

Oral health update (including dental provision)

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I. Organisational responsibilities

Since April 2013, NHS England, Public Health England and Local Authorities have been required to work together to develop and deliver oral health improvement strategies and commissioning plans specific to the needs of local populations.

The Public Health Outcomes Framework (2013-16) Domain 4 (Healthcare Public Health and Preventing Premature Mortality) includes an indicator related to 'tooth decay in five year old children' (Department of Health, 2012). Local authorities can use this indicator, sourced from the Dental Public Health Intelligence Programme, to monitor and evaluate children's oral health improvement programmes (Department of Health, 2012a).

The Children and Young People's Health Outcomes Framework (2014) and strategy recommends that an integrated and partnership approach is needed to improve health outcomes for children and young people (Public Health England, 2014) and also includes the 'tooth decay in five year old children' indicator.

The NHS Outcomes Framework (2013-14) includes indicators related to patients' experiences of NHS dental services (4a.iii) and access to NHS dental services (4.4.ii) (Department of Health 2012b).

I.1 Plymouth City Council

From 1st April 2013 the statutory responsibility for the commissioning of oral health promotion transferred from the NHS to local authorities. The current dental public health functions of local authorities now include a statutory requirement to assess their local population's oral health needs, develop oral health strategies and commission or provide oral health improvement programmes (NHS Bodies and Local Authorities, 2012). They must also provide or commission oral health surveys as part of the Public Health England Dental Public Health Intelligence Programme (NHS Dental Epidemiology Programme for England, 2014). Local authorities use these oral health surveys to:

- Assess and monitor oral health needs in their local population
- Plan and evaluate oral health improvement programmes
- Plan and evaluate NHS dental services
- Report and monitor the effects of any local water fluoridation schemes covering their local population

In short, Local Authorities have the responsibility for commissioning surveys of dental health, dental screening and improving the oral health of their populations.

I.2 Public Health England

Public Health England (PHE) is the expert national public health agency. PHE's mission is to protect and improve the nation's health and address inequalities through working with national and local government, the NHS, industry and the voluntary and community sector. PHE is an operationally autonomous executive agency of the Department of Health.

PHE's dental public health service will deliver across the three public health disciplines of health protection, oral health improvement and healthcare public health. The dental public health service will lead and support dental delivery across the three key function areas of PHE;

- Delivering services
- Leading for public health
- Developing the workforce

1.3 NHS England

From 1st April 2013, the responsibility for the commissioning of all NHS dental services transferred from Primary Care Trusts to NHS England. This responsibility includes the commissioning of primary, community and secondary care dental services, including dental schools and out of hours services. As a single commissioning organisation for dental services, NHS England is developing national consistent care pathways across all dental specialties, which will include consistent standards and criteria and clinical and patient outcomes. Whilst developed nationally, these pathways will be delivered locally using the expertise of local commissioners, clinicians and public health to ensure they are grounded in the local needs of health and care services.

The following functions which underpin NHS England operating model are:

- Planning the optimum services that meet national standards and local needs and ambitions.
- Securing services, using the contracting routes and national consistent frameworks and dental care pathways that will deliver the best quality and outcomes.
- Monitoring, assessing and, where necessary, challenging the quality of services; and using this intelligence at national, regional and local level to design and plan continuously improving services for the future.

2. Oral health in Plymouth

2.1 Data

Information about oral health in Plymouth is limited. Only local data on the oral health of children is available at ages three, five and twelve for Plymouth residents. No local data exists on the oral health of adults or vulnerable population groups. This has to be extrapolated from national surveys conducted at regional level.

2.2 Disease burden

The percentage of three, five and twelve year old children with experience of tooth decay is similar to the England average. The adult dental health survey undertaken in 2009 presents data at national and regional (former 'Strategic Health Authority') levels. Nationally, there has been a continued improvement in adults' oral health. However, for those who do have decay or gum problems, disease can be extensive, whilst for many people in old age and older middle age, dental needs are very complex. Marked inequalities in oral health also persist according to socio-economic status. In terms of loss of teeth, tooth and root decay, periodontal diseases and tooth wear, the oral health of adults in the South West is poorer than the national averages.

While overall levels of dental disease in Plymouth are similar to national averages these figures mask oral health inequalities and a small number of people bear the greatest burden of disease in the city. They are children living in material and social deprivation and people in at risk groups, such as older people, and people living with a disability or in long term institutional care. This persistent health divide in the city is of concern.

Oral health is integral to general health and should not be considered in isolation, as many of the key factors that lead to poor oral health are risk factors for other diseases and conditions including obesity, heart disease, stroke, cancer, and diabetes.

2.3 Admissions of children and adolescents to hospital for extraction of one or more decayed teeth

Severely decayed teeth will often require extraction, usually under a general anaesthesia, exposing children to small, but significant risks of life-threatening complications, for an essentially, entirely preventable disease. This is covered in more detail in section six of this report.

2.4 Oral health of looked after children

This group of children is likely to have poorer oral health and, if they are moved between different carers, more erratic and irregular access to dental care.

2.5 Oral cancer

Oral cancer is one of the fastest-growing cancers in the UK. Tobacco and alcohol consumption are major risk factors. Oral cancer is now also being increasingly seen in young adults and has been attributed to increasing rates of infection with the Human Papilloma Virus, reflecting changes in oral sexual behaviour. The incidence rates of oral cancer in Plymouth are worse than the national average.

2.6 Access to NHS dental services

A visit to the dentist provides the opportunity to deliver oral hygiene, diet, lifestyle and smoking cessation advice. In addition it is possible to check for early signs of oral cancer alongside preventive interventions such as scaling and polishing, fissure sealants and fluoride varnish applications. These opportunities will be missed if access is limited.

2.7 Deprivation and oral health

Children and adults living in deprived communities consistently have poorer levels of oral health than people living in more affluent communities. The prevalence of tooth decay, tooth loss, oral cancer and the destructive form of gum disease (periodontal disease) all follow the social gradient.

2.8 Obesity and oral health

The contributory factors for dental decay (frequent consumption of refined sugars) are shared by other public health concerns such as obesity. An effective method of promoting oral health is to integrate oral health with generic health promotion using the common risk factor approach.

2.9 Diabetes and gum disease

Research suggests a two-way relationship between gum disease and Type 2 diabetes, where poorly controlled diabetes is a risk factor for developing gum disease, and the presence of gum disease may contribute to the development of diabetic complications.

2.10 Smoking and oral health

Smoking is a major risk factor for the development of gum disease, and may account for more than half of the cases of the disease among adults. More than two-thirds of oral cancers in men, and more than half in women in the UK are caused by smoking.

2.11 Drug misuse and oral health

Drug users tend to have far poorer oral health than the general population. This could be due to a range of factors including poverty, self-neglect and poor oral hygiene, and a decay promoting diet.

2.12 Oral health of older people

Older people in residential and nursing care generally have poorer oral health than the general population. Adults living with dementia may experience difficulties in maintaining good oral hygiene, and may be reliant on their carers to undertake routine oral hygiene for them. There are problems around the inconsistent delivery of oral health care by care home providers.

2.13 Oral health in children and adults with disabilities

Individuals with disabilities generally experience more oral disease, have fewer teeth than the general population, and also have more difficulty in accessing dental care. Some congenital conditions and syndromes may also adversely affect dental development and compromise oral health.

3. Local context/background

Plymouth became a Health Action Zone (HAZ) on 1st April 1999. The creation of HAZs was proposed by the Government in response to long established evidence that the health and life-expectancy of a population is directly related to factors such as housing, employment, income and the environment. Plymouth was successful in winning HAZ status through the submission of its bid document 'From Strength to Strength' and was one of only 11 first wave HAZs in the country. HAZ status brought with it a pledge of additional Government cash each year to support a host of new initiatives aimed at reducing inequalities in health within the city.

The Oral Health Programme Board (OHPB) was one of the 12 programme boards (or 'workstreams') that together aim to fulfilled the HAZs objectives to;

- i) Reduce health inequalities,
- ii) Modernise the care system
- iii) Develop partnership working

The Oral Health Programme Board (OHPB) was one of the programme boards established to fulfil these objectives.

This resulted in a number of projects including the establishment of a six-surgery dental access centre, introduction of vocational training for newly qualified dentists, a survey of the dental health of five-year-olds and a number of health promotion initiatives (e.g. free toothbrushes project and workplaces project).

With HAZ funding coming to an end Plymouth's Oral Health Advisory Group (OHAG) was established in 2004 to continue this work.

Recognising the widening inequalities in oral health in England, the government produced a range of documents proposing areas for action on health improvement including:

- Choosing Better Oral Health (DH, 2005)
- Delivering Better Oral Health (DH, 2007)
- Valuing Oral Health (DH, 2008)
- World Class Commissioning (DH, 2008)

In response, a second survey of the dental health of five-year-olds was carried out in 2009. This showed that overall there was an improvement in oral health of five year old children in Plymouth from 2000 to 2009 (mirroring national improvements in oral health). However, inequalities persisted between the least and most deprived groups within the city and it is likely these inequalities would also be found in older children and adults.

In recognition of persistent and growing oral health inequalities within the city there was a requirement to implement locally targeted preventative measures in an effort to reduce the widening health gap. As a result, the OHAG published its strategy for oral health in Plymouth in May 2010. It described plans to deliver improvements in oral health for the people of Plymouth over the next five years. The strategy included an action plan for a staged and controlled implementation of programmes.

The aims of the strategy were divided into the following three priority areas:

- (i) Public health improvements (evidence-based),
- (ii) Patient information and access to dental services,
- (iii) Co-ordination of the wider health care team.

Given the limited resource available to implement the strategy, it was decided to focus on one evidence-based public health intervention - the establishment of a fluoride varnish scheme, known as 'Healthy Smiles for Plymouth.'

4. Healthy smiles for Plymouth (the fluoride varnish scheme)

Healthy Smiles for Plymouth is a targeted, school-based intervention project delivering oral health improvement and a clinical public health intervention - fluoride varnish application, to the teeth of 4-5 year old children in the most deprived areas of Plymouth. In areas like Plymouth without water fluoridation the Department of Health recommend that all children should receive fluoride applications to their teeth to protect them against the risk of dental decay. This should be part of a comprehensive package including education and advice to children and their parents to address the risk factors for tooth decay and promote good oral care and regular dentist attendance.

4.1 Project aims

The project aims to reach out into communities where tooth decay rates are high and introduce families and children to dental professionals with the aims of:

- Reducing oral health inequalities.
- Focusing on prevention and promotion in the school environment and making school a healthy place to be.
- Delivering modern and innovative services that are shaped by patients and the public.

4.2 What does it involve?

Trained dental nurses visit targeted primary schools (twenty schools at present) and deliver an oral health improvement programme for children in reception and year one classes. This involves information for families about accessing NHS dentistry, oral health education, application of fluoride varnish to the teeth of 4-5 year old children (consented by their parents/guardians), and encouragement for families with children identified as not registered with a dentist, or appearing to need treatment to find a dentist.

4.3 Why this approach?

In recognising the poor oral health of children in Plymouth, NHS Plymouth's Oral Health Advisory Group devised an Oral Health Strategy in 2010 with the aim of reducing oral health inequalities in young children in the city. The project was fully supported by NHS Plymouth's Board and was fully aligned to the strategic ambitions of NHS Plymouth at the time.

4.4 How is it implemented?

This programme takes services directly to children and families in the community, focusing on those most in need of care and support by visiting schools in areas of deprivation and where we know dental decay rates are high. Dental nurses visit each school twice per year and deliver the intervention to 4-5 year old children. A fundamental part of the programme is to encourage families to register with a dentist. School support is vital to successful implementation of the programme and teachers can significantly influence participation rates by integrating dental health into the curriculum and encouraging families to engage with the nurses and enrol their children.

4.5 What are the results?

The programme was evaluated after its first year of delivery (2011/12). Overall the results showed the programme had been successful in the selected schools although the degree of success in each school varied. The programme had successfully targeted children most in need of dental intervention achieving high participation rates with over 60% of children contacted receiving two interventions per year (this is in excess of 800 children). Due to the targeted nature of the project over 60% of the children participating lived in the fifth most deprived neighbourhoods in the city. Of the 15 Mosaic Groups the majority of the children (416) were from Group O 'Families in low-rise social housing with high levels of benefit need'. Other groups with high numbers of children were Group K 'Residents with sufficient incomes in right-to-buy social houses' and Group N 'Young people renting flats in high density social housing' (272 and 211 children respectively). It has also highlighted that many families engaged by the programme do not access regular dental care with fourteen percent of children recommended to see a dentist for a full examination.

5. Relevant national guidance

A number of guidance documents are available which provide clinical teams and commissioners with advice on the most appropriate evidence-based interventions to deliver to improve oral health of individuals and of populations.

'Delivering better oral health: an evidence based toolkit for prevention' is an evidence-based toolkit for clinical teams to use in practice. The guidance is aimed at dental health professionals and provides them with evidence based interventions and advice that can improve and maintain the oral health of their own patients.

Delivering better oral health: an evidence based toolkit for prevention (PHE 2014) available at:

<https://www.gov.uk/government/publications/delivering-better-oral-health-an-evidence-based-toolkit-for-prevention>

Public Health England and the National Institute for Health and Care Excellence (NICE) have both produced resources for local authorities to use to improve the oral health of children and young people and of communities respectively.

Local authorities improving oral health: Commissioning better oral health for children and young people, an evidence informed toolkit for local authorities (PHE 2014) available at:

<https://www.gov.uk/government/publications/improving-oral-health-an-evidence-informed-toolkit-for-local-authorities>

Oral health: approaches for local authorities and their partners to improve the oral health of their communities (NICE 2014) available at:

<http://www.nice.org.uk/guidance/ph55/resources/guidance-oral-health-approaches-for-local-authorities-and-theirpartners-to-improve-the-oral-health-of-their-communities-pdf>

The NICE guidance contains 21 different recommendations for the types of community-based interventions and activities that can be commissioned to improve oral health along with a guide to cost-effectiveness for the recommended interventions. A summary of activity for Plymouth showing activity against each of the 21 recommendations can be found in appendix 2.

6. Dental extractions under general anaesthetic in Plymouth children in 2013-14

Children with tooth decay not diagnosed early and treated appropriately by primary care dentists (e.g. through the use of fluoride varnish or fillings), may be referred to hospital for specialist care. If their teeth are too badly damaged to be restored, it will be necessary to extract them. General anaesthetic (GA) is often given to children undergoing multiple tooth extractions to reduce pain and anxiety (as they may be frightened of the procedure or find it difficult to sit still). Owing to safety concerns, the Department of Health (2000) recommended that patients undergoing general anaesthesia should have access to critical care facilities. As such, dental extractions of this nature have since been restricted to the hospital setting.

In addition to the health consequences of a GA there are also psychological impacts for both the child and their family. These include missing school days, prolonged periods of pain, and anxiety/apprehension about the actual procedure or future dental procedures.

The current cost per GA day case is in the region of £690. In Plymouth 861 children aged 0-16 years had teeth removed under GA in 2013-14. Therefore the total annual cost of this activity was approximately £600,000. This is for a disease which, in theory, is entirely preventable.

Of the 861 children having a dental extraction under general anaesthetic:

- 174 (20.2%) had one tooth removed.
- 687 children (79.8%) had more than one tooth removed
- One child had a total of 16 teeth removed.

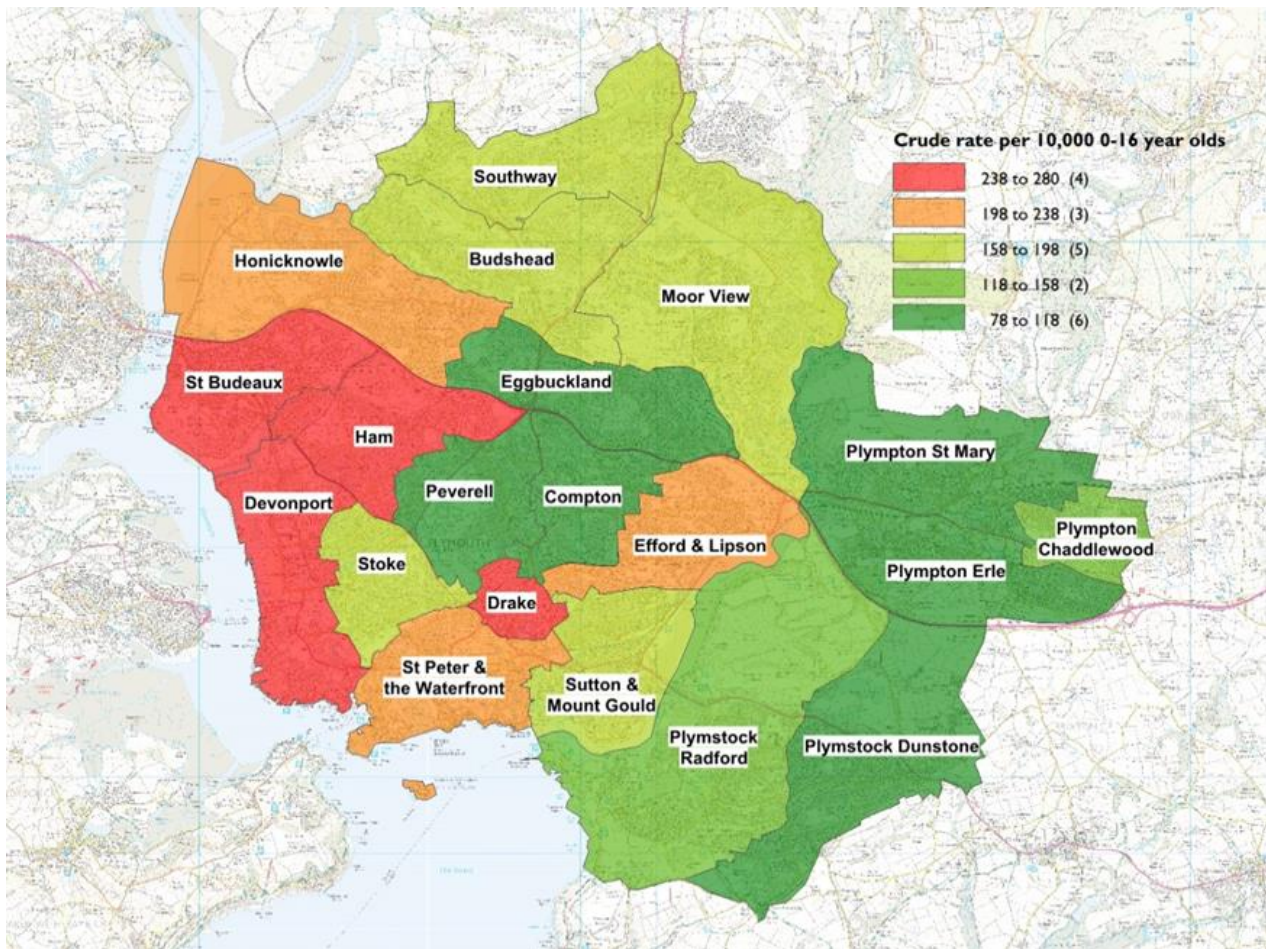
Expert knowledge suggests that it is rare for a child to have only one decayed tooth. Even with just one extraction there will often be further disease; other teeth with a degree of decay or teeth particularly susceptible to additional decay.

A detailed 30-page report had been produced describing the patterns of dental extractions under GA in Plymouth children in 2013-14. In that report, information is presented by neighbourhood, electoral ward, deprivation group, children's centre catchment, and for the Plymouth Community Healthcare localities. Selected results for the city's electoral wards are described below.

As already stated, a total of 861 Plymouth-resident children had teeth extracted under GA in 2013-14. On an electoral ward basis this ranged from 17 children (2.0% of total) in Plymstock Dunstone to 93 children (10.8% of total) in Devonport.

The overall rate of children having teeth extracted under GA was 178.0 per 10,000 children aged 0-16 years. On an electoral ward basis this ranged from 78.2 per 10,000 in Plymstock Dunstone to 280.0 per 10,000 in Ham. The highest electoral ward rate was 3.5 times higher than the lowest rate.

Figure 1 - Rate of all dental extractions in children aged 0-16 years by electoral ward (per 10,000 0-16 year olds), 2013-14



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With regards to the 0-4 year old age-group, a total of 87 Plymouth-resident children aged 0-4 years had teeth extracted under GA in 2013/14. On an electoral ward basis this ranged from one child (1.1% of total) in three wards, to 11 children (12.6% of total) in Honicknowle.

With regards to the 5-11 year old age-group, a total of 592 Plymouth-resident children aged 5-11 years had teeth extracted under GA in 2013/14. On an electoral ward basis this ranged from 10 children (1.7% of total) in Plympton Erle to 73 children (12.3 % of total) in Devonport.

With regards to the 12-16 year old age-group, a total of 182 Plymouth-resident children aged 12-16 years had teeth extracted under GA in 2013/14. On an electoral ward basis this ranged from one child (0.5% of total) in one ward, to 24 children (13.2% of total) in St Budeaux.

7. A supervised tooth brushing scheme?

In Plymouth, oral health improvement work is currently undertaken by Plymouth Community Healthcare in 24 primary schools located in the more deprived areas of the city where local surveys have evidenced that there are higher levels of dental disease. However, this is the only commissioned oral health programme in the city and there is no co-ordinated oral health-related activity aimed at, or undertaken in, the pre-school environment (years 0-4).

In October 2014, the National Institute for Health and Care Excellence (NICE) published guidelines entitled 'Oral health: local authority oral health improvement strategies.' The guidelines contain 21 recommendations for oral health improvement. Recommendation 11 was 'to provide supervised tooth brushing schemes in nurseries based in areas where children are at higher risk of poor oral health.'

The use of fluoride toothpaste in controlling dental caries is well documented and is confirmed by a Cochrane review. A two-year school-based tooth brushing scheme in high risk school children in Scotland demonstrated a reduction in tooth decay of 56%. Furthermore, the long-lasting effects of the programme have been documented, with children in the test group having a 39% reduction in decay four years after the trial ended.

In the last 18 months a proposal has been developed to establish a supervised tooth brushing scheme in the city. However, it has not yet been possible to secure the funding to take the scheme forward.

The proposal is focused on improving oral health in children by working with Children's Centres and other community support groups. The proposal is based on Marmot principle of proportionate universalism and is focused on the 'health and wellbeing' objective of 'giving each child the best start in life'. This is particularly relevant for tooth decay as much of it occurs in childhood, so helping families with children to reach adulthood free of dental decay has potential long-term social, economic and health benefits. This message is complimentary to existing public health improvement activities in Children's Centres concerning promoting healthy eating and nutrition, advice to restrict high sugar food and drinks to between meals, early tooth brushing, exposure to optimal fluoride and regular visits to the dentist. The aim of the scheme is to:

- Ensure all children attending Children's Centres and other identified groups have access to a 'free' toothbrush and fluoride toothpaste with advice on use, how to look after teeth and information about NHS dental services,
- Improve the knowledge and oral health awareness of childcare workers, increasing the number of settings providing oral health guidance to families, improving resources and materials available for use by childcare workers and establishing links between Children's Centres and oral health providers in the city.
- Train childcare workers to be 'dental ambassadors' with the skills necessary to supervise regular tooth brushing clubs as part of a co-ordinated and managed programme.

The proposal is to provide a fully co-ordinated supervised tooth brushing scheme and training of 'dental ambassadors' for each Children's Centre. The proposal advocates an inter-sectoral approach by linking the education system with health in a joint programme. This programme would support a life course approach to oral health improvement activities in Plymouth by complementing and adding value to existing programmes. It would provide a consistent oral health service through the early year's education settings of pre-school and primary school (Healthy Smiles for Plymouth programme in 24 primary schools delivered by PCH and the 'Open wide and step inside' programme delivered by the Peninsula Dental Social Enterprise in 20 primary schools) in targeted areas of the city.

This programme is advocating a high-impact, simple evidence-based intervention to address oral health inequalities in pre-school children in Plymouth and would have considerable reach by working with early year's settings to promote a health 'settings' approach to oral health improvement in communities.

The cost of a supervised tooth brushing scheme is approximately one tenth of the current costs to treat the consequences of severe decay in children using general anaesthesia alone in the city.

If these costs are also considered alongside those of treating the disease in dental practice for those children less severely affected the economic argument for investment in a programme such as this is compelling, not to mention the indirect costs associated with the social impact of dental decay in young children and the associated morbidity this creates for Plymouth's population in the years to come.

A supervised tooth brushing scheme of this scale would reach approximately 70% of the 0-4 year old population in the city. This equates to approximately 10,500 children.

8. Dental access/services

There are 22 dental practices in Plymouth which hold contracts to provide NHS general dental services. General dental services can be described as a range of dental treatments and advice, which might include clinical examination and advice, preventive treatment and advice, fillings, extractions, urgent care and more complex treatments such as bridges, dentures and crowns.

Between April 2014 and March 2015, dentists in Plymouth provided dental treatment to 36,974 (72%) children and 128,872 (61%) adults. As Plymouth dentists will be providing treatment to people from outside of the city, the actual percentage of the city's population who are accessing dental treatment will be less than the figures above.

Access to NHS dental services has historically been difficult in many parts of the South West including Plymouth, with insufficient provision to meet the demand for dental services, resulting in waiting lists of patients wishing to find a NHS dentist. Whilst progress has been made in reducing the number of patients waiting for a dentist in the city there is more work required to further reduce the numbers waiting for a dentist. There are currently 2,846 people on the waiting list to access a dentist in Plymouth. In May 2012 the numbers waiting for a dentist in Plymouth were over 6,000.

People who do not have a regular dentist will normally be able to access urgent dental care for the relief of pain within 24 to 48 hours via the Plymouth Dental Access Centre on weekdays or the out of hours dental service at weekends and bank holidays.

Appendix I - Response to specific questions from the Caring Plymouth Chair

Children

- (i) What percentage of Children access services?

Approximately 72%

- (ii) Is this the same throughout the city? How does this relate to the bus route used in the annual report?

This information is not readily available in a format to provide a response to this question

- (iii) Does ethnicity impact on service access?

Information is collected on ethnicity by dentists, but is not a mandatory requirement and therefore would not be accurate. Therefore this would not be a reliable basis on which to base any answer.

- (iv) How does this breakdown for age groups?

In 2014-15, the number of children receiving NHS treatment in Plymouth were:

0-2 years	2,236
3-5 years	6,943
6 – 12 years	16,932
13-17 years	10,886

- (v) What are the challenges?

This are covered in the main body of the report.

- (vi) What are the effects of dental decay in children?

This are covered in the main body of the report.

- (vii) Sedation

There are a range of techniques for behaviour management of anxious patients. Sedation is only indicated for the genuinely anxious child who wishes to co-operate with treatment. Most forms of sedation are contraindicated in children due to their unpredictable nature. Inhalation sedation is the most popular technique used as it is the safest form of sedation. This technique delivers a nitrous oxide/oxygen mixture via a nasal mask to produce a state of relative analgesia (a relaxed state and sense of detachment). The technique is supplemented by reassuring communication from the operator to create a calm and soothing environment. The use of inhalational sedation requires specialist equipment and is therefore restricted to a small number of practices and typically those that treat high numbers of children, such as the service provided by Plymouth Community Healthcare's community dental service.

(viii) What treatment is provided?

The full range of general dental services, examination, preventive treatments such as fluoride varnish, fissure sealants, scale and polish, diagnosis, extractions, fillings, and some complex treatment such as crown and bridgework. In 2014/15 the treatment provided by dentists in Plymouth to children was as follows:

- 73.8% of care provided was band 1 (examination, diagnostics and preventive).
- 22% of care provided was band 2 (examination, diagnostics, preventive and treatment such as fillings or extractions).
- 0.4% of care provided was band 3 (examination, diagnostics, preventive, and extended to complex care such as crowns, bridges and dentures).
- 4.2% of care provided was Band 1 Urgent - for relief of pain.

(ix) What is the percentage of hospital referrals?

Children might normally be referred for specialist dental services such as orthodontics, or extractions under general anaesthesia or sedation – 861 children from Plymouth had teeth extracted under GA in 2013-14.

(x) What service is in place for looked after children?

A dental service for looked after children is provided as a part of the contract held with Plymouth Community Healthcare.

(xi) What distances are travelled by child patients?

Whilst postcodes are recorded when treatment is provided this information is not readily available.

Adults

(i) What percentage of adults access services?

128,872 (61%) adults accessed NHS Dental services in Plymouth in 2014/15

(ii) Deprivation

This is discussed in section 2 of the report.

(iii) Treatment Location

Patients may not seek a dentist near to where they live but may choose a dentist near to their place of work or education.

(iv) Charging

Adult patients are required to make a payment towards the cost of their NHS dental treatment. The fee payable is based upon the complexity of the treatment provided as follows:

Band 1 – patient charge is £18.80

Band 2 – patient charges is	£51.30
Band 3 – patient charges is	£222.50
Band 1 Urgent – patient charge is	£18.80

Patients who are exempt from the payment of these charges are as follows:

- Aged under 18
- Under 19 and receiving full-time education
- Pregnant or have had a baby in the previous 12 months
- Staying in an NHS hospital and your treatment is carried out by the hospital dentist
- An NHS hospital dental service outpatient (however, you may have to pay for your dentures or bridges).

In addition, people do not have to pay if, during the course of treatment, they or their partner, receive:

- Income Support
- Income-related Employment and Support Allowance
- Income-based Jobseeker's Allowance
- Pension Credit guarantee credit
- Universal Credit and meet the criteria

Or

- they are named on a valid NHS tax credit exemption certificate or they are entitled to an NHS tax credit exemption certificate
- they are named on a valid HC2 certificate

(v) Domiciliary services

A specialist domiciliary provider is commissioned to provide dental care to people who cannot leave their home to attend a dental practice. There will be limitations on the range of care that can be safely provided in a setting away from a dental surgery.

(vi) Hospital referrals

Adult patients might normally be referred for specialist services, such as oral surgery and some more complex restorative treatments and in a very few cases for orthodontic treatment. Information on referrals rates is only currently held in relation to oral surgery. Between December 2014 and September 2015, 2,211 adult patients were referred to either the hospital or a specialist oral surgery service to have an oral surgery procedure.

(vii) Challenges

This are covered in the main body of the report.

Appendix 2 - National Institute for Health and Care Excellence guidelines 'Oral health: local authority oral health improvement strategies'

In October 2014, the National Institute for Health and Care Excellence (NICE) published guidelines (PH55) entitled 'Oral health: local authority oral health improvement strategies.' The guidelines contain 21 recommendations for oral health improvement. Plymouth's position in relation to each of the recommendations is described in the table below.

	Recommendations	Regional /local	Met?	Comment
1	Recommendation 1 Ensure oral health is a key health and wellbeing priority	Regional	No	The oral health needs assessment currently under development will be presented to the HWB when completed. This will enable the findings and recommendations to be considered by the HWB. The final needs assessment will be made available via the JSNA website and as such will be considered part of the local JSNA.
2	Recommendation 2 Carry out an oral health needs assessment	Regional	Yes	An oral health needs assessment is currently being carried out for each Local Authority in the Region. This work is being carried out in a standard format across the South West Region as a whole.
3	Recommendation 3 Use a range of data sources to inform the oral health needs assessment	Regional	Yes	The oral health needs assessments are comprehensive and are based on all available sources or relevant information (local, regional and national).
4	Recommendation 4 Develop an oral health strategy	Regional	Yes	Production of the aforementioned oral health needs assessment is being co-ordinated locally by the Oral Health Steering Group (South). Once the needs assessment is complete, it's recommendations will be considered for inclusion in the local oral health strategy.
5	Recommendation 5 Ensure public service environments promote oral health	Local	Yes	Diet has been included in Thrive Plymouth. This is the city's 10-year programme to reduce health inequalities in Plymouth. The intention is that the Thrive Plymouth ethos will be included in all city policies.
6	Recommendation 6 Include information and advice on oral health in all local health and wellbeing policies	Regional/local	No	This is likely to be a recommendation of the oral health strategy. There will be a renewed focus on diet as a result of the Thrive Plymouth initiative.
7	Recommendation 7 Ensure frontline health and social care staff can give advice on the importance of oral health	Regional/local	No	Further work needs to be done to ensure that frontline staff consider oral health and are able to give appropriate advice, guidance and signposting. This needs to be considered as part of the oral health strategy.
8	Recommendation 8 Incorporate oral health promotion in existing services for all children, young people and adults at high risk of poor oral health	Regional/local	No	Further work needs to be done to ensure that all service specifications include an oral health component.

9	<u>Recommendation 9 Commission training for health and social care staff working with children, young people and adults at high risk of poor oral health</u>	Regional/local	Partially	No formal commissioned training although ad hoc support is provided to agencies by Peninsula Dental Social Enterprise CIC through student engagement and directly delivered project work.
10	<u>Recommendation 10 Promote oral health in the workplace</u>	Local	Partially	No formal commissioned training although ad hoc support is provided to agencies by Peninsula Dental Social Enterprise CIC through student engagement and directly delivered project work.
11	<u>Recommendation 11 Commission tailored oral health promotion services for adults at high risk of poor oral health</u>	Local	Partially	A dental service is provided in the Devonport neighbourhood by PDSE with a specific remit of providing care to disadvantaged groups through a community engagement approach.
12	<u>Recommendation 12 Include oral health promotion in specifications for all early years services</u>	Local	No	The transfer of commissioning responsibility for public health services for 0-5 year olds to local authorities from October 2015 gives significant opportunities for this to be incorporated into service specifications.
13	<u>Recommendation 13 Ensure all early years services provide oral health information and advice</u>	Local	No	The transfer of commissioning responsibility for public health services for 0-5 year olds to local authorities from October 2015 gives significant opportunities for this to be incorporated into service specifications.
14	<u>Recommendation 14 Ensure early years services provide additional tailored information and advice for groups at high risk of poor oral health</u>	Local	No	No formal commissioned training although ad hoc support is provided to agencies by Peninsula Dental Social Enterprise CIC through student engagement and directly delivered project work.
15	<u>Recommendation 15 Consider supervised tooth brushing schemes for nurseries in areas where children are at high risk of poor oral health</u>	Local	Yes	A proposal to introduce a supervised tooth brushing scheme operating in Plymouth's Children's Centres has been developed. Sources of funding are being sought to enable the programme to be taken forward.
16	<u>Recommendation 16 Consider fluoride varnish programmes for nurseries in areas where children are at high risk of poor oral health</u>	Local	No	Plymouth's fluoride varnish scheme currently operates in 24 schools (see item (20)). Subject to funding availability, the priorities in Plymouth are to extend the fluoride varnish scheme to additional schools and introduce a supervised tooth brushing scheme in Children's Centres.
17	<u>Recommendation 17 Raise awareness of the importance of oral health, as part of a 'whole-school' approach in all primary schools</u>	Local	Yes	This work is an integral part of the fluoride varnish scheme mentioned in (20). The scheme itself stresses the importance of a healthy diet alongside regular and effective tooth brushing and is not simply about applying fluoride varnish.
18	<u>Recommendation 18 Introduce specific schemes to improve and protect oral health in primary schools in areas where children are at high risk of poor oral health</u>	Local	Yes	As mentioned in (20), Plymouth has an established fluoride varnish scheme operating in schools in deprived areas and where there is evidence (from a previous city-wide survey) of children having poor oral health.

19	<u>Recommendation 19 Consider supervised tooth brushing schemes for primary schools in areas where children are at high risk of poor oral health</u>	Local	No	As stated above, a proposal to introduce a supervised tooth brushing scheme operating in Plymouth's Children's Centres has been developed. It is not currently a priority to introduce this scheme in primary schools.
20	<u>Recommendation 20 Consider fluoride varnish programmes for primary schools in areas where children are at high risk of poor oral health</u>	Local	Yes	Plymouth has a fluoride varnish scheme operating in 24 of the city's Infant, Junior and Primary Schools. The scheme is currently commissioned by NHS England and targets schools that are in the most deprived areas of the city and where children have poor oral health (as evidenced by a city-wide survey in 2009).
21	<u>Recommendation 21 Promote a 'whole school' approach to oral health in all secondary schools</u>	Local	No	The focus of the Thrive Plymouth campaign in year two will be on schools (primary and secondary). This will provide the opportunity for more focussed and effective engagement with secondary schools in particular.

Appendix 3 - Examples of oral health improvement work carried out in Plymouth

(i) Dental Ambassador Training Programme

An innovative dental project has been launched in Plymouth which develops adults with learning disabilities to become dental health ambassadors to their peers. The Peninsula Dental Social Enterprise and the Plymouth Highbury Trust have joined forces to develop an innovative dental ambassador scheme which sees those using the charity trained to support their peers with good oral health practices and awareness. It is the first time that such a dental initiative (where those with learning disabilities will assist their peers) has been introduced in the UK.

The Plymouth Highbury Trust supports adults with a learning disability across the city. Part of its work includes a self-advocacy organisation called Plymouth People First which runs speaking-up groups across the city and which has over 120 members. The charity works closely with PDSE and its Community Engagement Team, and with dental students from Plymouth University Peninsula Schools of Medicine and Dentistry as part of their training.

The dental ambassador training programme equips 10 to 12 Plymouth Highbury Trust clients at a time with the knowledge and skills to reinforce key oral health messages with a focus on brushing, diet and access to dental care. The aim is to build confidence and understanding so that the ambassadors become effective support for their peers.

The training programme lasts six weeks and uses fun and engaging methods. At the end of the training programme the dental ambassadors give a presentation to an invited audience of Plymouth Highbury Trust supporters, and go on to use their new skills to encourage good oral health among others who use the charity's services. More information on the programme can be found at <http://www.peninsuladental.org.uk/in-the-community/flying-the-flag-for-dental-ambassador-training/>



(ii) 'Open Wide and Step Inside! – The story of your teeth' community outreach education programme

Introduction

The Community Engagement Team at Peninsula Dental Social Enterprise and their colleagues at the Peninsula Dental School with the use of Grant Funding (£112K) from the Wrigley Global Giving Fund have developed an innovative oral care educational experience for children in disadvantaged areas in Plymouth.

Project aims

The overarching aim of the project is oral health improvement for children aged 5-7 years. This is done through Immersive Vision Technology (IVT). Immersive vision is where the action takes place all around you in a digital theatre in which viewers are immersed in 3D imagery projected onto a hemispherical dome. Screenings take place in the Immersive Vision Theatre at Plymouth University, or in a 'Go Dome' which is mobile. The film tells the story of a giant with toothache and his visit to meet Daisy the dentist.



With key oral health messages throughout the film, children learn about their own teeth and find out how to keep them healthy. A two minute brushing song was written and recorded especially for the programme in collaboration with Plymouth Music Zone, with local school children taking part in the singing and production of the song. The animation is interactive; it can be stopped to reinforce key points with a quiz which encourages children to remember five important 'take home' messages:

- Brushing for 2 minutes twice a day
- Always brush before bedtime
- Fluoride is 'super hero' ingredient in sugar toothpaste
- Eat sugary foods and drinks at mealtimes
- Visit a dentist on a regular basis

Project implementation

23 schools visited the theatre in Plymouth or the Go Dome with 1,644 children in total viewing the film during 2014/15. Using immersive vision technology to promote an oral health message helped the children to understand why it's important to brush their teeth and generally take an interest in oral health. Each child received a 'goodie bag' which contained a tooth brush, toothpaste, two minute timer, information on how to access an NHS dentist, a brushing chart as well as other items to encourage better brushing and provide information and guidance in the home environment.

A Teachers Resource Pack was provided to each participating school to support classroom-based teaching. Teacher's notes with activity sheets enabled staff to develop and continue the teaching of key oral health messages. Working with Plymouth Music Zone a two-minute brushing song was written for the film. Children from local primary schools took part in the recording of the song. The children enjoyed joining in with the catchy lyrics and music. The music and words were also provided via the goodie bag.

Immediate Impact

The children are interested and excited about visiting the main university campus to view the film in the Immersive Vision Theatre. The 12-minute animated film is fun, engaging and interactive. Children are encouraged to adopt good oral health routines, access dental care on a regular basis and share these messages at home.

Future Impact

Continuation funding from the Wrigley Global Giving Fund has been received which will enable the project to be delivered to the same primary schools in Plymouth over the next two years and allow us to support the participating schools in improving oral health awareness. With an ambition to take the 'show on the road' using a mobile 'go dome', we aim to further expand the programme in Plymouth schools if funding is available.

Conclusions

The Open Wide and Step Inside project is an innovative and engaging project. It is breaking new ground in oral health education by using innovation and a different approach to promote important oral health messages and embed oral health into the school curriculum. Recent reports nationally and locally in Plymouth show that there is still much more to be done to help children and those who care for them protect their teeth and improve their oral health. While work to date has gone some way to address these issues, there is a need for new, innovative approaches and we think the film developed here in Plymouth is one of those.
