An ethical dilemma: our current understanding of prevention in primary dental care. A qualitative study

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Objectives: This study aims to explore the views of general dental practitioners and dental care professionals on prevention in general dental practice and the challenges they face in its implementation. **Design:** A purposive sample of dental practices in north central London was selected based on the following criteria: size of the dental practice, size of the NHS dental contract and the level of engagement with prevention. In total, 11 practices out of total of 22 were approached with five agreeing to participate. A topic guide was developed which explored current roles and responsibilities of staff, current practice and barriers to practising prevention and developing preventive roles in dental practice. Four focus groups were conducted, two with dentists (n=12) and two with dental care professionals (n=13). Focus group discussions were recorded and tapes transcribed. Thematic analysis was used to analyse the data. **Results:** There were broad similarities in the themes that emerged from the four focus groups. Prevention was considered to be important, and for dentists, it was viewed to be part of their ethical obligation. A number of barriers were cited in providing preventive care including organisational factors (lack of adequate remuneration, bureaucracy, isolation), patient related factors (motivation and compliance), and clinician related factors (lack of motivation, lack of training and limited access to resources). Dentists felt isolated and were keen to engage and integrate with other health services and educational settings. **Conclusion:** Implementation of prevention needs to be supported by tackling the barriers faced by dental teams in order to widen the opportunities for health promotion in primary dental care.

Key words: prevention, primary dental care, barriers, qualitative

In the UK, the majority of routine dentistry is provided through the general dental services (GDS) in primary care. Unlike other primary care settings, many dental patients are essentially healthy but attend their dentist routinely for a dental check-up, with 70% of the general adult population attending a dentist on a regular basis (Steele and O'Sullivan, 2010). Primary dental teams are therefore ideally placed to offer preventive advice and support to their patients, particularly as brief behavioural interventions delivered in primary care have been shown to be effective (Lancaster and Stead, 2004; Kaner *et al*., 2007). Furthermore, evidence has also shown that dentists can be effective in providing brief interventions, including smoking cessation, which is comparable to their GP colleagues in primary care (Warnakulasuriya, 2002; Gordon *et al*., 2006).

However, despite the availability of guidelines and the evidence on the effectiveness of interventions delivered in primary dental care, implementation of preventive care has been limited (Spalleck *et al*., 2010; Hopper *et al*., 2011). This is supported by studies which report a number of barriers including clinician-related factors (dentist's attitudes and views), patient factors (patient compliance and motivation), as well as organisational components of health services including lack of time and remuneration (Skegg *et al.*, 1999; Warnakulasuriya and Johnson, 1999; McAnn *et al*., 2000; Gorin *et al*., 2004; Johnson, 2004; Stacey *et al*., 2007).

A number of qualitative studies have been carried out to assess the views and attitudes of health professionals, as well as the barriers encountered in delivering prevention in primary care. The majority of evidence stems from research in primary medical care. A systematic review exploring GPs' attitudes to and experiences with clinical practice guidelines identified a number of factors including organisational issues, protecting the patient-doctor relationship, as well as the importance of professional obligation (Carlsen *et al*., 2007). A study of Dutch GPs found that although they had a positive attitude towards prevention, this did not automatically lead to implementation of preventive care due to the organisation of general medical practice, feasibility of prevention, as well as perceived acceptability to patients (Hulscher *et al*., 1997). Similarly, interviews with GPs in Australia found that preventive care provided during health checks was affected by attitudes of the GP, social and professional norms, as well as the level of behaviour risk presented by the patient and the availability of resources (Ampt *et al*., 2009).

However, similar evidence from research in dental settings is limited. A review of the literature identified two qualitative studies that focused on the delivery of preventive advice in primary dental care settings. Interviews with dental practice principals in Yorkshire on delivering prevention in general dental services revealed a range of barriers including lack of financial remuneration, and underdeveloped professional skills (Dyer and Robinson, 2006). Another study exploring which factors influenced the implementation of preventive care among private dentists in Australia, found that leadership was a significant

factor in delivering prevention in dental practice. The authors suggested that leadership promoted the re-allocation of time and resources towards general prevention, in addition to encouraging peer support and the establishment of peer support networks (Sbaraini, 2012).

A further limitation of current research is that the majority of studies on prevention in dentistry have mainly focused on specific aspects of prevention such as smoking cessation or alcohol advice. However, in common with other studies from primary medical care, dentists have reported hesitation and reluctance to offer alcohol counselling to their patients (McAuley *et al*., 2011). The reported reasons were lack of time, lack of funding, as well as insufficient training and lack of confidence among general dental practitioners (GDPs). Dentists were also apprehensive about disrupting the dentist-patient relationship (Macpherson *et al.*, 2003; Goodall *et al*, 2006). Results from focus groups with GDPs working in south east England exploring their involvement in smoking cessation revealed a range of additional barriers including a fatalistic attitude towards smoking cessation, and perceived patient opposition (Watt *et al*., 2004).

In the UK, current oral health policy is placing greater emphasis on developing and expanding the preventive role of general dental practitioners and utilising dental care professionals (skill-mix) to delivery primary dental care services (Steele, 2009). However, there are still major gaps in our understanding of how best to implement and adopt existing preventive guidance in general dental practice. Furthermore, very little research has been conducted with dental care professionals (DCPs) to explore their views on prevention. More research is therefore needed in this important area.

This study therefore aims to explore the views of GDPs and DCPs on prevention and the challenges they face in implementing it in primary dental care in north central London. This qualitative study was part of a wider exploratory trial evaluating the implementation of a dietary intervention using motivational interviewing to reduce soft drinks consumption among young people attending dental practices.

METHODS

Four focus groups were carried out with dental teams working in NHS dental practices from one PCT in north central London: two with dental performers and two with dental care professionals. Focus groups were chosen as they facilitate discussion and debate in a group setting enabling different perspectives to be raised amongst selected individuals, in this case different dental professionals. Furthermore, focus groups are a more efficient method of collecting qualitative data within a short time period than individual interviews (Kreuger, 1994).

A purposive sample was selected based on following criteria: size of the dental practice (based on number of dentists working in each practice), the size of the NHS dental contract (based on number of patients on dental practice list) and extent of engagement of dental practices with preventive activities in the local Primary Care Trust (PCT). Eleven practices out of a total of 22 in the PCT were chosen for the sample based on these criteria. All 11 practices were approached, initially by letter and then a follow up phone call to request their participation in the study. The focus groups were conducted in convenient local community venues, close to the dental practices where participants worked. The venues were carefully chosen as a neutral setting where participants would feel able to openly express their views.

A topic guide was developed which explored current roles and responsibilities in prevention, current practice in prevention, barriers to practicing prevention and ways of developing preventive roles in dental practice. A letter and an information sheet were sent out to the principals of each selected NHS dental practice inviting them to take part in focus groups. The target number for each focus group was 6-8 people. Participants were reimbursed for their time as follows: dental performers at the Guild rate and DCPs at a rate of £100 per person. Information sheets were given, and written consent was obtained from all participants. This included consent for a digital recorder to be used to record discussions. The focus groups lasted between 45 minutes to one hour. Two researchers carried out the focus groups with support from the research team.

Ethical approval, and then R & D approval, was obtained from the North Central London Research Consortium.

Analysis of focus groups

Focus group recordings were transcribed. Thematic analysis, a method for identifying, analysing, and reporting patterns (themes) within data was used to analyse the data (Ritchie and Lewis, 2003). Thematic analysis involves constant moving backwards and forwards between the stages of analysis, and is therefore a cyclical rather than a linear process (Ritchie and Lewis, 2003). One researcher analysed the data and any discrepancies were discussed with a senior colleague. Data were managed by themes and cases.

The first stage of thematic analysis involved listening to the recordings and reading the transcripts to familiarise oneself with the data. Transcripts were reviewed and modified where there were difficulties in understanding the dialogue. Emerging themes within the data were identified and written down as a list of ideas by the margins. The second stage involved identifying initial themes/codes/sub-categories in the data that emerged or recurring themes which may encompass behaviour, motivation, attitude, and views of participants. The third stage involved simultaneously examining the topic guide with the initial themes/codes that were identified earlier to identify the broader themes. A thematic chart was then developed. The data were organised under the identified themes, retaining the language of the participant. Each theme with the relevant sub-headings was organised on a separate thematic chart. The data were re-examined and the categorisations were refined, in order to ensure that a logical and consistent pattern was achieved. Data were then summarised and described by comparing the data from the four focus groups. In addition, linkages and cross cutting themes were investigated between the four focus groups and highlighted on the thematic charts. For example, when examining the core theme of 'barriers to practising prevention', three substantive headings emerged, of which there were a number of sub-categories (sub-themes) associated under each heading.

RESULTS

Characteristics of participants

Five out of the 11 dental practices who were invited to participate in the study agreed to be involved in the focus groups. The main reason for non-participation was lack of time. In total 27 participants were involved in the 4 focus groups (*Table 1*).

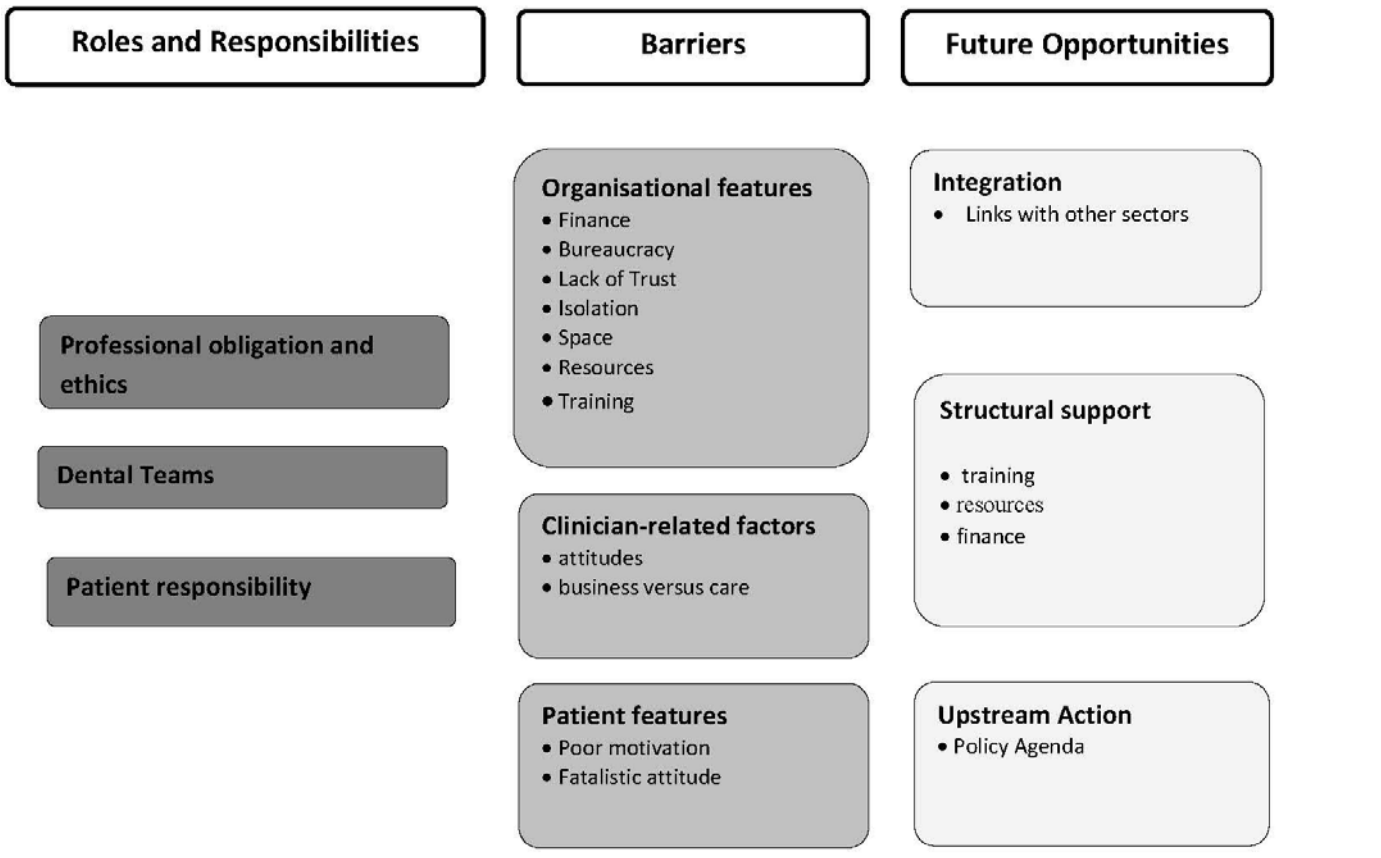
Two focus groups were conducted with dentists. One consisted of seven dentists working in a large NHS group practice (FG1); the dentists were mostly under the age of 30 years and the majority had qualified overseas. The second focus group comprised of four, more experienced and mature dentists working in smaller NHS practices (FG2). There were equal numbers of males and females in both groups. The majority of the dental practices had a large proportion of NHS patients who came from a diverse set of cultural backgrounds and social groups. Two focus groups were also conducted with DCPs working in the same dental practices as the dentists who were participating in the focus groups. One focus group (FG3) consisted of nine DCPs working in a large group practice. The majority of participants were trainee dental nurses who had only been working for a short period of time. The other focus group (FG4) consisted of four DCPs who worked in two smaller practices. The participants of this group were very experienced and had been working in their respective practices for many years.

Overall there were three key themes that emerged from the four focus groups. These included: roles and responsibilities of the dental team in delivering prevention; barriers to, and future opportunities for providing preventive care (*Figure 1*).

Table 1. Number of partcipants in each focus group

	FG1 Dentists	FG2 Dentists	FG3 Dental Care Professionals	FG4 Dental Care Professionals
Number of participants per group	8	4	9	4

Figure 1: Thematic chart exploring the delivery of prevention in General Dental Practice amongst dental teams



Theme sub categories are discussed in more detail below.

Roles and responsibilities of dental staff in delivering prevention

The role of the dental team

All focus groups participants perceived prevention to be very important. They also felt that it was the responsibility of the dental team, as well as other health professionals in primary care. In addition, DCPs acknowledged that if patients did not follow preventive advice, their oral health would suffer as a consequence.

"*I think it's the core of oral health, because if you don't know how to look after your oral health, then the problems begin.*" (FG3, DCPs)

The majority of the dentists felt a strong sense of professional, ethical and legal obligations to provide prevention for their patients. They felt because they had been trained in the principles of prevention, they had an ethical and professional duty to provide it to their patients despite not being adequately reimbursed, financially. Furthermore, they also highlighted that if professional duty were to be breached, patients were inclined to complain to the PCT, which could result in litigation for professional negligence.

"*We don't get paid for that (prevention) so it's obviously something we have to do ethically.*" (FG1)

In terms of roles and responsibilities in delivering prevention, dentists were in general agreement that prevention was not the sole responsibility of the dentists. Instead, it was perceived to be the responsibility of the entire dental team.

"*…the majority of the dentists talking and the nurses do contribute, obviously patients feel at ease sometimes if they are talking to the nurse and the nurse gives her view of it all or they say…*" (FG1, dentists)

"*…they are scared of us (dentists) sometimes!*" (FG1, dentists)

However, there were diverging views from DCPs about their role in prevention. An interesting difference emerged between the two DCP groups, in terms of whose responsibility it was to deliver prevention. Participants in FG3 who were mainly inexperienced DCPs expressed the view that prevention was principally the dentist's or dental hygienist's responsibility and that the dental nurses only had a minor supporting role to play.

"*But actually, we're not supposed to give advice (on prevention). The dentist is supposed to give advice.*" (FG3, DCPs)

On the other hand, the DCP participants in FG4 reported that dental nurses were more approachable to patients, and therefore they made a positive and active contribution towards prevention. They also expressed flexibility in their role depending on the clinical situation and the patient's attitudes. Prevention was therefore seen very much as a dental team effort.

"*…they (dentists) are in a good position to present that material. And we – sort of - back it up or if some patients feel a bit more comfortable talking to the nurses, 'cause they are intimidated by the dentists sometimes and sometimes we'll do a little OHE session with the patients as well.*" (FG4, DCPs)

Individual/patient responsibility

Although dentists and DCPs felt it was their duty to provide prevention, they had a strongly held view that it was the patient's responsibility to make the necessary changes in health behaviours to maintain their own oral health. A feeling of general pessimism about prevention was expressed by both DCPs and dentists, as they felt that patients were the sole decision makers in making behaviour change and that dental teams had limited influence on this process.

"*…if patients can't get motivated there's hardly anything we can do to stop it, we can't go to their house to brush their teeth*" (FG1)

Barriers to providing prevention

There were distinct common patterns and links between the four focus groups, in terms of barriers identified. Both DCPs and dentists were in agreement that structural, professional and patient related factors all had an important influence in delivering prevention in primary dental care settings.

Structural factors

The general consensus was that the main barriers to providing prevention were organisational issues including lack of financial rewards, NHS bureaucracy, a general lack of trust in the current dental care system and limited training and resources.

Financial barriers and NHS bureaucracy

The majority of the dentists and DCPs felt that financial incentives to provide prevention were lacking in the current NHS dental contract. They also felt that the current contract fails to recognise the importance of prevention. DCPs consistently emphasised lack of time and financial incentives as barriers to general dental practices delivering more prevention. They alluded to the fact that 'time was money' for dentists and that ultimately they were running a commercial business. The public were therefore perceived to be customers, as well as patients. Many DCPs expressed their empathy towards the dentists and reported that dentists were generally dissatisfied with the NHS dental contract. It was felt that providing prevention under the current system was generally not feasible, due to pressures to meet UDA targets.

Some of the dentists cited that there was excessive bureaucracy with the current NHS dental contract. They gave the example of smoking cessation for dental teams. They were concerned and frustrated with the level of paperwork that had to be submitted to the PCT, the time taken to offer tailored smoking cessation advice, in addition to the potential of upsetting the patient-dentist relationship.

"*If you start to focus on that (smoking cessation) and losing the patients, if they (patients) haven't succeeded in giving up smoking, they don't actually complete their dental treatment because they're too embarrassed. So I've dropped the smoking as a real back burner, because my primary role is a dentist.*" (FG2, dentists)

An additional barrier that was identified by the DCP focus groups was the lack of suitable space and/or facilities in many NHS dental practices. They felt that prevention should be provided in a separate room from dental surgeries, but this was often not possible, particularly in single surgery practices.

"*Dentists have had a hard time recently. HTM 105 then CQC – any spare place available is going towards something to do with that rather than oral health.*" (FG4, DCPs)

Lack of autonomy and trust in the system

A minority of dentists openly expressed their frustration that they had little control over clinical decision-making and that everything was being 'controlled by the authorities' (it was assumed that they were referring to the PCT or the Department of Health). DCPs were sympathetic to the dental teams' lack of autonomy in the current dental system, and interestingly they expressed similar views to those of the dentists. Apprehension was expressed about the current dental system and some participants felt that dentists were no longer considered in the decision making process. They also felt that PCTs were ultimately interfering with patient care leading to cynicism with the current dental contract.

"*...illusion is that somehow we're 'self-employed', but we're not. We're employed. Because everything about what you do is controlled. From the money you receive to the contract you have, to what treatment, how you can do it, when you can do it, how much time you spend on it. It's all controlled...*" (FG2, dentists)

Isolation: Lack of integration with wider NHS

The majority of dentists recognised the importance of having good links with other health professionals, as well as early year's settings such as children's centres and nurseries to promote oral health. However, most dentists appeared quite isolated from these local services. Participants cited that there was limited interaction between neighbouring general dental practices in the area, as well as with the Community Dental Service (CDS) and the local Hospital Dental Service (HDS). They also cited that there was little engagement between dental practices and other sectors of the health service such as GPs, and health visiting teams, as well as with the educational sector including children's centres and local schools. Participants alluded to the fact that they were keen to be less isolated from other local services and were frustrated that although they made some effort in engaging with different services, these were perceived to be unsuccessful.

"*…we're right in the middle of… estate, we have a children's centre opposite, and they don't even know we exist, we've introduced ourselves time and time again. We have had people being signposted to other practices – we're there! We're across the road.*" (FG2, dentists)

Lack of training in prevention

Most of the dentists also felt that although they could deliver some aspects of prevention, such as diet and oral hygiene advice as they had received training in these activities, other areas of prevention such as smoking cessation were considered more challenging. In addition, some of the dentists cited that they were knowledgeable about the content of the advice they needed to give to their patients, but they also recognised that they required training in how to deliver the advice and the psychological theory that underpins behaviour change. DCPs were also interested in being offered training on prevention as part of their continuing professional development (CPD). In practical terms, they preferred the training courses to be free of charge and to be held in the evenings so that there is minimal impact on their clinical work.

"*But smoking especially -to be honest- I have not much idea about how to tell patient… it wouldn't take so long… I'd just tell the patient "Your smoking affects the gums, the healing and your teeth as well". That's what I can tell my patient. But I can't tell my patient how to cut down on smoking or something like that… I have no idea…*" (FG1, dentists)

Influence of other sectors on oral health

Some of the dentists expressed the view that although prevention in dental practice was important, wider influences beyond their control determined disease patterns. These included the activities of the food manufacturers, advertising, and food labelling. They acknowledged that creating a 'healthy environment' had a more significant influence on patient behaviour than health education alone.

"*I mean the manufacturers know what they're doing! The manufacturers put sugar into these products to make them more pleasant. And that's why you get a product where sugar is the second ingredient… they're so bad at labelling.*" (FG2, dentists)

One dentist felt that providing adequate financial incentives would not solve the issues around prevention alone, and insinuated that broader factors had to be taken into consideration.

"*Funding is not going to improve that 15-year-old having sweets as she walks up stairs (for her dental treatment).*" (FG2, dentists)

Clinician-related factors

Some dentists openly expressed professional guilt as a result of the conflict between their ethical and professional obligations to provide preventive care versus running a business. Lack of monetary incentives for providing preventive care was also cited as a reason for this internal conflict.

"*We have to have two hats on the whole time. We have to manage what the patient needs and manage how much money is given to us to do that. And we're at conflict, constantly.*" (FG2, dentists)

"*…time is money if you are in a dental surgery sometimes in a GDP, general dental practice, sometimes PCTs don't appreciate this and it's just having time to do this. We did the open day which was great, but we lost a whole day's business through it. If that was reimbursed somehow, that would be great. And the dentists are not happy with the contracts at the moment as you know, so…*" (FG4, DCPs).

The majority of participants acknowledged this conflict between running a business and their duty of care to their patients. However, preventive behaviour was also affected by attitude of dentists. Some dentists felt that despite lack of financial incentives they regularly provided preventive advice to their patients, whereas others felt the need for an economic incentive to carry it out.

"*That's (dietary advice) still core, isn't it? You still do that for everybody. It's not some extra idea that's now being put into practice, it is something that's been there for years, or I assume it has been there for years and it will be there for years, if not more, more so now than ever.*" (FG2)

Patient motivation and compliance

Patients were perceived by dental practitioners as being in control of, and having their own beliefs and understanding of their general health, including oral health. This resulted in fatalistic views,

as dental teams felt they had little control over their patients' behaviour; patients were inevitably perceived to be in control of their own health. Therefore, ultimately patients had the responsibility in practising healthier behaviours, thereby emphasising the importance of patient motivation and compliance as barriers to providing prevention.

"*I saw this patient whose lungs collapsed, she's been in and out of hospital for the last four months… she's a single parent, two children and she's still smoking. She said "I used to smoke 40 a day now I'm smoking 3 a day and my consultant is giving me grief for this, I don't want you to give me grief for this, my tooth is hurting, sort me out". But these patients are chronic. No matter what you do, no matter how much… they are not going to improve.*" (FG1, dentists)

"*…it all rests on the patient to accept the information and actually do it. So they have to kind of want to do it themselves. We can only do so much.*" (FG4, DCPs)

Lack of patient knowledge and understanding, and cultural differences were also cited to be important factors in determining patient motivation. Furthermore, DCPs highlighted language and communication problems as important barriers to delivering prevention. Participants described how dentists had to spend extra time with patients who did not speak or understand English.

"Patients can't speak English… Some patients bring their child, and the child is trying to explain, but the child doesn't understand what the dentist is saying." (FG3, DCPs)

Future opportunities for prevention

A range of ideas were expressed on how this area of dentistry could be developed and expanded in future.

Structural support and training

The majority of respondents stated that appropriate training in prevention was essential to develop their knowledge, skills and confidence. However, a moral dilemma was expressed repeatedly - the ethical obligation towards providing prevention and the absence of any financial incentives. They did not see the point in being trained in prevention when faced with inadequate financial reward compounded with feelings of guilt. Although the majority commended Delivering Better Oral Health (DH, 2009), many expressed the need for practical resources for their patients.

"*…to be honest it's just because we don't get paid for that. And why do I want… I know… I know about prevention, I know the basics, why do I want to know more? Seriously? I know about diet, fluoride, oral hygiene, smoking… I can tell my patients… that's it. But if we got paid for that of course we would do it and I think it would be useful as well.* " (FG, dentists)

The provision of appropriate training and oral health promotion resources were seen as being very important. They also emphasised the need for health education resources for patients, including leaflets, as they felt that this was a great motivator for their patients.

A range of constructive comments emerged in the focus groups over how preventive activities could be further developed within NHS dental practices. It was also felt that prevention was essentially a team activity and DCPs should play an important role and be rewarded accordingly.

"*If they had something in the NHS contract that paid for nurses to do stuff. You know, the scope of practice for nurses now is… you've got extended dental duty nurses. And sometimes you know I think they're losing, wasting an opportunity. Because we're much cheaper than dentists. And they can pay us to give the message across. And then dentists wouldn't mind letting us go out of the surgery and doing this, if they got reimbursed for it somehow.*" (FG4, DCPs)

DCPs also saw opportunities and links with other dental services such as the CDS, as well as with local GPs, maternity services and community nurses.

"*There should be some sort of connect as it is linked to nutrition somehow to connect it to dental practice, refer to dietitians or encourage them to go see GP.*" (FG3, DCPs)

However, the notion of developing better cooperation and integration also posed certain dilemmas. The perception was that the GDS was very different from the CDS or HDS. Furthermore, the DCPs felt that they may be reluctant to share their examples of good practice with other GDPs as they were in direct competition for business.

"*…you get people from the PCT asking us to share information with other practices about what we do with open days, our prevention programmes, because they sound fantastic, can we share this? This is like asking Tesco's what Sainsbury's are going to do for their marketing. We are in competition with each other.*" (FG4, DCPs)

Participants identified that the Department of Health had an important role to play in promoting better oral health and in improving dental attendance. Schools were also seen as an important setting for oral health input and it was suggested that every child should be registered with a dentist at school entry.

Improving integration with other local services

Tackling isolation and improving cooperation was seen as an important step forwards in developing a preventive role. There was a general consensus view that dentistry should integrate more with local NHS dental and health services, including with the local HDS and CDS. In addition the value of linking up with local children's centres, nurseries and schools was also acknowledged as being important.

"*Don't you feel sometimes we are a lone voice in dentistry? We are never included… I went to something at the PCT that was set up, and they had two ladies there talking about nutrition, but because it's coming from 'obesity' and that's where all the funding is, we're at conflict.*" (FG2, dentists)

Advocacy and upstream actions

One group of dentists emphasised the need for an upstream preventive approach including societal changes and greater corporate responsibility. They cited the use of role models for children and expressed concerns about the use of companies such as Coca Cola as sponsors for big events such as the London Olympics. Some participants felt that sugar should be seen as anti-social considering the impact it has on people's lives.

"*I think it's a cultural thing, cultural change that is what we need, and that's why things have been successful. Smoking cessation has been successful because its taboo almost… so I think if we look at those things, how can we make decay, high levels of sugar, almost anti-social?*" (FG2, dentists)

DISCUSSION

The four focus groups provided some valuable insights into how dentists and their DCPs viewed prevention and some of the challenges they faced in providing preventive care in general dental practice. There was a consensus of opinion that prevention was a core element of dental practice and that dental teams have an important role to play in preventing chronic diseases. The results of the focus groups have revealed that barriers to delivery of preventive care are influenced by patient and clinician-related factors, as well as structural factors within dental services. Previous studies have reported similar findings (Watt *et al.*, 2004; Dyer and Robinson, 2006).

Structural factors such as the current NHS dental contract, lack of financial incentives and time constraints were reported as important impediments to preventive care delivery in primary dental care settings. This was further aggravated by clinician related factors including attitude, beliefs and social norms in providing preventive dental care. There was an apparent tension or a competing interest between managing dentistry as a business versus the provision of patient care; a dilemma of balancing finances and professional responsibility to provide care. This was further influenced by patient related factors (patient motivation and compliance).

This study revealed that dentists strongly felt a sense of ethical, legal and professional obligation to provide prevention, which was not being rewarded by the current dental contract. This instinctively created a conflict for some of the dentists who felt limited or inhibited to provide preventive care in the current environment. This personal and professional dilemma was openly expressed. There was a general consensus that the 2006 dental contract neither recognised the importance nor provided economic incentives for preventive care. This is consistent with previous research (Milsom *et al.*, 2008; Davies and Macfarlane, 2010). This highlights a potential imbalance in the provision of dental care, whereby most of the resources are focused on treatment and diagnosis and little is dedicated to preventive services.

Dentists who expressed that prevention was part of their professional responsibility to their patients could be perceived as altruistic. However, research has shown that even the most altruistic physicians find it difficult to focus on clinical activities for which they receive little financial rewards (Relman, 1982).

An interesting finding was that dentists' attitudes and behaviours were not homogenous in terms of provision of prevention in primary dental care. There were two extremes of opinions on the ethos of dentistry, although the majority of views were somewhere between. A couple of participants felt strongly that regardless of financial rewards, they provided prevention as part of their core activity and were in fact proactive in engaging in local initiatives such as smoking cessation, and outreach work with local children's centres. Some participants felt that there was little economic motivation in providing prevention, because there were no financial incentives to do so, whereas others would provide it despite the lack of financial rewards.

Bureaucracy, lack of trust in the system and feelings of isolation were seen to be inherent barriers to the practice of prevention within NHS dental services. It was interesting to note that there was heterogeneity of views on this topic among participants. Although some expressed a desire to come out of their isolation and integrate with other health services and were also keen to be involved with a variety of preventive initiatives; other participants felt that it was sufficient for dentists just to carry out the business of dentistry.

One of the participants expressed strongly that bureaucracy and interference from the 'outside' was a barrier to providing preventive care. Furthermore, those who viewed themselves as being experts in dentistry did not perceive any need for further training in prevention. These views may relate to the conventional meaning of professionalism: having advanced knowledge and skills to provide care, professional conduct, autonomy (where clinicians have the freedom to diagnose and treat patients as they see fit), as well as a code of ethics (Stern, 2006). This sense of autonomy expressed by some of the dentists reveals the view that dentists should have the freedom in clinical decision making, as they will inherently have the patient's best interest when providing care, without any externally imposed restrictions.

In contrast, those who were keen to integrate recognised their limitations in terms of health promotion knowledge and skills in specific areas such as smoking cessation, alcohol advice and behaviour change and welcomed training opportunities.

The majority of participants had a fatalistic approach towards their patients. Dental teams were frustrated at how little control they had, because attempting to influence behaviour change in patients was perceived to be an almost impossible task. Although dentists attempted to give their professional advice, they were frustrated by patient's failure to comply with the advice. This was further manifested in how some of the participants viewed their patients and categorised them into 'bad' versus 'good' patients depending on the level of compliance with professional preventive advice. Exploring this issue further, a minority of participants alluded to the fact that there were social class differences in health behaviours. This is in agreement with the literature (Martikainen *et al.*, 2003; Stringhini *et al.*, 2010). Patients from higher socioeconomic groups were more likely to comply with advice and attend dental services when compared with patients from lower socioeconomic groups. This argument was taken a step further by a minority of participants: patients from lower socio-economic groups were judged to be less appreciative and that they undervalued professional advice. There was little consideration to collaboratively working with patients to achieve behaviour change by allowing patients to make their own decisions.

However, a diverging view was expressed by a minority of dentists who had acquired a more upstream approach to prevention, recognising the wider societal influences on oral health. They projected their views by emphasising the need for cultural changes in society, and went as far as suggesting that sugar should be perceived as a taboo substance, just like tobacco. Some of the participants also questioned the corporate responsibility of sugar manufacturers, retailers and the advertising industry.

There were similarities in the themes that emerged from the focus groups where prevention as a concept, and its implementation, were considered to be important in general dental services. These findings are consistent with other studies (Dyer and

Robinson, 2006). Dental teams valued the philosophy of prevention and perceived it to be an integral part of their roles and responsibilities in the GDS. Although DCPs and dentists were in general agreement that it was the responsibility of the dental team to deliver prevention, diverging views were expressed among the DCPs. Less experienced and younger DCPs reported that they were more reluctant to provide lifestyle counselling to patients as this was viewed as the dentist's responsibility, whereas more mature and experienced DCPs were already engaged in delivering preventive advice. This could be due to a number of factors. Dentists could be perceived by DCPs to be in a more dominant position and ultimately responsible for patient care and therefore the less experienced DCP may perceive herself as having merely a supportive role and may not feel empowered to deliver preventive advice. This is in agreement with the medical literature; nurses have traditionally worked under the supervision of doctors and had limited autonomy and resources to implement evidence-based guidelines (French, 2005; Hannes *et al*., 2007). In addition, less experienced DCPs may lack confidence and skills, and may require additional training in prevention. The present findings seem to be consistent with other medical research. A survey of nurses in two hospitals in England found that junior nurses perceived more barriers in implementing evidence-based practice whereas senior nurses felt more empowered to overcome these obstacles (Gerrish *et al*., 2008).

The assigned role of different members of the dental team posed some important questions on responsibilities for delivering prevention. Participants expressed divergent views on how patients perceived DCPs: some patients welcomed preventive advice from dental nurses who were perceived to be more reassuring than dentists; whereas other patients perceived dentists as the sole professional experts in delivering prevention. Therefore, patient perception may impact on the implementation of skill mix to deliver prevention.

There are strengths and limitations to this study. This study was based on sound methodological considerations. Using a purposive sampling method, four focus groups were employed to explore a specific area focusing on general prevention in general dental services. According to current recommendations, a minimum of two focus groups is suggested (Morgan, 1992). The focus groups were analysed and further discussion with a second researcher verified the emerging themes from the data. One limitation could be that participants could be expressing similar opinions/views; however we have demonstrated a diversity of views and opinions on prevention.

Policy implications and recommendations

This study has shown that dentists and DCPs have a positive attitude towards the delivery and implementation of prevention in general dental practice which needs to be encouraged. So, what are the possible policy implications? Dental teams working in primary care could potentially make an important contribution to patient behaviour change. However, cited barriers such as financial and time constraints need to be tackled. Financial inducements to fit with what is salient to them should be considered in order to minimise their inner conflict and support their professional instinct to provide prevention. It is therefore recommended that changes in organisation of dental services need to be supported including rewarding the implementation of skill-mix. DCPs expressed similar views about the current dental care system constraining them from providing preventive care due to lack of formal payment mechanisms to reward them. Therefore, organisational change is required to deliver evidence based prevention (Watt *et al*., 2004).

Furthermore, dental teams need to be equipped with the necessary training and tools to deliver contemporary methods of preventive care. Dental teams may require further training to empower them to deliver either prevention in general, or certain aspects of prevention, such as smoking cessation. Training on prevention could be more readily accessible as part of CPD courses and should encompass a range of topics including behaviour change management. In addition, other tools including evidence-based oral health promotion resources such as patient education materials should be readily available. Patient compliance, as well as patient resistance, have been reported to be important factors to consider when delivering health promotion advice. Achieving behaviour change is complex and a number of behaviour change theories have considered external elements such as economic, social and cultural factors as well as internal patient-related factors such as attitude, beliefs, and self-efficacy and control (NICE, 2007). However, patient interaction with dental teams has an important impact on patient's motivation to change (Bien *et al*., 1993). Therefore, sensitive and effective communication skills which motivate the patient to change are fundamental to reducing potential conflict between the patient and dentist and helping to reach a consensus on behaviour change. Dentists in particular aspired to emerge out of their 'dental' isolation and to be integrated with other primary care services, educational and community settings. This needs to be facilitated by advocating a multi-sectoral approach which encourages integration and collaboration of dental services with a variety of sectors to promote oral health as well as general health. Furthermore, developing and implementing peer support networks locally would encourage integration and sharing of good practice.

Recognising that clinicians vary in their knowledge and skills in behaviour change, it is recommended that they adopt a holistic view to oral health, taking the wider social determinants into consideration. Furthermore, contemporary models of prevention should consist of equipping clinicians with knowledge, supplemented with skills in communication, methods of achieving change and supporting patients towards behaviour change. This means moving away from a prescriptive type of communication towards a supportive method, in which the patient is engaged with the process of change in which the patient is the ultimate decision maker.

CONCLUSION

These focus groups have shown that delivery of prevention in primary dental care is a complex process, which is influenced by a host of barriers, which interact with the organisational environment in which healthcare is delivered. In addition, clinician's knowledge and skills, attitudes and beliefs, as well as patient related factors have important influences on clinical behaviour

and practice.

Dental teams working in primary care could make a significant contribution to prevention of chronic diseases. Therefore, improvements in the implementation and delivery of prevention in general dental services would require tackling the fundamental barriers, so that dental teams can be encouraged to deliver evidence-based preventive advice, including lifestyle counselling, to primary care patients.

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