# Improving oral health among schoolchildren – which approach is best?

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**IN BRIEF**

- Discusses the need to take action at a population level to improve the oral health of schoolchildren.
- Presents some modern oral health improvement approaches which involve multi-agencies.
- Shows how an informed approach is required to select the right combination of programmes from an evidence informed palette.

OPINION

This opinion piece considers the focus of the coalition government on improving the dental health of schoolchildren. It shows how oral health improvement teams have moved on from approaches which involve the education of children alone. More modern interventions are selected from a palette of evidence-informed options to suit the needs of the local population. Such options should ensure a multilevel approach. A plea is made for any new guidance to be informed by dental public health specialists who have practical experience to ensure that outdated methods are not re-introduced.

The Conservative Party manifesto highlighted the need to improve the oral health of schoolchildren and the coalition government has maintained the view that this is a high priority. Certainly the levels of variation in caries levels between different groups in the population are unacceptably high and the number of children still being admitted to hospital for extractions needs to be tackled as a matter of priority. The observations made from epidemiological surveys have shown consistent reductions in the caries levels among 12- and 14-year-old children in the UK[1,2] while the levels among five-year-olds have remained the same for decades, from 1987 to 2005/2006, the most recent survey that was unbiased by the need for positive consent.[3]

The implementation of water fluoridation is acknowledged as being an effective population approach. While energy and commitment is being devoted to achieving this, for the vast majority of the population this is not in place. In the absence of water fluoridation the important question to ask is: 'Which interventions and approaches are most likely to produce improved outcomes in terms of reduced caries levels among schoolchildren and which age groups should be targeted?' If the oral health of five year olds is to be tackled, then clearly health improvement interventions need to commence well before children start school. Action is required from the start to encourage breastfeeding, avoid unhealthy feeding practices and start with good toothbrushing habits. If older age groups are to be the subject of scrutiny then quite different approaches may be indicated.

In the past much energy was directed towards educating children at school about the importance of keeping teeth healthy. Lessons were delivered about the foods and drinks that could cause decay, the importance of toothbrushing and attending the dentist. These were supported by workbooks, games, puppet shows, anatomical models, disclose and brush sessions and a wide variety of other innovative activities. This traditional approach is popular with teachers and has been shown to improve knowledge about oral health. Unfortunately there is no clear evidence that such approaches produce the desired outcome of improved oral health.[4]

Perhaps the reason for this is that the children are the recipients of the key information but it is the parents who have influence over food and diet choices, purchasing and use of toothpaste and the making of appointments for dental care. Older children may have some ability to transfer the messages to their parents – but how many children are likely to insist that no more biscuits or sugary drinks be bought for a household or take responsibility for their own dental attendance? The younger children are when they receive education about health, the less likely they are to be able to turn the messages into action.

Health education lessons in schools were often undermined by the activities of schools and nurseries themselves. Tuck shops selling sweets, chocolate given as rewards for good work, fruit squash given at snack times and class-wide sharing of birthday cakes on pupils' birthdays may still be widespread in many institutions. If education of the pupils is not accompanied by a change in school policies and habits then it is even more unlikely to have any impact.

## The days of colouring in carrots have long gone

The systematic review of dental health education and subsequent Cochrane reviews[5,6,7] have all lent their weight to the value of fluoride and the measurable improvements in caries levels that are brought about by interventions which increase its availability. At the same time clear guidance has been given at international and national level about the necessity of tacking health

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problems from a variety of angles and levels.[8,9,10] In England, the evidence base for effective prevention of dental caries and other oral disease was set out in 2007 in the Department of Health's oral health plan, *Choosing better oral health*.[11] It advocated joint action by health commissioners, councils, the voluntary sector, dental professionals and the local health community to implement these measures.

This has led many health improvement teams away from the traditional 'education alone' approach towards more sophisticated interventions that involve not just children but parents, schools, dentists, health visitors, children's centres, nurseries, childminders and others. The days of puppet shows and colouring-in of carrots have long gone.

In Manchester, for example, there has been a strong move away from the traditional approach and the adoption of a range of alternative programmes all targeted at very young children with the aim of improving decay levels among the city's five-year-olds. These include the provision of free toothpaste (1450 ppm fluoride), toothbrushes and trainer cups from the age of 6 months, supervised toothbrushing in nursery classes, children's centres, childminders and nurseries. Healthy food policies have been implemented in primary schools and their attached nurseries. Training in the key dental health messages has been provided for a wide range of personnel who come into contact with parents of young children. A facilitator has been appointed to help practices adopt the guidance laid out in 'Delivering better oral health'[12] and so maximise the potential of the clinical workforce to assist families to adopt dentally healthy habits. Training courses for dental nurses are being provided so that they can gain the required additional skills in prevention and be able to apply fluoride varnish.

A more recent innovation has sought to increase access to dental care among young children and their families and increase the proportion who receive fluoride varnish applications twice a year. This 'Manchester Smiles' project is targeted at pre-school children attending nursery classes at primary schools and their parents. It brings together general dental practitioner teams with local primary schools and arranges 'meet the dentist' sessions for parents to attend at school with their children. At these sessions those children who have not attended a GDP recently are assisted to start routine attendance, given home care advice, free fluoride toothpaste (1450 ppm F) and brushes and fluoride varnish is applied. Follow up sessions ensure that non-attending families are supported as much as possible and the Safeguarding Children Team is alerted where signs of neglect are noted.

All parties seem to be pleased with the project which is now being rolled out beyond the pilot practices and first schools to be involved. At the extreme there have been reports of the benefits of children receiving treatment for their existing disease:

'*This child is now much more attentive and involved with class work. I think it's because the toothache has gone and he is probably sleeping so much better.*' [Teacher]

'*I noticed that she wanted to eat her dinner but couldn't and sometimes I could see blood in her mouth. Now she eats happily along with the others.*' [Lunchtime supervisor]

## Education alone is a great way to increase health inequalities

Dental public health specialists and oral health improvement teams await with interest any guidance that will be produced from the coalition government regarding the priority area of dental health for schoolchildren. It is so easy for those with a middle-class view of life and with no experience of oral health improvement to assume that all that is needed is 'a bit of education' or 'a few dental nurses to pop into some mother and toddler sessions'. Those who have 'been there, done that, got real' hope the central guidance won't be limited to outdated methods of screening for existing disease and educating children with no other support for them to implement the messages they learn about. This would serve to help the middle class families but tends to leave the less advantaged behind – in other words, education alone is a great way to increase health inequalities.

There is clear potential for a wide-ranging palette of other methods of improving oral health. There is a need to focus on some of the fundamentals, including keeping children disease-free wherever possible by promoting breastfeeding, healthy infant weaning and feeding and early commencement of the use of fluoride toothpaste. There is a need to identify very young children who have active disease and/or those who are at increased risk of developing decay to ensure that diets are improved by reducing sugar frequency and that bedtime routines include supervised brushing with family strength toothpaste.

Each community and population will require a different blend of approaches and it is unlikely that a single intervention alone will bring about change. Social norms have an important effect; people are deeply influenced by the behaviour of those around them and therefore local policies and approaches to improve oral health should reflect this and harness social pressure to effect change. The employment of members of target communities to spread the message and help implement the necessary changes could be an important factor that influences success or failure. Such individuals may be more credible messengers than even the most dedicated and conscientious health improvement officer.

Much has been learned about improving oral health in recent times and there are still other avenues with potential for effect. It is to be hoped that any guidance is well informed from a variety of sources and that the experience of those on the ground is sought. This should ensure that there isn't a return to outdated methods or uni-dimensional approaches. Rather, the knowledge gained should be utilised to produce guidance which allows for a wide ranging palette of choices that will increase the potential for health improvement and maximise the reduction in health inequalities. This is not the time for uninformed directions from those who don't know what they don't know.

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