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Improving oral health: A toolkit to support commissioning of supervised toothbrushing programmes in early years and school settings

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Foreword

It is well recognised that oral health is an important part of general health and wellbeing. Whilst there have been welcome improvements in the oral health of children in England, significant inequalities remain.

In 2014, both NICE and PHE published key documents, which upon reviewing the evidence of effectiveness of oral health improvement programmes, both recommended the commissioning of targeted supervised toothbrushing in early years' settings. Currently in England many local authorities already commission such programmes and in Scotland (as part of the Childsmile programme) and Wales (in Designed to Smile) supervised brushing is part of their national oral health improvement programmes.

This toolkit supports commissioners and providers of such programmes in England, allowing them to gain assurance that they are commissioning and delivering high quality programmes. It provides evidence based criteria for supervised toothbrushing programmes in early years or school settings in England. Childsmile has led the way in developing standards for such programmes and this toolkit draws on their publication *Childsmile - NHS Health Scotland National Standards for Nursery and School toothbrushing programmes 2015*,[1] *Welsh Government Designed to Smile - How to Guide - A manual for delivering Designed to Smile* 2014[2] and from the learning gained from existing schemes in England.

Early years providers have a responsibility to promote the health of children in their setting, as set out in the Early Years Foundation Stage Strategic Framework. Good oral health can form a part of this. A recent report by 4Children of the deliverability of supervised toothbrushing in nurseries and childminding settings for two to four year olds in England, found that the delivery of such programmes was easily manageable

PHE have established a Child Oral Health Improvement Programme Board to provide national system leadership for the delivery of the ambition that *every child grows up free of tooth decay* as part of getting the best start in life. The board is working with partners across health, social care, education and the voluntary sector to deliver an ambitious programme to improve the oral health of children. Commissioning programmes such as supervised brushing, that we know work, will be key in making progress towards that ambition.

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Section 1: Introduction

Background

Tooth decay is the most common oral disease affecting children and young people in England, yet it is largely preventable. Whilst children's oral health has improved over the past 20 years, recent reports have found that almost a quarter (24.7%, 2015) of five year olds and 12% of three year olds had tooth decay (2014).[3,4]

Poor oral health can affect children and young people's ability to sleep, eat, speak, play and socialise with other children.[5] The impacts can be seen educationally with children missing school and in addition can effect parents/carers who would need to take time off work to take children to the dentist or for a hospital visit.[6] Tooth decay was the most common reason for hospital admissions in children aged five to nine years old in 2014 to 2015 with over 26,000 admissions.[7] In 2014/2015 hospital trusts spent over £35 million on the extraction of multiple teeth for under 18s.[8]

Whilst there have been improvements in the oral health of children in England, significant inequalities remain. People living in deprived communities and those who are vulnerable have poorer oral health than those living in richer communities.[9] Whilst oral health inequalities can be demonstrated regionally these inequalities are often even greater within local authorities (LAs) at ward level.[10] PHE has published Commissioning Better Oral Health for Children and Young People, an evidence informed toolkit for local authorities[6] which includes an evidence review of population based oral health improvement programmes. In this publication PHE recommended supervised toothbrushing in targeted childhood settings.

In addition, NICE in their guideline Oral health: local authorities and partners (PH55) have recommended that LAs consider oral health as part of their Joint Strategic Needs Assessment (JSNA) and develop oral health strategies to improve the oral health of their populations.[11] These strategies should focus on interventions that achieve sustained, long-term improvements and consider how to reduce inequalities. NICE recommends that targeted supervised toothbrushing programmes may be considered as part of these strategies and action plans.[6, 11]

In order to support LAs investment decisions regarding their local commissioning of oral health improvement programmes for pre-school children. PHE commissioned a rapid evidence review[12] and a return on investment (ROI) tool[13] from the York Health Economics Consortium. The ROI tool, which was developed in partnership with Public Health England, allows the clinical effectiveness data on oral health interventions to be used to estimate the potential economic benefits from several interventions, including supervised toothbrushing programmes. The tool uses the best available evidence to

estimate the reduction in tooth decay as a result of the intervention and the costs and the cost savings of delivering the programme. The cost savings include those to the National Health Service (NHS), which includes treatment costs in primary and secondary care, and the societal impact and costs, which is estimated for the child and parent/carer as days lost at school and work.

What is the purpose of this toolkit?

The toolkit supports both the commissioners and providers of supervised toothbrushing programmes to commission or deliver programmes that are evidence informed, safe and have clear accountability and reporting arrangements.

Who is this toolkit for?

Users of this guide will include:

- public health teams and local authority (LA) commissioners of supervised toothbrushing programmes
- oral health teams involved in the provision of supervised toothbrushing programmes
- other providers involved in the provision of supervised toothbrushing programmes
- early years staff who implement supervised toothbrushing programmes for children in their care

Section 2: Overview of toothbrushing programmes

Why carry out supervised toothbrushing?

Reviews of multiple research studies (ie systematic reviews), show that the daily application of fluoride toothpaste to teeth reduces the incidence and severity of tooth decay in children (see Appendix 6 – Supporting evidence). However, children in more deprived areas are less likely to brush their teeth at least twice daily.[14] Targeted childhood settings such as nursery and school settings can provide a suitable supportive environment for children to take part in a supervised toothbrushing programme, teaching them to brush their teeth from a young age and encourage support for home brushing.[6] The evidence tells us that to maximise caries prevention children aged 0 to six years should brush their teeth at least twice a day with family fluoride toothpaste (containing 1350-1500 part per million ppmF), with under three year olds using a smear and three to six year olds a pea sized amount.[15] They should spit not rinse after brushing and toothbrushing should be supervised by an adult.[15]

At a population, school or early years' level, the evidence tells us that brushing each day at school over a two year period is effective for preventing tooth decay and can establish life-long behaviour to promote oral health.[6] It is also important that school based toothbrushing activity should promote and support toothbrushing in the home as well as the school or early years setting.[11]

In the NICE guidance: *Oral health: approaches for local authorities and their partners to improve the oral health of their communities* (2014),[11] two specific recommendations are made regarding supervised toothbrushing schemes. Recommendation 15: *Consider supervised toothbrushing schemes for nurseries in areas where children are at high risk of poor oral health* and Recommendation 19: *Consider supervised toothbrushing schemes for primary schools in areas where children are at high risk of poor oral health.*

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.[11,13.]

What is involved?

Children accessing early years and school settings are encouraged to participate in daily supervised toothbrushing with family fluoride toothpaste. Training in the implementation of supervised toothbrushing programmes can be delivered by local providers such as an existing community oral health team or an external supplier for the

setting staff. Additional toothbrushes and toothpaste may be provided to those taking part, for use within the programme and at home to encourage home brushing. Providers of the programme will work in collaboration with the setting staff and parents/carers to encourage daily toothbrushing at home as well as to ensure support for the programme.

There are two models of delivering supervised toothbrushing; the model used will depend on the local settings in which the programme will take place. The two models are toothbrushing in a dry area which involves children seated or standing brushing without the use of water or a sink and toothbrushing at a sink. Further information on the delivery models can be found in Appendix 1.

Who is involved?

Programmes may vary according to local circumstances however they often involve local authority commissioners, who commission and monitor the toothbrushing programme. Providers who co-ordinate, provide training and support to implement the programme. Nursery/School staff that oversee and deliver the programme on a daily basis. Parents/carers who enable children to take part in the programme and provide home support to ensure brushing takes place at least twice daily.

Quality and safety

Quality and safety procedures should be implemented by all settings taking part in supervised toothbrushing programmes. To provide clarity with regard to responsibilities within the programme a model agreement (see Appendix 3 – Example Model Agreement Form) between the supervised toothbrushing setting and partners should be agreed. As there is a theoretical risk of the transmission of micro-organisms and viruses, by sharing toothbrushes and not cleaning the holders, training should be provided. This training will include how the tooth brushes should be cleaned, stored and replaced, and ensure that the necessary quality assurance checks are carried out to meet hygiene requirements.

The model agreement should include which partner will carry out the formal quality assurance assessments and how often. The quality assurance should follow a checklist which has been drawn up and agreed by the partners (see Appendix 4 – Example Quality Assurance Form). If there are areas of concern, necessary remedial action should be taken immediately. If these concerns cannot be addressed in the setting directly, the programme should be suspended whilst appropriate action is agreed and carried out before recommencing.

Quality assurance of programme

Effectiveness

The evidence base around the delivery of supervised toothbrushing shows that it is sensitive to changes in delivery. To be effective it is important that the programme models closely the existing evidence based methodology. For example, in addition to the supervised toothbrushing at schools, toothpaste and tooth brush packs should be sent home with supporting information for school holiday periods.

If the programme is modelled on the existing evidence based methodology, then process measures should be defined during procurement and as part of the contract monitoring to track delivery. If, however, the programme adopts a methodology not directly supported by the published evidence then the programme should also be evaluated in terms of outcomes.

Commissioning and governance

Across the country there are a number of different models emerging by which supervised toothbrushing training, implementation and review are commissioned. Increasingly, this is being offered through charitable foundations and early years' providers as well as more commonly commissioned by local authorities or NHS England.

In order to be effective programmes need to fit with the local oral health strategy, be relevant to local services and coordinate with other initiatives targeting the same population. Formal commissioning arrangements allow the opportunity to ensure that the service is safe, effective and co-ordinates with other existing services thus avoiding duplication and providing the best outcome for investment.

Irrespective of the commissioning arrangements, governance and quality assurance mechanisms should be in place and documented. For commissioned services, the development of a service specification and a linked contract monitoring processes is highly recommended. For non-commissioned services, it may still be possible to work with providers to establish analogous governance arrangements, particularly if the provision is being enabled in some way by the local economy. Advice is available to support this from local Consultants in Dental Public Health in Public Health England Centres.

Section 3: Supervised toothbrushing quality assurance

These supervised toothbrushing criteria can provide quality assurance of supervised toothbrushing programmes in England.

Organisation of programmes

Rationale:

Ensure that toothbrushing programmes have clear reporting and accountability arrangements. Effective programmes will involve partnership work with for example local authorities, schools/nurseries, health and service providers.

Criteria

1.1 There should be a designated lead person for the programme who is responsible for the scheme within their setting.
1.2 A model agreement which outlines the roles and responsibilities of partners should be completed (see Appendix 3 – Example Model Agreement Form).
1.3 Commissioning and contract monitoring procedures should be in place.
1.4 There should be access to a named dental professional for advice if needed.
1.5 Support and training is available for staff to deliver the programme, including infection prevention and control procedures. Training is recorded and monitored.
1.6 Permission/consent should be sought from parents or carers for their children to take part in the scheme and records should be maintained.
1.7 Quality assurance assessments should be carried out by staff at an agreed frequency for example by the staff each term and by the provider team annually and documented using a quality assurance check list (Appendix 4 – Example Quality Assurance Form). Monitoring should include observation of the toothbrushing session; discussion of performance against the checklist with the key settings designated lead; feedback to the overall programme lead and arrangement of a follow-up visit.

Effective Preventive Practice

Rationale:

Toothbrushing is carried out to maximise effectiveness and compliance by integrating into normal setting and home routines.

Criteria

2.1 Each child, whether full-time or part-time, brushes once a day as part of the supervised toothbrushing programme. In addition, parents and carers are encouraged to brush with their child at home.
2.2 Toothbrushing takes place at a time which is most suitable for each setting.
2.3 Toothbrushing takes place in groups or individually with children seated or standing.
2.4 The supervised toothbrushing programme uses one of two models outlined in Appendix 1- Toothbrushing Models.
2.5 Children are closely supervised when brushing their teeth.
2.6 Toothpaste containing 1,350 – 1,500 ppm (parts per million fluoride) is used.
2.7 Specific non-foaming toothpastes can be used for children with swallowing difficulties.
2.8 Toothpaste is dispensed by a supervisor.
2.9 A smear of toothpaste is used for children under three (Figure 1), and a pea-sized amount for children aged three to six years (Figure 2).

Figure 1

Figure 2

2.10 Children should be discouraged from swallowing toothpaste during or after brushing their teeth. Toothpaste is not reapplied if swallowed.
2.11 After brushing, children spit out residual toothpaste and don't rinse.
2.12 A small headed toothbrush with medium texture bristles is recommended.
2.13 Toothbrushes are replaced termly or as soon as they appear damaged, the bristles are splayed, or if the toothbrush has fallen on the floor.
2.14 For those who need assistance with toothbrushing, toothbrushes are available with adaptations.

Infection Prevention and Control

Rationale:

Toothbrushes are a possible source of cross infection. Good hygiene practice should be an essential part of childcare in nursery and school settings. Toothbrush storage systems comply with best practice in the prevention of cross-contamination.

Criteria

3.1 Supervisors should wash their hands before and after the session and cover any cuts, abrasions or breaks in their skin with a waterproof dressing before commencing a toothbrushing session.

3.2 When a toothpaste tube is shared, the toothpaste must not be dispensed directly onto the toothbrushes. Supervisors should dispense the toothpaste onto a clean surface such as a plate or paper towel.

3.3 There must be sufficient spacing between the quantities of dispensed toothpaste to allow transfer to each child's brush without cross-contamination.

3.4 Toothbrushes are individually identifiable enabling each child to be able to recognise their own brush.

3.5 After toothbrushing, brushes are rinsed thoroughly and individually under cold running water and replaced in the storage system to allow them to air dry. Toothbrushes should not be washed together in the sink and should not touch the taps or sink when being rinsed.

3.6 Toothbrushes must not be soaked in bleach or other cleaner/disinfectant.

3.7 Toothbrushes which are dropped on the floor should be discarded.

3.8 Toothbrushes are stored in appropriate storage systems or individual ventilated holders which enable brushes to stand in the upright position ensuring that toothbrushes are not in contact to avoid cross contamination.

3.9 Storage systems display symbols corresponding with those on the toothbrushes to allow individual identification.

3.10 Storage systems should allow air-flow around the toothbrush heads to enable the toothbrushes to dry. Covers should only be used once brushes have dried or if they allow sufficient ventilation to allow drying.

3.11 Storage systems are stored within a designated toothbrush storage trolley or in a clean, dry cupboard. Storage systems in toilet areas must have manufacturers' covers which allow the free flow of air, be stored at adult height or in a suitable toothbrush storage trolley.

3.12 Dedicated household gloves should be worn when cleaning storage systems and sinks. After toothbrushing, sinks should be cleaned with neutral detergent or wipes.

3.13 Storage systems, trolleys and storage areas are cleaned, rinsed and dried at least once a week (more if soiled) by staff using warm water and household detergent. Manufacturers' guidelines are followed when cleaning and maintaining storage systems including dishwasher cleaning where appropriate.

3.14 The storage system should not be placed directly beside where toothbrushing takes place or beside the toilet area to avoid contamination via aerosol spread.

3.15 Storage systems are replaced if cracks, scratches or rough surfaces develop.

Acknowledgement

This toolkit was developed by a working group including Public Health England (PHE) Centre Consultants in Dental Public Health, PHE National Dental Public Health team providers of supervised brushing schemes and members of the PHE Infection Prevention Control team.

To support its development the working group drew upon relevant existing resources and would like to acknowledge the following *Childsmile - NHS Health Scotland National Standards for Nursery and School toothbrushing programmes 2015, Designed to Smile - How to Guide - A manual for delivering Designed to Smile 2014* and the learning gained from existing supervised toothbrushing schemes in England.

References

1 Childsmile (2015). NHS Health Scotland. National Standards for Nursery and School toothbrushing programmes.
2 Welsh Government (2014). Designed to Smile. A manual for delivering Designed to Smile.
3 Public Health England (2015). National Dental Epidemiology Programme for England: Oral health survey of five-year-old children.
4 Public Health England (2014). Dental public health epidemiology programme. Oral health survey of three-year-old children 2013. A report on the prevalence and severity of dental decay.
5 Nuttall N, Harker R. Impact of oral health. Children's dental health in the United Kingdom 2003. London: The Stationery Office. 2004.
6 Public Health England (2014). Local authorities improving oral health: commissioning better oral health for children and young people.
7 Health and Social Care Information Centre. Hospital Episode Statistics for England, Admitted Patient Care Statistics 2014-15.
8 Department of Health. National Schedule of Reference Costs 2014/15. Data for NHS Trusts and NHS Foundation.
9 Marmot, M. & Bell, R. Social determinants and dental health (2011). Advances in Dental Research 23, 201-206.
10 National dental epidemiology programme for England (2013). Oral health survey of five-year-old children 2012, Upper Tier local authority (LA) Results Table 2012.
11 NICE public health guidance 55 (2014). Oral health: approaches for local authorities and their partners to improve the oral health of their communities.
12 Public Health England (2016). A rapid review of evidence on the cost-effectiveness of interventions to improve the oral health of children aged 0 to 5 years.
13 Public Health England (2016). Return on investment of oral health interventions tool.
14 Children's Dental Health Survey 2013 (2015). Report 1: Attitudes, Behaviours and Children's Dental Health: England, Wales and Norther Ireland.
15 Public Health England (2014). Delivering better oral health: an evidence-based toolkit for prevention 3rd edition.

Appendices – Tools and Resources

Appendix 1: Toothbrushing Models

Providers may wish to consider different models of supervised toothbrushing dependent on the setting in which the programme will take place. Two models are commonly used in existing national and local schemes in the UK and are described here:

Toothbrushing in dry areas

1. The supervisor should wash their hands before and after the toothbrushing session and cover any cuts abrasions or breaks in the skin with a waterproof dressing to prevent cross infection.
2. The children under supervision collect their toothbrushes from the storage system. Discretion should be used if a child has additional support needs.
3. Toothpaste is dispensed by the supervisor following the appropriate methods as described in relevant areas of Section 3.
4. Children may be seated or standing while toothbrushing takes place.
5. After toothbrushing is completed, children should spit excess toothpaste into a disposable tissue, disposable paper towel or a disposable cup.
6. Tissues/paper towels must be disposed of immediately after use in a refuse bag.
7. Toothbrushes can either be:
   - returned to the storage system by each child and taken to an identified sink area by the supervisor, who is responsible for rinsing each toothbrush individually under cold running water
   - rinsed at a identified sink area where each child is responsible for rinsing their own toothbrush under cold running water
8. Toothbrushes should be rinsed straight away. The toothpaste should not be allowed to dry on the brush.
9. After rinsing of the toothbrushes is complete, the child or the supervisor is responsible for shaking off excess water into the sink. Toothbrushes should not come into contact with the sink or tap.
10. Each child, under supervision, is responsible for returning their own toothbrush to the storage system to air dry. Discretion should be used if a child has additional support needs. Storage system lids should be replaced at this stage provided that there is sufficient air circulation.
11. Paper towels should be used to mop up all visible drips on the storage system.
12. Supervisors are responsible for cleaning sinks with neutral detergent or wipes after toothbrushing is completed.

Toothbrushing at a sink

1. The supervisor should wash their hands before and after the toothbrushing session and cover any cuts abrasions or breaks in the skin with a waterproof dressing to prevent cross infection.
2. The children under supervision are responsible for collecting their toothbrush from the storage system. Discretion should be used if a child has additional support needs.
3. Toothpaste is dispensed following the appropriate methods (as described in appropriate areas of section 3).
4. Toothbrushing takes place at the identified sink area. Children should be closely supervised and encouraged to spit excess toothpaste into the sink.
5. Tissues/paper towels must be disposed of immediately in a refuse bag.
6. Toothbrushes can either be:
   - returned to the storage system by each child and taken to an identified sink area by the supervisor, who is responsible for rinsing each toothbrush individually under cold running water
   - rinsed at an identified sink area where each child is responsible for rinsing their own toothbrush under cold running water
7. Toothbrushes should be rinsed straight away. The toothpaste should not be allowed to dry on the brush.
8. After rinsing of the toothbrushes is complete, the child or the supervisor is responsible for shaking off excess water into the sink. Toothbrushes should not come into contact with the sink or tap.
9. Each child under supervision or the supervisor is responsible for returning their own toothbrush to the storage system to air dry. Discretion should be used if a child has additional support needs. Lids (covers) should be replaced at this stage provided that there is sufficient air circulation.
10. Paper towels should be used to mop up all visible drips on the storage system.
11. Supervisors are responsible for cleaning sinks with neutral detergent or wipes after toothbrushing is completed.

Appendix 2: Additional supporting information

1. The toothpaste used should be free from animal derivatives.
2. Disinfectant wipes are not recommended for cleaning storage systems.
3. Individual toothbrush ventilated holders can be used for storing brushes. If individual holders are used, ensure that excess water is removed from the toothbrushes before returning them to the holder.
4. The standards apply equally to individual holders as to the storage systems.
5. If water does not meet drinking water standards regulations from DEFRA recommend boiling and cooling water prior to brushing teeth, the water safety directorate provides some guidance.
   http://dwi.defra.gov.uk/stakeholders/information-letters/2009/09_2009annex.pdf.
   http://dwi.defra.gov.uk/consumers/advice-leaflets/tanks.pdf
6. Settings involved in supervised toothbrushing schemes should have an abbreviated version of the quality standards that can be used for reference purposes (see Appendix 7- Example Abbreviated Quality Assurance Standards).
7. There are very few medical reasons why children should not participate in supervised toothbrushing programmes. In specific cases where there is a medical diagnosis of infection or oral ulceration, children may be temporarily excluded from the scheme. Toothbrushing at home can continue as this will usually aid healing.
8. Ideally, all paper products should be recyclable and biodegradable.

Appendix 3: Example Model Agreement Form

Oral Health staff responsibilities	
1. Provide training for all staff that supervise and deliver the toothbrushing programme to ensure effectiveness and safe delivery of the scheme. Training includes infection prevention and control which should be provided by an appropriately trained/qualified person. 2. Access to a dental professional for advice if needed. 3. Provide the resources to support the programme. 4. Ensure that parents are fully informed about the programme. 5. To enable informed choice, parents receive an information and consent leaflet. 6. Each establishment to receive the guidelines for implementation and staff to check that this is taking place. 7. Check procedures at each establishment at least once in an academic year. 8. All the above recorded by each team within the district.	
Child care staff responsibilities	
1. Staff who implement and supervise the programme must attend the training. 2. Commitment to the programme, providing supervised toothbrushing on a daily basis and following the guidelines. 3. Ensuring the programme follows infection prevention control procedures. 4. Permission/consent forms – are kept by the nursery/school setting in the child's personal file and all staff are aware of those children not taking part in the toothbrushing programme. 5. To check equipment on a regular basis and ensure the appropriate resources are used. 6. To ensure that the brush storage units are stored carefully and looked after for continued use. 7. To contact the oral health team for new staff to be trained. 8. To contact the oral health team when more stock is required.	
Commissioning responsibilities	
1. Use information from the oral health needs assessment to identify areas where children are at high risk of poor oral health and appropriate for targeted toothbrushing programmes. 2. Ensure appropriate governance and performance monitoring processes are in place. Facilitate co-ordination of programmes across the locality preventing duplication and maximising use of resources.	
Provision of equipment	
1. All the equipment will be provided by XXXXX with toothbrushes, toothpaste, and information leaflets provided on request. 2. Toothbrush and toothpaste packs will be provided once a year at the beginning of the academic year to support the programme and encourage the continuation of toothbrushing at home.	
Opting out of the programme	
If, at any time, the decision is made to opt out of the supervised toothbrushing programme, the setting lead should inform all partners immediately including the oral health team so that arrangements can be made to collect any surplus stock. If a school leaves the programme after parents have given permission/consent, the head teacher is responsible for informing the parents of the decision to withdraw and for informing school governors.	
Signatures of lead	**Date**
Oral health team lead person:	
Nursery/school setting lead person:	
Commissioning lead person:	
Oral health team contact:	

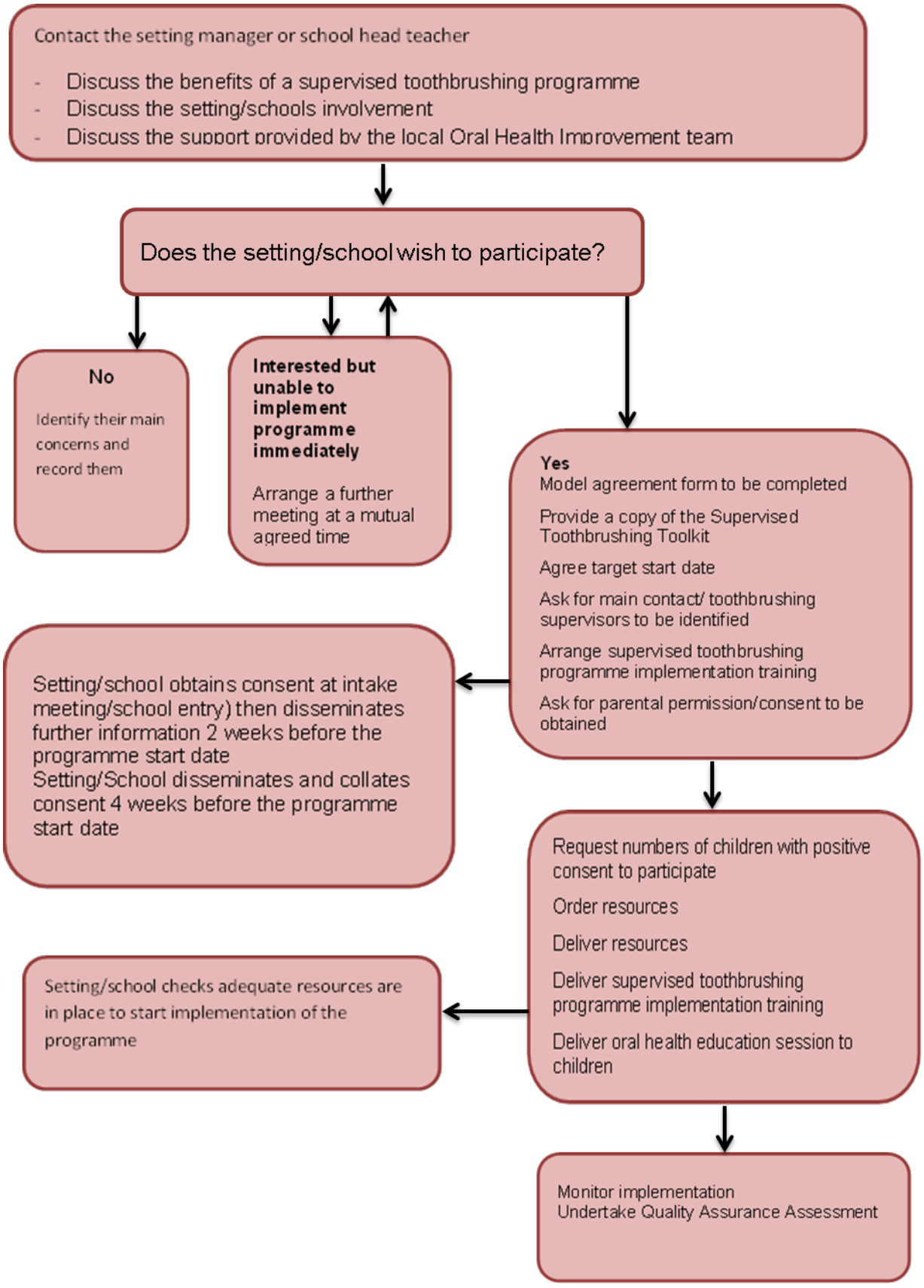
Appendix 4: Example Checklist - Quality Assurance Form

Quality Assurance checklist for nurseries/schools to complete

Nursery/School: **Class:**			
Performance is monitored once every term.	**Achieved**	**Intervention required**	**Programme suspended**
1: Organisation			
There is a designated programme lead who is responsible for the scheme within the setting.			
A model agreement outlining the responsibilities of partners has been completed and signed by all partners.			
Support and training is available for staff to deliver the programme, including infection prevention and control procedures. Training is recorded and monitored.			
Permission/consent is sought from parents or carers for their children to take part in the scheme and records are maintained.			
Quality assurance assessments are carried out by staff each term and by the provider team annually and documented using a quality assurance check list. Monitoring should include observation of the toothbrushing session; discussion of the toolkit guidance with the key settings designated lead; feedback to the overall programme lead and arrangement of a follow-up visit.			
There is access to a named dental professional for advice if needed.			
2: Effective Preventive Practice			
Fluoride toothpaste containing 1350 to 1500ppm fluoride is used in the toothbrushing programme.			
Correct amount of toothpaste is used: • children under three years of age have a smear of paste applied to their brush • children over three have a pea sized amount of paste applied to their brush			

Children are supervised by an adult during brushing.			
Children should be discouraged from swallowing toothpaste during or after brushing their teeth.			
After brushing, children spit out residual toothpaste and don't rinse.			
Toothbrushes are replaced termly or once the bristles become splayed, or if they fall on the floor.			
3: Infection Prevention and Control			
Supervisors wash their hands before and after the toothbrushing session and cover any cuts, abrasions or breaks in their skin with a waterproof dressing before commencing a toothbrushing session.			
Toothbrushes are individually identifiable for each child.			
Where toothpaste is shared, a supervisor dispenses it onto a clean surface such as a plate or paper towel.			
Toothbrushes are stored in appropriate storage systems or individual ventilated holders that enable brushes to stand in the upright position and ensure that toothbrushes do not contact each other to avoid contamination.			
Storage systems display symbols corresponding with those on the toothbrushes to allow individual identification.			
Storage systems are stored within a designated toothbrush storage trolley or in a clean, dry cupboard. Storage systems in toilet areas must have manufacturers' covers which allow the free flow of air, be stored at adult height or in a suitable toothbrush storage trolley.			
Storage systems, trolleys and storage areas are cleaned, rinsed and dried at least once a week (more if soiled) by staff using warm water and household detergent.			
Storage systems are regularly checked for cracks, scratches or rough surfaces and replaced if required.			
Toothbrushes should not be washed together in the sink.			
Toothbrushes that fall on the floor are discarded.			

Appendix 5. Example implementation algorithm



Appendix 6: Supporting evidence

Supporting references:			
Delivering Better Oral Health 3rd Edition 2014[11]			
Subject area	**Source**	**Type of evidence**	**Level of evidence**
Toothbrushing			
As soon as teeth erupt in the mouth brush them twice daily with fluoridated toothpaste last thing at night and on one other occasion	Marinho VCC, Higgins JPT, Logan S, Sheiham A. Fluoride toothpastes for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews 2003, Issue 1. Art. No.: CD002278. DOI: 10.1002/14651858.CD002278. Hinds K, Gregory JR, (1995). National diet and nutrition survey: children aged 1.5 to 4.5 years. Volume 2: Report of the dental survey. London: HMSO. Duckworth RM, Moore SS, (2001). Salivary fluoride concentrations after overnight use of toothpastes. Caries Res. 35: 285.	Systematic review Observational study Clinical measurement study	I
Parents should brush or supervise toothbrushing	Marinho VCC, Higgins JPT, Logan S, Sheiham A. Fluoride toothpastes for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews 2003, Issue 1. Art. No.: CD002278. DOI: 10.1002/14651858. CD002278.	Systematic review	I
Brush at least twice daily, with fluoridated toothpaste	Marinho VCC, Higgins JPT, Logan S, Sheiham A. Fluoride toothpastes for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews 2003, Issue 1. Art. No.: CD002278. DOI: 10.1002/14651858.CD002278.	Systematic review	I
Brush last thing at night and at least on one other occasion	Duckworth RM, Moore SS, (2001). Salivary fluoride concentrations after overnight use of toothpastes. Caries Res. 35: 285.	Clinical measurement study	III

Brushing should be supervised by an adult	Marinho VCC, Higgins JPT, Logan S, Sheiham A. Fluoride toothpastes for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews 2003, Issue 1. Art. No.: CD002278. DOI: 10.1002/14651858.CD002278.	Systematic review	I
Spit out after brushing and do not rinse	Chestnutt IG, Schafer F, Jacobson AP, Stephen KW, (1998). The influence of toothbrushing frequency and post-brushing rinsing on caries experience in a caries clinical trial. Community Dent Oral Epidemiology. 26 (6): 406-411.	Association based on reported behaviour of clinical trial volunteers	III
Provision of fluoride toothpaste			
<u>All children aged 0 - 3 years</u> It is good practice to use only a smear of toothpaste	Bentley EM, Ellwood RP, Davies RM, (1999). Fluoride ingestion from toothpaste by young children Br Dent Journal. May 8: 186(9):460-2. DenBesten P, Ko HS, (1996) Fluoride levels in whole saliva of preschool children after brushing with 0.25g (pea-sized) as compared to 1.0g (full-brush) of a fluoride dentifrice. Paediatric Dent. 18(4):277-280.	Observational study Clinical measurement study	GP
<u>All children aged 3 - 6 years</u> Use a pea size amount of fluoridated toothpaste	Bentley EM, Ellwood RP, Davies RM, (1999). Fluoride ingestion from toothpaste by young children Br Dent Journal. May 8: 186(9):460-2.	Observational study	GP
<u>All children aged 0 - 3 years</u> Use fluoridated toothpaste containing no less than 1,000ppm fluoride	Walsh T, Worthington HV, Glenny AM, Appelbe P, Marinho VCC, Shi X. Fluoride toothpastes of different concentrations for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews 2010, Issue 1. Art. No:CD007868.DOI:10.1002/14651858.CD0077868.pub2. Marinho VCC, Higgins JPT, Logan S, Sheiham A. Fluoride toothpastes for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews 2003, Issue 1. Art. No.: CD002278. DOI: 10.1002/14651858.CD002278.	Systematic review Systematic review	I I
<u>All children aged 3 - 6 years</u> Use fluoridated toothpaste containing more than 1,000ppm fluoride	Walsh T, Worthington HV, Glenny AM, Appelbe P, Marinho VCC, Shi X. Fluoride toothpastes of different concentrations for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews 2010, Issue 1. Art. No:CD007868.DOI:10.1002/14651858.CD0077868.pub2.	Systematic review	I

	Marinho VCC, Higgins JPT, Logan S, Sheiham A. Fluoride toothpastes for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews 2003, Issue 1. Art. No.: CD002278. DOI: 10.1002/14651858.CD002278.	Systematic review	I
<u>All children aged 0 – 6 years giving concern</u> Use fluoridated toothpaste containing 1,350 -1.500 ppm fluoride	Walsh T, Worthington HV, Glenny AM, Appelbe P, Marinho VCC, Shi X. Fluoride toothpastes of different concentrations for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews 2010, Issue 1. Art. No:CD007868.DOI:10.1002/14651858.CD0077868.pub2.	Systematic review	I
<u>Use a smear or pea size (of toothpaste; dependent on age)</u>	Bentley EM, Ellwood RP, Davies RM, (1999). Fluoride ingestion from toothpaste by young children Br Dent Journal. May 8: 186(9):460-2.	Observational study	GP
<u>Prevention of caries in children aged from 7 years and young adults</u> Use fluoridated toothpaste containing 1,350 -1.500 ppm fluoride	Walsh T, Worthington HV, Glenny AM, Appelbe P, Marinho VCC, Shi X. Fluoride toothpastes of different concentrations for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews 2010, Issue 1. Art. No:CD007868.DOI:10.1002/14651858.CD0077868.pub2. Marinho VCC, Higgins JPT, Logan S, Sheiham A. Fluoride toothpastes for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews 2003, Issue 1. Art. No.: CD002278. DOI: 10.1002/14651858.CD002278.	Systematic review Systematic review	I I

Toothbrushing programmes [4] Local Authorities improving oral health: commissioning better oral health for children and young people (2014)			
Supervised toothbrushing established in targeted settings	Rogers, J. G. Evidence-based oral health promotion resource. Prevention and Population Health Branch, Government of Victoria, Department of Health, Melbourne (2011). National Health and Medical Research Council. A systematic review of the efficacy and safety of fluoridation. Part A: Review of methodology and results. Australian Government (2007). Macpherson LM, Anopa Y, Conway DI et al. National supervised toothbrushing program and dental decay in Scotland. J Dent Res. 2013; 92(2):109-13: www.ncbi.nlm.nih.gov/pubmed/23264611	Narrative review Systematic review	
Supervised toothbrushing in targeted settings [9]	NICE public health guidance 55 Oral health: approaches for local authorities and their partners to improve the oral health of their communities (2014).	Guidance	

Appendix 7: Abbreviated Quality Assurance for Nursery and School Toothbrushing Programmes – Example aide memoire intended for display

These are abbreviated; the full quality assurance statements are in section 3.

Organisation

- there should be a designated lead person for the programme in all establishments
- a model agreement which outlines the roles and responsibilities of all parties involved should be completed
- support and training is available for staff to deliver the programme, including infection prevention and control procedures. Training is recorded and monitored
- permission/consent should be sought from parents or carers for their children to take part in the scheme and records should be maintained
- quality assurance assessments should be carried out by staff each term and by the provider team annually and documented using a quality assurance check list

Toothbrushing

- children are closely supervised when brushing their teeth
- family toothpaste containing 1,350 – 1,500 ppm (parts per million) fluoride is used
- for children aged 0 – three years use a smear of toothpaste (Figure 1) and for children aged over three years use a pea size amount of toothpaste (Figure 2)

Figure 1

Figure 2

- children should be discouraged from swallowing toothpaste during or after brushing their teeth
- after brushing the child spits and doesn't rinse
- toothpaste is not reapplied if swallowed
- toothbrushes are replaced termly or when they appear damaged or the bristles are splayed or if the toothbrush is dropped on the floor

Infection prevention and control

- staff wash their hands before and after each toothbrushing session and all cuts, abrasions and breaks in the skin are covered with a waterproof dressing before toothbrushing and cleaning is carried out
- supervisors dispense the toothpaste onto a clean surface such as a plate or paper towel
- there is sufficient spacing between the quantities of dispensed toothpaste to allow collection without cross-contamination
- care is taken to ensure that toothbrushes do not touch each other and cross-contaminate when being removed from or replaced in storage systems
- toothbrushes are individually identifiable enabling each child to be able to recognise their own brush
- after brushing, toothbrushes are rinsed thoroughly and individually under cold water and replaced in the storage system to allow them to air dry
- any toothbrushes dropped onto the floor are discarded
- storage systems should allow air-flow around the toothbrush heads to enable the toothbrushes to dry. Storage systems are stored within a designated toothbrush storage trolley or in a clean, dry cupboard
- storage systems in toilet areas must have manufacturers' covers however it is important that the covers allow the free-flow of air and are stored at adult height or in a suitable toothbrush storage trolley
- dedicated household gloves are worn when cleaning storage systems and sinks
- manufacturers' guidelines are followed when cleaning and maintaining storage systems
- storage systems, trolleys and storage areas are cleaned, rinsed and dried at least once a week by staff using warm water and household detergent. Storage systems are replaced if cracks, scratches or rough surfaces develop