Surveillance proposal consultation document

2018 surveillance of Oral health: local authorities and partners (2014) NICE guideline PH55

Surveillance background

This 2018 surveillance review has taken into account 4 NICE guidelines on the theme of oral health:

- Oral health: local authorities and partners. NICE guideline PH55 (October 2014)
- Oral health promotion: general dental practice. NICE guideline NG30 (December 2015)
- Oral health for adults in care homes. NICE guideline NG48 (July 2016)
- Dental checks: intervals between oral health reviews. NICE guideline CG19 (October 2004)

This report details the surveillance proposal for one of these guidelines, NICE guideline PH55. Details of the review proposals of the other three oral health guidelines, NG30, NG48 and CG19 can be found on the respective websites.

Surveillance decision

We propose to not update the guideline on Oral health: local authorities and partners.

The following table describes an overview of the impact that evidence identified in surveillance has in each area of the guideline.

Section of the guideline **Recommendation 1**	New evidence identified	**Impact**
Ensure oral health is a key health and wellbeing priority	No	No
Recommendation 2		
Carry out an oral health needs assessment	No	No
Recommendation 3		
Use a range of data sources to inform the oral health needs assessment	No	No
Recommendation 4		
Develop an oral health strategy	No	No

Recommendation 5		
Ensure public service environments promote oral health	Yes	No
Recommendation 6		
Include information and advice on oral health in all local health and wellbeing policies	No	No
Recommendation 7		
Ensure frontline health and social care staff can give advice on the importance of oral health	Yes	No
Recommendation 8		
Incorporate oral health promotion in existing services for all children, young people and adults at high risk of poor oral health	No	No
Recommendation 9		
Commission training for health and social care staff working with children, young people and adults at high risk of poor oral health	Yes	No
Recommendation 10		
Promote oral health in the workplace	Yes	No
Recommendation 11		
Commission tailored oral health promotion services for adults at high risk of poor oral health	Yes	No
Recommendations 12, 13 & 14		
Include oral health promotion in specifications for all early years services Ensure all early years services provide oral health information and advice Ensure early years services provide additional tailored information and advice for groups at high risk of poor oral health	Yes	No
Recommendation 15		
Consider supervised tooth brushing schemes for nurseries in areas where children are at high risk of poor oral health	Yes	No

Recommendation 16		
Consider fluoride varnish programmes for nurseries in areas where children are at high risk of poor oral health	Yes	No
Recommendation 17		
Raise awareness of the importance of oral health, as part of a 'whole-school' approach in all primary schools	Yes	No
Recommendation 18		
Introduce specific schemes to improve and protect oral health in primary schools in areas where children are at high risk of poor oral health	Yes	No
Recommendation 19		
Consider supervised tooth brushing schemes for primary schools in areas where children are at high risk of poor oral health	Yes	No
Recommendation 20		
Consider fluoride varnish programmes for primary schools in areas where children are at high risk of poor oral health	Yes	No
Recommendation 21		
Promote a 'whole school' approach to oral health in all secondary schools	Yes	No

During surveillance, editorial or factual corrections were identified. Details are included in appendix A: summary of evidence from surveillance.

Reasons for the decision

The evidence found was supportive of the current recommendations in this guideline and as such we do not recommend updating the guideline at this time. We also found limited evidence on fissure sealants and high dose xylitol which are not currently included in the guideline; however, this small volume of evidence is not likely to impact the current recommendations. These are more closely related to current sections of the guideline and as such have not been regarded as potential new areas for the guideline.

Overview of 2018 surveillance methods

NICE's surveillance team checked whether recommendations in Oral health: local authorities and partners (NICE guideline PH55) remain up to date.

The surveillance process consisted of:

- Initial feedback from topic experts via a questionnaire.
- Literature searches to identify relevant evidence.
- Assessment of new evidence against current recommendations.
- Deciding whether or not to update sections of the guideline, or the whole guideline.
- Consultation on the decision with stakeholders (this document).

After consultation on the decision we will consider the comments received and make any necessary changes to the decision. We will then publish the final surveillance report containing the decision, the summary of the evidence used to reach the decision, and responses to comments received in consultation.

For further details about the process and the possible update decisions that are available, see ensuring that published guidelines are current and accurate in developing NICE guidelines: the manual.

See appendix A: summary of evidence from surveillance below for details of all evidence considered, with references.

Evidence considered in surveillance

Search and selection strategy

We searched for new evidence related to the whole guideline.

We found 34 relevant studies in a search for RCTs and systematic reviews published between 01 May 2013 and 31 December 2017. Topic experts highlighted 19 studies for this review, 2 of which were within the scope of this guideline, however those 2 studies had already been identified and included during the above search.

We found evidence on sugar and oral health, general oral health education and oral health education in pregnant women and young children to reduce incidence of dental caries and increase oral health behaviours. This evidence is consistent with the information in recommendations 5-7 and 9-11.

Evidence was also found on nursery and school based interventions including supervised toothbrushing which seemed to be effective and cost effective in pre-school aged children but had unclear effects in primary and secondary school children. Fluoride varnish was also noted to be effective at reducing health inequalities in pre-school and primary school aged children but didn't reduce dental caries in secondary school children. This evidence is complementary to recommendations 12-21.

We also found evidence on the use of fissure sealants, which are an alternative to fluoride varnish, and the use of high dose xylitol products which may slow the progression of, or prevent, dental caries, however the evidence for these interventions was found to be insufficient to suggest adding these to the recommendations at this time.

Selecting relevant studies

The standard surveillance review process of using RCT and systematic review selection criteria was used for this search.

Ongoing research

We checked for relevant ongoing research; of the ongoing studies identified, 6 studies were assessed as having the potential to change recommendations; therefore we plan to check the publication status regularly, and evaluate the impact of the results on current recommendations as quickly as possible.

Advice considered in surveillance

Views of topic experts

We considered the views of topic experts, including those who helped to develop the guideline.

For this surveillance review, topic experts completed a questionnaire about developments in evidence, policy and services related to the guideline.

Views of voluntary and community sector organisations

We considered the views of voluntary and community sector organisations with an interest in oral health.

For this surveillance review, organisations completed a questionnaire about the use of the guideline in practice, and needs and opinions of people using the services.

Views of stakeholders

We obtain the views of stakeholders on surveillance decisions through consultation.

See ensuring that published guidelines are current and accurate in developing NICE guidelines: the manual for more details on our consultation processes.

Equalities

No equalities issues were identified during the surveillance process.

Appendix A: Summary of evidence from surveillance

2018 surveillance of Oral health: local authorities and partners (2014)
NICE guideline PH55

Summary of evidence from surveillance

Studies identified in searches are summarised from the information presented in their abstracts.

Feedback from topic experts who advised us on the approach to this surveillance review was considered alongside the evidence to reach a final decision on the need to update each section of the guideline.

1 Ensure oral health is a key health and wellbeing priority.

Health and wellbeing boards and directors of public health should:

- Make oral health a core component of the joint strategic needs assessment and the health and wellbeing strategy. Review it as part of the yearly update.
- Set up a group that has responsibility for an oral health needs assessment and strategy. Ensure the following contribute to the work of the group:
  - a consultant in dental public health
  - a local authority public health representative
  - an NHS England commissioner of local dental services
  - a representative from a local professional dental network
  - a representative from the local dental committee
  - representatives from children and adult social care services
  - a local Healthwatch representative
  - a senior local government representative to lead on, and act as an advocate for, oral health
  - representatives from relevant community groups.

Surveillance decision

No new information was identified during the surveillance review

This recommendation should not be updated.

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2 Carry out an oral health needs assessment

The group responsible for the oral health needs assessment and strategy (see recommendation 1) should:

- Define the scope of an oral health needs assessment for the local population. This should include:

  - What the assessment will and will not cover, for example, access to services for groups at high risk of poor oral health, certain age groups or in certain settings (see recommendation 3).
  - The responsibilities of each partner organisation and how they will work together to make best use of resources (for example, detailing how data could be collected across organisations).
  - The need to consider recommendations and outcomes from any previous oral health needs assessment (if available).
- Ensure the oral health needs assessment is an integral part of the joint strategic needs assessment and clearly linked to strategies on general health and wellbeing (see recommendation 1).
- Conduct the oral health needs assessment as part of a cyclical planning process geared towards improving oral health and reducing health inequalities. It should not be a one-off exercise that simply describes the target population.

Surveillance decision

No new information was identified during the surveillance review

This recommendation should not be updated.

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3 Use a range of data sources to inform the oral health needs assessment

The group responsible for the oral health needs assessment and strategy should:

- Use local demographic and deprivation profiles to identify groups that may be at high risk of poor oral health.
- Use national surveys of oral health (adult and child) and NHS dental epidemiological programme data to gain an idea of local oral health needs relative to the national picture and comparator areas.
- Use national demographic and socioeconomic data and the established link between these factors and oral disease to determine likely local needs.
- Use local expertise and local health and lifestyle surveys and consultations to understand local oral health needs in the context of general health.
- Consider seeking advice on survey design and the collection, analysis and interpretation of epidemiological data relevant to oral health.

Surveillance decision

No new information was identified during the surveillance review

This recommendation should not be updated.

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4 Develop an oral health strategy

Develop an oral health strategy based on an oral health needs assessment (see recommendations 2 and 3). This should set out how the local authority and its health and wellbeing commissioning partners will:

- Address the oral health needs of the local population as a whole (universal approaches).
- Address the oral health needs of groups at high risk of poor oral health (targeted approaches).
- Address any oral health inequalities within the local population and between the local population and the rest of England.
- Identify and work in partnership with people who are in a position to improve oral health in their communities. This includes those working in adult, children and young people's services, education and health services and community groups.
- Set a good example through their own policies and the policies of organisations they commission to provide services. For example, by ensuring access to free drinking water in all workplaces and public areas and through healthy catering and food policies (see recommendations 5 and 6).
- Set out the additional support that people working with groups at high risk of poor oral health will be given, including training or resources. (See the NICE guideline on community engagement.)
- Get all frontline staff in health, children and adult services to use every opportunity to promote oral health and to emphasise its links with general health and wellbeing.
- Ensure easy access to services to help prevent oral disease occurring in the first place and to prevent it worsening or recurring for everyone, throughout their lives.
- Evaluate what works for whom, when and in what circumstances.
- Monitor and evaluate the effect of the local oral health improvement strategy as a whole.

Surveillance decision

This recommendation should not be updated.

Editorial corrections are required:

- Hyperlink for the glossary term high risk gives the result: page not found. This hyperlink will be updated. This is the only link to the high risk glossary term that does not work.
- The hyperlink for the NICE glossary term targeted approaches is broken and gives the result: page not found. This hyperlink will be updated.
- Recommendation 4 cross-refers to Community engagement NICE guideline (PH9). This will be replaced with a cross-reference to the updated Community Engagement NICE guideline NG44.

Develop an oral health strategy

2018 surveillance summary

No new evidence was identified.

Intelligence gathering

No topic expert feedback was relevant to this recommendation.

Information provided by the NICE field team found that 1 council has reported creating a new oral health strategy based solely on the information provided in NICE guidelines PH55 and NG30.

Editorial corrections were identified by checking each link on the guideline.

Impact statement

No new evidence has been identified that is relevant to this recommendation.

Editorial corrections are needed:

The hyperlink for the glossary term 'high risk' will be updated to high risk. This is the only hyperlink to 'high risk' that is not working.

- The hyperlink for the glossary term targeted approaches will be updated.
- Recommendation 4 cross-refers to Community engagement NICE guideline (PH9). This will be replaced with a cross-reference to the updated Community Engagement NICE guideline NG44.

No new evidence was identified.

5 Ensure public service environments promote oral health

Local authorities and other commissioners and providers of public services should:

- Ensure all public services promote oral health by:
  - Making plain drinking water available for free.
  - Providing a choice of sugar-free food, drinks (water or milk) and snacks (including fresh fruit), including from any vending machines on site (see the NICE guidelines on obesity and obesity: working with local communities)
  - Encouraging and supporting breastfeeding (see the NICE guideline on maternal and child nutrition).

    This includes services based in premises wholly or partly owned, hired or funded by the public sector such as: leisure centres; community or drop-in centres; nurseries and children's centres; other early years services (including services provided during pregnancy and for new parents); schools; and food banks.
- Review other 'levers' that local authorities can use to address oral health and the wider social determinants of health, for example, local planning decisions for fast food outlets (see recommendation 11 in the NICE guideline on prevention of cardiovascular disease).
- Explore the possibility of linking with local organisations in other sectors (for example, local shops and supermarkets) to promote oral health. This could be part of a broader approach to promoting healthier lifestyles including helping people to reduce their tobacco and alcohol consumption.

Surveillance decision

This recommendation should not be updated.

Sugar and oral health

2018 surveillance summary

No relevant evidence was identified.

Intelligence gathering

One topic expert highlighted the SACN: Carbohydrates and Health report (2015) which reports on health inequalities and sugar consumption. The report has a focus on obesity and recommends that no more than 5% of total dietary energy should come from free sugar. The report also covers the effect of sugar on oral health. However, there is limited available information about the impact of interventions to reduce sugar intake to improve oral health outcomes.

Impact statement

No new evidence was identified of relevance to the recommendation. The SACN report confirms the relationship between frequency of sugar intake and the incidence of dental caries. The current recommendation encourages a reduction of sugar intake and states that public service environments should make sugar free food and drinks available.

New evidence is unlikely to change guideline recommendations.

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6 Include information and advice on oral health in all local health and wellbeing policies

Local authorities and other commissioners and providers of public services should:

- Ensure all health and wellbeing and disease prevention policies for adults, children and young people (including local government health and social care policies and strategies) include advice and information about oral health. This should be based on the 'advice for patients' in Delivering better oral health. It should be included with information about the common risk factors for ill health.
- Ensure health and wellbeing and disease prevention policies for children and young people cover oral health. For example, this may include policies covering:
  - nutrition, including breastfeeding and weaning practices (see the NICE guideline on maternal and child nutrition)
  - nutrition and the health and wellbeing of looked after babies, children and young people (including care leavers) (see the NICE guideline on looked-after children and young people)
  - obesity (see the NICE guidelines on obesity and obesity: working with local communities)
  - local food, drink and snacks policies in a range of settings, including nurseries and children's centres
  - private and voluntary providers of childcare services (including childminding services)
  - primary and secondary education (see recommendations 17 to 21)
  - local child and young person safeguarding policies
  - care delivered at home
  - Providers of care services offered to children and young people in their own home.

- Ensure health and wellbeing and disease prevention policies for adults cover oral health. For example, this may include policies covering:
  - health and social care assessments
  - nutrition and health and wellbeing
  - care delivered at home
  - local food, drink and snacks policies in a range of settings, including drop-in centres, lunch clubs, leisure centres and food banks
  - local adult safeguarding policies
  - carer centres
  - providers of adult care services offered in someone's own home.

Surveillance decision

This recommendation should not be updated.

An editorial correction is needed:

- A cross-reference is made to the Department of Health and PHE's 'Delivering better oral health: an evidence-based toolkit for prevention' (2014). This publication has been updated and cross-references will be updated accordingly to Delivering better oral health: an evidence-based toolkit for prevention (2017, 3rd edition).

Delivering better oral health

2018 surveillance summary

No new evidence was identified.

Intelligence gathering

The Department of Health and Public Health England's (PHE) Delivering better oral health: an evidence-based toolkit for prevention (3rd edition) was published in 2017 and is intended for primary care dental teams. The 2014 version of the toolkit, with detailed 'advice for patients', is referenced from the NICE guideline PH55 (2014) and indicated as advice that should be provided by health and social care staff working with children, young people and adults at high risk of poor oral health. The updated 2017 toolkit continues to provide advice for patients. It also makes recommendations on 'professional interventions' for the prevention of caries in children and adults. This updated version includes a section on behaviour change. It states healthcare providers, including dental teams, have a role in making every contact count, helping their patients to change behaviour and improve their health and wellbeing. It notes that oral hygiene practices, tobacco and alcohol use, certain dietary practices, the use of fluorides and dental attendance are all important oral health related behaviours. The toolkit was highlighted by a topic expert and also found during the surveillance review.

Impact statement

No new evidence was identified that would affect the recommendation. The 2017 edition of Delivering better oral health: an evidence-based toolkit for prevention is relevant to the advice given in this recommendation. An editorial correction to this updated version is required as described above.

New evidence is unlikely to change guideline recommendations.

7 Ensure frontline health and social care staff can give advice on the importance of oral health

Local authorities and other commissioners and providers of public services should:

- Ensure service specifications include the requirement for frontline health and social care staff to receive training in promoting oral health. This should include:
  - the 'advice for patients' in Delivering better oral health
  - the fact that tooth decay and gum disease are preventable
  - the importance of regular tooth brushing
  - links between dietary habits and tooth decay
  - how fluoride can help prevent tooth decay
  - links between poor oral health and alcohol and tobacco use including the use of smokeless tobacco.
  - where to get advice about local dental services, including costs and transport links
- Ensure staff understand the links between health inequalities and oral health and the needs of groups at high risk of poor oral health.
- Ensure frontline health and social care staff can advise carers on how to protect and improve the oral health and hygiene of those they care for.

Surveillance decision

This recommendation should not be updated.

An editorial correction is needed:

- A cross-reference is made to the Department of Health and PHE's 'Delivering better oral health: an evidence-based toolkit for prevention' (2014). This publication has been updated and cross-references will be updated accordingly to Delivering better oral health: an evidence-based toolkit for prevention (2017, 3rd edition).

Ensure staff can advise on oral health

2018 surveillance summary

No new evidence was identified.

Intelligence gathering

Intelligence gathering and 1 topic expert identified the following: The Department of Health and PHE's Delivering better oral health: an evidence-based toolkit for prevention (2017). See Recommendation 6 for a full

summary. This publication has been updated and cross-references will be updated accordingly to Delivering better oral health: an evidence-based toolkit for prevention (2017, 3rd edition).

PHE's Child oral health: applying All Our Health (August 2017) provides information for healthcare professionals on population and community interventions. NICE guideline PH55 and NICE guideline NG30 are referred to in this document. This is complementary to NICE guideline PH55. It highlights the need to address inequalities in oral health by region and promotion of oral health in the local community.

Impact statement

No new evidence was identified that would affect the recommendation. The 2 PHE documents identified provide useful information for healthcare professionals which is consistent with the advice given in this recommendation. The hyperlink 'delivering better oral health' is broken and will be fixed.

New evidence is unlikely to change guideline recommendations.

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8 Incorporate oral health promotion in existing services for all children, young people and adults at high risk of poor oral health

Commissioners of health and social care services, including those that support people to live independently in their own home, should:

- Review all community health and social care service specifications to ensure oral health is included in care plans and is in line with safeguarding policies.
- Ensure service specifications include a requirement to promote and protect oral health in the context of overall health and wellbeing. Relevant services include substance misuse services and those supporting people living independently in the community. (For example, people who are homeless or living in hostels, those who experience physical or mobility problems, people with learning difficulties, and people experiencing mental health problems.)
- Ensure service specifications include:
  - an assessment of oral health, including a referral, or advice to go to a dentist or other clinical services (this may be because of pain, concerns about appearance or difficulty in eating)
  - making oral health care, including regular dental check-ups, an integral part of care planning – through self-care or clinical services
  - support to help people maintain good oral hygiene (including advice about diet)
  - staff training in how to promote oral health – during inductions and then updated on a regular basis (see recommendations 7 and 9).

Surveillance decision

No new information was identified at any surveillance review.

This recommendation should not be updated.

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9 Commission training for health and social care staff working with children, young people and adults at high risk of poor oral health

Local authorities and health and wellbeing commissioning partners should:

- Commission regular, training for frontline health and social care staff working with groups at high risk of poor oral health. This should be based on 'advice for patients' in Delivering better oral health. The aim is to ensure they can meet the needs of adults, children and young people in groups at high risk of poor oral health. The training should include:
  - Basic assessment and care planning to promote and protect oral health.
  - How good oral health contributes to people's overall health and wellbeing.
  - The consequences of poor oral health, for example, dental pain and infection. (This can exacerbate symptoms associated with dementia and can also contribute to malnutrition among older people.)
  - How the appearance of teeth contributes to self-esteem.
  - Causes, symptoms and how to prevent tooth decay (including root caries in older people), gum disease and oral cancer, for example:
    - the role of plaque in gum disease and how it can affect the immunity of people with diabetes
    - the role of high-sugar diets
    - the link between the use of sugar-sweetened methadone and poor oral health
    - smoking and other tobacco products as a risk factor for oral diseases such as gum disease and oral cancer (see the NICE guideline on smokeless tobacco cessation).
  - Techniques for helping people maintain good oral hygiene (including the use of fluoride toothpaste).
  - Local pathways for accessing routine, urgent and home care and specialist services.
  - How to encourage and support people to register with a dentist and how to act as an advocate to ensure others can use services.
  - Entitlements to free dental treatment or help with costs.
  - Information on local voluntary sector organisations that may be able to offer additional advice, help or advocacy services.
  - What advice to give to carers.

Surveillance decision

This recommendation should not be updated.

An editorial correction is needed:

- A cross-reference is made to the Department of Health and PHE's 'Delivering better oral health: an evidence-based toolkit for prevention' (2014). This publication has been updated and cross-references will be updated accordingly to Delivering better oral health: an evidence-based toolkit for prevention (2017, 3rd edition).

Training for staff who work with those at high risk of poor oral health

2018 surveillance summary

No new evidence was identified.

Intelligence gathering

One topic expert provided information on the SACN: Carbohydrates and Health report (2015) which supports recommendation 9 in highlighting the role of high sugar diets and its effect on oral health. However there was limited information about the impact of interventions to reduce sugar intake with regard to improving oral health.

Intelligence gathering also identified the following: The Department of Health and PHE's Delivering better oral health: an evidence-based toolkit for prevention. See Recommendation 6 for a summary. This publication has been updated and cross-references will be updated accordingly to Delivering better oral health: an evidence-based toolkit for prevention (2017, 3rd edition).

Impact statement

No new evidence was identified that would change the recommendation. Recommendation 9 currently advises on the role of high sugar diets and the link to poor oral health, which is complementary to the SACN: Carbohydrates and Health report (2015).

This recommendation contains the hyperlink 'delivering better oral health'. This hyperlink is broken and will be amended.

New evidence is unlikely to change guideline recommendations.

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10 Promote oral health in the workplace

Public sector employers including local authorities and the NHS should:

- Work with occupational health and human resource services to promote and protect oral health using the 'advice for patients' in Delivering better oral health. This should be part of efforts to improve general health and wellbeing at work and should be tailored to local needs. (See the NICE pathway on smoking cessation in the workplace and the NICE guideline on preventing type 2 diabetes: population and community-level interventions.)
- Consider ways to raise awareness of evidence-based oral health information and advice and ways to improve access to dental services, for example, by giving people information about local advocacy services.
- Consider allowing people time off work to go to the dentist without losing pay (as is common practice for GP appointments).
- Make information available to staff about local dental services and about national guidelines on oral health. For example, include this information at health promotion events, in leaflets and posters and on noticeboards and the intranet. This information should be written in plain English and should include details of:
  - the links between diet, alcohol and tobacco use and oral health
  - effective oral hygiene techniques, including the use of fluoride products and tooth brushing techniques
  - the benefits of going to the dentist and regular check-ups

  - eligibility for reduced-cost or free treatment
  - how to obtain appropriate forms (for example, for people receiving certain benefits, including pregnancy and maternity benefits)
  - local advocacy services
- Ensure the workplace environment promotes oral health (see recommendation 6).

Surveillance decision

This recommendation should not be updated.

Editorial corrections are needed:

- A cross-reference is made to the Department of Health and PHE's 'Delivering better oral health: an evidence-based toolkit for prevention' (2014). This publication has been updated and cross-references will be updated accordingly to Delivering better oral health: an evidence-based toolkit for prevention (2017, 3rd edition).
- A cross-reference to the NICE pathway 'Smoking cessation in the workplace' is broken. The hyperlink will be updated with a cross-reference to the NICE pathway Stopping smoking in the workplace.

Promote oral health in the workplace

2018 surveillance summary

No new evidence was identified.

Intelligence gathering

Intelligence gathering identified the following:

The Department of Health and PHE's Delivering better oral health: an evidence-based toolkit for prevention (2017). See Recommendation 6 for a full summary.

Impact statement

No new evidence has been identified that would affect the recommendation. The 2017 edition of Delivering better oral health: an evidence-based toolkit for prevention is relevant to the advice given in this recommendation.

This recommendation contains the hyperlink 'delivering better oral health'. This hyperlink is broken and will be amended.

New evidence is unlikely to change guideline recommendations.

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11 Commission tailored oral health promotion services for adults at high risk of poor oral health

Local authorities, health and wellbeing commissioning partners and NHS England area teams should:

- Use information from their oral health needs assessment to identify local areas and groups at high risk of poor oral health (see recommendation 2)

- Provide tailored interventions to help people at high risk of poor oral health who live independently in the community. This could include outreach services, for example, for people who are homeless or who frequently change location, such as traveller communities. Ensure services deliver evidence-based advice in line with the 'advice for patients' in Delivering better oral health.
- Ensure services promote and protect oral health, for example, by:
  - giving demonstrations of how to clean teeth and use other oral health and hygiene techniques (as appropriate)
  - promoting the use of fluoride toothpaste
  - providing free or discounted materials including fluoride toothpaste and manual and electric toothbrushes
  - explaining the links between oral health and diet, alcohol and tobacco use.
- Ensure local care pathways encourage people to use dental services.

Surveillance decision

This recommendation should not be updated.

An editorial correction is needed:

- A cross-reference is made to the Department of Health and PHE's 'Delivering better oral health: an evidence-based toolkit for prevention' (2014). This publication has been updated and cross-references will be updated accordingly to Delivering better oral health: an evidence-based toolkit for prevention (2017, 3rd edition).

Tailored oral health promotion for adults

2018 surveillance summary

A systematic review and meta-analysis(1) of 9 RCTs reported across 11 studies assessed the effectiveness of psychological and behavioural interventions compared to traditional oral health education or information in adults and adolescents (13 years+) with poor oral health. Reporting in the abstract did not disaggregate results by age. No significant differences in gingivitis or plaque were observed. One meta-analysis on psychological interventions compared to education found a small but significant difference in plaque index scores. There were also significant differences in favour of psychological interventions for oral health behaviour and self-efficacy in tooth brushing.

An RCT(2) investigated the effect of an oral health literacy intervention for rural dwelling indigenous Australian adults (n=400). The intervention group (n=203) received 5 oral health literacy sessions (1.5 hours each) over a 1 year period; no information was provided on the control condition. The authors report that the number of adults responding that "water with fluoride" was good increased over the 1-year period in the intervention group. No significant differences were seen in the mean difference for the secondary outcomes of the social impact of oral disease and psychosocial & knowledge related factors, between the intervention and control groups over the study period. Studies regarding indigenous populations were included in the selection criteria for PH55. Evidence statements 1.24 and 1.25 state that evidence from these groups may be applicable to other hard to reach communities in the UK however this should be interpreted with caution.

Intelligence gathering

Intelligence gathering identified that the recommendation links to the 2014 version of Delivering better oral health: an evidence-based toolkit for prevention. An updated third edition of this document was published in 2017.

Impact statement

Evidence from 1 study suggests that oral health literacy can be improved through medium intensity interventions. A systematic review of psychological and behavioural interventions, compared with traditional educational approaches, indicated that improvements in oral health outcomes and oral health behaviour were marginal. These studies provide general support for oral health interventions in adults at risk of poor oral health, which is complementary to this recommendation which states tailored interventions should be provided for this group. However, there is insufficient evidence to suggest updating this recommendation to include these intensive, potentially high resource, interventions.

The recommendation states that evidence based advice should be delivered in line with the 2014 version of Delivering better oral health: an evidence-based toolkit for prevention. This recommendation contains the hyperlink 'delivering better oral health'. This hyperlink is broken and will be amended.

New evidence is unlikely to change guideline recommendations.

Recommendations 12, 13 & 14.

The 3 recommendations have been considered together because they relate to early years services and the new evidence relates to oral health promotion and education across the early years age group.

12 Include oral health promotion in specifications for all early years services

Local authorities and health and wellbeing commissioning partners should:

- Ensure all contract specifications for early years services include a requirement to promote oral health and train staff in oral health promotion (see recommendations 7 to 9 and 13 to 14). This includes services delivered by:
  - Midwives and health visiting teams.
  - Early years services, children's centres and nurseries.
  - Child care services (including childminding services).
  - Frontline health and social care practitioners working with families who may be at high risk of poor oral health. (For example, families with complex needs, teenage parents and families from minority ethnic communities where poor oral health is prevalent and people may find it difficult to use services.)
- Ensure all frontline staff in early years services, including education and health, receive training at their induction and at regular intervals, so they can understand and apply the principles and practices that promote oral health.

13 Ensure all early years services provide oral health information and advice

Local authorities and health and wellbeing commissioning partners should:

- Ensure all early years services include advice about oral health in information provided on health, wellbeing, diet, nutrition and parenting. This should be in line with the 'advice for patients' in Delivering better oral health. If possible, oral health activities such as tooth brushing should be listed with other general routines recommended for children by established parenting programmes (such as Parenting UK).
- Ensure all frontline staff can help parents, carers and other family members understand how good oral health contributes to children's overall health, wellbeing and development. For example, by:
  - promoting breastfeeding and healthy weaning, including how to move from breast or bottle feeding to using an open cup by 12 months (see box 1)
  - promoting food, snacks (for example, fresh fruit) and drinks (water and milk) that are part of a healthier diet
  - explaining that tooth decay is a preventable disease and how fluoride can help prevent it
  - promoting the use of fluoride toothpaste as soon as teeth come through (see Delivering better oral health for appropriate concentrations)
  - encouraging people to regularly visit the dentist from when a child gets their first tooth
  - giving a practical demonstration of how to achieve and maintain good oral hygiene and encouraging tooth brushing from an early age
  - advising on alternatives to sugary foods, drinks and snacks as pacifiers and treats
  - using sugar-free medicine
  - giving details of how to access routine and emergency dental services
  - explaining who is entitled to free dental treatment
  - encouraging and supporting families to register with a dentist
  - providing details of local advocacy services if needed.

14 Ensure early years services provide additional tailored information and advice for groups at high risk of poor oral health

Local authorities and health and wellbeing commissioning partners should:

- Use information from the oral health needs assessment to identify areas and groups where children are at high risk of poor oral health (see recommendation 2).
- Provide tailored services to meet the oral health needs of these groups (this includes young children who are not attending nursery).
- Ensure early years services identify and work in partnership with relevant local community organisations (see recommendation 1) to develop and deliver tailored oral health advice and information for families (See the NICE guideline on community engagement).
- Ensure health and social care practitioners can provide culturally appropriate advice and information on oral health for families with babies and young children.

- Consider giving midwives and health visitors free tooth brushing packs to offer to families in groups at high risk of poor oral health. (See Childsmile for an example of these packs.) Distribution of packs should be combined with information on when and how to brush teeth, a practical demonstration and information about local dental services.

Surveillance decision

These recommendations should not be updated.

Editorial corrections are needed:

- Recommendation 13: There is a link made to the Department of Health and PHE's 'Delivering better oral health: an evidence-based toolkit for prevention' (2014). This publication has been updated and cross-references will be updated accordingly to Delivering better oral health: an evidence-based toolkit for prevention (2017, 3rd edition).
- Recommendation 14: There is a cross-referral to Community engagement NICE guideline PH9. This link will be replaced with a cross-reference to the updated Community Engagement NICE guideline NG44.

Early years advice and information

2018 surveillance summary

Oral health promotion in pregnancy

A systematic review(3) of 21 RCTs and observational studies examined the effect of integrating oral health promotion into nursing and midwifery practice (further details of interventions are not provided in the abstract). Eighteen studies reported reduction in caries experience, better oral hygiene habits and increased rates of dental visits.

A systematic review(4) of RCTs, clinical trials and review articles (4 studies) examined the efficacy of oral health educational programmes for expectant mothers. Meta-analysis could not be performed however the results of 1 study showed a significant decrease in caries incidence.

A systematic review(5) of 7 studies examined the range, scope and impact of oral health promotion during pregnancy. All interventions focused on education and were conducted in antenatal care settings, with content directed towards improving infant oral health. Outcomes included knowledge, beliefs, attitudes, self-efficacy, oral hygiene and health seeking behaviour post intervention. All studies except 1 showed significant improvement in 1 of the outcomes post intervention.

An RCT(6) (n=160) evaluated the effects of an oral health educational intervention on oral health beliefs and behaviours of women during pregnancy. The intervention group (n=80) received 6 education sessions on oral health issues over 3 weeks, with no sessions for the control group (n=80). Scores of beliefs and behaviours were significantly higher after 2 months in the intervention group

Oral health education for children and parents

A Cochrane review (7) of 38 RCTs and observational studies assessed community based oral health interventions in birth to 18 year olds (n=119,789 children in a variety of settings). Meta analyses of the effects oforal health education (OHE) alone on caries (n=3) showed little or no effect on decayed, missing and filled deciduous teeth (dmft)

The authors found no clear evidence on the most effective time to include enhanced oral health education for children.

Children aged 24-36 months were recruited to a study(8) which sought to establish the effect of a family health promotion programme (including parental counselling) compared to a routine dental health programme on presence of mutans streptococci. Colonisation with mutans streptococci was found in only a few children in both the control and intervention group.

One RCT(9) assessed the effect of adding motivational interviewing (MI) to oral health education on the oral health status of preschool children (n=222). Both plaque index and gingival index were measured at baseline and 6 months after intervention. The results indicated a significant difference in the intervention group compared to the control group for both plaque index and gingival index at the 6 month follow up.

A follow-up of an RCT(10) examined the effect of an oral health prevention intervention on frequency and nature of dental visits up to 7 years (n=277 mothers from the initial RCT of 649, and a comparison group n=277). Data from a questionnaire indicated that children in the trial had an average of 2.2 visits compared to 3.1 in the comparison group. No child in the intervention group of the trial required treatment under sedation compared with 2.9% in the control group and 6.5% in the comparison group.

A systematic review(11) (37 studies; 15813 children and adolescents 16 years and under) examined the effect of regular supervised fluoride mouth rinse on caries reduction compared with placebo or no treatment. Duration of intervention was a minimum 12 month period. A prevented fraction for decayed/missing/filled permanent surfaces (D(M)FS) of 27% was seen in 35 studies, and the pooled estimate from 13 studies showed a prevented fraction of 23% for decayed/missing/filled permanent teeth (D(M)FT).

Intelligence gathering

One topic expert highlighted the SACN: Carbohydrates and Health report (2015) which reports on health inequalities and sugar consumption. See recommendation 5 for a full summary.

They also highlighted the PHE Health matters: child dental health (June 2017) report. This provides information for improving oral health in children under 5. This report was also identified during intelligence gathering.

The PHE Health matters: child dental health (June 2017) report outlines how health professionals can help prevent tooth decay in children under 5 as part of ensuring every child has the best start in life. It covers effective interventions for improving dental health and references NICE guideline PH55, Oral health: local authorities and partners. Covering similar topics to NICE guideline PH55, the PHE guidance recommends:

- Risk factor reduction (lowering sugar intake, general diet and teeth brushing) and what advice should be given to parents.

Health professionals, such as midwives and health visitors, should support and encourage women to breastfeed. They should also give healthy eating advice. PHE's Child oral health: applying All Our Health (August 2017) provides information for healthcare professionals on population and community interventions. Promotion of breastfeeding and reduction in sugar consumption are also covered. Please see recommendation 7 for a full summary.

The Department of Health and PHE's Delivering better oral health: an evidence-based toolkit for prevention was found during intelligence gathering and also highlighted by 1 topic expert. See Recommendation 6 for a full summary.

Impact statement

Oral health promotion in pregnancy

Evidence from 3 reviews and 1 RCT suggests oral health education and promotion in

pregnancy is effective at decreasing caries incidence and improving oral health related behaviours. The evidence supports recommendation 12 to incorporate oral health promotion into maternity services.

Oral health education for children

Oral health promotion in the educational or family setting had a beneficial effect on decayed/missing/filled permanent teeth (DMFT) and reduced colonisation by mutans streptococci, based on evidence in 1 study and 1 review. study showed an improvement on plaque and gingival index when motivational interviewing was introduced. This evidence is consistent with recommendations 12, 13 and 14 which promote oral health education in early years services and services for new mothers. This is also complemented by the information given in PHE's Health matters: child dental health (June 2017) and PHE's Child oral health: applying All Our Health. The information in the SACN: carbohydrates and health report confirms the relationship between frequency of sugars intake and the incidence of dental caries which is supportive of the advice given in recommendation 13. The 2017 edition of Delivering better oral health: an evidence-based toolkit for prevention is relevant to the advice given in this recommendation and cross-reference to this updated version is required as stated above in editorial corrections.

Editorial corrections are needed:

- Recommendation 13: There is a link made to the Department of Health and PHE's 'Delivering better oral health: an evidence-based toolkit for prevention' (2014). This publication has been updated and cross-references will be updated accordingly to Delivering better oral health: an evidence-based toolkit for prevention (2017, 3rd edition).
- Recommendation 14: There is a cross-referral to Community engagement NICE guideline PH9. This link will be replaced with a cross-reference to the updated Community Engagement NICE guideline NG44.

New evidence is unlikely to change guideline recommendations.

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15 Consider supervised tooth brushing schemes for nurseries in areas where children are at high risk of poor oral health

Local authorities and health and wellbeing commissioning partners should:

- Use information from the oral health needs assessment to identify areas where children are at high risk of poor oral health (see recommendation 2).
- Consider commissioning a supervised tooth brushing scheme for early years settings (including children's centres) in these areas. The scheme should include:
  - arrangements for getting informed consent from parents or carers
  - supervised daily tooth brushing with fluoride toothpaste on the premises
  - collaborative working with parents or carers to encourage tooth brushing both at home and at the nursery
  - providing free toothbrushes and fluoride toothpaste (1 set to use on the premises and 1 set to take home)
  - a designated lead person for the scheme at all establishments

- access to a dental professional for advice if needed
- support and training for staff to deliver the scheme (this should be recorded and monitored)
- performance monitoring at least once every school term (that is, at least 3 times a year), against a checklist drawn up and agreed with the group responsible for the local oral health needs assessment and strategy (see recommendations 1 and 4).

Surveillance decision

This recommendation should not be updated.

Supervised toothbrushing in nurseries

2018 surveillance summary

A Cochrane review(7) of 38 RCTs and observational studies assessed community based oral health interventions in birth to 18 year olds (n=119,789 children in a variety of settings). Meta analyses of the effects of:

- Oral health education (OHE) combined with supervised toothbrushing showed a beneficial effect on decayed/missing/filled deciduous teeth (dmft) (n=5) but showed little effect on decayed/missing/filled surfaces on permanent teeth (DMFS) (n=5)
- OHE in an educational setting also showed a very small effect on DMFT (n=2).

The authors found no clear evidence on the most effective time to include enhanced oral

One RCT(13) evaluated the effect of an intensified preventative programme involving daily supervised tooth brushing by specially trained dental nurses (n= 2,228 2-4 year old children) on dental health. The control group received tooth brushing instructions 3-4 times a year. The main intervention took place over 6 months with follow up examinations performed 2 years later. The caries increment was significantly lower in the intervention group compared to the control group.

Intelligence gathering

Intelligence gathering identified the following:

The PHE Health matters: child dental health (June 2017) report outlines how health professionals can help prevent tooth decay in children under 5 as part of ensuring every child has the best start in life. It covers effective interventions for improving dental health and references NICE guideline PH55. The PHE guidance recommends targeted supervised toothbrushing to prevent tooth decay and encourage behaviour that promotes good oral health. This PHE report is complimentary to PH55, however PH55 covers all age groups whereas this report is only for under 5's. This PHE report also covers water fluoridation which is outside the scope of PH55

PHE's Improving oral health: supervised tooth brushing programme toolkit (December 2016) was developed to support commissioning of supervised tooth brushing programmes in early years settings and schools. The toolkit is complementary to NICE guideline PH55. It emphasises issues such as inequality in oral health between groups. NICE is mentioned in the foreword - publication of key documents, and NICE guideline PH55 is linked. The report echoes the NICE recommendations on page 7: 'To be most cost effective and maximise the return on investment, the toothbrushing programme should be a targeted programme aimed at children in the most disadvantaged communities'. It states 'In this publication PHE recommended supervised tooth brushing in targeted childhood settings' and mentions that 'NICE recommends that targeted supervised tooth brushing programmes may be considered as part of these strategies and action plans'.

Improving the oral health of children: cost effective commissioning (PHE 2016). This rapid

review has been commissioned by PHE and undertaken by York Health Economics Consortium (YHEC). The scope of the review was to update the review of economic evaluations which supported development of NICE guideline PH55. The report describes a rapid review of recently published evidence on the cost effectiveness of interventions to improve oral health in children 0-5 years. The reviewers state that the previous review of economic evaluations, undertaken to support NICE guideline PH55 did not identify evidence for supervised tooth brushing. The current PHE review identified a Scottish cost analysis study that found supervised tooth brushing in nurseries to be cost saving. The authors acknowledge the evidence is drawn from a population level analysis – with uncertainty that the reduction in tooth decay rates between 2001/02 and 2009/10 in 5 year olds were entirely due to the nursery tooth brushing programme.

Impact statement

Evidence from 1 study showed an intensified supervised tooth brushing scheme was effective at reducing caries increment. Evidence from 1 review showed a positive effect on deciduous but not permanent teeth. Supervised toothbrushing in nurseries was shown to be cost effective in 1 study in a rapid review: Improving the oral health of children: cost effective commissioning. Overall, the new evidence supports the recommendation to consider supervised tooth brushing schemes for nurseries.

PHE's report Health matters: child dental health (June 2017) and the Improving oral health: supervised tooth brushing programme toolkit provide supportive information for this recommendation regarding the targeted use of supervised toothbrushing.

New evidence is unlikely to change guideline recommendations.

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16 Consider fluoride varnish programmes for nurseries in areas where children are at high risk of poor oral health

Local authorities and health and wellbeing commissioning partners should:

- Use information from the oral health needs assessment to identify areas where children are at high risk of poor oral health (see recommendation 2).
- If a supervised tooth brushing scheme is not feasible (see recommendation 15), consider commissioning a community-based fluoride varnish programme for nurseries as part of early years services for children aged 3 years and older. The programme should provide at least 2 applications of fluoride varnish a year.
- Ensure early years services work in collaboration with parents and carers to gain parental consent for as many children as possible to take part in the fluoride varnish programme.
- Ensure families of children who do not visit the dentist regularly are encouraged and helped to use dental services.
- Monitor uptake and seek parental feedback on the fluoride varnish scheme.
- If resources are available, consider commissioning both a supervised tooth brushing scheme and a fluoride varnish programme.

Surveillance decision

This recommendation should not be updated.

Fluoride varnish for nurseries

2018 surveillance summary

One RCT(12) evaluated the effect of adding biannual fluoride varnish to oral health promotion and tooth brushing (n= 328; 2-5 year old preschool children). The intervention group received biannual fluoride varnish applications and the control group received a placebo application. There were no significant differences in the primary outcomes of caries prevalence or increment score.

An RCT(14) assessed the effectiveness of biannual fluoride varnish on preventing early childhood caries (ECC) (n=275 2-to-3 year olds from non-fluoridated rural areas). Participants received an initial oral health education session along with delivery of a new toothbrush and toothpaste at base line and 4 follow up visits. Participants received either fluoride varnish or a placebo application every 6 months, with dental assessments at 6, 12, 18 and 24 months. There was no significant difference seen between the intervention and control groups over a 24 month period.

Intelligence gathering

One topic expert highlighted the PHE Health matters: child dental health (June 2017) report. This provides information for improving oral health in children under 5 and lists fluoride varnish as a cost effective intervention to reduce tooth decay and reduce time off school. It states that community programmes that take place out of the dental practice can reduce health inequalities when those at high risk of poor oral health are targeted.

Intelligence gathering identified the following:

The PHE Health matters: child dental health (June 2017) is summarised above in recommendations 13 and 15. The PHE guidance also recommends targeted community fluoride varnish programmes and also describes it has a positive effect on reducing health inequalities.

Improving the oral health of children: cost effective commissioning (PHE 2016) describes a rapid review of recently published evidence on the cost effectiveness of interventions to improve oral health in children 0-5 years. Three studies were identified on community-based fluoride varnish programmes in early years. Two of the papers provided opposing results regarding cost savings, whereas the third did not report on cost effectiveness of the varnish component.

Impact statement

Two studies showed that fluoride varnish (FV) did not significantly improve outcomes when used with other interventions (oral health promotion, supervised toothbrushing). The PHE report Improving the oral health of children: cost effective commissioning found mixed evidence on cost effectiveness of FV through nursery settings. However, the PHE Health matters: child dental health notes that community FV programmes have a positive effect on reducing health inequalities which is consistent with this recommendation.

Recommendation 16 states that the use of FV should be considered if supervised toothbrushing is not feasible. Given the mixed evidence and uncertainty around the benefit of FV, the new evidence offers some support to the recommendation to 'consider' FV when supervised toothbrushing is not feasible.

New evidence is unlikely to change guideline recommendations.

17 Raise awareness of the importance of oral health, as part of a 'whole-school' approach in all primary schools

Local authorities (where they have a role in the governance of a school), school governors and head teachers should:

- Promote a 'whole-school' approach to oral health by:
  - Ensuring, wherever possible, that all school policies and procedures promote and protect oral health (for example, policies on diet and nutrition, health and safety and anti-bullying should include oral health; see Standards for school food in England, Department for Education 2014).
  - Making plain drinking water available for free and encouraging children to bring refillable water bottles to school.
  - Providing a choice of sugar-free food, drinks (water and milk) and snacks (for example, fresh fruit). These should also be provided in any vending machines.
  - Displaying and promoting evidence-based, age-appropriate oral health information for parents, carers and children (this should be relevant to local needs and include details of how to access local dental services).
  - Ensuring opportunities are found in the curriculum to teach the importance of maintaining good oral health and highlighting how it links with appearance and self-esteem. This should use age-appropriate information, adapted to meet local needs and based on the 'advice for patients' in Delivering better oral health.
  - Identifying and linking with relevant local partners to promote oral health (see the NICE guideline on community engagement). This could include oral health promotion schemes commissioned by the local authority and local community networks (see recommendation 3).

Surveillance decision

This recommendation should not be updated.

Editorial corrections are needed:

- Cross-referral to Standards for school food in England is a broken link. The cross-reference will be updated with a link to Department for Education's Standards for school food in England (2016).
- There is a cross-referral to Community engagement NICE guideline (PH9). This link will be replaced with a cross-reference to the updated Community Engagement NICE guideline NG44.
- A cross-referral is made to the Department of Health and PHE's 'Delivering better oral health: an evidence-based toolkit for prevention' (2014). This publication has been updated and cross-references will be updated accordingly to Delivering better oral health: an evidence-based toolkit for prevention (2017, 3rd edition).

Awareness of oral health in primary schools

2018 surveillance summary

A systematic review(15) of 4 RCTs (n=2,302, 4-12 year olds) assessed the effects of school based interventions aimed at changing toothbrushing habits and controlling sugar snacking. One small study reported no difference in caries development post-intervention. A significant reduction in plaque was seen in the 3 studies that reported plaque outcomes, however 2 of these also included a home based component. One study reported on the secondary outcome measure of children's oral health knowledge and stated there was an improvement.

A systematic review(16) evaluated the effectiveness or oral health education in schools. Twelve clinical trials were included, covering children aged 5-18 years (results were not disaggregated by age). A reduction in plaque levels was seen in 5 studies, but 2 studies on gingivitis found no effect.

An RCT(17) compared the effect of flash cards (control group) versus game based teaching (intervention group) on the knowledge and practice of oral hygiene among 8-10 year old school children (60). The results from both groups indicated a significant increase in oral hygiene score and a decrease in debris score after 1 week and 1 month post intervention. At 3 months post intervention both groups showed a decrease in oral hygiene scores compared to baseline assessments which may indicate that this intervention is only beneficial in the short term. However a significantly better mean increase in knowledge score was seen for the intervention group at 3 months post intervention.

Intelligence gathering

Intelligence gathering identified that the recommendation links to the 2014 version of Delivering better oral health: an evidence-based toolkit for prevention. An updated third edition of this document was published in 2017 (see recommendation 6 for further information).

Impact statement

Evidence from 2 systematic reviews suggests that plaque levels can be decreased by delivering school based oral health interventions. The new evidence supports the recommendation to promote oral health in primary schools. One RCT found the use of flashcards and game based learning improved oral health knowledge and practice in the short term.

The 2017 edition of Delivering better oral health: an evidence-based toolkit for prevention is relevant to the advice given in this recommendation. This recommendation contains the hyperlink 'delivering better oral health' This hyperlink is broken and will be amended.

There is a cross-referral to Community engagement NICE guideline (PH9). This link will be replaced with a cross-reference to the updated Community Engagement NICE guideline NG44

The cross-referral to Standards for school food in England is a broken link. The cross-reference will be updated with a link to Department for Education's Standards for school food in England (2016).

New evidence is unlikely to change guideline recommendations.

18 Introduce specific schemes to improve and protect oral health in primary schools in areas where children are at high risk of poor oral health

Local authorities (where they have a role in the governance of a school), school governors and head teachers should:

- Use information from the oral health needs assessment to identify areas where children are at high risk of poor oral health (see recommendation 2).
- Ensure primary schools in these areas, identify school staff who could be trained to provide advice and support to promote and protect pupils' oral health. Train these staff to give:
  - age-appropriate information adapted to meet local needs and based on the 'advice for patients' in Delivering better oral health
  - advice and information about where to get routine and emergency dental treatment, including advice about costs (for example, transport costs)
  - advice and help to access local community networks offering information, advice and support about general child health and development.
- Ensure trained staff set up and run tooth brushing schemes and support fluoride varnish programmes commissioned by local authorities (see recommendations 19 and 20).
- Provide opportunities for staff to talk with parents or carers about, and involve them in, improving their children's oral health. For example, opportunities might arise at parent-teacher evenings, open days or by encouraging parents and carers to get involved in developing the school food and drinks policy.

Surveillance decision

This recommendation should not be updated.

An editorial correction is needed:

- A cross-referral is made to the Department of Health and PHE's 'Delivering better oral health: an evidence-based toolkit for prevention' (2014). This publication has been updated and cross-references will be updated accordingly to Delivering better oral health: an evidence-based toolkit for prevention (2017, 3rd edition).

Primary school children at high risk of poor oral health

2018 surveillance summary

Xylitol

A randomised clinical trial(31) investigated the effect of a preventative programme of high dose xylitol chewing gum on the caries prevalence of high-risk school children (n=204). Xylitol chewing gum was used for 6 months in the intervention group, with non-xylitol gum used in the control group. A significant difference was seen at 2 year follow-up favouring the intervention when the proportion of children with decayed permanent first molars were examined for manifest and initial lesions.

An RCT(32) examined the effects of xylitol gummy bears on progression of dental caries in

5-6 year olds from an inner city school in the USA (n=562). Both the intervention group (xylitol gummy bears) and control group (placebo inulin fibre gummy bears) were given 3 times a day for 9 months in a supervised school environment. Both groups also received oral health education, toothbrush and paste provision, FV and FS. The results indicated no significant difference between groups when dmfs and DMFS were assessed 2 years post intervention. The effects of xylitol gum may have been masked by the concomitant interventions.

Intelligence gathering

The recommendation links to the 2014 version of Delivering better oral health: an evidence-based toolkit for prevention. See recommendation 6 for a summary.

Impact statement

Evidence from 1 study found that high dose xylitol chewing gum may have a long lasting preventative effect against decay on permanent first molars. One RCT reported on the use of xylitol gummy bears however due to other oral health interventions the effects may have been masked. Further information is needed to determine whether this requires assessment within the guideline.

The 2017 edition of Delivering better oral health: an evidence-based toolkit for prevention is relevant to the advice given in this recommendation.

An editorial correction is required:

This recommendation contains the hyperlink 'delivering better oral health'. This hyperlink is broken and will be amended.

New evidence is unlikely to change guideline recommendations.

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19 Consider supervised tooth brushing schemes for primary schools in areas where children are at high risk of poor oral health

Local authorities and health and wellbeing commissioning partners should:

- Use information from the oral health needs assessment to identify local areas where children are at high risk of poor oral health (see recommendation 2).
- Consider commissioning a supervised tooth brushing scheme for primary schools in these areas (for details of these schemes see recommendation 15). If resources are limited, prioritise reception and year 1 (up to age 7).

Surveillance decision

This recommendation should not be updated.

Supervised toothbrushing in primary schools

2018 surveillance summary

A systematic review(18) of controlled trials assessed the effects of supervised toothbrushing in children and adolescents (ages not specified) on caries incidence. Four trials were included, 2 of which significantly favoured supervised toothbrushing. However a meta-analysis could not be performed due to the clinical heterogeneity among the included studies. Note: the abstract does not disaggregate the findings by age group.

A cluster randomised study(19) assessed the 3 month efficacy of a school based programme involving supervised toothbrushing. Four schools participating in the programme were randomly selected for inclusion (n=200 children) and 1 school which did not participate in the programme acted as the control (n=50). The results indicate significantly higher mean percentage differences for healthy gingival units and plaque free surfaces in the intervention group compared with the control group.

Intelligence gathering

Intelligence gathering identified the following:

PHE's Improving oral health: supervised tooth brushing programme toolkit (December 2016) recommends targeted supervised toothbrushing in school settings, particularly for the most disadvantaged children. See recommendation 15 for a full summary.

Impact statement

Evidence from 1 systematic review and 1 cRCT suggests that supervised toothbrushing may be effective at reducing plaque and caries incidence in children. The guideline recommends that commissioners should consider supervised toothbrushing schemes in primary schools. The evidence does not suggest that the recommendation should be changed at this time. The information given in PHE's Improving oral health: supervised tooth brushing programme toolkit is relevant to the advice given in recommendation 19.

New evidence is unlikely to change guideline recommendations.

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20 Consider fluoride varnish programmes for primary schools in areas where children are at high risk of poor oral health

Local authorities and health and wellbeing commissioning partners should:

- Use information from the oral health needs assessment to identify areas where children are at high risk of poor oral health (see recommendation 2).
- If a supervised tooth brushing scheme is not feasible (see recommendation 15), consider commissioning a community-based fluoride varnish programme for primary schools. This should provide at least 2 applications of fluoride varnish a year (see recommendation 16).
- Consider commissioning both a supervised tooth brushing scheme and a fluoride varnish programme, if resources are available.

Surveillance decision

This recommendation should not be updated.

Flouride varnish for primary schools

2018 surveillance summary

Two studies(20,21) report on 1 RCT which compared the clinical and cost effectiveness of fissure sealants (FS) to fluoride varnish (FV) in first permanent molars (FPM) of 6-7 year old children (n=1,015). A mobile dental clinic (MDC) in schools was used to apply either FS or FV to children biannually over a 3 year period. The results indicate no significant differences between FV and FS when caries into dentine on 1 or more FPM and DFMT/S was assessed. A small but significant difference in the cost of the 2 treatments was seen in favour of FV. Both treatments were acceptable to the children based on qualitative interviews performed after each treatment.

A cluster-RCT(22) compared an oral health promotion intervention delivered by Navajo tribe members (INT) to usual care (UC) in Navajo caregiver-child dyads (n=1,016). INT was a highly personalised set of interactions (5 for children, 4 for caregivers) plus 4 fluoride varnish applications for children delivered in classrooms over 2 years. The results showed an increase in decayed, missing and filled tooth surfaces in both groups and an increase in caries prevalence although oral health knowledge scores improved in both groups.

Two papers(29,30) reported on 1 RCT(30) which assessed the effectiveness of school-based dental sealant (SBDS) programme in children ages 6-7 years from low-income backgrounds in France (n=276). The intervention group received resin based sealant with fluoride and the control group no treatment. Baseline assessments were performed with teeth examined for active caries, visible plaque, Streptococcus mutans (SM) and Lactobacillus counts to determine individual caries risk (ICR). Following an adjusted analysis the results indicate less risk of developing new caries in first permanent molars in the intervention group at 1 year post intervention. When the results only included participants with active caries or high SM count, the effect of sealants became significant indicating that SBDS may be effective in this population.

Mouth rinse

A systematic review(11) (37RCTs and quasi-RCTs; n=15813 children and adolescents 16 years and under) examined the effect of regular supervised fluoride mouth rinse on caries reduction compared with placebo or no treatment over a minimum 12 month period. A prevented fraction for decayed/missing/filled permanent tooth surfaces (D(M)FS) of 27% (percentage of cases prevented) was seen across 35 studies, and the pooled estimate from 13 studies showed a prevented fraction of 23% for decayed/missing/filled permanent teeth (D(M)FT).

Intelligence gathering

No topic expert feedback or additional information was relevant to this recommendation.

Impact statement

The new evidence suggests that FV is cheaper and as clinically effective compared to FS, however the abstract does not confirm that the children in the study were categorised as high risk. One cRCT which studied the impact of FV among children at high risk of poor oral health found no benefit above usual care.

Evidence from 1 RCT found that a SBDS programme was effective in reducing the risk of new caries in children. This evidence indicates that dental sealants could be used instead of fluoride varnish however 1 large UK RCT reported that they were more expensive when compared to FV. There is not enough evidence to make new recommendations for FS at the present time.

Mouth rinse

One study showed a reduction in caries when a fluoride rinse was used in a school setting. This study is appropriate to this age group regarding introducing specific schemes for high risk children, however further evidence would be

needed to consider adding to the recommendation to include information on supervised fluoride mouth rinse in these settings.

Although the evidence is mixed, on balance it supports the guideline which recommends that commissioning partners should consider the use of fluoride varnish in children at high risk of poor oral health.

New evidence is unlikely to change guideline recommendations.

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21 Promote a 'whole school' approach to oral health in all secondary schools

Local authorities (where they have a role in the governance of a school), school governors and head teachers should:

- Promote a 'whole-school' approach to oral health by:
  - Ensuring, wherever possible, that all school policies and procedures promote and protect oral health (for example, policies on diet and nutrition, health and safety and anti-bullying).
  - Making plain drinking water available free and encouraging children to bring refillable water bottles to school.
  - Providing a choice of sugar-free food, drinks (water and milk) and snacks (including fresh fruit). These should also be provided in any vending machines.
  - Ensuring opportunities are found in the curriculum to teach the importance of maintaining good oral health and highlighting how it links with appearance and self-esteem. This should use age-appropriate information, adapted to meet local needs and based on 'advice for patients' in Delivering better oral health.
- Ensure school nursing services encourage good oral health, including effective tooth brushing, use of fluoride toothpaste and regular dental check-ups.
- Ensure all school leavers know where to get advice and help about oral health, including dental treatment and help with costs. They should be provided with details of relevant services, including links to local community networks.
- In areas where children and young people are at high risk of poor oral health consider identifying and training secondary school staff to advise on dental issues (see recommendation 7). This includes giving advice about dental treatment and costs, and promoting oral health among students (for example, by explaining the links between diet, alcohol, tobacco, sexual practices and oral health).
- Work with local authorities to influence planning decisions on new buildings (for example, to ensure drinking fountains are installed) and fast food outlets (for example, ice cream vans, burger vans and shops).

Surveillance decision

This recommendation should not be updated.

An editorial correction is needed.

There is a link made to the Department of Health and PHE's 'Delivering better oral health: an evidence-based toolkit for prevention' (2014). This publication has been updated and cross-references will be updated accordingly to Delivering better oral health: an evidence-based toolkit for prevention (2017, 3rd edition).

Whole school approach for secondary schools

2018 surveillance summary

Motivational interviewing

An RCT(23) evaluated the effectiveness of improving adolescent's oral health by motivational interviewing (MI) (n=512 adolescents). Participants from school clusters were assigned to 3 groups, current health education (I), MI (II), and MI with interactive dental caries risk assessment (III). A questionnaire was completed at baseline, 6 and 12 months on oral health behaviour and self-efficacy, with assessment of dental caries (DMFS/T) and oral hygiene (dental plaque score). The results indicated that those in groups II and III were more likely to reduce their snacking habits and increase their tooth brushing frequency compared to group I. Students in groups II and III had a lower number of new carious teeth when using group I as a reference point.

Oral health education

A systematic review and meta-analysis(16) was undertaken to evaluate the effectiveness or oral health education in schools. Twelve studies were included, covering children aged 5-18 years (results were not disaggregated by age). A reduction in plaque levels were seen in 5 studies, whilst 2 studies on gingivitis found no effect. The review indicates that traditional oral health education activities were effective in reducing plaque but not gingivitis, however the authors report a lack of long term evidence.

A cluster randomised trial(24) evaluated a social-cognitive theory-guided oral health intervention in 15-16 year olds from 2 secondary schools (n=197). The intervention group received 3 dentist facilitated educational sessions, and both groups received dental plaque level assessments at baseline, post intervention, 6 and 12 months. At 6 months significantly lower levels of dental plaque were observed in the intervention group. There were no significant differences between groups at 12 months.

A cluster RCT(25) investigated the efficacy of improving oral self-care skills (OSC-S) and oral self-care practice (OSC-P) (theory-guided intervention) compared with professional dental instruction (n=206 15-16 year olds selected from 4 schools). The control group received 1 session (usual care) and the theory-based intervention group received 5 sessions. Percentage oral cleanliness scores were taken at baseline, 6 and 12 months to measure OSC-S and OSC-P outcomes. The results indicated that the theory-guided intervention was superior to the conventional dental instruction in improving oral self-care.

Use of products

A school based RCT(26) compared salt water mouth rinse to chlorhexidine by examining dental plaque and oral microbial count (n=30 children). Baseline DMFS, decayed/extracted/filled deciduous teeth (defs) and plaque scores were recorded for both groups. Rinsing was performed for 5 days under supervision from a co-investigator. Microbial analysis was performed after the baseline assessments and after the fifth day of mouth rinse. The results indicated a significant reduction in plaque scores and microbial count in both groups. Chlorhexidine rinse was superior to saltwater rinse for 2, and as effective for a third microbial species

An RCT(27) evaluated the use of 2 fluoride varnish products in 12-16 year olds in a low caries prevalence area (n=1,143). Two groups tested biannual fluoride varnish application, a third group had quarterly varnish application, and the fourth had no school based varnish application. The authors report no significant differences at either baseline or after 3.5 years in prevalence of caries amongst the groups.

Four schools were randomised to either a school based oral health intervention programme (n=534; 12-16 year olds) or control (28) (n=534; 12-16 year olds). This study investigated the influence of the programme on adolescents' caries incidence, and knowledge and attitudes to oral health and tobacco. The intervention group had 2 dental hygienists at their school for 4 hours per week over 2 years, including fluoride varnish applications every 6 months and health education sessions. The authors report an impact on the incidence of enamel caries but not dentine caries as measured by bitewing radiographs, and results from questionnaires showed that the pupils viewed their teeth as important, with the intervention group showing better knowledge than the control group.

Intelligence gathering

Intelligence gathering identified the following:

The Department of Health and PHE's Delivering better oral health: an evidence-based toolkit for prevention is linked in this recommendation and provides information on oral health for patients and health professionals. See Recommendation 6 for a full summary.

Impact statement

Motivational interviewing

One study indicated that motivational interviewing may improve oral health related activities and reduce the number of new caries. This study is broadly supportive of this recommendation as it recommends ensuring opportunities are found to teach about the importance of good oral health.

Oral health education

Evidence from 3 studies suggests oral health education improves oral cleanliness and may reduce dental plaque in the short term which is consistent with the information given in recommendation 21.

Use of products

Evidence from 2 studies indicates that fluoride varnish did not improve incidence of dental caries, although 1 study saw an improvement in enamel caries. A third study saw an improvement in dental plaque and oral bacteria colonisation when a salt water or chlorhexidine mouth rinse was used daily. This recommendation does not currently mention specific interventions, and instead focuses on a generalised approach to oral health in secondary schools. The current evidence on the benefit of specific interventions is inconsistent and further evidence would be required to verify the accuracy of the results.

The 2017 edition of Delivering better oral health: an evidence-based toolkit for prevention is relevant to the advice given in this recommendation. An editorial correction to this updated version is required as described above.

New evidence is unlikely to change guideline recommendations.

Editorial and factual corrections

During surveillance of the guideline we identified the following issues with the NICE version of the guideline that should be corrected.

Links that do not work, go to a different location or need the name updating:

- Recommendations:
  - Recommendation 4: hyperlink for the glossary term high risk gives the result: page not found. This hyperlink will be updated.
  - Recommendation 4: The hyperlink for the NICE glossary term targeted approaches is broken and gives the result: page not found. This hyperlink will be updated.
  - Recommendation 4 cross-refers to Community engagement NICE guideline (PH9). This will be replaced with a cross-reference to the updated Community Engagement NICE guideline NG44.
  - A cross-reference is made to the Department of Health and PHE's 'Delivering better oral health: an evidence-based toolkit for prevention' (2014). This publication has been updated and cross-references will updated accordingly to Delivering better oral health: an evidence-based toolkit for prevention (2017, 3rd edition). Links from Recommendations 6, 9, 10, 11, 13, 17 and 21 will be updated accordingly, with information from the 2017 third edition referenced.
  - Recommendation 10: A cross-reference to the NICE pathway 'Smoking cessation in the workplace' is broken. The hyperlink will be updated with a cross-reference to the NICE pathway Stopping smoking in the workplace.
  - Recommendations 4, 14 and 17 cross-refer to Community engagement NICE guideline PH9. These links will be replaced with a cross-reference to the updated Community Engagement NICE guideline NG44.
  - Rec 17 cross-refs to Standards for school food in England is a broken link. The cross-reference will be updated with a link to Department for Education's Standards for school food in England (2016).
- Context section:
  - The section headed 'Improving the oral health of local populations' contains the following link: Valuing people's oral health: a good practice guide for improving the oral health of disabled children and adults Which goes to the home page for: PHE South East: advice, support and services. This publication has now been archived and was likely removed from the PHE south East page. This is the correct link for this publication: Valuing People's Oral Health: A good practice guide for improving the oral health of disabled children and adults
  - The section headed 'the role of local authorities in improving oral health' contains a link to Securing excellence in commissioning primary care which takes you to a page from NHS England: primary care resources and commissioning page containing several commissioning documents. None are the one mentioned. This publication has now been archived. The correct link is Securing excellence in commissioning primary care
  - The section headed 'delivering better oral health toolkit' mentions that the toolkit was published in 2014. The link now goes to the updated 2017 version and this text needs

updating. Box 1 is an extract from this PHE guidance and the information within in needs updating to the 2017 version. This has been highlighted by a topic expert as the new alcohol guidance from the CMO has changed and as such, PH55 displaying the 2014 version is giving contradictory information. Delivering better oral health: an evidence-based toolkit for prevention (3rd edition).

- Overview of systematic reviews

The evidence reviews for this guideline are located in the 'history tab'. They will be moved to the 'evidence tab'. All links correctly go to the 'evidence tab'. The following reviews need moving:

  - Cost effectiveness: review of economic evaluations and an economic modelling exercise
  - Economic modelling: RX058: Economic analysis of oral health improvement programmes and interventions.
  - RX058: Economic analysis of oral health improvement programmes and interventions.

- 'about this guideline'
  - Implementation: Public health outcomes framework for England 2013 to 2016. Gov.uk page not found. A new version has been published: Public health outcomes framework 2016 to 2019

Research recommendations

Research recommendations considered in surveillance

RR - 01 What community-based interventions are effective and cost effective in improving oral health and reducing oral health inequalities among groups of adults at high risk of poor oral health?

Summary of findings

New evidence relevant to the research recommendation was found but an update of the related review question is not planned because the new evidence is insufficient to trigger an update. The new evidence includes further evidence on silver diamine fluoride(33) (SDF) in the eldery. This study found that SDF was effective at preventing arresting root caries in this age group, who are often at high risk of poor oral health.

Surveillance decision

This research recommendation will be considered again at the next surveillance point.

RR - 02 What community-based interventions are effective and cost effective in improving oral health and reducing oral health inequalities among groups of children at high risk of poor oral health?

Summary of findings

New evidence relevant to the research recommendation was found which includes further information on community interventions, dental hygienists in schools education in expectant mothers, game based teaching, fluoride gels(34), fluoride varnish, fluoride varnish products, motivational interviewing, oral self-care information and oral self-care skills, school based sealants, xylitol chewing gum and xylitol gummy bears. However, the new evidence does not fully address the research recommendation.

Surveillance decision

This research recommendation will be considered again at the next surveillance point.

RR - 03 What community-based interventions are effective and cost effective at improving the uptake of, and reducing inequalities in the use of, dental services by groups of adults and children at high risk of poor oral health?

Summary of findings

New evidence relevant to the research recommendation was found including further evidence on oral self-care.

Surveillance decision

This research recommendation will be considered again at the next surveillance point.

RR - 04 How can healthy habits that promote oral health be supported and encouraged in families with children at high risk of poor oral health?

Summary of findings

New evidence relevant to the research recommendation was found including further evidence on dental hygienists in schools and game based teaching.

Surveillance decision

This research recommendation will be considered again at the next surveillance point.

RR - 05 What community-based interventions are effective and cost effective in improving dietary habits affecting the oral health of children and adults, and in particular those at high risk of poor oral health?

Summary of findings

No new evidence relevant to the research recommendation was found and no ongoing studies were identified. However 2 policies are expected to publish from PHE in the next year which may provide evidence for this research recommendation.

Surveillance decision

This research recommendation will be considered again at the next surveillance point.

RR - 06 What is the relative effectiveness and cost effectiveness of the different components of multi-component, community-based oral health improvement programmes?

Summary of findings

No new evidence relevant to the research recommendation was found. Two ongoing studies were identified: Broughton (2013) and ISRCTN24958829 – Dental RECUR trial. The RECUR trial mentions having a community based component and as such may be relevant here.

Surveillance decision

This research recommendation will be considered again at the next surveillance point.

RR - 07 How cost effective are fluoride varnish programmes and tooth-brushing schemes?

Summary of findings

New evidence relevant to the research recommendation was found including further evidence on fluoride varnish products, supervised toothbrushing, fissure seal and varnish, fluoride varnish in rural areas, intensified preventative programmes and a review of supervised toothbrushing.

Surveillance decision

This research recommendation will be considered again at the next surveillance point.

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