

Childsmile

Childsmile is a national programme designed to improve the oral health of children in Scotland and reduce inequalities both in health and access to dental services.

It is funded by the Scottish Government and has four main components:

- Childsmile Core
- Childsmile Practice
- Childsmile Nursery
- Childsmile School

The vision

Childsmile combines targeted and universal approaches to tackling children's oral health improvement through the four programme components (Core, Practice, Nursery and School). This combination provides a comprehensive package of care tailored to the needs of individual children.

It is envisaged that every child in Scotland will have access to Childsmile.

At a population level, every child will have access to:

- a tailored programme of care within Primary Care Dental Services
- free daily supervised toothbrushing in nursery
- free dental packs to support toothbrushing at home.

In addition, directed support targeting children and families in greatest need through:

- additional home support and community interventions
- 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
- daily supervised toothbrushing in priority primary schools.

Childsmile Core

The Childsmile Core Programme is available throughout Scotland. Every child is provided with a dental pack containing a toothbrush, a tube of toothpaste containing at least 1000ppm fluoride, and oral health messages on at least six occasions by 5 years of age. Children also receive a free-flow feeder cup by 1 year of age. These are distributed in different ways in each NHS Board area.

In addition, every 3 and 4 year old child attending nursery (whether local authority, voluntary or partner provider) is offered free, daily, supervised toothbrushing within their nursery establishment. The supervised toothbrushing closely follows national guidelines and the products are provided through a national contract to ensure consistency across Scotland. Since the publication of **An Action Plan for Improving Oral Health and Modernising Dental Services in Scotland (Scottish Executive 2005)**, the toothbrushing component of the programme has been made available to at least 20% of Primary 1 and 2 classes of schools situated in areas with the highest level of need within NHS Boards across the country.

The Childsmile Core Programme promotes a holistic approach to healthy living, thus teaching children an important life skill. Children who attend nurseries, schools, childminders and after-school clubs should be offered healthy snacks and drinks as part of national initiatives to improve child oral health and help prevent obesity.

Childsmile Practice

Childsmile Practice is designed to improve the oral health of children in Scotland from birth. Childsmile Practice is introduced to families by the HV, who assesses the child's dental health support need at 6-8 weeks and reinforces key oral health messages to the family and the benefit of child dental registration by 6 months of age or refers them to a Dental Health Support Worker (DHSW). The DHSW contacts the family when their child is around 3 months old, provides advice on the importance of looking after first teeth and assists families to find a local Childsmile dental service for their child. Additional support is available through home visiting, community initiatives and primary care dental services. For the most vulnerable families, a longer period of home support may be required, prior to engaging with dental practice.

From 6 months of age, dental appointments are made for the child on a regular basis. The dental team provides a programme of Childsmile care, tailored to meet the needs of the individual child. Extended duty dental nurses (EDDNs) are trained in oral health promotion and fluoride varnish application to support the dental team to provide Childsmile care. This includes: oral health advice, for example, on healthy weaning; teething and toothbrushing instruction; provision of free dental packs; and regular dental check-ups from the age of 18 months, plus twice-yearly fluoride varnish applications to the child's teeth from 2 years of age.

The role of the DHSW is primarily to facilitate the family to participate in the Childsmile Programme through attendance at the dental practice. All members of the dental team should monitor progress. Where the family experiences difficulties in following preventive advice or attending a dental practice then the child's HV must be contacted and asked to reassess the mix of family support required.

Childsmile Nursery and Childsmile School

Childsmile Nursery and Childsmile School deliver preventive care interventions for children aged 2 and upwards who are at increased risk of dental decay. Childsmile Nursery and Childsmile School work with at least 20% of children from each Health Board. Educational establishments are targeted in order of those with the highest proportion of children living in the most deprived local quintile, as defined by SIMD.

Additional preventive care is provided in the form of twice-yearly fluoride varnish applications by Childsmile dental teams within these educational establishments. These teams usually comprise an EDDN, trained in the application of fluoride varnish, and DHSW. They may also promote good oral health behaviour and provide health education. DHSWs are attached to particular nurseries and schools and provide the main Childsmile contact point for teachers, parents and school nurses.

The dental team also promotes Childsmile to ensure that as many children as possible who would benefit from being in the Programme are given the opportunity to join. It is important that children are registered to attend primary care dental services. Children identified through Childsmile Nursery and School as not having a dentist will be offered help to find a dentist in their local area.

Children are able to join the Childsmile Nursery component of the programme when they start nursery and remain in the programme, receiving six-monthly fluoride varnish applications for the duration of their time at nursery, and often continuing in school.

At all stages in the Programme, children who require further assessment and dental advice are identified and their parents receive a letter informing them of their child's dental need. If need for advice from a dentist is immediate this should be followed up by direct contact with the parent instead of a letter.

Dental Public Health

Dental Public Health can be defined as the “science and practice of preventing oral diseases, promoting oral health and improving the quality of life through the organised efforts of society”. This was described by Downer *et al.* (1994) and also used by Acheson (1998) in his report to the ‘Inequalities in health’ conference.

The science of Dental Public Health is concerned with understanding a population’s health problems, establishing the causes and effects of those problems and planning effective interventions. Dental Public Health Practice is concerned with promoting the health of the population and therefore focuses action at a community level.

The determinants of health

All sorts of different factors determine health, or the lack thereof, from individual factors such as age and sex, through social and living circumstances to general socioeconomic, cultural and environmental conditions.

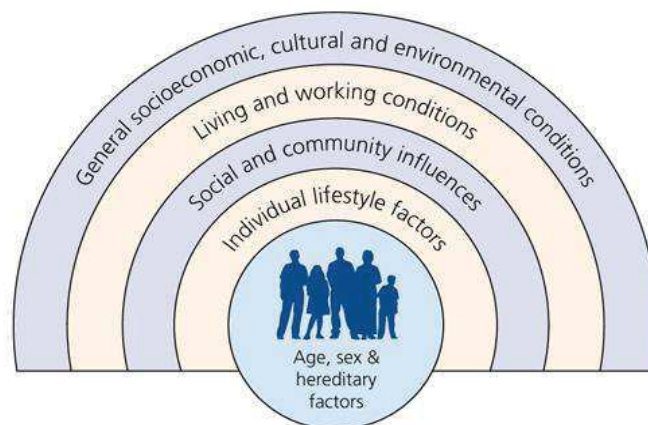


Figure 2: Determinants of Health
Source: Dahlgren G and Whitehead M (1991)

It is the role of professionals working in Dental Public Health to have an understanding of the factors that influence oral health and to work in partnership with organisations to improve oral health such as Community Health Partnerships, Councils, Education Departments and the Voluntary sector.

The current challenges to Dental Public Health in Scotland consist of high levels of dental decay associated with deprivation, increasing levels of tooth erosion, increasing incidence of oral cancer and an increasing population of older people – who are more at risk of conditions such as periodontal disease.

Dental decay

Dental decay, also called dental caries, is a widespread condition in the western world and a particular problem in Scotland. Dental decay is associated with social deprivation. Lower levels of caries occur in the more affluent areas.

Dental decay is characterised by the loss of mineral ions from the tooth caused by the presence of bacteria in plaque and their acidic by-products. Early mineral loss (known as demineralisation) is only visible microscopically, but further loss becomes evident in enamel and can be seen as having a chalky appearance on the tooth – known as a white spot lesion.

The basic decay process can also be called an acid attack. Bacterial plaque builds up on the tooth surface. When sugars enter the mouth, they are absorbed by this layer of plaque, which breaks down (or metabolises) the sugar inside the bacterial cells to produce acid. These acids accumulate in the plaque layer and start to demineralise the tooth. Plaque rapidly reforms quickly after brushing and therefore acid attacks can happen minutes after consuming sugar.

Dental decay is a process that is preventable by following basic oral health messages (see page 17). In its early stages, there are effective treatments for preventing the decay from progressing, causing pain and requiring a filling or eventual tooth loss. However, sometimes dental extraction is the only treatment option.

Failure to prevent dental decay effectively in the pre-school child, through modifying poor dental related behaviour of both child and parent, can mean that affected children may have a lifetime cycle of dental treatment.

Progression of caries

Caries is a progressive disease - it starts with a healthy tooth, and progresses through small lesions to large cavities. It is possible to interrupt the process and to repair damage caused by decay. However, other than in the earliest lesions, it is not possible to regain tooth tissue, once it has been lost.

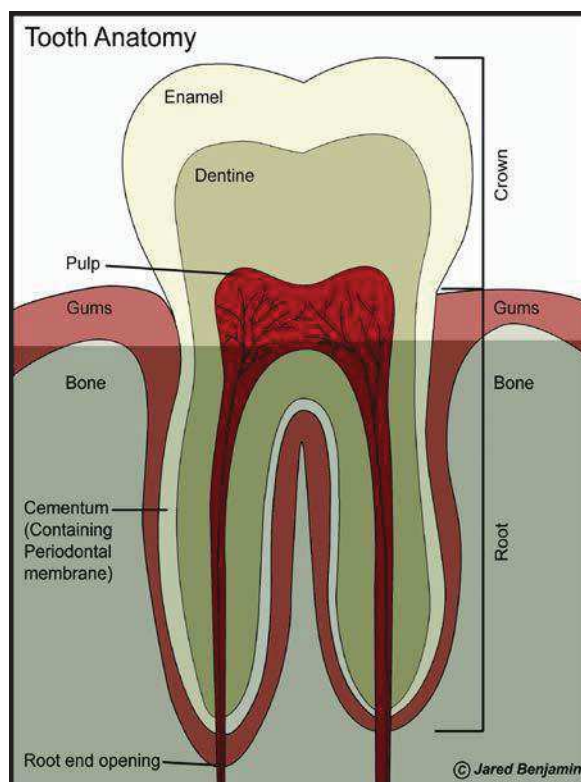


Figure 3: Tooth Anatomy

The earliest manifestation of the disease is **demineralisation of the enamel**. This stage, as mentioned before, can be reversible with meticulous cleaning, change in diet and fluoride treatment.

If the demineralisation phase is not reversed it will progress to **enamel decay**. The enamel layer is a very hard layer of the tooth and is designed to protect the softer, inner dentine layer. This stage can be interrupted either by fluoride treatment, fissure sealants or tiny, shallow fillings. If the process is not stopped, the decay will progress through the enamel layer, as an **established decay** process, until it reaches the dentine.

Once it has reached the dentine, the enamel is undermined and the outer enamel layer collapses forming a cavity. The dentine is destroyed at a greater rate because dentine is not calcified. As the dentine is lost in the decay process, the cavity deepens. At this stage the tooth can be very painful on eating and the caries rapidly progresses into the underlying pulp (which contains the nerves and vessels). If a dentist or therapist intervenes at this stage, the decayed enamel and dentine must be excavated or drilled out and a filling placed.

Once the disease process reaches the pulp, an **abscess** may form. This can give the child a continuous toothache, as well as intermittent pain on eating. At this stage the tooth would either need a root treatment or an extraction (Mount and Hume 2005; Levine and Stillman-Lowe 2014, 7th edition).