Royal Commission on the National Health Service

Chairman: Sir Alec Merrison

REPORT

(An excerpt of information and findings on dental health and fluoridation, pages 118 through 124)

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The Future

9.54 Our assessment of dental health and dental care in the UK can give no grounds for complacency. Due to a number of factors, but mainly to the highly efficient and cost-effective service provided by general dental practitioners, there has been a substantial improvement since 1948, but it is also true that the level of dental disease is still unacceptably high. Many of the complaints we have received from the public and the profession spring from the present commitment to a comprehensive service which is not matched by adequate resources. We noted above that dental manpower is not evenly distributed. In some areas, NHS dentistry is difficult to obtain whilst new graduates are beginning to find difficulty in getting employment in the areas of their choice. On the whole, demand is probably being substantially satisfied. However, as we have seen, only a minority of those who need treatment seek regular dental care.

9.55 How far the gap between aspiration and performance is closed will depend on the political will. We consider this as part of the general problem of the level of funding and public expectation of the NHS in Chapter 21.

9.56 If we regard the retention of a natural set of teeth for life as a fundamental aim for a national service, the present approach via the treatment of established diseases has little prospect of success. People living in London and the south east of England have the best access to treatment and also the best record of dental health, but no one would pretend that even here the general standards of dental health approach this aim. Even so, it appears from Table 9.4 that if the same access to care as in North West Thames RHA were to be enjoyed by the other English regions then the number of dentists would have to increase by about 60%.

9.57 The dental service is no longer a pain-extraction-denture service but has become substantially a repair service. A major shift in policy towards prevention is long overdue. This will require changes in the attitude and practice of dentists and their teachers and in the public's apparent indifference.
to dental health. A much more positive approach to dental health must be adopted if progress is to be made. Four main measures seem to be required:

- fluoridation of water supplies;
- better financial recognition for preventive work by dentists;
- effective dental health education supported by relevant behavioural studies; and
- increased support for biomedical research directed towards prevention.

Fluoridation

9.58 We have been impressed by the weight of written evidence in favour of fluoridation. The Royal College of Physicians of London commented on the enormous body of information on the subject of fluoride and health which justified their conclusions not only on the effectiveness of fluoridated water in caries prevention but also its safety both from personal and environmental viewpoints. Fluoridation of water supplies has also been repeatedly advocated by the World Health Organisation, by the DHSS and by the Court Committee on Child Health Services. Eighty four of the 90 English area health authorities have agreed to the measure, as have four out of eight AHA's in Wales, all 15 health boards in Scotland and all four health and social services boards in Northern Ireland. Nevertheless, only 12% of the population in Wales, 9% in England, 0.9% in Scotland and 0.5% in Northern Ireland receive fluoridated water.

9.59 Despite the fact that fluoride occurs naturally in the water supply in a number of places in the UK with obvious benefits for dental health, and that the safety of fluoridation in recommended quantities is no longer in doubt, an effective campaign waged by a small group continues to dissuade some local authorities from agreeing to it on the grounds that it would interfere with personal freedom. However, as the Royal College of Physicians' report points out, substances such as copper sulphate and chlorine, aluminium and calcium are already regularly added to water supplies without arousing protest. The Court Report puts the matter succinctly:

"the cost (of not fluoridating water supplies) in unnecessary disease, personal pain and discomfort, misuse of professional resources and national expenditure has been immense."

9.60 Caries is a disease which attacks almost every child in the UK. We have the power to reduce its incidence substantially without requiring personal effort from any child or parent by using a method which is not only effective and safe but also by far the cheapest available. We are not simply convinced of the wisdom of introducing fluoridation, if necessary compulsorily; we are

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certain that it is entirely wrong to deprive the most vulnerable section of the population of such an important public health measure for the sake of the views of a small minority of adults for whom its benefits come too late. We recommend that the government introduces legislation to compel water authorities to fluoridate water supplies at the request of health authorities. Otherwise children who cannot choose for themselves will continue to suffer the ravages of a disease which can be substantially reduced by a method that has been shown not to have any deleterious effect.

9.61 What this means in human terms is illustrated by treatment figures from Birmingham where the water supply was fluoridated in 1964 (Tables 9.6 and 9.7). The staffing of the community dental service and the number of practitioners in the general dental service remained remarkably constant throughout this period, as did the number of children, with the exception of a slight rise in 1974 when 23,000 children from unfluoridated Sutton Coldfield were added. In terms of demands on the service these figures provide a striking indication of the relief of misery among the young. Tables 9.6 and 9.7 are based on treatment records with no control group. However, a recent statistically controlled trial in Northumberland on smaller groups of five year olds indicated a very similar reduction in toothache and the need for extractions under general anaesthetics.

TABLE 9.6

<table>
<thead>
<tr>
<th>Year</th>
<th>&quot;Emergency&quot; visits for the relief of pain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-4 yrs</td>
</tr>
<tr>
<td>1965</td>
<td>Not collected</td>
</tr>
<tr>
<td>1966</td>
<td>722</td>
</tr>
<tr>
<td>1976</td>
<td>43</td>
</tr>
</tbody>
</table>

Source: Data provided by Birmingham AHA(T) Community Dental Service.

TABLE 9.7

<table>
<thead>
<tr>
<th>Year</th>
<th>General anaesthetics given</th>
<th>First teeth extracted</th>
<th>Permanent teeth extracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1964</td>
<td>22,628</td>
<td>44,410</td>
<td>13,429</td>
</tr>
<tr>
<td>1977</td>
<td>3,851</td>
<td>11,487</td>
<td>5,290</td>
</tr>
</tbody>
</table>

Source: Data provided by Birmingham AHA(T) Community Dental Service.

9.62 In fluoridated areas the first contact with the dentist is now much more rarely a frightening general anaesthetic and the extraction of aching teeth with all that this implies in the formation of negative attitudes to dental treatment. Carious teeth are few, they appear later and are much simpler to treat. Following fluoridation, a changed attitude develops towards dentistry, there is a greater uptake of treatment and more interest in the prevention of dental disease.

9.63 Fluoridation of water supplies also makes good economic sense in the short-term. There is no doubt that expenditure on repair work in a dirty mouth is often a waste of time and money. Prevention of dental caries is much less costly than the repair of its effects and fluoridation of water supplies is much cheaper and more effective than other methods of preventing such decay.1 Because, however, the aim of maintaining teeth for life will be brought nearer, it is likely that more sophisticated care will be demanded in the longer term.

9.64 If general fluoridation were agreed, it would take about two years for production of the main fluoride compound to be expanded to the necessary level. Installation of equipment might take as little as 18 months in some areas. It is estimated that 75% of the population of Scotland could be receiving fluoridated water within five years of starting the operation, but it might take 25 years to reach as many as 90%. The time factors make it urgent that a decision be made so that work can begin.

Alternative means of using fluoride

9.65 Even if fluoridated water were reaching more areas, there would still be some small communities in the UK not sharing the public water system. We have therefore considered some of the alternative measures which are said to reduce caries. They fall into two categories:

forms in which fluoride can be swallowed to strengthen developing teeth, eg. by fluoridation of individual school water supplies, or flour, milk or salt, or by the use of fluoride tablets. With all these methods, there are significant practical or economic disadvantages or a lack of adequate data on which to form a sound judgment. The use of fluoride tablets has been more widely researched but the results have not been consistent; and

ways of applying fluoride to the surfaces of erupted teeth, eg in fluoride toothpaste. A recent market estimate suggested that fluoride toothpaste sales now account for 90% of all toothpaste sold in the UK. In addition, the application of various formulations of fluoride to the teeth has been investigated in short term clinical trials and found to give encouraging results.

9.66 The general dental service is a treatment service. We doubt whether an item of service system of payment can provide the structure for a fully satisfactory preventive programme. The present fees schedule could be modified to encourage dentists to give preventive advice and individual

application of preventive measures. There are difficulties, however. By no means all of the preventive measures used in private practice have been tested sufficiently rigorously for use in a national system. In addition, the introduction of preventive measures generally into the present scale of fees would have major consequences for the fees structure itself. We are pleased to learn that the DHSS are to look at this difficult area.

Dental health education

9.67 Recent work in Sweden\(^1\) has demonstrated the value of plaque control in adults by the intensive use of hygienists. This resulted in the almost total prevention of caries and periodontal disease over the three years of the experiment which covered 555 patients. Regular conventional dental care was given to the control group and proved to be much less effective. This work may well have a fundamental influence on the "best use of resources" and demands further study in the UK.

9.68 While the precise value of personal, intensive dental health education can be measured in such studies as those of Axelson and Lindhe, public dental health education is a more difficult field. We comment generally on health education in Chapter 5. To increase the number of people cleaning their teeth efficiently, to persuade them to adopt sensible dietary habits, to increase the level of awareness and interest in dental health, to make tooth loss less acceptable and to persuade people to visit a dentist regularly must all be important objectives. However, much more evaluative effort is needed to define the best methods of approach in health education, taking into account the need for it to reach people of all social classes and backgrounds, against a variety of opposing influences. We also note from the White Paper "Prevention and Health"\(^2\) that restriction on advertising which may lead to undesirable dietary habits, particularly in children, is under consideration. We recommend that the health departments pursue an active policy in this field.

9.69 Fluoridation of water supplies would cut the incidence of caries by half and is a true public health measure. The application of other methods of caries prevention, and indeed all the available methods of periodontal disease control, demand personal co-operation and effort. The behavioural sciences have an important part to play in innovation and evaluation of health education.

Research

9.70 We must look further ahead. The recognition of caries as a bacterial infection is relatively recent, and considering what has been achieved in the conquest of most bacterial diseases this has enormous implications. The Medical Research Council\(^3\) (MRC) has accorded high priority to an expansion

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of research directed towards counteracting disease processes initiated by bacterial aggregations on the tooth surface. It is from advances in biomedical research that methods for the antimicrobial control of dental diseases are most likely to accrue.

9.71 There appear, however, to be two problems. Research manpower is in short supply. Young researchers need a more adequate training programme and, once trained they are often discouraged from continuing in research by the lack of a career structure. Where clinical trials are involved most projects are funded over too short a period to establish the service value of the findings. Such clinical research has a long time scale and needs sustained support. We recommend that the dental profession should consider ways of overcoming these difficulties.

Conclusions and Recommendations

9.72 There is no doubt that dental health in the UK has improved since 1948, but the prevalence of dental disease remains at an unacceptably high level. The N1IS should strive for the highest standard of care. We have recommended a number of detailed changes which should, if implemented, improve the quality of service offered to patients and the efficiency of the present system.

9.73 The prevention policies which we recommend for the future offer a real and attainable – perhaps unique – improvement in public health. A determined swing of policy towards a greater emphasis on prevention is needed. The most immediate requirements are for the full implementation of water fluoridation and for the funding of research on prevention and dental health education and the training and employment of more ancillary workers. Individual preventive work should be carried out by the general dental service and a way found for providing fees for treatment of this kind.

9.74 While these policies will require time to implement and will not bring changes overnight, their effect on the numbers, composition and training of the dental team will be profound. The appointment of the Nuffield inquiry to which we referred at the start of this chapter is, therefore, timely. Because N11S dentistry is likely to change significantly we recommend that a small committee representing government and other interested parties is set up to review the development of dental health policy and in particular a preventive strategy and the future functions of the community dental service. Its purpose would be to ensure that the impetus for improvement is not lost. Its starting point could be this report and that of the Nuffield Committee.

9.75 We recommend that:

(a) until the implications of a shift in policy towards prevention have been identified dental student entry numbers should not be altered but flexibility in meeting demands should be achieved through the increased use of dental ancillary workers (paragraph 9.18);
(b) the dental profession and government should experiment with alternative methods of paying general dental practitioners in addition to a capitation system for children (paragraph 9.23);

(c) the dental profession and government should make rapid progress to the introduction generally of an out-of-hours treatment scheme (paragraph 9.25);

(d) dental care for long-stay hospital patients should be as readily available as it is for men and women in the community (paragraph 9.33);

(e) dental teaching hospitals should be funded directly by region or health department (paragraph 9.35);

(f) the present technical college/dental hospital training schemes for dental technicians should be expanded (paragraph 9.42);

(g) a standardised national basis for the collection of dental data should be introduced (paragraph 9.46);

(h) manpower in the community dental service should be increased (paragraph 9.51);

(i) the Scottish system for recording all information about the dental treatment of children in the same way should be adopted in the rest of the UK (paragraph 9.52);

(j) the availability of services to the handicapped should be further improved by the payment of fees, authorised on a discretionary basis by DEBs (paragraph 9.53);

(k) the government should introduce legislation to compel water authorities to fluoridate water supplies at the request of health authorities (paragraph 9.60);

(l) the health departments should pursue an active policy in restricting advertising which may lead to undesirable dietary habits, particularly in children (paragraph 9.68);

(m) the dental profession should consider ways of overcoming the problems of long-term clinical research in dentistry (paragraph 9.71);

(n) a small committee representing government and the other interested parties should be set up to review the development of dental health policy (paragraphs 9.18, 9.31 and 9.74).