

EVIDENCE SUMMARY

What do dentists mean by 'prevention' when applied to what they do in their practices?

Original question submitted by Wayne Richards, January 2010

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Key Terms

Preventive dentistry (Medline MeSH term): the branch of dentistry concerned with the prevention of disease and the maintenance and promotion of oral health.

Background

Preventing oral disease is considered desirable and feasible¹¹, and has been practised by dentists for over a century¹². Clarification of the meaning and practice of 'preventive dentistry'^{13,14} is an enduring challenge to the profession¹¹.

Recent government reform of dental services envisages dentistry as an integral part of the wider primary care network, with promotion of preventive practice being a priority¹⁵. Emerging NHS PCT commissioning arrangements¹⁶ include oral health improvement and prevention as part of dental services commissioning.

Evidence-based approaches to preventive dentistry are widely published^{17,18}, however accessing dentists' views about what constitutes prevention and preventive activity in their practices may promote clarity both within the profession and in wider representation.

Aim

This review aimed to identify, evaluate and summarise UK primary research studies which are one of:

i. asking dentists directly what they consider prevention/

preventive dentistry to involve in their practice, or what preventive activities these dentists undertake within their practice, or
ii. surveys of dentists which include open questions about what preventive activities they do in their practices, or
iii. surveys of dentists which include questions about oral/dental health education/promotion as a sub-set of prevention.

Review Method

Initial searches: Ovid MEDLINE (1950 – December wk5 2009) using the search terms: i. preventive dentistry, dentists' practice patterns, general practice, dental, Great Britain. 43 papers identified. 39 excluded.
ii. preventive dentistry, definition. 4 papers identified. 4 excluded.
iii. preventive dentistry, reviews 1999-2010; general articles 2005-2010, Great Britain. 56 papers identified. 54 excluded.

Further searches: included CEBD, Cochrane Oral Health Group, ADA, National Library for Public Health. 0 papers identified. Also Science Direct, ASSIA (CSA), Web of Science, EBSCO, SwetsWise. 3 papers identified.

Findings

There appears to be no clear or consistent primary research into UK dentists' views and attitudes relating to their understanding of prevention and its application in practice. Studies with a main focus on other issues, such as dentists'/practices' attributes affecting patient well-being³, or reasons for changing public/private mix of work⁹ reveal other concepts relating to prevention, rather than prevention itself. Most of these studies' findings are constrained by the predominantly closed, quantitative methods of data collection used.

The literature found (references 1-9) indicates a number of dimensions along which dentists' perceptions of prevention can be located (see Figure). Most dentists regarded aspects of prevention to be part of their professional work^{2,3}, a source of job satisfaction⁴, and of value to the practice, its image⁴, and a marker of quality of care⁹. However, the quantity and proportion of working time spent undertaking preventive activity varied widely², and activity data sources may be unreliable^{7,8}. Historically, it appears that preventive activity was mainly related to clinical use of preventive products eg fluoride^{4,6}, although visual aids for dental health education, including posters and pamphlets, were reportedly used almost 35 years ago⁶. Fissure sealants and fluoride mouthrinsing advice remain popular⁴, along with advice for interdental cleaning and use of fluoride toothpaste⁵.

More recently, dentists reported increasingly diverse perspectives upon a continuum of preventive activities, with polarisation into those

of 'health-focused' dentists and of 'disease-focused' dentists¹. The former adopted an holistic view of patients, emphasising prevention rather than treatment, and feeling that the dentists' role was changing towards looking after peoples' general health. The biomedical, curative emphasis of 'disease-focused' dentists supported a view that any health promotion activity should be centred upon the mouth.

Other variations in perspective concerned the relevance to dentistry of specific public health interventions eg smoking cessation or blood pressure monitoring¹, whether a general risk factor approach was appropriate, and to all patients, or if difficulties might arise in the dentist-patient relationship, and therefore affect business^{1,2}. Also, there could be variation in provision of preventive advice with each attendance, or each new course of treatment⁵.

Over 50% of dentists in four of the studies felt it was desirable to give advice including oral hygiene, diet and/or smoking prevention and cessation, even if the scientific rationale was sometimes unclear⁴, however fewer dentists viewed it as

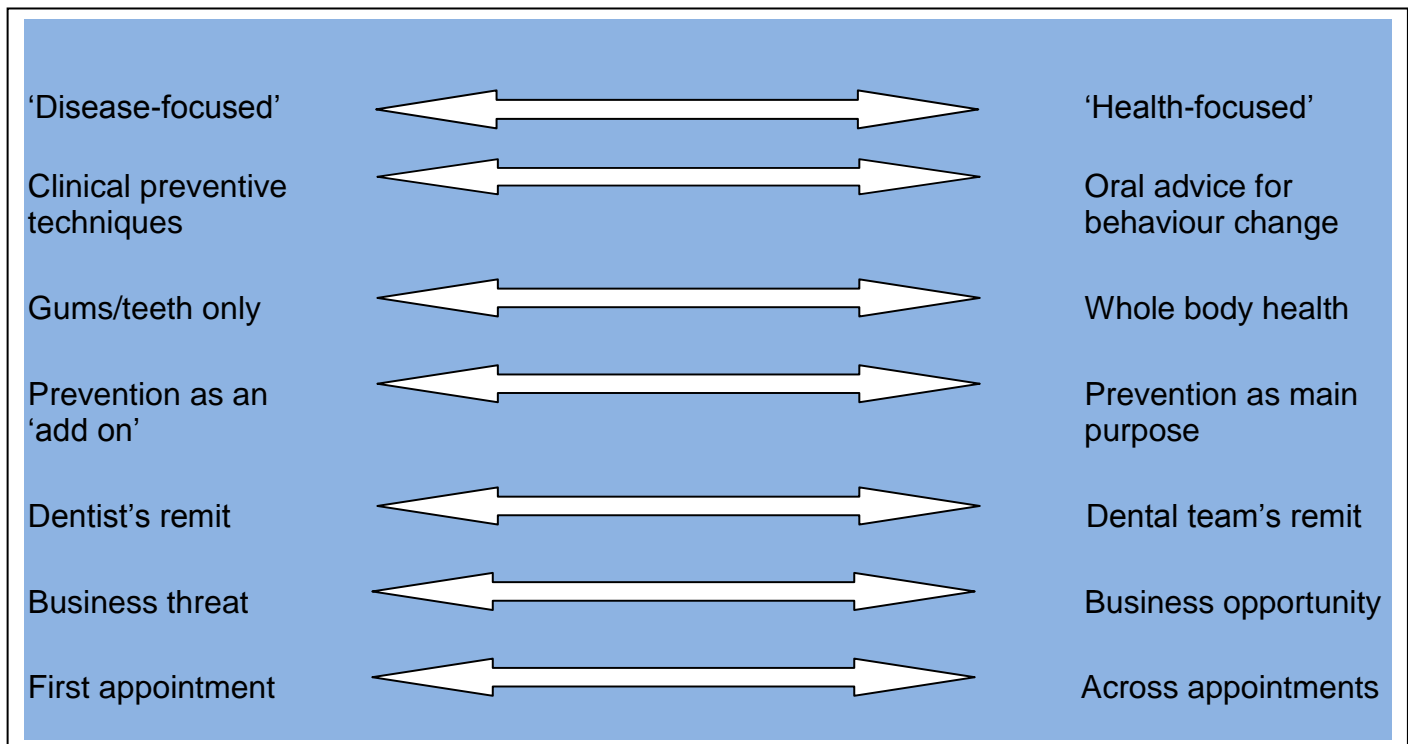
relevant to offer advice on alcohol consumption or physical activity^{1,2,8}.

There was broad variation in the level of use of dental hygienists^{4,5}, although in one study practices engaged in 'patient-active prevention' (see Table of Findings) were almost six times more likely to employ a dental hygienist than other practices, and these practices were five times more likely to have an oral cancer screening policy⁵.

Most preventive advice was provided on a one-to-one basis, mainly at the chairside^{2,5}, with a majority also offering posters and/or leaflets^{2,6}. A small proportion (12%) reported having dedicated preventive units⁵.

In summary, there is a lack of evidence about dentists' perceptions of prevention and its application in practice. Indicators of dentists' preventive activity yield a number of relevant dimensions and potential variations along these. Greater use of qualitative research methods within dental enquiry may lead to new insights into the views of the profession^{2,10} about what prevention means to them.

Dimensions of prevention revealed by surveys and interviews with dentists



Ref	Year* & location	Overall aim of study	Methods & participants	Views of dentists on the meaning of 'prevention' - or concepts closely related to prevention - when applied in their practices.
1	2003, South Yorkshire	To investigate the factors that might influence dental teams' involvement in general health promotion.	i. Semi-structured interviews by 10 dental practice principals ii. Self-completion questionnaire (closed questions) survey by 166 practice principals.	<p>1. Qualitative study (n=10) 'Health-focused' dentists (holistic view, emphasise prevention vs treatment) perceived:</p> <ul style="list-style-type: none"> the role of dentists to be changing, to look after peoples' general health, not only teeth and gums dental practices' role could include public health interventions <p>'Disease-focused' dentists (biomedical, health is absence of disease, emphasise curative treatments), perceived:</p> <ul style="list-style-type: none"> any health promotion involved in would be centred upon the mouth it to be difficult to give advice on alcohol consumption (patient alienation) <p>Dentists' views (overall):</p> <ul style="list-style-type: none"> were varied about the relevance of specific public health interventions to dental practice eg. smoking cessation (relevant), blood pressure monitoring (diverse views) recognised their duty of care towards patients' general health included concerns that interest in patients' private health matters eg alcohol consumption may be damaging to business a team approach may become more important in dental practice for health interventions to occur keen to delegate preventive work (oral and general health) to professions complementary to dentistry (PCDs) many considered PCDs to have more time, and to be more cost-effective, to be involved in prevention <p>2. Quantitative study (n=166) The relevance of public health interventions to their dental practice was reported to be smoking prevention (93%), smoking cessation (92%), alcohol consumption advice (80%), dietary advice (88%), skin cancer prevention (66%), physical activity advice (35%), blood pressure monitoring (51%).</p>
2	1996, Wales	To provide a profile of the nature & scale of oral health promotion (OHP) by dental professionals.	Self-completion questionnaire (mixed open and closed questions) survey by 568 dental professionals (dentists, dental hygienists, dental therapists).	<p>1. 89% of dentists, and 88% of all dental professionals, stated OHP formed part of their work.</p> <p>2. 50% of the general dental practitioners who said OHP formed part of their work spent over 2 hours per week in this activity.</p> <p>3. Of those who stated OHP formed part of their work (n=492), 450 (91%) identified key messages they conveyed as OHP:</p> <ul style="list-style-type: none"> 77% on oral hygiene (including efficient & regular toothbrushing (34%), use of fluoride toothpaste/other fluoride (23%)) 72% on diet (sugar & sweets (28%), usually in relation to mealtimes, snacking avoidance)

				<ul style="list-style-type: none"> • A significant proportion promoted general rather than risk factor-specific messages eg oral health disease is preventable, natural teeth last a lifetime, personal responsibility for oral health. <p>4. 430 of the respondents who stated OHP formed part of their work spent between 4/5 and all of their time on the reduction or prevention of dental caries and gum disease.</p> <p>5. About 40% stated they spent no time on oral cancer or dental injury prevention.</p> <p>6. 73% of respondents who identified a target group, targeted children for dental caries prevention and 78% for dental injuries prevention; 61% targeted the elderly for gum disease, and 86% for oral cancer prevention.</p> <p>7. 98% of those undertaking OHP undertook one-to-one advice at the chairside. Clinical preventive techniques were second most popular eg fissure sealants (87%), topical fluoride applications (69%). Other OHP techniques included offering preventive care more often/made more available (61%), distributing educational leaflets (60%) or displaying educational posters (58%).</p> <p>8. 23% of those undertaking OHP reported having a specific area for health education/promotion activities.</p>
3	2002, North West of England	To investigate attributes of dentists and practices which might affect patient care and well-being.	Self-completion postal questionnaire by 15 dentists in 15 dental practices.	<p>1. All 15 dentists stated a belief in preventive methods.</p> <p>2. 93% (n=14) believed that dental personnel could successfully influence effective brushing with fluoride toothpaste.</p> <p>3. 73% (n=11) felt that dietary counselling was an ineffective method for preventing caries.</p>
4	1994, North West of England	To assess the views of established, successful general dental practitioners treating their child patients under a capitation system of remuneration, to discover what preventive procedures on which patients	<p>i. Telephone interview by 50 dentists using closed questions</p> <p>ii. Unstructured discussion groups by 21 dentists</p> <p>iii. 'Standard gamble' technique questionnaire by 20 dentists.</p>	<p>1. All 50 dentists thought that prevention in some form upon selected patients was of value to the practice.</p> <p>2. Some (number undisclosed) stated prevention was good for practice image; if carried out selectively it could be cost-effective relative to operative dentistry.</p> <p>3. All dentists agreed prevention improved their job satisfaction.</p> <p>4. Some (number undisclosed) dentists viewed prevention as part of modern professional philosophy and dentists were neglectful if they did not practice this on their patients.</p> <p>5. 88% of respondents (based upon n=50 of telephone interviews) selectively prescribed fluoride supplements. 48% restricted fluoride tablets to children under 10 years old with active caries, as part of participation in a comprehensive preventive regimen.</p> <p>6. 96% of respondents used pit and fissure sealants, although they were unsure of their cost-effectiveness and only 26% used them routinely.</p> <p>7. 58% of respondents viewed dietary counselling as practice-beneficial, perceiving that unless sugar intake was under control, other preventive activity</p>

		they considered were of benefit to their practices and why.		<p>would be to no avail.</p> <p>8. 92% gave oral hygiene demonstrations, although the rationale was unclear.</p> <p>9. 32% felt that applying topical fluoride preparations to patients' teeth was of value to their practice; 66% recommended daily use of fluoride mouthrinses as part of a wider caries preventive programme for adolescents.</p> <p>10. 52% employed dental hygienists, to whom routine procedures eg oral hygiene demonstrations, dietary counselling, topical fluoride treatments and sealant application was often delegated. Dentists who employed a dental hygienist had a statistically significantly higher 'mean preventive awareness score' (p=0.02) – a locally developed comparative marker of practice policies on preventive procedures.</p> <p>11. The three most popular preventive techniques over the whole age range of patients were dietary counselling (greatest), then fissure sealants and fluoride mouthrinsing, although the ranking varied within age groups.</p>
5	2005, Northern Ireland	To investigate the preventive orientation of general dental practices in the Eastern Health and Social Services Board (EHSSB) region by examining their 'patient-active prevention' activities, practice policies for prevention and employment strategies.	Interviewer-administered closed questionnaire by 128 general dental practice principals.	<p>1. Over 90% of dentists reported providing dietary advice for dental caries, oral hygiene instruction, advice on fluoride toothpaste use and interdental cleaning instruction. Also information on dental erosion and sugar-free medicines when felt appropriate for patients' oral health needs.</p> <p>2. 78% of dentists provided information on mouthguards, and 75% provided information on smoking cessation when they felt these interventions were appropriate for patients' needs.</p> <p>3. Fewer dentists provided oral health advice with each new course of dental treatment (diet for dental caries 3%, oral hygiene instruction 7%, fluoride toothpaste use 7% and interdental cleaning 7%).</p> <p>4. Provision of oral health education was reported as part of practice policy for 95% of respondents, with 88% providing one-to-one oral health advice. In addition, 73% provided oral health information in waiting areas, 64% oral hygiene products and 63% oral health education leaflets.</p> <p>5. 12% of practices had a dedicated preventive unit.</p> <p>6. 21% of practices employed a dental hygienist. Practices that employed hygienists tended to have a higher 'prevention-activity score' (a scoring of the frequency of provision of 'patient-active prevention' items).</p> <p>7. 'Patient-active prevention' practices were 5.8 times more likely to employ a hygienist, and 5.3 times more likely to have an oral cancer screening policy than non-'patient-active prevention' practices.</p> <p>** 'Patient-active prevention': 'a dental practice providing advice, counselling, information leaflets, oral health products; anything that would enable patients to take an active role in the management of their oral health status'.</p>
6	1976, England, Wales and	i. To assess the numbers of dentists using	A closed postal questionnaire* by 885 dentists.	<p>1. 80% (706) dentists reported using preventive products.</p> <p>2. Use of preventive techniques was positively statistically associated with university training in their use (p<0.0005), with preventive measures employed</p>

	Scotland.	preventive methods, and ii. to assess the attitude of the profession towards a suggested inclusion of fees for preventive therapy on the NHS scale.	* Primarily aimed at prevention of dental caries.	by 94% of those qualified since 1970. 3. Application of fluoride to the teeth (gel/solution/mouthrinse/fluoridated polishing paste/fissure sealant) was the basis of most preventive treatments, with gel use (85%) predominant and mouthrinse lowest (9%). 4. 82% of dentists who stated they used preventive products used visual aids for patient dental health education, whilst at least 60% used posters, pamphlets and plaque-disclosing agents. 7% reported having a 'cassette viewer' in the surgery/ waiting room.
7	2003, Wales.	i. To establish the current level of provision of reimbursed preventive care to adult NHS patients in Wales, and ii. to determine the reasons why dentists do or do not claim payment for providing such care.	A closed question postal questionnaire by 267 dentists in general dental practice. Also the Dental Practice Board (DPB) data routinely collected in Wales for three Statement of Dental Remuneration (SDR) codes relating to adult preventive care for the year ended October 2002.	1. Respondents' awareness of the SDR codes was 86% for fissure sealants (FS), 64% for intensive oral health instruction (OHI) (including dietary advice and oral hygiene techniques), and 54% for topical fluoride (TF). 2. Of these code-aware dentists, 17% (FS), 56% (OHI) and 1.4% (TF) had claimed for them in the past three months. 3. 94% of dentists considered OHI was the most appropriate form of oral health promotion for dentists to provide, 88% to provide advice on fluorides use, and 85% to give dietary advice specifically in relation to low sugar and erosive foods. 4. 59% of dentists were open to providing smoking cessation advice, and 51% to providing general health dietary advice. 21% felt it was appropriate to provide advice relating to drug and alcohol addiction.
8	1991, United Kingdom.	To assess the attitudes to, and practice of, oral mucosal examination and the provision of professional advice aimed at primary	A mailed questionnaire by 2519 regular UK recipients of the British Dental Journal. (Response rate 16%)	1. Half of respondent dentists did not routinely enquire about cigarette smoking and alcohol consumption habits. Of those who did, 30% of dentists enquired of smoking habit, and 19% of both smoking and alcohol habits. 19% recorded this data in patients' notes. 2. 30% of dentists who enquired into smoking habits provided brief advice routinely to their patients; in addition, 31% of dentists provided advice to patients considered to be at high risk of oral cancer or other major disease. 3. 20% of dentists tried to give alcohol consumption moderation advice to patients where its consumption appeared excessive. 4. 71% of dentists felt it was desirable to provide advice against tobacco use,

		prevention of oral cancer.		however perceived constraints included: unimportant, ineffective so also frustrating, not cost effective, lacked training.
9	1997, England	To investigate why some dentists have changed the public/private mix of their work and why private practice appears to be increasingly attractive.	1. A postal questionnaire with attitudinal scales and open questions by 1017 practising principal dentists 2. Telephone/face-to-face semi-structured interviews by a sub-sample of 56 dentists in two regions.	1. 39% of dentists reported improving quality***, 38% reported increasing patient treatment choices and 37% reported increasing time for patients as reasons for deciding to increase private treatment provision (from 63% in 1987 to 89% in 1997) . 2. Dentists' key aspects of quality were carrying out preventive care and a strong commitment to prevention, irrespective of mix of practice. 3. Preventive practice was seen by dentists to be an aspect of professional responsibility, and the lack of funding for NHS preventive dentistry was a main theme in the qualitative responses: 'NHS practice did not promote the kind of work they valued highly'. *** Dentists' definition of quality: increasing durability, aesthetics, freedom from pain, preventive treatment, value for money, high technical expertise, use of high quality materials, up-to-date techniques.

* Year of study, or of publication

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