A model of roles and responsibilities in oral health promotion based on perspectives of a community-based initiative for pre-school children in the UK

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IN BRIEF

- Identifies critical success factors for oral health promotion in children, from the perspective of health and education, professionals and families.
- Provides valuable insights into how access to dental practices for children in deprived communities can be improved.
- Provides a detailed model for doing this, based on principles of empowerment, as advocated by the World Health Organisation.

RESEARCH

Objectives (i) To explore dental, school and family perspectives of an oral health promotion (OHP) initiative to improve access for pre-school children in deprived communities; (ii) to develop a model of roles and responsibilities for OHP in community settings. **Methods** Semi-structured focus groups (n = 6) with dental practice staff (n = 24), and semi-structured interviews with school staff (n = 9) and parents and children (n = 4) who were involved in an OHP initiative for pre-school children. Framework analysis was applied to identify themes. Themes were used to develop a model of roles and responsibilities for OHP, based on the WHO *Planning and evaluating health promotion model*. **Results** Respondents subscribed to a community-based approach to improving access to dental services for pre-school children in deprived areas, with an emphasis on shared responsibility and communication. In addition to macro-level actions in directing health policy and services, commissioners were held responsible for investing in micro-level actions, such as funding OHP training and involving parents, and meso-level actions such as reducing barriers to access. **Conclusions** The model we have developed builds on WHO recommendations on health promotion to identify the key roles and responsibilities that should be incorporated into further initiatives in OHP.

BACKGROUND

Good oral health practices in the first five years of a child's life are critical for lifelong oral health.[1,2] Factors including teeth brushing, fluoridation, dietary advice, smoking cessation and dental attendance have been shown to improve oral health and behaviour.[2–4] In 2003 only 10% of UK children aged five years were reported to regularly attend the dentist, with one third attending only when experiencing trouble.[5] Low levels of dental attendance are more common in deprived areas and are associated with poor oral health.[6,7] Barriers such as transport and poor knowledge of services can limit access to services, despite their availability by the NHS.[8,9] These barriers can widen health inequalities as they are more likely to affect people living in deprived areas. In 2005 the Department of Health recommended that oral health promotion (OHP) staff work in partnership with dentists, schools and parents to address inequalities in oral health.[10] There is further evidence that schools and parents are needed to reinforce good practice in children.[5,11] Local, community approaches, such as involving schools, are particularly relevant given the recent move of public health to local government in England.[12]

The Department of Health publication *Delivering better oral health* provides dental practice staff with clear guidance on what preventive dental care to deliver and to whom it should be provided.[2] However, the current role that should be adopted by general dental practitioners in OHP remains ambiguous. There is a prevailing biomedical view of OHP among practitioners, which emphasises individual responsibility of parents and children to change their behaviour based on the oral health education they receive.[13,14] This view lags behind the World Health Organisation's (WHO) recommendations on health promotion, which instead focus on the need to 'empower' service users by facilitating healthy environments and removing barriers to health.[15,16] Even when parents are given information about oral health for their pre-school children that they find valuable, they still face a number of barriers in carrying out the advice, for example in finding local 'child-friendly' dentists.[17] This example illustrates not only a physical barrier to access, but the barrier of the commonly held fear of the dentist, and demonstrates the complexity underlying the relationship between the service user and service provider. An investigation of the roles and responsibilities for OHP is necessary given the apparent discrepancy between policy and practice in the approach to promoting children's oral health.

The foundations of health promotion model presented in the WHO's *Ottawa Charter for health promotion*[15] identifies the need to address the different levels at which health promotion should act. These include enhancing individual and community capacities and supporting institutional and social environments. The model has been used to develop community-based OHP initiatives,[18,19] and has been refined for use in geriatric OHP.[20] Based on an analysis of the *Ottawa Charter* and a range of systematic reviews of oral health initiatives, Watt[21] advocates an integrative approach to OHP, with a core

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perspective of empowering communities to promote health more generally. However, OHP practice still remains narrowly focused on behaviour change models and individual responsibility for health, whereas approaches that address the social determinants of disease are now more widely advocated.[22–24] In spite of the large body of research supporting the *Ottawa Charter*, no study has sought the views of those involved in community-based initiatives to test its model's relevance for OHP.

This study aimed to explore practitioner, teacher and family perspectives of an OHP initiative to improve access to pre-school children in deprived communities; and to develop a model of roles and responsibilities for OHP in community settings. We conducted a study of an OHP initiative developed by County Durham Primary Care Trust (PCT). Improving access to oral healthcare is a priority of the PCT, because, despite government subsidies of dental care to low income groups, the mean decayed, missing and filled tooth (DMFT) index of north-east English children aged five years is one third higher of the national average.[25] North-east England is characterised by high levels of deprivation and extreme areas of rurality.[26,27] The PCT funded 30 general dental practitioner surgeries (dental practices) with £1,000 from areas of high deprivation throughout County Durham and Darlington to take part in the initiative from March 2011 to February 2012. Its overall aim was to familiarise children with and normalise them to the experience of visiting the dentist. The PCT took the approach that promoting contact with dental practices in an informal way would help to overcome barriers to access and lead to an increased uptake of dental care, an approach supported in part by national guidance.[11] The mandate of the initiative was that dental practices host visits by reception and nursery staff and children. The practices were expected to hold a minimum of four visits within one year, but the manner in which the initiative was delivered and funding utilised was left to the discretion of each practice.

METHODS

Sample

We undertook semi-structured focus groups with dental practice staff and semi-structured interviews with school staff and families, who were involved in the PCT's OHP initiative. Practices and schools were purposefully selected to reflect the variation in practice and school size, locality and level of participation in the initiative. Focus group participants included receptionists, assistants, nurses, hygienists, dentists and practice managers. Interviews at schools (including reception and nurseries) comprised of teachers, assistant teachers, nursery managers and nursery assistants. All parents whose child was invited to take part in the initiative were invited to interview. Parents and their children (aged four to five years) were interviewed until data reached saturation, that is to say when no new themes emerged from the data.[28] Focus groups, which can stimulate a fuller development of ideas and perspectives, were chosen to encourage practice staff to share their experiences working with each other as a team. Interviews were conducted with school staff and parents because only one or two teachers and parents per school participated in the initiative, and because we wanted a detailed understanding of participants' experiences of the initiative.

Data collection

Focus groups were held on dental practice premises, during suitable times for staff. Face-to-face interviews with school staff were held at schools where possible, otherwise by telephone; all family interviews were conducted in families' homes. Focus groups and interviews were audio recorded. Participant observations of the visits were carried out to gain an understanding of how oral health was promoted. Non-participant observations were conducted, which included observations from informal conversation and during interviews and focus groups.[29] Informed written consent was obtained from all adult participants; informed verbal assent was collected from all child participants. Focus groups and interviews were conducted within three to six months of participation in the initiative.

Analysis

Professional transcriptions were made of the audio recordings of interviews and focus groups. These, along with field notes taken from observations of visits, were read and reread to gain familiarity with the subject. Transcripts were anonymised and imported into the Nvivo 9 software package and coded by themes. All data were treated according to the Data Protection Act 1998. Data were analysed using a descriptive Framework Approach.[30] This approach was developed for applied policy research and allows for the exploration of *a priori* issues and for new themes to emerge. Analysis of themes followed these lines of inquiry: (i) What factors contributed to the success or failings of the initiative; (ii) how did those involved in the initiative work together/not work together?

Finally, a model of the participants' views of roles and responsibilities was developed based on the WHO *Generic logic model for planning and evaluating health promotion*.[31] The WHO reviewed current literature and practice in order to produce guidance that would facilitate innovative approaches to the evaluation and practice of health promotion. Building on the Ottawa Charter's Foundations of health promotion model, the WHO proposed the Generic logic model to support planning and evaluation of initiatives. We structured our model based on the action areas represented in the WHO model: developing personal skills, strengthening community action, creating supportive environments, building healthy public policy and reorienting health services.[15] Through our analysis of the focus groups and interviews, we identified specific actions required to improve OHP and assessed whether and how participants' perspectives on roles and responsibilities accorded with the Generic logic model.

RESULTS

Regarding participation in the PCT's initiative, there was a wide distribution in the size and location of the practices. The number of patients registered at each practice averaged 5,700 (range 2,000-25,000). Each district of the Durham and Darlington area was represented, apart from one, which was the largest and most sparsely populated district. Each practice involved at least one school (range 1-3), and held on average three visits (range 1-5). The schools brought on average 27 children to the practice (range 10-100). In total 802 children participated in the initiative.

Nineteen dental practices and 27 schools participated in the research (63% and 84% response rate, respectively). Focus groups were conducted at six practices, and included 24 staff members in total. Seven face-to-face interviews and two phone interviews were conducted with school staff. Most interviews with school staff were one-to-one, though for School 4 there were two members of staff, and for School 5 there were three who spontaneously took part in the conversation. Four interviews were conducted with mothers and their pre-school child. Observations of visits were conducted at three dental practices, and informal discussions with staff, including two practice partners, were also done throughout the fieldwork.

Table 1 Themes identified from focus groups and interviews

Participant	Theme
Dental practice staff	Appropriateness of the initiative
	Staff motivation
	Funding as an enabler
	Parents as enablers
	Need for community development
School staff	Appropriateness of the initiative
	Good socialising experience
	Funding/transport as barriers
	Involvement of parents
	Need for community development
Families	Appropriateness of the initiative
	Barriers faced by parents
	Need for support

Themes identified from the focus groups and interviews

Table 1 presents the themes that emerged from the focus groups with dental practice staff and interviews with school staff and families.

Model of roles and responsibilities

There was very strong agreement between respondents and their views accorded with the WHO Generic logic model. Participants identified roles and responsibilities for OHP in all five action areas. Actions specific to OHP were identified in the analysis of the transcripts and are presented in Table 1. Table 1 describes our proposed model of the roles and responsibilities for OHP in community settings.

Role of families

The role of the family accorded with the micro-level objectives of developing personal skills and strengthening community action. Participants expected children to learn about oral health, but this could only be successful if facilitated by the parent. Thus, parents can serve as either enablers or barriers to their children's oral health. Parents are needed to implement in the home what is taught at school:

'*How much can you do in the school when it's not implemented at home? You can only do so much with the little ones, can't you?*' (Female teaching assistant, School 5)

The lack of involvement of parents in the design of the initiative by the PCT was seen as its greatest weakness, especially considering the very young age of the children involved:

'*The oral health messages that we are trying to give to [the children] is to a certain extent I think not going to be as effective... it needs the parents to be on board. Even if the children do, you know, listen and understand everything that's been said, without the parents present it's very difficult to change attitudes and behaviour.*' (Female dentist, Practice 4)

Parents identified barriers they themselves had experienced and what they thought other parents experienced: oral health as a low priority, lack of oral health education and awareness and parents' own fears of the dentist and 'authority'. Though schools were not instructed by the practices to involve parents, some did invite parents along and some parents attended, but not many. For those that did attend, most teachers thought the parents benefited from the exposure to the practice and oral health education. Findings from the family interviews suggest that the initiative helped to reduce fears of the dentist, raise oral health awareness and was a fun learning experience:

Mother 2: '*The next time we went back to our own dentist she was very chatty with him, she didn't stand off and she wasn't nervous about getting up in the chair.*'

Child 2: '*I played on the slide that was in there.*'

Mother 2: '*So do you like going back to the dentist? Is he a big scary man?*'

Child 2: '*No, no, they're not scary.*' (four-year-old girl, School 2)

Parents were conceived of as taking a proactive role in OHP within their families, a role that needed to be facilitated by schools, practices and public health. However, practice and school staff identified barriers to engaging parents; barriers similar to those recognised by parents. Practice and school staff believe that parents are not aware of proper oral health for pre-school children and do not prioritise oral health. Other reasons were that parents are not aware of the procedures and payments involved with an appointment, and have a fear of the dentists, 'professionals' and 'authority'.

Parents are placed in a difficult position regarding their responsibility in OHP. The parents interviewed believed that some of the other parents needed extra outside support:

'*The problem was mostly that a lot of the people weren't able to continue without a professional working with them the whole time, that they don't have that confidence or know-how... Whenever dentists, doctors or teachers can give a little bit of advice, not a lecture, just a little bit of gentle advice or guidance, in most families it's very welcome because they don't know*'. (Mother 1, School 19)

However, there was also the perception that parents may come to rely too heavily on outside support instead of assuming primary responsibility for their family's oral health:

'*I do know quite a lot of families who don't even encourage their children to brush their teeth on a morning. When the children come in from school they just don't... it's school, it's someone else's problem during the day.*' (Mother 4, School 9)

Parents are recognised as requiring external support from the community and public health, but they should not come to expect too much.

Role of schools

Schools were seen as being responsible for micro-level actions, such as learning and being motivated about OHP, and also the meso-level actions of creating supportive environments. While ehe initiative fulfiled the schools' obligation to deliver health promotion as set out in the early years foundation stage curriculum, school staff also described a sense of professional responsibility to promote health in the classroom:

'*The personal, social side of it is important. It's as important as teaching them to read, teaching them to write... I feel it's OUR job as a school... to promote this and to make it our business.*' (Female teacher, School 19)

Some school staff members feel they need to cultivate relationships with parents

before they can successfully promote health. To engage parents, their approaches were to be 'non-threatening', 'approachable' and to not be 'preachy':

'*A lot of [parents] have had bad experiences at school themselves. They're frightened of authority, they haven't done particularly well with their own education, so we've got to try and break those barriers down so that they're willing to work with their own children.*' (Female teacher, School 15)

Despite the extra work involved, most staff identified the social benefit of the initiative, as children learned to become part of their community:

'*We go on outings regularly to the local area because we need to get them out into the community. We like to get them to the local shops so they know what's going on locally, to the parks and things like that.*' (Female nursery manager, School 10)

Some teachers see themselves as in effect public health practitioners, and recognise their unique ability to form close relationships with parents:

'*The idea is that [the school] is going to be a real hub of the community... So when the dentist project came up that was really a good link in for me as well, because we're trying to get involved with more things as well around [the village].*' (Female teacher, School 8)

Role of dental practices

Similar to schools, the role of dental practices in OHP spanned micro- and meso-levels of action. Practice staff were expected to develop their own personal skills by building expertise in health promotion (micro-level). Dental nurses were primarily responsible for delivering the OHP initiative. Some received additional training to earn an OHP qualification, which was identified as a key to success:

'*It builds your confidence as well that you know that you're saying the right things instead of just what a dentist has told you to say. You know that you've learned that information yourself and it's the new key messages to be giving out to people.*' (Female dental nurse, OHP qualified, Practice 4)

Dental practices were seen to be the main force in creating supportive environments (meso-level). Practice staff perceived their role as public health practitioners and demonstrated a sense of duty to promote oral health. They believed engaging the community was a vital step to achieving this because they believed their community required support:

'*Everywhere that we can try and just get in to show a face and information, just to have us stand there so that some people are passing and they'll just go, 'Oh I think I might need a filling now'... It's just getting us out into the community and being seen more that I think has been the biggest success.*' (Female dental nurse, OHP qualified, Practice 9)

The sense of contributing to the community appeared to lead to improved job satisfaction.

Dental practice partners and owners have a strategic role in providing practical support to their staff and schools (micro), and in empowering their staff to create supportive community environments through delegation of decision-making authority (meso). Motivated OHP staff were well supported by and had a reasonably high degree of autonomy from practice management. In contrast, two practices inexperienced in OHP felt they had limited autonomy in their OHP work, claiming that 'area managers rule'. They felt they struggled to engage schools as a result, which led to demotivation.

Role of public health

Respondents saw the role of public health commissioners of community initiatives as operating across all areas of action, addressing micro-, meso- and macro-level objectives. Any initiative they promote should provide micro-level support such as health education. Meso-level actions should include practical support, such as funding, and building trusting relationships with the community, for example through regular communication and consistent programming. Finally, their strategic role in influencing policy and practice should be informed by a good knowledge of the needs of the community (macro-level).

Funding helped to enable practices to deliver the initiative through training, educational resources and staff time. School staff from schools that declined participation in the initiative explained to practice staff that they could not manage the visits due to staffing and funding issues. Practices apparently did not offer funding support to the schools, either because it had not occurred to them to do so or they did not want to:

'*Some [teachers] asked us, 'Would you provide taxis?,' and it was a case of well, unfortunately not because... it's not up to [our bosses] to pay for them to be able to come... It was quite difficult to organise because obviously if they couldn't provide their own transport then they wouldn't be able to come.*' (Female dental nurse, OHP qualification, Practice 2)

The more experienced practices had already built up a bank of training and resources and could then dedicate more funding to cover staff time to deliver OHP in the community. Those starting out recognised that this barrier might be overcome with time.

Similarly, most schools did not realise that the practices received funding for the initiative and could provide support to schools. School staff and children either walked to the practices or took the public bus. School staff reported that hiring a bus would be too expensive.

Some participants felt the PCT did not communicate with them enough regarding specifics of the initiative and needed to be more consistent with its programming in order for them to succeed:

'*I think it's really fragmented, it's the whole system, the lines of communication between yourselves, the schools, you know the PCTs, other practices.*' (Female dental nurse/practice manager, OHP qualified, Practice 12)

Practices also expressed a wish for the development of a 'professional community', and felt isolated by the PCT:

'*I think that's the problem is dentistry works in little pockets of isolation largely. And that's always going to be, well at least at the moment it's a big problem. But if there could be a more consistency of approach even across the teams.*' (Female dental nurse, OHP qualified, Practice 18)

They felt contact with other practices would provide a valuable forum for sharing experiences and resources, and would support their development. Table 2 outlines the roles and responsibilities for OHP in community settings.

DISCUSSION AND CONCLUSIONS

This study found that dental practice staff, school staff and families all subscribed to a community-based approach to improving to OHP, with an emphasis on shared responsibility and communication.

The study's strengths include the collection of qualitative data from a wide range of health education providers, and from parents and their children. We utilised a theoretical framework to organiae the range of perspectives and describe the results in the wider context of health promotion at the community level. The study was undertaken in the context of a service-led innovation over time and is likely to closely reflect real-life experience. Its limitations are that perspectives may be restricted to those particularly motivated to promote oral health or those receptive to such actions. Recruitment of parents was predictably challenging and a limited

Table 2. Model of roles and responsibilities for OHP in community settings, based on the WHO's Generic Logic Model for Planning and Evaluating Health Promotion*

		ACTIONS IDENTIFIED	ROLES						
			Families		Schools / nurseries		Dental practices		Public health
			Child	Parent	Teacher	Head / manager	Oral health promoter	Dental practice partner	Commissioner
Micro-level objectives	Developing personal skills	Learn about oral health	■	■	■	■	■	■	■
		Promote health by raising families' awareness of oral health and reinforcing messages		■	■	■	■	■	■
		Build expertise in health promotion					■		
		Provide practical support to oral health promoters						■	
		Delegate decision-making to oral health promoters						■	
MESO-LEVEL OBJECTIVES	Strengthening community action	Be motivated to improve oral health		■	■	■	■	■	■
		Be involved with school and children's activities		■					
		Involve parents in children's activities			■	■	■		
		Support families in prioritising health			■	■	■	■	
	Creating supportive environments	Help to reduce families' fears of dentist			■	■	■	■	
		Build trust with families			■	■	■	■	
		Build trust with schools and practices							■
		Raise profile in community			■	■	■	■	
		Provide practical support for schools						■	
		Engage with health promotion community			■	■	■	■	
		Facilitate a community of health promotion							■
		Engage with wider community			■	■	■	■	
MACRO-LEVEL OBJECTIVES	Building healthy public policy	Learn the needs of the community to inform policy							■
	Reorienting health services	Learn the needs of the community to direct services							■

sample was obtained. However the study did identify successful approaches to OHP from the perspectives of engaged oral health promoters and families, and we are able to make recommendations for practice and future research.

The ambivalent beliefs held by parents, practice staff and school staff about parents' roles were consistent with other findings that practitioners believe parents are to be held responsible for their 'poor' health choices, but also feel it necessary to control and supervise families to effectively promote oral health, rather than empower families to better engage with their own health.[14] That said, the participants in our sample were able to in effect act as advocates for parents, by articulating from their perspective the barriers that parents face. Our results support other research that found that schools can play a pivotal role in OHP in families, in their ability to work in partnership with the community and as a setting to deliver OHP initiatives.[16,19,31–33] However, by not involving parents the PCT in effect reassigned parental responsibility to teachers and practitioners rather than providing support to empower parents.

The initiative studied here confirms the importance of Watt's[21] integrative approach by demonstrating how inefficient commissioners' efforts can be when health promotion recommendations are taken piecemeal rather than adopted holistically. The PCT did not make provisions for the transport needs of sparse rural communities and did not require the involvement of parents in the initiative, despite clear recommendation to do otherwise.[5,9–11] There is a view that empowerment must be framed within the context of the individual's lived experience of inequalities and subsequent roles in society in order for it to adequately address issues of power or lack of power.[34] Better knowledge of its deprived communities would have enabled the PCT to have more effectively addressed the barriers to accessing dental services, namely transport and parents' fears of dentists and authority. The strong leadership role for commissioners that participants in our study described should not mean a reversion to the traditional bio-medical approach to

public health dentistry, with the professional assuming 'community disciplinary powers' of surveillance and control.[35] Their role should be facilitative, aligning with the socio-ecological approach to community-based health promotion, which nests public health into an advocacy role.[36]

The OHP model developed in this study provides detailed insights into the actions required to enact the principles of empowerment, as set out by WHO. In our model, public health commissioners are responsible for facilitating the actions of families, schools and practices. This can be achieved by sufficiently investing in micro-level actions, such as by funding OHP training and requiring the involvement of parents in school-based initiatives. Meso-level actions that should be enacted include reducing barriers to access such as transport and fear of dentists, and facilitating a network of people involved in community-level OHP as a way of exchanging OHP experiences and resources. The formation of local groups of oral health promoters, as is done by other health practitioners including dentists, might be one approach. A good knowledge of the needs of a community and the barriers it faces is required to inform commissioners' strategic role at the macro-level in influencing policy and practice. The more integrated relationships between clinical commissioning groups and local authorities required by the NHS reforms may be more effective in addressing these issues.

Potential challenges that commissioners may face in applying the model include balancing their involvement at the micro-, meso- and macro-levels, modifying traditional approaches to commissioning and breaking down the wider barriers of power imbalances. Early involvement of families, schools, practices and researchers is needed to aid in the planning and evaluation of appropriate and relevant OHP initiatives. Community-based, participatory research methodology would be appropriate here, and examples of successful approaches in OHP have been reported.[12,24] Study of other perspectives is needed to validate our model, for example from commissioners in order to understand how the model might be implemented into practice.

We found that communities assign a high level of responsibility to public health commissioners and expect them to assume a strong leadership role in facilitating positive actions by schools and dental practices. The model we have developed builds on WHO recommendations on health promotion to identify the key roles and responsibilities that should be incorporated into further initiatives in OHP.

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