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Futures for Dentistry

the changing environment

Tom Bentley and
Ben Jupp

DEMOS

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Much of the report draws on a one day symposium held in February 2000. The symposium brought together over 30 experts to consider the future of dentistry. We are grateful for the time and effort which all the participants contributed. In particular, a number of people gave short talks to help kick off discussions: Dr Helen Blackholly, Country Manager, Colgate Palmolive; Professor Richard Elderton, University of Bristol; John Hunt, Chief Executive, British Dental Association; Dr Clare Ketley, University of Liverpool; William Laing, Director, Laing and Buisson; Collin Lee, Joint Managing Director, Bolton Dental Laboratories; Dame Margaret Seward, previous President of the General Dental Council; Simon Williams, Assistant Director, the Patients' Association; and Julia Drown MP. Professor Aubrey Sheiham of the University College London and John Galloway and Jean Gorham of The Eastman Dental Hospital provided extremely useful contributions to the preparation of the day. Quotations from participants are included in the margins of the

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Preface

In 1996 Demos published a report on the future of dentistry. *Open Wide* suggested that several powerful drivers of change would affect dentistry over the forthcoming fifteen years. Analysis of the interaction between these forces led us to posit different *scenarios* – possible futures – for dentistry in 2010.

Since 1996, many of the changes identified in *Open Wide* have begun to emerge. High street chains of dentists have been set up. Dentists report more patients behaving as active, questioning consumers. Dentistry has also received renewed political attention. Local innovations in NHS dental provision have been funded. Access to an NHS dentist for all was one of the few new pledges in Tony Blair's speech to 1999 Labour Party conference.

Yet many of the organisations and individuals who shape dentistry are still struggling to plot a course for it which meets the needs and desires of patients, politicians, private investors and dentists themselves. In April 1998 the government announced that it would publish a strategy for NHS dentistry by the end of 1998. Over two years later, that strategy has yet to appear. Private providers also appear uncertain about the most promising way forward. Some have focused on relatively affluent patient groups, while others seem to believe that large profits can be made from a mass market of mixed NHS and cheaper private provision. The organisations that represent dentists

are often accused of defending current practices rather than articulating a clear agenda for the future.

This report aims to help readers think through the options for dentistry in Britain. The findings are not based on a comprehensive new research exercise. Many of the key drivers of change are no different from 1996. Instead, it focuses on the key changes since our original report, and on the options facing policy-makers, business leaders, professional bodies, patients, dentists and others.

Executive summary

1. Dentistry has experienced unprecedented change over the past four years, without any clear overall direction emerging. Its possible futures are now extremely diverse.

2. In 1996 Demos suggested a scenario for 2010 – NHS Reinvented – in which NHS provision is revitalised through a decisive shift towards prevention and clinical prioritisation, through the extension of capitation, free check-ups and a strong national system of clinical accreditation.

3. We still think that such a scenario is possible in the long term. However, other futures also look more realistic. Another scenario – NHS Fragments – in which greater energy and modest extra funds go into NHS dentistry, but without such a decisive shift in direction, now appears plausible. In this scenario, the government focuses more on creating a set of local NHS services to rival private provision. This NHS service employs larger numbers of salaried dentists, and uses block purchasing agreements to serve whole population groups in selected local areas. This new form of service provision is driven by a governmental desire not to withdraw explicitly from paying for certain kinds of treatment, which have traditionally been available on the NHS. Creating this service

absorbs most of the energy, organisational capacity and money available for NHS dentistry, leaving less for clinical governance and prevention.

4. Another radical scenario suggested in 1996 – Private Prevention – involves the widespread withdrawal of NHS dentistry, driven by growing patient dissatisfaction with the NHS and accelerating defection by dentists to the private sector, This shift is accompanied by a growing public interest in preventative treatment and quality, which become the key areas of competition between payment plans, high street brands and dental associations.

5. We still think that such a scenario is also possible. However, the assumption that a rapid rise in new private markets would be accompanied by a decisive shift towards prevention now seems weaker than in 1996. A new private-sector dominated scenario is also possible. In this Orthodontic-Cosmetic Shift scenario, competition for private patients focuses on 'one stop' treatment without long-term individual patient planning, and on orthodontic and cosmetic treatment. Intense competition between providers, changes to the high street, direct marketing through the Internet and new links between dental chains and manufacturers of oral health products help to confuse patients and delay the development of large-scale accreditation schemes.

6. In conclusion, our two original scenarios hold up well. They are more robust, and more sustainable, than the other possible futures we highlight. However, over the next ten years, it is possible that the dental world could enter a period of transition characterised by extreme fragmentation – of providers, patient groups, treatment philosophies and access to services in different geographical scenarios. If this were to take place, we would expect dominant models of provision to appear out of the chaos, at least in the long run. However, it would be unlikely to happen before breakthroughs in clinical and biotechnology produce still further shifts in the basic definition of oral healthcare.

7. Within such a fragmented environment, prevention may well play a weaker role because of:

    - a lack of the integrated information systems necessary for effective risk management and clinical governance
    - fewer people sustaining trusting, long-term relationships with a dentist
    - a state without the organisational capacity to tackle necessarily 'public' elements of dentistry, such as fluoridation
    - development of a fiercely competitive private market without a corresponding growth in active, inquisitive consumerism among patients.

8. These scenarios pose a series of strategic challenges for different stakeholders. They need to prepare responses for a variety of possible developments. They also need to be clear about their own priorities in a time of competing visions for the future of dentistry in Britain.

9. Central government should:

    - prepare for a much wider variety of provision, in which powerful information sharing networks (including new links between district health authorities, practitioner networks and dental schools), area-based dental public health strategies, clinical governance, and new ways of regulating the dental market become high priorities, including preparing to transform the Dental Practice Board into the hub of a new system of clinical regulation, standard-setting and record keeping
    - develop realistic long-term options for the creation of a salaried or closely managed service, including a study of lessons from other countries
    - explore the possibility of awarding long-term contracts to

providers in the public, mutual or private sector to improve the oral health of whole populations in high risk areas
- plan for the possible withdrawal of some kinds of NHS treatment
- stimulate a wider public debate about the merits of prevention and the division of responsibilities required for a prevention-based system
- provide stronger tools and incentives to encourage water companies to introduce fluoridation
- set out clearer priorities than the current stated objectives, in order to avoid a sustained period of fragmentation.

10. District health authorities and their directors of dental public health should:

- quickly build up their competence for local purchasing; that may include, for example, developing cooperative relationships with other DHAs in purchasing of specialities, accreditation of dentists, commissioning new software for handling purchasing and monitoring, payment systems, commissioning feasibility studies on difficult fluoridation problems and so on
- develop local partnerships with schools, patient associations and community groups to promote prevention among high risk population groups
- develop informal networks with dental schools, networks of practising dentists, and possible international sources of professionals, to prepare for the creation of much more local management of services.

11. Dentists should:

- develop more sophisticated marketing skills, not just general business skills

- prepare for the possibility of a separation of diagnosis from treatment, with more patients shopping around for the best treatment option after initial diagnosis
- develop strategies for creating and retaining market niches that go beyond providing specialised treatments
- develop new business relationships and partnerships with, for example, old people's homes, manufacturers of oral healthcare products and local health authorities
- experiment with wider networks of small dental practices, in response to possible competitive pressure from corporate chains and a new salaried service
- accelerate the development of team practices, and acknowledge the growing importance of clinical excellence, accreditation, continuous professional development and specialisation.

12. The payment plan industry should:

- prepare for the possibility of at least local challenges from NHS salaried services that provide good quality basis diagnosis and treatment
- develop new types of relationship with younger groups of patients that combine very low treatment needs with higher cosmetic desire
- continue to develop clinical excellence programmes, accreditation schemes and broad networks of practising dentists.

13. The professional bodies face:

- an urgent need to prioritise as major innovations are likely in all their areas of interest; in particular, they need to prioritise between measures to directly retain public trust, protect the professional autonomy of existing members and influence the development of clinical governance and accreditation regimes

- the challenge of negotiating with a much wider range of employers
- growing competition for government and industry attention from associations representing a burgeoning range of professions complementary to dentistry.

14. All players must also recognise that, after 2015, the death of traditional dentistry is still a high plausible scenario, combining the advent of gene therapies and other advanced biotechnology applications with the predominance of a cohort with little dental disease, and the strong growth of alternative health movements and electronically based methods of oral healthcare delivery. Dentistry as we know it has a shelf life.

Introduction

The state of the nations mouths is, in many ways, one of the great health success stories of the past 30 years. In general, people suffer much less dental disease than their parents' generation. They have fewer fillings and keep their teeth longer. However, a new set of challenges has superceded those which accompanied the creation of NHS dentistry.

> The difficulty is that the NHS has a system which was fine in 1948 because it paid for things to be done, which is what we needed. We do not actually need things to be done anymore. We need dentists to stand back and adopt a preventative approach.
>
> Robin Wild, Chief Dental Officer, Department of Health

The first job of the post-war NHS dental service was to deal with an enormous amount of untreated need: especially filling cavities and fitting dentures. That focus was understandable. Untreated dental disease causes inconvenience, embarrassment, pain and problems with eating and talking.

As untreated disease has declined, other demands have become more prominent. People want to avoid getting any fillings or false teeth in the first place. The look of their teeth has become more important. These demands for preventative and cosmetic services has required new skills from dentists. They have also required policy-

makers to rethink the focus of government intervention: preventing dental disease is often best achieved through measures such as promoting the use of fluoride toothpaste and reducing sugar consumption, rather than through clinical dental procedures.

Success has also widened the spectrum of treatment needs. For example, advanced restorative treatment for older people has boomed at the same time as simple scaling and polishing of teeth. This diversification, as in other medical professions, has raised the question of specialisation: is a multi-skilled general dental practitioner the most appropriate person to undertake the full range of procedures?

The challenge is not restricted to changing dental needs. Those responsible for dentistry are also trying to deal with the introduction of new technologies, changing patient expectations and a new business environment. Many of the advanced treatments require large initial outlays on new equipment. Patients are increasingly questioning and less deferential towards professional groups in general. Some aspects of the dental business, such as the toothpaste industry, are already global. Others are subject to increasing local competition as new chains of high street dentists are established.

For government, health authorities, dentists, professional groups and the dental finance industry, these changes create a series of difficult choices. Policy-makers and practitioners need to reprioritise, reconsider the set of skills which dental professionals require, make difficult investment decisions about education, technology and the location of premises, venture into new markets and learn to manage emerging risks.

The report

This report aims to help individuals and organisations think through their strategies for the next fifteen years. It considers the factors likely to influence the ways in which dentistry is delivered and paid for. It updates a comprehensive analysis of dentistry published in 1996 – *Open Wide: Futures for dentistry in 2010*.[1] It draws, particularly, on a one-day symposium of dental experts, from which the quotations in the margins are taken.

In *Open Wide* we argued that several factors, all of which could have a profound impact on the future of dentistry, were very uncertain. These included: government dental expenditure and ways of paying dentists; the dental health of particularly disadvantaged groups; whether more active consumerism develops among patients; debates about water fluoridation; dentists' willingness to be managed; and the adoption of a more preventive approach by the public and dentists. Other factors, such as technological developments and the oral health of the population, appeared more certain but equally important.

Open Wide suggested that, while it was possible that things would continue much as they had during the first half of the 1990s – for example, incremental changes to professional structures and a gradual drift towards more private care – more radical change was likely over the next fifteen years. In particular, we proposed two broad scenarios for the future of dentistry by 2010.

NHS Reinvented

The NHS Reinvented scenario assumes that political energy and attention are given to NHS dentistry and a decision is taken to reorganise, localise, make a decisive shift to prevention and rebalance the division of labour towards the private sector by concentrating NHS provision on priority areas. Innovations include the introduction of free check-ups, more preventive measures such as greater use of fissure sealants for children and legislation requiring water fluoridation. The NHS withdraws from advanced dental work and orthodontics for all but the poorest. But the government establishes a strong national accreditation and monitoring system, using new information technologies, to check the quality of all dental work.

Private Prevention

The Private Prevention scenario envisages that rising active consumerism and a flood of dentists away from the NHS leads to the birth of high street chain dentistry. The government decides to drastically cut NHS provision to little more than crisis work and

vouchers for children and the poorest. The new high street chains note the greater consumer interest in dentistry and decide to focus on high quality services and prevention. After securing market share they radically shift the skills mix towards professions complementary to dentistry, such as hygienists, relying on specialist dentists for advice.

Through these scenarios we aimed to provoke those with an interest in dentistry to think through what their strategies might be under different conditions. By returning to them four years after *Open Wide*, this report aims to help people consider the impact of recent developments. It assesses whether the original scenarios remain plausible, whether the future of dentistry has become more or less certain and the choices that policy-makers and dental organisations now face.

Forces for change

Oral care has a significant impact on our lives and our pockets. Nearly two in five adults report some degree of oral pain in any one year.[2] Three-quarters of us brush our teeth at least twice a day. We also spend a considerable amount of money, through taxes and the direct purchase of dental products and services. In 1998 about £2.6 billion was spent on dental services by individuals and the NHS.[3] About another £0.5 billion was spent on dental and oral health products such as toothpaste, floss and mouthwash.[4] The private dental market is the fastest growing area of private healthcare expenditure.

Over the next fifteen years the nature of oral care is likely to change in Britain, driven by a variety of important developments within and outside dentistry. Some of these were clear when we wrote *Open Wide*, others have become either more or less certain since then; so have their implications. Considering these developments separately forms the first step in appraising overall futures or 'scenarios' for dentistry.

Oral health

The state of the nation's oral health changes slowly. Once people have fillings, dental disease tends to reappear around them, requiring further restorative treatment and replacement fillings. However, a

number of important changes are taking place. Since *Open Wide* these have become clearer, especially given the publication of the latest Adult Dental Health Survey.[5] Two key trends are apparent.

1. Cohorts born in the 1930s, 1940s and 1950s – who largely grew up with post-war NHS – have a lot of fillings but are not losing their teeth in old age to anywhere near the extent of their parents' generation. As this group has entered retirement, the proportion of elderly people with natural teeth has risen dramatically. For example, the proportion of over those aged 65 to 75 with over 21 teeth – usually assumed adequate for normal eating and talking – increased from 25 per cent in 1988 to 46 per cent in 1999. Past projections of the increase in elderly with teeth have been surpassed on nearly every measurement. For example, the 1994 *Oral Health Strategy for England* included the aspiration that 33 per cent of over 75s should have some natural teeth in 1998. In fact, 44 per cent did.[6]

Figure 1 Dentate adults with 21 or more teeth, 1978–98

Age	*1978*	*1988*	*1998*
		% with 21 or more teeth	
16–24	97	100	100
25–34	89	96	98
35–44	75	86	94
45–54	50	72	82
55–64		48	57
65–74		25	46
75 and over		16	23
All adults	**73**	**80**	**83**

Source: 1998 Adult Dental Health Survey.
Office for National Statistics, 2000.

2. Those brought up in the 1960s, 1970s and 1980s, who benefited from the introduction of fluoride toothpaste in the early 1970s, falling sugar consumption, better diet and a more preventative treatment ethos, are largely keeping exceptionally good teeth. For example, 100 per cent of sixteen to 24 year olds and 98 per cent of 25 to 34 year olds have at least 21 teeth. In 1988 only 13 percent of sixteen to 24 year olds had no fillings. By 1998 that had risen to 30 per cent.

There has also been on-going wide variation in oral health between different social and economic groups and regions. Poorer people are still likely to have worse teeth; so are some ethnic minorities. Those brought up in areas with fluoridated water are less likely to suffer dental disease – they are four times less likely to have a tooth extracted as a child because of tooth decay, according to one source.[7] Scots tend to have worse oral health than the average Briton.

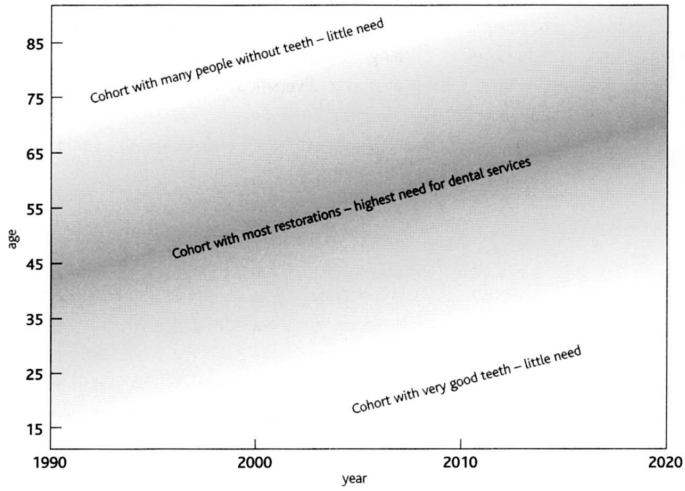
Implications

These trends are well established and look set to continue for at least the next fifteen years. By 2015 it is likely that:

> We are going to have a group of middle aged to older people who will have high dental needs and high demands for dental treatment. That contrasts with the previous generation, who, although they had very high needs for dental treatment, had very low demands. It also contrasts with the post-fluoride generation, who also have both low needs and low demands.
>
> Dr. Clare Ketley, University of Liverpool

- the population with relatively low needs will extend to the majority of those under 50, although they will still have some treatment needs – one study found that 12 per cent of eleven to fourteen year olds have fractured teeth in need of treatment[8]

Figure 2. The high dental need generation gets older – schematic representation



- those over 50 will have enough fillings and established dental problems that they will require some sort of routine dental treatment at least once a year and some more advanced treatment about every two or three years
- the population with no teeth or an inadequate number of teeth for eating and talking will have fallen to a small proportion of the very elderly.
- Prospects after fifteen years are less certain. No one has experience of a lifetime's use of fluoride toothpaste. Teeth are weakened in old age even with good dental care. But by the time the fluoride generation reach old age, biotechnological developments may provide better treatments and be able to regenerate damaged tissue.

In general the 0–34 year old cohort has good teeth. However, as they had little need for any dental care, will they give the same emphasis to their children's teeth as their parents did. They may take it for granted that you have good teeth.

Jean Ciorham, Dental Team Development Manager,
Eastman Dental Hospital

The ways in which individuals, dentists, the government and other organisations respond to these trends are less certain. They may include:

> In the future we will be doing simple treatments on very difficult patients, difficult because they are in nursing homes, in beds or whatever. I think that will keep us busy for some significant period of time.
>
> John Hunt, Chief Executive, British Dental Association

- pressures to increase easy access for elderly people with disabilities into dental premises, and to develop the capacity for remote (that is, domestic) treatment
- possible alliances between the elderly care sector (old people's homes, domestic care services) and dentists
- dental expenditure rising for the elderly at a time when their incomes are being squeezed by reductions in the relative value of state pensions
- difficulties for the payment plan industry in covering the costs of treatments demanded by many elderly people out of affordable premiums
- a generation of parents bringing up children to look after their teeth without experience of the serious dental problems themselves
- a generation with less experience of the costs of very expensive treatment – the factor that more than any other encourages people to take out payment plans
- many people whose main experience with dentists is based on cosmetic treatments
- the likelihood that the government and dental professionals increasingly abandon the simple message that everyone should visit their dentist every six months, in favour of promoting the idea that different people need check-up periods of very different lengths (a shift towards individualisation of on-going care and treatment

planning, as well as to diversification of treatment options)
- dilemmas for employers considering the employee dental benefit schemes, knowing that older employees are likely to benefit from them to a far greater extent that younger employees.

> I liked your comment about manufactured need, because I think dentistry is very guilty of this. I think the most obvious instance of this is in the six-monthly check-up. We have sold this idea for donkeys years so that dentists and patients think that patients do really need it, but most of us round this table would accept that they probably do not.
>
> Robin Wild, Chief Dental Officer, Department of Health

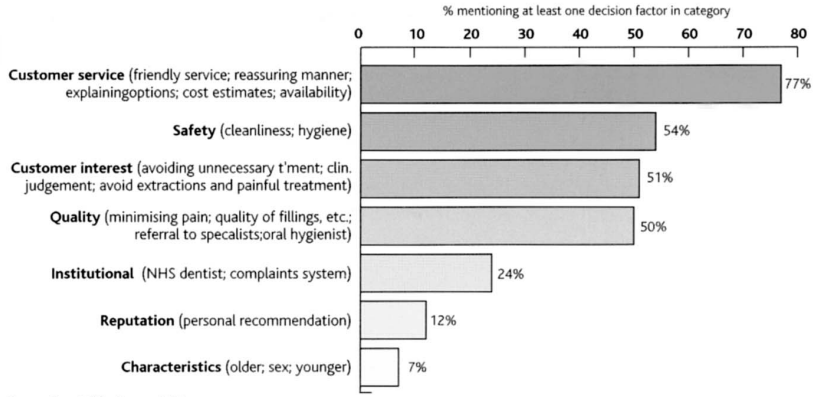
Public attitudes to dentistry

One of the key social changes of the past 30 years is the growing importance of consuming goods and services to people's lifestyles and identity. People want more choice and more active involvement in the services they consume and products they purchase.

These changes are seen in everything from fast food to education. They are driven by a historical shift towards personal values that emphasise individual freedom and fulfilment, by the ongoing increase in disposable wealth among many and by the advent of new technologies that facilitate choice and interactive consumer–supplier relationships. 'Prosumerism' – in which individual consumers become much more actively engaged in actually producing the final good or service that they consume – is also growing strongly. Health is a good illustration of this change: the growth of alternative therapies and medicines, the increasing emphasis on preventive factors such as diet, and the demand for accessible information on which to base individual healthcare decisions are all examples.

In *Open Wide* we suggested that dental consumerism was growing. People appeared to be shifting towards higher expectations of

Figure 3. Which factors make people put their confidence in dentists?



Source: Open Wide, Demos, 1996.

customer service – such as explaining treatment options, cost estimates and friendly service. Their principal concern was dentists' commitment to their own long-term interest, for example in avoiding unnecessary treatment.

In 1996, 86 per cent of those interviewed expressed a fair or great deal of confidence in their dentist. However, satisfaction with how NHS dentistry is run was declining rapidly compared to other NHS services.

Over the past four years this analysis of rising consumerism has become much more accepted in the industry. Many more dentists say that although people still trust them, more consumer-focused services are of rising importance.[9] More people also appear willing to pay for private treatment, which often provides more choice and patient engagement, at a greater cost. Private treatment turnover is estimated to have increased from just under £0.5 billion in 1995 to about £1.0 billion in 1999.[10]

According to one industry analysis, the oral healthcare market can now be divided into three groups.

1. The first group might be described as the 'functionalists'. This group wants treatment and products that are effective, reasonably

> If a patient/consumer goes to a hygienist, there is a nice feel good factor at the end of that.
>
> Dr Helen Blackholly, Country Manager, Colgate Oral Pharmaceuticals

priced and do not take up too much time or energy. This group, which previously constituted about half the population, is declining, as consumers fragment into smaller, more distinctive sub-groups.

2. The second can be described as 'orally switched on'. This group, which is growing steadily from a base of about a quarter of the population, has an active and preventative orientation towards their oral health. They want to avoid tooth decay, to maintain healthy gums and to do what is best for themselves and their families.

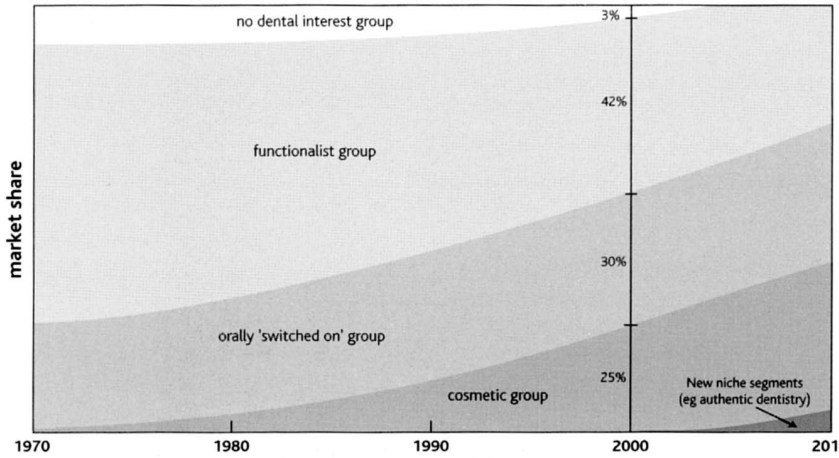
3. The third major cluster is the 'cosmetic' group – those who want teeth that are really white and free from irregularities. This group is prepared to spend considerable time and money on making their mouths as attractive to the eye as possible. They also put emphasis on the 'feel good factor' associated, for example with regular hygienists' appointments and toothpastes which leave a 'clean, fresh' sensation after use. They help to account for the growing interest in tooth whitening products, and for the fact that dental and oral health, taken as a whole, is the fastest-growing area of health expenditure in both Britain and the US.[11]

Over the next fifteen years the number of distinct market segments may grow further. For example, a sub-group may emphasise 'natural' dentistry and dental products that avoid using certain chemicals, instead using traditional therapeutic techniques and products.

Implications

One broad implication of this shift towards consumerism is an intensified search for new relationships with patients, rather than

Figure 4. Changing attitudinal segments – schematic representation



relying on patients to trust their dentist as the product of deference and traditional professional authority.

Which organisations will develop those relationship is less certain now than four years ago. In different ways, several bodies are attempting to become the guardians of consumer trust as the basis of new relationships:

- The state is putting increased emphasis on established trusted relationships with healthcare users, based primarily on the idea of clinical governance (trust me because we evaluate our professionals) and ease of access (for example through NHS Direct and walk-in centres).
- Payment plan providers are strengthening accreditation schemes to make them more consumer orientated, and to make standards of clinical excellence more transparent for patients. Examples include Denplan's and BUPA's accreditation schemes.
- High street chains are trying to trade on established trust in brands (such as Boots), ease of access, advertising and a customer service focus.

- The dental professions are beginning to reform self-regulation to shore up trust, for example through increasing the number of lay members of the General Dental Council.

A second broad implication of rising consumerism may lead to a *fragmentation* of dental services. Different consumers tend to want different sorts of services. The ways in which people want to engage with dental service providers, and the *emphasis* of services that they want to consume, are likely diversify. For example, people may want to engage more with dental care by:

- shopping around for professional services
- developing greater long-term partnerships with health practitioners – for example greater patient consultation, some alternative therapies and lifestyle advisors or 'coaches'
- Turning to self-help – with more DIY dental care and self help groups (which now number 2,000–3,000 in the health sector).

Different service priorities may also segment the market, for example between those who:

- prioritise waiting time and quickness of service
- focus on cosmetic improvements
- reject a cosmetic focus and concentrate on 'holistic' measures of long-term well-being.

Which attitudinal groups grow fastest depends on a complex interaction of factors: broad attitudinal shifts in society, specific consumer scares over aspects of dentistry, the ability of dentists to form new types of consumer relationship, and advertising and marketing strategies. If the specialisation of services meets more people's desires, the overall dental market could also grow substantially. Thirty-six per cent of the population currently go to the dentist only when they are in pain.[12]

New information and communication technologies

Much emphasis is placed in healthcare debates on the impact of new clinical and biotechnologies. However, the most important technological force of change in dentistry over the next ten years, in our view, will come from information and communication technologies (ICTs).

Patterns of ICT use in business and the health sector are already changing fast. One is increased communication and broader dissemination of information. Between April and June 1999 the NHS Direct telephone service received 202,000 calls.[13] When the NHS Direct website was launched in December 1999, 1.5 million people logged on during its first day. It is now viewed by about 100,000 people each day.

Figure 5 Dentists using new technologies

	1998	*1997*
Personal Computer	61	60
E-mail	37	29
Internet	35	26

Source: BDA News Survey, 1998

Increasingly, individuals and businesses purchase on-line. In 1999 e-commerce in the UK accounted for £1.89 billion. Estimates of on-line retail to consumers suggest that by 2003 £2.5 – £3.5 billion of goods and services will be sold.[14]

More importantly, on-line communications are leading to different forms of organisation. In the US it is estimated that restructuring using on-line technologies will save $600 billion annually by 2002.

Some of these forces are already changing dentistry. For example, the British Dental Association has a website allowing people to find and log on to the websites of local dental practices. The future implications are far more profound than anything to date. Within ten years

over 90 per cent of the population will have access to e-mail, predominantly via digital television and mobile phones and often dictated through voice recognition systems.

Implications

More generally, possible important consequences of the broader use of on-line technologies include:

- A change in the nature of high street. Some high streets may experience absolute decline. A greater number are likely to evolve slowly towards places of leisure, with more entertainment, food and experiential outlets, often open for longer hours. With such instability and uncertainty about the future of retail outlets in some areas, the value of dental practices will diverge radically in different locations.
- A race to develop 'portals' (websites that bring together diverse information, service options and links to related sites) for dental information and services. A range of players may try to develop such sites: the state, building on NHS Direct; independent commercial firms, using sites for advertising dental products; dental providers, especially corporate chains; the payment plan industry; not-for-profit groups such as the Patients' Association. The launch of dentsure.co.uk – a comprehensive dental website for the public – in December 1999 will be the first of many such attempts. Some organisations are likely to lose a lot of money establishing them. Only a few will, in the long run, gain.

I see remote diagnosis as a key service in the future, particularly with the advent of dental records in digital format and digital x-ray availability. This may well break the log jam on the availability of specialists.

Peter Smith, Managing Director, Boots Dental Care

- Manufacturers of dental products are likely to try selling direct to the public using e-mail and the Internet. They may also monitor supplies of dental products in people's bathroom cupboards through Internet linked sensors, and re-stock automatically. Establishing initial contact with customers will be very important for manufacturers. Dentists may face strong incentives to help manufacturers establish such links.
- One-to-one marketing with special offers targeted at individuals and persistent reminders to have dental check-up.
- Support and self-help groups and mutual organisations for sharing information about dental services and problems, and possibly for block purchasing (from the consumer rather than the provider end) of dental services.
- Pressures towards consolidation, as practices have to spend money on equipment. For example, Integrated Dental Holdings recently invested £1 million on a computer system to improve communication between its 74 practices.

The most profound changes are, however, likely to arise from linking ICTs with the digitisation of patient records: x-rays, notes, results of new diagnostic tests, and the development of communications links that can transmit records quickly and cheaply. Digitisation is already accelerating and new intra-oral cameras are being introduced. About 3 per cent of practices already use digital x-ray machines.[15] The implications are various:

- *Improving understanding of clinical effectiveness*. Digitised health records are already being used to understand what causes risks of disease. For example, in Iceland, health records and DNA information is being combined for the entire population so that the relationship between genetic features and health can be better understood. In dentistry

questions such as the relationship between frequency of visits to the dentist and is dental problems could be far better resolved by electronically analysing thousands of digital patient records.

> Radiovisiography is there now, it is jolly good, it does work and the dosage as you say is lower. I think this is something which is going to have to change. It is going to become unethical to use the old system.
>
> Professor Richard Elderton, University of Bristol

- *Easier, cheaper monitoring of dentist's performance.* Inspectors will be able to assess whether treatment was performed correctly at a fraction of the cost of today's site visits, by checking electronic images of people's conditions before and after treatment.
- *Greater reliance on second opinions from specialists, and easier access to centres of clinical excellence.*
- *Far more shopping around by patients to find the cheapest, quickest and best treatment for them.* It is possible that diagnosis and treatment could be significantly separated. We might see, for example, independent diagnostic providers who only check and image people's teeth. For those with problems, the image could be sent to a range of treatment providers for quotes. People may be able to undertake simple self-diagnosis. Providing such diagnostic services or devises may be a logical step for providers of oral health products such as toothpaste and floss manufacturers, or for GPs.

Other technological developments

In the longer run, clinical and biotechnologies will eventually impact significantly on dentistry. A variety of new technologies are being developed that replace the standard drilling out of decayed parts of teeth. Lasers are being used by a few dentists to remove, in particular,

soft tissue. A Swedish company has recently developed a gel which dissolves decayed tissue, reducing the need for drilling.[16] Before 2015 we would also expect to see the use of materials which impregnate decayed tissue and effectively 'stop the rot', sealing in decay. In the longer term, these materials should substantially reduce the workloads of dentists, for such treatments are likely to require less frequent replacement than today's fillings. After 2015 dentistry is also likely to witness new techniques to restore decayed tissue, rather than remove it or seal it.

> If you have rot in your windowsill you impregnate it with resin. You do the same with fissure sealant. We have done it for decades. It is just that people have not got around to doing it much on smooth surfaces, but why not?
>
> Professor Richard Elderton, University of Bristol

The digitisation of imaging and use of digital technology in laboratories is likely to result in more precise and quicker crowns, especially with the widespread introduction of CADCAM (digital imaging) systems and precision robotic tools.

By 2015 dentistry may have seen the first major impact of gene technology. The entire human genome will be mapped by 2003. The development of gene therapies is almost certain to take at least ten years to develop and test after that. However, genetic testing is likely to be used before 2015 to establish people's *susceptibility* to certain dental diseases and the extent to which they will respond to certain treatments.

Implications

At least for the next ten years, while new equipment is relatively expensive and bulky, these technologies will increase the pressure for larger practices with the associated economies of scale.

By 2015 dentistry will still be an intimate form of treatment characterised by professional intervention in the patient's mouth, but for most people it will not be associated primarily with pain.

Over developments may, however, create new concerns among patients. For example, dentists may well hold genetic information of considerable value to insurance companies who are trying to assess the risks associated with different policy-holders. Issues surrounding the privacy of patient records and genetic information will form a major part of debates over regulation and codes of ethics.

Genetic developments may be starting to assist individuals in developing personalised oral health maintenance strategies, for example by knowing their susceptibility to different forms of dental disease and being able to specify exactly how much fluoride to use.

Government expenditure and prioritisation

Eighty per cent of people had their last course of dental treatment under the NHS.[17] About half of NHS patients are charged fees of 80 per cent of the costs of their treatment, to a maximum of £348. The other half are exempt from fees because they are children, have particularly low incomes or meet other specific criteria.[18]

Since 1997 the government has renewed its commitment to NHS dentistry, the first step in our 1996 NHS Reinvented scenario. It has set out five challenges:[19]

- to reduce oral health inequalities
- to improve the population's access to NHS dentistry
- to integrate local health services
- to guarantee patients high quality service
- to ensure that all members of the dental team can make the fullest contribution to improving services for patients.

> The NHS is not collapsing and the bottom is not dropping out of it. What is happening is, the dental market is expanding.
>
> Collin Forsyth, Chairman, Dental Practice Board

Its actions so far have been relatively small scale and tentative, but provide possible foundations for more far-reaching reform. It has made small amounts of extra funding available to pay for increased

fees to NHS dentists providing treatment for young children in high need areas and for adults requiring full dentures (Investing in Dentistry). It has established pilot 'Personal Dental Services' (PDS), providing a bid-based fund for local areas to experiment with new patterns of service organisation and new methods for making dental appointments and referrals. Thirty-four 'phone and go' Dental Access Centres are being set up which should serve about a quarter of a million people. It has also acknowledged the impact that water fluoridation would make on general dental health.

The greatest political focus to date has been on increasing access to NHS dentistry. The prime minister made a high profile commitment in October 1999 that, within two years, an NHS dental appointment would be available to anybody who wanted one. However, a full strategy encompassing all the priorities set out in 1998 has still not appeared at the beginning of 2000.

Whatever the soon-to-be-announced strategy, a sustained, dramatic increase in funding for NHS seems unlikely over the next fifteen years. Although all major political parties agree that health spending in Britain needs to rise, the areas causing most concern are the expensive acute services. Despite widespread public concern, dentistry has relatively low political salience when compared with heart or cancer treatment.

> This Government is committed to the NHS. It is not going to just throw money at dentistry or anything else. It is going to put money in to get change. The basic commitment is there to get NHS dentistry for everybody who wants it.
>
> Julia Drown MP

Even if real funding was increased, the government will have to continue prioritising resources. Several forms of funding are possible. Each meets certain political objectives, but also has drawbacks.

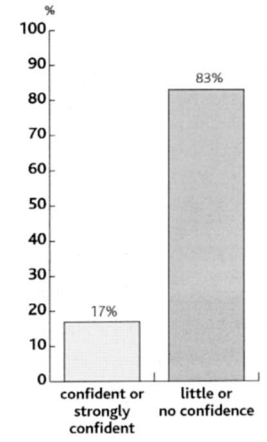
1. *Paying a proportion of individual treatment costs.* This is the current system for most people receiving NHS dentistry. The

distribution of public money to all groups of patients puts some strains on budgets. In particular, maintaining this system for the vast majority of people is likely to require substantially greater expenditure. The problem is that many dentists are opting out of the system, believing that the reduction in freedom, the administration burdens and the fee level associated with NHS treatment is not adequately offset by a 20 per cent subsidy.

2. *Capping charges*. Governments often have a important role in capping individual liability. What often really worries people about dentistry is that they will get a bill that they just cannot pay. The current system caps expenditure at £348 for any one course of treatment. One problem with this approach is that distinguishing between cosmetic reasons for high expenditure and 'medical' reasons is often impossible. Deciding what should be counted as legitimate expenditure for a cap is therefore difficult.
3. *Targeting resources at particular groups*. The poor, children and pregnant women are currently targeted for support. This helps those in greatest need, but also has disadvantages: it can create incentives to wait for dental treatment until an individual meets the targeting criteria; it is perceived as unfair by groups not in fee-exempt categories; and it runs the risk of creating a 'rump' of poor service for low income, low status groups. It is also difficult to ensure that these patients will have access to the same dentists as the rest of the population – the government might not be willing to pay the fees demanded by unregulated private dentists, just as they have found it difficult with lawyers and private landlords renting accommodation to housing benefit recipients. In general, governments want to play a role in managing providers of services, in order to keep costs down. Not all dentists will want to conform to the governments' conditions.

We believe that although the government could continue with all these approaches, some significant changes are likely. The current approach is certainly not inspiring confidence. A recent public survey found two-thirds of respondents expressing little or no confidence in

Figure 6. Young dentists have little confidence in the future of NHS dentistry



Source: British Dental Association Bulletin, April 1999.

future NHS dentistry.[20] Perhaps even more significant, a 1998 survey of young dentists found that the vast majority expressed little or no confidence in the future of NHS dentistry.[21]

Implications

Prioritisation of healthcare resources is difficult for any government, but especially one which has committed itself to improving core public services and maintaining universal access. Even if it were to run the political risk of withdrawing some NHS services, a further risk is the loss of control over prices for treatment of those patient groups that remain exempt from charges. Costs can escalate, as happened with Housing Benefit when public housing provision was reduced and subsidy transferred to paying market rents in the private sector.

In the medium term, a less explicit form of rationing is more Likely. This could be done through:

- waiting lists

- more direct management of the service, targeted at people and treatments that are the highest priority
- area-based strategies to improve the overall level of oral health, including attempts to ensure a broad range of accessible treatment options, not all within the public sector.

Another possible strategy is simply to find more money, for example for free check-ups, and simultaneously to try to increase the supply of dentists and other treatment providers in order to increase competition and bring prices down.

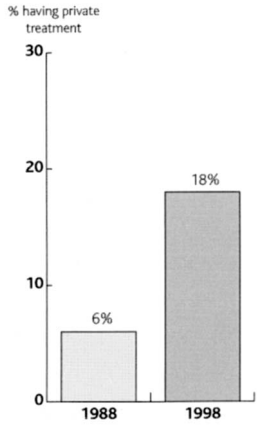
> In 1991 an NHS practitioner received precisely £5 for carrying out a dental examination. Today, in the year 2000, they receive £5.95 for carrying out a dental examination, which is rather less than a standard examination in Poland.
>
> Chris Horlick, Managing Director, Denplan

Aside the from the consideration of these options in the abstract, or in purely political terms, the primary resource limitation faced by government is in organisational capacity. The most difficult challenges for a government committed to modernising public services is producing the wholesale overhaul of whole systems of public provision, according to organisational and treatment paradigms that are rapidly evolving, within relatively short timescales.

It seems unlikely, even with a large scale injection of public funding, that government would be able to manage an increasingly diverse set of NHS dental services under the current settlement, while simultaneously achieving a decisive shift towards a more preventive strategy, for example based on widespread water fluoridation and area-based public dental health strategies.

Both the NHS Reinvented and Private Prevention scenarios concluded that a sustainable, prevention-oriented settlement would require some withdrawal of NHS funding for advanced restorative treatment for adults. None of the changes since 1996 have led us to

Figure 7. Increasing numbers report their last course of treatment to be private



Source: 1998 Adult Dental Health Survey, ONS 2000.

think that it will be possible for government to produce a new settlement without this reconfiguration of resources, necessary to concentrate energy and capacity on the most important priorities. We therefore think it is still likely that government will take such a step at some point in the next fifteen years.

The private market

While spending on NHS dentistry has stagnated, the amount of money spent on and invested in private dentistry is increasing rapidly. About one in five patients now has private dental treatment. That accounts for about 40 per cent of total income earned.[22] Oral health is now the fastest growing private healthcare market in UK, valued at around £1 billion a year. One survey also found that it was the most desired employee benefit.[23]

Of those who have private cover, the majority pay for each bit of treatment individually. However, about a fifth of all private patients – approximately 1 million people – have private payment plans. Under these, people pay an annual fee to cover all their dental treatment.

The number of providers in the private market is also increasing rapidly. The creation of corporate dentistry chains, predicted in *Open Wide*, has begun in earnest. For example, in 1999 Boots invested £10 million in an initial six pilot practices, focusing on high quality private care. It now plans to open 50 practices. SpecSavers, the chain of opticians, is also planning to enter the market. The industry expects another two or three major chains to be established over the next few years. New entries backed by venture capital funds are also gearing up. For example, in 1999 the Ora Dental group was created, backed by £9 million from Kleinwort Benson Development.

Implications

Our assumption in 1996 was that the entry of corporate chains would be triggered by the wholesale withdrawal of the NHS. In the event, they are testing the market much earlier than we expected. Their early and rapid entry will accelerate organisational restructuring – a shift towards team-based practices, mass marketing, building trust through brands and heavier use of ICTs and network technologies.

It will also intensify the competitiveness of the dental marketplace and push traditional dental practices towards establishing their own networks and quality assurance schemes.

The creation of an international labour market in dentistry – including professionals arriving from other countries and also the internationalisation of the dental technical, supply and marketing industries – is also a likely consequence.

Many of the chains emphasise new relationships with customers. Boots, for example, is aiming at the relatively high end of the dental market. It is important to note, however, that the entry of new private providers has not, so far, been accompanied by a decisive shift towards prevention. In uncertain new markets, and with investors demanding high returns, there is no automatic incentive for these providers to move away from the high-volume quick throughput model of restorative work developed by the General Dental Service over the past 50 years. In the longer run, brands seeking long-term

customer relationships may increasingly emphasise prevention, especially as consumers begin to demand it. But these cultural shifts are far from certain.

The structure of the dental profession

There are 21,600 dentists in general practice in the UK, in approximately 10,000 practices.[24] Overall numbers of general dental practitioners are growing slowly, by about 2 per cent a year. However, the nature of these new entrants has changed dramatically over the course of a generation – 50 per cent of current students are women and a growing proportion come from ethnic minorities.

Figure 8 The dental professions

Registered dentists	30,000
Dental nurses	24,000
Dental hygienists	3,700
Dental technicians	2,000
Dental therapists	400

Source: British Dental Association, 2000.

As far as professional activities are concerned, the 1990s has been characterised by two principal stories. The first is the retreat of large numbers of general dental practitioners (GDPs) away from primarily NHS to include substantially more private dentistry. The second is the broadening of professional identity to incorporate a cluster of professions complementary to dentistry. For example, in 1999 the General Dental Council lifted restrictions on the procedures performed by some dental auxiliaries.

Specialisation and team dentistry is also encouraged by the growing size of many practices. In 1997 over 40 per cent of dentists worked in practices of more than four, compared to 31 per cent in 1992.[25] The British Dental Association estimates that over a fifth of practices will have six or more dentists by 2003.[26] However, an

important question remains about how far practising GDPs have adapted to team-based service delivery and whether the dominant professional culture has absorbed the changes implicit in the broadening of professional identity. There are also doubts about whether the supply of some professionals complementary to dentistry will be adequate over the next few years.

Willingness of dentists to be managed

In 1996 a key variable was the extent to which dentists were willing to be managed by a larger authority, whether purchaser, owner or regulator. Since 1996 some interesting answers have, begun to appear to this question. The strong traditional ethic of the independent, self-managing professional, subject to an ethical code of treatment and the partial discipline of running a small business (albeit for a long period with secure and predictable levels of income from NHS treatment) has eroded significantly. The growing uncertainty and pressures of the business environment, which were compounded during the 1990s by lurches in the payment systems and fee levels available from NHS dentistry, have made the position of the small scale, self-managed practice less secure. Among younger dentists, the ideal of practice ownership is weaker, and willingness to work as an employee, with its attendant flexibility, mobility and lower levels of required responsibility, is significantly greater. According to a 1999 survey, 63 per cent of dentists would like to have the option of being salaried employees of companies, although far fewer (about a fifth) indicated that they would consider taking up a salaried position themselves.[27]

> Women dentists will have a different working pattern: they will have more flexible requirements, they will want to job share, they will not have the choice to go to various areas.
> Dame Margaret Seward, past president of the General Dental Council

The entry of corporate providers has made the move towards management of dentists more evident. However, the effect of private

payment schemes, especially Denplan's – the largest payment plan provider – may have been more influential over the past five years. Denplan registration for dentists has offered a combination of access to a network of support and steady income with continued flexibility and independence for dentists over the mix of patients taken, fees charged and clinical autonomy. BUPA has a similar scheme. However, a shift towards more active management, prompted by the need for patients to understand costs, and for more reliable and defensible quality standards, led Denplan to introduce the Excel scheme for quality improvement in 1999.

> I would suggest to you that, certainly in terms of re-certification – compulsory re-certification – it seems likely to us as observers that the Government will be quite keen to implement that change fairly quickly
> John Hunt, Chief Executive, British Dental Association

These changes run in parallel with a shift in publicly funded health services towards more managed care. This results partly from pressure for greater cost-effectiveness, as demand increases faster than spending, and also for greater transparency and accountability in the face of rising public expectation and higher levels of information. One of the defining features of New Labour's approach to healthcare has been an emphasis on 'clinical governance'. For example, it has established the National Institute for Clinical Excellence (NICE) to appraise treatments.

Implications

These changes do not point to one decisive direction, but they do represent an opening of professional identity to more radical restructuring. The demographic shift towards women and ethnic minority professionals may bring a new set of outlooks to a traditionally stable ethos and identity. The growing emphasis among high-earning young professionals on lifestyle and flexibility may also mean that increasing numbers of dental professionals are interested

in more flexible career structures, and less in owning stable, high-yield small practices. The increasing orientation of younger generations towards entrepreneurship may well bring a more radical approach to experimentation in new business models, especially using new technologies.

> Are dentists willing to be managed in a broader perspective? If you had asked that question five years ago, the answer would still be that there was an element of uncertainty about the appetite of the profession to be managed. I believe we have moved on from that.
>
> Tarquin Desoutter, Managing Director, Dencare

Traditional dentists, many of whom have benefited financially from a shift towards private practice over the past five years, will experience increasing competitive pressure and insecurity over the next ten years. These changes, in conjunction with the changing business environment, are likely to accelerate the voluntary grouping of small dental practices into larger networks and the development of larger, team-based practices.

Scenarios and strategies

As we noted in the introduction, *Open Wide* concluded with three main scenarios for 2010.

The Linear Scenario. The Linear Scenario, in which things remained broadly the same, dentists moved steadily away from NHS work, and private health insurance grew slowly, seemed unlikely in 1996.

NHS Reinvented. The NHS Reinvented story assumes that political energy and attention are given to NHS dentistry and a decision is taken to re-organise, to localise, make a decisive shift to prevention, and rebalance the division of labour to the private sector by concentrating on priority areas. Capitation – annual payments to look after people's teeth rather than fees for individual treatments – is gradually extended, as children who were cared for under capitation are kept in the system when they become adults. Annual free check-ups, including x-rays where necessary, are introduced and GPs used to target poor non-attenders. Prevention is promoted with greater incentives for the provision of fissure sealants for children and legislation requiring water fluoridation except in areas with insurmountable technical problems. Advanced restorative work and orthodontics are withdrawn from the NHS for all but the poorest.

The government licenses a national accreditation and clinical audit system, assisted by developments in information technology which

allow inspectors to randomly check the quality of dentists' work by logging onto dental records and x-rays electronically.

Private Prevention. Rising active consumerism and a drastic reduction of NHS services lead to the birth of high street chain dentistry in the Private Prevention scenario. The haemorrhage of dentists from the NHS becomes a flood; patient dissatisfaction grows with the NHS service; and the government decides to rationalise NHS provision to little more than a Community Dental Service, a slimmed down Hospital Dental Service, and trauma, immediate pain relief and crisis restorative work by the adult General Dental Service. A means-tested voucher service is provided for paediatric dentistry.

Consumer interest in prevention and quality of customer service is exploited by new high street chains which arise after the repeal of Section 43 of the 1921 Dentistry Act prohibiting incorporation and establish themselves as trusted brands, as confidence in individual dentists falls. They concentrate on clinical prevention such as fissure sealants and after building a secure market share radically shift the skills mix towards auxiliaries, relying on specialist dentists for advice.

Still correct

How have subsequent developments and analysis influenced our view on these scenarios? Have some seemed more likely? Have they substantially altered or have completely new scenarios emerged?

The Linear Scenario

The first conclusion of the analysis presented in the previous section is that the Linear Scenario – as we envisaged it in 1996 – is not taking place. A number of factors have made it unstable over the past four years:

- The continued growth of the proportion of private dental care adding to sense that NHS dentistry is no longer the universal service it claims to be, with dissatisfaction high among patients and dentists.

- Expectation that the government will do something radical to at least improve access to NHS dentistry.
- The entry of corporate groups and private capital into dentistry, groups which are already experimenting with more radical changes to skills mix and investing in new technologies.
- The rise of the clinical governance agenda in wider health policy, coupled with research based on analysis of digitised patient records, will eventually lead to radically different clinical practices, such as less frequent check-ups, much less restorative treatment, and possibly reductions in scaling.

It is worth noting, however, that several other elements of the Linear Scenario remain true: clinical prevention is still advancing slowly, despite a higher profile. Powerful social movements and utility companies are still arrayed against water fluoridation, and government has not yet made a strong commitment to producing a breakthrough. Private medical insurance is still growing relatively slowly in the UK, and the private dental payment sector has made no active attempt to break out of the ABC1 social groups that constitute its traditional base.

Private Prevention

Many elements of this scenario have begun to take shape, faster than we originally foresaw. In particular the entry of corporate chains has been rapid. These changes are still in their early days, and have not been prompted by wholesale withdrawal of the NHS from particular forms of treatment. However, the rapid growth of the market for oral care products, and the apparent welcome of some client groups for new, brand-based treatment centres offering greater convenience, accessibility and sensitivity to consumer concern, suggest that the proliferation of private choices will continue to accelerate.

This will place growing pressure both on government attempts to renew NHS service and on professional bodies and traditional GDPs

as they seek to adapt their practices to the new environment. It is too early to say whether the new corporate providers will achieve a switch in public trust from individual patient – dentist relationships to trust in brands, but it is already clear that there is a latent willingness among some sections of the public to test out the new alternative.

We also know that elements of private systems can lead to more preventative approaches. For example, one payment plan company in the United States with 10 million policy-holders recently launched a 'Duty of Care' programme to make available clinical advice, support and guidance for its 3,500 dentists.[28] However, there is an outstanding question about the orientation of private providers towards preventive care. The productivity of 'walk in' dentist centres, even if the treatments on offer are higher quality than that available on the NHS, still rests on throughput, since most payment is based on fee-per-item of service. While the chains are meeting latent demand from de-registered or dissatisfied NHS patients, there will presumably be a high level need for such restorative treatment.

> In the States you advertise that you are a cardiothoracic surgeon and you have a billboard outside saying, "I'm the best".
>
> Dr Helen Blackholly, Country Manager, Colgate Oral Pharmaceuticals

Nor is it clear whether or not preventive approaches will sustain the scale of operation and returns that the corporations and their investors will seek. This will be especially true in the absence of decisive government action withdrawing some kinds of treatment from NHS cover.

As investors look for returns from recent dental investment – both in practices and new products – the drive to focus on restorative and cosmetic treatment could well increase. In this context, the government may not manage to establish a credible system of accreditation in the context of a rapidly changing market and innovations in clinical practice and knowledge.

This leads us to suggest another possible scenario for dentistry, in

which private provision still dominates, but prevention does not take root comprehensively. This scenario – the Orthodontic-Cosmetic Shift – seems relatively unlikely, but is worth considering.

Orthodontic–Cosmetic Shift

- Between 2000 and 2005, government focuses its efforts on trying to juggle resources, fails to produce a decisive shift in the structure of NHS provision and fails to put in place a national system of improved clinical governance.
- Continued uncertainty about the future of NHS dentistry also absorbs much of the capacity of the professional bodies, whose energy is focused on payment issues and fighting liberalisation, rather than moving towards establishing a new system of self-regulation.

> To what extent are we doing our patients harm by giving them every demand that they want or by manipulating their demands and changing them to suit our commercial interests?
>
> John Chope JP, Chairman, Confederation of Dental Employers

- When a new government after 2005 decides to run down NHS dental services, the main concern is to keep down price. That is attempted through an increase in the number of dental professionals – both reducing restrictions on role of professions complementary to dentistry and supporting the expansion of professional training, possibly complemented by relaxing the immigration restrictions on foreign dentists.
- Dental chains start by promoting prevention, but face increasing competition and find that levels of demand plateau following the onset of economic recession in 2005. High street brands are hit by the falling value of high street premises as e-commerce develops and a second wave of aggressive brands establish, often around leisure complexes. In response, private providers

increasingly turn to widespread advertising, particularly around cosmetic and whitening treatments. After 'total' oral health products achieve market saturation by 2003, manufacturers look for new 'value added' sources, and focus on whitening, along with vertical integration of oral healthcare markets through tie-in deals with dental treatment providers. The battle ground for dental chains becomes the 'quick fix' linking with manufacturers of products to deliver expensive 'feel clean' and 'look white' products. The ongoing lack of consistent codes of conduct and effective clinical governance means that consumers are targeted through aggressive one-to-one marketing via e-mail and the Internet.

> These two words "manufactured need" are going to sink in here and are going to be used a lot. I had never thought of it like that before.
>
> Dr Anthony Kravitz, Chairman, General Dental Services Committee of the British Dental Association

- Replacing fillings with better looking ones is also seen as a market to be exploited. Consumer education is not linked with public health agendas, and focuses instead on lifestyle and cosmetic issues.
- Capitation is largely abandoned as it becomes hard to predict which cosmetic treatments people will want.
- A significant minority of dentists, squeezed by chains, develop orthodontic specialisms. This requires many to spend considerable time and money retraining. Competition becomes fierce in this area spurred partly by e-commerce developments, which allow people to shop around in Britain and abroad. Making braces and orthodontic equipment is also increasingly undertaken overseas in cheaper destinations such as Eastern Europe and the Indian sub-continent.

- Research and development funding, driven increasingly by the biotechnology and venture capital industries, focuses on short-term cosmetic improvements rather than clinical prevention.
- Trust in dentists declines as public perception of them shifts towards that of a lifestyle service provider rather than a medical professional. The new rules of consumer marketing and shopping around prevail.

After an extended period, rising public and political concern that prevention is not receiving sufficient attention generates a further wave of restructuring and the development of brands offering 'no-nonsense' care and long-term prevention. Yet the period 2000 to 2010 is very different from the development of private preventative care we envisaged in *Open Wide*.

NHS Reinvented

In many ways the New Labour government has opened the way to creating a new settlement for NHS dentistry. It has stimulated experimentation and innovation, re-opened the water fluoridation debate, introduced steps towards managed care and greater transparency (through clinical governance), and strengthened the policy emphasis on prevention (all measures identified by *Open Wide* in 1996).

However, it has so far failed to take decisive steps towards a settlement that will actually be sustainable, or to acknowledge some of the fundamental choices yet to be made. These include the question of universal access to comprehensive NHS services (and the levels of public funding necessary to achieve this over time), the relation between private and public sectors in healthcare provision and the forms of management and incentive necessary to persuade dentists to operate within an NHS-run framework.

In particular, it has had nothing to say about the rationing decisions that would be needed to find the resources for a rejuvenated service. The money it has redirected to NHS innovations has largely

come from reducing the registration period for adult continuing care patients – a retreat from possible foundations for rolling out capitation to the adult population. That reduced NHS registration period has also led to a 14 per cent (3.25 million) drop in registered NHS patients.[29]

> If I was advising government and there was £5 million available, that £5 million could possibly not go into dental services but into public health initiatives such as floridation of water supplies.
>
> Ray Watkins, Chief Dental Officer for Scotland

We still think that a decisive shift to prevention and clinical governance is possible as posited in the original NHS Reinvented scenario. This would require a series of relatively swift decisions, which we examine in below in our conclusions and stakeholder strategy analysis.

However, it is also possible to envisage a scenario of prolonged fragmentation in which the NHS continues to have more of a role than in the Private Prevention and Orthodontic-Cosmetic scenarios.

NHS Fragments

- The government spends the first years of the twenty-first century focused on achieving greater access to NHS dentistry. It does become much easier for people to get appointments for an NHS check-up, for dentists are encouraged to take patients through higher fees for check-ups and the proportion of fee paid by the NHS also is increased. The government pays for this partly by abandoning registration payments altogether.
- The access strategy does, however, start to create problems. Although fees are increased for some procedures, they are not for all treatments. In response, more and more dentists are not willing to carry out all possible treatments which arise from initial consultation on an NHS fee scale. In the end, the government is unable to fund the widespread increase in fees needed to bring

sufficient dentists back into the NHS to cover the whole population. Nor do attempts to increase fees locally in deprived areas succeed in encouraging enough dentists to move to these areas in the long run.

This government would not want to force non-exempt people into the private market. One added advantage of this comprehensive approach is that it strengthens the government's hand in regulation. As long as there is some NHS involvement for all patients, whether they are partly paying or not, then the government can say regulation has to be improved and open to scrutiny.

Julia Drown MP

- Paying for a revitalisation of the NHS by withdrawing from NHS provision of advanced restorative treatment for adults is also deemed too risky by government. Politically, a withdrawal from NHS provision of routine services for adults proves difficult to achieve, since the post-1970 generation, moving into the demographic position of the prime-age, most productive workers, would be called upon to fund the provision of services which were being directed at specialised groups, while witnessing a withdrawal of routine services that they themselves are most likely to need as they move into middle and third age. The government also fears that if it withdraws treatment for some sections of the population, it will lose influence over dental costs for exempt population groups.
- In response to the continued budget constraints but failure to make a decisive withdrawal from some services, the NHS increasingly has to manage dental services more directly. That helps it ration and manage services more easily. It builds on the experience of some Personal Dental Service and 'phone and go' pilots. Health authorities

employ more dentists directly in some areas. Others develop closer, more managed, relationships with general dental practitioners and not-for-profit and some commercial organisations. Block contracts with providers and long-term partnerships with the NHS (as with housing associations in the state subsidised housing sector) become more common. This style of working fits some dentists who are less keen to manage their own practices and dislike the commercial orientation of some high street chains.

When I hear "the government" talked about, we have to recognise that there are now devolved administrations in the UK.
Paul Langmaid, Chief Dental Officer for Wales

- Through such management the government is able to officially offer services for all. However, the new local NHS service can be managed so that it does not always compete for advanced work with private firms, offering people fairly long waits for treatment or high prices. Cosmetic work is largely unavailable. In other words, restrictions on some treatments are imposed, but not explicitly – this is possible because the services are directly managed.
- Developing a salaried NHS service is also seen as a way to influence price of private treatment. Although the new NHS services are rarely trying to cater for all, their presence helps to exert some competitive pressure on price rises in the private sector.
- Some local salaried services and Community Dental Services merge. They increasingly share premises with GPs and new Healthy Living Centres, and benefit from easy access and community legitimacy. They also lead the way on new variations of skill mix, having the advantage of starting from scratch and learning from the establishment of private chains.

> It is an excellent idea we have with dental access centres, where people have choices. Basic treatment is available, but they can then choose if they wish to enter the more high tech treatment.
>
> Christopher Allen, Consultant in Dental Public Health, West Kent Health Authority

- Initially, many general dental practitioners, chains and private payment plan businesses do not complain. They have work in a rapidly expanding private sector. After some time the private sector begins to react against what it sees as unfair competition. In particular, easy drop-in centres for quick check-ups with relatively low qualified staff undermine a key area of private business – regular check-ups for the payment plan industry and sales opportunities/information collection for dentists (with links to paste, floss and mouthwash manufacturers). They therefore lobby hard against the formation of a nationally unified salaried service and give relatively little support to state-sponsored accreditation schemes, preferring to market their own accreditation schemes. In the long run, they win this battle, apart from in Scotland.
- Overall, the industry ends up with something akin to the pre-war mixed market in hospital services: a mixture of local state hospitals, not-for-profit hospitals and private hospitals, often all competing and overlapping in catchment areas and client groups.
- There is some continued concern, especially in the liberal media, that the changes have created a two-tier system and failed to create the basis for long-term patient relationships with dentists. Government highlights selected examples of outstanding local innovation and argues that it is providing for medical need rather than pandering to a cosmetic market.
- Private businesses develop different strategies in different areas. In some, the remnants of the General Dental

Service continue for a long time alongside new salaried services and chains. The chains try to lock people in where the competition with salaried service is strong, for example by offering free consultations and loyalty credits.

In the longer term a new government in 2010 or 2015 may take the opportunity for more decisive reorganisation, after public funding pressures ease and the effects of biotechnology innovations are more clearly established.

Stakeholder strategies

One of the purposes of scenarios is to help organisations with a key interest in dentistry to develop long-term strategies. Our analysis of four possible scenarios – at least in the medium term – increases the need for organisations to think about a responses to a variety of operating environments.

Stakeholders will also shape the future of dentistry. The scenarios aim to help decision-makers think through their priorities, rather than suggest preferable scenarios. However, from the analysis presented above, a number of actions would be sensible, either because they are appropriate for any scenario or because even the possibility of change should be prepared for.

Central government should:

- prepare for a much wider variety of provision, in which powerful information sharing networks, (including new links between district health authorities, practitioner networks and dental schools), area-based dental public health strategies, clinical governance and new ways of regulating the dental market become high priorities; including preparing to transform the Dental Practice Board into the hub of a new system of clinical regulation, standard-setting and record keeping
- develop realistic long-term options for the creation of a salaried or closely managed service, including study of lessons from other countries

- explore the possibility of awarding long-term contracts to public, mutual or private sector providers to improve the oral health of whole populations in high risk areas
- plan for the possible withdrawal of some kinds of NHS treatment
- stimulate a wider public debate about the merits of prevention and the division of responsibilities required for a prevention-based system
- provide stronger tools and incentives to encourage water companies to introduce fluoridation
- set out clearer priorities than the current stated objectives, in order to avoid a sustained period of fragmentation.

District health authorities and their directors of dental public health should:

- quickly build up their competence for local purchasing; that may include, for example, developing cooperative relationships with other DHAs in purchasing of specialities, accreditation of dentists, commissioning new software for handling purchasing and monitoring, payment systems, commissioning feasibility studies on difficult fluoridation problems and so on
- develop local partnerships with schools, patient associations and community groups to promote prevention among high risk population groups
- develop informal networks with dental schools, networks of practising dentists, and possible international sources of professionals, to prepare for the creation of much more local management of services.

Dentists should:

- develop more sophisticated marketing skills, not just general business skills
- prepare for the possibility of a separation of diagnosis from treatment, with more patients shopping around for the best treatment option after initial diagnosis

- develop strategies for creating and retaining market niches that go beyond providing specialised treatments
- develop new business relationships and partnerships with, for example, old people's homes, manufacturers of oral healthcare products and local health authorities
- experiment with wider networks of small dental practices, in response to possible competitive pressure from corporate chains and a new salaried service
- accelerate the development of team practices and acknowledge the growing importance of clinical excellence, accreditation, continuous professional development and specialisation.

The payment plan industry should:

- prepare for the possibility of at least local challenges from a NHS salaried services that provide good quality basis diagnosis and treatment
- develop new types of relationship with younger groups of patients who combine very low treatment needs with higher cosmetic desire
- continue to develop clinical excellence programmes, accreditation schemes and broad networks of practising dentists.

The professional bodies face:

- an urgent need to prioritise as major innovations are likely in all their areas of interest; in particular, they need to prioritise between measures to directly retain public trust, protect the professional autonomy of existing members and influence the development of clinical governance and accreditation regimes
- the challenge of negotiating with a much wider range of employers
- growing competition for government and industry attention from associations representing a burgeoning range of professions complementary to dentistry.

All players must also recognise that, after 2015, the death of traditional dentistry is still a high plausible scenario, combining the advent of gene therapies and other advanced biotechnology applications with the predominance of a cohort with little dental disease, and the strong growth of alternative health movements and electronically based methods of oral healthcare delivery. Dentistry as we know it has a shelf life.

Conclusions

Both of our original scenarios – NHS Reinvented and Private Prevention – are still possible. In fact, they probably represent the alternatives which are most sustainable in the long term. However, a relatively swift transition to either of them relied on a factor which we may have taken too much for granted in 1996 – the decisive development of cultures of prevention among the public, professionals and policy-makers. The magnitude of organisational change and competition that might take place in the next ten years may hinder the development of such prevention cultures rather than be a catalyst for them. Both intermediate scenarios – Orthodontic-Cosmetic Shift and NHS Fragments – are characterised by a swift fragmentation of oral health markets, and a relatively sustained period of unstable competition and reconfiguration among different kinds of dental health service provider.

In the long run, the development of cultures oriented towards prevention represent the best prospects for continued improvement of the oral health of the nation, whichever sector is providing the bulk of the treatment. Stimulating such a culture relies on a number of developments:

- The creation of a knowledge and information infrastructure that facilitates rapid communication between dental schools, centres of clinical excellence, patients and providers. Such an infrastructure is the foundation for a digitised record-keeping and risk assessment system, which would allow a clinical excellence agenda to take root.

- The establishment of long-term patient – provider relationships, in which both providers and patients are rewarded for a long-term preventive approach. This relies on systems of accreditation and payment, in whichever sector, which give providers a long-term incentive for prevention. It also relies on public demand becoming more strongly focused on maintenance of healthy unfilled teeth, particularly among the post-1970 cohort. The patient reward, in this sense, is better oral health for longer, at less expense.
- Finally, it depends on change to the wider environment of public goods that affect whole population groups: for example decisive action on fluoridation, more radical development of public health information and education systems, and a bolder public debate on the long-term challenges, risks and benefits of prevention. Stimulation of this debate is probably dependent on elected politicians, although dental public health consultants and others with authority in the field could also probably have an effect.

Many of the components of either kind of sustainable settlement can be provided by the state, the private or the not-for-profit sectors. However, for any of them to move in a particular direction probably requires some form of catalyst. In the short term, given our assessment of the field in 2000, that catalyst will probably come only from government.

It is clear that continued policy drift will soon lead to a period of fragmentation in which no one sector will be able to influence events decisively, and in which new models of comprehensive oral healthcare will only appear out of a far more diverse, patchy and out-of-control system.

In a sense, the dentistry debate is a microcosm of wider healthcare issues: how to reconfigure a post-war settlement in the face of marketisation, new patterns of need, rising demand and rapid

technological change. In that sense, government faces a set of direct challenges about its financing, management and regulation of specific systems of provision. But the more important long-term challenge for government is to learn ways of shaping the overall environment – of understanding and influencing whole systems of production, based on the interaction between social cultures and aspirations, economic forces, professional power and organisational innovation. It is striking that, although payment systems and levels of public funding are at the heart of the issues, the most influential long run determinants of the new settlement are probably cultural. Seeking ways to change culture in deliberate but legitimate ways presents a whole new spectrum of opportunity and challenge for public agencies.

Our original report was called *Open Wide* because the future of dentistry was, in our view, wide open. For the next ten to fifteen years, it is still very much so. However, the window of opportunity for influencing the overall direction of change is now closing fast.

Notes

1 6 P, with Jupp B and Bentley T, 1996, *Open Wide: Futures for dentistry in 2010*, Demos, London. Available from Central Books, tel: 0181 986 5488.

2 Office for National Statistics, 2000, *Adult Dental Health Survey: Oral health in the United Kingdom 1998*, The Stationery Office, London.

3 Laing and Buisson, 1999, *UK Dental Care 1999*, Laing and Buisson, London.

4 Estimate from contributions to Dental Symposium and from BDA, *Dentistry Facts*, February 2000, British Dental Association, London.

5 Office for National Statistics, 2000 (note 2).

6 Department of Health, 1994, *An Oral Health Strategy for England*, The Stationery Office, London.

7 National Alliance for Equity in Dental Health, November 1998, cited in Laing and Buisson, 1999 (note 3), p26.

8 Study by Fiona Hamilton of University of Liverpool, cited by Dr Clare Ketley, University of Liverpool at Demos Dental Symposium.

9 According to participants at the Demos Dental Symposium. For figures on high trust in dentists, see Harris Polls for the British Dental Association – eight out of ten people trust the dentist, nine out of ten have confidence in the treatment they receive from their dentist. *Dentistry Facts*, February 2000 (note 4).

10 Laing and Buisson, 1999 (note 3).

11 BDA, 1999, *BDA Factfile July 1999*, British Dental Association. London.

12 Office for National Statistics, 2000 (note 2).

13 Office for National Statistics, 2000, *Social trends 30:2000 edition*, The Stationery Office, London.

14 CRIC, 1999, *Consumer E-commerce: Scenario analysis, a report to the retail and consumer services Foresight panel*, Centre for

Research on Innovation and Competition, University of Manchester/UMIST, Manchester.

15 BDA, 1999, *Media Briefing: The changing face of dentistry*, November 1999, British Dental Association. London.

16 BDA, 1999 (note 15).

17 Office for National Statistics, 2000 (note 2).

18 Denplan, 1996, *Carter Image Tracking Survey of Consumers*, Denplan. Winchester.

19 Milburn A, 1998, 'Speech of the Health Minister to the BDA conference 1998' in *British Dental Journal*, vol 185, no 1.

20 BDA, 1999, *British Dental Association Research Unit Quarterly Dental Research Bulletin: July 1999*, British Dental Association, London.

21 BDA, 1999, *British Dental Association Research Unit Quarterly Dental Research Bulletin: April 1999*, British Dental Association, London.

22 Laing and Buisson, 1999 (note 3).

23 According to Chris Horlick, Managing Director, Denplan, at Demos Dental Symposium.

24 BDA, 2000, *Dentistry Facts: February 2000*, British Dental Association, London.

25 BDA, 2000, *British Dental Association Research Unit Quarterly Dental Research Bulletin: January 2000*, British Dental Association, London.

26 BDA, 2000 (note 25).

27 BDA, 1999, BDA *Omnibus Survey February 1999*, British Dental Association, London.

28 Laing and Buisson, 1999 (note 3).

29 Denplan, 1999, *Market Report: May 1999*, Denplan, Winchester.