Northumberland
County Council

NORTHUMBERLAND ORAL HEALTH STRATEGY AND ACTION PLAN 2019-2022

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1. INTRODUCTION

This document supports the comprehensive 2017 Northumberland Oral Health Needs Assessment (HNA), which provides a full overview of oral health in Northumberland and highlights inequalities and issues for people across the county.

Oral health can be defined as "*a standard of the oral and related tissues which enables an individual to eat, speak and socialise without active disease, discomfort or embarrassment and which contributes to general wellbeing*"[1]. In other words, oral health is an important part of the overall health and wellbeing of individuals, and poor oral health can have a significant impact on many aspects of an individual's life.

Oral health is a key public health issue because of its prevalence, impact on individuals and society, and the expense of treatment from both a medical and wider societal perspective. Tooth decay is largely preventable but it affects a significant proportion of the population. There are also inequalities in good oral health and like many other health issues, poor oral health is more prevalent in more deprived areas. Oral health also places a financial burden on services e.g. latest figures suggest the NHS spends £3.4 billion a year on dental care, including over £50 million for extracting decayed teeth in children[2]. Poor oral health can have an effect on the whole of an individual's life course as, in addition to the obvious pain caused by dental decay in childhood, it also leads to children missing school and a resultant effect on education attainment, parents and carers taking time off work and also poor self-esteem and anxiety as a result of the pain and subsequent treatment and appearance of decaying teeth. Oral health is an important aspect of a child's overall health status and of a child's readiness for school and wider social issues. It is often a marker of wider health and social care issues including poor nutrition, neglect and obesity. Oral health is also important in older people because it supports good nutrition and positive health and wellbeing overall.

Dental decay is the most common non-communicable disease worldwide[3]. Dental decay and other oral diseases such as gum disease and oral cancer share common risk factors with several other non-communicable diseases, such as diabetes, cardiovascular disease and chronic obstructive pulmonary disease. These risk factors include unhealthy diet (including excessive sugar intake and sugary drinks) and excessive alcohol consumption. Tooth decay and obesity are also more likely to occur together, given that social deprivation and excess sugar intake are associated with both.

This strategy and action plan is informed by local and national evidence, drawing on the recommendations from the 2017 HNA; the NICE guidance on oral health for local authorities

[1] Department of Health and WHO definition

[2] Public Health England (2018) https://www.gov.uk/government/publications/child-oral-health-applying-all-our-health/child-oral-health-applying-all-our-health

[3] WHO (2018) https://www.who.int/news-room/fact-sheets/detail/oral-health

and their partners;[4] the NICE guideline on oral health for adults in care homes;[5] and the NICE quality standards on oral health promotion in the community.[6]

2. LOCAL CONTEXT

2.1.1 Children and young people – Data on oral health in Northumberland

Oral health has improved considerably in the UK, with some areas now almost entirely free of dental decay in 5 year olds. However, pockets of inequalities and areas with greater need remain, as seen in Northumberland. Several key indicators are monitored by Public Health England (PHE) on oral health[7,8], and these provide an indication of the current picture in the county.

The 2017 Oral Health Survey of five year olds shows that 77.4% of 5 year olds in Northumberland were free from obvious dental decay (see Figure 1). This is positive as it is higher than the England and North East averages and has increased from 61.2% in 2007. However, as Figure 2 shows, overall in England in 2017 this varied from 63.7% in the most deprived areas to 87.5% in the least deprived areas (by IMD decile) and we know that there is a similar pattern locally.

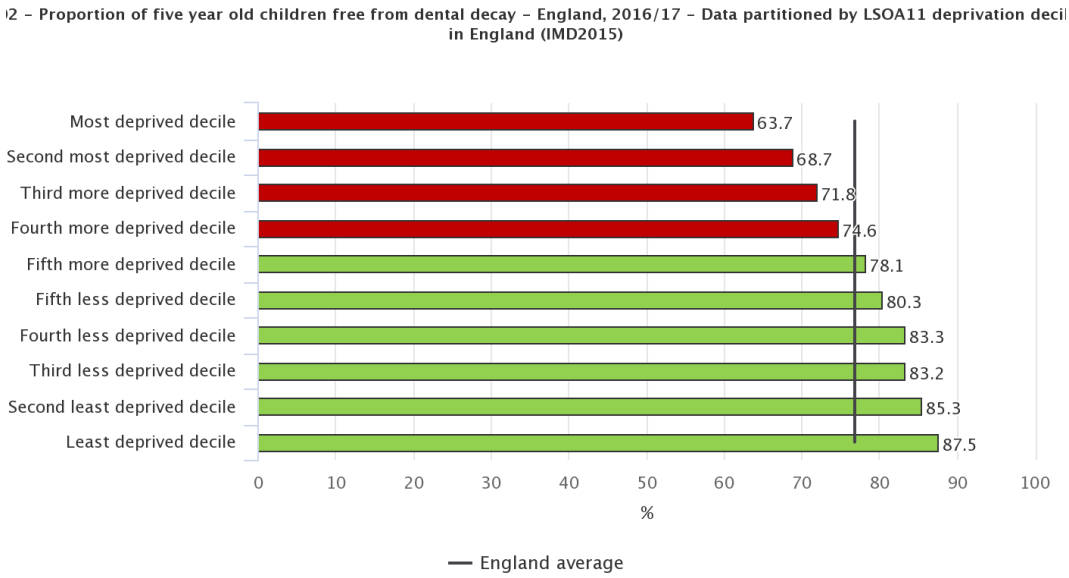
Figure 1 - Tooth decay in children aged 5 (% free from obvious decay)

Area	Value	Lower CI	Upper CI
England	76.7	76.4	77.0
North East region	76.1	75.5	76.8
Newcastle upon Tyne	80.7	78.5	82.7
North Tyneside	80.0	77.9	82.0
Hartlepool	79.5	76.2	82.5
Stockton-on-Tees	79.4	76.9	81.7
South Tyneside	78.3	75.6	80.7
Northumberland	77.4	75.3	79.3
Gateshead	76.8	74.4	79.1
Redcar and Cleveland	75.1	71.8	78.2
County Durham	74.2	72.5	75.8
Darlington	73.6	69.9	76.9
Sunderland	71.6	69.5	73.7
Middlesbrough	67.9	64.5	71.2

Source: Dental Public Health Epidemiology Programme for England: oral health survey of five-year-old children 2017

[4] NICE (2014). Public Health Guidelines [PH 55]. https://www.nice.org.uk/guidance/ph55
[5] NICE (2016). NICE guidelines [NG 48]. https://www.nice.org.uk/guidance/ng48
[6] NICE (2016). Quality Standards [QS139] https://www.nice.org.uk/guidance/qs139
[7] Source: PHE Fingertips Oral Health Profile (accessed 22 November 2018)
[8] Source: PHE Fingertips Child & Maternal Health Profile (accessed 22 November 2018)

Figure 2 - Inequalities in tooth decay in children aged 5 by IMD decile (% free from obvious decay)



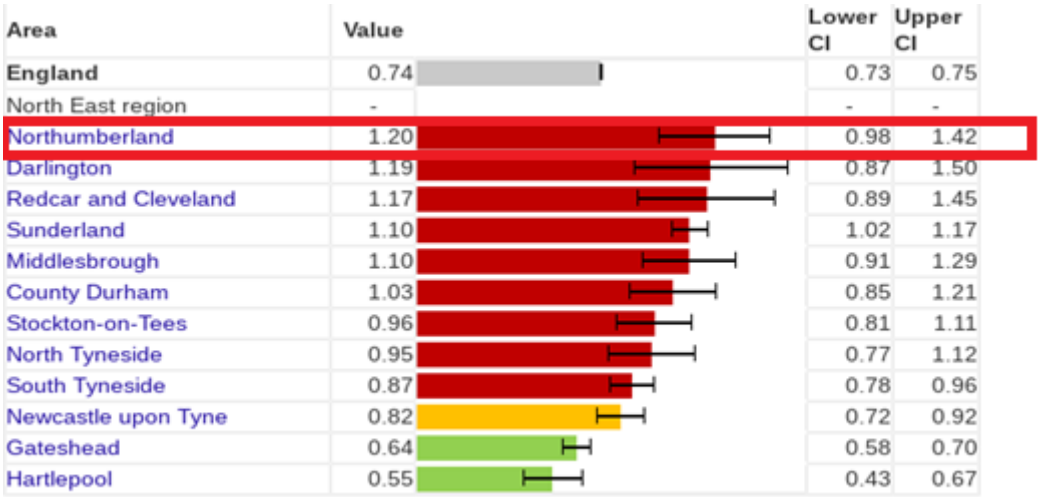
As Figure 3 shows, 5 year olds in Northumberland have an average of 0.64 teeth that are decayed, missing or filled (DMFT), which is lower than the England average and in the lowest third of LAs in the region. However, a similar survey of 12 year olds (see Figure 4), identified that in Northumberland this value was 1.2, the highest number of DMFT in the North East and significantly higher than the England average; and only 54.9% were free from decay. Although the timing of this survey was several years prior to the more recent data available for 5 year olds, a comparison with data for a similar time period (2007/8 in which 61.2% of 5 year olds were free from decay) suggests that this is potentially an area of unmet need.

Figure 3 - Average number of decayed, missing or filled teeth in 5 year olds

Area	Value	Lower CI	Upper CI
England	0.78	0.77	0.79
North East region	-	-	-
Middlesbrough	1.16	0.97	1.34
Sunderland	0.99	0.89	1.09
Redcar and Cleveland	0.89	0.72	1.05
Darlington	0.87	0.72	1.03
County Durham	0.79	0.72	0.86
Newcastle upon Tyne	0.69	0.59	0.79
South Tyneside	0.66	0.56	0.76
Stockton-on-Tees	0.64	0.53	0.76
Northumberland	0.64	0.56	0.71
Gateshead	0.62	0.53	0.71
Hartlepool	0.57	0.44	0.69
North Tyneside	0.54	0.46	0.62

Source: Dental Public Health Epidemiology Programme for England: oral health survey of five-year-old children 2017

Figure 4 - Average number of decayed, missing or filled teeth in 12 year olds

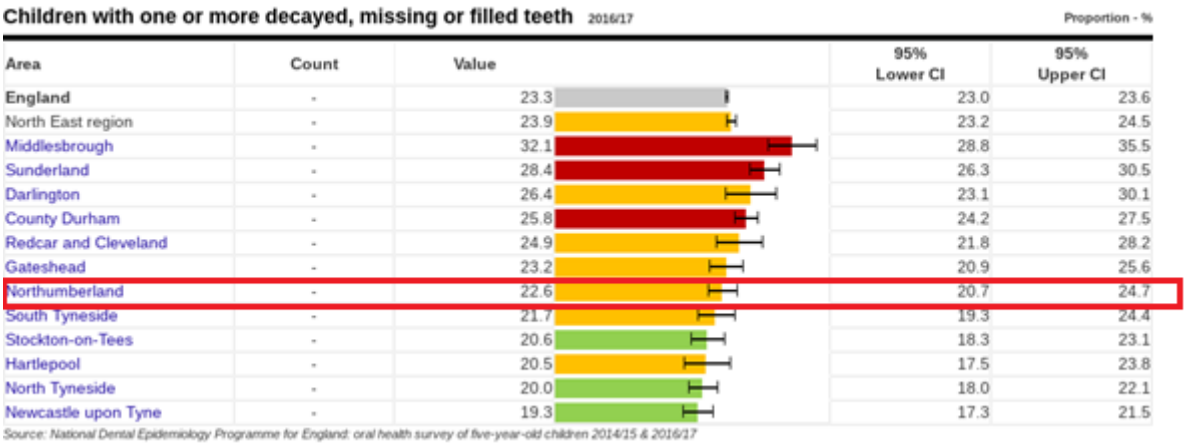


Area	Value	Lower CI	Upper CI
England	0.74	0.73	0.75
North East region	-	-	-
Northumberland	1.20	0.98	1.42
Darlington	1.19	0.87	1.50
Redcar and Cleveland	1.17	0.89	1.45
Sunderland	1.10	1.02	1.17
Middlesbrough	1.10	0.91	1.29
County Durham	1.03	0.85	1.21
Stockton-on-Tees	0.96	0.81	1.11
North Tyneside	0.95	0.77	1.12
South Tyneside	0.87	0.78	0.96
Newcastle upon Tyne	0.82	0.72	0.92
Gateshead	0.64	0.58	0.70
Hartlepool	0.55	0.43	0.67

Source: Dental Public Health Epidemiology Programme for England: oral health survey of twelve-year-old children 2009

At 5 years old, 22.6% of children have one or more decayed, missing or filled teeth (Figure 5), which is similar to the England value but a decrease from 27.6% in 2011-2012.

Figure 5 - Percentage of children with one or more decayed, missing or filled teeth



Children with one or more decayed, missing or filled teeth 2016/17 — Proportion - %

Area	Count	Value	95% Lower CI	95% Upper CI
England	-	23.3	23.0	23.6
North East region	-	23.9	23.2	24.5
Middlesbrough	-	32.1	28.8	35.5
Sunderland	-	28.4	26.3	30.5
Darlington	-	26.4	23.1	30.1
County Durham	-	25.8	24.2	27.5
Redcar and Cleveland	-	24.9	21.8	28.2
Gateshead	-	23.2	20.9	25.6
Northumberland	-	22.6	20.7	24.7
South Tyneside	-	21.7	19.3	24.4
Stockton-on-Tees	-	20.6	18.3	23.1
Hartlepool	-	20.5	17.5	23.8
North Tyneside	-	20.0	18.0	22.1
Newcastle upon Tyne	-	19.3	17.3	21.5

Source: National Dental Epidemiology Programme for England: oral health survey of five-year-old children 2014/15 & 2016/17

Data also show that between 2014 and 2017 there were 281 children aged 0-4 resident in Northumberland admitted to hospital due to tooth decay, a rate of 609.2 per 100,000 children in this age group. This is the highest rate in the north east and Northumberland currently has the highest rate of general anaesthetics for tooth decay in the region[9]. These indicators are important as they provide a direct measure of dental health and an indirect measure of child health and diet overall. Hospital admissions due to tooth decay in children are noteworthy not only because of the significant pain and discomfort in terms of the caries and infection, but also because of the avoidable clinical risks associated with a general anaesthetic and the fact that surgery at a young age can be traumatic.

[9] Data from PHE Dental Public Health Intelligence Programme http://www.nwph.net/dentalhealth/

Newcastle is the only city in the North East with a dental hospital and the high rates could mean that children in Northumberland are getting the treatment they need when they are in pain. For extensively decayed teeth in young children though, a hospital admission is often the only way to extract the decayed teeth. The only way to reduce hospital admissions in young children is to reduce dental decay.

2.1.2 Children and young people – access and uptake of dental services

Current arrangements do not record how many residents are 'registered' with a dentist as dental services are not currently provided on a 'registration' basis in the same way that GP services are. Instead, we can monitor dental access in terms of the percentage of people who are able to get an appointment with a dentist if they want one; and the percentage of the population who received dental treatment in the past 12 or 24 months.

Current guidance recommends that the maximum interval between dental appointments should be 24 months for adults and 12 months for children. Access to dental care in Northumberland is higher than the national average. 56.5% of adults in Northumberland received dental care in the 24 month period ending March 2018, and 63.3% of children received dental care in the previous 12 months. Nationally, 50.9% of the adult population and 58.4% of the child population in England received dental care in the same periods[10]. Data also show that just 1% of people in Northumberland who wanted an appointment with a dentist in January to March were unable to get one and 97% of people who had wanted to see a dentist in the previous 12 months were able to do so[11].

A 2013 report from PHE[12] noted good access in Northumberland in children followed by a decline in young adults, particularly young males. Despite this, almost 40% of young males accessed dental services in the period under review. Access was noted to increase with middle age and then decline again from the age of 70. The report highlighted geographic inequalities across the county, with less than 40% of the populations of Amble and Wooler accessing a dentist compared to 68% in Hexham West. The report recommended improving access in those areas where uptake was low; and for Northumberland County Council and NHS England to work together to address inequalities. The 2018 data above provides reassurance that people who want to see a dentist in Northumberland generally get to do so and access is higher than the national average.

2.1.3 Children and young people – other local data

A large health and wellbeing survey of Northumberland school children is carried out every two years. In 2017 children were asked how often they brush their teeth and how many times they had visited the dentist for a check-up and treatment (e.g. filling or a tooth removal). The survey showed that:

[10] NHS Digital **(2018).** NHS Dental Statistics 2017-2018. https://digital.nhs.uk/data-and-information/publications/statistical/nhs-dental-statistics/nhs-dental-statistics-for-england---quarter-3-2017-18
[11] NHS England **(2018)**. GP patient survey dental statistics; January to March 2018. https://www.england.nhs.uk/statistics/2018/08/09/gpps_dent_x1786_239846/?filter-keyword=&filter-category=gp-dental-statistics
[12] D Landes **(2013).** Access to NHS Dental Services 2012/2013 - Northumberland Council And Cumbria, Northumberland and Tyne & Wear NHS England Area Team. (Available on request from PHE)

- 70.5% of primary school children reported brushing their teeth twice a day (1731 of 2454 children) and 16.3% more than twice; however 16.3% brush their teeth only once a day and 1.5% reported not brushing their teeth.
- 76.4% of secondary school children reported brushing their teeth twice a day (2649 of 3466) and 9.1% more than twice; 13.4% brush their teeth only once a day and 1.1% reported not brushing their teeth.
- 60.3% of primary school children reported visiting a dentist two or more times in the previous year for a check-up (1480 of 2454 children), whereas 30.0% visited once and 9.7% did not visit at all.
- 63.9% of secondary school children reported visiting a dentist two or more times in the previous year for a check-up (2214 of 3466), whereas 29.4% visited once and 6.8% did not visit at all.
- 53.9% of primary school children reported that they did not visit a dentist for treatment in the previous year (1321 of 2453 children), whereas 28.6% had one episode of treatment and 17.5% had two or more visits for treatment.
- 55.4% of secondary school children reported that they did not visit a dentist for treatment in the previous year (1921 of 3465 children), whereas 27.1% had one episode of treatment and 17.5% had two or more visits for treatment.

2.1.4 Children and young people – work to improve oral health

A number of initiatives are already underway in Northumberland to improve the oral health of young children. For example, the 0-19 Public Health Service delivers a number of interventions at various stages including general education on cups and bottles, dummies and sugary drinks as part of the universal offer and more targeted work like the Wriggly Smile Programme and National Smile Month.

In the north east of England, the lowest rates of dental decay in children are found in areas such as Hartlepool, North Tyneside and Newcastle. These areas have fluoridated water, either through naturally fluoridated supplies (Hartlepool) or artificial water fluoridation schemes. A lack of fluoride does not cause dental decay but fluoride increases the tooth's resistance against the effects of frequently consumed sugar.

NHS dental services routinely provide oral health promotion advice and from the age of 3, children attending NHS dental services should be offered fluoride varnish treatment at least twice a year. Fluoride varnish should be offered 2 or more times a year for children of all ages with tooth decay or those at high risk of developing it.

In Northumberland, 135,480 residents received fluoridated water in 2014 and 179,139 were supplied by water that did not contain high enough levels of fluoride to be considered fluoridated. Data presented in the 2017 HNA highlighted that the rate of dental extractions performed under general anaesthetic on under 18 year olds in 2013-2015 was almost double in areas without water fluoridation compared to those with a fluoridated supply when matched for deprivation decile. At a population level, water fluoridation is the most effective way of reducing inequalities, as it ensures that people in the most deprived areas receive fluoridated water.

2.2 Oral health and ageing well

Oral health is also a key issue for adults, and the 2017 HNA noted the needs of the older population and the likely increase in the size of this group in the future. In terms of other indicators of oral health, the age standardised oral cancer mortality rate per 100,000 of the population in Northumberland in 2014-2016 was 4.0 (i.e. 4 deaths per 100,000 of the population each year), which is lower than the England value of 4.6 and the North East value of 5.5.

Data are also available on several indicators relating to the factors that affect oral health[13] e.g. 13% of adults in Northumberland reported being a current smoker in 2017 and 16.7% of children were defined as living in low income families in 2015.

As set out in the 2017 HNA, there are considerable differences between areas in Northumberland, and tooth decay is not evenly spread. The higher levels of dental decay in children coincide with the areas of higher levels of deprivation. There is an increased prevalence of dental decay in the north of the county and in parts of the south east.

The 2017 HNA made 15 recommendations for Northumberland Council and partnership organisations and these are addressed in this action plan in order to address the oral health needs of Northumberland's population and improve the dental health of all age groups, with a specific focus on those groups identified as having additional needs in the HNA.

This action plan should also help to ensure that Northumberland is compliant with the NICE guidance for oral health in care homes, as referenced above, and the relevant NICE Quality Standard[14]. In order to ensure good oral health for older people and high quality care, adults who are admitted to a care home should have their mouth care needs assessed and recorded on admission and be supported to clean their teeth twice a day and carry out daily care for their dentures.

3. STRATEGIC OBJECTIVES

This document sets out recommendations to improve oral health and reduce inequalities in Northumberland by endorsing the following four strategic priority areas:

- Giving every child the best start in life and best opportunities for oral health
- Improving the oral health of older people
- Service development and commissioning
- Partnership working

The 2010 report from the Marmot Review (Fair Society, Healthy Lives)[15] remains a key reference source in reducing health inequalities. The document highlighted the differences in health and wellbeing outcomes between people living in the least and most wealthy neighbourhoods. The review advocated a "proportionate universalism" approach whereby

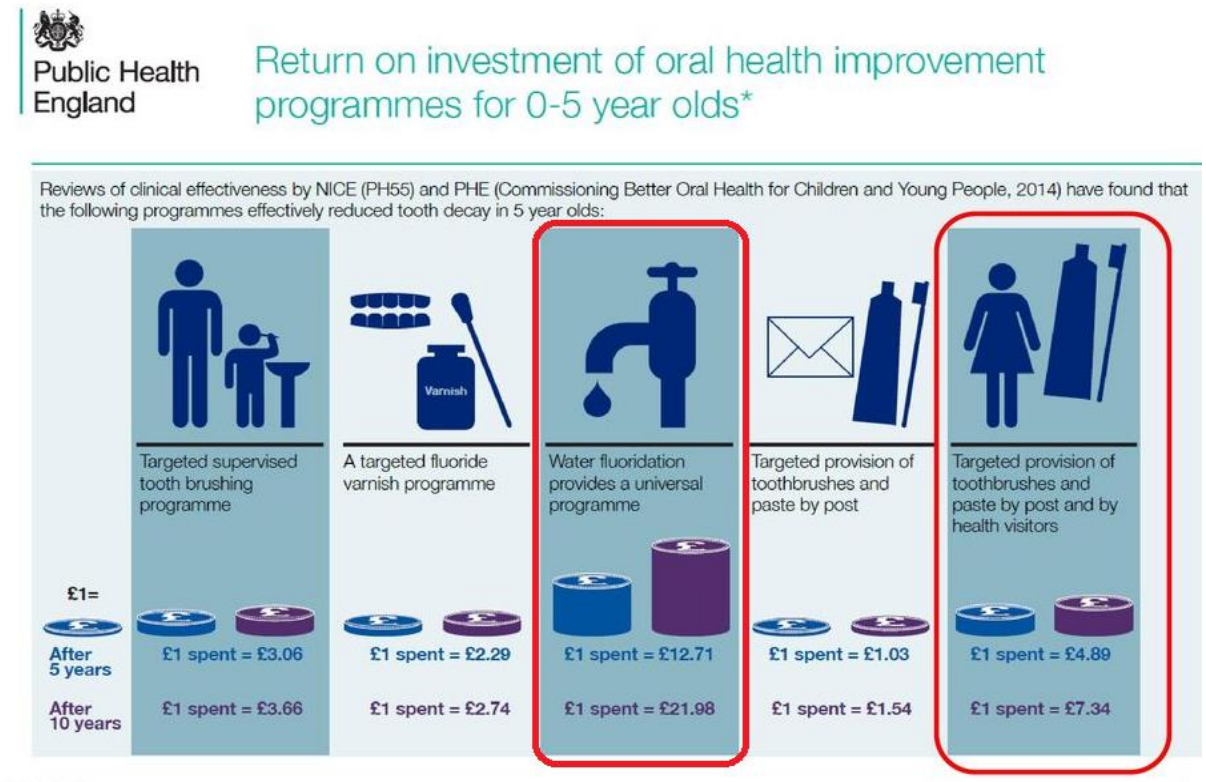
[13] Source: PHE Fingertips Oral Health Profile (accessed 22 November 2018)
[14] NICE (2017). Quality Standards [QS151] https://www.nice.org.uk/guidance/qs151/chapter/Quality-statements
[15] https://www.local.gov.uk/marmot-review-report-fair-society-healthy-lives

health improvement work is universally available, but with an intensity proportional to need. This approach supports work to reduce the gap between the best and worst off, and in reducing the entire social gradient. Drawing on this approach, we should be identifying initiatives which will improve oral health across the county, whilst also targeting some interventions in our most deprived communities, who experience the worst oral health outcomes in the county.

As set out in section 2 of this document, Northumberland's children have the highest rates of general anaesthetics for tooth decay in 0-4 year olds in the north east so this age group will be a focus for strategic efforts in 2019-2022. To reduce the number of children who need general anaesthetics to have teeth removed we need to reduce the number of children who need to have teeth removed in the first place through a combination of population and targeted measures.

Many clinical oral health interventions focus on increasing the use of fluoride in children and young people. There is a useful evidence base behind many of these interventions to understand what is cost-effective and provides the best return on investment for local authorities. Figure 6 shows the differences between five interventions and shows that the largest return on investment is from water fluoridation and the targeted provision of toothbrushes and toothpaste. Consideration of both of these approaches in Northumberland would result in actions at both a population and more targeted needs-based level.

Figure 6 – Return on investment of oral health improvement programmes in under 5s[16]



[16] Public Health England **(2018) –** Oral health improvement programmes commissioned by local authorities https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/707180/Oral_health_improvement_programmes_commissioned_by_local_authorities.pdf

We are also committed to improving the oral health of older people as part of our ageing well approach. We know that we have a disproportionately older population in Northumberland compared to other areas, and this is expected to increase in the future. Therefore we will work jointly to improve the oral health of people in residential care and increase awareness of oral cancer in the county.

In line with NICE guidance, frontline staff working in health, children and adults services should be using every possible opportunity to promote oral health and emphasise the links with general health and wellbeing. If services are able to help prevent oral disease from occurring in the first place and reduce the burden when it does occur, then the overall health and wellbeing of the population of Northumberland can improve and inequalities reduced.

4. ACTION PLAN

Giving every child the best start in life	
1	Consideration to be given to extending the existing community water fluoridation scheme in order to protect those communities at highest risk of dental decay. Action: NCC
2.	Explore the feasibility of targeted provision of toothbrush and toothpaste packs by health visitors at the 6 month and 2 year checks in those areas of greatest need (i.e. those areas with the highest decay and general anaesthetic rates). Action: NCC Public Health
3.	Ensure that community midwives, health visitors, social care staff and others in early years settings promote messages regarding the reduction of consumption of sugary drinks and the promotion of water as the drink of first choice. Clear and consistent messages to be delivered in health promotion and health education work with families and young children. Action: Children and Young People's Strategic Partnership (CYPSP)
4.	Health visitors, midwives and early years settings to ensure that breastfeeding advice and support also includes messages regarding oral health promotion. Action: NCC Public Health/Northumbria Trust
5.	Breastfeeding policy to be reviewed to ensure that issues relating to early childhood caries are addressed. Action: NCC Public Health/Northumbria Trust
6.	Work with Newcastle University Dental School to explore opportunities for supervised brushing in those areas with the highest risk of dental decay. Action: NCC Public Health
Improving the oral health of older people	
7.	Support residential care settings to improve the oral health of their residents. This should include the introduction of an Oral Health Lead in every residential care setting and compliance with NICE guidelines and quality standards on oral health for adults in care homes. Action: Adult Social Care Services
8.	NHS England review of domiciliary dental care to be considered by the Northumberland Health and Wellbeing Board with a view to identifying actions for the Northumberland system. Action: NHSE/Northumberland HWB
Service development and commissioning	
9.	Ensure that oral health improvement is considered as a component of all commissioned services for children and older people. Action: CYPSP/NCC Adult Social Care Services/NHS Northumberland CCG
Partnership working	

10.	Ensure that the local Making Every Contact Count approach encompasses oral health considerations. Action: NCC Public Health
11.	Through the Northumberland Cancer Strategy, encourage partners to work together to increase awareness in Northumberland residents of oral cancer and the risk factors associated with it, especially for those most at risk (e.g. smokers, those drinking more than 25g alcohol per day and those at increased risk of exposure to Human Papillomavirus). Action: NHS Northumberland CCG
12.	Work with partners to improve the availability of robust data to enable accurate assessment of oral health in Northumberland (this should include arrangements to access data from private dental providers). Action: NCC Public Health
13.	Undertake regular monitoring and review of the oral health plan to demonstrate progress and determine any additional actions required. Action: Northumberland HWB
14.	Work with schools to promote good oral health and develop an oral health promotion campaign. Action: Education services; NCC Public Health