

Oral health for adults in care homes

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 are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or service users. The application of the recommendations in this guideline are not mandatory and the guideline does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Local commissioners and/or providers have a responsibility to enable the guideline to be applied when individual health professionals and their patients or service users 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 compliance with those duties.

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Recommendations

The recommendations in this guideline should be considered alongside the advice in Public Health England's [Delivering better oral health](#).

People 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 safeguarding.

1.1 *Care home policies on oral health and providing residents with support to access dental services*

These recommendations are for [care home](#) managers.

1.1.1 Ensure care home policies set out plans and actions to promote and protect [residents'](#) oral health. Include information about:

- local general dental services and emergency or out-of-hours dental treatment
- community dental services, including special care dentistry teams (see the NHS Choices information on [NHS dental services](#))
- oral health promotion or similar services, depending on local arrangements (see [recommendation 1.7.1](#))
- assessment of residents' oral health and referral to dental practitioners (see [section 1.3](#))
- plans for caring for residents' oral health
- daily [mouth care](#) and use of mouth and denture care products
- what happens if a resident refuses oral health care (in line with the [Mental Capacity Act](#) and local policies about refusal of care)
- supply of oral hygiene equipment (for example, basic toothbrush or toothpaste).

- 1.1.2 Ensure you set out your duty of care in relation to residents' oral health needs and access to dental treatments.
- 1.1.3 Ensure the oral health policy aligns with advice in the Delivering better oral health toolkit.
- 1.1.4 Ensure the oral health policy makes it clear that only practitioners registered with the General Dental Council and acting within its scope of practice may diagnose and treat dental disease or refer someone for specialist treatment (see NICE's guideline on suspected cancer: recognition and referral).
- 1.1.5 Ensure mouth care is included in existing care home policies covering residents' health and wellbeing and reviewed in line with local practice.
- 1.1.6 Ensure all care staff, new and existing residents and their families or friends (if they are involved in the resident's care) are aware of care home policies to promote health and wellbeing, including mouth care.

1.2 *Oral health assessment and mouth care plans*

These recommendations are for care staff carrying out admissions or assessments.

- 1.2.1 Assess the mouth care needs of all residents as soon as they start living in a care home, regardless of the length or purpose of their stay. Consider using the Oral health assessment tool. Where family and friends are involved in ongoing care, consider involving them in the initial assessment, with the residents' permission, if it will help staff understand the resident's usual oral hygiene routine. Ask:
- How the resident usually manages their daily mouth care (for example, toothbrushing and type of toothbrush, removing and caring for dentures including partial dentures). Check whether they need support.
 - If they have dentures, including partial dentures, whether they are marked or unmarked. If unmarked, ask whether they would like to arrange for marking and offer to help.
 - The name and address of their dentist or any dental service they have had contact with, and where and how long ago they saw a dentist or received dental treatment.

Record if there has been no contact or they do not have a dentist, and help them find one.

1.2.2 Make an appointment for the resident to see a dental practitioner, if necessary.

1.2.3 Record the results of the assessment and the appointment in the resident's personal care plan.

1.2.4 Review and update residents' mouth care needs in their personal care plans as their mouth care needs change (see recommendation 1.3.3).

1.3 *Daily mouth care*

These recommendations are for managers of care staff who support daily personal care.

1.3.1 Ensure care staff provide residents with daily support to meet their mouth care needs and preferences, as set out in their personal care plan after their assessment. This should be aligned with the advice in the Delivering better oral health toolkit, including:

- brushing natural teeth at least twice a day with fluoride toothpaste
- providing daily oral care for full or partial dentures (such as brushing, removing food debris and removing dentures overnight)
- using their choice of cleaning products for dentures if possible
- using their choice of toothbrush, either manual or electric/battery powered
- daily use of mouth care products prescribed by dental clinicians (for example, this may include a high fluoride toothpaste or a prescribed mouth rinse, see NICE's guideline on managing medicines in care homes)
- daily use of any over-the-counter products preferred by residents if possible, such as particular mouth rinses or toothpastes; if the resident uses sugar-free gum, consider gum containing xylitol.

1.3.2 Ensure care staff know which member of staff they can ask for advice about getting prescribed mouth care products, or helping someone to use them.

1.3.3 Ensure care staff know how to recognise and respond to changes in a resident's mouth care needs.

1.3.4 Ensure care staff know how to respond if a resident does not want daily mouth care or to have their dentures removed (see NICE's website page on [your care](#)).

1.4 *Care staff knowledge and skills*

These recommendations are for [care home](#) managers.

1.4.1 Ensure care staff who provide daily personal care to [residents](#):

- Understand the importance of residents' oral health and the potential effect on their general health, wellbeing and dignity.
- Understand the potential impact of untreated dental pain or mouth infection on the behaviour, and general health and wellbeing of people who cannot articulate their pain or distress or ask for help. (This includes, for example, residents with dementia or communication difficulties.)
- Know how and when to reassess residents' oral health (see [recommendation 1.2.1](#)).
- Know how to deliver daily [mouth care](#) (see recommendations 1.3.1–1.3.4).
- Know how and when to report any oral health concerns for residents, and how to respond to a resident's changing needs and circumstances. (For example, some residents may lose their manual dexterity over time.)
- Understand the importance of denture marking and how to arrange this for residents, with their permission.

1.5 *Availability of local oral health services*

This recommendation is for health and wellbeing boards.

1.5.1 Ensure local oral health services address the identified needs of people in [care homes](#), including their need for treatment. Identify gaps in provision. (See [recommendation 1](#) in NICE's guideline on [oral health: approaches for local authorities and their partners to improve the oral health of their communities](#).)

This includes:

- general dental practices
- community dental services, including special care dentistry (for more information see [NHS England](#))
- oral health promotion or similar services, in line with existing local arrangements
- emergency and urgent out-of-hours dental treatment.

This recommendation is for care home managers.

- 1.5.2 Tell local healthwatch and public health teams about any concerns you have about the availability of local dental and oral health promotion services.

1.6 *Oral health promotion services*

These recommendations are for oral health promotion teams or similar services, in line with existing local arrangements.

- 1.6.1 Develop and provide [care homes](#) with oral health educational materials, support and training to meet the oral health needs of all [residents](#), especially those with [complex needs](#). Also explain the role of diet, alcohol and tobacco in promoting good oral health, in line with advice in the [Delivering better oral health](#) toolkit and NICE's guideline [oral health promotion: general dental practice](#).
- 1.6.2 Help care home managers find out about local oral health services and create local partnerships or links with general dental practice and community dental services including special care dentistry.
- 1.6.3 Tell local authority public health teams and dental public health leads about gaps in the services, so they can advocate for accessible oral and dental health services on behalf of residents of care homes.

1.7 *General dental practices and community dental services*

These recommendations are for dental practitioners.

- 1.7.1 Provide [residents](#) in [care homes](#) with routine or specialist preventive care and treatment as necessary, in line with local arrangements (see NICE's guidelines on [dental checks: intervals between oral health reviews](#), [oral health: approaches](#)

for local authorities and their partners to improve the oral health of their communities and oral health promotion: general dental practice).

- 1.7.2 Ensure dentures made for individual residents are appropriately marked by the lab during manufacture.

Terms used in this guideline

This section defines terms that have been used in a specific way for this guideline. For general definitions, please see the [glossary](#).

Care home

This covers 24-hour accommodation with either non-nursing care (for example, a residential home) or nursing care.

Mouth care

This covers activities such as removing and cleaning dentures, toothbrushing and using fluoride toothpaste.

Residents

This includes all adults aged 18 and older who live in care homes.

Putting this guideline into practice

NICE has produced [tools and resources](#) to help you put this guideline into practice.

Putting recommendations into practice can take time. How long may vary from guideline to guideline, and depends on how much change in practice or services is needed. Implementing change is most effective when aligned with local priorities.

Changes should be implemented as soon as possible, unless there is a good reason for not doing so (for example, if it would be better value for money if a package of recommendations were all implemented at once).

Different organisations may need different approaches to implementation, depending on their size and function. Sometimes individual practitioners may be able to respond to recommendations to improve their practice more quickly than large organisations.

Here are some pointers to help organisations put NICE guidelines into practice:

- 1. Raise awareness** through routine communication channels, such as email or newsletters, regular meetings, internal staff briefings and other communications with all relevant partner organisations. Identify things staff can include in their own practice straight away.
- 2. Identify a lead with** an interest in the topic (it could be someone who is already championing oral health in your local area) to motivate and support others to use the guideline and make service changes, and to find out about any significant issues locally.
- 3. Carry out a baseline assessment** against the recommendations to find out whether there are gaps in current service provision.
- 4. Think about what data you need to measure improvement** and plan how you will collect it. You may want to work with other health and social care organisations and specialist groups to compare current practice with the recommendations. This may also help identify local issues that will slow or prevent implementation.
- 5. Develop an action plan**, with the steps needed to put the guideline into practice, and make sure it is ready as soon as possible. Big, complex changes may take longer to implement, but some may be quick and easy to do. An action plan will help in both cases.

6. For **very big changes** include milestones and a business case, which will set out additional costs, savings and possible areas for disinvestment. A small project group could develop the action plan. The group might include the guideline champion, a senior organisational sponsor, staff involved in the associated services, finance and information professionals.

7. **Implement the action plan** with oversight from the lead and the project group. Big projects may also need project management support.

8. **Review and monitor** how well the guideline is being implemented through the project group. Share progress with those involved in making improvements, as well as relevant boards and local partners.

NICE provides a comprehensive programme of support and resources to maximise uptake and use of evidence and guidance. See our [into practice](#) pages for more information.

Also see Leng G, Moore V, Abraham S, editors (2014) *Achieving high quality care – practical experience from NICE*. Chichester: Wiley.

Context

Poor oral health can affect people's ability to eat, speak and socialise ([Dental quality and outcomes framework](#) Department of Health). Tooth decay and gum disease are the most common UK dental problems, but are largely preventable (Levine and Stillman-Lowe 2009^[1]). They can be painful, expensive and seriously damage health if not treated ('Dental quality and outcomes framework'). Oral cancer is rapidly increasing and half of new cases are in people aged 65 and over ([Oral cancer – UK incidence statistics](#) Cancer Research UK).

Age UK estimates 431,500 people live in [care homes](#), approximately 414,000 of whom are over 65. Some younger adults also live in residential care because their physical or mental health prevents them from living independently. The Age UK figures imply there are 17,500 younger adults in care homes, but other data estimate they may be home to around 30,000 younger adults with learning disabilities (Emerson et al. 2013^[2]).

The Alzheimer's Society estimates 80% of [residents](#) have dementia or severe memory problems ([Low expectations](#)).

Research with adults in care homes with moderate to severe dementia has reported poor oral health (Preston 2006^[3]). A 2012 British Dental Association survey ([Dentistry in care homes research – UK](#)) found inconsistent oral health care in care homes. It found many residents had oral health problems but staff were reluctant to help and lacked training. Care staff showed little understanding about the importance of oral health or its relationship with general health and a range of risk factors (for example, mouth cancer, cardiovascular disease, aspiration pneumonia). Poor oral health (leading to pain or infection) can also precipitate crises in people with dementia.

Good quality information about oral health and dental needs in care homes is lacking. Many residents have complex oral health needs, but it is unclear how these are met. Practice varies across England. Poorly trained staff, lack of access to dental services and advice, existing oral health problems, medicines that decrease saliva, and treatments for chronic medical conditions (including dementia) make it difficult to identify and meet those needs.

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 [care homes](#) and [oral and dental health](#).

See also the [evidence reviews](#) and information about [how the guideline was developed](#), including details of the committee.

^[1] Levine RS, Stillman-Lowe CR (2009) The scientific basis of oral health education: sixth edition. London: British Dental Journal

^[2] Emerson E, Hatton C, Robertson J et al. (2013) People with learning disabilities in England 2012. Learning Disabilities Observatory: Lancaster.

^[3] Preston A (2006) The oral health of individuals with dementia in nursing homes. *Gerodontology* 23 (2): 99–105

The committee's discussion

Evidence statement numbers are given in square brackets. For an explanation of the evidence statement numbering, see the [evidence reviews](#) section.

Background

The committee discussed the fact that oral health care may be a low priority for many [care homes](#), but agreed that like other aspects of personal hygiene, having a clean mouth is a basic human right. The committee noted that when someone is unable to maintain their own oral health they should be given help to do so. The committee discussed the range of factors affecting [residents'](#) access to dental services. It noted the need to provide residents with high quality daily [mouth care](#) that meets their preferences and needs.

The committee also highlighted the important role care home managers have in maintaining or improving people's oral health, and how practice and training in this area of personal care varies. The committee discussed the lack of nationally agreed occupational standards for delivering oral health in care homes, but acknowledged this was outside the scope of this guideline. It agreed that there is an urgent need for guidance in this area and the committee hoped this guideline will raise the national profile of oral health in care homes.

The committee acknowledged that the population of adults living in care homes reflected a wide age range (18 upwards) and that they come into residential care for a variety of reasons and varying lengths of time [EP2].

Many residents, including younger adults, are vulnerable and need the support of others for their personal daily care. Some enter for short periods either for respite care or to recover from illness, then return home to continue an independent life in the community. The committee also discussed that many older adults in care homes have poor physical health that means their life expectancy could be between 18 and 24 months.

The committee considered recent initiatives to help older people to live independently in their own homes for longer. It noted that such initiatives may take time to have an impact. In addition, members thought they might lead to an increase in the number of people needing more complex care once they are in a care home.

The committee noted that most older people living in, or likely to move into a care home may have factors in common that could affect their oral health. For example, they may not have benefitted

from the introduction of fluoride toothpaste in the 1970s. In addition, they may have been brought up in a time when both patients and dentists regarded it as the norm to have teeth removed and dentures fitted as young adults.

The committee noted that some people in care homes are unable to express their own needs. The committee acknowledged the serious challenge this presented and agreed that health inequalities and inequity should be a core consideration in how all the recommendations are implemented.

The committee recognised that many care home managers:

- may lack knowledge about local dental services and where to go for reliable information
- are uncertain about the costs of dental care and exemptions
- are unclear about who is responsible for supporting residents so they can use dental services
- are concerned about the availability of care staff to take people to the dentist.

The evidence reviews and current research base

The committee considered research from 3 high quality evidence reviews conducted by an independent review team. Members noted the lack of research about the oral health needs of younger adults in care homes.

The committee noted that oral health research tends to use clinical dental indices (such as the plaque, gingival and denture plaque indices) as outcome measures. It observed that by looking only at clinical outcomes, the research does not reflect other outcomes that are more important to people, such as wellbeing. The committee also noted that there is no accepted mechanism for converting the resulting 'scores' into outcomes that matter to patients, residents or carers, such as improved self-esteem, dignity, or quality of life.

The committee considered that the choice of measures in the past may have hindered high quality research to develop innovative person-centred outcome measures. It discussed the urgent need for measures and study designs to capture the perspective of the full range of residents living in care homes.

This would include how much importance residents, or those who care for them, place on having a clean, pain-free, healthy mouth. It would also include how poor oral health may affect the care they receive, and how their dignity and individuality are respected and understood (especially with regard to wearing and removal of dentures).

Care home policies on oral health and providing residents with support to access dental services

The discussion below explains how we made recommendations [1.1.1–1.1.6](#).

The committee noted the absence of evidence of effectiveness on access to dental treatment and regular dental examination in care homes in England [ES1.17]. This was despite the comprehensive approach taken by the review team and the amount of national and international evidence it evaluated. The committee took this into account when considering their recommendations for research.

The committee noted that a key theme in review 2 (which appraised guidelines and reports of best practice), was the need for residents to have access to dental care to maintain good oral health. This was highlighted in 18 documents, including 13 guidelines from the UK, US, Australia and Canada [ES2.6].

The need for regular dental examinations at appropriate intervals was a key aspect of 11 best-practice documents [ES2.6]. In addition, 4 guidelines highlighted the need for collaboration among a range of health and care home professionals.

The committee was aware from topic experts that residents (regardless of age, physical or mental health) sometimes refuse or resist dental examinations and mouth care. This is just the same as they may refuse any other type of medical examination or personal care. The committee acknowledged that there was a lack of awareness about the importance of oral health and providing access to dental services for adults who live in care homes. It recognised the need for care home managers to include a policy on how to manage personal care or any treatment needs in these circumstances.

Evidence from 37 studies in review 3 (including 12 good quality and 12 moderate quality) showed that organisational policies on oral health are a key factor in improved oral care. This included 2 controlled studies and 1 uncontrolled before-and-after study of moderate-to-good quality [ES3.4, ES3.5].

The evidence also showed that care home policies that included regular mouth care routines and dental examinations, supported by good communication and accountability to ensure those routines were followed, were associated with improved oral health and better mouth care. Not having these elements reduced the likelihood of benefits.

Eight studies were conducted in the UK, others were conducted in countries with similar care systems or settings. The committee noted the considerable amount of research involved. Combined with members' own expertise and experience, they agreed it was important to make a recommendation.

The committee was aware of NICE's guideline on [suspected cancer: recognition and referral](#), which highlights the role of dentists. The committee agreed this guideline added weight to the argument that it is important to provide dental services for adults living in care homes. It also noted the role of the wider dental or care team in ensuring that any suspicious lesion is seen by a dentist.

In addition, the committee noted that NICE's guideline on [dental recall](#) had a maximum recall period of 24 months for those over 18, with shorter intervals for those with ongoing treatment or disease management needs.

The committee agreed that both these NICE guidelines strengthened the need for this current piece of work. But they do not overcome the problem of how to identify residents' oral health needs in the first place.

The committee reflected on the consistency of these themes across multiple guidelines, as well as their applicability to UK practice, as summarised in review 2.

The committee noted there were resource implications for care home providers and managers, community dental services and commissioners of services [EP1]. But it agreed that these activities should be happening as part of the duty of care to adults living in care homes, although they recognised the effect this may have on care home resources including releasing staff for training.

The committee recognised that making recommendations for regulators (such as the Care Quality Commission) was outside the scope of this work. But it wanted to ensure the audiences for this guideline recognise that there is a duty of care for managers in these settings to meet the general oral health needs of their residents. Of particular concern were circumstances in which vulnerable people may not be able to tell anyone that they have pain or discomfort in their mouth.

Oral health assessments and mouth care plans

The discussion below explains how we made recommendations [1.2.1-1.2.4](#).

The committee recognised that poor oral health may occur before people move into care. For example, as someone's dementia or physical illness worsens, they often find it increasingly difficult

to look after themselves. The committee was therefore concerned about the potentially large number of vulnerable residents who may have unmet oral health needs when they are admitted to care homes.

The committee noted that the oral health of short- as well as long-stay residents (including younger adults) could deteriorate as a result of poor daily mouth care or poor diet. For example, not removing or cleaning dentures, for whatever reason, causes a build-up of food debris in the mouth. This, in turn, could lead to life-threatening conditions such as aspiration pneumonia.

Members, including topic experts, acknowledged that even at its very best the admission process could be an overwhelming experience. This is particularly true for people coming into a new environment that could become their permanent home. Including an oral health assessment may need additional resources, but the committee agreed it is important.

The committee also noted evidence from 3 moderate-to-good quality qualitative studies in Australia and Canada [ES3.8]. This showed that support from family, friends and other residents helped residents maintain or improve their oral health, and improved access to dental services. The committee noted that the support of family and friends could be invaluable, but it had to consider residents who had lost contact with family or friends.

Members agreed it was important to include family and friends where they were in regular contact with residents on a regular basis. But they believed it was also important to ensure the needs of all adults could be reasonably addressed.

Qualitative evidence from review 3 confirmed that having a standardised, validated oral health assessment tool, along with any associated training, was likely to lead to improvements in residents' oral health. (This was also identified in 1 moderate quality quantitative uncontrolled before-and-after study.) This evidence also confirmed it would remove barriers to accessing dental treatment [ES3.3].

The committee acknowledged the value of 3 evidence-based assessment tools described in the review of best practice reports and guidelines [ES2.1]: the Brief Oral Health Status Examination (BOHSE), Revised Oral Health Assessment Guide (ROAG), and the Oral health assessment tool. But members noted that nursing skills may be needed to use the BOHSE and ROAG.

Committee members noted the strength and consistency of the guidelines and best practice evaluated in review 2. This supported the need for an oral health assessment on entry to a care home, 'as a gateway to ensure unmet dental treatment needs are identified'. This was conveyed in

13 guidelines from specialist professional bodies and 14 other guidelines [ES2.1]. Some of the latter (for instance, [The oral health assessment tool – validity and reliability](#) Chalmers et al. 2005, see the [Oral health assessment tool](#)) were considered to be of high quality.

The committee discussed the evidence set out in review 2 about the Oral health assessment tool [ES2.1], and the systematic validation and standardisation work undertaken by the authors [ES1.1, ES1.2, ES1.3]. The testing for ease of use by a range of care staff and residents added further weight to the committee's deliberation. This included evidence that it had been tested with residents who have dementia or communication difficulties.

The committee recognised the [complex needs](#) of some residents, with many having long-term chronic conditions or needing the support of others for their daily care. The committee was also aware of the high staff turnover in some care homes. It agreed that using the Oral health assessment tool is likely to result in a more consistent, improved approach to mouth care in all care settings and by all relevant care staff. Members also recognised staff changes or shift rotations would not affect the way it is carried out.

The committee was aware that the Oral health assessment tool has not been standardised for use by non-medical care staff in the UK. The committee considered the views of care home managers on this. Care home managers agreed that the tool could be used in a care home setting, although care staff may need to be trained to use it [EP3].

The committee recommended starting mouth care immediately for residents who need support. It also recommended that care homes consider completing an oral health assessment on admission, or at least within a week of the person being admitted (sooner for people on short stays).

The committee also agreed that whatever was recommended it should apply to all adults coming into a care home, not just long-stay residents. This includes those coming in for respite care or to recover from an illness or fall.

The committee considered it imperative that care staff who complete the oral health assessment should have the necessary confidence, skills and knowledge, including the ability to treat residents with sensitivity, compassion and dignity. The committee also discussed the importance of care planning in relation to daily mouth care, oral health improvement and access to dental treatment. Members felt strongly that any assessment was of little value unless it resulted in actions that are included in the resident's care plan, and are delivered, regularly monitored and evaluated.

The committee reflected on the concerns and views of care staff and care home managers as set out in the qualitative evidence and expert papers. The members agreed being able to conduct an oral health assessment was an important opportunity to increase care staff's oral health knowledge and skills. The committee acknowledged that carrying out an oral health assessment using the evidence-based Oral health assessment tool may be a new process for some care home managers, and the time and resources that may be involved in embedding this in practice. Nevertheless, members believed this to be an essential component in promoting oral health for this population.

So the committee agreed that the Oral health assessment tool could be considered for use in all care settings by care staff who undertake the admission assessment, at admission or as soon as possible afterwards. It also agreed that it could be used on a regular basis to maintain residents' oral health. This is because the Oral health assessment tool:

- may be used with any care home resident
- does not need specialist nursing training
- is standardised and validated for use in similar care home systems
- would support care home managers in implementing the recommendations consistently
- would reduce variation in practice and improve quality of oral health care across the care sector.

Daily mouth care

The discussion below explains how we made recommendations [1.3.1-1.3.4](#).

The committee noted evidence from studies in review 2 that families and carers of people in care homes may not understand the links between good quality daily mouth care and health and wellbeing. (This includes the value of using routine dental examinations to detect early signs of mouth cancer.)

The committee considered evidence in review 1 about the effectiveness of using sugar-free chewing gum containing xylitol [ES1.11, ES1.16]. It noted moderate evidence from a UK study that this improves oral health outcomes for older people in residential care, compared with usual care.

The committee agreed that sugar-free gum may offer some benefit for adults of any age with natural teeth, if they wish to use it or it is part of their usual routine. However, the committee considered that it may not be suitable for all residents, including those with dentures and any who

may have difficulty swallowing. Members also agreed that it may not be practical for general use in all care homes. One topic expert member pointed out that some service providers may find it difficult to get.

Members agreed that sugar-free chewing gum containing xylitol could be included as part of a range of good quality oral health interventions for all adults. This is provided that the person has had an oral health assessment and their personal needs and preferences have been taken into account. The committee discussed evidence about the effectiveness of chlorhexidine presented in review 1. This reported both improvements [ES1.8, ES1.9, ES1.10, ES1.11, ES1.13, ES1.14] and adverse effects [ES1.15] during use. The committee was also aware of reports of an anaphylactic reaction to chlorhexidine and the fact that the Medicines and Healthcare Regulatory Authority has issued a drug safety notice about hypersensitivity ([Chlorhexidine: reminder of potential for hypersensitivity](#)).

Taking into account the vulnerability and heterogeneity of the population, the committee did not recommend chlorhexidine for everyday use for all residents. This is because it was unlikely to be the most effective or acceptable intervention for residents. The committee was also concerned that promoting a single product such as chlorhexidine may be regarded as promoting the medication of people living in care homes, some of whom will already be taking or given many medicines.

Topic experts on the committee stressed that although chlorhexidine is used to combat a range of mouth infections, it will not remove dental plaque entirely (plaque build-up can lead to dental decay or gum disease). So it is not a substitute for effective toothbrushing of natural teeth or dentures [ES1.10, ES1.11, ES1.12, ES1.13, ES1.14].

Care staff knowledge and skills

The discussion below explains how we made [recommendation 1.4.1](#).

The committee discussed evidence from 46 studies in review 3 [ES3.1, ES3.2] on how care staff knowledge about oral health and skills to perform daily mouth care affects the oral health care of residents. Six of these studies reported that sufficient or improved oral health knowledge and skills helps promote access to dental treatment services.

Two studies (1 good quality and 1 moderate quality) reported that if the care home had a positive attitude to oral health care this tended to lead to dental team involvement [ES3.6].

The committee agreed that it was important to tackle the lack of knowledge, skills or understanding about the importance of oral health for residents among care staff, care home managers and dental teams [ES3.9].

The committee debated at length whether to recommend that care homes appoint an oral health champion. Although members acknowledged that appointing a 'champion' for any topic sometimes works very well, they also considered that good practice varied. The committee decided there was a benefit to having 1 staff member lead but to leave the choice to appoint a champion to local decision makers.

Availability of local oral health services

The discussion below explains how we made recommendations [1.5.1](#) and [1.5.2](#).

The committee discussed the fact that many people in care homes have unmet oral health needs and that commissioners of NHS and public health services have a duty of care to ensure those needs can be met. They agreed that current funding structures and arrangements for dental services provided for care homes were poorly understood and confusing.

The committee discussed the evidence presented in evidence review 3 [ES3.6] about how some general dental practitioners do not like, or are anxious about, providing residents with routine care and treatment.

Although the committee acknowledged these findings, it also considered expert testimony [EP1, EP2] that suggested the limitations of the current dental contract may contribute to the lack of dental service provision and treatment for care home residents. The committee believed including general dental practitioners in this guideline would encourage service development and improve access to dental treatments for residents.

The committee believed that if the outcomes of these actions help residents maintain their oral health, they are likely to be cost saving to both the NHS and care systems (see committee discussion in economic section). These savings would be made from the opportunity costs of supporting residents to gain access to multiple treatments if their oral health declines. It would also avoid the knock-on effects that lack of dental treatment may have on residents. (Such as their ability to maintain an appropriate nutritious diet and other basic needs, as described in the economic evidence section.)

The committee recognised that additional resources would be needed to implement regular mouth care routines if this was not already current practice. But this is likely to be more than offset by the benefit to residents in terms of quality of life. Identifying problems early will also reduce the likelihood of future treatment costs.

The committee felt it was important to ensure the recommendations in this guideline are linked to NICE's guideline on [oral health: approaches for local authorities and their partners to improve the oral health of their communities](#).

Members agreed that access to dental services to identify oral health needs was a basic right. They also agreed that being unable to access dental services for unmet treatment needs was an inequity in service provision that should be highlighted and addressed. They considered that the lack of good quality research on effectiveness reflected a general lack of understanding of the importance of mouth care (and oral health generally) for people in care homes.

The committee agreed that it was important for care home managers to know:

- they can raise concerns, and which organisations to raise them with, if there is a lack of local dental service provision
- who to inform when local care home residents have oral health needs
- whose role it is to support service development based on identified needs.

Members also agreed that implementing these recommendations would lead to systematic, less variable access to dental treatment at an earlier stage. It would also reduce inequity by improving residents' quality of life and reducing avoidable oral health problems. They believed that this could lead to potential health and social care cost savings.

Oral health promotion services

The discussion below explains how we made recommendations [1.6.1-1.6.3](#).

The committee recognised the importance of collaborative working by a range of dental services and the care sector to improve oral health in care homes. Members noted that 4 UK guidelines (appraised in review 2 and rated moderate to high quality using AGREE) emphasised collaborative working and the central role of care home managers. But there was little evidence of their effectiveness [review 1].

Based on the review of best practice [review 2] and expert testimony [EP1, EP2], topic expert members agreed that collaborations and links should be developed between dental services and care home managers.

The committee recognised that oral health promotion services could offer local care homes support and advice to help meet residents' oral care needs. This includes developing and providing educational materials and training, and help to link up with local dental care and public health services where there may be unmet treatment needs [EP1].

The committee was unable to make specific recommendations about the role of diet, alcohol and tobacco or increasing access to fluoride products (including fluoride varnish programmes) for adults living in care homes. That was because no specific studies were identified that reported oral health outcomes for this group. The committee agreed that advice and support from local oral health promotion services would help care homes meet the needs of their residents.

The committee recognised that current practice varied around the country, but understood that similar services were offered through existing local arrangements.

General dental practice and community dental services

The discussion below explains how we made recommendations [1.7.1-1.7.2](#).

The committee considered that general dental practice should act as a first point of call for routine and preventive care and dental treatment in care homes.

The committee heard evidence from review 3 [ES3.6] on the views of general dental teams about providing routine dental care or treatment for adults in residential care (including 8 studies conducted in the UK). The evidence suggested that the dental practitioners interviewed were unwilling to provide services in care homes for several reasons. These included a lack of time, funding, suitable equipment and training to meet residents' particular needs.

The committee recognised that although some practitioners may be limited in what they can do, they would be able to advise care homes what dental services were available in their area under local arrangements.

The committee acknowledged that dental care or treatment carried out in a clinic may be safer and more effective for some residents [EP1]. It discussed the potential lack of specialist equipment and

what equipment can be taken into a care home. The committee also discussed the need to maintain the same levels of infection control as in a clinical setting, which it believed was possible.

The committee also acknowledged that access to off-site dental services may be difficult for many residents, not just those with mobility issues. Community dental services, including special care dentistry teams, can provide dental treatment to residents who have [complex oral health needs](#), a disability or medical condition (see NHS Choices information on [NHS dental services](#)). This includes people:

- with moderate and severe learning and physical disabilities or mental health problems
- with medical conditions who need additional dental care
- who are housebound or homeless.

Denture marking

During discussions about the practical daily care of dentures (full or partial), the committee considered how to reduce the risk of dentures being lost or there being confusion about their ownership.

Topic experts on the committee said denture loss and identification was an issue of concern for many residents and care staff in care homes. Although they recognised there might be some stigma around marking dentures for residents, they agreed that, on balance, offering help with marking or recommending marking be included during the manufacturing process would be beneficial with no or minimal resource implications. They noted some laboratories do this routinely.

Economic evidence

There is very limited published economic evidence on interventions to improve the oral health of care home residents. In the absence of such evidence, NICE would usually develop a bespoke model to estimate cost effectiveness, ideally using our preferred method of cost–utility analysis.

NICE explored this approach after identifying evidence that poor oral health may be associated with cardiovascular disease and respiratory disease (utility values are available for these health states, so a cost–utility analysis would be possible). However, on further examination and after discussion with the committee, we decided that the evidence was insufficient to show that poor oral health directly causes these diseases. So we did not develop a cost–utility model.

Based on the evidence available, it was apparent the economic analysis would be limited to measures of oral health. Moreover, given the lack of evidence on health-state utility values related to oral health, the committee supported development of a cost-consequences analysis, rather than a cost-utility analysis. It favoured this approach because it can capture a wide range of benefits. However, the outcomes of the source studies were limited to clinical measures and so the economic model analysis could not, as had been hoped, report on a wide range of benefits.

The committee agreed that the effectiveness review had identified the best available evidence to inform the analysis and 2 interventions were included:

- direct education of care staff and oral health care (based on Frenkel et al. 2001^[4])
- direct education of care staff, and use of a protocol for planning and delivering oral care and compliance checking (based on Samson et al. 2009^[5]).

These interventions mirrored the types of approaches the committee was considering making recommendations about.

The perspective of the cost-consequences analysis was a single care home. The time horizon was 2 years, based on the average length of stay for a resident reported in the literature. The inputs included:

- number of residents
- percentage of residents who need help with daily oral care
- whether residents use manual or electric toothbrushes
- roles of staff carrying out the interventions
- whether the time of staff who attend oral education training is 'back filled'
- number of education sessions to ensure all relevant staff are trained.

The first intervention cost £15,154 (£379 per resident) over 2 years. Of this, the education programme (1 hour in year 1, 1 hour in year 2) cost £299 (£7.50 per resident). The remaining £14,855 (£371 per resident) was the cost of providing residents with oral care over 2 years.

The second intervention cost £30,241 (£756 per resident) over 2 years. Of this, the education programme (4 hours in year 1, 2 hours in year 2) cost £719 (£18 per resident). The cost of oral care

was the same as in the first intervention. The generic care plans cost £178 to create, and carrying out a 20-minute oral health assessment for every resident cost £391 (£9.80 per resident).

Monitoring the care home's compliance was a substantial cost. The base case assumes this takes the care manager 2 minutes per resident, per day, costing a total of £14,275 (£357 per resident) over 2 years.

One-way sensitivity analyses showed that the largest effect on total cost was determined by parameters using up a large amount of staff time, such as providing daily oral care (if a lot of residents need help) and monitoring compliance.

For example, the analyses above assume a total of 5 minutes per day of a care assistant's time for each resident who needs help with oral care (2.5 minutes, twice daily). If this time is doubled to 10 minutes per day (5 minutes, twice daily) the cost of the providing residents with oral care over 2 years is doubled from £14,855 (£371 per resident) to £29,710.

The above analyses also assumed that residents' families pay for toothbrushes and toothpaste for residents who need help with their oral care. However, the committee estimate that 10% of residents do not have family who visit. On this basis, and assuming that manual toothbrushes are used, the cost of the first intervention increases marginally from £15,153.92 to £15,195.71 and the second from £39,249.65 to £39,282.75.

The committee considered both training and oral care to be relatively low cost but was reluctant to make any judgments about whether the interventions represent good value for money. This was partly because the significance of the changes in clinical indices reported in the intervention studies (such as the gingival index) were difficult to interpret. But it was also because the opportunity costs – that is, the value of different activities carried out by the care home that might be displaced as a result of such provision, such as treating pressure sores – were unknown.

The committee considered that the use of clinical indices in studies of oral health was a serious limitation. It developed an evidence statement that it believes better captures the benefits of good oral health:

'There is evidence that oral health affects overall quality of life and wellbeing^{[6],[7]}. It seems self-evident that having a comfortable, pain-free mouth, with enough teeth to be able to enjoy food and adopt a healthy diet, would be important for the person and their close family and associates. This would be the case regardless of the person's age or other impairments. This observation is supported by research^{[8],[9]}.

In addition, having an acceptable appearance would be considered a social norm^[10] and an acceptable level of cleanliness in the mouth would be considered by most to be normal social behaviour.

All of these important outcomes are potentially compromised if daily plaque removal is neglected. If the mouth is not adequately cleaned, gum inflammation and its associated condition, irreversible periodontitis (gum disease), can cause bad breath, tooth loss, abscesses and pain. Toothbrushing with a fluoride toothpaste also helps prevent the development of dental caries (decay).

The effectiveness of plaque removal for slowing disease progression can be measured using plaque, periodontal, gingival and caries indices. These indices are measures of conditions that are known to affect speech, taste, pain and discomfort, chewing ability, self-confidence, ability to socialise, and sometimes daily life, particularly among older people. But the indices do not capture the other consequences of poor oral health.

The extent to which this occurs can be assessed using psycho-social indicators such as the oral health impact profile^[11].

The committee noted that apart from the clinical impacts, many of the benefits captured in the statement above are not included in the cost–consequences analysis because of an absence of data, and should therefore be considered additional benefits.

Evidence reviews

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

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

Evidence statement (ES) number 1.1 indicates that the linked statement is numbered 1 in review 1: 'Effectiveness'. **ES2.1** indicates that the linked evidence summary is numbered 1 in review 2: 'Best practice'. **ES3.1** indicates that the linked statement is numbered 1 in review 3: 'Barriers and facilitators'. **EP1** indicates that expert paper 1 'NHS dental services commissioning: oral health for adults in care homes' is linked to a recommendation. **EP2** that expert paper 2 'Oral health in residential and nursing homes younger adults' is linked. And **EP3** that expert paper 3 'Oral health in residential and nursing homes: care home managers' is linked.

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 1.1.1–1.1.6: ES1.3, ES1.14, ES1.17; ES2.5, ES2.6; ES3.2, ES3.3, ES3.4, ES3.5, ES3.6, ES3.7, ES3.11; EP1, EP2; IDE

Recommendations 1.2.1–1.2.2: ES1.1, ES1.2, ES1.3; ES2.1, ES2.2, ES2.5; ES3.2, ES3.3, ES3.5, ES3.8; EP1, EP2, EP3; IDE

Recommendations 1.3.1–1.3.4: ES1.7, ES1.8, ES1.10, ES1.11, ES1.12, ES1.13, ES1.14, ES1.15, ES1.16; ES2.1, ES2.2, ES2.3; EP1, EP2; IDE

Recommendation 1.4.1: ES1.7, ES1.8, ES1.10, ES1.11, ES1.12, ES1.13, ES1.14, ES1.15, ES1.16; ES2.1, ES2.2, ES2.3; ES3.1 ES3.2, ES3.6, ES3.9; EP1, EP2, EP3; IDE

Recommendation 1.5.1–1.5.2: ES2.4, ES2.5, ES2.6; ES3.3, ES3.6, ES3.7; EP1; IDE

Recommendations 1.6.1–1.6.3: ES2.6; ES3.6, ES3.7; EP1, EP2; IDE

Recommendations 1.7.1–1.7.2 : ES2.6, ES3.6, ES3.7, ES3.11; EP1, EP2; IDE

^[4] Frenkel HF, Harvey I, Newcombe RG (2001) Improving oral health in institutionalised elderly people by educating caregivers: a randomised controlled trial. *Community Dentistry and Oral Epidemiology* 29: 289–97.

^[5] Samson H, Berven L, Strand GV (2009) Long-term effect of an oral healthcare programme on oral hygiene in a nursing home. *European Journal of Oral Sciences* 117: 5759.

^[6] Naito M, Yuasa H, Namura Yet al. (2006) Oral health status and health related quality of life: a systematic review. *Journal of Oral Science* 48:1–7

^[7] Marino R, Schofield M, Wright C, et al. (2008) Self-reported and clinically determine oral health status predictors for quality of life in dentate older migrant workers. *Community Dentistry and Oral Epidemiology* 36: 85–94

^[8] Sheiham A, Steele JG, Marcenes W, et al. (1999) The impact of oral health on stated ability to eat certain foods: findings from the National Diet and Nutrition Survey of Older people in Great Britain. *Gerontology* 16: 11–2

^[9]Locker D (2002) Changes in chewing ability with ageing: a 7-year study of older adults. *Journal of Oral Rehabilitation* 29:1021–9

^[10]Hassel AJ, Rolko C, Leisen J et al. (2007) Oral health-related quality of life and somatization in the elderly. *Quality of Life Research*. 16(2): 253–61

^[11]Locker D, Jokovic A (1996) Using subjective oral health status indicators to screen for dental care needs in older adults. *Community Dentistry and Oral Epidemiology* 24: 398–402

Recommendations for research

The guideline committee has made the following recommendations for research.

1 Access to dental services in England for adults in care homes

What effect does improving and maintaining access to dental services for adults in care homes have on their oral health and general health and wellbeing?

Why this is important

No research studies were identified that look at care homes in England to determine what interventions are effective and cost effective at improving and maintaining access to dental services. This includes the impact on residents' oral health. Providing and maintaining access to dental services may have resource implications for care homes and it is not clear how the various approaches compare in terms of costs and benefits.

2 Effectiveness and costs of oral health interventions for care home residents

How effective and cost effective are oral health interventions in care homes including suitable person-centred outcome measures?

Why this is important

There is a lack of good quality data on the effectiveness of oral health interventions and the costs of delivering them to residents in care homes in England. There is also no robust data on the differential effects on sub-populations in care homes. This includes: people with dementia, people in poor physical health, those with a short life expectancy and younger adults.

It is important to have good quality data to understand the differential impact of oral health interventions to ensure equitable access to oral health treatments and services.

This data is needed for evaluation purposes, to inform future guidance and commissioning decisions, and is vital for informing efficient and fair use of increasingly limited resources.

3 Measuring improvements in care home residents' oral health

How can interventions to improve and maintain oral health and wellbeing, or to prevent dental disease, be measured using a patient-centred approach that can also be used to judge cost effectiveness?

Why this is important

Oral health research tends to use clinical dental indices (such as the plaque, gingival and denture plaque indices) to provide a measure of statistical relevance. This approach often fails to recognise the difference between what clinicians value in research and what residents or care staff may value more generally. In addition, clinical dental indices cannot be used as the basis of a cost-utility analysis.

A range of person-centred measures and study designs are needed that can also be used to determine cost effectiveness. These measures would capture the views of all residents living in care homes and could include:

- how much they value having a clean, pain-free, healthy mouth
- how poor oral health may affect their self-esteem and general quality of life
- whether or not their dignity and individuality is respected and understood in relation to having a clean, pain-free, healthy mouth (especially in regard to dentures).

4 Daily mouth care for residents

Does the delivery of a daily mouth care regimen in care homes maintain or improve adult residents' oral health-related quality of life?

Why this is important

There is a lack of evidence on the delivery of daily mouth care for adults in care homes in England. Research is needed to find out whether this helps to maintain or improve residents' oral health and any other aspect of their physical health and wellbeing, including their self-esteem and dignity or language, reasoning and judgement.

There is little research about the oral health needs of adults with poor physical health, or a short life expectancy, or adults with dementia. It is important to understand the impact of oral health interventions on these groups to ensure equitable access to oral health services.

5 Reducing demands on health and social care services

Do preventive oral health interventions in residential and nursing care homes reduce demands on other health and social care services?

Why this is important

No research has been conducted in England that demonstrates a reduction in demand on other resources, such as hospital admissions, as a result of oral health care interventions. This is particularly important if limited resources are to be used efficiently.

6 Facilitators and barriers to carrying out daily mouth care and oral health assessments for adults in care homes

What are the facilitators and barriers to delivering daily oral care and conducting oral health assessments in residential and nursing care homes?

Why this is important

Understanding more about the facilitators and barriers to these activities (including staff training) is a high research priority because it could inform the development of an evidence-based, practical mouth care and assessment manual for care home workers.

Glossary

Community or salaried dental services

Employed dentists and dental care professionals who provide routine dental care for people who cannot be treated by general dental practitioners.

Emergency and out of hours dental treatment

Services set up to treat people who need urgent dental care outside normal working hours.

General dental practices

General dental practices are commonly known as 'high street dentists' and provide primary care dental services. They may also provide dental care to people living in care homes if they have arranged to be paid by the person, the care home, the local authority or NHS England.

Oral health

Oral health is essential to general health and quality of life. It means being free from mouth and facial pain, oral and throat cancer, oral infection and sores, gum disease, tooth decay, tooth loss, and other diseases and disorders that limit a person's ability to bite, chew, smile and speak.

Special care dentistry

Dentistry for people with a physical, sensory, intellectual, mental, medical, emotional or social impairment or disability, or a combination of these factors. Special care dentists work with adolescents and adults.

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

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Accreditation

