

# **Scottish Needs Assessment Programme**



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## **Oral Health Promotion**

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## **Oral Health Network**

### **Oral Health Promotion**

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## **EXECUTIVE SUMMARY AND KEY RECOMMENDATIONS**

### **Introduction**

Oral Health in Scotland remains poor. A national Oral Health Strategy published in 1995 set targets for the year 2000 and beyond (SODoH,1995) . The more recent White Paper "Towards a Healthier Scotland" includes dental health - 60% of 5 year olds to have no experience of dental disease by 2010, as one of seven Headline Targets (SODoH,1999). The major oral diseases can be classified as dental caries (tooth decay), periodontal (gum) disease and oral cancer. In common with many chronic diseases, dental caries is significantly influenced by social and economic deprivation. At age five, those living in the most deprived sectors of the community have three times the level of disease experienced by those resident in the most affluent sectors.

Previous SNAP-coordinated needs assessments have dealt with these topics. A common theme to emerge from these reports is the need for appropriate health promotion programmes.

Thus the remit of this group was:

*to review current oral health promotion activities in Scotland to identify: content, methods and material, evaluation techniques and areas of good practice, with a view to making recommendations on the development of oral health promotion activities aimed at reducing inequalities in oral and dental health.*

### **Current Concepts of Oral Health Promotion**

Traditionally, there has been an emphasis on dental health education, either with individuals or groups, which has focused on imparting knowledge. It is accepted that the acquisition of knowledge does not necessarily result in behaviour change.

Current concepts of oral health promotion acknowledge the importance of environment (both physical and social), lifestyle/individual behaviours and access to services.

The 'common risk factor approach' acknowledges that many diseases have common predisposing risk factors. A poor diet, high in sugars, and smoking are examples of behaviours which impact adversely upon oral as well as general health.

### **Delivery of Oral Health Promotion**

Oral health promotion is delivered in a variety of 'settings' or locations including General Dental Practice, Community Dental Practice, General Medical Practice, Pharmacies, Schools, Pre-five establishments, Workplaces, General Public, Community and Voluntary Sectors.

A key theme has been that of pre-fives oral health promotion. Currently efforts are focusing on increasing the registration of infants and toddlers with the General Dental Service, as early dental attendance provides an opportunity to impart appropriate preventive advice to parents and carers. Use of other professionals such

as health visitors to detect and stream vulnerable children towards dental care are highlighted.

There is scope for further multi-professional input in settings such as hospitals and general medical practice, particularly with regard to vulnerable patients such as elderly people and medically compromised children.

Within general dental practice, there are funding issues relating to the provision of preventive advice and services. The conflict between a traditional fee for item of service, restorative treatment philosophy and a capitation-based preventive approach has not been adequately resolved.

## **Evaluation**

The quantity and quality of evidence in the oral health promotion field is sparse.

Debate continues as to the most appropriate evaluation methodology. It has been suggested that a randomised control trial (RCT) approach may not be the most appropriate measure for determining the effectiveness of oral health promotion. Qualitative techniques, or a combination of qualitative/quantitative methodologies may be more suitable for the evaluation of health promotion interventions.

## **Education and Training in Oral Health Promotion**

There are postgraduate degree courses with a health promotion perspective in Dundee, Edinburgh and Glasgow.

Undergraduates have elements within their behavioural sciences/dental public health courses.

Professionals complementary to dentistry have training opportunities at pre- and post-qualification level and courses are currently being developed where the influence of lifestyle and life circumstances are considered in addition to dental health education approaches.

Whilst continuing professional educational events for clinicians have been organised, uptake has been limited.

## **KEY RECOMMENDATIONS**

### **Public Policy**

The single greatest improvement in oral health for the population of Scotland would result from the fluoridation of the public water supply and this should be made available.

#### **Action: Management Executive, Health Boards**

Policymakers, including MPs, MSP's and Local Councillors, should be apprised of the poor state of oral health, both locally and nationally, and of the role of fluoride in caries prevention.

#### **Action: Management Executive, HEBS, Health Boards**

The general public should be informed and apprised of the benefits of water fluoridation and any fears should be allayed.

#### **Action: HEBS, Health Boards**

### **Oral and Dental Health Education/Promotion**

Current arrangements for the remuneration of General Dental Practitioners for the delivery of preventive advice and treatment are sub-optimal and should be reviewed.

#### **Action: Management Executive**

The results of successful pilot projects, in settings such as school, pre-school establishments and the workplace should be widely disseminated, thus facilitating the development of similar projects within other areas.

#### **Action: HEBS**

With regard to diet and dental caries, a healthy diet should be encouraged, together with appropriate messages regarding the frequency of sugar consumption and the use of fluoride toothpaste.

#### **Action: All personnel involved in health promotion activities**

With regards to periodontal disease, the importance of thorough cleaning including toothbrushing and interdental cleaning and the links with smoking should be emphasised.

#### **Action: All personnel involved in health promotion activities**

With regards to oral cancer, the reduction in exposure to the risk factors of smoking and alcohol moderation and the importance of early detection, should be emphasised.

## **Inequalities in Dental and Oral Health**

Fluoridation of the public water supply would help to address the inequalities in oral health in all age groups.

Other oral health inequalities such as the use of dental services require new, effective, solutions.

Oral health promotion should be targeted to areas of deprivation and should be developed and tailored appropriately to such disadvantaged groups as untargeted oral health promotion can widen the social gap even further.

Oral health should be included in the wider health agenda.

Recent initiatives, such as Priority Partnership Areas and Social Inclusion Programmes, New Community Schools, Healthy Living Centre and Starting Well Demonstration Projects provide an opportunity to target oral health promotion activities to those at greatest risk.

### **Action: Those with strategic responsibility for health promotion**

#### **Educating the Educators**

In oral health promotion, training at undergraduate, postgraduate and post-qualification levels should be strengthened with regards to programme design and evaluation.

### **Action: HEBS, dental schools, colleges of further education**

Scottish Council for Postgraduate Medical and Dental Education should support training /funding of courses in Oral Health Promotion at the national level for dental practitioners.

### **Action: SCPMDE**

Evaluation (process, outcome) of oral health promotion is poorly understood. Further dissemination of examples of good methodological practice are required to address this problem.

### **Action: HEBS**

The Health Education Board for Scotland should continue to provide support and expertise with regard to resources and programme development. This will necessitate enhanced collaboration and co-ordination with their key partners, namely, the Health Boards, Trusts and others responsible for delivering oral health promotion.

### **Action: HEBS, Health Boards, Trusts**

## **CHAPTER 1**

### **1.1 Introduction**

Whilst the last quarter century has seen considerable improvement, oral health in Scotland remains poor. More than half of all children experience tooth decay sufficiently severe to require either a filling or extraction by the time they start school (Pitts, Nugent & Smith, 1998). However, despite its pervasiveness, dental disease is not inevitable and can be prevented.

A national Oral Health Strategy, published in 1995, established targets for the year 2000 and beyond (SODoH, 1995). The more recent White Paper "Towards a Healthier Scotland" (SODoH, 1999) includes dental health as one of seven Headline Targets for Scotland. The ultimate goal is to change behaviour and to alter factors in the environment so that disease is prevented from developing. This will require a concerted effort by key organisations at both local and national levels.

The major dental diseases are dental caries (tooth decay), periodontal (gum) disease and oral cancer. These specific disease entities have been considered in previous SNAP co-ordinated needs assessments and detailed recommendations have been made with regard to the management of these conditions (Pitts et al, 1998; Taylor et al, 1997; Dawson et al, 1996). A common suggestion to emerge from these reports was the need for appropriate health promotion programmes. Thus the remit for this group was as follows:

### **1.2 Remit**

'To review current oral health promotion activities in Scotland, to identify: content, methods and material, evaluation techniques; areas of good practice, with a view to making recommendations on the development of oral health promotion activities.'

### **1.3 Definitions**

The following definitions are accepted:

#### *Oral Health*

'Oral health is a standard of health of the oral and related tissues without active disease. This state should enable the individual to eat, speak and socialise without discomfort or embarrassment, and contribute to general well-being.'(SODoH, 1995)

#### *Oral Health Promotion*

'Oral health promotion is any planned effort to build supportive public policies, create supportive environments, strengthen community action, develop personal skills or re-orientate health services in the pursuit of oral health goals' (Sprod, Anderson & Treasure, 1996).

Oral health promotion is an umbrella term which incorporates all types of oral health education. Whilst the above definition emphasises the broader political, economic, social and behavioural processes which contribute to oral health, it still incorporates those preventive interventions which can only be delivered by trained health professionals.

### **Aims of the needs assessment**

This needs assessment aims:

- to describe key concepts and models relating to oral health promotion using primarily a settings approach, to gather information on current oral health promotion activity in Scotland
- to outline the principles governing the evaluation of oral health promotion and to review the evidence of the effectiveness of oral health promotion
- to explore issues concerning education and training in oral health promotion
- to make recommendations regarding the future development of oral health promotion

## **CHAPTER 2**

### **CURRENT CONCEPTS OF HEALTH PROMOTION**

Over the years, numerous models have been described to facilitate an understanding of how health can be promoted. Whilst the great majority relate to health in general, the underlying principles apply equally to the promotion of oral health. A detailed description of these concepts and models is outwith the confines of this Needs Assessment but the following key principles should be borne in mind in relation to oral health promotion.

Efforts to promote oral health, at least at an individual level, have frequently focused on health education initiatives, but the concept of health promotion as encompassing health education, health protection and prevention (Downie et al,1991) is now widely accepted.

The traditional medical model of health education has been criticised as overly disease focused, concerned mainly with physical ill health and lacking attention to mental, social and spiritual health, with undue emphasis on information giving. It has been variously described as judgmental, victim-blaming and disempowering, involving a passive, compliant patient and a directive expert.

Contemporary approaches to health promotion take a common risk factor approach, acknowledging that many diseases and unwanted conditions have common predisposing risk factors. In the context of oral health, poor diet (including low rates of breastfeeding) and smoking are examples of behaviours which impact on oral health as well as general health.

The move from the medical model of health and health education to a more socio-ecological approach recognises that environment (both physical and social), life-style and individual behaviour, human biology and health care, are all influences on health.

In order to promote health, the environment must offer conditions conducive to health, namely:

- information and opportunities to further development of life skills, facilitate decisions, and encourage behaviour that maintains health
- healthy options in goods and services
- social support to help individuals change, adapt and maintain health

Individuals' efforts to change their own health behaviour are often constrained by economic, social and cultural influences. Low educational status, lack of time, energy and money, and exposure to family and friends who frequently engage in health-damaging behaviour are all factors which may act to constrain individual's efforts to promote their health. The socio-ecological theory of health and health promotion provides the rationale for a 'settings' approach to health promotion.

In recognition of the fact that individuals live within a community, current health promotion initiatives increasingly have community participation and development as key elements.

## **CHAPTER 3**

### **CURRENT DELIVERY OF ORAL HEALTH PROMOTION**

#### **3.1 Introduction**

Historically, dental health has been designed and delivered to specific target groups, such as schoolchildren, expectant mothers, elderly people and those with special needs. Currently, the 'settings' approach is used, i.e. interventions or programmes are designed for use in a particular arena such as schools or community. This approach is meant to take cognisance of the environmental factors which influence an individual's health and behaviours.

One topic which continues to give concern is the oral health of young children especially in areas of deprivation. Children who live in a deprived area, as defined by the Carstairs Index, have much poorer health than those living in a more affluent area (Carstairs and Morris 1991, Sweeney et al, 1997). The group of children who are most vulnerable are in the pre-school group and much attention has focused on attempting to improve their oral health. This chapter will attempt to address some of the activities, including examples of good practice, which are currently delivered in Scotland.

#### **3.2 Key Messages**

The 'Scientific Basis of Dental Health Education' purports to give guidance for individuals who are involved in dental health education (Levine 1996). It summarises the advice that should be given to the public as the following four statements:

- 1 Diet: reduce the consumption and especially the frequency of intake of sugar-containing foods.

The frequency of intake of fermentable carbohydrate, principally sugars, is linked with the development of dental caries. They should be consumed as part of a meal, rather than as snacks.

- 2 Toothbrushing: clean the teeth thoroughly twice every day with a fluoride tooth paste.

Toothbrushing per se does not prevent tooth decay, but when used with fluoride toothpaste it is a key preventive measure. Removal of plaque by toothbrushing is important in prevention of periodontal disease.

- 3 Fluoridation: request your local water company to supply water with the optimum fluoride level.

Fluoridation of the public water supply is an important public health measure in the prevention of dental decay. Currently the Scottish public are deprived of this benefit.

4 Dental attendance: have an oral examination every year.

Dental attendance is important in the early detection of caries, periodontal disease and allows for opportunistic screening for oral cancer. Attendance at the dental surgery provides an opportunity for health education advice.

The 'Scientific Basis of Dental Health Education' also mentions oral cancer, albeit briefly. The SNAP Report on Oral Cancer (Dawson et al, 1996) highlights smoking and alcohol as important risk factors, being associated with 75-95% of the risk of the disease. The main risk factors for oral cancer are well known, with 75-95% of the risk of the disease associated with smoking and alcohol. Smoking also plays a contributory role in periodontal disease.

### **3.3 The delivery of oral health promotion**

Many NHS organisations, Trusts and Boards are involved with oral health promotion. The organisation which has lead responsibility for the national aspects of health education within Scotland is the Health Education Board for Scotland and its key partners are health promotion departments, which may or may not, have staff available with core responsibility for oral health promotion.

#### **3.3.1 General Dental Practice**

Since 1990, patient care within the General Dental Services has been carried out under the framework of the new dental contract. For those aged 18 years and over, this is currently provided primarily on an item-of-service basis, with a small additional annual registration fee paid to the dentist to accept ongoing responsibility for the care of the patient. Those under 18 years of age are accepted for care on a capitation basis, with additional fees being paid for certain specified treatments.

In 1996, there were 2,027,245 adults and 635,945 children, respectively, registered within the general dental services (Scottish Dental Practice Board 1997). Therefore, much of the chairside oral health promotion carried out in general dental practice in Scotland is conducted within the constraints of an item-of-service system, and consequently influenced by it. It is the view of many practitioners that current remuneration arrangements regarding the delivery of preventive advice and treatment are sub-optimal.

In the course of this needs assessment, a postal questionnaire of 249 General Dental Practitioners (1:7 of those practising throughout Scotland) which received a 68% response rate, was conducted to determine current practices with regard to oral health promotion.

On questioning, General Dental Practitioners indicated that they routinely offered advice on toothbrushing (96%), diet (92%) and acknowledged the role of smoking in the aetiology of oral cancer. Forty one per cent offered advice on this topic. The need for training in the provision of advice to patients has been identified.

However as already stated, General Dental Service Regulations, as currently framed, were viewed as an impediment to spending quality time providing individualised preventive advice and care.

Whilst 57% of the practices employed a hygienist, only 5% employed a dental health educator. How Professions Complementary to Dentistry could be utilised to better

provide oral health promotion in the general dental service requires consideration. Furthermore, there is a need to identify how oral health promotion at the chairside can most effectively be delivered.

### **3.3.2 Community Dental Service**

The role of the Community Dental Service as defined by the Scottish Office Department of Health's Circular (DGM(1989)15), includes the provision of, and participation in, dental health education and preventive programmes. Evidence collected in the course of this Needs Assessment suggests that throughout Scotland, Community Dental staff are actively involved in health promotion activities.

In addition to chairside dental health education as part of their day-to-day clinical activities, both routine and ad hoc oral health promotion events are supported. These may be organised under the auspices of the parent Trust, other healthcare workers or agencies outwith the National Health Service such as local authorities. The lead in such activities is normally taken by dental ancillary staff who have undergone further post-qualification training and certification.

The following have been identified as important considerations in the promotion of oral health by the Community Dental Service:

- training for staff participating in oral health promotion activities should be beyond the level normally taught to student dental nurses, hygienists and therapists
- whilst some Trusts have appropriately trained staff, the pressure of clinical duties prevents their health promotion expertise being utilised to the full
- responses to requests for support on an ad hoc basis (as frequently occur) often favour those already accessing professional support and cannot be regarded as the best use of resources
- the use of specialist health promotion staff in rural areas poses logistical problems
- in some Trusts a Senior Dental Officer has a specific remit for oral health promotion
- constraints, both financial and in availability of personnel, may result in oral health promotion losing out to the demands of a treatment-led service

### **3.3.3 Hospital Dental Service**

There are three dental hospitals in Scotland (Dundee, Edinburgh and Glasgow), two of which are also dental schools: (Dundee and Glasgow). Dental services are also provided within district general hospitals. In the hospital dental service most of the input is dental health education delivered at the chairside by staff and students alike.

Input to undergraduate training is discussed in Chapter 5, Education and Training.

### **3.3.4 General Medical Practice/Primary Care**

#### ***General Medical Practitioners***

General medical practitioners are an important group as they have contact with at-risk groups such as medically compromised children, irregular dental attenders - especially those who smoke and drink heavily, pre-school children in deprived areas and the edentulous elderly. They have a direct role to play in promoting the use of sugar-free medicines.

Although patients suffering from oral cancer for example, commonly first present at their medical rather than dental practitioner, it is recognised that, given other priorities, the role of doctors in directly promoting oral health will, of necessity, be restricted. However, as gatekeepers to primary medical care, general medical practitioners may influence allied professional groups, such as health visitors and practice nurses, who have a more direct input to increasing awareness of oral health issues.

### ***Health Visitors***

The Oral Health Strategy for Scotland recognises that health visitors have an important role to play in promoting oral health. They have contact with pre-school children, many of whose parents do not routinely access dental services. The Child Health Surveillance System includes specific questions relating to oral and dental health.

In the course of this needs assessment, a telephone survey of health visitors practising throughout Scotland was conducted to determine current advice provided. This centred on four main topics: the importance of early dental registration, toothbrushing, dietary advice, and the use of fluoride supplements. Access to general dental practitioners, including reluctance of some dentists to register babies, was noted as a problem. The greatest uncertainty related to the use of fluoride supplements.

It is to be hoped that recent changes to the General Dental Service Regulations regarding enhanced capitation rates for registration of children in deprived areas, together with the recommendations on the use of fluoride toothpaste and fluoride supplements recently issued by the Scottish Consultants in Dental Public Health, will overcome the difficulties noted. The recommendations on fluoride toothpaste and supplements will be reviewed in 2000.

### ***Specific Projects***

A number of specific projects involving health visitors were noted, including a Dundee-based project utilising health visitors to help identify high caries risk children. Other projects involving health visitors were noted to be ongoing in several other health board areas.

It is acknowledged that to promote oral health, especially in target groups such as the pre-fives, a multi-professional approach is desirable. One such initiative was 'Dental Caries for the Under-Fives: Abolish Carious Teeth'.

This programme aimed to raise awareness and knowledge levels amongst those health professionals who had contact with the pre-fives. The key professionals were general dental practitioners, community dental staff, health visitors, general medical practitioners and pharmacists. Background research showed that the different health professionals were giving conflicting advice to some patients, hence it

became clear that there was need for an integrated message on early registration, dietary counselling, fluoride therapy and fissure sealants. The packs were designed to be multi-professional, so that each member of the dental or primary care team could see his or her role as well as that of the other team members.

Information Packs containing core information and practical tips as well as a range of resources were mailed to the relevant health professionals. A number of workshops were held in some Scottish Health Board areas to help onward dissemination. This programme is currently being evaluated.

Another initiative which is currently in the developmental stages is that of "Oral Cancer Prevention and Detection - A Guide for Health Professionals". The target groups include the primary health care and dental teams as well as pharmacists. The aim of this project is to raise awareness of oral cancer epidemiology, detection of suspicious conditions and counselling with regards to tobacco and alcohol intake. The pack will use multimedia to promote these issues. This project is funded by Scottish Council for Postgraduate Medical and Dental Education and Health Education Board for Scotland.

### **3.3.5 Pharmacy**

The role of community pharmacists in the provision of dental and oral health advice has been the focus of a number of investigations and initiatives. Recent work in Scotland has shown that pharmacists and their staff, on the whole, have a sound knowledge of factors influencing the development of dental disease and a distance learning package which includes dental and oral health advice has been produced (Chestnutt, 1996). The Health Education Board for Scotland has, as a National Smile Week initiative in 1997, produced a package of health promotion materials to support community pharmacists across Scotland.

Dental and oral health advice in community pharmacy can be considered under the following headings:

- advice regarding the use of prescription and "over the counter medicines" including advocacy of sugar-free preparations
- dealing with patients presenting with specific signs and symptoms e.g. mouth ulcers, toothache
- provision of advice to the purchasers of dental hygiene aids

Current evidence suggests that whilst pharmacy staff not infrequently offer advice to those presenting with a specific problem, there is scope for a more proactive approach to be taken.

### **3.3.6 Secondary Care [excluding Hospital Dental Service (3.3.3)]**

The health promoting hospital is a well developed concept. These initiatives should include attention to oral health.

Maternity units have an important role in the promotion of oral health in nursing and expectant mothers. First-time mothers attend classes from the 30th week of pregnancy onwards. There are opportunities for input both at this time, and when the new mothers are in hospital, subsequent to delivery.

New mothers are also eligible to receive free samples of new products such as those supplied by Bounty. It is important that these packs are not used to introduce the mothers to items such as sugar-containing baby drinks, which if misused, can cause nursing bottle caries.

Another area for input is that of long-stay patients. Oral health knowledge and practices of nursing and medical staff can be variable. One initiative aiming to improve knowledge of oral care for patients is 'Making Sense of the Mouth' funded by SCPMDE. Targeted at nursing and junior medical staff, it comprises a distance learning pack which utilise multimedia to raise awareness of health and disease in the oral cavity as well as information on oral care regimens for the patient. This programme is currently being evaluated.

### **3.3.7 Schools/Nursery Schools**

The concept of the health promoting school is well established and it is obviously important that oral health is addressed within this framework. This requires a multi-agency approach. Current initiatives such as Schools Nutrition Action Groups (SNAGs), which have been piloted in some areas, attempt to co-ordinate the efforts of caterers, parents, local authorities and health professionals to secure an improvement in diet.

The establishment of New Community Schools offers a further opportunity for the promotion of health in deprived areas.

The incorporation of oral health as a topic within school curricula is key and primary schools undertake oral health promotion as part of general health awareness and food and nutrition activities. This is supported by Health Education Board for Scotland materials, such as the recent programme entitled "Healthy Teeth in Healthy Mouths". The delivery of oral health promotion messages by teachers within the curricular framework is to be encouraged. The Community Dental Service has a long history of working with local authorities and continues to play a crucial role in fostering good relations at a local level with head teachers and their staff.

Historically, much of the oral health education effort has focused on primary schools and whilst there has been input to secondary schools, the education of adolescents, as the parents of tomorrow, requires continued attention.

The emphasis on improving oral health in pre-5s has led to a number of nursery school-based initiatives, including daily toothbrushing. The long term benefits of toothbrushing in this age group requires evaluation, both in terms of direct oral health gain and the social and life skill benefits acquired.

### **3.3.8 Workplace**

A Needs Assessment on Workplace Oral Health Promotion which was recently carried out looked at the views of both employees and employers (HEBS 1995). Results showed that for the employees, cost of dental attendance was the main issue. Dentists were seen merely as service providers, rather than key preventers of dental disease. Little enthusiasm was shown for any campaign which was merely information exchange. One area where interest was shown was that of oral cancer. This was seen as an area where information was 'new', and screening for oral cancer may prove a further incentive to visit the dentist.

One other area where oral health is given importance is that of the Scottish Workplace Health Promotion programme, SHAW (Scotland's Health at Work). Companies which are in pursuit of the Gold Award have to show evidence of addressing oral health issues, a component missing from the schemes currently operating in England and Wales.

### **3.3.9 General Public**

The most recent HEBS, General Public Programme in the field of oral health targeted the parents, grandparents and carers of pre-school children (1994/1996). The aim was to raise awareness of those who could influence the oral health of young children. Packs were sent to dentists and health visitors in Scotland, for onward dissemination to the target group. Separate packs were sent to nurseries and playgroups. Mass media were used (TV and Press) to back up the information and raise awareness of the poor oral health of Scotland's children. Evaluation showed that the key educational materials of the poster and leaflet impacted well with both the dental professionals and parents surveyed. Distribution of the packs to the general dental practitioners appeared to have worked reasonably well, though much less so to the nurseries.

General Public campaigns utilising mass media are used more frequently with other risk factors, notably smoking and alcohol misuse. These risk factors, of course, are implicated in oral cancer.

The broadcasting media are frequently used aggressively to market foodstuffs, toys and services. Children are often the target of these highly focused campaigns. Television advertisements, often featuring cariogenic products, are screened at peak viewing times during children's programming, such as after school and weekend mornings. A budget of £30million may be used to launch one sweetened drink, or a campaign to rebrand confectionery, may utilise £2million. In contrast, in the financial year 1997-1998, the Health Education Board for Scotland spent £33,950 on dental/oral health.

### **3.3.10 Community**

Much work has been done in other fields such as healthy eating, with the setting up of community food co-operatives. The concept is less well developed in the oral health field, though there is potential. An innovative project has used lay workers to promote breastfeeding in an area which historically for social reasons had a low uptake. A similar concept has been used in Newcastle involving lay oral health workers who work with the local community to break down the barriers and promote early attendance at the dentist (Evans 1996). Inclusion and integration of oral and dental issues within Healthy Living Centres would be beneficial.

As an example, within Glasgow, in the area of Possilpark, there is an innovative scheme ongoing attempting to address the problem of trying to promote oral health of young children in a deprived area. A multi-agency approach is being used to raise awareness of oral health within the community and to develop and implement initiatives in key settings. This involves facilitating the creation of a supportive environment through working not only with local health professionals but also with the community and volunteer sector, education establishments, commerce and business. Addressing the children's nutrition through breakfast clubs, toothbrushing programmes in nurseries, toothbrush/paste and bottle exchanges are a few examples of the approaches used.

### **3.3.11 Voluntary**

The voluntary sector may potentially have a key role for health promotion with children and young people. In particular, the pre-fives are widely enrolled in playgroups run by local voluntary organisations, and 12-18 year olds may be involved with activities outside school which offer opportunities for health promotion. To determine whether there was a possible role for this setting in the field of oral health, research was carried out by HEBS in 1997/98. Those adults within organisations seen to have the potential for influence over the above target groups' oral health were interviewed.

For the pre-fives, this included the Scottish Pre-School Play Association and Scottish Childminding Association. For the 12-18 year-olds, this included Youthlink Scotland which links with the Boys Brigade, Scout and Guide Association and Youth Club Scotland.

Most of the organisations in the study perceived a need for oral health promotion activities. The topic had been much more readily addressed in the pre-fives groups. For the older age-groups, however, there were a number of difficulties. The paramount health issues were seen to be smoking, drug & alcohol use and sexual health matters. Although the workers felt that there was a place for oral/dental health, it was not always clear how young people could be encouraged to see oral health as relevant to them. It was generally felt that that the topic was best addressed in the context of appearance or image issues.

### **3.3.12 Special Projects**

#### ***National Smile Week***

This initiative was originally the idea of the British Dental Health Foundation, which ran the first ever week in 1979. The aim was principally to raise public awareness of the importance of oral health, through the use of mass media. Resources were also produced for use by interested parties, such as dental practices, schools and industry. Employers with Occupational Health departments may purchase packs of resources for use with their employees. Dental practices may use the materials to aid patient recruitment by holding an open day for interested potential patients.

As the principle aim is consciousness raising with the public, the main method of evaluation is measurement of the number of broadcasts/amount of airtime/number of articles in the press which the current initiative generates.

#### ***Chuck Sweets off the Checkout***

This initiative aimed to remove the behavioural cues for impulse buying of confectionery by members of the public. Up to 70% of confectionery that is bought is purchased on impulse or as a ‘distress’ product. When positioned in supermarkets at particular locations such as checkouts, higher levels of sales of these products result. Young children are key target group as they are known to influence their parents shopping decisions and by the use of “pester power” can result in products being purchased for their consumption.

*‘Chuck Sweets Off the Checkout’ initiative was first implemented between 1992 and 1995, and was funded by the Department of Health. The campaign aimed to remove confectionery from point of sale in food retail stores and it achieved a 30% increase in sweet-free checkouts.*

## **SUMMARY**

It is apparent that a range of activities, in a variety of settings, are ongoing with respect to the current delivery of oral health promotion in Scotland.

However, from the information available to the group, it is not possible to adequately determine either the effectiveness, or efficiency, of many of these interventions. There is an urgent need for costs to be incorporated in the evaluation of oral health promotion activities. Evaluation is discussed in the next chapter.

## **CHAPTER 4**

### **Evaluation in Oral Health Promotion**

#### **4.1 Introduction**

Evaluation may be defined as the “systematic and scientific process of determining the extent to which an action or set of actions are successful in the achievement of objectives”. In other words, evaluation measures the outcomes of particular health interventions. Economic evaluation compares outcomes with the resources required to deliver an action or set of actions. Its aim is to identify which interventions maximise the improvement in outcomes with the resources available.

In the first part of this chapter (Section 4.2) the recent literature discussing evaluations of oral health promotion is summarised. As there have been a number of recent reports in this area only a brief outline is provided.

A theme emerging from this literature is that the quantity and quality of relevant literature is limited (Kay and Locker, 1996; Sprod et al, 1996). Debate continues concerning the appropriate evaluation techniques to use and the types of evidence required in the evaluation of health promotion, where the targets of interventions may be behaviour, knowledge and attitudes rather than health per se, and where practical and ethical considerations often constrain study designs. The relationships between behaviour, health interventions, socio-economic, cultural and economic factors and the ultimate impact of health promotion on health are very complex. The methodological problems are summarised in the second part of this chapter. They have been discussed in detail in a previous SNAP report on health promotion in primary care (Davidson et al, 1996). Specific issues raised in the evaluation of dental health interventions, such as outcome measurement, have also been discussed elsewhere (Yule et al, 1986; Fyffe and Kay, 1992; Sprod et al, 1996; Daly, 1997).

Despite these methodological difficulties and the resultant shortage of reliable literature, it is possible to come to some conclusions about the approaches likely to be the most cost-effective. Studies of dental epidemiology and the use of dental health services also suggest what the most cost-effective approaches are likely to be. Such studies are briefly reviewed in the third part of this chapter.

#### **4.2. Summary of recent literature**

BIDS searches, personal communication with colleagues in the field and examination of reference lists from available literature have yielded few economic evaluations, and few methodologically rigorous, up to date evaluations of specific oral health promotion interventions. A recent summary of a review of the evidence of the effectiveness of oral health promotion (Kay and Locker, 1996) concluded that “despite hundreds of studies involving thousands of individuals we have little evidence about how to promote oral health effectively” (Health Education Authority, 1997). An earlier review of the effectiveness and cost-effectiveness of the options available for intervention by government to improve dental health concluded that “in most cases .. the evidence is too incomplete to make secure estimates of cost-effectiveness” (Akehurst and Sanderson, 1993).

Kay and Locker’s quantitative analysis of the combined results of seven randomised controlled trials (RCTs) which satisfied their methodological criteria suggested that

dental health education resulted in a small reduction in plaque accumulation. However, there were no studies which looked at the impact on decay of dental health education (DHE) delivered in the absence of clinical preventive components. Studies of changes in behaviour used non-standardised measures of outcome which prevented meta-analysis. The authors also carried out a qualitative analyses of non-RCTs satisfying their predetermined criteria, concluding that DHE is effective in the short term in improving knowledge and reducing plaque build up. There was no evidence of an impact of health promotion on caries and equivocal evidence of its impact on diet.

In view of the particular difficulties and complexities in evaluating health promotion (see Section 4.3 below), Sprod and colleagues (1996) used less restrictive criteria in judging the rigour and usefulness of the available literature reporting evaluations of oral health promotion. They concluded that "there is clear evidence that oral health education/promotion can be effective" in changing people's knowledge and their oral health. However, effectiveness differs markedly across interventions, and there are still significant gaps in our knowledge regarding the impact of one-off health promotion initiatives and the long-term outcomes of oral health promotion, in particular regarding dental caries.

There is widespread agreement regarding the effectiveness and cost-effectiveness of water fluoridation (Clark 1993; Sprod et al, 1996), and there are potential savings overall through the reduction in dental caries (Lewis et al, 1995). The cost of fluoridation "compares favourably with the costs of even a modest publicity campaign to promote dental hygiene and is likely to be far more effective" (Akehurst and Sanderson, 1993). It has recently been concluded that, in particular where the average dmft for five year olds is 2.0 or more, and where the local water treatment works serve populations of at least 200,000 people, the benefits of water fluoridation are likely to be significantly greater than the costs (Sanderson, 1998).

#### **4.3 Methodological issues**

There are a number of specific methodological difficulties in evaluating health promotion:

- defining the interventions: evaluation requires precise definition of the interventions in order to enable results to be generalised across studies, over time and from research into practice. Health promotion is often a multi-faceted activity, for example, oral health promotion will often be undertaken in tandem with clinical preventive measures. It also involves important interpersonal components which are hard to define and standardise.
- defining the objectives of oral health promotion: should the objectives be improved final health outcomes, such as reduced caries? Is it legitimate to focus on intermediate outcomes, such as reduced plaque or changes in knowledge and behaviour, which are thought to be linked to final health outcomes?
- attributing health outcomes to oral health promotion strategies: separating out the independent effect of oral health promotion from the large number of factors which explain changes in oral health is very difficult - the interrelationships are complex and there is a delay between the intervention and its impact.

Davidson et al (1996) give a fuller discussion of these and other practical issues in the evaluation of general health promotion. Sprod and colleagues (1996) and Daly

and Watt (1997) discuss issues relevant to the evaluation of oral health promotion in particular. It has been suggested that it is inappropriate to apply to health promotion, methodological criteria which some people would argue are more suited to biomedical and health economics research (HEBS, 1996). On the other hand, standards of reliability and validity still need to be adhered to so that the results of studies can be generalised to other settings. Poor studies need to be recognised as such, but the judgement of the quality of published studies should not be based on narrow definitions of good study design limited to quantitative techniques.

The nature of health promotion is such that qualitative techniques are often suitable for the evaluation of health promotion interventions, even if the results are not easily translated into the quantitative frameworks which dominate clinical and economic evaluations. Reviews of health promotion evaluations need to be read with these concerns in mind.

#### **4.4 Cost-effective strategies**

The fact that dental caries is concentrated in populations of low socio-economic status suggests that the most cost-effective oral health promotion strategies would be those that help to overcome the economic factors that appear to be implicated in poor dental health, although the evidence base is weak. In North America, it has been argued that need is inversely related to the use of preventive and restorative dental services, largely due to the cost of treatment which lower socio-economic groups are less able to meet (Newman and Giff, 1992; Locker and Leake, 1992; Collins et al, 1993; Kassab et al, 1996). The cost:use relationship is likely to be weaker in the UK than in the US where more people have to cover a higher proportion of the costs out of pocket at the point of use or through dental insurance. Nevertheless, it is still the case that health promotion measures relying on the resources of individuals are less likely to be effective in improving dental health in the low socio-economic status populations where decay is most prevalent.

Effective, low cost measures which successfully reach the target population are likely to be more cost-effective. Water fluoridation is an obvious example, free to the individual and a relatively cheap way of applying a health protection measure to the whole population.

Improvements in diet, in particular reduced sugar consumption, have been found to be associated at a population level with a slow down in the growth of dental expenditures in the US (Beazoglou et al, 1993). It is reasonable to assume that this slow down has been due in part to improved dental health. The importance of diet may also explain the socio-economic gradient in dental health as diet is not likely to have improved to the same extent in all social classes. The effectiveness of dietary advice is therefore likely to be limited unless the economic constraints which contribute to a poor diet are also tackled.

#### **4.5 Conclusions**

Evidence of effective oral health promotion strategies for changing behaviour is limited. Links between health promotion, behaviour and changes in health are unclear and difficult to evaluate. Epidemiological and service use data suggest that investing additional resources in untargeted oral health campaigns regarding dental hygiene and dietary habits would not be cost-effective. The additional benefits in the general population where diet and oral hygiene are already relatively good would be slight in relation to the additional costs. These data also show that socio-economic status is a key factor in explaining both poor dental health and the behaviour which contributes to it. The behaviour of the substantial minority of the population at most risk of dental caries, in terms of personal dental hygiene, contact with dental services and diet, has to be altered. Health promotion strategies which seek to do so need to recognise and overcome the constraints faced by the population of low socio-economic status in improving their dental health. Any strategy of targeting high risk groups should be set in the context of cost-effective population-based measures such as water fluoridation.

## **CHAPTER 5**

### **EDUCATION AND TRAINING IN ORAL HEALTH PROMOTION**

Within Scotland a range of courses and training programmes exist. These range from those taught at postgraduate level to part-time evening courses concerned primarily with oral health education.

#### **5.1 Postgraduate Courses**

Masters degrees which cover health promotion at an advanced level are offered by Edinburgh, Glasgow and Dundee Universities. The Master of Science in Health Promotion (Edinburgh University) and the Master of Public Health (Glasgow University) in which both health promotion in general, and oral health promotion can be chosen as modular options, are recognised by the UK Society of Health Education and Promotion Specialists as appropriate qualifications for those wishing to work as Specialist Health Promotion Officers.

Whilst continuing professional education events for general dental practitioners have been organised, uptake to date has been limited. More recently a National Study Day for community dental staff was well supported.

#### **5.2 Post-qualification Courses**

The majority of education and training in oral health in Scotland is delivered by a range of educational bodies and other organisations, including the Open University, The Health Education Board for Scotland, Keele University (in conjunction with the Health Education Authority), and various institutes for higher education.

The Certificate in Oral Health Education, accredited by the National Examination Board for dental nurses is a nationally recognised marker of completion of such a course. The Royal Society of Health issues a Certificate in Basic Oral Health Promotion. Given the increasing number of courses being offered, there is a need for guidance on what constitutes an appropriate standard in relation to courses at post-qualification level. The General Dental Council's plans for an expanded role for the professions complementary to dentistry in the delivery of oral health education, means that there is a need for a universally recognised marker of proficiency.

If other healthcare workers outwith the dental team are to be involved in oral health promotion, then training is necessary to ensure the delivery of appropriate and consistent messages. Training courses for health visitors and pharmacists have been conducted in a number of health board areas.

#### **5.3 Undergraduate and pre-qualification education**

At undergraduate level in both Glasgow and Dundee, dental students have elements of dental health education/oral health promotion taught as part of their behavioural sciences/dental public health courses.

Similarly, oral health promotion and the skills associated with delivery of dental health education form a key part of the curriculum in Scottish Schools of Dental Hygiene.

## **CHAPTER 6**

### **FUTURE DEVELOPMENTS IN ORAL HEALTH PROMOTION**

#### **6.1 Public Policy**

The development of supportive public policies and environments are integral features of effective health promotion. Oral health promotion is no exception. Optimal fluoridation of public water supplies is recognised as the single most effective method of reducing the prevalence of dental caries. Historically, the majority of the public has supported its introduction, however, political support has been lacking. There is little prospect of radically improving the unacceptably high prevalence of dental caries and tooth loss in Scotland in the absence of water fluoridation. The recently published White Paper states that "Fluoridation of the water supply, where possible, offers the most effective means of improving the dental health of Scotland's children" (SODoH,1999).

Critics of water fluoridation have argued that greater emphasis should be placed on dental health education. It has been shown, however, that whilst dental health education programmes have been demonstrated to improve knowledge in the short term, they can also increase inequalities in dental health, i.e. those most in need have shown least benefit. Water fluoridation, however, has been demonstrated consistently to reduce inequalities in dental health, having greatest benefit to those who are at most risk of developing dental decay.

As suggested in the Oral Health Strategy, there is a need to encourage manufacturers and retailers to make available healthy food choices, and to work with local authorities to develop healthy policies in school canteens and tuckshops.

The Public Health Policy Unit of the NHS Management Executive has a role to play in encouraging and working with retailers, manufacturers and local authorities in relation to the development of health policies.

#### **6.2 Oral and Dental Health Education**

Educational programmes will continue to be important aspects of oral health promotion, even following the introduction of water fluoridation. Such programmes will require to be tailored to the needs of particular communities and individuals. They will address particular aspects of oral health e.g. periodontal disease or smoking cessation and must continue to address the topic of diet in relation to dental caries, especially in those communities that will not receive the benefits of water fluoridation.

#### **6.3 Inequalities in Oral and Dental Health**

Dental and oral diseases are associated with poor life circumstances and sub-optimal lifestyles. Dental and oral health is frequently not perceived as a priority by deprived communities in which poor diet also contributes to other health problems. It will be necessary to ensure that oral health promotion is integral to the majority of all health promotion activity that is targeted towards deprived communities. Consumer participation and support can assist in ensuring that objectives are more readily achieved.

#### **6.4 Educating the Educators**

Oral and dental health education must evolve to take advantage of new technologies and to respond to changes in disease prevalence. All members of the dental profession will require to participate in continuing education. Such continuing education must address communication and evaluation skills in addition to regular updating of knowledge and technical skills. Increasingly, the primary care dental practitioner and his/her team will be involved in health promotion. They must be adequately equipped to fulfil this role effectively. It is equally important that non-dental health care staff, and those within the education and voluntary sectors can readily access training on oral and dental health promotion.

The evolution of primary dental care services within the National Health Service and the development of private dental practice will also create new expectations in consumers. Not only will patients expect improved standards of care for themselves and their children, but they will come to expect a greater emphasis on maintenance of high standards of oral health based upon one-to one instruction tailored to personal needs. Such changes are a foreseeable consequence of successful oral health promotion.

## **6.5 Conclusions**

Throughout this report, the merits of integrating oral health promotion within general health promotion initiatives has been emphasised. In the development of their health improvement programmes, Health Boards should give due consideration to the way in which oral health may be facilitated, particularly in areas of deprivation. Recent initiatives such as Priority Partnership Areas and Social Inclusion Programmes provide an opportunity for inter-agency collaboration and involving those in positions to influence oral health policy.

Furthermore, as was pointed out in the Oral Health Strategy for Scotland, there is a need to work with the commercial sector to facilitate the availability of food products conducive to good oral health.

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