



What was the condition of people’s dental health in the early 20th century?

By the end of the 19th century dental health in Britain appears to have been worse than at the beginning of that century. Urbanisation had led to less consumption of fresh foods, and there had been a huge rise in the amount of sugar eaten - a five times increase. By the time of the Boer War (1899 - 1902) 6% of recruits were being rejected due to “loss or decay of many teeth”. It was a similar story amongst children. In the 1890s the **BDA** asked its members to help investigate the condition of children’s teeth. This was the first time a nationwide survey had been undertaken and was the beginning of the interest in **paediatric** dentistry. In order to reflect British society children across different social classes were examined.

Source A: Survey into the condition of children's dental health by the BDA, 1893

C.—TABLE SHOWING THE RELATIVE LIABILITY TO DENTAL CARIES IN POOR AND HIGH CLASS SCHOOLS.

Age Group ...	...	...	X.-XII.	XIII.-XV.	
Class ...	...	...	Poor.	Rich.	
No. Examined ...	...	...	521	37	680 114
Sound (no decay) ...	...	...	11.7	8.1	14.3 0.9
Defective Temporary Teeth only ...	...	...	22.1	0	7.4 0
Permanent Teeth—	...	...	...	...	...
1 to 4 defective	...	...	61.2	59.5	60.6 33.3
5 to 8 „	...	...	4.8	27.	16.3 42.1
9 to 12 „	...	...	0.2	5.4	1.3 16.7
13 to 20 „	...	...	—	—	0.1 7
	...	...	100	100	100 100

Condition of denture.

Fair. Bad. Very bad.

Poorer children could not afford any dental care although they tended to eat coarse food rather than more acid producing foods which lead to decay. Wealthier children from the middle and upper classes could choose from a number of items for cleaning their teeth and mouths.



Source B: Oral hygiene items for use at home, early 20th century: bottle of mouth wash tablets, ivory handled brush in container, silver plated tongue cleaner with ivory handles, waxed silk dental floss and china toothpaste pot, price 6d

Their use of such equipment was not guaranteed though.

Source C: Survey into the condition of children's dental health by the BDA, 1891

Tooth Brush.—It is almost needless to observe that the tooth brush was conspicuous by its absence in almost all the schools, and that only in a few schools was the presence of this indispensable equipment noted.

One excellent and direct effect of the present investigation has been the introduction of tooth brushes into several of the schools already examined. That the mere supply of a tooth brush is insufficient is proved by the returns of a small better-class school in Cambridge, where the boys reside with their parents or guardians, and in every case acknowledged their possession of a tooth brush. Not a single mouth could be registered as clean, all were dirty, and a few could only be fitly entered as foul or very dirty. Enquiries as to when the boys used the tooth brush elicited such replies as the following: “On Sundays,” “Twice a week,” “Occasionally,” “When I go out to tea.” The authorities, on reading the report sent in by the examiner, wrote to thank him for calling their attention to this condition of affairs, and announced their intention of having it rectified.

Such products weren’t without their problems. The bristles of toothbrushes were made from hollow animal hairs which trapped germs This was made worse if the family shared the brush, known as ‘cross -infection’. The same was true for the pots of toothpaste. The ingredients in the toothpaste were hazardous too. They included charcoal and brick dust as abrasives to remove plaque. In fact these ingredients were probably too harsh.

Wealthier children could afford a visit to a dentist. By the turn of the century surgeries had moved away from an adapted front room with ordinary household furniture to a dedicated surgery with specialist dental furniture although not all surgeries could take advantage of this technology as many didn’t have access to electricity.



Source D: A reconstructed dentist's surgery, early 20th century: adjustable chair, bracket table with electric lamp, cord driven electric motor drill, foot-operated drill and spittoon with running water

Others couldn’t afford the latest technology such as . X-ray machines.

There were not enough dentists to meet everybody’s needs however (even if everybody could have afforded to pay, was brave enough to attend or understood the benefits). There was about one dentist for every eight and half thousand people. The poorer sections of society had to treat themselves with home cures for toothache, such as chewing on a clove. Some of the poor in a few major cities were able to visit **dental dispensaries**. If the pain was too extreme and an extraction was needed they might visit the local doctor if they could afford it or a cheaper option was to visit the local blacksmith or butcher.

The wealthier classes might have been able to afford a dentist but they weren’t assured of an excellent service. Many dentists were unqualified. The first two dental schools had been opened in the late 1850s, in London, and qualification and registration had become compulsory in 1879. However there was a loop hole in the law. This allowed unqualified persons to practise dentistry as long as they carefully avoided the use of the word ‘dentist’. Some of these trained with an older dentist and would have been skilled but others were pure **charlatans**. Anybody could place an advert offering dental services. Much of their work focused on one aspect of dentistry.

Source E: Advert , circa 1900

Mr. Oxley's List of Fees.

For Artificial Teeth.

Vulcanite, Upper or Lower Set ...	£ 1 0 d.
Vulcanite, Upper or Lower Set, with best indestructible Teeth and Platina Fastenings ...	2 0 0
Vulcanite, Upper or Lower Set, with Gold Strengtheners ...	3 0 0
Single Tooth ...	0 5 0
Partial or Full Plates in Gold or Platina at same low rate.	
Repairs ...	from 0 2 6
Springs ...	0 2 0
Fillings ...	0 2 6

REPAIRS IN TWO HOURS.

Painless Extractions ...	1/-
Nitrous Oxide Gas ...	2/6

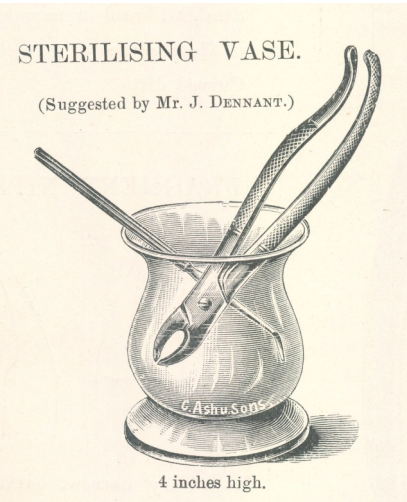
When Artificial Teeth are ordered no charge is made for Extractions.

RAILWAY FARES ALLOWED TO COUNTRY PATIENTS.

Special Terms to Domestic & Persons of limited means.

Even a visit to a qualified dentist did not guarantee complete safety. Scientific and medical knowledge was developing but wasn’t always accurate. For example attempts were made to stop germs spreading on instruments from one patient to another but were in fact ineffective.

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Source F: Advert from a catalogue for dentists, 1899

Questions and activities

- Using **source A** draw a bar graph to show the differences in dental health between poor and rich children (choose either age group). Which had the worse teeth? Why do you think this was?
- Using **source E** what was the focus of dentistry in the early 20th century?
- Using **source E** did this dentist make provision for treating the less well off? How do you think he afforded this?
- Draw up a table showing who provided dental treatment, for whom, what types of treatment they provided and what you think the probable outcomes were.
- “In the early 20th century the wealthy had better oral health as they had more opportunities to care for their teeth.” Use all the sources and your own historical knowledge to explain why you agree or disagree with this interpretation.

Glossary

BDA: British Dental Association, the professional body representing dentists in the UK
Caries: holes in teeth
Charlatan: unqualified person offering ineffective treatment
Dental dispensaries: a sort of A&E department for teeth
Denture: in the context of source A, natural teeth
Nitrous oxide: a gas used as an anaesthetic
Paediatric: about children
Temporary teeth: milk teeth
Vulcanite: a type of hardened rubber used to make dentures, developed in the mid 19th century



Did reforms in the early 20th century have an impact on dental health?

By the early 20th century it was clear that Britain had extremely poor dental health and that this was impacting on wider life. Many recruits had been rejected from military service due to inadequate teeth whilst James Kerr, Medical Officer for London County Council, reported in 1905 that toothache kept many children, and their teachers, away from school. Two government reports in 1905 also highlighted the plight of children's health. Something had to be done.

At a conference in 1903 the War Office and the Admiralty argued for dental inspections and oral hygiene instruction in schools. Dentists also tried to improve matters. A very small number of them were employed by enlightened schools to inspect their pupils and they banded together in 1898 to found the 'School Dentist's Society' to promote "organised" school dental services, with an emphasis on prevention. One dentist in particular who played a key role was George Cunningham. In 1906 he managed to obtain premises from Cambridge Council for the inspection of **elementary school** children. Although sympathetic the council could not assist with treatment or funding. Finally in 1907 the Education (Miscellaneous Provisions) Act instructed local councils to carry out dental inspections at elementary schools. However it was up to the council whether any treatment would be provided.

Source A: Records of Worthing School Dental Clinic, 1912

The following is a report of the Dental Treatment for the year ended 31st July, 1912:—

No. of children on the registers of the schools	3594
No. of children under 8 years of age who have been examined ..	907
No. of children over 8 years of age who have been examined ..	382
No. of those examined whose teeth need attention.....	1143
No. of those examined whose teeth are all sound.....	152 or
	12 per cent.
No. of forms sent to parents notifying necessity of treatment ..	734
No. returned signed by parents desiring treatment.....	347
No. of children treated	301
No. of attendances made by such children	520
No. of extractions.....	777
No. of fillings.....	80
Amounts received from parents towards cost of treatment, £5 6s. 11d.	
Cases for gas	37

(APPENDIX I.C.).
SCALE OF CHARGES FOR DENTAL TREATMENT.

Average income of family.	Charges per attendance for extractions, or fillings, or both
Under 20/- per week (or less than 3/- per head)	Free.
From 20/- to 25/- per week	3d.
" 25/- to 30/- "	6d.
" 30/- to 40/- "	1/- to 2/-
	according to circumstances.

From 1918 councils were required to provide treatment for elementary school children. At the same time compulsory inspection was extended to secondary schools. Another 26 years were to pass before secondary children got free treatment as well.



Source B: School inspection, 1914



Some councils went further than the law required. London County Council's main dentist, Charles Wallis, visited schools giving oral hygiene talks and established toothbrush clubs in the schools. Children paid a farthing per week for 8 weeks to buy their own toothbrush. The schools provided powdered chalk instead of toothpaste.

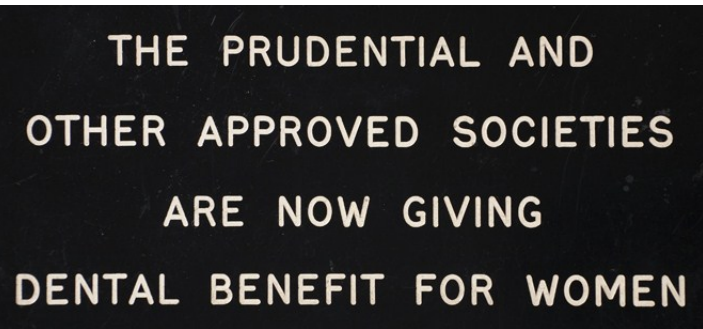
Source C: Toothbrush club, 1912



Some action had to be taken to address adult's poor dental health as well. At this time most adults needing dental treatment had to pay, fine for the wealthy but most went without. Just a few of the poor in cities managed to obtain free treatment at **dental dispensaries**. In 1911 the Liberal Government passed the National Insurance Act. This included health insurance for those, under 70 years old, earning a minimal wage (under £160 per year). The employee, employer and government paid into this via 'Approved Insurance Societies' who paid out

when treatment was needed. Eventually 14 million low wage earners joined - but only they, and not their families, were covered. Payment for dental treatment was only allowed when there were surplus funds. The first time surplus funds became available was in 1922.

Source D: Plaque from a dentist's surgery

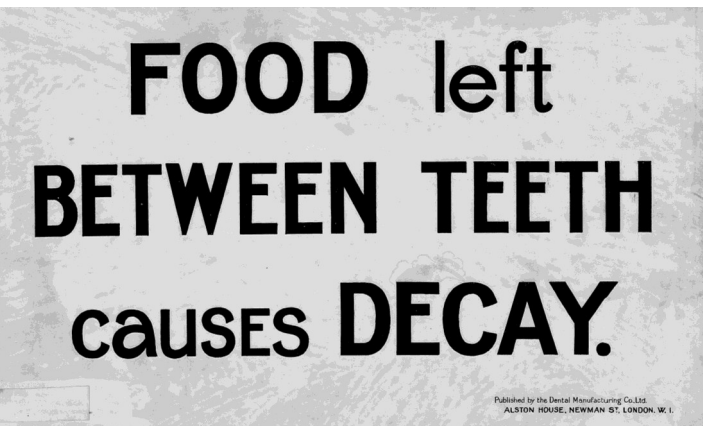


Government became more involved during the 1930s by standardising the amount paid by the different insurance societies for dental treatment.

Expectant and nursing mothers, who by the nature of their condition were excluded from the National Health Insurance scheme, were given help under the 1918 Maternity and Child Welfare Act. This provided free dental treatment at special clinics for them and their children under 5 years old.

There were others who felt they had a role to play in improving the nation's dental health and this era saw the start of oral health campaigns.

Source E: Poster produced by a dental company, early 20th century



These different initiatives varied in the impact they had on different sections of society.

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Source F: Oral history interview (ref MPG i and ii)

Listen to/read Betty's and Daisy's experiences of dental care as children in the 1920s and 1930s.

Many people were still visiting unqualified dentists who managed to practice without registering until 1921. In that year everybody practising dentistry, not just those calling themselves a 'dentist', had to register. As there were more unqualified people working in dentistry than qualified dentists the government couldn't simply stop them all from working. Any unqualified person who could prove they had been practising dentistry before 1921 was allowed to continue working, as long as they registered. All newcomers to the profession since 1921 have had to be officially qualified.

Questions and activities

- According to **source A** what percentage of children had sound (healthy) teeth?
- Using **source A** why do you think some parents did not return their forms giving permission for their child to have dental treatment?
- How effective do you think **source E** was when it was produced in improving dental health? How would this poster look today?
- Describe some of the different attitudes to dental health in this period and the possible reasons for them.
- Draw up a table listing the different initiatives, taken in the early 20th century to improve dental health. List the initiative, who organised it, who paid and who benefitted. Which categories of people received most benefit from these initiatives and which were least affected?
- Of the different initiatives and developments of the early 20th century which do you think had the most potential to improve dental health and why?

Glossary
BDA: British Dental Association, the professional body representing dentists in the UK
Dental dispensaries: a sort of A&E department for teeth
Elementary school: equivalent to primary school
Gas: in the context of source A, anaesthetic for pain relief during treatment



Did the establishment of the National Health Service change dentistry in Britain?

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The coming of World War II, as with earlier wars, highlighted the continuing poor dental health of people in Britain. Amongst recruits to the Army 95% didn't meet the required dental standard. This is unsurprising as most of the population wasn't covered by the National Health Insurance scheme and of those who were only about 7% of them claimed for dental treatment. School dental services only examined about two thirds of children each year and in 1943 98% of children leaving **elementary schools** had some form of tooth decay. More than half of all mothers in 1943 required treatment but only a quarter completed their treatment and another quarter refused to attend at all. There were 12000 dentists in the UK, only 1000 more than in 1929 and many were still unqualified.

William Beveridge's 1942 report to government recommended a free health service for all, including dental treatment. However he did feel that *"to ensure careful use, it is reasonable that part of the cost of renewal of dentures should be borne by the person using them"*. A government committee considered the evidence. They reported that although they favoured a completely free dental service in principle, they didn't feel that this would be feasible with the number of dentists available. Instead they suggested initially extending existing services for children and expectant and nursing mothers. The **BDA** supported this view. However the Labour government decided to ignore this advice and when the NHS started on 5th July 1948 all dental examination and treatment, as with the rest of the NHS, was completely free.

Opinions were divided as to whether the NHS, in the form introduced in 1948, would be a good thing for dental health. Some dentists welcomed it as they had become uncomfortable charging people to have their pain relieved. Others had reservations.

Source A: British Dental Journal, 2nd July, 1948

*...members should be advised not to take part in the general dental service under the Act [of Parliament]...If the Minister had agreed to amend the Act so that a whole-time **salaried State Dental Service**, to the exclusion of service given in private surgeries could not be introduced except by a further Act of Parliament...and had he shown any disposition to greater clinical freedom...the discussion might have taken a different course.*

Dentists wanted the clinical freedom they had had before the NHS, to decide themselves on the most appropriate form of treatment for a patient. Instead all NHS dentists had to submit a form to a government quango, the Dental Estimates Board, to obtain its permission before treatment could begin. It is estimated dentists spent 7 hours a week on completing these forms.

Source B: Dental Estimates Board form, 1948

Although the government ignored advice to prioritise expectant and nursing mothers and their children under 5 it did make some additional provision for them by requiring councils to set up special clinics. This led many dentists to fear that the government wanted all dentists to work in these health centres and stop them owning their own practices.

Only a limited number of dentists had joined the NHS by 5th July - a quarter in the south east - but once they saw the volume of people wanting treatment many joined, - over 80% by the end of 1948. Many were unprepared for the dramatic change in their working lives. Dentists had often seen just 15 to 20 patients a day but at peaks some were seeing 100 and waiting lists could be 6 months long.

Dentists working in their own surgeries were paid for each item of treatment they did e.g. a filling. Some dentists feared that this system might encourage unscrupulous practices especially as the fees they received for extractions and dentures were higher than for treatments which saved natural teeth. Others argued that it was the Dental Estimates Board which was keener to approve cheap extractions. In the first 9 months of the NHS 33 million artificial teeth (about 1 million full sets of dentures) were made with 4.5 million teeth extracted and 4.2 million fillings.

Equally the public placed a huge demand for dentures. Many had hung onto their old **vulcanite** dentures for decades. They could now obtain them for free and, as the start of the NHS, coincided with the commercial development of acrylic, they also got a set that looked more realistic and fitted much better. However not everybody was aware of the full benefits of the NHS. A survey in 1949 of 67-84 year olds found that 11% of them were unaware that they could get free dental treatment. The same survey found that not everybody wanted the NHS. In the two highest social classes 6% of people objected to receiving NHS dental treatment, although their class made more use of NHS services than lower classes.

Oral hygiene equipment for home use was improving. Toothbrushes with nylon heads were developed in 1938, far more hygienic than their predecessors.



Source C: Oral hygiene items for use at home, mid-20th century: hygienator (filled with mouthwash to squirt in the mouth to remove debris between teeth), non-fluoride toothpaste, dental floss, plastic and nylon toothbrush

Beveridge had recognised that it wasn't just structures or equipment that had to change but attitudes as well *"This...involves first, a change of...habit from aversion to visiting the dentist until pain compels, into a readiness to be inspected periodically"*. Many people still didn't own a toothbrush or kept it for too long.

The demand for treatment, especially for dentures, exceeded the government's estimated budget of £7 million for the first 9 months of the NHS by £11 million. In 1951 it was decided that costs for the whole of the NHS had to be kept below £400 million for that year and therefore the first charges under the NHS were introduced - for dentures. Patients paid about half the cost. It was also hoped that this would also stop people applying for more dentures than they needed. Demand dropped from 3 million dentures a year to 1.5 million.

The government also began, without consultation, to cut the fees a dentist received for each treatment, as the BDA had feared. Despite this costs were still untenable and in 1952 the government introduced a flat rate of £1 for dental treatment and prescriptions. This fundamental change led to the resignation of Aneurin Bevan, Minister of Health since 1945.

Morale was low amongst dentists too. Their numbers fell in the early years of the NHS, particularly in school services, where salaries had increased very little.

Source D: Letter to the British Dental Journal, 1953

My suggestion is...the patient pays for his own dentures...as it would be a private arrangement between the dentist and the patient, then we should have complete freedom of action without any fear of interference...Before the scheme, my denture fees, N.H. and private, averaged approximately £12 12s; the average is now about £9 10s. As all expenses are up, that means that in order to get the same profit, I must now do about twice as much work as before...the patient is getting at least 50 % more wages than in 1945"

Questions and activities

- Make a table of different people (dentists, patients, Labour government, Beveridge etc.) and their views on the introduction of the NHS and the exact format it should take. Turn this into a live debate.
- Which groups did the government committee suggest prioritising? Why do you think they weren't prioritised to the extent envisaged? What were the consequences of not prioritising them?
- Make a list of what things the NHS did change in relation to dental health and what it didn't.
- Draw up a list successes and failures in setting up the NHS.

Glossary
BDA: British Dental Association, the professional body representing dentists in the UK
Elementary school: equivalent to primary school
Salaried State Dental service: paid a set wage as a direct employee
Vulcanite: a type of hardened rubber used to make dentures, developed in the mid 19th century



How has dental health changed since 1948?

The year 1948 had heralded a new era for many who had been unable to afford dental treatment before. However the huge demand this created led to escalating costs that the government felt it could not afford. After only 3 years charges for dentures were introduced and for other dental treatments the following year. Since then charges have remained increasing at various rates and the definition of those who are exempt has changed too.

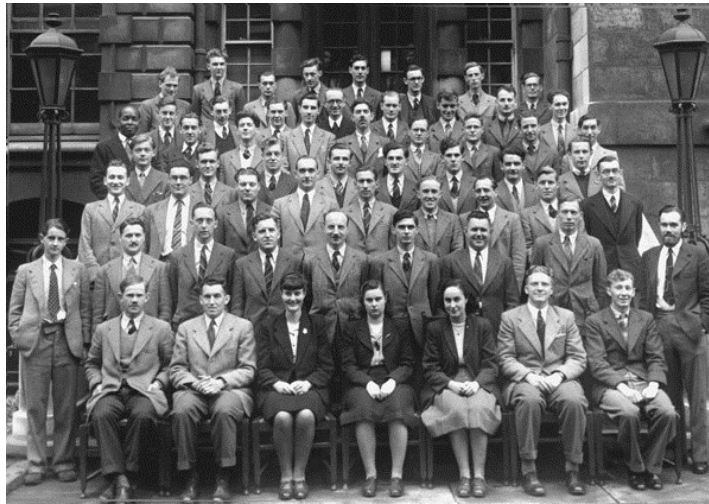
Source A: List of NHS charges, 1961, altered 1969

NATIONAL HEALTH SERVICE			
Notice to Patients			
CHARGES FOR DENTAL WORK			
for patients dentally examined on or after 16th May, 1961			
TREATMENT (but not Dentures)			
£1 10s. or the full cost if less than £1 10s.			
There is no charge for an examination, the arrest of bleeding or a domiciliary visit.			
EXEMPTIONS			
No charge is made to persons who at the date of dental examination are:—			
Children and young persons under 21.			
Expectant mothers.			
Mothers who have had a child during the preceding twelve months.			
DENTURES (including BRIDGES)			
	Charge	£	d.
1, 2 or 3 teeth	...	2	5
4-8 teeth	...	3	10
More than 8 teeth (maximum for one denture)	...	3	15
Additions to or relinings of dentures (including any other dental treatment)	...	1	0
MAXIMUM per course for more than one denture or for more than one denture with any other treatment	...	6	5
There is no charge for repairs to dentures or other dental appliances.			

The huge demand from patients wasn't matched by a rise in the number of dentists, despite the fact that the increased demand provided an opportunity to significantly enlarge a dentist's earnings. In the early years there were only 2 applicants for every 3 places at dental schools and the target of 20,000 dentists which was recommended in 1946 wasn't achieved until 1977. The number of dentists in the school service fell particularly. From 1958 dental hygienists were trained who could perform more basic treatments such as a scale and polish.

Confident that dental health would improve and fewer dentists would then be needed three dental schools were closed in the 1980s and 90s. However the need has not been reduced and in 2007 and 2008 two new dental schools opened. Today (2009) there are over 36,000 dentists in the UK, 40% of them women. Places at dental schools are oversubscribed, with more women graduating than men. At the same time newspapers suggest there is a continuing shortage of dentists - at least in the NHS.

Source B: Students at Guy's Dental School, London, 1947



When the NHS was introduced Britain still had very poor dental health although children's teeth had improved during the war. Regular surveys have been carried out since 1948 to monitor dental health.

Source C: Surveys of children's dental health

Percentage of children with teeth without any caries		
	5 year olds	12 year olds
1948	22%	19%
1958	13%	5%
1983	50%	19%
2003	57%	62%

Adult teeth were in just as bad a state - many did not have their own teeth. Knowledge of good oral health procedures was still limited. After World War II, when sugar was no longer rationed, its consumption rose to a peak in 1958 of nearly 50kg per person per year.

Source D: Oral history interview (ref MPG iii)

Listen to/read Daisy's experiences of NHS dentistry in the 1960s

The NHS led to a new system of providing dental treatment but it didn't bring improved techniques or equipment. Poor techniques sometimes led to unsightly teeth whilst inadequate local **anaesthetic** made visits unpleasant. The slow speed of the electric drills made cavity preparation for fillings difficult for the dentist and unpleasant for the patient. Some dentists were even known to use the Victorian treadle drill on occasions. The boiling water sterilisers didn't sterilise, there were no gloves and not every surgery had an x-ray machine.

Source E: Reconstructed dental surgery, 1950s: adjustable chair, unit with bracket table, electric lamp, cord driven electric motor drill, spittoon with running water, and an x-ray machine



Finally in 1957 a revolutionary high speed drill was introduced. It made cavity preparation for a filling much quicker and because it turned at over 250,000 rpm the patient was unable to feel the vibrations.

Dental care at home had been given a low priority and products weren't always suitable. In 1959 a revolution in this area began when fluoride toothpaste was first marketed in the UK. By 1980 96% of toothpaste in the UK contained fluoride.

Finally attitudes and habits began to change. The proportion of **dentate** adults who reported going to the dentist for regular check ups (instead of occasional check ups or just when they were in pain) rose from 43% in 1978 to 59% in 1998. By 1998 about 60% of adults said they would find it very upsetting if they had to have all their teeth removed and dentures. In 1978 64% of dentate adults cleaned their teeth at least twice a day; by 1998 this was 74%.

The demand for beautiful, not just healthy teeth, has developed as the public saw the image of the Hollywood film star in cinemas during and after World War II and then on TV. It appears that attitudes amongst some are that they are willing to return to the system pre-NHS and pay for their treatment. The proportion of people having private treatment has risen from 6% in 1988 to 18% in 1998.

School dental services changed in 1974 to look after a wider range of people e.g. those with disabilities and most no longer offer annual check-ups in schools.

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Surveys regularly investigate whether health inequalities amongst different social classes still exist.

Source F: Survey of children's dental health, 2003

Percentage of children with tooth decay		
	5 year olds	12 year olds
Deprived schools	60%	55%
Non-deprived schools	40%	42%

Questions and activities

- Using the data in **source C** draw a graph to show the percentages of children with healthy teeth. What has happened and why?
- Use **source A** and the NHS website to chart the relative costs of NHS dentistry to patients since 1948.
- Use **source A** and the NHS website to chart how priority classes have changed.
- Use **source F** to draw a bar graph illustrating decay in the teeth to children from different backgrounds. What does it show? Offer explanations for this.
- Is it easier to access a dentist today than in 1948? Consider availability of dentists, costs involved, whether access depends on the patient's status?
- List different factors that have affected dental health since 1948.
- "While the NHS might stand accused of failing to tackle inequality it is important to remember that, in absolute terms, members of society in general have a far better health state than at the inception of the service" S. Gelbier, BDJ, 1998. Debate or discuss this argument.
- "The reasons for the improvements seen are also due to factors outside of the care system" S. Gelbier, BDJ 1998. How far do you agree with this statement?

Glossary
Anaesthetic: for pain relief during treatment
Caries: holes in teeth
Dentate: with teeth (i.e. not a denture wearer)