as dental care professionals, with training and leadership, could establish relationships within the local area and with relevant groups (such as children's centres and schools). This will enable an integrated approach to improve oral health and raise awareness of the clinical services that exists across Surrey.

c. Health Education England

Health Education England aims to enhance the quality of patient treatment and patient experience. They do this by supporting and managing the quality of education and development for the dental team. The deanery post-graduate training programme will provide regular updates on the use of the Delivering Better Oral Health toolkit,[42] by the whole dental team. Dental registrants can attend and understand the benefits it can have on their delivery of care to their patients and the practical application of the advice within the care setting.

2. Staff who work with children

It is recommended that all service specifications for services that engage with children and young people incorporate oral health promotion. This includes promoting oral health and training staff in this area. Services this relates to are; child care services, early years services, children centres, nurseries, health visiting teams and midwives. There should be particular focus on front line staff dealing with families, children and young people who may be at high risk of poor oral health e.g. children from poorer socio-economic backgrounds. All staff involved in early years services, including education, should be trained in oral health promotion as part of their induction and it should be updated regularly.[103]

Staff should be trained on how to support parents and families and understand the importance of oral health and how it links to general health and wellbeing. Advice also needs to be culturally suitable. Examples of advice, that is recommended to be delivered by staff, include; visiting the dentist regularly, promoting breastfeeding and recommending options for weaning and promoting sugar free snacks.[103]

Front line health and social care staff, working with children and young people, should receive frequent training on delivering oral health advice for high risk groups (following Delivering Better Oral Health 3rd edition).[42] The Health and Wellbeing commissioners should prioritise delivering this training which will target groups at high risk of poor oral health.[103]

We recommend that training should include content on supporting behaviour change as recommended by NICE for all health behaviours.[104] We suggest that tailored training courses may include a day, half day or a short briefing session to best suit the level of oral health promotion information required. Training should be offered to multi agency health and social care staff in the statutory and non-statutory sectors, at least four times a year. This training should be offered by oral health promoters initially with the potential in the future to train oral health champions within such services who could deliver basic training to other staff.

a. School Sports

Dental trauma can have a significant future impact on a child's appearance and quality of life. Dental injuries such as avulsion (tooth falling out due to trauma or injury) require urgent treatment. The best management for this type of injury is placing the tooth back into the socket within 1 hour and an assessment by a dental professional. The tooth should be kept moist within milk or saliva until it can be replaced.[90]

This training should focus on staff who work with children. Training should focus on the immediate management of an injury causing tooth loss and the importance of re-implantation of a permanent tooth as soon as possible. Information on dental emergencies should be available in places where children train and play sport for example in schools, clubs, and training grounds.

The use of sports guards/ mouth guards should be encouraged, emphasising their importance and promoting their use.

b. Children's centres

Children's centres are ideally placed in that they engage with young children who can be from deprived backgrounds. The centres and their staff play a pivotal role in the community providing advice on a range of health and social care issues. Targeting children centres will provide an early opportunity to reduce oral health inequalities in a child's life. We recommend providing training and support to children's centre staff to deliver oral health promotion.

Resources required include toothbrushes, toothpaste and other oral health aids. The Delivering Better Oral Health prevention toolkit will have a public facing document; which is currently under development that can support children centres. We recommend providing every children's centre in Surrey with a link to this document.

c. Education workforce

The dental public health team, oral health promoters and local dental registrants should work with the local education services to support the promotion of oral health in schools. All school policies should include promoting and protecting oral health e.g. policies on health and safety, food and nutrition, anti-bullying.[103]

Opportunities need to be sought to identify areas in the curriculum to provide teaching around oral health. Support can be given by the dental public health team to develop lesson plans that can be used within the various stages of the school curriculum. The dental public health team should work with the local education boards to develop a programme that can be utilised and implemented by teachers to ensure that oral health promotion messages are consistently delivered at the crucial stages in a child's life. These plans will be a guide and not comprehensive to allow flexibility for individual teachers to tailor the delivery suited to their particular age groups. However it would aim to demonstrate the key areas in oral health promotion and to ensure that the children are aware of how to maintain good oral health. It is recommended that schools engage with local partners in oral health promotion e.g. local authorities.[103]

Head teachers should identify staff who could be trained to provide guidance and support in oral health. Advice should be based on local needs and age appropriate.[103]

Schools under the jurisdiction of the local authority should already be implementing a vending machine free environment however Academies do not have the same regulation. The dental public health team should work with the public health improvement team (including weight management leads) to encourage Academies to remove vending machines and promote healthy snacks.

Recommendations:

- The dental public health team in conjunction with public health should develop a local school based preventive and health promotion programme and signpost to national existing resources e.g. Dental Health on the Healthy Surrey website.[106]
- The dental public health team and oral health promotion team should work with agencies and individuals who regularly visit schools to ensure that they have the information required to be able to answer dental queries.
- Dental teams should have an awareness of the other health professionals who may require advice in order to promote oral health.

- The oral health promotion team should provide material and information that can be distributed to schools.
- The dental public health team in conjunction with the community dental services, the local authority and the area teams need to maintain and improve access and time for oral health promotion teams to visit schools.

d. Health visitors

Every year in Surrey there are approximately 13,000 births,[105] and this is set to rise over the next five years (please refer to the local picture section). Health visitors visit parents and children at specific milestones.

Oral health promoters and dental registrants in conjunction with the dental public health team should provide training, support and advice regarding oral health to health visitors.

Recommendations:

- The dental public health team should work with health visitors and children's centres to ensure young infants at high risk receive a toothbrush and toothpaste (no less than 1000 parts fluoride per million). Although it may not be possible to deliver this each year, due to the resource implication within the dental public health team; alternative support can be provided.
- Review Infant feeding guidelines to ensure that messages are consistent with oral health promotion.
- Oral health promotion advice should be provided regarding infant feeding, sugar free medicines and family meals.

e. Family Support programme

The dental public health staff should provide information, support and advice to staff working in the family support programme. This will ensure that evidenced-based dental advice is disseminated, if a request is made. The efficacy of this delivery can be improved by working in conjunction with other dental teams such as dental registrants and the oral health promotion team.

f. School Nursing Service

Work with the school nursing service to ensure schools are provided with appropriate oral health messages with focus on:

- sugary snacks
- sugary drinks
- fluoride
- tooth-brushing
- regular dental visits
- use of gum shields during sport
- first line management of dental injuries

nIt is also recommended that school leavers are given advice on contacting and getting registered with a dentist.[103]

The dental public health team, based in the local authority, should ensure that oral health is part of the key performance indicators to monitor the service; by working together with public health leads in the area.

3. Working within the Local Authority

a. Joint Health and Wellbeing strategy

The dental public health team, based in the local authority, should ensure that oral health is incorporated into the Joint Health and Wellbeing Strategy and provide recommendations via the Oral Health Promotion Strategy. The team should also ensure that Surrey's Health and Wellbeing policies and strategies for children and young people include oral health promotion advice, following Delivering Better Oral Health 3rd edition.[42, 103]

b. Public Environments

Local authorities, commissioners and providers of public front facing services, should endeavour to ensure public service environments promote oral health by allowing free drinking water to be available and a choice of sugar free food and drinks.[103]

It is also recommended that environments promote and support breastfeeding. Such environments include; leisure centres, community or drop in centres, nurseries, schools, food banks and early years services.[103]

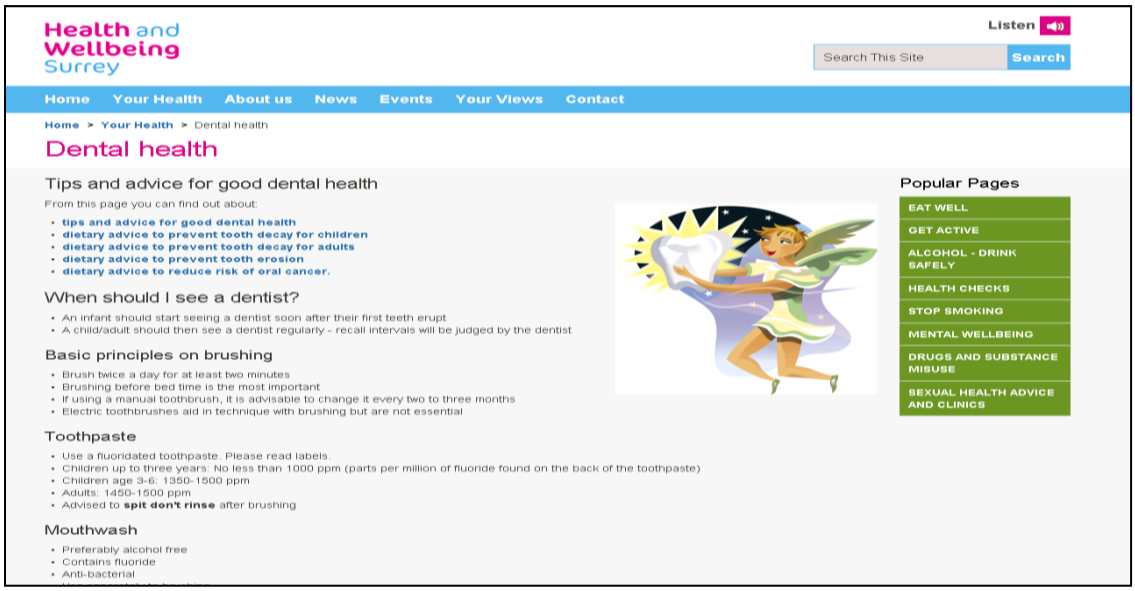
4. Promoting oral health

a. Using the media

The dental public health team, based in the local authority, should maximise current opportunities to improve access to oral health promotion information/resources for; partners, stakeholders and the public. This can be achieved by use of electronic media e.g. the Surrey County Council external

and internal website pages. To date the team have placed a dental link on the Healthy Surrey website.[106]
There is a wealth of information available but improvement needs to be made on the content of some local public facing websites.
The dental public health team should work with the communications lead, in the public health team, to ensure that there is relevant advice regarding Dentistry via the County Council's website. To ensure sustainability the content should be tailored towards links to reputable external sites such as the British Dental Health foundation.

Figure 12 Snap shot of the dental page on the Healthy Survey website [106]



b. Oral Health Promotion network

The dental public health team should engage with the NHS England Area team to further develop commissioning of a dedicated oral health promotion service. This service can ensure that the recommendations within the strategy are delivered and that there is a sufficient workforce in place to support oral health promotion activities within the county.

The current workforce in Surrey is small. It is recommended that local authorities consider commissioning a workforce, of oral health promoters, or expanding the workforce to fulfil the recommendations made in the strategy.

c. General Health promotion

The dental public health team, based in the local authority, should ensure that oral health is embedded into general health promotion campaigns to tackle the common risk factor approach and to improve efficiency in health promotion.

d. Campaigns and events

The oral health promotion team should have the opportunity to promote their work and oral health at relevant, identified events and through involvement with national campaigns.

e. Local Organisations

It is recommended that opportunities are investigated that allow other organisations such as shops and supermarkets to promote oral health. This could be interlinked together with wider health objectives e.g. to reduce tobacco consumption.[103]

f. Oral Health in the Workplace

The workplace should promote oral health by adopting the 'advice for patients' domain in Delivering Better Oral Health 3rd edition.[42] This should be integrated with improving general health and wellbeing. The workplace should aim to increase awareness of local dental services, signs/symptoms of dental disease, healthy food options and oral health events etc.[103] Overall the workplace environment should raise the profile of oral health awareness.

5. Targeting groups

The dental public health team in conjunction with the area team and the health and wellbeing commissioners should identify areas where there is; significant deprivation and high numbers of young children with poor access to NHS dentistry (for children under 5). This will enable the local authorities to commission targeted health promotion strategies and help reduce the inequalities in oral health that are most marked in these specific populations.

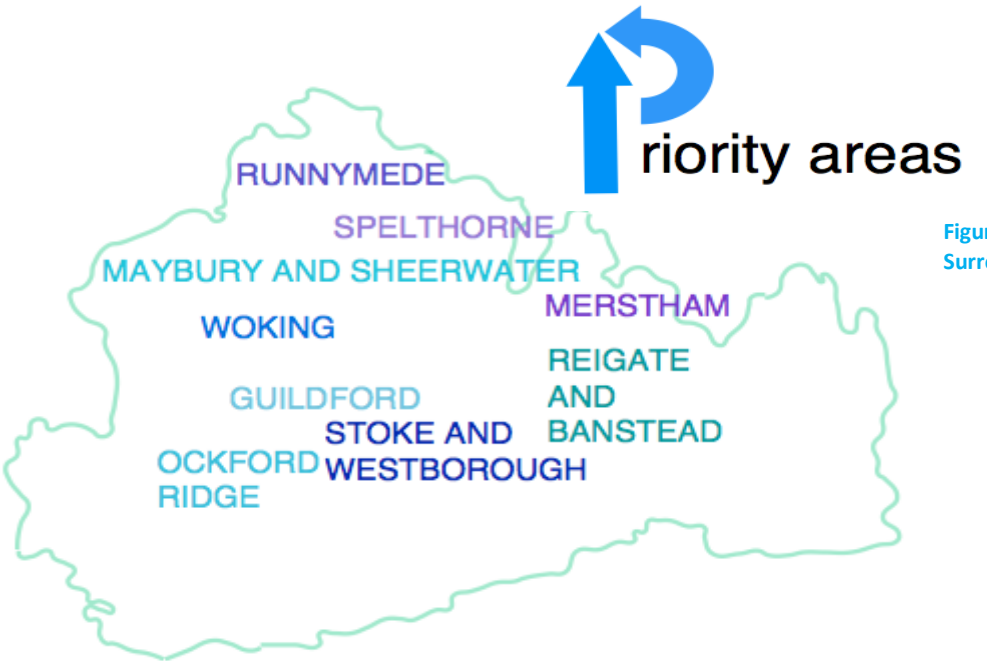


Figure 13 Priority areas in Surrey

A whole population approach can inadvertently entrench inequalities therefore with a limited team and funding, the focus should be on the most deprived areas.

The areas highlighted on the map above are the most disadvantaged in Surrey according to dental access, dmft and the amount of children in poverty.

Commissioners for health and social care services for children and young people should review their service care specifications to ensure to include oral health in care plans and is aligned with safeguarding policies.[103] For example this includes services such as substance misuse and supporting people who are homeless, people with learning difficulties etc. Specifications should include an oral health assessment, promoting good oral health care (e.g. regular dental check-ups), supportive environment to sustain good oral hygiene and diet. In order to instigate this, staff training may be required, which can be introduced at induction and then refreshed regularly.[103]

a. Looked after children (LAC)

The dental public health team and LAC public health leads should ensure that oral health is reviewed and updated as part of the general LAC Needs Assessment. Dental access is high in this group; however we need to ensure that this is sustained.

b. Gypsy, Roma and Traveller's (GRT)

The oral health promoters should provide tailored training/advice for outreach workers who have already gained trust and a good rapport within these communities. The dental public health team should work on sourcing oral health materials such as toothbrushes and toothpaste that can be supplied to the GRT children and young people.

The oral health promoters should work with traveller/ GRT charities to bridge the gap between healthcare professionals and the population.

c. Young Carers

The dental public health team need to identify if young carers are having difficulty accessing dental services by introducing a dental agenda into the Surrey young carer's forum; who meet monthly.
Dental needs are not currently identified in the young carers joint strategic needs assessment (JSNA), therefore this information should be included in its' next review; by the dental public health team.

d. Special Care patients

The dental public health team should work with the Community Dental Service and their provider to maintain oral health promotion services and a comprehensive service for special care patients.

e. Children and Young People with learning disabilities

The dental public health team should work with the community dental services to identify the needs of this population.

They should liaise with staff, carers and the voluntary sector to; promote oral health and support the delivery of oral health promotion.

The dental public health team should identify and engage with stakeholders involved with learning disabilities care homes and promote joint working with the community dental services, to prevent duplication of effort.

f. Substance Misuse/ Alcohol

The dental public health team should work with the substance misuse leads in the local authority to identify whether oral health is included in 'substance misuse education'. If there is no current input, then it needs to be established how oral health promotion messages can be integrated into substance misuse programmes.

The dental public health team can consider providing oral hygiene materials in locations where there is care and support being delivered to this target group such as; therapy locations and charities.

g. Homeless Children and Young People

The dental public health team in conjunction with dental registrants and the oral health promotion team should provide:

- Tailored training and advice for staff on oral health promotion.
- Oral health materials such as toothbrushes and toothpastes in homeless hostels and centres.
- Training to staff so that they can support and encourage service users to access dental services.
- Leaflets and information in homeless services regarding access to dental services.
- Awareness with regards to homelessness with local practitioners; in dental public health and dental provider interface meetings.

h. Children and Young People Not in Education, Employment or Training (NEETS)

The dental public health team should identify agencies who work with children and young people who are NEET and provide training for these staff to deliver oral health advice including how to access dental services. Any barriers to their care should be identified and tackled.

i. Young Offenders

The dental public health team should liaise with pupil referral units, care homes and young offender teams to identify if any dental input is required and if young offenders are having difficulty accessing dental services. Oral health promotion should be integrated into the young offender joint needs assessment and health needs assessment.

Conclusion

This oral health promotion strategy provides evidenced based approaches in tackling oral health among children in Surrey. By engaging with our partners and stakeholders, our recommendations will promote the gold standard in oral care of Children and Young People. This will help to reduce the inequalities that still exist across Surrey where one quarter of our 5 year olds have decay and suffer the effects of a disease that is entirely preventable.

The recommendations and implementation plan are part of a separate linked document which can be found at: http://www.healthysurrey.org.uk/your-health/dental-health/

Glossary

AT: Area Team
BASCD: British Association of Community Dentists
BDHF: British Dental Health Foundation
CDS: Community Dental service
CPD: Continuing Professional Development
DBOH: Delivering Better Oral Health [prevention toolkit]
DMFT: Decayed, Missing and Filled Teeth index (permanent teeth)
dmft: Decayed, missing and Filled Teeth index (primary teeth)
DPH: Dental Public Health
FSP: Family Support Programme
GA: General Anaesthetic
GRT: Gypsy, Roma and Traveller
HNA: Health Needs Assessment
JSNA: Joint Strategic Needs Assessment
LA: Local Authority
LAC: Looked After Children
LDC: Local Dental Committee
LPN: Local Professional Network
NEET: Not in Education, Employment or Training
NHS: National Health Service
NHS DEP: National Health Service Dental Epidemiology Programme
OHP: Oral Health Promotion
PHE: Public Health England

Appendix 1

Table : List of stakeholders

Jackie Sowerbutts	Consultant in Public Health
Yasmin Allen	Dental Public Health Trainee
Sharan Thillainathan	Dental Public Health Trainee
Charlotte Binks	Dental Public Health Trainee
Samit Shah	Specialist Registrar, Dental Public health
Brett Duane	Consultant in Dental Public Health
Helen Atkinson	Director of Public Health, Surrey County Council
Nicola Mundy	Public Health Lead, Children and Young People, Surrey County Council
Kelly Morris	Public Health Principal, Surrey County Council
Gail Hughes	Public Health Practitioner, Strategic Alcohol Lead, Surrey County Council
Annie Godden	Kent, Surrey, Sussex Area Team Dental Lead
Amit Rai	Local professional network- Dental lead
Barry Westwood/Snehal Detani	Surrey Local Dental Committee
Alison Newlyn	Surrey and Sussex Healthcare community dental clinical lead
Shelley Oliver	Virgin Care Dental services clinical lead
Surrey CC Children's lead	
Health visitors- Virgin Care	
Education providers- lead	
School nurse lead	
Strategy leads	
Oral health promoters	Karen Ridgewell, Barbara Billington , Emma Bailey
School leads	
Social Services Lead for Children	Nick (ask Harriett)
Christopher Allen	Dental public health consultant, Kent and Medway

Appendix 2

Population demographics

Overview of Surrey population:

Age
The 2011 census identified that the Surrey population is now 1,132,400. This is an increase of 73,400 (6.9%) since 2001.
The recent increase in birth rate is reflected in an increased number of under 5s, and a growing population leading to an increase in average household size. The projected population of under 16's is set to decrease slightly, 19.3%-18.5%, but will still account for 1 in 5 people. The birth rates in Surrey are projected to remain constant, dropping only 0.5% by 2033. The borough of Elmbridge has the highest proportion of under 16's in Surrey at 21%.

Income, ethnicity and religion
The Gross Disposable Household Income (GDHI) below demonstrates that Surrey is the most affluent county in the South East region. Surrey is much less susceptible to social inequalities in health than other parts of the country. However there are many pockets of both significant and relative deprivation.
Surrey has become more ethnically diverse with rising numbers of people identifying with minority ethnic groups in 2011.

Table 8 *Deprivation*

CHILDREN IN POVERTY Surrey *Only showing boroughs with a greater than Surrey average*		
	under 16	all children
Surrey average	10.6%	10.2%
Guildford	11.2%	10.6%
Reigate and Banstead	11.6%	11.1%
Runnymede	12.4%	12.0%
Spelthorne	14.9%	14.1%
Woking	12.3%	12.0%

The Homeless

The homeless are a high-risk group for oral and dental disease as they generally face barriers in access to dental care, have low incomes and poor awareness of oral health they are also at risk of additional health problems such as substance misuse and mental health problems. It is important

that the children of these families are also able to access dental services to prevent continuing problems as they age[62].

Looked after children

See Health Needs Assessment link appendix 4

Gypsy Roma Traveller

There is a growing Gypsy Roma and traveller (GRT) population in Surrey; the GRT community in Surrey is the fourth largest in Britain[63.]
The population has an increased risk of developing health conditions
compared to the general population. Lack of access affects long-term illness outcomes, and there is a low expectation and sense of fatalism relating to health in the population[64].
Data relating to dental health is not available, however Surrey's Joint Strategic Needs Assessment states that dental health in traveller children and young people is a major concern. There is anecdotal evidence of difficulty accessing services and discrimination[65].

Young Carers

It is estimated that there are 14,000 young carers (under 18) in Surrey. Being a carer can have impacts on the carer's health, the risk of health problems increases with the amount of hours per week spent caring. In younger people (18-25) there is an increased effect on health.[cvi]

Young carers in Surrey are on average 12 years old. They are typically children in families where a parent or sibling has an illness or disability and they provide care for them[66]. The council hold monthly young carers forum meetings to engage with service users and to gain the perspective of young carers on support and services.

Population density under 19 year olds in Surrey

The wards which contain relatively higher numbers of children and young people are in North and mid Surrey, with a few pockets in the South West and East.

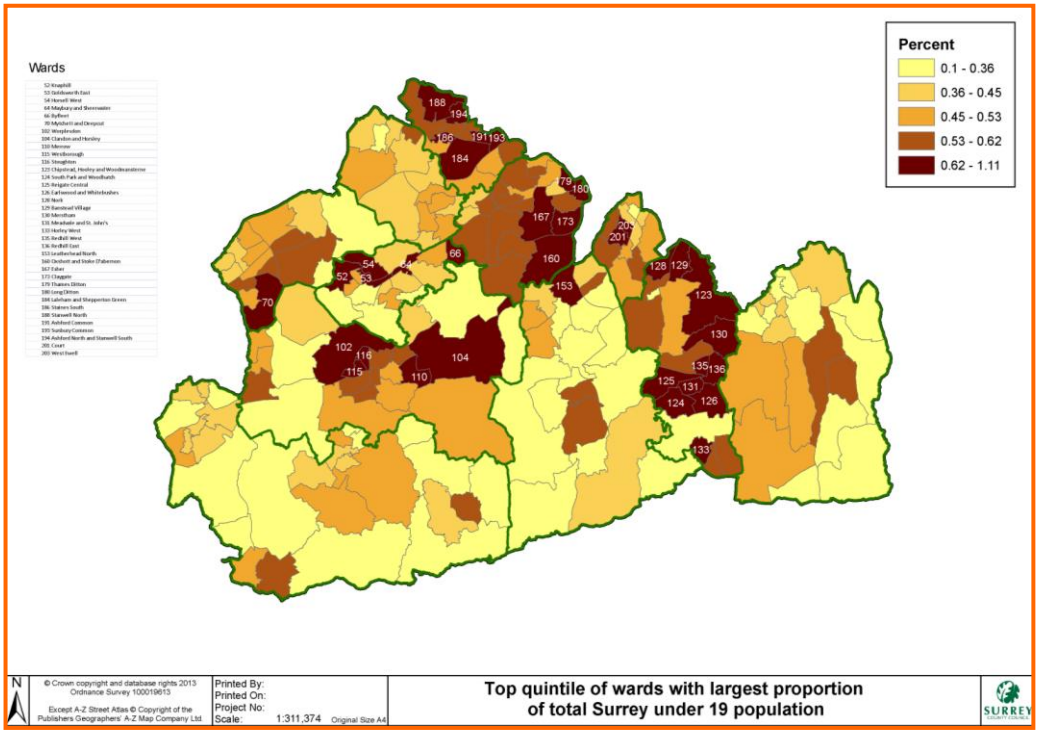


Figure 14 Population density in Surrey (under 19 years)

Wards with the highest density of under 19 year olds in Surrey

This map demonstrates the wards with the highest proportion of <19 year olds. Increasing proportions are demonstrate by darker colours.

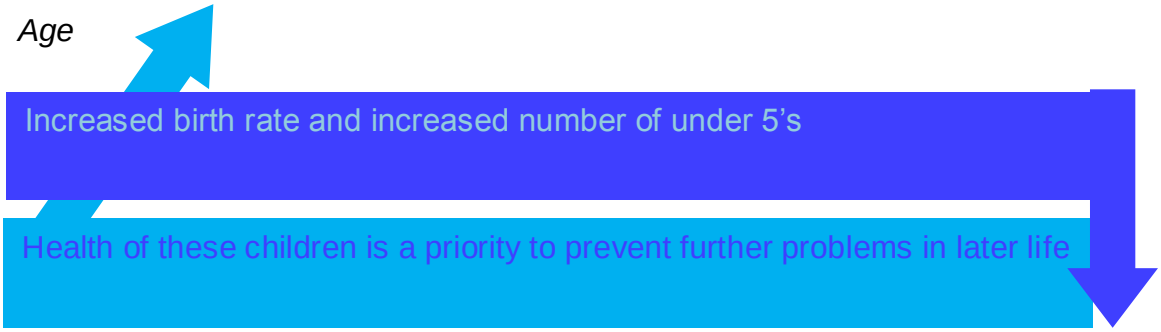
Resources to JSNA and HNA chapters relevant to background information:

See JSNA chapters on: Health inequalities, ethnicity and religion
http://www.surreyi.gov.uk/ViewPage1.aspx?C=resource&ResourceID=688
http://www.surreyi.gov.uk/ViewPage1.aspx?C=resource&ResourceID=681
http://www.surreyi.gov.uk/ViewPage1.aspx?C=resource&ResourceID=669
See JSNA chapters on: Housing
http://www.surreyi.gov.uk/ViewPage1.aspx?C=resource&ResourceID=732
See Health needs assessment on: Looked after children
See Health needs assessment on: Gypsies, Roma and Travellers: A Brighter Future Surrey's needs analysis for Gypsy, Roma and Traveller
See JSNA chapter on: Young carers and Adult carers
http://www.surreyi.gov.uk/ViewPage1.aspx?C=resource&ResourceID=659
See JSNA chapter on: Participation of young people in education, employment or training
http://www.surreyi.gov.uk/ViewPage1.aspx?C=resource&ResourceID=1152
See JSNA chapters on: Alcohol and Substance misuse
http://www.surreyi.gov.uk/ViewPage1.aspx?C=resource&ResourceID=650
See JSNA chapter on: People with Learning disabilities
See JSNA chapter on: Young offenders
http://www.surreyi.gov.uk/ViewPage1.aspx?C=resource&ResourceID=1153

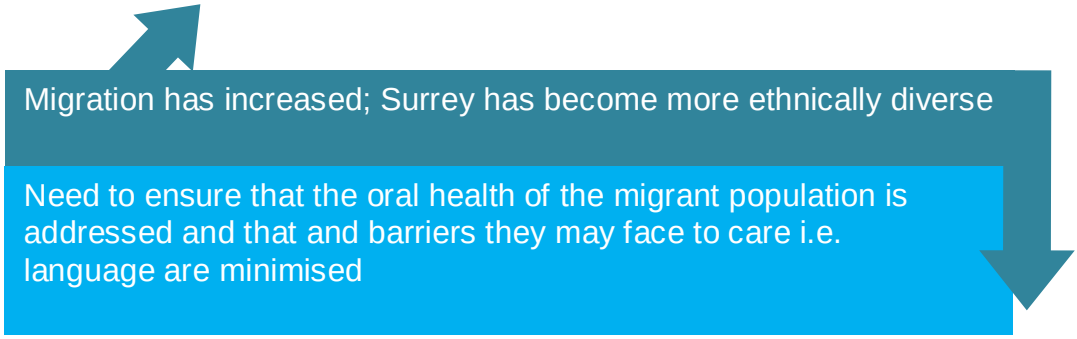
Appendix 3

Gap analysis, what needs to be delivered according to the population demographics and future projection estimates.

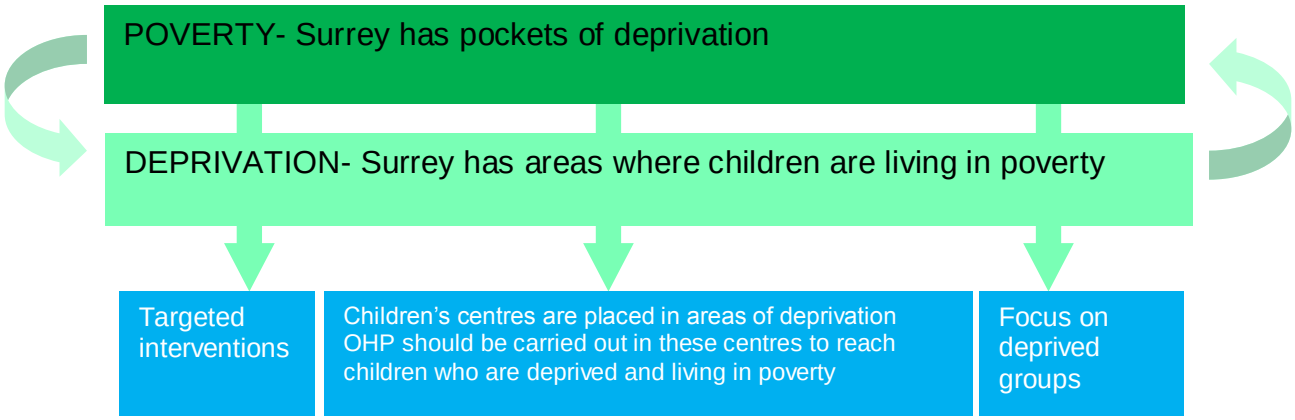
Age



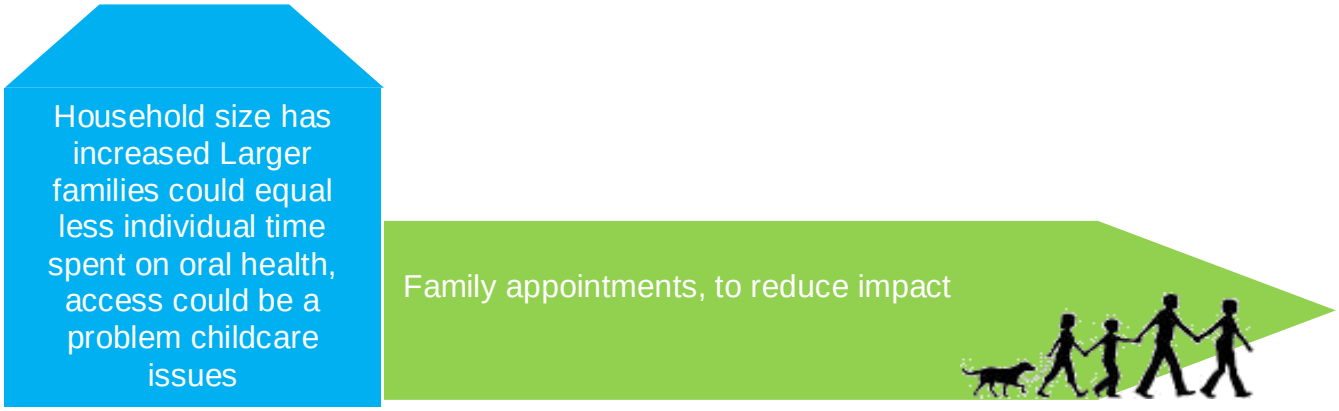
Migration



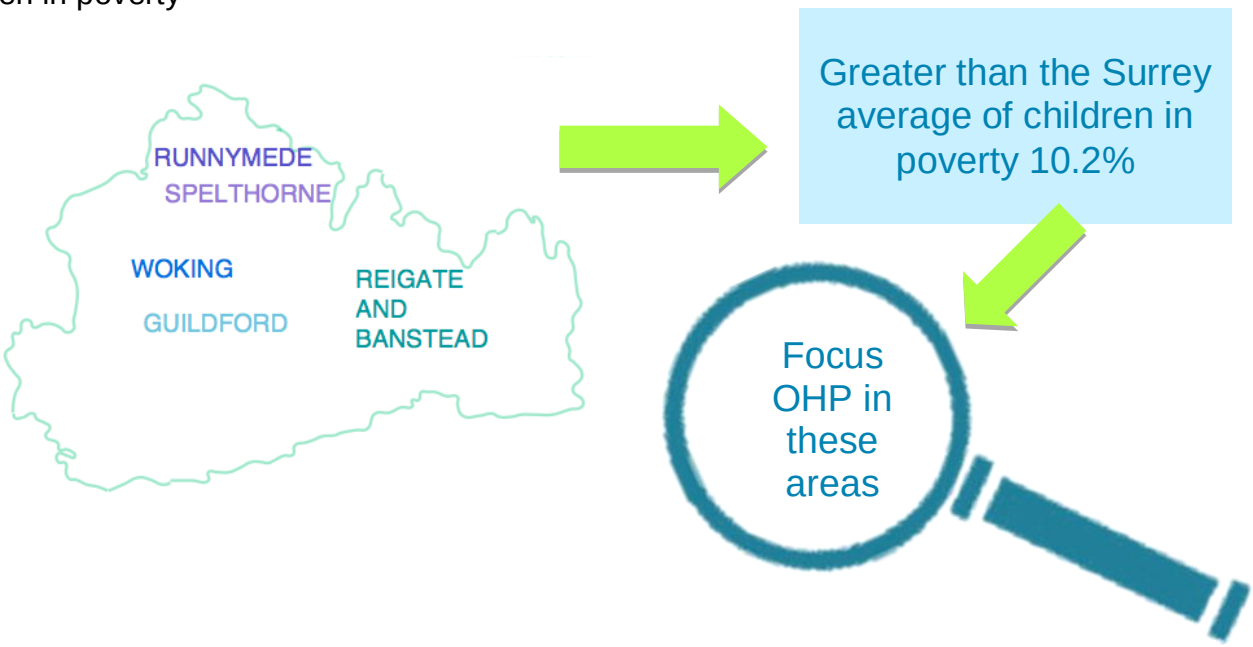
Deprivation and Poverty



Household size



Children in poverty



Appendix 4

List of Special Schools in Surrey

Brooklands School
Carwarden House Community School
Clifton Hill School
Fordway Centre
Freemantles School
Gosden House School
Hope Service Epsom
Hope Service Guildford
Limpsfield Grange School
Linden Bridge School
Manor Mead School
Philip Southcote School
Pond Meadow School
Portesbery School
St Nicholas School
St Peter's Hospital Teaching Centre
Starhurst School
Sunnydown School
Tadworth PRU
The Abbey School
The Park School
The Ridgeway Community School
Walton Leigh School
West Hill School
Wey House School
Wishmore Cross School
Woodfield School
Woodlands School

Appendix 5

Local needs assessment- Questionnaire in children's centres.

Questionnaire findings of Surrey's Children's centres

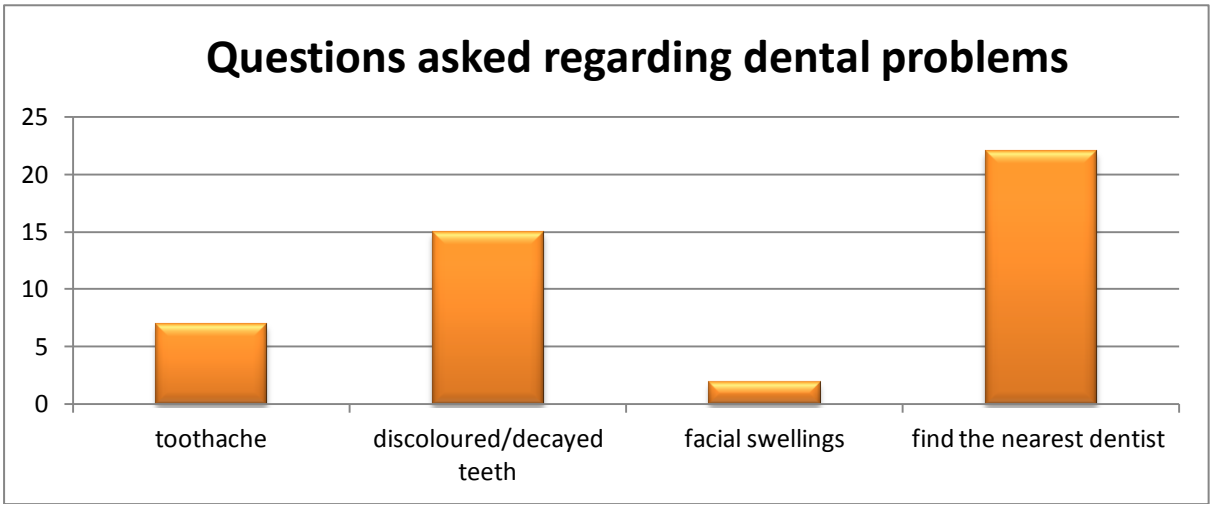
Questionnaire analysis 40 centres out of 62 returned

How often do you get asked for advice regarding teeth and oral health? (*some* centres ticked more than one answer)

Not at all **1** sometimes **29** often **9** a lot **2**

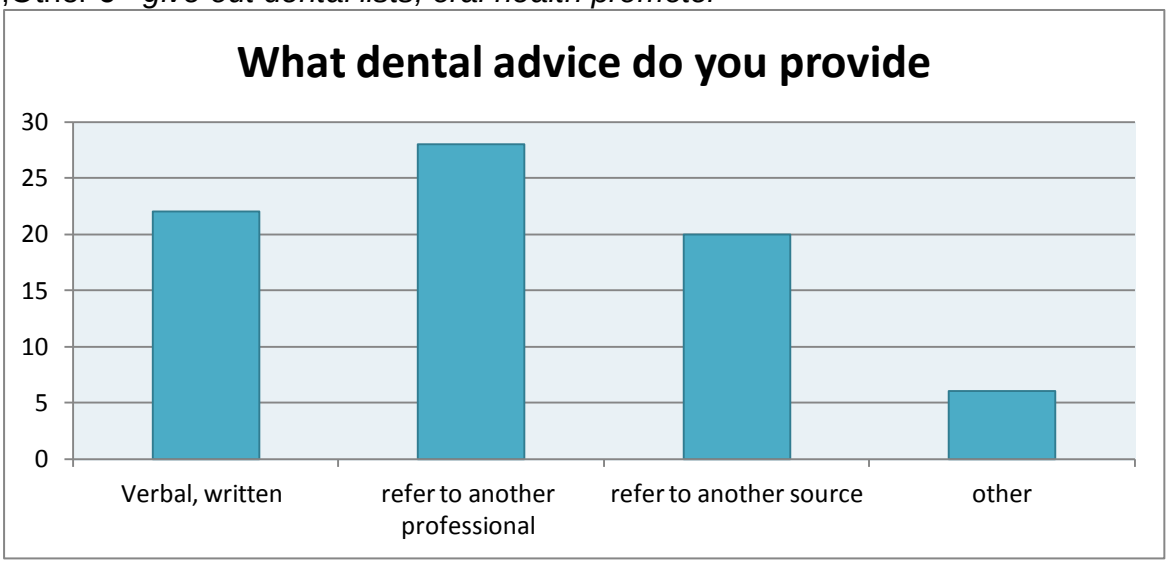
What are the questions mostly pertaining to?*2 centres had not obviously marked or selected options for this question, and some selected more than one answer.*

*Other: How to clean Childs teeth **2***



What kind of dental advice do you currently provide? (graph)

,Other **6**– *give out dental lists, oral health promoter*



How important do you think and oral health promotion is?

Not important 0 not sure0 important 10 very important 29

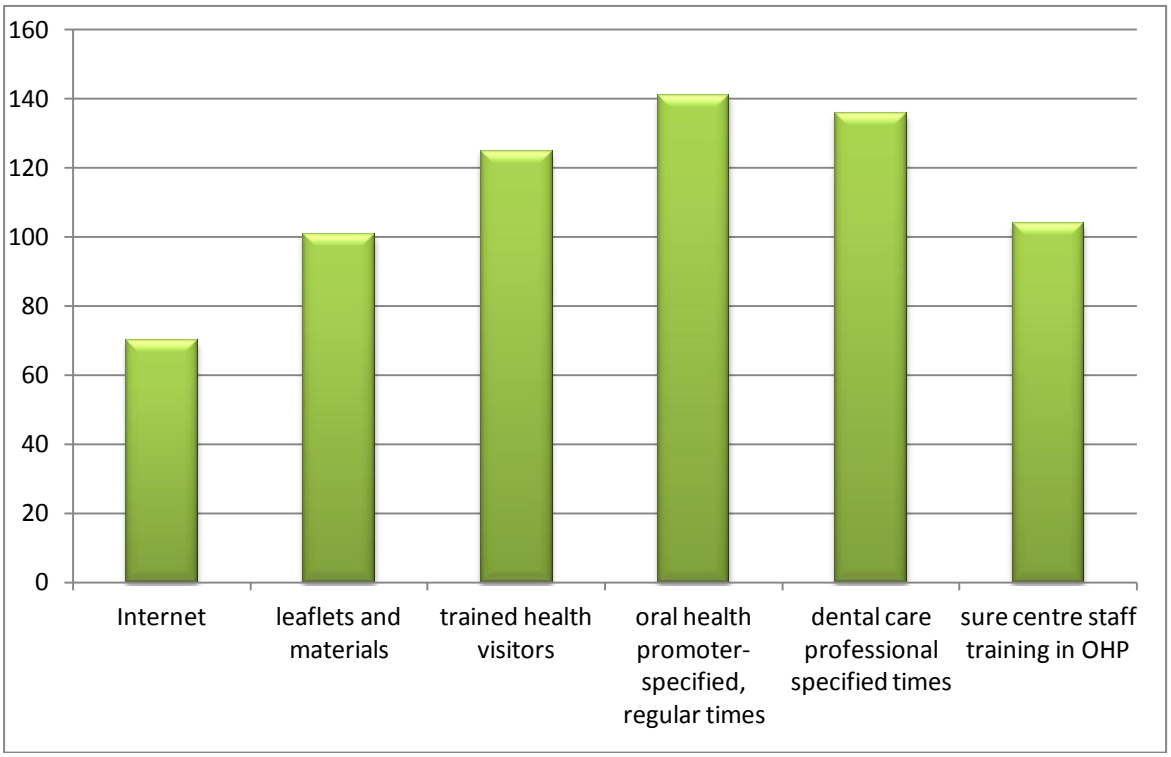
Are there any specific groups that you think may gain more from an oral health promotion programme?

Pregnant women **17** children 0-2 **34** children 2-5 **32** other **8**

Other-vulnerable and low income families, young parents, hard to reach- traveller and army families

Which method of delivery do you think you suit your client demographic?

Internet	**70**
Leaflets and material such as games, posters	**101**
Have oral health advice given by trained health visitors	**125**
Have an oral health promoter to visit your centre at specified regular times	**141**
A dental care professional to visit your centre regularly at specified times	**136**
Sure staff centre staff receiving training to deliver oral health information	**104**



Which health professionals visit your centre?

Doctors **1** Nurse **9** Health advisor **34** Dental professional **17**

Do you think that SureStart centres are a good location to base oral health promotion resources?

YES 100% NO

What other advice /services do you offer at your centre?

Dietary advice **34** Medical advice **13** parenting advice **37**
Housing advice **34** Legal advice **13**

We are grateful for any thoughts comments and ideas that could be utilised in creating an oral health promotion programme within you centre.

"Whilst I can see the value of using Sure Start centres as a base for oral health promotion I would be against this happening through via existing staff team because we simply don't have the time."

"Tooth Brush Exchange is a good way to engage children into a teeth cleaning programme. The children fill out a toothbrush chart and then they can choose a novel tooth brush and toothpaste of their choosing."
"We have, in the past tried to promote oral health but this has been limited due to lack of trained health professionals in Surrey. We would welcome any training or additional resource to support our most vulnerable families."
"The visits from Karen and Barbara are great, the parents get such a lot of information and we find them invaluable. Thanks"
"We would welcome a visit to one of our regular sessions when we could actively promote your team's attendance in advance with specified timings for attendance. Posters for promotion are always useful. We would be happy to send letters to appropriate families in advance"
"Parental feedback very positive to workshop delivered by local dentist. Area we felt was overlooked. 100% of parents reported they had learnt at least one thing they would implement to improve families dental health. Cost of toothbrushes and child toothpaste high. Dental health easiest preventable disease, something we feel we can raise awareness of to improve outcomes for children in our area. Not sure we can reply on the goodwill of the local dentist coming in so we would welcome anything tat comes out of this strategy."
"The centre as experienced from feedback that parents are not aware of when they should start cleaning their children teeth. Feedback fro the sessions Pa has delivered has been very positive, we also provide free toothbrushes and a chart monitoring the number of times the children have cleaned their teeth in a week. Great success always."
"To have a professional dental person visit the centre would be great. They could also bring along a character that the children would see as being friendly and approachable. Whatever is decided it must be fin and relaxed as parents sometimes pass on their anxieties to children about the dentist if they have had a bad experience. To work in conjunction with the centre staff and parents would be of benefit ask the parents what they think of the idea through the parent forums which operate in some form at every centre"
"Free promotional item e.g. toothpaste & toothbrushes.
Regular visits from health professionals to the Children's centre"
"We currently pay for our leaflets so free ones would be good and regular visits from health advisors especially during our baby weighing clinic"
"We have booked Barbara in the past but find it difficult to contact the dental health advisros to plan a visit to play and stay. We have approximately 20 parents and children attending on a Monday and its a great time to chat to parents about oral health. Workshops are very popular in our centre so perhaps a dental health one?
"oral health team members could visit sessions to talk to families. A display board venue for checks"
"A regular clinic for checkups of children teeth, demonstrations of cleaning your teeth and the followed by referral to local dental practices, face to face with parents (visual resources would be good). Evidence of poor oral health pictures etc, the impact on teeth muscles and jaw development caused by dummies, juice in bottles, poor diets. Free resources tooth brush and tooth paste, the tablets that discolour your teeth red when there is the presence of bacteria."
"Karen Ridgewell's input is really appreciated"
"The oral team outreach worker has attended before but this needs to be a regular set programme"
"40% of our reach is military families. Which because of relocation are continually struggling to find an NHS dentist"
"Promotional item similar to those provided by the Change 4 Life aimed at children- any free resources are always popular. Tooth brushing charts with stickers and brushes etc. We do promote healthy lifestyles but would welcome more support in this area"
"Karen and Barbara are not available to support us n Monday and Thursday which is when we run our main sessions due to them not being available running clinics . It would be great to have some one who can support us as we think oral health is invaluable."

Appendix 6

Other strategies, initiatives and projects

A Collaborative Programme to Improve the Oral Health of the Gypsy and Travelling Communities in Sussex
Improving dental services for homeless people summary of findings from exploratory research
Looked After Children Health Needs Assessment

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