

# Oral health promotion: general dental practice

NICE guideline

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## Your responsibility

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

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This guideline is the basis of QS139.

## Overview

This guideline covers how general dental practice teams can convey advice about oral hygiene and the use of fluoride. It also covers diet, smoking, smokeless tobacco and alcohol intake.

### *Who is it for?*

- Dentists
- Dental care professionals – this includes dental hygienists, dental nurses, dental therapists, dental technicians and orthodontic therapists
- Dental practice owners and managers
- Dental practice administrative staff, including receptionists
- Directors of public health, dental public health consultants and strategic leads who plan local dental services
- Dental bodies corporate
- People responsible for educating dental professionals
- Members of the public

## Recommendations

People using services have the right to be involved in discussions and make informed decisions about their care, as described in [your care](#).

[Making decisions using NICE guidelines](#) explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

### 1.1 *Oral health advice given by dentists and dental care professionals*

1.1.1 Give all patients (or their parents or carers) advice during dental examinations based on the oral health messages in Public Health England's [Delivering better oral health](#). This includes:

- advice on oral hygiene practices and the use of fluoride
- advice about diet, smoking, smokeless tobacco and alcohol intake.

1.1.2 Ensure the advice is tailored to meet individual needs. (See section 1.2 in this guideline and recommendation 8 in NICE's guideline on [behaviour change: individual approaches](#).)

1.1.3 Ask and record whether the person uses tobacco. Follow recommendations in sections 1.4 to 1.7 in NICE's guideline on [stop smoking interventions and services](#). If necessary, offer brief advice and offer to refer them to the local stop smoking service.

1.1.4 Consider asking people about their alcohol use, following recommendations in NICE's guideline on [alcohol-use disorders: prevention](#).

1.1.5 Consider delivering oral health improvement messages in a variety of formats and using different media to meet the needs of different groups.

### 1.2 *How dentists and dental care professionals can adopt a patient-centred approach*

1.2.1 Encourage the dental practice team to develop a good relationship with patients

so they can help them maintain good oral health. All staff, including reception and support staff, should understand the importance of creating a welcoming environment for everyone. This includes:

- families with babies or very young children
- children and adults with a physical or sensory impairment.

- 1.2.2 Recognise that contact with those who do not attend regularly (for example, when they attend for emergency care) provides an important opportunity to establish a positive relationship.
- 1.2.3 Provide information about how people can find a local dentist or find out if they qualify for free or subsidised NHS dental care. If they do qualify for free or subsidised care, tell them where they can find out how to make a claim.
- 1.2.4 Listen to patients' needs and offer tailored advice, without judging them if their oral health is poor or if some of their behaviours adversely affect their health (see NICE's quality standard for [patient experience in adult NHS services](#)).
- 1.2.5 Create an individually tailored dental care plan with the patient or their parent or carer. This should combine strategies to prevent, as well as to treat, oral health problems. To develop the preventive part of the plan, ask about the patient's:
- personal circumstances and their oral health (in the past and now) to gauge their risk of poor oral health
  - oral hygiene practices and how often they use fluoride
  - behaviours that may affect their oral health in the short or long term, including their diet, smoking, or using smokeless tobacco or alcohol (see [more information](#) in the context section)
  - existing health conditions or any disabilities or other difficulties that might prevent them from maintaining or improving their own oral health, or the oral health of someone they care for.
- 1.2.6 Ensure the patient, or their parent or carer, understands the plan to maintain or improve their oral health.

1.2.7 Be aware of the personal, cultural, social, environmental and economic barriers to good oral health. This includes:

- the links between poor oral health and socioeconomic deprivation
- recognising that some people may not think it is important to go to the dentist regularly
- understanding that some parents or carers may not realise that it is important to keep children's primary teeth healthy
- being aware that people may need help to use dental services.

### *Terms used in this guideline*

#### **General dental practice**

General dental practices are commonly known as 'high street dentists' and provide primary care dental services. Wherever we refer to dentists, dental care professionals and dental practice teams, we mean those working in general dental practices.

For other public health and social care terms see the Think Local, Act Personal [Care and Support Jargon Buster](#).



## Implementation: getting started

This section highlights 2 areas of the guideline that could have a big impact on practice and be challenging to implement, along with the reasons why we are proposing change in these areas. (See the box at the start of each area.) This section also gives information on resources to help with implementation.

### *1 The challenge: delivering patient-centred oral health advice*

See sections [1.1](#) and [1.2](#).

Developing a patient-centred approach is an opportunity to improve current practice and reduce health inequalities. That is why training is so important.

## Training

During their training to register with the General Dental Council (GDC), dentists and dental care professionals are required to develop the skills and knowledge needed to deliver patient-centred oral health advice. The GDC could consider reviewing this when updating its educational requirements. In addition, as patient needs and contracts change, Health Education England could also consider what ongoing training dentists and dental care professionals need to deliver patient-centred oral health advice. Training could:

- Provide dentists and dental care professionals with detailed information on how to give advice on improving and maintaining good oral health, in line with recommendation 12 in NICE's guideline on [behaviour change: individual approaches](#). This includes:
  - adopting a person-centred approach when assessing people's needs and planning and developing a preventive care plan for them
  - communicating effectively, for example, by using reflective listening and knowing how to show empathy and develop a rapport with people
  - understanding the factors that may affect behaviour change, including psychological, social, cultural and economic factors
  - addressing health inequalities by tailoring interventions to people's specific needs, including their cultural, social and economic needs and other 'protected characteristics'
  - understanding behaviour change techniques and communication styles.

- Help dentists and dental care professionals learn about the benefits of oral health improvement, and how to tell people about these benefits (see Public Health England's [Delivering better oral health](#)). This could include:
  - why improving people's oral health makes a difference
  - the most effective methods of delivering advice on how to improve oral health
  - the links between health inequalities and oral health
  - the needs of groups at high risk of poor oral health
  - how good oral health contributes to people's overall health and wellbeing.
- Train dentists and dental care professionals in how to make the best use of the skill mix within their team.
- Encourage dentists and dental care professionals to recognise their professional responsibility, throughout their career, for keeping up-to-date with the evidence on, and their understanding of, how to improve people's oral health.

## *2 The challenge: developing new incentives for general dental teams to improve people's oral health*

See sections [1.1](#) and [1.2](#).

Commissioning and contracting arrangements that provide dental practices with appropriate incentives to maintain and improve people's oral health help dental teams to adopt a more preventive approach.

### **Encouraging a preventive approach to oral health**

Dental practice teams may need encouragement to adopt a more preventive approach. Those with responsibility for planning and commissioning dental services, along with consultants in dental public health and directors of public health could:

- Encourage dental practices to compare their performance on one-to-one activities to prevent oral health problems with other local practices.
- Provide case studies of NHS dental practices of different sizes that operate a successful business model and, at the same time, deliver best practice preventive care for all patients.

- Align services with other local oral health activities and ensure oral health improvement in dental teams complements wider population approaches. See:
  - NICE's guideline on [oral health: local authorities and partners](#)
  - Public Health England's [Local authorities improving oral health: commissioning better oral health for children and young people](#).

### *Need more help?*

Further resources are available from NICE that may help to support implementation:

- [uptake data](#) about guideline recommendations and quality standard measures.

## Context

This guideline complements NICE's guideline on [dental checks: intervals between oral health reviews](#), the recommendations for dentists in section 1.8 of NICE's guideline on [suspected cancer: recognition and referral](#) and NICE's guideline on [oral health for adults in care homes](#).

It does not cover the following (although the recommendations may be of interest):

- Community-based oral health activities to encourage whole populations to improve their oral health. This is covered by NICE's guideline on [oral health: local authorities and partners](#).
- Dental treatment – general or specialist.

Oral health is important to general health and wellbeing. It can also affect people's ability to eat, speak and socialise normally ([Dental quality and outcomes framework](#) Department of Health).

Poor oral health can lead to absences from school and workplaces. It can also affect the ability of children to learn, thrive and develop ([Local authorities improving oral health: commissioning better oral health for children and young people – an evidence informed toolkit for local authorities](#) Public Health England).

Oral health in England has improved significantly over recent decades. The [Adult dental health survey 2009](#) (Health and Social Care Information Centre) reports that the proportion of adults in England without natural teeth has dropped from 28% to 6% in the past 30 years.

In addition, the number of children with signs of previous decay in permanent teeth has dropped. In 2013, for example, 46% of young people aged 15 – and 34% of those aged 12 – had 'obvious decay experience' in permanent teeth. This compares with 56% and 43% respectively in 2003.

However, oral health varies widely across England. For example, the prevalence of tooth decay among children aged 5 ranges from 12.5% in Brighton and Hove to 53.2% in Leicester ([National Dental Epidemiology Programme for England, oral health survey of 5 year old children 2012](#) Public Health England). Poor oral health tends to be more prevalent among people who are socially or economically disadvantaged.

NHS dental services have more than a million contacts with patients each week ([Improving dental care and oral health – call to action](#)). In 2014, 56% of adults and 69% of children in England had seen an NHS dentist in the past 2 years. ([NHS dental statistics for England 2013–14](#) Health and Social Care Information Centre.) Dental practice teams are well placed to deliver health

improvement advice and to help people look after their oral health.

Each year the NHS in England spends around £3.4 billion on primary and secondary dental services ([Improving dental care and oral health – call to action](#) NHS England).

The NHS remuneration system for general dental practitioners is based on bands of dental activity. It focuses on the treatment and repair of teeth, rather than preventing future disease ([NHS dental services in England](#) Steele J; [Dental contract reform – prototypes](#) Department of Health). A new NHS contract for [general dental practice](#) is expected by 2018 and improving oral health and preventing disease will probably be key.

### *More information*

You can also see this guideline in the NICE Pathway on [oral and dental health](#).

To find out what NICE has said on topics related to this guideline, see our web pages on [alcohol](#), [behaviour change](#), [diet, nutrition and obesity](#), [oral and dental health](#), [patient and service user care](#) and [smoking and tobacco](#).

## The committee's discussion

The committee noted that in the [Adult dental health survey 2009](#) (Health and Social Care Information Centre) only 9% of adults with teeth and 7% without teeth recalled being asked by their dentist about smoking. Similarly, only 36% recalled being asked about their diet. According to the survey, 78% of adults recalled being given advice at the dentist on cleaning their teeth or gums.

The committee also noted that in England, 75% of adults with natural teeth reported that they brush their teeth at least twice a day (76% of them using high or medium strength<sup>[1]</sup> fluoride toothpaste). But 66% of adults in the same survey had plaque on at least 1 tooth and 68% had calculus (tartar or hardened dental plaque) in at least 1 sextant<sup>[1]</sup> of the dental arch. In addition, 37% of people who regularly go to the dentist said they do not use oral hygiene products such as dental floss and interdental brushes.

The committee was aware that around 20% of adults were not satisfied with their dentist. People in this group tend to rate their own oral health lower, leave longer intervals between visits to the dentist and are more likely to be extremely anxious about going. Therefore the committee agreed it is important to address the reasons why some people do not wish to use services regularly.

The committee recognised that separate activities are needed to encourage some people to go to the dentist for a check-up. Members also acknowledged that NICE's guideline on [oral health: local authorities and partners](#) includes recommendations about community-based oral health.

The committee noted that population- and community-level schemes were beyond the remit of this guideline. But members recognised that evidence on larger-scale oral health interventions, such as water fluoridation, suggest such interventions may reduce levels of tooth decay.

During development of this guideline, key elements of the proposed NHS dental reforms were being piloted, including weighted capitation payments to support a preventive approach. The recommendations were written on the assumption that the revised dental contract will recognise the value of good self-care and will reward dental teams that focus on encouraging this.

The committee discussed ways to encourage dental practices to adopt a more preventive approach. However, making recommendations on the type of incentives needed to encourage this was beyond the remit of the guideline.

The committee recognised that dental practice teams have an opportunity to offer a range of health improvement advice. For example, on why it is important to stop smoking and reduce alcohol

intake to improve oral health. (Smoking can affect the health of gums and increase the risk of oral cancer, and alcohol also increases the risk of oral cancer.) Teams also have the opportunity to refer patients on, for example, to local services for smoking cessation.

Other risks to health (for example, drug misuse) were considered, but there was a lack of evidence on how dental practice teams could tackle these.

## *Behaviour change*

The committee recognised that interventions need to provide patients with support to help them change their behaviour, and that many staff in dental practice teams may need training to deliver them. But there was insufficient evidence to identify the specific behavioural components of interventions that might lead to improved oral hygiene practices, or the training that would be needed to deliver them.

The committee was aware that behaviour change techniques have been successfully used by healthcare professionals to support health improvement in other areas. For example, to train practitioners to help people stop smoking. The committee was also aware that behaviour change is referred to in [Delivering better oral health](#) (Public Health England).

The committee noted the importance of helping children to establish life-long oral health-promoting behaviours. Members also noted the importance of parents' and carers' attitudes and behaviours in helping children establish good oral hygiene practices and the use of fluoride.

The committee was aware that patients, parents and carers may have a different view from practitioners about the effect of poor oral health on their children's lives. For example, a patient may focus on the social impact, such as having difficulty speaking or socialising normally. Dentists, on the other hand, tend to focus more on clinical outcomes, such as decayed teeth.

## *Health inequalities*

The committee noted that there are large inequalities in oral health. These variations are linked to factors such as age, ethnicity, socioeconomic group and geographical location. 'Delivering better oral health' states that everyone should be given advice, regardless of how good or bad their oral health is. But members agreed that particular attention should be given to those who have poor oral health.

They also recognised that the cost of toothbrushes and toothpaste could be prohibitive for some

people. But they noted that certain retail outlets sell them very cheaply – and that there may be a role for dental teams in promoting these cheaper options.

## *Evidence*

There was limited and inconsistent evidence from the review of effectiveness about interventions to improve oral health. Several interventions that changed intermediate outcomes, such as people's knowledge about oral hygiene, were identified. But only those interventions providing fluoride toothpaste reduced tooth decay.

Generally, the interventions in the effectiveness review only tended to measure short-term outcomes (1 year or less). This did not allow enough time to see an effect on clinical outcomes (especially tooth decay). Most of the evidence identified related to oral cleanliness. The committee noted that promoting tooth brushing among children and young people can help establish life-long habits that will protect against gum disease and caries.

The committee acknowledged that sugary foods and drinks are a major cause of tooth decay. But no evidence was identified on effective methods to deliver oral health advice that will encourage people to change their diet. This may be because the studies did not include a long enough period for follow-up (see the Health economics section).

There is growing interest in the use of new technology, including phone and tablet apps, to deliver behaviour change interventions. But the committee noted there was a lack of formal evaluations of their effectiveness in relation to oral health.

## *Health economics*

Published economic evaluations of methods used by general dental practice teams to deliver oral health improvement messages are scarce and generally poor quality.

A valuation study was conducted to inform the economic modelling for this guideline because there was a lack of evidence on health state utility values related to oral health. Based on other effectiveness reviews, the economic models used measures of decayed, missing and filled teeth; decayed, missing and filled surfaces; gum problems; and dental pain as the oral health outcomes.

The economic review identified 2 studies for children (1 on primary teeth and 1 on permanent teeth) and 1 for adults that were sufficiently robust and included outcomes that were suitable for economic modelling.



## Economic modelling for children

The economic model for children estimated the expected reduction in dental decay in primary teeth and NHS costs associated with one-to-one health counselling.

The intervention modelled was aimed at parents of children aged 1 to 6. It used data from the Blinkhorn randomised controlled trial, which showed a non-significant reduction in decay in primary teeth. It comprised:

- Initial counselling over 2 visits. This included advice on the use of fluoride toothpaste and sugar control, and a hands-on demonstration of how to clean teeth.
- Six follow-up sessions over 2 years.
- At least 2 tubes of fluoride toothpaste, toothbrushes as needed and leaflets.

This was compared with providing just 1 session and 1 tube of fluoride toothpaste.

The initial analysis suggested it could be cost effective for children at high risk (that is, above twice the average risk) of tooth decay. However, the Committee questioned whether some of the assumptions made in the modelling were realistic and requested further economic analysis.

At the suggestion of the committee, the cost of the intervention was increased from £43 to £230. At this level the model suggested the intervention would not be cost effective, except possibly for children at very high risk of tooth decay (above 4 times average risk).

As noted above, the further analysis was based on the Committee's suggestions and expert opinion. The main aim was to estimate whether 3 levels of intervention were cost effective:

- advice from a dentist as a 5-minute extension to an existing consultation
- a one-off 20-minute advice session by a dental nurse with additional skills in prevention
- a programme of 8 advice sessions with a dental nurse with additional skills in prevention over 2 years (similar to the Blinkhorn intervention).

Costs and effects were estimated over a 3-year period for children aged 5 and 12 years by varying the value of key assumptions such as:

- the risk of tooth decay over 3 years

- the reduction in risk associated with the interventions
- the proportion of extractions performed under general anaesthetic
- non-attendance rates for appointments with a dental nurse with additional skills in prevention.

The range of values used was suggested by the committee.

This analysis suggested that extending an existing consultation by 5 minutes to give advice from a dentist might be cost effective if:

- the children had at least twice the average risk of tooth decay and
- it led to a 10% reduction in the risk of tooth decay over 3 years.

However, the committee felt there was not sufficient evidence on interventions that matched these assumptions to recommend a standalone intervention.

The analysis also showed that a 20 minute appointment with a dental nurse with additional skills in prevention might also be cost effective for high-risk groups. But this depends on the cost and how effective it is and more evidence is needed. Finally, the further analysis suggested that a more intensive programme of oral health advice, consisting of a series of appointments, was unlikely to be cost effective except for children at very high risk (above 4 times the average risk).

## Economic modelling for adults

For adults, the model estimated the effect of adding an oral education programme to standard non-surgical treatment for gum disease, based on the study identified in the economic review. This suggested that the benefits associated with a reduction in gum disease were outweighed by the estimated costs of the intervention.

## Conclusion

The results of the economic analysis were mixed and highly uncertain. It showed that the cost-benefit of dental practice teams delivering oral health improvement messages to adults and children depends on: what information is provided, to whom and in what context. Ultimately it also depends on how effective it is at encouraging people to change their behaviour. Given the lack of empirical evidence, it was not possible to make more specific recommendations because the committee was not confident that they would be cost effective.

The economic models for children did not consider benefits beyond 3 years because there was insufficient epidemiological data on which to base estimates of the long-term effect of oral health improvement.

## *Evidence reviews*

Details of the evidence discussed are in [evidence reviews, reports and papers from experts in the area](#).

The evidence statements are short summaries of evidence. Each statement has a short code indicating which document the evidence has come from.

**Evidence statement number 1.1** indicates that the linked statement is numbered 1 in review 1. **Evidence statement number 2.1** indicates that the linked statement is numbered 1 in review 2. If a recommendation is not directly taken from the evidence statements, but is inferred from the evidence, this is indicated by IDE (inference derived from the evidence).

**Recommendations 1.1.1–1.1.5:** evidence statements 1.1, 1.2, 1.3, 1.5; IDE

**Recommendations 1.2.1–1.2.7:** evidence statements 1.6, 1.10; IDE

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<sup>[1]</sup> The coding frame used in the [Adult dental health survey 2009](#) classified over-the-counter toothpastes by fluoride concentration. This was divided into 3 levels: high (1350 to 1500 parts per million), medium (1000 to 1350 parts per million) and low (550 parts per million or less).

<sup>[2]</sup> One of the six equal parts into which the dental arch (the curved structure formed by the teeth in their normal position) may be divided.

## Recommendations for research

The guideline committee has made the following recommendations for research.

### *1 Oral health promotion advice*

For groups at high risk of poor oral health, how effective and cost effective is it to extend an existing appointment by a few minutes, or to offer separate sessions on oral health advice?

#### **Why this is important**

Many general dental practices already give some advice about self-care during a patient's dental check-up or treatment. The economic modelling suggested it might be cost effective to spend some additional time offering advice to children at high risk of poor oral health. However, there was insufficient evidence of effectiveness to reach a definitive conclusion.

Controlled studies measuring clinical outcomes are needed with children and adults at high risk of poor oral health. Studies should test out the effectiveness of separate sessions of varying length, intensity and duration and compare the results with the delivery of oral health advice during existing appointments.

### *2 Reducing use of emergency dental care*

What interventions are effective and cost effective at encouraging people who usually only go to emergency dental services to use general dental services regularly, in a bid to improve their oral health?

#### **Why this is important**

People who use dental services for an emergency are likely to need invasive interventions such as fillings or extractions. If they had attended the dentist at an earlier stage, any dental disease could probably have been reversed, for example, by using fluoride. Or even more important, a tooth could probably have been saved or early signs of gum disease treated.

### *3 Behaviour change methods and resources*

What behaviour change methods and resources (such as phone apps, leaflets and messaging) help dental teams to provide people with support to improve their oral health?

## **Why this is important**

A range of materials and approaches are available to help dental teams advise patients on their oral health. But there is no evidence on the effectiveness of these materials or approaches to improve oral health.

### *4 Encouraging people to change their oral health behaviour*

What triggers and other factors encourage groups at high risk of poor oral health to change their behaviours in response to oral health messages?

## **Why this is important**

Some people may be more amenable to health education messages than others because of different competing demands on their lives, for example because of low socioeconomic circumstances.

Health education in itself has the potential to widen inequalities and so it is important to identify approaches that are particularly helpful for those with the worst oral health and greatest risk of disease.

### *5 Motivating dental practice teams to take a preventive approach*

What would motivate dental practice teams to take a preventive approach to oral health – especially with high risk groups – and how does this fit into the dental practice business model?

## **Why this is important**

General dental practices are run as businesses and practitioners are independent contractors to the NHS. Some successful NHS dental practices provide preventive dentistry, others struggle to provide these services. This is particularly the case in low socioeconomic areas, where patients attend irregularly (or cannot afford to attend) or do not place a high priority on disease prevention.

## Glossary

### *Gum disease*

Gums become inflamed or swollen and may bleed when brushed. This early stage is known as gingivitis. If gingivitis is not treated, periodontitis can develop. If periodontitis is not treated it can lead to a loss of supporting bone in the jaw that surrounds teeth. Eventually teeth may fall out.

### *Tooth decay*

This is also known as dental caries or dental decay. Dental decay happens when the enamel and dentine of a tooth become softened by acid attack after you have eaten or drunk anything containing sugars. Over time, the acid makes a cavity (hole) in the tooth.

## Update information

### Minor changes since publication

**September 2018:** After a surveillance review some links and information have been updated.

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### *Accreditation*

