Northern Ireland Children's Oral Health Improvement Plan

CHILDREN'S ORAL HEALTH OPTIONS GROUP

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Introduction

Making Life Better, the current public health strategic framework for Northern Ireland provides direction for policies and actions to improve the health and wellbeing of our population. This framework is structured around six themes, the first of which is *"giving every child the best start in life".* One of the most important foundations for building healthy and happy families is the nurturing of children in early life. A child's oral health is recognised as being a contributing factor to their healthy development and it has been seen that if preventative interventions are established at an early stage, children have a higher chance of establishing healthy lifetime habits.

Despite the improvements in disease prevention and dental treatment, tooth decay is still one of the most prevalent diseases affecting children and young people. Oral disease has the potential to produce many symptoms among children that give rise to physical, social, and psychological effects. Poor oral health impacts on both the child and their family[1]. Oral disease can diminish a child's quality of life and research shows that children from lower socioeconomic backgrounds and those with physical and mental disabilities tend to have worse oral health outcomes.

As with many health problems, including cardiovascular disease and obesity, poor oral health can be influenced by various lifestyle choices. Providing children and their parents/guardians/carers with the information and skills to develop good oral health habits and a healthy diet in childhood will have a positive impact on the level of dental disease.

This Children's Oral Health Improvement Plan (COHIP*)* has four main aims:

To reduce the prevalence and severity of dental caries (decay) in children

To reduce oral health inequalities by targeting children at higher risk of developing dental disease

To support the current strategic basis upon which preventative programmes and children's oral health services can be developed in Northern Ireland, subject to robust business case development

To reduce the number of children requiring dental extractions under general anaesthetic (GA) due to dental caries.

This document sets out a series of recommendations to achieve these aims, with a focus on prevention of oral disease in children via partnership working, collaboration and resource sharing between health professionals and other stakeholders.

Northern Ireland Population Demographics

The United Kingdom (UK) population at mid-year 2021 was estimated to be 67.0 million, with the population of Northern Ireland (NI) making up just under 3% of this figure [2]. The census of 2021 showed that the population of Northern Ireland (NI) was estimated to be around 1.9 million with a population density of around 141 people per square kilometre [3].

NI is projected to have the second largest overall population growth between mid-2018 and mid-2043 among all the UK nations (5.7%)[4]. As well as a projected growth in the overall numbers of people in Northern Ireland over the 25-year projection period, the age structure of the population is also predicted to change. Between 2000 and 2008 Northern Ireland's birth rate increased from 12.8 to 14.4 births per 1,000 people, however the birth rate then started to decline gradually until 2012 when it dropped from 13.9 to 13.3 births per 1,000 people in just one year. The graph below (figure 1) shows the crude birth rate over the last two decades in Northern Ireland [5].

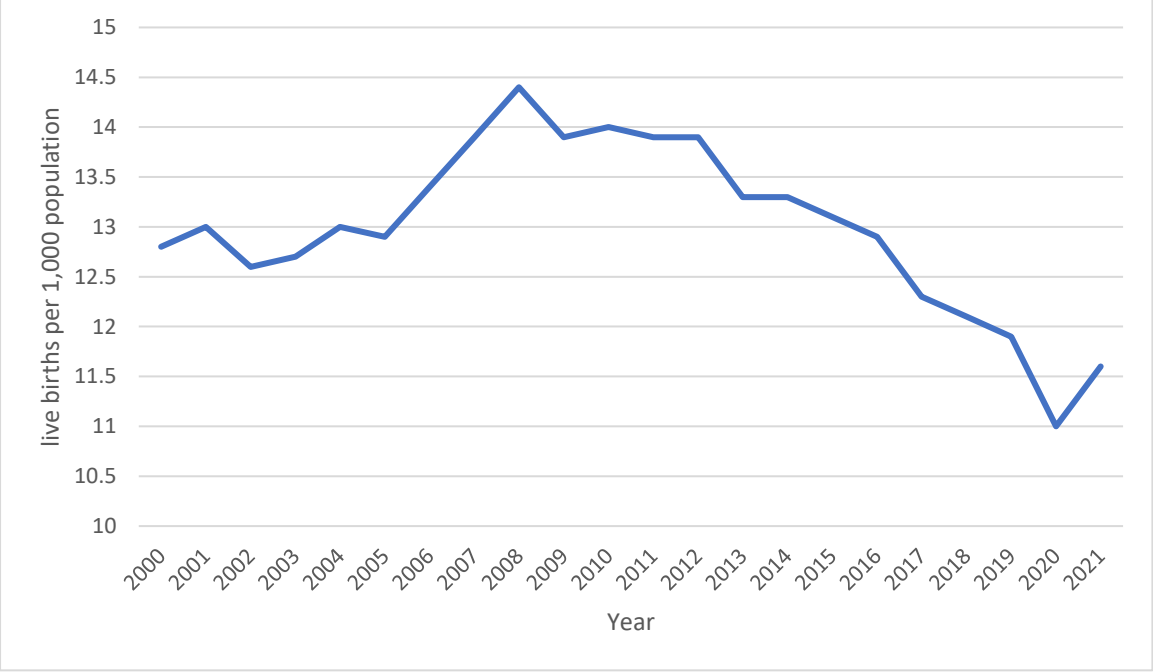


Figure 1: Crude birth rate in Northern Ireland from 2000-2021 [5].

At the time of the 2021 census, there were approximately 435,081 children (aged between 0-17) residing in Northern Ireland (this is approximately 23% of the total NI population) [6]. Figure 2 shows the number of children in each age category, based on the 2021 census data.

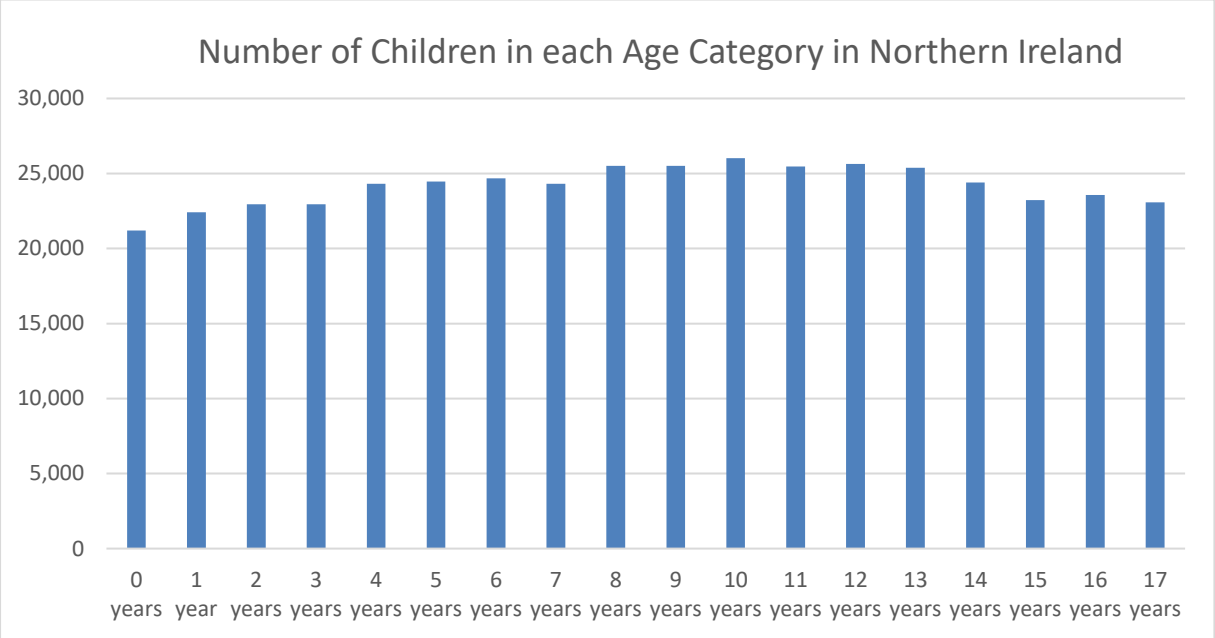


Figure 2: Number of Children in each Age Category in Northern Ireland [6]

Deprivation Measures

Measures of deprivation describe the spatial distribution of deprivation or disadvantage and have been developed and used in Northern Ireland since the 1970s. These measures have played a role in the targeting of resources to the most deprived areas in Northern Ireland. Multiple deprivation measures (MDMs) are made up of domains, including level of income, employment, health/disability, education, access to services, environment, and crime. The individual deprivation domains contribute to the multiple deprivation measures (MDM) according to their weights. The most deprived areas in Northern Ireland, based on these MDMs, are within Belfast, Derry/Londonderry, and Strabane[7].

Eligibility for free school meals (FSM) is widely used as a proxy for socioeconomic status (SES) amongst academic researchers. The table below (figure 3) shows the number and percentage of children entitled to free school meals within each school category in Northern Ireland:

	Total Enrolment for the 2022/23 school year	Number of pupils entitled to free school meals (FSMs)	Percentage of pupils entitled to free school meals (FSMs)
Nursery	5796	2247	38.8%
Prep and Primary Schools	181,075	51,174	28.3%
Secondary Non-Grammar Schools	88,590	30,942	34.9%
Secondary Grammar Schools	65,722	8,354	12.7%
Special Schools	6930	3602	52%

Figure 3: The number and percentage of pupils entitled to FSMs in each school category in Northern Ireland in 2022/2023 school year[8].

Social Care Requirements

The *Children's Social Care Statistics for Northern Ireland* indicated that approximately 34,969 children were referred to Social Services during 2021/22. When a child is referred to social services an initial assessment is undertaken to determine if that child is a 'child in need' and if a child is at risk of 'significant harm' a child protection case conference may be convened. The same statistics from 2021/22 showed that 3,624 children and young people were in some form of care in Northern Ireland. The majority of the children in care were in foster care placements (83%), 7% were placed with parents, 7% were in residential care and 4% were in other placements[9]. The Children (Northern Ireland) Order 1995 is the principal statute governing the care, upbringing, and protection of children in Northern Ireland. It affects all those who work and care for children whether parents, paid carers of volunteers.

The changing demographics, deprivation measures and social care requirements for children within NI will continue to drive revisions in the planning and provision of general health care and the impacts of this are becoming increasingly apparent in oral health care.

Why is Children's Oral Health Important?

Having good oral health is much more than just having healthy teeth. Oral health is integral to overall health and is essential for wellbeing.

Tooth decay is a preventable disease, yet it remains the most common non-communicable disease worldwide, affecting either the primary or permanent dentition in 60-90% of children globally[10]. Children who have high levels of dental disease in primary teeth have an increased risk of disease in their permanent teeth. If treated and retained, these teeth will require long term maintenance throughout life[10]. Therefore, it is important to identify children who are at risk of tooth decay at an early stage to implement preventative interventions.

Primary teeth can also be affected by an aggressive form of decay, known as early childhood caries. This disease is associated with the frequent consumption of sugary drinks in baby bottles or sipping cups. It tends to occur in the upper front teeth and progresses rapidly to other teeth.

Poor oral health affects the whole family.

Untreated tooth decay can cause pain and infections (often requiring the use of multiple courses of antibiotics) that may lead to problems with sleeping, eating, speaking, playing, and learning. Children who have poor oral health often miss more school and receive lower grades compared to children with good oral health. Poor dental health impacts not just on the individual child's health but also their wellbeing and that of their family[11]. Parents and/or carers/guardians may also have to take time off work to care for a child in pain or to take them to a dentist.

Children presenting with tooth decay may require treatment with fillings or tooth extraction. Dental extraction in children can often require the use of a General Anaesthetic (GA). Dental treatment under general anaesthesia presents a small but real risk of life-threatening complications for children and carries significant morbidity for children undergoing this procedure. According to official statistics from the Office for Health Improvement and Disparities, tooth decay was the most common reason for a child aged between 6- and 10-years requiring admission to hospital in England in 2022[12].

Evidence shows that poor oral health may also be indicative of dental neglect and wider safeguarding issues. Dental neglect is defined as 'the persistent failure to meet a child's basic

oral health needs, likely to result in the serious impairment of a child's oral or general health or development' [13]. Children subject to neglect tend to have a history of irregular attendance and missed appointments. This group of children are also more likely to have dental caries in both their primary and permanent dentitions and to exhibit more behaviour management problems [14]. All dental care professionals are strongly encouraged to collaborate with their local safeguarding / child protection team to ensure that prompt and appropriate referrals are made when concerns regarding dental neglect arise.

Figure 4 shows several benefits of improving the oral health of children.

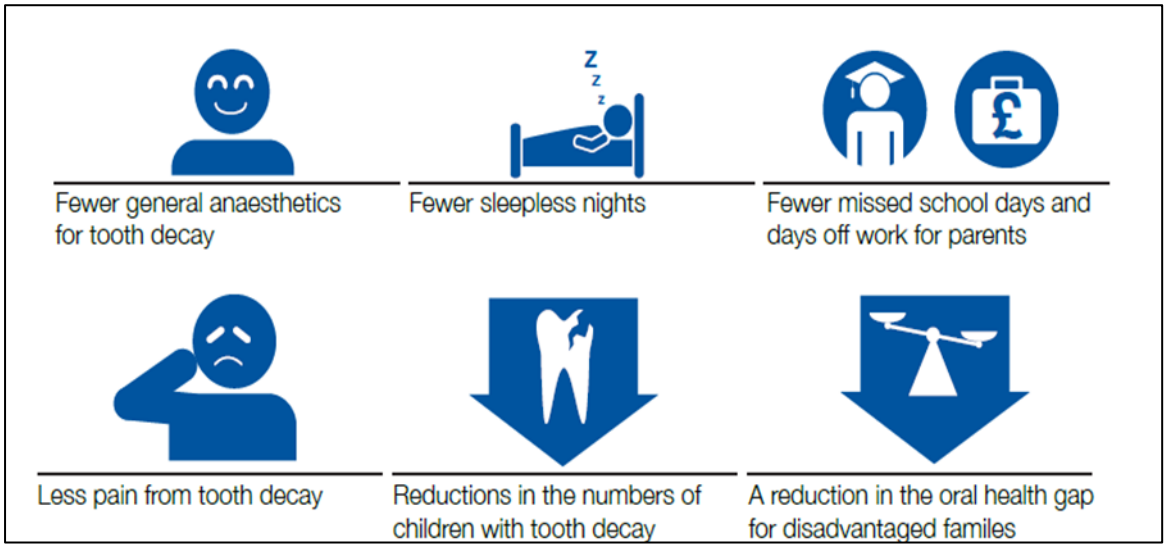


Figure 4: The benefits of improving the oral health of children (Public Health England 2016)

Oral Disease Profile of Children in NI

To develop effective prevention strategies requires an understanding of how dental disease develops and progresses over time. It can take many years for the effects of preventative interventions to become apparent, therefore it is important to have a baseline measure against which post-intervention decay levels can be judged. Decay levels among 5-year-old children can be a useful measure of the success of early interventions.

The *National Dental Epidemiology Oral Health Survey for 5-year-old children in Northern Ireland* was carried out during the 2018-2019 school year. The sampling frame for this survey consisted of children attending mainstream primary schools in NI who were aged 5-years-old at the time of the survey. Data was collected by trained and calibrated community dental staff employed by the five health and social care trust areas in NI. Data on 1,079 children were analysed (63.55% of eligible children)[15].

It is also important to consider the severity of disease in those children that have experienced dental decay. This will provide a better understanding of the extent/burden of dental decay for those children with the disease.

31.59% of children in the sample showed experience of dental decay [15].

Among the 31.59% of children in the total sample who had dental decay experience the mean number of teeth that were decayed, missing, or filled at a NI regional level was 3.86 [16].

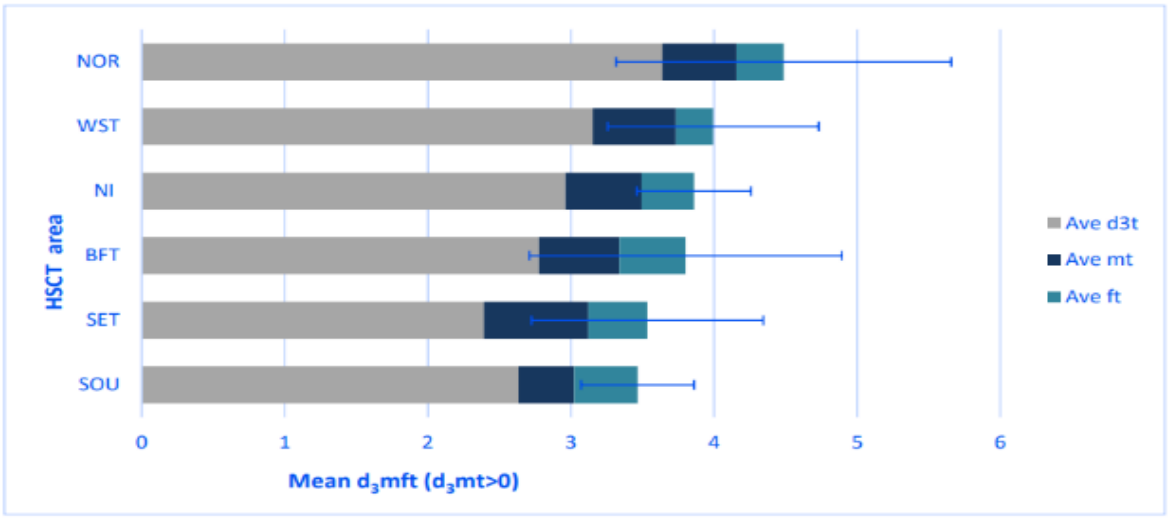


Figure 5: Mean number of decayed, missing or filled teeth among 5-year-old children with any decay experience, by HSCT area (2018-2019) [15].

The equivalent survey in England in 2019, showed that 23.4% of the examined children had experienced dental decay. Among the children in this sample that had experience of decay the mean number of teeth with experience of dental decay was 3.40[17]. The *Children's Dental Health Survey 2013 (CDHS)*, commissioned by the Health and Social Care Information Centre, is the fifth in a series of national children's dental health surveys that have been carried out every ten years since 1973. The 2013 survey provides statistical estimates on the dental health of 5-, 8-, 12- and 15-year-old children in England, Wales and Northern Ireland, using data collected during dental examinations conducted in schools on a random sample of children [18].

The *Children's Dental Health Survey (2013) country specific report for Northern Ireland* showed that obvious dental decay experience (decay into the dentine layer of a tooth) in

primary teeth was present in 40% of 5-year-olds. In permanent teeth, obvious decay experience was found in 57% of 12-year-olds and 72% of 15-year-olds. The survey also provides a range of information on behaviours relevant to oral health, such as frequency of tooth brushing, diet, smoking and alcohol consumption for children in Northern Ireland. Overall, 83% of 5- and 8-year-olds, and 84% of 12- and 15-year-olds brushed their teeth at least twice a day according to their parents [19].

Scientific Advisory Committee on Nutrition (SACN) recommends that sugar intakes should be assessed using a definition of free sugars. The SACN define free sugars as all monosaccharides and disaccharides added to foods by the manufacturer, cook or consumer, plus sugars naturally present in honey, syrups, and unsweetened fruit juices. The sugars naturally present in milk and milk products (lactose) and the sugars in the cellular structure of foods were excluded [20]. *The National Diet and Nutrition Survey (2019)* recommends that the intake of free sugars do not exceed more than 5% of total energy in all age groups. Average intake was 12.8% of total energy for children aged 1.5 to 3 years, 13.6% for those aged 4 to 10 years and 15.1% for children aged 11 to 18 years. Average free sugars intake was 9.3-10.5% of total energy for adults. Overall, 95-97% of children did not meet the recommendation[21].

Dental Treatments carried out on Children.

In 2022/23, 196 per 1000 registered children were treated with a filling, crown, or extraction[22]. In 2021/22, 148 per 1000 registered children in Northern Ireland were treated with a filling, crown, or extraction[23]. Figure 6 gives an indication of the numbers of some common treatments provided for children in Northern Ireland between 2015 and 2022.

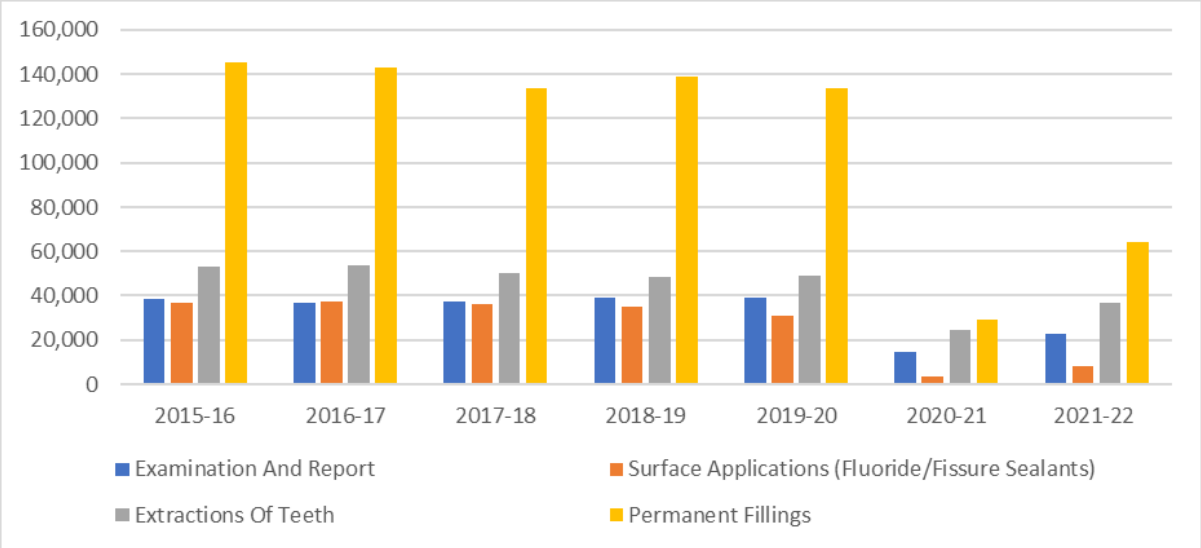


Figure 6: Number of treatments provided to children in general dental practice from 2015-2022

The impact of the Covid 19 pandemic has resulted in fewer young children being brought to the dentist, particularly those attending for the first time. Child registrations decreased during the pandemic but in the latest year child registrations have returned to pre-pandemic levels [22].

A general anaesthetic (GA) is often required if a child has multiple teeth affected by decay or is young, anxious or lacks cooperative ability. Prior to the COVID-19 pandemic, in 2019/20, 21,720 teeth were extracted under general anaesthetic from 3,820 children in hospitals across Northern Ireland. Of these, 2,623 were permanent teeth [24]. During and since the COVID-19 pandemic, regional theatre access for the Community Dental Service Paediatric GA lists has been reduced due to several factors which include Infection Prevention and Control (IPC) restrictions and the prioritisation of other specialities during the rebuild of services.

Waiting list data provided by CDS Trusts in September 2022 suggested there were 3685 children awaiting a pre-dental general anaesthetic assessment appointment and a further 1545 children that had been assessed and deemed ready for a dental general anaesthetic. This number is expected to continue to increase due to the current mismatch in increasing dental demand and reduced theatre capacity due to the impacts of COVID-19.

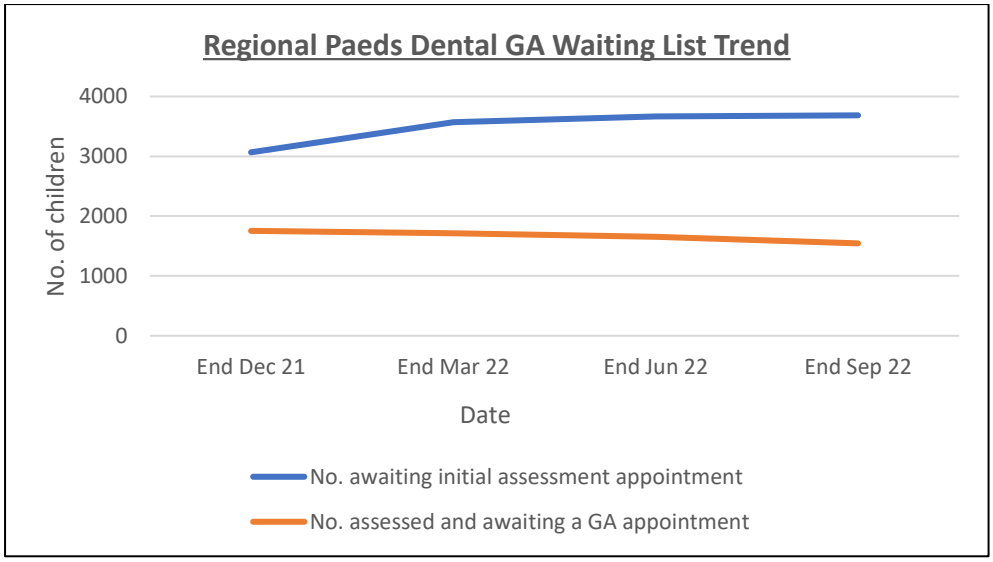


Figure 7: Number of children awaiting assessment and intervention under General Anaesthetic

Oral Health Inequalities

Every child who has teeth is at risk of tooth decay, but the risk increases for children living in more deprived areas where disadvantageous income, education, employment, and neighborhood circumstances can affect health behaviours.

Although dating back to 2001, a paper published in in the British Dental Journal [25] (Jones, Feb 2001) found that registration rates and registration lapse rates were significantly associated with social deprivation.The proportion of the children in NI who were registered with a dentist in March 2022 broadly increased as deprivation decreased, from 63% registered in deprivation decile 1 (most deprived) to 77% for deprivation decile 10 (least deprived) [23].

The results of the *National Dental Epidemiology Oral Health Survey for 5-year-old children in Northern Ireland* reveals wide variations in both the prevalence and severity of dental decay experience for different areas based on the level of deprivation. The prevalence of dental decay was higher in children from more deprived areas (45.25%) than those from the least deprived areas (16.27%) (see Figure 8). In addition, 5-year-old children from deprived backgrounds had higher levels of decay severity with each child having an average of 1.84 teeth affected by decay compared with an average of 0.38 teeth for those children from less deprived backgrounds[15].

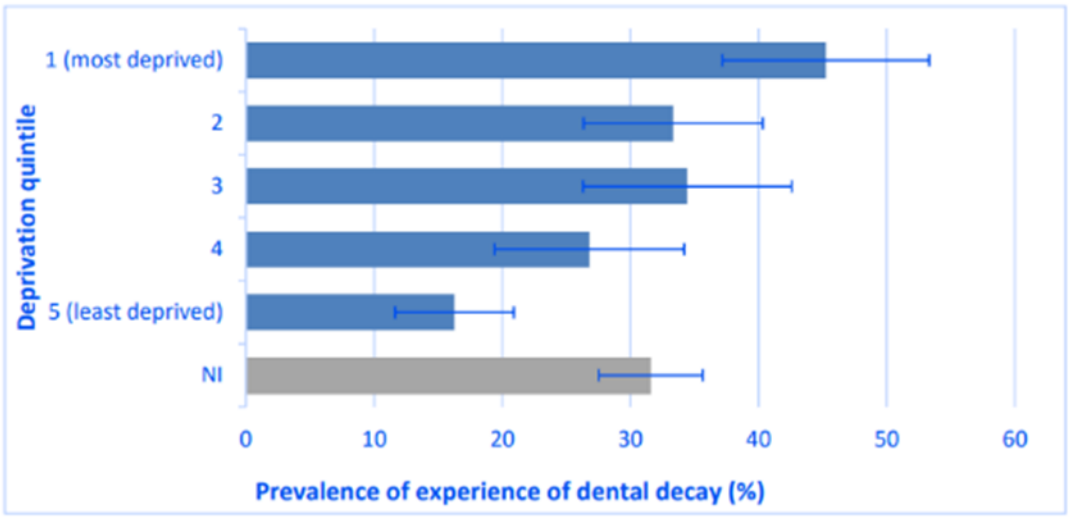


Figure 8: Prevalence of experience of dental decay in 5-year-old children in NI by deprivation quintile (2018/2019)[15].

Current Model of Dental Care for Children in Northern Ireland

General Dental Services

The provision of General Dental Services in Northern Ireland is governed by the Health and Social Services General Dental Services Regulations (Northern Ireland) 1993 and the various updates and amendments made to these over the years. These regulations describe the contractual responsibilities of dentists offering health service dental care to their patients.

Overall policy for General Dental Services (GDS) in Northern Ireland is set by the Department of Health and the delivery of services is managed by the Strategic Planning and Performance Group (SPPG). Under these arrangements, dentists are classed as independent contractors who provide primary care dentistry. To provide general dental services, dentists must be included on the "dental list", which is held by the SPPG. To be included on the dental list, a dentist must have completed dental foundation training or have an exemption[26].

The General Dental Service (GDS) provides over 80% of the dental services in Northern Ireland. GDS Statistics published in June 2023 indicate that, in the year 2022-23, 70% of the Northern Ireland population are registered with a health service dentist and the gross cost of general dental services for the year was £133.4 million. Children are more likely to be

registered with a health service dentist than adults[22]. Once registered with a dentist, the patient will remain on the practice's dental list for approximately two years (a continuing care arrangement will lapse at the end of the 25th month, beginning with the month in which the patient was first accepted by the dentist; or the month that the arrangement was last extended). If they do not attend during that period, their registration will end [27].

Payments made to dentists for providing GDS care are itemised in the Statement of Dental Remuneration (SDR). The SDR also provides details of various allowances, grants, maternity/paternity/sickness payments, continuing care and capitation payments and other incentives. Payments are made to dentists following claims for dental treatment made to the Business Services Organisation (BSO) [26].

Patients aged under 18 years can be accepted for treatment under a capitation arrangement. Capitation payments, means paying a provider or group of providers to cover the majority (or all) of the care provided to a specified population. Under this arrangement dentists are paid a fixed monthly fee for children registered under their care. Dental capitation payments for children are weighted by deprivation. Capitation payments for children living in deprived areas are increased by between 50% and 100% depending on postcode and age [26].

Enhanced Child Dental Examination Scheme

Recognising the significant impact of the COVID-19 pandemic on registration of children with general dental practices, the Department of Health approved funding for an enhanced access scheme to promote and facilitate dental registration and preventative treatment for children in Northern Ireland aged 0-10 years who are not registered with a General Dental Practitioner (GDP). This scheme aimed to encourage early dental registration of children, and in doing so provide an opportunity for early preventive interventions.

General dental practitioners were paid a fee to deliver four main age-appropriate preventive interventions to children in the dental chair: oral hygiene instruction, fluoride varnish application, dietary advice, and fissure sealant application. Given the challenging financial constraints faced by the Department of Health, funding for this scheme ceased at the end of June 2023.

Community Dental Services

The Community Dental Service (CDS) serves the population of Northern Ireland by providing direct patient care and preventive programmes for vulnerable patients with learning disabilities, complex medical conditions, mental health conditions and physical disabilities. The service also provides care for patients with significant anxiety or behavioural difficulties who cannot be treated in a general dental practice and children who are not suitable for care under the remit of the general dental service. In addition, this service provides dental care for the elderly who are housebound or in residential/nursing homes.

The Community Dental Service Scope of Service Specification can be viewed using the following link: Review of CDS - Scope of Service Specification (health-ni.gov.uk)

The service is delivered via clinics in both the primary and secondary care sectors, nursing/residential homes, schools and, where appropriate, in the domiciliary setting. The service encompasses a sedation and general anaesthetic service for patients with specific needs.

The Community Dental Service provides dental care for children depending on the specific needs of the child. Some children may require an element of sedation to allow them to accept care. A smaller percentage may require treatment under general anaesthesia. HSC Trusts provide access to general anaesthetic services for those unable to tolerate treatment under local anaesthetic or sedation. Due to recent challenges surrounding capacity and resources there has been limited access to paediatric theatres in the regional hospitals of Northern Ireland, which in turn has led to increased waiting times for children requiring dental care under general anaesthetic.

The CDS is also involved in evidence based oral health improvement programmes, needs assessments and epidemiological and dental research[28]. For example, CDS staff are trained and calibrated to undertake the fieldwork for child dental health surveys according to national protocols.

Hospital Paediatric Dental Services

The current model for hospital dental services is one where consultant-led teams for the various dental specialties deliver clinical care and/or diagnostic services in a range of hospitals across Northern Ireland. The scope of the hospital dental service includes the provision of

consultant advice and treatment for cases of special difficulty, for patients who have been referred to the hospital dental service, or for patients who have been admitted to hospital because of orofacial/dentoalveolar trauma or oral/dental disease. Health service consultants also fulfil an important role in the training of undergraduate and postgraduate students, dental research, management, and leadership.

The Paediatric Dentistry department is based in the Royal Belfast Hospital for Sick Children (RBHSC) and lies within the remit of the Belfast Health and Social Care Trust. Access to specialist paediatric dental care has traditionally been by referral to the secondary dental care services. The service provides dental care for children aged under 13 years. A range of oral conditions are accepted to the specialist paediatric dentistry department, such as complicated mouth injuries, missing, extra, missing and retained teeth, cleft lip and/or palate, craniofacial anomalies, impacted teeth and gum problems. The Paediatric Dentistry referral guidelines can be viewed using the following link: Paediatric-Dental-referral-guidelines-08-07-2016.pdf (hscni.net).

During treatment in the Paediatric Dentistry Department, it is expected that the patient will continue to see their general or community dentist for routine and emergency dental examinations and treatment and will provide all other aspects of the patient's preventative care. Following completion of specialist paediatric assessment and/or treatment patients are discharged to the general dental service or community dental service to address their ongoing dental care needs.

Current Policy, Guidance, and Initiatives in Northern Ireland

'Making Life Better' is the strategic framework for public health in Northern Ireland. It is designed to provide direction for policies and actions to improve the health and wellbeing of people in Northern Ireland and to reduce health inequalities[29]. The objective is to create the conditions for individuals, families, and communities to take greater control over their lives and to be enabled and supported to lead healthy lives. One of the commitments made in this framework was to develop and implement strategies, action plans and targeted programmes to improve oral health through a regional caries prevention programme, and programmes to increase dental services utilisation.

Happy Smiles Programme

As a result of the commitments in the *Making Life Better* framework, the *Happy Smiles* programme was developed[30].

Launched in October 2016, this evidence-based programme aims to improve the oral health of children in nursery school education. The programme aims to encourage regular brushing with a fluoride toothpaste, healthy eating and registration with a general dental practitioner. The initiative encourages shared responsibility and collaborative effort between schools, parents and their children. It enables staff in pre-school facilities to deliver the programme following initial training by their local Oral Health Team.

The three main elements of the Happy Smiles Programme are:

- Happy Smiles Tooth Brushing Programme
- Happy Smiles Healthy Snacks
- Happy Smiles Education Programme

Resources to implement the programme are provided by the team who monitor and evaluate the effectiveness of the Happy Smiles Programme each year. At present funding for these programmes is targeted at the 20% most deprived areas in Northern Ireland.

The Department of Health in Northern Ireland also endorses the *Delivering Better Oral Health* guidance, which is an evidence-based toolkit for prevention. It includes advice on how dental care professionals can improve and maintain the oral health of their patients [31].

Dental Disease Prevention Initiatives across the UK and Ireland

There are a number of preventative initiatives ongoing throughout the UK and Ireland which are aimed at improving the oral health of the children in our population:

England

Smile4Life is a programme of initiatives to improve dental access and oral health in England, complemented by communication and engagement activities to raise awareness of oral health issues and promote healthy dental habits. The programme consists of two main elements: Starting Well 13 and Starting Well Core [32].

Starting Well 13 involves a programme of dental practice-based initiatives which aim to reduce oral health inequalities and improve the oral health in children under the age of five years. It was launched in 13 high priority areas based on decay experience at a local authority level, existing oral health improvement plans and trends in oral health. The programme has a focus on children who are not currently visiting the dentist and under one-year-olds. It ensures that evidence-based preventive advice about reducing sugar intake and increasing the exposure to fluoride on teeth is given to parents of these children.

Starting Well Core is a commissioning approach which aims to reduce oral health inequalities and improve oral health for children aged 0-2 years through increasing dental access and attendance for children aged 0-2 years. The approach aims to deliver evidence-based preventive care in practice and also raise public and professional awareness to promote early-years dental attendance, and support the British Society of Paediatric Dentistry's campaign for a Dental Check by One.

Health matters: child dental health is a resource which outlines how health professionals can help prevent tooth decay in children under 5 to ensure every child has the best start in life [11].

Dental check by one is a campaign launched by the British Society of Paediatric Dentistry (BSPD) which advises that all parents and guardians should ensure that any young children in their care are taken to see a dentist as soon as their first teeth come through, and before their first birthday [33].

The *National Institute of Clinical Excellence* released a quality standard in 2016 which covers activities undertaken by local authorities and general dental practices to improve oral health. It particularly focuses on people at high risk of poor oral health or who find it difficult to use dental services [34].

Scotland

Recommendations from previous SIGN guidelines [35] on dental caries have been incorporated into the Scottish Dental Clinical Effectiveness Programme (SDCEP) guidance on the *Prevention and Management of Dental Caries in Children* [36]. This guidance is designed to assist and support primary care practitioners and their teams in improving and maintaining the oral health of their young patients from birth up to the age of 16 years. While at all times safeguarding the wellbeing of the child, the aims when providing dental care for children are; to prevent disease in the primary and permanent dentition, to reduce the risk of the child

experiencing pain or infection or acquiring treatment induced dental anxiety if dental caries does occur and for the child to grow up feeling positive about their oral health and with the skills and motivation to maintain it. The SIGN guidelines have also informed the development of the national Childsmile programme (www.child-smile.org).

Childsmile is the national oral health programme in Scotland, which provides a comprehensive, free, public health pathway for disease prevention and care to all children and young people in Scotland up to the age of 17 years[37]. The programme aims to reduce inequalities in oral health and ensure access to dental services for every child in Scotland. It is funded by the Scottish Government and has four main elements; Childsmile Core Programme, Childsmile Practice, Childsmile Nursery and Childsmile School. Since 2011, all elements have been delivered in all Health Board areas throughout Scotland. At a population level, every child should have access to a tailored programme of care within Primary Care Dental Services, free daily supervised toothbrushing in nursery and free dental packs to support toothbrushing at home. Additional home support and community interventions are targeted to children and families in greatest need through an enhanced programme of care within Primary Care Dental Services, clinical preventive programmes in priority nursery and primary schools and facilitation into dental services as appropriate and daily supervised toothbrushing in P1 and P2 priority primary schools.

Wales

Designed to Smile is the oral health national programme which is designed to improve the dental health of young children in Wales. Designed to Smile is a targeted population programme for children (0–5-year-olds) funded by Welsh Government and is primarily targeted at nurseries and schools in areas of social disadvantage where children have the highest levels of decay [38]. The programme has been delivered throughout Wales since 2009, following large scale piloting in 2008 by Community Dental Services in North Wales and Cardiff.

In April 2016 Welsh Government published “Children's oral health in Wales - something to smile about” which reported a 12% reduction in the level of dental decay amongst five-year-olds in Wales between 2008 and 2015. The report noted that “this reduction is the first significant and sustained improvement in levels of dental caries experienced by children in Wales since records began. The 12% reduction corresponds with the introduction of Designed to Smile, a national oral health promotion programme.”

Republic of Ireland

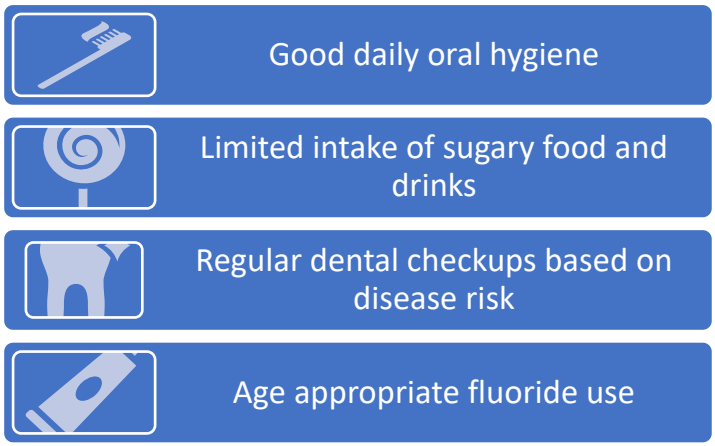
Sláintecare is the long-term vision for building a better health service in the Republic of Ireland. It is designed around the needs of people and aims to provide health services close to home [39].

Smile Agus Sláinte was launched in April 2019 and the programme emphasises the ideals of integrated oral and general health, and prevention. This keeps the focus on ensuring local access and continuity of care within a primary oral healthcare setting. The Policy has two key goals; to provide the supports to enable every individual to achieve their personal best oral health and to reduce oral health inequalities across the population, by enabling vulnerable groups to access oral healthcare and improve their oral health. Smile agus Sláinte supports the provision of all levels of care, by appropriate healthcare professionals and in the most suitable settings[40].

Recommendations

Research shows that some small steps can significantly improve a child's oral health. Brushing teeth and gums twice a day with a fluoride toothpaste, limited intake of sugary foods and drinks especially between meals, and regular dental check-ups are the best ways of preventing dental disease.

Irrespective of age, the same basic approach to maintaining oral health applies:



Professional opinion is that a child's first dental visit should take place as early as possible and ideally before the age of one[41]. This is reflected across other regions of the UK, with the British Society of Paediatric Dentistry (BSPD) Dental Check by One campaign which calls for a child's first dental check to be carried out before their first birthday[30].

The Oral Health Strategy for Northern Ireland aims to improve the oral health of the population in Northern Ireland by using evidence-based approaches to reduce oral health inequalities within our society. Preventing dental disease in children, particularly among those from disadvantaged backgrounds, is a key health objective for the DOH, SPPG and all Healthcare Trusts within Northern Ireland[42].

The Oral Health Strategy (Appendix A) has been used as a foundation for the following recommendations, which relate to children's oral health.

Recommendation Themes

Set out under four broad themes, the report makes a series of recommendations that we believe will make the greatest difference to the oral health of children both now and in the future.

Theme 1: Improving the Oral and Dental Health of Children

Reduce the prevalence and severity of dental decay in children and reduce oral health inequalities for children at greatest risk of dental disease.

Theme 2: General Anaesthetic Dental Provision for Children

Paediatric dental general anaesthetic services should be given equitable access and prioritisation in HSC Trusts

Theme 3: Utilising the Skills of the Dental Team

The skill mix of the dental workforce should be maximised, in line with GDC's scope of practice for all dental care professionals.

Theme 4: Empowering Families

Families, guardians, and carers should be empowered to proactively improve the oral health of the children in their care.

RECOMMENDATION GROUP 1: IMPROVING THE ORAL AND DENTAL HEALTH OF CHILDREN		
	Reduce the prevalence and severity of dental decay in children and reduce oral health inequalities for children at greatest risk of dental disease.	**Recommended Actions/ What this looks like**
1.1	Relevant stakeholders should continue to develop and embed the children's dental epidemiology programme in Northern Ireland to provide information and intelligence to improve oral health and provision of services	The on-going programme of dental health surveys for children in Northern Ireland should continue, at agreed intervals, reflecting local needs. Oral health data and information used to the best effect by all stakeholders
1.2	Preventative initiatives should be supported by a strong evidence base. Targeted evidence-based programmes should be aimed at those at high risk of dental disease. Consideration should also be given to the cost-effectiveness of any interventions.	Re-launch of Happy Smiles Programme[1] Expansion of the Happy Smiles Programme to all Primary 1 and Primary 2 children in Northern Ireland. Design and Implement age appropriate, evidence based oral health improvement programmes for Primary School-age children in Northern Ireland. All stakeholders should use the best available evidence for oral health improvement
1.3	Promotion of good oral health and prevention of dental disease among children should be included in all strategic plans/policies dealing with general health.	Consideration, where relevant, of oral health in the development and review of Departmental Health Strategies e.g., *Healthy Child, Healthy Future*[3]

[1] https://hscboard.hscni.net/our-work/integrated-care/dental-services/happy-smiles/
[3] https://www.health-ni.gov.uk/publications/healthy-child-healthy-future

	There should be improved collaboration between those involved in the prevention of oral disease and those involved in the prevention of general disease. Preventative advice should be age appropriate and in line with *Delivering Better Oral Health V.4*[2]	Provision of oral health training for the wider health, social care and education workforce. This allows them to incorporate oral health improvement in their daily roles to make every contact count in helping to influence early years behaviour. Dental leads in SPPG, along with Consultants and Specialty trainees in dental public health to work more closely with general public health teams in the PHA, supporting oral health improvement across the life course.
1.4	Preschool and nursery settings should have a healthy snack policy. Primary and Secondary schools should have healthy meals and healthy snack policies. Schools should be free from vending machines selling sugary snacks/drinks, and healthy options included in tuck shops. Oral hygiene practices should be integrated into the teaching of general body cleanliness at pre, primary and secondary school level.	Childminders, day nurseries, playgroups and creches to be encouraged to introduce a policy incorporating PHA Guidance for under-fives in the childcare setting *'Nutrition matters for the early years'*[4] Work with partners in Department of Health and Department of Education to ensure that Nutritional Standards for School Lunches and Nutritional Standards for Other Food and Drinks in Schools are in line with current health policy and support reduction in sugar consumption. Scope willingness for an Oral Health Curriculum Toolkit for Northern Irelands to support planned educational activities to increase oral health knowledge and encourage positive oral health practices.
1.5	Arrangements should be in place with local dental services to provide timely access to appropriate dental care for all children, when the need arises, particularly for those at higher risk of developing dental disease.	Expansion of Pathfinder scheme for unregistered patients and asylum seeker s (PUPAS)[5] Extension of the time-limited enhanced child examination fee for general dental services in Northern Ireland (currently extended to 30 June 2023) The General Dental Services contract should remunerate practitioners adequately to facilitate early attendance and reinforce prevention of

[2] https://www.gov.uk/government/publications/delivering-better-oral-health-an-evidence-based-toolkit-for-prevention
[4] https://www.publichealth.hscni.net/sites/default/files/Nutrition%20Matters%20for%20the%20early%20years%200118.pdf
[5] https://www.health-ni.gov.uk/news/dental-access-scheme-non-registered-patients

		oral disease. Consideration could be given to an incentive for practices to register and examine a child by their first birthday e.g., a specific logo to display or accreditation for practices that offer a dental check by children's first birthday?
RECOMMENDATION GROUP 2: GENERAL ANAESTHETIC DENTAL PROVISION FOR CHILDREN		
	Paediatric dental general anaesthetic services should be given equitable access and prioritisation in HSC Trusts	**Recommended Actions/ What this looks like**
2.1	There should be a drive towards equitable recovery of general anaesthetic services so that when the need arises, access to dental extractions under general anaesthetic is timely and without barriers.	HSC Trusts to agree a regional referral criteria for children referred for dental extractions. CDS Leads to scope the potential for regionalisation of elective paediatric dental anaesthetic services in Northern Ireland. Undertake a service evaluation of paediatric dental anaesthesia services in NI, looking at access to services, quality, provision and need.
2.2	Preventive interventions should be standardised and incorporated regionally with the aim to reduce the need for referral for dental extractions under General Anaesthetic for all children.	Referrals for extractions under general anaesthesia, should follow the guidelines published by the GDC in Standards for the Dental Team Simple preventative advice should be given to families of children at risk of dental disease. Champion initiatives such as Smile4Life[6] and Dental Check by One[7] Targeted prevention using the Delivering Better Oral Health Toolkit [8] for children who have previously required dental extractions under general anaesthesia, to reduce the need for a repeat GA.

[6] https://www.england.nhs.uk/primary-care/dentistry/smile4life/
[7] https://dentalcheckbyone.co.uk/
[8] Delivering better oral health: an evidence-based toolkit for prevention - GOV.UK (www.gov.uk)

RECOMMENDATION GROUP 3: UTILISING THE SKILLS OF THE TEAM		
	The skill mix of the dental workforce should be maximised, in line with GDC's scope of practice for all dental care professionals.	**Recommended Actions/ What this looks like**
3.1	There should be opportunities, support, and resources available to develop and upskill the dental team	Support Dental Care Professionals to develop further knowledge and skills, including the opportunity to undertake extended competency training, where possible. Examples include oral health education, oral health promotion and fluoride varnish application. Departmental reviews of the dental workforce should consider how best to support the skills of the entire dental team and promote appropriate skill mix. HSC Trust Dental leads should be supported to promote team working and skill mix to meet the needs of children and young people in their area. Increased numbers of dental therapists should be planned, to expand the dental workforce appropriately. Whilst it is recognised that supporting the skill-mix of dental care professionals could be better utilised in the provision of domiciliary and preventative care, there should be sufficient skilled dental nursing staff to backfill within practice. There is a need therefore to expand the current pool of staff, especially post pandemic.
3.2	Consideration should be given to the expansion of the paediatric dental workforce.	Some expansion in the paediatric dental workforce will be required to meet the needs of all children. This should be underpinned by Departmental workforce planning. Expansion could be achieved, using the wider dental team, including extended roles for dental care professionals.

		Specialist-led managed clinical networks for children may be beneficial in the delivery of care, involving a range of team members including dentists with extended skills and Consultant input. Equitable and timely access to expertise should be prioritised, with care provided in primary care settings where possible.
3.3	Other healthcare providers and stakeholders should be empowered to take an active role in the prevention of dental disease	Provision of oral health education for the wider health, social care and education workforce, including nurses, midwifes and health visitors. This allows them to incorporate oral health improvement in their daily roles to use every available opportunity to influence early years behaviour. Consistent messages should be available across all health and social care providers, emphasising that baby teeth are important. Key messages should be delivered to parents/carers of young children across a range of settings: GP surgeries, nurseries, children's centres, via relevant health workers.
3.4	The training of dental care professionals should include specific knowledge relating to the dental care of children and management of those at higher risk of developing dental disease.	NIMDTA should review their current offer of training programmes, to ensure that all dental care professionals have the appropriate knowledge and skills to work within their scope of practice, to ensure improved oral health for this patient cohort. Training may include: - Extended competency-based training programme on fluoride varnish application for DCPs - Oral health educator training for dental nurses
RECOMMENDATION GROUP 4: EMPOWERING FAMILIES		
	Families, guardians, and carers should be empowered to proactively improve the oral health of the children in their care.	**Recommended Actions/ What this looks like**

4.1	Parents, guardians, and carers should be supported to access a dental examination before their baby's first birthday	Ensure consistent messaging from dental practices and health professionals on timing of first dental examination, including non-clinical dental practice staff, e.g., dental receptionists.
4.2	Parents, guardians, and carers should ensure all children are brought to recall dental appointments as recommended by the dentist and in line with NICE guidance.[9]	Early dental attendance be the encouraged and promoted to the public. Additionally, all members of the dental team, including practice reception staff, should be trained and supported to ensure that parents are encouraged to access dental care early in their child's life, ideally in the first year.
4.3	Parents, guardians, and carers of children should receive an oral health educational module that covers how to prevent oral disease, detection of early signs of oral disease and how to access dental services	Parents will require support in integrating healthy practices into daily living within a more supportive environment. Promotion of oral health from birth is key to supporting parents in 'starting well'. This requires leadership from dental professionals, together with the involvement of health and social care professionals including midwives, health visitors, general practitioners and nursery workers providing support to parents and carers.

[9] https://www.nice.org.uk/guidance/cg19 Dental checks: intervals between oral health reviews

Appendix

Children's oral health recommendations and targets from the Northern Ireland Oral Health Strategy (2007)

Recommendation 2.5

Preventive interventions, whether within or outside the clinical setting, should their effectiveness supported by a strong evidence base. Consideration should also be given to the cost-effectiveness of the intervention.

Recommendation 3.1

Preventing caries in children, particularly among those from disadvantaged backgrounds, should be a key health objective for all Boards and Trusts in Northern Ireland.

Recommendation 3.2

To improve both general and oral health the DHSSPS, Boards and Trusts should work with educational authorities to ensure that all schools, including special schools, are free from vending machines selling sugary snacks and drinks.

Recommendation 3.3

To improve both general and oral health the DHSSPS, Boards and Trusts should work with educational authorities to ensure that all schools, including special schools, have a healthy breaks and meals policy.

Recommendation 3.4

Oral health professionals should build on existing partnership working arrangements with other health professionals, educational bodies, and relevant local stakeholders to improve children's diets, particularly those from disadvantaged backgrounds. An Oral Health Strategy for Northern Ireland 15

Recommendation 3.5

As it is the most effective, cost-effective, and equitable way of improving population dental health the DHSSPS will work in partnership with other stakeholders to examine the feasibility of fluoridating Northern Ireland's public water supplies.

Recommendation 3.6

Given that it may take some time to introduce a comprehensive water fluoridation scheme in Northern Ireland, an alternative, evidence-based, regional prevention programme for caries in children should be developed and implemented as soon as possible.

Recommendation 3.7

The new Primary Care Dental Strategy should encourage dentists and DCP's to provide, where appropriate:

- One-on-one dietary advice and teaching of oral hygiene skills;
- Fissure sealants
- Topical fluoride

Recommendation 3.17

Nursing staff and trained carers of children with disabilities should receive an oral health module that includes:

- Prevention of oral disease through healthy diet and oral hygiene measures;
- Simple oral assessment for early signs of oral disease;
- Information on how to access dental services.

Parents and other carers should be given advice on maintaining oral health.

Recommendation 3.18

The care standards for children's special schools or residential care homes should require that:

- Each child has their oral health assessed by a dentist annually and that each individual's care plan has oral health input.
- When an oral health care need is identified appropriate action is taken.
- There is a policy for preventing oral disease through a healthy diet and oral hygiene measures.
- Arrangements are in place with local dental services to provide dental care when the need arises.

Recommendation 3.19

Trusts should ensure that, where necessary, appropriate transport is available to allow children with mobility problems to access oral care.

Recommendation 3.20

In order to gain a regional perspective on the issues faced by this group, needs assessments should be carried out to agreed protocols throughout Northern Ireland and reported in a standard form.

Recommendation 3.21

The training of dentists, dental nurses, hygienists, and therapists should include practical experience in the management of those with special needs. Appropriate postgraduate training should be available to those who wish to develop their skills in the treatment of the disabled.

Recommendation 4.7

When children are young the probability of establishing healthy lifetime habits is greatest. Oral hygiene should be integrated into the teaching of general body cleanliness education at both pre-school and primary school. With older children the promotion of oral hygiene as grooming behaviour may be an alternative approach.

Recommendation 5.4

The DHSSPS, Health Boards and Trusts should work in partnership to try and improve dental service utilisation levels among those groups with historically low levels of dental attendance. Recommendation 5.5 Access to, and uptake of, dental care should be monitored carefully during any changes to the primary care dental services.

Target 3.1

By 2013 at least 50% of 5-year-old children should be free from obvious dental decay experience (baseline value, 39% in 2003**).

Target 3.2

By 2013 the mean number of teeth with obvious decay experience per child among 5-year-olds (i.e., mean dft) should be less than 2.0 (baseline value, 2.5 in 2003**)

Target 3.3

By 2013 to reduce the gap between the best and the worst school decay scores for 5-year-old children (as measured by school mean dmft) by 20%.

Target 3.4

By 2013 at least 40% of 12-year-old children should be free from obvious decay experience (baseline value, 27% in 2003**).

Target 3.5

By 2013 the mean number of teeth with decay experience per child among 12-yearolds (i.e. mean DMFT) should be less than 2.2 (baseline value, 2.7 in 2003**).

Link to full document: Oral Health Strategy for Northern Ireland (health-ni.gov.uk)

Glossary and Abbreviations

ABG	Alveolar Bone Grafting
BDA	British Dental Association
BHSCT	Belfast Health and Social Care Trust
BSO	Business Services Organisation
CDHS	Child Dental Health Survey
CDS	Community Dental Service
COHIP	Children's Oral Health Improvement Plan
COHOG	Children's Oral Health Options Group
DCP	Dental Care Professional
DOH	Department of Health
DGA	Dental General Anaesthetic
FSM	Free School Meals
GA	General Anaesthetic
GAIN	Guidelines and Audit Implementation Network
GDP	General Dental Practitioner
GDS	General Dental Service
GMP	General Medical Practitioner
HDS	Hospital Dental Service
HSC	Health and Social Care
HSCT	Health and Social Care Trust
IPC	Infection Prevention and Control
MDM	Multiple
NHSCT	Northern Health and Social Care Trust
NI	Northern Ireland

NICE	National Institute of Clinical Excellence
NIMDTA	Northern Ireland Medical and Dental Training Agency
MDM	Multiple Deprivation Measure
OHA	Oral Health Assessment
ONS	Office for National Statistics
RBHSC	Royal Belfast Hospital for Sick Children
SDR	Statement of Dental Remuneration
SEHSCT	South Eastern Health and Social Care Trust
SES	Socioeconomic status
SHSCT	Southern Health and Social Care Trust
SIG	Strategy Implementation Group
SPPG	Strategic Planning and Performance Group
STR	Specialty Trainee/Registrar
UK	United Kingdom
WHSCT	Western Health and Social Care Trust
WHO	World Health Organisation

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