Hull City Council

Hull Clinical Commissioning Group

Creating a healthier Hull

Improving Oral Health for Local People

Hull's Oral Health Plan 2015 - 2020

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Foreword from the Chair of the Health and Wellbeing Board

The health of our teeth and mouths is a good reflection of the general health of a community. Too many children in Hull have poor oral health. I think Hull deserves to have more people enjoying the long, healthy, happy lives that are experienced by people in other places. The reduction of inequalities in oral health and general health is something which the Health and Wellbeing Board is determined to tackle.

We have outlined our commitment and approach in our wide ranging Health and Wellbeing Strategy to which this Oral Health Plan is a welcome addition. It adds the necessary detail on how we plan to give children *The Best Start in Life* and help adults lead *Healthier, Longer and Happy Lives* by improving oral health for everyone, whilst targeting the most in need.

Effective prevention is a realistic goal and this new plan for oral health for the people of Hull describes how we will deliver improvements in oral health over the next five years and beyond. It outlines actions under key themes and work-streams to ensure the achievement of better oral health starting at an early age and continued throughout life.

Using appropriate levels of fluoride, eating a healthy diet that is low in sugary food and drink and avoiding tobacco and excessive alcohol consumption are the things that will help improve oral health. This should be complemented by the introduction of some new evidence-based preventive initiatives delivered in early years and school settings and by strengthening communities with improved collaborative working between partners. This will ensure that improving oral health is everyone's business, thereby contributing to the joint responsibility for delivering health and wellbeing.

The framework for delivery will include:

- universal interventions to benefit the whole population
- targeted interventions to reduce health inequalities
- improved uptake and access to primary dental care
- a preventive focus achieved by key front line staff working in dental health and other settings
- education and peer support for children, families and communities
- integration with other public health strategies and programmes.

Oral health is intrinsically linked to general health and the success of any Oral Health Plan depends on the involvement of everyone responsible for delivering health and wellbeing in Hull.

Cllr Colin Inglis, Health and Wellbeing Board Chair

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1 WHY DO WE NEED AN ORAL HEALTH PLAN?

A healthy mouth and smile means that people can eat, speak and socialise without pain or discomfort and play their part at home and in society. Having poor oral health can lead to pain and toothache and the need to take time off work or school for dental treatment. Oral health is an integral part of health and wellbeing and many of the key risk factors for poor oral health are also associated with increased risk of other diseases.

Whilst children's oral health has improved over the last 20 years nationally, recent local data for Hull shows that tooth decay continues to be the main oral health problem affecting children. Almost half of local 5 year old children experience tooth decay, which is higher than the regional and national figures and by the time they start school, half of our children have several decayed teeth. Moreover, particularly in our most disadvantaged communities, poor oral health remains a significant problem.

Building on previous work, renewed effort is now required to tackle the challenge presented. Tooth decay and other oral health problems are in the main preventable and we need to take further action to improve oral health and reduce oral health inequalities across the City.

Hull City Council is now responsible for improving the oral health of local people including the commissioning of oral health promotion programmes and oral health surveys as part of the PHE dental public health intelligence programme. Whilst the responsibility for commissioning dental services lies with NHS England, the Council's oral health improvement responsibility is underpinned by collaborative working with both NHS England Public Health England and other key partners. This plan to improve oral health has been developed to reflect the core principles of Hull's Health and Wellbeing Strategy. It has been developed by the Hull Public Health team, Public Health England and the recently established Oral Health Advisory Group (OHAG) in partnership with the local NHS and local dentists.

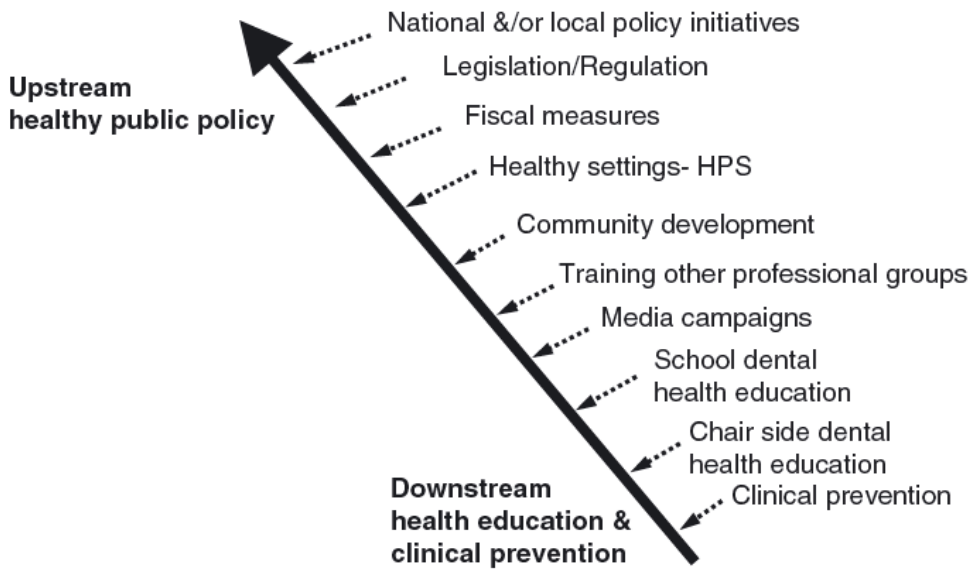
Recently published guidance (PHE 2014, NICE 2014, LGA, 2014) will help the Council to ensure activities are evidence based and meet the needs of local people. A summary of key national guidance is included at Appendix 1. The guidance advocates a population approach with advice and actions for all, together with additional targeted interventions aimed at those people at higher risk of developing disease.

The factors that will make the biggest difference to people's oral health are using appropriate levels of fluoride, eating a healthy diet that is low in sugary food and drinks and avoiding tobacco and excessive alcohol consumption.

Prevention at population level can take many different approaches. Marmot suggests that focusing solely on the most disadvantaged will not reduce health inequalities sufficiently, as everyone experiences some degree of health inequality. To reduce the steepness of the social gradient in health, actions must be universal, but with a scale and intensity that is proportionate to the level of disadvantage - this has been termed 'proportionate universalism'. Actions are needed to tackle the underlying causes of health inequalities.

Figure 1 highlights the "upstream" actions that should complement specific "downstream" interventions (such as the widespread delivery of fluoride) to effectively prevent oral disease.

Figure 1: Upstream/downstream: options for oral disease prevention



(Source: Watt, 2007, 147)

The common risk factor approach integrates general health promotion by focusing on a small number of shared risk factors that can potentially impact a large number of chronic diseases, including oral health.

The Ottawa Charter for Health Promotion *(WHO 1986*) describes five priority areas for health promotion, which have been used to cluster the work-streams and actions proposed in this Plan:

- Create supportive environments for health
- Reorient health services
- Develop personal skills
- Strengthen community action for health
- Building healthy public policy

Whilst the responsibility for commissioning dental services lies with the NHS E, the duty to improve oral health rests with the Council, which will need to ensure plans address poor oral health thus achieving maximum health impact from limited resources. With input from stakeholders, there is a potential for the Council to engage with partners including neighbouring councils to integrate commissioning across organisations and across bigger footprints to support the efficient management of limited resources.

All of us have a role in improving oral health, from looking after our own teeth and mouths to ensuring our living and working environments provide us with the best opportunity to have good oral health. We hope that this oral health plan describes the activities that will help us all to enjoy good oral health.

2 ORAL HEALTH IN HULL

Poor oral health remains a disease of poverty, with those experiencing social inequalities having more dental disease and access dental services less. Oral health problems include:

- Dental decay
- Gum disease
- Oral cancer
- Facial and dental injuries
- Dental crowding or displacement treated by orthodontic treatment

(i) Children

A commonly used indicator of tooth decay and treatment experience, the dmft index, is obtained by calculating the average number of decayed (d), missing due to decay (m) and filled due to decay (f) teeth (t) in a population. In five-year-old children, this score will be for the first (primary) teeth and is recorded as dmft. In 12-year-old children it reports the adult teeth in upper case (DMFT). The average (mean) dmft/DMFT is a measure of the severity of tooth decay experience.

The recent Oral health Needs Assessment for North Yorkshire and Humber found that:

- Just over 30% of children under 16 years old live in poverty which is the highest in North Yorkshire and Humber
- The prevalence of tooth decay describes the proportion of three-year-old children experiencing tooth decay
- The prevalence of tooth decay in children and adults increases with increasing deprivation
- The prevalence of tooth decay in 3 year old children is over 15%, higher than both the regional and national figures. Of the three-year-old children who had decay in Yorkshire and Humber, each child had on average three decayed, extracted or filled teeth.
- The proportion of five -year-olds in North Yorkshire and Humber with experience of tooth decay was the second highest in Kingston upon Hull, with a significantly higher proportions of children with tooth decay than the other local authorities in North Yorkshire and Humber, Yorkshire and the Humber and England as a whole
- Similarly for those 5 year old children with tooth decay, on average, each child in Hull had on average 3.5 teeth affected.
- There has been no improvement in prevalence of tooth decay experience in five-year-old children in Hull over the past few years.
- The care index is the proportion of teeth with caries that have been filled. The care index was 10.1 % in Hull, showing that about a tenth of decayed teeth are treated by fillings. Opinions differ regarding the appropriateness and benefit of filling decayed primary teeth and a lack of definitive evidence-based guidance on this. The figure needs careful interpretation, is dependent on children accessing dental care and should be explored. The prevalence of tooth decay in 12 year olds in Hull is 38.8% but it was not significantly higher than the national figure (For those 12 year old children with tooth decay, on average, each child in Hull had on average 2.15 teeth affected, not significantly higher than the national figure. Reasons for this should be explored.

The care index in 12 year old children describes the proportion of permanent teeth with tooth decay that had been filled. This index was significantly lower in children living in Kingston upon Hull as compared with the Yorkshire and Humber and national figure. There are approximately 640 Looked After Children (LAC) in Hull.

Although LAC experience similar health problems as children living in other family environments, they often enter the care system in a poorer state of health than other children because of poverty, abuse and parental neglect. Reports suggest they may experience poorer oral health. Frequent relocation within the foster care system could also make it more difficult for the children to complete their dental treatment, participate in school-based dental health programmes or obtain on-going preventive care.

(ii) Adults

Across the UK the oral health of adults has improved significantly over the last 40 years. More people are retaining more of their natural teeth into older age.

- A local self reported adult postal survey (2009) highlighted that a significantly higher proportion of adults in Hull (31%) rated their oral health as fair/poor/very poor as compared with the region (25%). Although the percentage of those reporting having 20 or more natural teeth in Hull (68%) was comparable with the regional figure (71%), significant differences were found in the age ranges 55-64 years and 65-74 years with figures for Hull in the respective groups being 46% and 19 % as compared with 61% and 39% regionally. In addition, a higher proportion of adults reported wearing upper dentures (40%) and lower dentures (20%) as compared regionally (28%, 14%). *(JSNA 2010)*
- The proportion of older adults with no natural teeth is falling nationally (6% but is higher in Hull (10%)
- 31% of adults in Hull rate their oral health as fair, poor, or very poor and 36.4% experience discomfort on eating. This is higher than other Local Authority areas. They also have a higher perceived need for treatment.
- Incidence of mouth cancer is slightly increasing and is linked with deprivation. The main risk factors are tobacco use and alcohol use, which act synergistically to multiply the risk of mouth cancer.

(iii) Vulnerable adults

Vulnerable groups are those people whose economic, social, environmental circumstances or lifestyle place them at high risk of poor oral health or make it difficult for them to access dental services. Information describing the oral health of vulnerable groups in North Yorkshire and Humber is limited and future work to consider their oral health needs locally should be explored. Vulnerable adult groups include:

- Older people: The UK population is ageing. This change is predicted to continue over the next few decades with the largest increase seen in those aged 85 years and over. In England, the proportion of the population aged 65 years and over is expected to increase from 17% in 2010 to 23% in 2035.
- Co-morbidities, progressive medical conditions, dementia and increasing frailty contribute to more complex oral health needs and difficulties in accessing NHS dental services

- People with learning difficulties: This group are more likely to have poorer oral health than the general population. Hull has significantly more children with learning disabilities relative to the national average and children with learning disabilities are more likely to have teeth extracted than filled, (than their peers) and have poorer gum health.
- Adults with mental health problems
- Homeless people - more likely to have greater need to oral healthcare services than the general population.
- Bariatric patients - may be at higher risk of oral disease.
- Eastern European immigrants - (approx 6600 people or 3% of Hull's population categorised themselves as Eastern European [2011 census] but current actual numbers will be higher)
- Travellers, refugees and asylum seekers

3 THE ACTION PLAN

This action plan proposes a range of initiatives that can be undertaken within current resources to ensure improvements in oral health are achieved over the next 5 years. As described previously, whilst the main cause of tooth decay is the frequent consumption of sugary food and drinks, the evidence base to support the targeting of resources towards reducing sugar intake is weak. The highest level of evidence is on the use of fluoride hence this is the main focus of the activities and where any future actions need to be focused. However, fluoride will not tackle any of the other chronic diseases that addressing common risk factors, such as diet and smoking, may do. Hence a range of activities is included in this plan that will benefit either all the population or will address the needs of specific priority groups.

As well as prioritising interventions based on their level of evidence, the range of activities proposed cross the five Ottawa Charter areas for health improvement action (WHO, 1986) and different work-streams are described under these five areas. Recommendations are also made for new oral health improvement activities that could be implemented if additional resources were to become available in the future.

The level of evidence to support the recommendations, as reported in Commissioning Better Oral Health, together with their costs is given under each work-stream. An explanation of the levels of evidence is given in Appendix 2. There are few data available on the cost effectiveness of oral health improvement interventions therefore the non-staff cost of the recommendations has been reported where known, together with any likely impacts. Data were not available to inform staff costs for each of the recommendations.

Local authorities will be monitored on health improvement through the Public Health Outcomes Framework and Children's and Young People's Health Benchmarking Tool. The indicators to which oral health improvement programmes will contribute are:

- Tooth decay in children aged five.
- Mortality from cancer.
- Indicators related to smoking and overweight and obesity.
- Pupil and sickness absence

The Work-streams and activities described in the following tables are:

A. Creating supportive environments for health

Brush for Life

Supervised tooth brushing programme in targeted childhood settings

Water Fluoridation

B. Re-orientating health services

Prevention in Practice

C. Developing personal skills

Oral health training for the wider professional workforce (health, education, others)

D. Strengthening community action

E. Building healthy public policy

(A) Creating Supportive Environments		
Brush for Life		
Why is this important? This health visitor led programme promotes regular brushing of children's teeth using fluoridated toothpaste and has the potential to make a significant impact on oral health of disadvantaged children. Key findings included significant positive views and experiences of health visitors together with a positive influence on parents' knowledge on tooth brushing encouraging an improved awareness of their children's oral health. It appeared that the combination of information and practical instruction with an intervention to increase fluoride availability is likely to be more beneficial than health education alone in terms of encouraging a behavioural change. There is some evidence of effectiveness and it is recommended in Commissioning Better Oral Health.		
How will we know if we are making a difference?	**Priority actions**	**Estimated Costs (per year)**
Increased knowledge of parents/carers regarding the appropriate evidence based oral health messages Establishment of daily tooth brushing routines from eruption of child's first tooth. Improvement in established breast feeding rates Sugar will not be added to weaning foods or drinks Reductions in children tooth decay levels Increased numbers of children accessing NHS dental services	The programme builds on antenatal initiatives, including Health Visitors antenatal contact and involves dental packs containing toothpaste, a toothbrush, free-flow cup and a health educational leaflet being distributed to the parents/carers of all infants at their 3-4 month, 9-12 and 2 – 21/2 yrs development checks. This is supported by timely evidence based prevention advice from the health visitor and signposting to local NHS dental services.	£15, 618 £1.37 per child/check
Increased knowledge of parents/carers/children regarding the appropriate evidence based oral health messages Continuation of daily tooth brushing routines Frequency and amount of sugary food and drinks is reduced Reductions in children tooth decay levels	A new 'school starters' scheme will involve distribution of dental packs to all children starting primary school in Hull. Talks will be delivered to parents of children attending schools in the most deprived areas of the City. .	£4, 636 (based on a figure of 3,800 births a year) (£1.22 per child)

Increased numbers of children accessing NHS dental services		
	Programme evaluation	TBC

Performance measures will include:

Brush for Life

- Number of packs distributed
- Number of children receiving packs at the specific ages including home postcodes
- Numbers of talks provided to parents of children in reception including numbers attending
- Service user & Provider feedback including assessment of satisfaction
- Assessment of levels of knowledge of parents/children regarding good oral health practice
- Participation in the programme evaluation including design

Supervised tooth brushing programme in targeted childhood settings

Why is this important?

There is evidence which supports the establishment of a targeted daily supervised tooth brushing programmes in early years and educational settings over a two year period. This demonstrated that a supervised daily tooth brushing programme over a 2 year period in schools reduced tooth decay. A targeted approach is important, and the programme is more likely to be effective in areas with high tooth decay rates and less effective when children are already brushing their teeth at least twice a day with fluoridated toothpaste. Tooth brush and toothpaste packs are provided for home use We know that amongst deprived communities the prevalence of tooth brushing amongst young children is low. Many children share a toothbrush with siblings and do not commence brushing with fluoride toothpaste until much later than their affluent peers. It is anticipated that this programme encourages children to develop and maintain good oral hygiene habits from an early age.

There is strong/sufficient evidence of effectiveness and it is recommended in Commissioning Better Oral Health.

There is strong evidence of effectiveness of fluoride varnish in preventing tooth decay. Studies have evaluated fluoride varnish intervention in community settings and clinical settings. Factors influencing implementation need to be considered.

There is strong evidence of effectiveness of targeted community varnish programmes and it is recommended in Commissioning Better Oral Health.

How will we know if we are making a difference?	**Priority actions**	**Estimated Costs (per year)**
Increased knowledge of parents/carers regarding the appropriate evidence based oral health messages to support good oral health practice Establishment of daily tooth brushing routines in	The programme involves the delivery of a nursery/school based daily tooth brushing programme. The programme will target the most deprived areas of the city. The primary age-range will be 3-5 year olds. In the most deprived areas of the City, the programme will be extended to included 5-7+ year olds where the oral health need is	£2 - 9 per head (based upon available information)

young children Reductions in children tooth decay levels Increased numbers of children accessing NHS dental services Case studies developed and used as a future resource	likely to be higher. It will be supervised by non-dental staff to improve behavioural and self-care skills. Successful implementation is supported by engaging with parents, schools and early years settings to support the consent process. Staff will require on-going support in terms of on-going training, cross infection control and consent issues.	
	Explore the feasibility and costs of a targeted community based fluoride varnish programme in childhood settings delivered by primary care dental teams	TBC
Desirable actions:		
	Supervised tooth brushing programme in all childhood educational settings across Hull based upon evidence based guidance	

Performance measures will include:

<u>Targeted Toothbrushing</u>

- Numbers of targeted schools offered a supervised tooth brushing programme
- Numbers and % of schools accepting offer
- Numbers, % and names of targeted schools without a supervised tooth brushing programme
- Consent rates
- Feedback from staff, teachers, parents and pupils
- Submission of evaluation report on an annual basis to the commissioners.

Water Fluoridation

Why is this important?

Water fluoridation is associated with reductions in levels of dental decay. Water fluoridation involves adjusting the fluoride level in drinking water supplies to an amount that is optimal for dental health. Systematic reviews confirm the safety and effectiveness of water fluoridation. More detailed information describing water fluoridation is included in Appendix 3.

There is strong evidence of effectiveness and it is recommended in Commissioning Better Oral Health

How will we know if we are making a difference?	Priority actions	Estimated Costs (per year)
Reduction in tooth decay levels in children	This involves fluoridating the local water supply	Costs include public consultation costs, initial set-up

and adults	increasing the level of fluoride to the optimum concentration for dental health: The feasibility of a water fluoridation scheme in Hull is dependent on water flows and water treatment works and their accessibility. A feasibility study would have to be commissioned and there will need to be clarity over who would meet the costs of this. Hull City Council should consider the case for water fluoridation with regard to the following domains: • The public health case for a full population approach to tackling tooth decay levels • The legal aspects associated with proceeding with a water fluoridation proposal • The technical issues associated with proceeding with a water fluoridation proposal If Hull City Council determines to explore further potential options around water fluoridation, it should work with Public Health England and the water company on how to progress this decision with regard to the domains above. The feasibility study would also establish whether there is the need to involve neighbouring Local Authorities and their wish to consider involvement in a potential scheme	costs, running costs, capital costs and monitoring costs. Cost effectiveness depends on water supply, system complexity and baseline levels of disease. This intervention is sustainable once established but public and political support is fundamental. It requires significant planning and lead-in time. <u>Operating Costs</u> The annual operating costs of a water fluoridation scheme have been estimated to be in the region of £0.35 to £0.40 per person. For Hull City Council population of 265,369 this would mean annual operating costs of approximately £82,880 to £106,147. <u>Capital Costs</u> The capital costs of developing a scheme include the cost of installing plants and equipment. Both capital and operating costs would depend on the number of water treatment works involved in the scheme. Hull City Council would be responsible for the proportion of running costs of a water fluoridation scheme for their population and may be responsible for the capital costs. <u>Consultation Costs</u> The costs of a public consultation would also need to be considered.
Performance measures will include: • Fluoridation feasibility study commissioned from water company		

(B) Re-orientating health services

Prevention in Practice

Why is this important?

Delivering Better Oral Health – 3rd edition (PHE, 2014), is a toolkit that provides easy to use evidence based advice on the prevention of tooth decay, gum disease and mouth cancer for children and adults. It is essential that this oral health plan supports implementation of this guidance.

Smoke Free and Smiling (PHE, 2014) provides guidance to dental teams to support them helping dental patients stop smoking and should proactively engage users of tobacco. Dental teams are well placed to provide very brief advice to their patients to support Hull's tobacco control plan.

Making Every Contact Count (MECC) is a long-term strategy developed by NHS Yorkshire and the Humber which aims to ensure that all NHS staff take every opportunity to help patients make informed choices about their health related behaviours, lifestyle and health service utilisation. Hull NHS primary care dental teams can play a key role in encouraging healthy behaviours in relation to smoking, drinking and diet. Given that diet, smoking and alcohol are all significant risk factors of oral health and also the determinants for a number of other chronic diseases, improvements in oral health contribute to both the general health and well being for the general population. There is a growing body of evidence demonstrating the effectiveness of lifestyle behaviour change approaches and a series of policy documentation and NICE guidance to support the development of a MECC trained dental workforce.

Evidence from systematic reviews shows that application of fluoride varnish between two and three times a year can reduce tooth decay by 37% in baby teeth and 43% in adult teeth. Therefore evidence based guidance for dental professionals recommends application of fluoride varnish every six months for all chidren between 3-16 years-old and more frequently for all children (0-16 years-old) at higher risk of tooth decay (PHE, 2014).

Data available suggests that nearly 60% of children 3-16 year old accessing. NHS dental services are not receiving this. The increased use of fluoride varnish by dental practices in Hull should be supported and encouraged. This will be achieved through engagement with NHS England dental service commissioners by Public Health England. In addition, it is expected that a new national NHS dental services contract, currently being piloted, will also ensure dental practices are focused on improving health.

A limited number of training courses for dental nurses to apply varnish have been available in Hull. Health Education England Yorkshire and Humber have agreed to commission three training courses in Yorkshire and the Humber, including a venue in York.

Dental practice teams are in a good position to help patients adopt healthier lifestyles, including signposting to support services. They play a key role in ensuring treatment services are underpinned by prevention including the dissemination of key evidence based messages to prevent oral disease (PHE 2014). Risk factors for oral cancer include smoking and alcohol.

There is sufficient evidence to support this recommendation.

How will we know if we are making a difference?	Priority actions:	Estimated Costs (per year)
Increase varnish application rates in NHS dental practices in Hull	This will be achieved through engagement with NHS England dental service commissioners by Public Health England. The OHAG will engage with the Local Dental Network and the Local Dental Committee to encourage evidence based practice. Initiatives to be explored include encouraging dental practice teams to proactively engage with schools including parents/carers and children. In addition, the OHAG will support any NHS E led prevention initiatives and would like the outcome of the NY&H LDN prevention in practice pilot to be shared to help inform collaborative and any potential joint working with NHS E (Appendix 4)	Cost borne by NHS England
Established training Programme updated All practices will be trained Referrals from dental practices to support services will increase Numbers of opportunistic cancer screening increased with increased early detection rates and improved prognosis	Cascading updated MECC and DBOH training for dental teams with reference to brief interventions aimed at alcohol and tobacco use. (21 NHS dental practices). Future training models should be explored with the OHAG and might include efforts to support implementation by dental practice teams, for example of online training.	
Desirable actions		
How will we know if we are making a difference?	**Priority actions**	**Estimated Costs (per year)**
Increase in children's access rates to NHS dentistry Improvements in oral health in children including reduction in tooth decay levels	OHAG explores the potential for 'child friendly' and health promoting award scheme for NHS dental practices and children's centres in Hull (25 NHS dental practices)	Up to £20,000
Performance measures will include: <u>Varnish Application</u> • Fluoride varnish - *relevant for NHS England only* <u>MECC / DBOH Training (Dental Teams)</u> • Training Programme established		

- % NHS dental practices trained
- Numbers of referrals from dental practices to support services will increase
- Improved survival rates from oral cancer

(C) Developing personal skills		
Oral health training for the wider professional workforce (health, education, others)		
Why is this important? Oral health training for the wider health, social care and education workforce is based upon capacity building to support oral health improvement in their daily role. There is some evidence of effectiveness and it is recommended in Commissioning Better Oral Health.		
How will we know if we are making a difference?	**Priority actions**	**Estimated Costs (per year)**
Professionals confident to disseminate the evidence based prevention messages Improved oral health for vulnerable groups Healthy food and drink policies in childhood and other residential settings Professionals actively signposting to NHS dental services	Oral health training will be provided for a range of health, educational and social professionals supporting integrated services around children and families including front line staff working with vulnerable adult groups	TBC
Schools accept dental resource boxes and use them to promote oral health to children and parents and integrate health messages into curriculum	By working with the school health advisory panel, review the current school resource programme. This will include planning, co-ordinating and promoting an appropriate resource box programme across all early year settings and primary schools in Hull to support dissemination of the key evidence based oral health messages consistently and aligned to the national curriculum. This will include considering a 'virtual' resource box. E.g. resource box should include teaching materials to complement the health promotion component of KS 1 & KS2 curriculum. All parents should be notified that the box is in school to reinforce prevention messages and need to access NHS dental services including details of NHS choices.	
Desirable actions		
How will we know if we are making a difference?	**Priority actions**	**Estimated Costs (per year)**
Improved oral health of older people		

Increased confidence and knowledge of staff to support oral health Oral health included in individual care plans	Encourage and support NHS E to review domiciliary provision in Hull in light of findings of NY& H OHNA. This stated that current domiciliary provision is not likely to be sufficient to meet current and increasing demand. OHAG to explore an oral health promotion pilot in residential care homes in Hull Pilot to be evaluated to inform decision regarding extension of programme	

Performance measures will include:

<u>Oral health training for wider professional workforce</u>

- Training Programme established
- Number of professionals trained
- Increased use of NHS dental services by vulnerable groups

<u>Resource Boxes</u>

- Number of schools accepting offer of box
- Number / name of schools not accepting the box
- Increase in knowledge in children/parents regarding prevention based oral heath practice
-

(D) Strengthening Community Action

Why is this important?

Targeted peer support groups or peer oral health workers to support community groups with particular oral health issues can help to improve oral health knowledge and support individuals to adopt healthier behaviours. There is sufficient evidence of effectiveness for peer support and it is recommended in Commissioning Better Oral Health.

Building on existing or planned community networks it is essential that oral health is integrated into any health improvement aspect of their work. Networks might include:

- the early help co-ordinators in the locality Early Help Hubs,
- NHS Hull CCG's 2020 Health Champions.
- The 'schools health advisory group' which could be used productively to help shape work within schools
- The healthy lifestyles account with the Teaching School to support workforce development

A best practice model is the use of Oral Health Action Teams (OHATs), which have been shown to reduce inequalities in oral health between the most deprived and least deprived areas in Glasgow. These teams were each developed to meet the needs of the local neighbourhoods, but typically included:

- An oral health promoter;
- community dental service team members;
- dental practice team members;
- early years and school representatives
- health visiting team members; and
- representative from the healthy communities programmes.

Individual team's activities are flexible, based on need, but core activities could include the distribution of dental packs through dental practices, introduction of brushing schemes and training and support for health, social and education professionals working in these neighbourhoods. There is some evidence to support this intervention which is recommended in Commissioning Better Oral Health.

How will we know we are making a difference	**Priority actions**	**Estimated Costs (per year)**
Increase in adult and children access rates to NHS dentistry	Explore peer-support interventions or OHATs to improve access to NHS dental services	TBC

Desirable actions

How will we know if we are making a difference?	**What will we do?**	**Estimated Costs (per year)**
Future local oral health initiatives address the key findings of the research	Focused community engagement to include qualitative research to explore the oral health needs, barriers and beliefs of vulnerable groups. Explore existing university links as a potential research project	TBC

Performance measures will include (Information only):

- Numbers of training sessions
- Numbers of health champions trained

(E) Healthy Public Policy

Why is this important?

Having an influence on local and national government policy can improve general and oral health. This approach is based on the concept of health advocacy and used a combination of actions to gain political commitment, policy support, social acceptance and structural change in order to improve health. However, it is difficult to evaluate using traditional evidence-based methodologies.

There is some evidence to support actions on healthy public policy, which are recommended in *Commissioning Better Oral Health*.

If additional resources are available

How will we know if we are making a difference?	What will we do?	Estimated Costs (per year)
Local strategies, policies and programmes incorporate oral health improvement into their activities	There is an opportunity for greater partnership working and integration across existing strategies, policies and programmes. From October 2015, responsibility for the commissioning of the Healthy Child Programme 0-5 years old will transfer to the Council, in addition to the 5-19 responsibility that transferred in 2013. This provides opportunities for integrating oral health programmes and strengthening the role of health visitors, school nurses and other professionals to contribute to oral health improvements in children and families. There are also important links to other public health programmes including the Priority Families programme, Obesity strategy, the Tobacco Control Plan 2014-2020 and the Alcohol strategy (currently being developed).	Nil
	It is proposed that additional action is undertaken in the following areas: • Development of a policy in partnership with NHS England and NHS Hull Clinical Commissioning Group to support the prescribing of sugar free medicines or reduce the impact of sugar-containing medicines where no alternatives exist. • Development of a policy restricting advertising of high sugar products within the City; • Review of healthy food and drink policies in childhood settings, work, community and leisure; • Lobbying for tax free fluoride toothpaste; and • Supporting appropriate availability of affordable fluoride toothpaste.	

Performance measures will include

- Sugar free medicine policy scoped, developed and published by partners

- Hull CC has policy restricting advertising high sugar food/drinks within the City
- Healthy food and drink policies in various settings across City
- Affordable toothpaste available in both local shops and supermarkets in the City

4 DELIVERING THE PLAN

This oral health plan aims to improve oral health and reduce inequalities, particularly for children and young people in Hull. A variety of actions have been recommended to achieve this aim through optimising exposure to fluoride through various mechanisms; working in partnership with others to improve diet and to control tobacco and alcohol use.

The Oral Health Advisory Group will oversee the detailed delivery of the Plan and develop an appropriate Governance Framework through which to report on progress towards agreed milestones.

The OHAG will also keep an overview of the performance indicators under each work-stream and establish appropriate reporting mechanisms for these that integrate with the reporting mechanisms being developed for the Health and Wellbeing Strategy via the Strategy Outcome groups.

Consideration will be given to communications throughout the delivery of the plan by establishing key messages; audiences/stakeholders; SWOT analysis; available and suitable communications channels; methods for delivery of communications and measurements of success.

A detailed strategy will be developed which will support clear and effective communications at each stage of the plan.

5 REFERENCES

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Appendix 1 – Summary of Key National Guidance

Local Authorities Improving Oral Health: Commissioning Better Oral Health for Children and Young People (PHE 2014)

Commissioning Better Oral Health for Children and Young People provides guidance to local authorities to support the commissioning of evidence informed oral health improvement programmes for children and young people aged up to 19 years of age across the life course. The guidance enables local authorities to review and evaluate existing oral health improvement programmes and consider future commissioning intentions that meet the needs of their population. It provides an evidence based approach with examples of good practice. The guidance encourages the adoption of an integrated approach with partner organisations including NHS England, Public Health England and Clinical Commissioning Groups, ensuring that all local authority services for children and young people have oral health improvement embedded at both a strategic and operational level.

Oral Health: Approaches for local authorities and their partners to improve the oral health of their communities (NICE 2014)

Recent guidance from the National Institute for Health and Care Excellence (NICE) on oral health approaches for local authorities and their partners to improve the oral health of their communities has made recommendations aiming to: promote and protect oral health by improving diet and reducing consumption of sugary foods and drinks, alcohol and tobacco; improve oral hygiene; increase the availability of fluoride; encourage people to go to the dentist regularly and increase access to dental services. The 21 evidence-based recommendations include:

- Ensuring oral health is a key health and wellbeing priority with information and advice on oral health in local policies;
- Carrying out an oral health needs assessment using a range of data sources and developing an oral health strategy;
- Ensuring public service environments and workplaces promote oral health;
- Ensuring frontline health and social care staff can give advice on the importance of oral health;
- Incorporating oral health promotion and staff training in existing services for all children, young people and adults at high risk of poor oral health
- Commissioning tailored oral health promotion services for adults at high risk of poor oral health;
- Including oral health promotion in specifications for all early years services
- Considering supervised tooth brushing and fluoride varnish schemes for nurseries and primary schools in areas where children are at high risk of poor oral health;
- Raising awareness of the importance of oral health, as part of a 'whole-school' approach in all primary and secondary schools; and
- Introducing specific schemes to improve and protect oral health in primary schools in areas where children are at high risk of poor oral health.

Tackling poor oral health in children. Local government's public health role (LGA 2014)

Recently published Local Government Association guidance describes the important role that upper tier and unitary authorities have in contributing to oral health improvement particularly in children. Key areas for action include:

- Ensuring joint strategic needs assessments (JSNAs) consider oral health needs, including information on vulnerable groups as recommended in recent NICE guidance;
- Developing a locally tailored oral health strategy;
- Promoting local leadership and advocacy for oral health improvement at all levels; and
- The key role PHE Consultants in Dental Public Health have in supporting oral health improvement across the public health and healthcare system by working closely with local authority public health teams, NHS England Area Teams, Local Professional Networks, Health Education England and other partners.

National examples of best practice are described.

Delivering Better Oral Health an evidence-based toolkit for prevention **(PHE 2014)**

Delivering Better Oral Health (DBOH) provides guidance on evidence based interventions and advice on how dental team members can improve and maintain both the oral health and general health of their patients. Smoking, alcohol misuse and a poor diet are risk factors for a number of general health and oral health conditions. A patient facing version of the guidance will be published to help patients to better understand the preventive messages.

It is essential that the document is disseminated to all dental team members to support local implementation of the guidance to underpin the delivery of prevention in all dental practices. Implementation of the guidance should form part of the oral health promotion approach across West Yorkshire and should be implemented by Primary Care Dental Teams, including, general dental practice teams and the Community Dental Service and should disseminated to other health, education and social care professionals to support improvements in general and oral health thereby reducing inequalities across the area.

Smoke free and Smiling - helping dental patients quit tobacco. **(PHE 2014)**

Smokefree and Smiling describes how dental teams, commissioners and educators can contribute to reducing rates of tobacco use, and highlights resources available to support them. The document acknowledges that dental teams are well placed to provide very brief advice to their patients who use tobacco to help them understand the benefits of stopping and be offered support to do so with a referral to their local stop smoking service.

Oral health promotion services and primary care dental teams should work closely with local stop smoking service to implement *Smokefree and Smiling*.

Appendix 2 - Levels of effectiveness evidence

Strength of evidence	Description
Strong evidence of effectiveness	A systematic review or meta-analysis or several good quality randomised controlled trials or comparative studies
Sufficient evidence of effectiveness	One RCT or comparative study of high quality or several comparative studies of lower quality
Some evidence of effectiveness	Impact evaluation (internal or external) with pre and post-testing; or indirect, parallel or modelling evidence with sound theoretical rationale and programme logic for the intervention
Weak evidence of effectiveness	Impact evaluation conducted, but limited by pre or post-testing only; or only indirect, parallel or modelling evidence of effectiveness
Inconclusive evidence of effectiveness	No position could be reached because existing research/evaluations give conflicting results; or available studies were of poor quality
No evidence of effectiveness	No position could be reached because no evidence of impact/outcome was available
Evidence of ineffectiveness	Good evaluations (high quality comparative studies) show no effect or a negative effect

(Source: Rogers, 2011)

Appendix 3 - Water Fluoridation – *(H&WB Board paper Sept 2014)*

Background

Dental caries (tooth decay) is a significant public health problem in England. Sizeable inequalities in the prevalence of caries exist between affluent and deprived communities, and it is a common cause of hospital admissions in children.

All water contains the mineral fluoride naturally in varying amounts. It is also present in some food. Water fluoridation involves adjusting the fluoride level in drinking water supplies to an amount that is optimal for dental health. The target level set for schemes in England is 1mg/l. Some water supplies contain around 1mg/l naturally; some contain more than this level. EU legislation allows for up to 1.5mg/l to be present in potable water supplies.

Water fluoridation is associated with reductions in tooth decay in populations. Other sources of fluoride for dental health include toothpaste and professionally applied fluoride varnish. Water fluoridation is felt to have an effect over and above that achieved by these other methods

Whose Responsibility is Water Fluoridation?

Following implementation of the Health and Social Care Act 2012, local authorities have the power to make proposals regarding water fluoridation schemes, a duty to conduct public consultations in relation to such proposals and powers to make decisions following consultation. Primary legislation is the Water Industry Act 1991, as amended (the 1991 Act); the process for public consultation is laid down in statute, specifically The Water Fluoridation (Proposals and Consultation) (England) Regulations 2013.

It is likely that water supplies for Hull are shared with neighbouring local authorities. Hull City Council would therefore need to liaise with other potentially affected local authorities in considering a scheme. If a feasible scheme were identified, the next step would be for the affected local authorities to agree whether to make a proposal and undertake a public consultation. If the affected local authorities are in favour of proceeding by a majority of 67% or more, they must establish a joint committee to progress the proposal for the fluoridation scheme. The 67% majority is determined by weighting the decision of each authority according to the proportion of individuals who would be affected by the proposal living in its area.

The decision to proceed should be based on the extent of support for the proposal and the strength of scientific or ethical arguments advanced during the public consultation. In addition, the oral health needs of the affected population and the potential capital and operating costs and any evidence of benefits to the health and wellbeing of the individuals who would be affected by the proposal would need to be determined. For a decision to proceed with a proposal there must be a majority of votes of 67% in favour with votes allocated to each authority based on the proportion of people in its area who would be affected by the proposal.

If, following consultation, the local authorities determine that a scheme should be established, the relevant local authority or authorities will request the Secretary of State for Health to ask the water company to fluoridate the drinking water supplies. Following amendments to the 1991 Act contained in the Water Act 2003, water companies are required to fluoridate water supplies if requested to do so. The costs of water fluoridation schemes are the responsibility of local authorities.

Public Health England on behalf of the secretary of state for health is required by legislation to monitor the health effects of water fluoridation and to report on this every four years. The last report was published earlier this year[2].

History of Water Fluoridation

In the early 20th century, lower levels of tooth decay were found to be associated with higher levels of fluoride in the drinking water. On further investigation of these naturally fluoridated areas, a level of 1ppm fluoride was found to be optimal to prevent tooth decay. This discovery led to the first artificial fluoridation scheme in the Grand Rapids in the United States. The first substantive scheme in

England was introduced in Birmingham in 1964. Approximately six million people benefit from water fluoridation schemes in England and many schemes have been in operation for over forty years.

Locally, a scheme was initiated in 1968/9 supplying artificially fluoridated water in North Lincolnshire which includes Scunthorpe, Barton Upon Humber and rural communities in west of Grimsby in the adjoining NE Lincolnshire council area. Fluoridated communities also include Lincoln, Gainsborough, Market Rasen, Sleaford, Grantham and a large number of rural communities in the West and central areas of Lincolnshire.

What is the mode of action of fluoride in water?

Fluoride acts to reduce tooth decay levels in populations through topical and systemic effects. Bacteria in dental plaque produce acids following the consumption of sugary foods and drinks. These acids attack the tooth enamel through a process of demineralisation. Ingesting optimally fluoridated water creates an oral environment that inhibits demineralisation and encourages re-mineralisation. When the levels of ingested fluoride are low and there is frequent consumption of sugary foods and drinks, it is likely that tooth decay will result. Increasing the availability of fluoride will reduce the prevalence and severity of tooth decay.

Evidence on effects of fluoridation

The effects of water fluoridation have been studied extensively over the last 50 years. A systematic review of the effectiveness and safety of water fluoridation in the UK was conducted in 2000[5]. Water fluoridation was associated with a median increase of 15% in the proportion of children without dental decay experience and a median change in the number of decayed, missing and filled teeth of 2.25 teeth. For one extra child to be free from dental decay, six children would need to be exposed to water fluoridated at one part fluoride per million parts of water. Water fluoridation was also found to have an effect over and above that of other sources of fluoride, particularly toothpaste. There have been a number of systematic reviews on the safety and effectiveness of water fluoridation schemes (NHS Centre for Reviews and Dissemination (2000)[5], Medical Research Council (2002)[6], Centre for Disease Control and Prevention (2002)[7], National Health and Medical Research Council (2007)[4]and Royal Society of New Zealand (2014)[9]).

The recently published PHE health monitoring report[2] found that:

- Five-year-old schoolchildren were 15% less likely to have tooth decay and when deprivation and ethnicity were taken into account, they were 28% less likely to have tooth decay;
- Twelve-year-old schoolchildren were 11% less likely to have tooth decay and when deprivation and ethnicity were taken into account, they were 21% less likely to have tooth decay;
- Reductions in tooth decay levels appeared greatest in children living in the most deprived local authorities; and
- There were 45% fewer hospital admissions of children aged 1-4 years for tooth decay.

Commissioning Better Oral Health[1] sets out a range of evidence based oral health improvement programmes that local authorities may consider to improve the oral health of their local populations and water fluoridation is included as a whole population approach to improving oral health.

Other mechanisms exist to optimise exposure to fluoride in addition to fluoride toothpaste. These include fluoride varnish, which contains fluoride at 22,600 ppm and, to be effective, needs to be applied at least twice yearly by a dental professional to all children up to 16 years of age and adults at great risk of developing tooth decay. Advantages of water fluoridation over other fluoride delivery mechanisms are that it does not require any individual behaviour change or attendance at a dental service, there is no direct cost to the individual and it does not involve a healthcare professional to administer it.

Safety of water fluoridation

The safety of water fluoridation has been confirmed in several studies, which failed to find any evidence that water fluoridation has a negative effect on general health. The only proven associated effect, other than a reduction in tooth decay levels, is dental fluorosis. The recent PHE report

confirmed findings from the 2000 systematic review that water fluoridation was a safe public health measure. The prevalence of moderate fluorosis, the only other proven associated effect, was very low at 1%. Dental fluorosis appears as mottling of the tooth surface and is associated with fluoride ingestion. In the UK, fluorosis is mainly a cosmetic problem. Additionally, the PHE report confirmed there was no evidence of difference in rate of hip fractures, kidney stones, all cause mortality, Down's syndrome, bladder cancer, osteosarcoma and all cancers.

Costs of water fluoridation schemes

The cost-effectiveness of water fluoridation depends on the baseline level of tooth decay and the capital and operating costs of the necessary equipment. In areas where water is supplied to large numbers of people via a single source, fluoridation is likely to be more cost-effective than in areas supplied by many smaller water sources.

In 2000, a review of the cost effectiveness of water fluoridation concluded that benefits were likely to be greater than costs where the dental decay levels were on average two affected teeth per child and the water treatment work serviced more than 200,000 people.

The annual operating costs of a water fluoridation scheme have been estimated to be in the region of £0.35 to £0.40 per person. For the Hull City Council population of 265,369 this would mean annual operating costs of approximately £82,880 to £106,147. The capital costs of developing a scheme include the cost of installing plants and equipment. Both capital and operating costs would depend on the number of water treatment works involved in the scheme. Hull City Council would be responsible for the proportion of running costs of a water fluoridation scheme for their population and may be responsible for the capital costs. The costs of a public consultation would also need to be considered.

Feasibility of a water fluoridation scheme in Hull

The feasibility of a water fluoridation scheme in Hull is dependent on water flows and water treatment works and their accessibility. A feasibility study would have to be commissioned and there will need to be clarity over who would meet the costs of this.

Preventing tooth decay in Hull

Tooth decay is a preventable disease. Together with efforts to tackle the underlying causes of diseases such as living standards, low levels of education and poverty, the focus of preventive strategies should be on optimising exposure to fluoride and reduction in the consumption of dietary sugars. In terms of considering all alternative options and arguing the case for water fluoridation, the following issues would need to be considered:

- A comprehensive oral health needs assessment would need to be completed which includes a comprehensive analysis of tooth decay data across Hull. This piece of work is due to be completed by the end of October 2014 and will be shared with the Director of Public Health prior to wider consultation.
- Evaluation of current oral health promotion programmes to determine the impact on tooth decay levels.
- Involvement of neighbouring Local Authorities and their wish to consider involvement in a potential scheme

Recommendations

Hull City Council should only consider the case for water fluoridation in the context of local needs and the range of oral health improvement programmes currently commissioned and with reference to *Commissioning Better Oral Health*.

Hull City Council should consider the case for water fluoridation with regard to the following domains:

- The public health case for a full population approach to tackling tooth decay levels
- The legal aspects associated with proceeding with a water fluoridation proposal

- The technical issues associated with proceeding with a water fluoridation proposal

If Hull City Council determines to explore further potential options around water fluoridation, it should work with Public Health England and the water company on how to progress this decision with regard to the domains above.

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APPENDIX 4 – Prevention in Practice pilots

The aim of the NHS E NY & H LDN led prevention in practice pilot in three locations, 2 being in Hull, is to support improvements in the oral health of children aged between 0-16 years old accessing dental care who are at high risk of tooth decay . The pilot involves providing evidence based prevention messages to children and parents/carers and includes the provision of fluoride varnish applications. Part of the pilot is specifically aimed at parents of the children who have a general anaesthetic. The pilot involves the use of Dental Care Professionals not dentists. Therapists can also be used in this model. The pilots are commissioned locally by NHS England and are running between March and August 2015.