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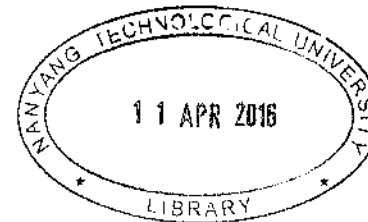
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In memory of Richard Hardy
General Practitioner, Casualty Surgeon
1921-1999

Medicine contributed in many ways to Britain's war effort and to her survival of the war, from the organisation of emergency medical care, through the development of food strategy in the later years of the war, to the elaboration of new treatments for burns and crush injuries. The war saw the implementation of new medical technologies, such as the Blood Transfusion Service, and the application of recently discovered drugs on an extensive scale, but it also revealed the dangers and drawbacks associated with the introduction of new medical techniques and treatments – dangers that were to become of increasing concern with the explosion of new therapeutic drugs and practices that followed the return of peace. The Second World War was, in many respects, a specialists' war, in terms of both actual warfare and civil defence. The medical specialists played a significant part in maintaining the nation's health and fitness between 1939 and 1945, but they also took every opportunity to use that experience for political ends in furthering the interests of their own disciplines.

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A GOLDEN AGE? 1945–2000

Introduction

The immediate postwar years saw a transformation in both the organisation of medical services and the competence of medicine to alleviate suffering and cure disease. At the heart of this 'therapeutic revolution' lay medicine's growing ability to relieve most patients of the minor ills that constitute a considerable part of the perception of 'health' and well-being. This was not just a British phenomenon. The immediate postwar years saw an acceleration of medical innovation in the developed world, especially in the United States, and the emergence of a culture in which new ideas and practices were swiftly diffused through medical and scientific communities. The success of the new NHS must be seen in the context of this therapeutic revolution, the continuing long-term decline of the old infectious diseases and the great social changes that followed on the war.

By 1960 the infectious diseases had virtually disappeared as a cause of death and of serious disablement. The plans for national regeneration formulated by Sir William Beveridge during the war years, which enshrined his conviction that 'the purpose of victory is to live in a better world than the old world', were being enacted even before the conflict was over. The 1944 Education Act delivered education free to all children between the ages of five and fifteen. The year 1945 saw the introduction of family allowances, and in that year government for the first time accepted the principle that every family should be able to live in a separate dwelling. Three million houses were built over the next decade, although, in the event, social change once again ensured that

demand continued to outstrip supply.¹ Once rationing was finally abandoned, in 1954, a much greater range and variety of food-stuffs and other consumer goods became available.

Social change, postwar prosperity and technological development transformed the daily routine of domestic life. By the late 1960s more than half of all British households owned a washing machine and a refrigerator, very nearly half owned a car, and nearly a quarter had central heating. By the early 1970s nearly every household owned a television; by 2000 a great many, not just among the wealthy, owned two or more. In the 1990s the household computer and the arrival of the Internet were promising further transformations. These and other social changes brought rising expectations and a rising standard of living, as well as establishing a much higher level of apparent health. They also led to a change in the way in which health care was delivered and in the public attitude towards orthodox medicine and its practitioners. For medicine the years 1945–80 were a period of innovation, excitement and the expectation of progress; in the last decades of the century, the rate of innovation slowed while public expectations, and financial pressure, generated a more critical approach to the delivery and practice of medicine, which qualified much of the earlier optimism of the profession.

A National Health Service

The establishment of the NHS in 1948 in theory made medical care available to the whole population of Britain, free at the point of delivery. The intention behind the NHS was from the beginning to provide an adequate health service for all, but from the beginning it failed to meet this objective. Despite a very great contribution to the welfare of individual patients, local and regional disparities and inequalities, as well as more general problems in the delivery of particular specialist services, remained. From the earliest days there was apparent a continuing tension between provision and financing that threatened to overwhelm the original ideals behind the service. Nor did the government's assumption of responsibility for the financing and organisation of

basic medical services imply any significant capital investment in the reorganisation, updating and equalisation of services. The old voluntary, municipal and specialist hospitals were taken over as they stood; the GPs, employed on new contracts of capitation, remained in their old surgeries with their existing equipment. The concept of an adequate, integrated system that had animated the plans for the NHS was in practice implemented on a take-over basis negotiated to accommodate various existing interests, notably those of the hospital consultants. From the moment it began operation, on 5 July 1948, the NHS was entangled in the difficulty of matching reality to the ideals of politicians, medical practitioners and patients.²

The new service was divided into three distinct component parts: the hospitals, managed by regional hospital boards (except for the teaching hospitals, which retained their local independence); primary care, as provided by GPs and dentists, who retained considerable independence in the management of their practices; and the auxiliary services, such as ambulances, maternal and infant welfare, and home helps, which were left in the hands of the local authorities. Besides being inimical to the concept of an integrated service, the division made for problems of communication between the three different sectors, as well as for local disparity in the nature and quality of services offered.

The principal innovation of the new system was the state-owned and state-funded hospital sector.³ As the wartime surveys had revealed, a great many of the provincial hospitals in particular were woefully dilapidated and old fashioned, both in their equipment and facilities, and in the range and type of services they offered. The distribution of the very hospitals themselves was uneven, still on the pattern established by eighteenth- and nineteenth-century philanthropic and municipal initiatives, reinforced by the financial realities of the country's regional economies. London, for example, was notoriously well provided with hospitals. The south of England and the Midlands were moderately well endowed, but in the north, east and west, especially in East Anglia and Wales, hospitals were mostly to be found in the cities, and the smaller towns and country areas were poorly served.

It was also often the case that institutions established many decades previously with no thought for meeting general demand had not attempted to accommodate increased local populations, while hospital building, as a philanthropic and municipal activity, had vanished with changing economic and cultural conditions. Nor were the financial circumstances of postwar governments favourable to major capital investment in hospital-building. It was not until the 1960s that government began to implement plans to modernise the hospitals, or to take steps to achieve a greater equality of provision between regions.⁴ The 1962 Hospital Plan envisaged a national network of District General Hospitals, which was to involve the building of ninety new hospitals, and the rebuilding of 134 more, over the next ten years. It was an over-ambitious programme in view of the financial problems encountered by local authorities involved in the undertaking, but some headway had been made before the oil crisis of 1973 again placed a large question mark over major demands for government capital investment and, more insidiously, over the energy costs incurred in the running of modern, open-plan hospitals.

In the primary care sector, too, the NHS inherited an uneven distribution of GPs nationwide, with a wide range of competencies and facilities among them. In the early 1950s it was estimated that 34 per cent of GPs were working from inadequate premises, and that about a quarter of all GPs were themselves unsatisfactory.⁵ For many practitioners, who had often had little opportunity to keep up with such developments as there had been in general medicine since they left medical school, practice consisted largely of handing out sickness certificates and prescriptions for unspecific medicines. The new availability of free care meant a rising demand for attention from a number of patients, putting family doctors under pressure. Surgery waiting times lengthened, and consultations were often reduced to a couple of minutes. Like the hospital sector, the GP service was in need of systematisation and modernisation. In 1952, however, the establishment of the Royal College of General Practitioners fulfilled a long-held practitioner ambition and heralded changes in medical education and in the organisation of practices, which conferred a new professional confidence and standing.⁶

The therapeutic revolution, meanwhile, contributed significantly to the doctors' confidence by giving them unprecedented means to alleviate and to cure, and a rising real income, especially after the negotiation of a new deal on GP pay in 1956, enhanced their sense of standing within the wider community. The concept of the family doctor, entrenched in the GPs' image of themselves and in the popular imagination, for a century, perhaps reached its apogee in these years, even while waiting and consultation times remained problematic. Many patients received a sub-standard service, and confidence at times turned to arrogance. Patients had been trained to possess a low expectation of their practitioners, but as general educational standards rose, and as the popular expectation of the capabilities of medicine itself changed under the impact of the therapeutic revolution, so standards of general practice became increasingly criticised. Charles Webster has noted this as the paradox of modern general practice, that on the one hand it is lauded as 'economical, humane and versatile', but that on the other it offers 'an inferior quality of service, delivered by practitioners of limited competence, whose deficiencies are disguised by the availability of hospital referral'.⁷

It was, nonetheless, through GP surgeries, and through the dentists and opticians associated with family doctors in the primary care sector, that the real benefits of the NHS and the therapeutic revolution reached ordinary people and improved the quality of their lives. For women in particular, for so many of whom conditions such as varicose veins and prolapsed wombs, untreated through poverty, had made life a misery, the service proved a special boon; among children minor ailments, such as ear infections, began to be treated before they did lasting damage; and for the elderly problems of eyesight and hearing became remediable, while new drug treatments offered relief from rheumatism and arthritis.

In the early years of the NHS, there was an enormous demand for false teeth and spectacles: in 1949–51, 7.5 million pairs of spectacles were supplied in England and Wales alone, and in 1950–51, 65.6 million artificial teeth.⁸ The alarming cost of these services led to the introduction of charges to help to cover the material costs of frames and dentures in 1951. Patient demand, together with the new availability of effective drugs, had, mean-

while, sent the cost of GP-prescribed drugs soaring: between 1949 and 1953 the cost of pharmaceutical services rose from £35 to £53 million.⁹ As a result the 1/- prescription charge was levied from 1952, although with exemption for a significant range of social groups, including children, pregnant women and old age pensioners. There is little evidence that the new charge deterred demand from either patients or doctors, and the cost of supplying drugs under the NHS continued to rise exponentially.¹⁰

The structure of medical provision under the NHS was organised to meet the general needs of the ordinary population rather than special needs of those for whom general provision was not sufficient. Shortcomings in health provision under the NHS can be argued for almost all social groups, but after 1950 they became increasingly evident in respect of particular minority groups, notably the elderly and the mentally ill, and the ethnic minorities, who entered Britain in increasing number from the 1960s.¹¹ Even before the advent of the NHS, the elderly were becoming a problem population for local government health services. Increasingly, small modern families with no more than two or three children, with a rising standard of living and rising expectations of quality of life, were reluctant to undertake the care of elderly relatives in their homes. Medical services for the elderly were generally depressing, and frequently inadequate, and between 1929 and 1948 an increasing number of frail elderly people spent the latter end of their lives in municipal hospitals. In the immediate aftermath of the war, this problem became increasingly acute as a result of the housing shortage. By 1948 local MOHs were worried about the prospects for these patients under the NHS, when hospital admissions policies would no longer be controlled by local interests and seemed likely to become more exclusively medical.¹²

Worries about the care of frail elderly people were compounded by demographic factors: the number of people aged over 65 had been rising steadily in Britain since 1900. At the turn of the century, 5 per cent of the population were aged over 65, by 1951 11 per cent. In 1991 the proportion reached 16 per cent, of whom more than a quarter were aged over 80. Yet the new health service failed to engage with this growing problem, and the prospect for action was disproportionately affected by the general financial stringency that engulfed the NHS.¹³

Two developments in social and medical thinking meanwhile offered a new possibility for resolving some of the problems surrounding the care of the elderly. The first was the concept of community care, which had evolved between the wars as a desirable way of looking after vulnerable social groups, through the provision of residential homes, short-stay accommodation and domiciliary after-care and support systems. The second was the new medical specialty of geriatrics, which emerged in the 1950s.¹⁴ Both offered the means of improving health and health care for many elderly persons, since it soon became apparent that specialist attention was often the key to resolving individual problems. More than sixty specialist geriatric units were established during the 1950s, but the rising population of elderly people, combined with the special needs of many of them meant that the cost of making such services in any degree widely available remained prohibitive. In the 1980s, however, the introduction of social security vouchers for residential care of the elderly led to a rapid expansion in the number of private residential homes, where elderly people could receive state-supported special care.¹⁵

Similar problems over funding and integration within the formal structure of provision arose over the care of the mentally ill. The Victorians had regularised the care of the mentally ill on an institutional basis, with the asylum and the specialist 'mad doctor', and institutionalisation had become the accepted method of dealing with this particular social problem. By 1948 there were some 200,000 patients in private and public mental institutions, with a further 150,000 thought to be receiving care of some kind within the community.¹⁶ At this period, when there seemed little hope of discovering effective treatment for mental illness, these special hospitals, like their general counterparts, were old-fashioned, over-stretched and under-funded, often suffering a serious shortage of nursing staff. In 1948 they were designated the responsibility of the Regional Hospital Boards, thus in theory being brought into a closer relationship with the general health services.

Integration into the NHS did not, however, bring improved conditions to the mental hospitals, which remained spartan, inhospitable and subject to periodic scandal and investigation. The health and welfare of patients maintained under their

regime was constantly open to question, yet social and financial pressure ensured that the institutions survived, and without significant remedial action. The concept of community care began to be extended to the mentally ill following the recommendations of the Royal Commission on Mental Illness of 1957, initially being envisaged to be provided by local community services under local authority supervision.¹⁷ As with the care of the elderly, many of whom had found their way into mental institutions before 1948, the implementation of such a programme was gradually subverted by financial considerations: by the 1980s community care had essentially been redefined to mean care provided by family and neighbours, supported by the health services.¹⁸ It was a redefinition facilitated by the availability of increasingly effective drug therapy, but by the 1990s it had become clear, following several tragic murders committed by mental patients released into the community, that clinical judgement continued to be an indispensable adjunct to the successful implementation of community care for the mentally ill.

In the effort to keep the overall cost of the health services within bounds, central government generally sought to delegate 'peripheral' health concerns – those which lay beyond conventional hospital medicine and which could not be adequately catered for by GPs – to local authorities, whose spending did not impinge on general taxation. 'Special needs' cases, for example, whether of individuals or social groups, fell into this category. Local authorities, however, also had budgets, and became increasingly subjected to central control in the effort to keep down the overall level of taxation: at local level there has been little spare money to develop specialised health care services.

When in the 1960s immigrants from Britain's former colonial possessions began to arrive in large numbers from the Caribbean, former African dependencies and the Indian sub-continent, it fell to the local authorities to cater for their medical problems. Often beginning their new lives in poor material conditions and frequently, especially for women, with little or no spoken English, these minority groups manifested patterns of health and illness different from those of the indigenous population and often from each other. They presented special problems of health provision and education as they adjusted to their new environments. Rickets,

for example, re-emerged as a problem among Asian children in the northern counties in the 1970s, while the IMR of the immigrant communities remained twice as high as that of the rest of the population into the 1990s.¹⁹ By 1991 minority groups constituted some 6 per cent of the population, but their special health needs were far from receiving consistent professional attention.

The implementation of the NHS therefore by no means resolved the problem of delivering adequate health care to Britain's people, although it did offer a considerable improvement over the combination of private and insurance medicine that had preceded it. How far the NHS in fact contributed to improving the country's health by accelerating the downward trend of mortality and reducing morbidity is a large question. The medical services offered under the 1948 Act were pre-eminently providers of treatment for existing illness rather than agents for preventing its development.

Between 1936–40 and 1976–80, the classic years of the implementation of the health service and of the therapeutic revolution, the average death-rate per thousand population fell from 12.5 to just under 12, a decline achieved through a slight fall in male mortality, the death-rate for women remaining steady at around 11.6 per thousand.²⁰ By the 1990s comparative international mortality statistics showed Britain to be lagging behind other developed countries in key health indicators such as infant mortality and heart disease, while comparative local death-rates revealed that the outcome of medical treatment offered for, for example, breast cancer varied significantly depending on the local presence of specialist facilities. The provision of free medical services was not, apparently, a critical factor in achieving a measurable improvement in the nation's health, nor did it encompass equality of provision between regions and social groups.

Beyond the NHS: Government Health Policies and Preventive Medicine

The concerns, techniques and organisation of public health and preventive medicine changed significantly in the twentieth century. As the major infectious diseases retreated, and as, in the

interwar period, local authorities became involved in the delivery of hospital and welfare services, so the emphasis on disease prevention decreased.²¹ In the 1950s, however, a new type of preventive ethos emerged with the development of the new medical specialty of statistical epidemiology in both England and America.²² By studying long-term trends in mortality statistics using new methodologies such as the prospective study of mortality rates for particular medical conditions within a selected population, epidemiologists were able to reach startling and novel conclusions about the causative factors involved in various diseases. (Such techniques are currently used to excess, often in population samples too small to offer a sound conclusion.)

The first such study to make an impact on public health thinking was published in 1950, coincidentally at much the same time as an American study reaching a similar conclusion. The English study had been commissioned by the MRC, who had become concerned by the rising level of lung cancer among British men. Various causative factors, including atmospheric pollution, had been proposed, but the investigations of Sir Austin Bradford Hill and Richard (later Sir Richard) Doll demonstrated conclusively that the rising mortality from this particular cancer was linked to cigarette smoking.²³

This was the beginning of a curious relationship between the science of epidemiology, government health policies and informal methods of health education, epidemiology providing information on which policies for the improvement of national health could be based, and government generally failing to take effective action. Successive governments proved reluctant to intervene directly where medicine demonstrated the risks or benefits of particular types of environmental action or social behaviour. In various disputed areas, where centrally directed action for prevention was a possibility – cigarette smoking, clean air, alcohol consumption, the fluoridation of water supplies and the national diet – financial and political considerations, vested interests and vocal pressure groups, and issues of personal freedom and administrative practicality proved more influential than considerations of health and mortality. In these postwar years health education, most often through reports in the popular press and admonitions to the individual to take responsi-

bility for his or her own health, replaced intervention as the standard political strategies for the promotion of preventive medicine. The proliferation of health-related pressure groups was one indication of a deepening public interest in issues of health and medicine.

The power of economic interests to influence health policy was demonstrated by one exception to the general inertia during the 1950s. Air pollution had been a significant environmental problem in Britain since at least Victorian times, being almost as obtrusive in the 1940s and 50s as it had been when Charles Dickens described the London particular in graphic detail.²⁴ By the 1870s heavy fogs were known to cause a sharp rise in the death-rate from respiratory disease, but Victorian attempts to curb air pollution resulted, in the words of Anthony Wohl, in little more than turning Britain's skies from gritty black to dull grey.

The 'massive discomfort' from smarting eyes, foul smells and closed windows, which Wohl assessed as possibly the greatest health consequence of air pollution, lingered well into the twentieth century.²⁵ In the 1920s it was calculated that 2.5 million tons of soot escaped into the atmosphere every year from domestic fires alone, and the yearly deposit of soot in urban areas could be as high as 650 tons per square mile.²⁶ Disastrous fogs continued to occur in London and elsewhere during the earlier twentieth century. In December 1952 London again fell victim to a five-day fog 'of catastrophic proportions', as a direct result of which some 4,000 people died. Persistent agitation by the National Smoke Abatement Society, public health men and the media followed, the Clean Air Act, which introduced smokeless zones and the control of domestic smoke emission, eventually being passed in 1956. Public pressure was, however, significantly underpinned by economic incentive: the productivity of the British coal industry had begun to decline in 1952, and political concern to conserve the national coal supply and the jobs of coal miners undoubtedly eased the path towards legislation.²⁷

If the effect of public pressure for cleaner air was perhaps not quite as influential as it might have appeared, the negative power of the pressure group was, in contrast, clearly demonstrated by the history of attempts to introduce the fluoridation of the water supply between the mid-1950s and the early 1980s. The effective-

ness of fluoride in the water supply as a preventive factor in tooth decay had first been noted in the United States in the 1930s.²⁸ Although scientific studies confirmed the benefit of the procedure as an inexpensive measure that promised a major saving on dental treatment (the cost of which was running at about £40 million a year in 1955), legal ambiguities and vociferous opposition by local pressure groups, notably in Conservative constituencies, deterred most health authorities from implementing the measure until government eventually regularised the legal situation with the Water (Fluoridisation) Act 1985.²⁹

Perhaps the clearest illustration of the negative influence of vested financial and political interests on government action on health issues lies in the case of smoking and tobacco. Hill and Doll, and the American researchers E. L. Wynder and E. A. Graham, published their first sets of independent results linking cigarette smoking and lung cancer in 1950. The epidemiological evidence of the link was widely accepted within the medical community, but, despite rising pressure from the profession, entrenched economic interests and political anxieties surrounding intervention with regard to an established popular habit served both to delay and to minimise government action. Cigarette smoking had become ubiquitous since the Great War, being vigorously promoted by advertisers as a liberated and sophisticated activity. The many and various interests involved in the consumption of tobacco inhibited government action. Cigarette advertising on television was not banned until February 1965, health warnings were added to advertising and cigarette packets only in 1971, and health education on the perils of smoking was delegated to the local authorities.

Meanwhile, the death-rate from lung cancer among men continued to rise inexorably until 1973, reaching at its peak a total of 26,000 deaths a year, and the death-rate among women also began to rise.³⁰ This was by any account a major epidemic of a chronic disease causing distressing and expensive illness and premature death: cigarette-related deaths, which also include many arising from coronary heart disease, were estimated to be costing the NHS £165 million a year in the mid-1980s. Behind the government's dilatory performance on public information and prevention, however, lay an annual revenue from tobacco tax of

£4 billion, thousands of jobs in associated industries, a healthy balance of payments, and important economic investment and political goodwill in developing countries where tobacco was grown.³¹ Substantive efforts at education were finally initiated in the 1970s following the formation in 1971 of the pressure group Action on Smoking and Health, these becoming by the 1980s increasingly, if partially, effective. Publicity for the effects of passive smoking added weight to the argument, and during the 1980s smoking in public places, offices, educational establishments, public transport and so on gradually became unacceptable to non-smokers. The death-rate from smoking-related diseases began to decline among men, although it continued to rise among women into the 1990s.³² At the turn of the century, however, government was still delaying the implementation of a full advertising ban on tobacco products.

Similar economic and political interests underpinned government inertia on other issues in which the health benefit was less clear cut, but in which health activists thought action desirable, such as alcohol consumption, the airborne lead level, food additives, pesticides and the encouragement of healthy eating. In all these areas, powerful economic interests, including commercial and government revenues, were in operation, as were such voter-sensitive issues as employment, the cost of living and personal liberty. Action proved easier to achieve where health issues could be related to the welfare of the wider environment, and where the area in question did not directly touch on individual choice. The regulation of pesticide composition, the introduction of lead-free petrol and the labelling of foodstuffs to indicate their content and additives had all been achieved by 1990. The question of inducing 'desired behaviour' with regard to the individual choice of food and drink proved more difficult, especially where government was reluctant to interfere with powerful and lucrative vested interests. Attempts originating with the medical profession from the later 1960s onwards to alert people to the danger of excess alcohol consumption, and to change the rising national trend of increased consumption, made little headway in a context in which government was not prepared to act.³³

Popular taste in food also proved somewhat intransigent in the face of medically endorsed efforts to improve public health by

improving the national diet. By the mid-1970s epidemiologists studying the causation of heart disease had concluded that the Western diet, with its heavy emphasis on saturated fat and sugar, together with smoking habit and a lack of exercise, was responsible for the continuing high level of heart disease. In 1976 the Department of Health and Social Security published the report *Prevention and Health: Everybody's Business*, which marked renewed government interest in the national diet and publicised the new medical thinking on heart disease.

Government, however, remained committed to the indirect route of health education as the means of achieving the desired end. This was to some extent effective: the 1980s saw an explosion of media interest in 'healthy eating', people began to eat less sugar, and there was a decline in the consumption of saturated fats such as butter and lard (although the overall level of fat consumption did not change). In general, however, food preferences were slow to change. Despite strenuous promotion by government and health professionals in the 1990s, health education initiatives designed to encourage the eating of less fat and more fruit and vegetables faltered over the obstacle of decided consumer preference. Although women, for example, showed themselves susceptible to dietary advice, they gave priority to family preferences in the food they bought and the meals they prepared.³⁴

The Therapeutic Revolution

The second half of the twentieth century was, for Britain as for other developed countries, a period in which medicine appeared to have achieved an astonishing victory over the ancient scourges of infection, and to be making equally astonishing strides towards the alleviation of a great many other pathological conditions. The virtual disappearance in the 1960s of death from the common infectious diseases such as measles, diphtheria and whooping cough produced a general confidence that lethal infections were a thing of the past. This confidence survived the 1970s, to be rudely shaken, for a time at least, by the emergence of the human immunodeficiency (HIV) viruses and acquired immune deficiency syndrome (AIDS) in the early 1980s. The failure of HIV to spread

as rapidly in the West as had initially been feared restored a measure of that previous confidence, however groundlessly, to the general public, although medical scientists and health organisations throughout the world continued to worry about HIV and also the possible global spread of other emerging infections such as the Marburg and Ebola viruses.³⁵ The period 1945–2000 effectively divides in 1980, with the realisation that new problems will always occur in medicine, and with a recognition that, despite years of research, there had been little real advance in prospects for patients with many serious diseases, most notably cancer, but also other conditions less frequently seen, such as muscular dystrophy, multiple sclerosis, Parkinson's disease and Alzheimer's disease.

Between 1945 and 1980, however, modern scientific biomedicine appeared to have come into its own. The horizons of therapy were greatly extended for general medicine and psychiatry by new drug treatment, and for surgery by developments in antibiotics, anaesthesia, immunology and technology. Medical research made possible revolutionary breakthroughs in the regulation of fertility and the management of the biological consequences of femininity, with far-reaching implications for individual women. The apparent miracle of two particular therapeutic innovations, the antibiotic and steroid drugs, which in Britain were delivered to the general population through the agency of the NHS, and which helped to alleviate a great range of acute and chronic conditions, contributed substantially to the perception of dramatic medical progress and a notable improvement in health in these years.

Yet the impact of the therapeutic revolution on health was variable, and medical observers in the 1990s were reticent about the extent of the improvement in general health since 1945.³⁶ Modern morbidity surveys repeatedly demonstrate a significant presence of 'ill-health', mortality statistics suggesting essentially the same story.³⁷ The substantial improvements in death-rate and life expectancy achieved in the first half of the twentieth century were not sustained at the same rate after 1945. The standardised death-rate fell from 16 to 12.5 per thousand between 1900 and 1936–40, but only fractionally after that.³⁸ Against this statistical pattern stands that of a radical alteration in the nature of life-threatening disease: death from infectious disease constituted 25 per cent of all deaths in 1900 but less than 1 per cent by 1990.

The apparent stagnation in the health level recorded in the statistics and the surveys suggests both the inevitability of occurrence of much minor illness and the inevitability of the diseases of ageing, and the importance, as well as the mutability, of individual perceptions of health. As with the provision of medical services under the NHS, the enormous extension in the competence of modern medicine to alleviate and cure has laid bare only the continuing nature of ill-health, both real and perceived. This does not mean that the new competence of medicine has not altered the experience and nature of ill-health, or that it has not achieved some notable successes over some of the health-related causes of human misery. The so-called therapeutic revolution was a very real one, beginning with the discovery of penicillin and continuing through a range of distinctive innovations that greatly extended the range of both medicine and surgery.

The discovery of penicillin, which was released for civilian use in Britain in 1945, marked the beginning of a new era of pharmaceutical research in which international drug companies competed in an extensive search among natural and chemical compounds for new drugs of use against disease. Penicillin was quickly followed by other antibiotics, such as streptomycin, the first drug effective against tuberculosis, and rapidly came to include whole new groups of drugs, such as the broad-spectrum antibiotics and cephalosporins.³⁹ The chemical structure of penicillin itself was established by Dorothy Hodgkin in 1945, and this led to the development of synthetic penicillins, many elaborated with a view to specific medical problems. While these drugs had an important impact on a number of serious infectious diseases, such as puerperal fever and bacterial meningitis, and led to the disappearance of such minor infectious inconveniences as impetigo, they were also important in the achievement of such major surgical innovations such as organ transplantation and heart surgery, and in the treatment of burns.⁴⁰

As with the sulphonamides, however, it was not long before drug resistance became a problem. The first penicillin-resistant strain of *staphylococcus aureus* (the most common cause of wound infections) was identified in 1942, and the first signs of resistance to streptomycin were noted in 1946. By 1948 nearly 60 per cent of the staphylococci isolated at Hammersmith Hospital in London

were penicillin resistant. After about 1950 the drug companies were engaged in a continuous struggle to maintain the crucial centrality of antibiotics in modern medical practice against the rapid evolution of drug-resistant bacteria. The problems of resistance were compounded by the tendency first of doctors to prescribe, and later of patients to demand, the prescription of antibiotics for a whole range of conditions against which they are useless (the common cold being the most notorious example), and by the extensive use of these drugs to support intensive modern industrial farming of animals for food. By the 1990s many scientists were predicting imminent defeat for the pharmaceutical effort to stay ahead of drug resistance.⁴¹

In the 1940s, however, the arrival of the antibiotics laid the foundations of confidence in the powers of modern medicine. Nonetheless, it was by no means clear in late 1940s and early 1950s that any kind of watershed in the history of the infectious diseases had been reached. Poliomyelitis is a disease that has almost been forgotten in Britain except by its survivors, but in the immediate postwar years it appeared as the most significant epidemic threat seen since the beginning of the century.⁴² Although the disease had caused repeated epidemics in America and Scandinavia since around 1900, the first serious outbreak occurred in Britain in the autumn of 1947. Further outbreaks followed in 1950, 1952 and 1957.

In the early 1950s polio looked like the new infectious scourge of the later twentieth century. The Americans had been working fruitlessly at the problem since 1910, but it was only in 1953 that Jonas Salk finally developed the first vaccine against the disease. Countered finally in the midst of the upsurge in new treatments and vaccines that followed the Second War, the experience of polio did little to dent the developing confidence of the new medicine. The polio vaccine joined those against diphtheria, tetanus, whooping cough, and the later additions of rubella, measles, mumps and eventually chicken pox, in what became a comprehensive protective package against the major childhood infections. In the 1960s the cycle of infection experienced by generations of children in the past, and with it the attendant miseries of fever and the possibility of damaging complications, was broken by mass immunisation programmes. While new

generations of parents subsequently proved susceptible to scares about the effects of these different vaccines, the overall contribution of childhood immunisation to safeguard the short- and longer-term health of children and the adults they became should not be underestimated.

The second great pharmacological discovery of the 1940s, the almost accidental realisation of the therapeutic powers of the naturally occurring hormone cortisone (a steroid), came about as a result of the interwar interest in hormonal deficiency. Elucidated by Philip Hench and Edward Kendall at the Mayo Clinic in New York State, cortisone was initially heralded as a miracle cure for rheumatoid arthritis. It quickly became apparent that the drug provoked such severe side effects that it was almost unusable in the treatment of arthritis, although it had its uses in stimulating pharmaceutical interest in developing more satisfactory treatments for that widespread, painful and demoralising condition.⁴³ There was, however, an unexpected corollary. Medical researchers and practitioners in the immediate postwar years continued to experiment widely with new drugs, and were willing to try out pharmaceutical innovations against a wide range of different conditions in the hope of extending their application.

At almost the same time as the rheumatologists reluctantly abandoned the use of cortisone, experimental applications revealed its usefulness against a wide range of other conditions from allergy (used externally and in small doses) to meningitis and multiple sclerosis. Within a short time the steroid group of drugs, to which cortisone belonged, had acquired a central role in modern therapeutics, and transformed the prospects for treatment of a whole range of conditions within the medical specialties of rheumatology, ophthalmology, gastroenterology, dermatology and renal and respiratory medicine. By the 1990s more than eighty separate disorders were known to be responsive to steroid therapy.⁴⁴ Far less hyped than the discovery of the antibiotics, the steroids were at least as important in extending the competence of modern medicine and enabling patients with a range of chronic conditions to live a more comfortable life.

The great transformation in the power of modern medicine with respect to physical illness was also extended into the underworld of mental illness by this postwar surge in pharmacological

research. Once again the initial breakthrough occurred in an almost accidental fashion, to be picked up and developed by the international drug companies on a commercial basis.

Progress in the treatment of mental illness had been slow in the years since the Great War. The adoption of techniques of Freudian psychoanalysis after 1918, although useful for patients depressed and unsettled by events in their own lives, offered little prospect of cure to those suffering extreme psychiatric illness. For the latter the outlook remained dreary: psychoanalysis for the well-to-do (in an era of private medicine, such treatment being expensive) and confinement for the poor. As the number confined in mental hospitals continued to swell in the 1920s and 30s, asylum doctors experimented with a number of dramatic and unpleasant treatments in the search for a measure of therapeutic success. Such treatments included the use of insulin to obtain a deep coma, barbiturate-induced deep sleep, electro-convulsive therapy, and psychosurgical techniques such as lobotomy and leucotomy.⁴⁵ These treatments did not always secure patients any significant improvement in their condition, and the nature of many were such as to induce further acute mental and physical misery. They remain controversial to this day.

In the early 1920s research into the chemistry of the brain resulted in the isolation of the first neurotransmitter, the chemical acetylcholine, which mediates the transmission of nerve impulses. This discovery turned the attention of psychiatrists to the potential of pharmaceutical intervention, and widespread experimentation with drug treatment for mental illness followed, with little initial success. In fact the breakthrough to reach drugs that influenced the chemistry of the brain occurred only after the Second World War, and was as fortuitous as the other major breakthroughs for innovative drug therapies had been.

A French naval surgeon, Henri Laborit, had been studying the treatment of shock using the antihistamine promethazine. He noted that the administration of the drug produced a 'euphoric quietude' in his patients, and persuaded psychiatric colleagues at the Val-de-Grâce military hospital that it might be worth trying in the management of restless psychiatric cases. Over a period of weeks, the drug worked a spectacular improvement in the condition of a manic patient. Follow-up research

under the auspices of the drug company Rhône-Poulenc resulted in the discovery of chlorpromazine, a drug with a dramatic effect on hitherto incurable schizophrenic patients.⁴⁶ It was a discovery that opened the way for the mass screening of chemical compounds characteristic of drug companies anxious to improve their profit, and led to the production of a range of drugs suitable for use across the whole spectrum of psychiatric illness. It was a development that significantly underpinned the British movement towards implementing community care schemes for the mentally ill after 1970.

The appearance of drugs for use in psychiatric medicine had an effect that reached far beyond the walls of the mental hospitals. In particular, the introduction of tranquillisers in the 1950s opened up a whole new dimension of popular, patient-driven illness as the threshold of tolerance towards stress and sadness plummeted with the prospect of instant relief in a tablet.⁴⁷ Valium, first marketed in 1963, became the single most successful drug in pharmaceutical history until it was in the 1990s supplanted by Prozac, thought to be effective for mood disorders in general and depression in particular. While the new psychopharmacology undoubtedly offered real relief to many thousands of people who suffered from many problems of sadness and desperation, there is little doubt that it also vastly increased the number of people more or less dependent on medication who considered themselves to be, in one sense or another, unwell or at least not attaining a 'normal' degree of mental well-being.

The major innovations in medical treatment represented by the antibiotics, steroids and psychiatric drugs was complemented by a great extension in the number and effectiveness of other drug treatments in the years after 1950. Hypertension, asthma, peptic ulcers and Parkinson's disease were among the many conditions for which new and more effective treatments were found.⁴⁸ The growth in therapeutic competence initiated by the drug revolution in medicine was paralleled by a similar expansion in the surgeon's ability to correct, reconstruct and repair the body. In 1939 it had been thought that surgery had reached the limits of the possible, but the introduction of the antibiotics, of new anaesthetics and of the immunosuppressive drugs, together with tech-

nical innovations such as renal dialysis and the heart–lung machine, allowed surgeons to develop expertise in types of operation that had previously existed in the realms of fantasy.

Classic examples of such new operations include organ transplantation and open heart surgery. By the 1990s these had become commonplace, but the path by which these operations achieved the routine was far from smooth. For both patients and their families, as well as for the surgeons, there were many tragedies in the early stages of their elaboration. Open heart procedures were initially developed by paediatric surgeons, who were faced with the immediate family tragedy of babies born with congenital heart defects. Because the life expectation of so many of these infants was very limited, and because their hearts were so small, it was both ethically and technically easier to practise experimental surgery on them than on adult heart patients. The critical breakthrough to routine success came with the development of an effective heart–lung machine, which supported the patient's breathing and blood flow during the operation. By the 1960s surgeons were able to repair all operable heart defects in children. In the 1970s they moved on to explore the possibilities of replacing diseased heart valves in adults. The medical challenge that this development presented should not be underestimated – James Le Fanu has called these operations 'staggeringly difficult' – but by the 1990s the heart bypass operation had become a routine slot in the surgeon's diary.⁴⁹

Medical concern at the pitiful wastage of young lives was also central to the development of organ transplantation. As with blood transfusion, organ transplant had been attempted in animals without success by a number of experimentalists since the seventeenth century. The fundamental problem with transplantation was that of rejection: the patient's immune system recognises and repels tissue originating in other bodies.⁵⁰ Yet for some conditions, replacement seemed the only ultimate solution. This was especially true of patients with defective kidneys, often young people in their teens and early twenties who were condemned to a painful, lingering death with their lives still before them.

Although renal dialysis had been possible since 1943, it was rarely used, it then being considered unethical to prolong the lives of patients with chronic disease, for whom it could only delay

inevitable death.⁵¹ It was, in any case, a trying procedure and an especially wearisome prospect for otherwise healthy young patients whose only problem was their defective kidney function. Technically, the replacement operation was possible in the 1950s, the first successful transplant being carried out between identical twins in 1953. Subsequent operations between siblings, and even between twins, nonetheless continued to show a high failure rate, and it was only with the discovery of the right combination of immunosuppressive drugs that the kidney transplant became a surgical reality.⁵² It was not until 1963 that the use of the drug azathioprine in combination with steroids was shown to be the key to preventing rejection. The subsequent introduction of cyclosporin in the late 1970s reduced the need for steroids and placed the whole science of immunosuppression on a firmer basis. By this time dialysis had been accepted in the treatment of kidney patients, and the two treatments together offered a considerably better prospect for those afflicted with renal disease.⁵³

Once the problem of rejection in kidney transplantation had been successfully resolved, surgeons quickly moved on to attempt other types of transplant. Within four years of the mastering of the technique of immunosuppression, the South African surgeon Christian Barnard performed the first heart transplant, to the accompaniment of worldwide publicity. It was an operation that had a disastrous early history. Barnard's first patient died within days, but the incentive had been given to surgeons the world over to try the operation on selected patients. Within a year fatalities among transplant patients had reached such a level that the operation was abandoned for a time; yet surgeons are persistent, and by the 1980s they had achieved a survival rate in the region of 80 per cent. Although heart transplant operations remain a technique of last resort, there were by the 1990s many hundreds of patients whose lives had been prolonged for many years in a condition of much greater comfort and fitness than they could have hoped to achieve before 1970.

Less emotive in its appeal than organ transplantation, but at least as important to a great many older patients, was the development of techniques to replace osteoarthritic or worn-out joints such as hips, fingers and knees. Hip replacements were pioneered by the Manchester surgeon John Charnley in the early 1960s, initi-

ating a series of procedures that transformed the lives of many elderly patients, restoring them to an active and pain-free life. Physical activity and enjoyment of life by the elderly could also be seriously curtailed by impaired vision, and the introduction of techniques of corneal replacement using a plastic lens as a substitute for the natural cornea obscured by cataracts was another liberating medical contribution to the welfare of the elderly.⁵⁴

By the 1970s the ability of medicine to alter and to repair the body, together with rising standards of living and expectations of life among ordinary people, and growing media interest in medicine and personal health, was beginning to foster a new approach to medical treatment. This is the so-called 'lifestyle medicine', in which medical intervention is required less for the resolution of the causes of ill-health than to confer a perceived improvement on the quality of patients' everyday lives. Such medicine is essentially social in its intentions, often accommodating patients' own perceptions of the improvements needed in their lives. Many such interventions were originally designed to meet specific medical needs within a social context, but they have had their application extended by popular demand for the enhancement of life. Recent examples include Prozac and the anti-impotence drug Viagra (1998).

The original lifestyle drug was perhaps the oral contraceptive pill, developed in the 1950s by the American endocrinologist Gregory Pincus, with the support of leading American birth control reformer Margaret Sanger. Although it did not, as has sometimes been suggested, inaugurate the modern revolution in sexual behaviour, the pill did initiate a change in the doctor-patient relationship that subsequently extended across the spectrum of medical practice. Whereas in the past patients had waited for the doctor's diagnosis and prescription, the advent of the pill encouraged women to identify their own medical problem (fertility) and to ask their medical practitioner to prescribe a specific treatment.⁵⁵ While the pill undoubtedly contributed to the health of those women whose health had been, or was imminently about to be, undermined by too-frequent pregnancies, it also freed many more women to enjoy sexual activity outside the bounds of marriage.

Despite periodic scares about health problems associated with using the pill, oral contraception quickly became the most popular method of birth control in Britain. By the mid-1970s, when free family planning services were made available, it was used by 58 per cent of married couples in England and Wales, and by an estimated 2.25 million women, both married and unmarried.⁵⁶ Despite the scares, the health risk associated with the pill appeared to be very small indeed, while its health benefit for many women lay not only in the avoidance of unwanted and debilitating pregnancies, but also in a monthly reduction of the physical discomforts of menstruation.

The introduction of the oral contraceptive did not, however, put an end to abortion, that ancient and controversial method of avoiding an unwanted pregnancy. In the nineteenth century, the medical profession had acted to tighten the legal control on abortion, but in the twentieth century doctors began gradually to extend the application of the law as they recognised that there were mental and well as physical justifications for the operation. In the years after 1950, as the social pressure for abortion in certain circumstances began to be recognised, reform of the restrictive abortion laws began to be considered. The issue became increasingly contentious, as the women's rights movement adopted the cause of reform, and anti-abortion pressure groups took action to resist it. The medical profession, however, was anxious to retain control over the performance of the operation and proved influential in effecting both the passage and the scope of the revised law. The Abortion Act 1967 legalised therapeutic abortion and extended possible justifications to include social considerations such as existing family circumstances and the possibility that the child might be seriously handicapped.⁵⁷

While the medical prescription of oral contraception and the medical supervision of abortion both had implications for women's health as regards childbirth, which been a medical concern since at least the eighteenth century, it was only in the 1960s that medicine began to enter the related field of infertility. Here again the identification of infertility as a medical problem, and role of infertile couples in their own diagnosis and their requirements of the doctor, formed part of the shift towards lifestyle medicine so clearly demonstrated by the

demand for the oral contraceptive pill. Fertility drugs to stimulate ovulation were introduced in the 1960s, but they proved a mixed blessing in their tendency to induce multiple pregnancies. In the wake of the women's rights movement and of changing popular expectations of medicine, infertility became a major social issue in that decade.⁵⁸

The identification of infertility as a medical condition and as a health and lifestyle issue encouraged researchers to investigate the various types of infertility and to explore methods of overcoming them. By 1977 Patrick Steptoe and Bob Edwards had developed a technique enabling them to fertilise human eggs in vitro before returning a fertilised single egg to the mother's womb. In July 1978 the first baby conceived as a result of this process, Louise Brown, was born. Steptoe and Edwards' technique proved applicable to several other types of infertility, and by the 1990s, although the problem of infertility was by no means totally resolved, many thousands of couples had been relieved of the sadness of childlessness through specific medical interventions.⁵⁹

Medicine also produced an improvement in quality of life for women at the end of their reproductive lives. For a great number of women the menopause is a time of both physical and mental suffering, and the introduction of long-term hormone replacement therapy in the 1980s was greeted by many with relief. Besides modifying the symptoms of menopause, hormone replacement therapy was reported by many users to restore libido, and was considered to have medical benefits in reducing the risk of osteoporosis and heart disease – benefits that were thought to outweigh an increased incidence of breast cancer and thrombosis. By the early 1990s around a tenth of women in the relevant age group were using the therapy, and among women doctors the proportion was closer to half.⁶⁰

Despite the great improvements, even transformations, that medicine wrought in the lives of patients with many different conditions and diseases, the diseases of ageing remained a generally problematic area, continuing to elude the best efforts at their resolution. Mental frailty, osteoporosis, arthritis, heart disease, cancer and others remained largely resistant to successful long-term treatment. With the growing number of elderly people,

cancer became an increasingly high-profile disease, generating its own specialist consultants, specialist epidemiologists, charities and support networks. The number of cancer deaths continued to increase, even among children, reaching a total of over 100,000 a year for the first time in 1962.

Technological advance in the years immediately after the war resulted in the replacement of radium therapy by more sophisticated mechanical interventions, radiotherapy becoming integrated into treatment regimes throughout the hospital system. Chemotherapy became available with the development of new drugs, while screening programmes were put in place for two of the most preventable female cancers, those of the breast and cervix, in 1963 and 1965 respectively.⁶¹ Yet while successful treatments were discovered for certain cancers, such as Hodgkin's disease and acute lymphoblastic leukaemia, these were generally among the rarer forms of the disease.⁶² Advances in the treatment of childhood leukaemia were heartening, but for the most common adult cancers, those of lung, bowel, breast and cervix, the prospect remained at best moderate, early detection offering the best hope of cure. Into the 1990s treatment for disseminated cancer continued to be a question of management and control. At the end of the century, the annual death toll from all cancer had reached 150,000, and 200,000 new cases were yearly coming forward for treatment.⁶³

The rising toll of deaths from cancer continued a trend apparent since the late nineteenth century but was a constant feature in a changing picture. As patients began to develop a more demanding approach to medical treatment, and as the pace of medical innovation increased and the standard of living rose, so the kinds of illness being brought before medical practitioners changed. A recent comparison by Irvine Loudon and Mark Drury of the disorders that have become more and less common in general practice between 1950 and the mid-1990s reveals how the balance has changed from a past in which physical ailments dominated the spectrum of health concerns to a present in which socially generated disorders and conditions previously rarely recognised contribute a more considerable share than specifically 'new' diseases such as AIDS and Legionnaire's disease. For the 1990s Loudon and Drury's list of the

more common conditions includes, as well as various cancers, child abuse, autism, dyslexia and drug abuse; bulimia and anorexia nervosa; obesity; suicide in young males; infertility in women; and teenage pregnancy. In contrast the diseases that have become less common have a large infectious, congenital or environmental component: tuberculosis and the common infections of childhood; minor infections such as impetigo, ringworm and scabies; spina bifida and hydrocephalus; stillbirth; chronic bronchitis, bronchiectasis and childhood anaemia. The list of diseases less common because of such medical interventions as immunisation, the screening of target populations, therapy and improved clinical care is considerable and impressive.⁶⁴

Despite the very real achievement of modern medicine in improving health by removing many of the older afflictions, the range of disorders for which medical assistance was sought increased. With the decline in the acute infectious diseases and growing public attention to matters of health, the failures and shortcomings of medicine became more apparent, acting as a source of tension between patients and the profession.⁶⁵ Following reports that linked the combined measles, mumps and rubella vaccine with autism in a very small number of cases, for example, parents began in the late 1990s to demand single-shot, or measles/mumps vaccine only for their children, to the consternation of the British medical profession.

In this decade also, new developments in medical science promised the genetic modification of individuals as a remedy for many diseases, but the initial application of similar methods to improve the quality and yield of food crops was met with suspicion and hostility by consumer groups. Public sensitivity towards foodstuffs had undoubtedly been heightened by the long-running crisis over the epidemic of bovine spongiform encephalopathy in Britain's cattle herds, but the outcry over genetically modified foodstuffs was characteristic of the newly critical public attitude towards medical and scientific innovation.⁶⁶ By the 1990s popular perceptions of risk and responsibility had shifted significantly away from unquestioning trust in the doctor's prescription and from an uncritical acceptance of scientific innovation.

Reaction

The rapid intensification of the search for new therapies in the years after 1945 created problems as well as bringing benefits, although societies across the world were slow to accept that this could be the case. Before the Second World War, Western medicine was subjected to very little in the way of control over its research activities and therapeutic practices. In Britain the Cruelty to Animals Act of 1876 imposed certain limitations on the use of animals in medical research, and the General Medical Council had existed since 1858 to supervise the social and ethical behaviour of registered medical practitioners, but the development, testing and introduction of new treatments and drug therapies remained essentially in the hands of the researchers and practitioners themselves.⁶⁷ The situation began to change in the 1940s, when Austin Bradford Hill, professor of medical statistics and epidemiology at the London School of Hygiene and Tropical Medicine, pioneered the randomised controlled clinical trial, after which the statistical evaluation of the risks and benefits of treatment began to permeate clinical as well as epidemiological practice.⁶⁸

The need for probity and rigour in the testing of new treatments especially in the field of pharmaceuticals, became urgent with the rapid expansion of the chemical exploration of new drugs by the pharmaceutical industry after 1945. The inadequacy of most national medical systems was tragically demonstrated in the years around 1960. Between 1956, when the drug thalidomide was released in Germany, and 1961, when it was withdrawn, thousands of babies were born with more or less severe physical malformations of the hands, limbs and oesophagus. Sold over the counter in Germany (on prescription in Britain) as a general tranquilliser and morning sickness preventive, the drug had not been subjected to sufficiently rigorous trials, the omission of its effects in pregnant animals being a key failing.⁶⁹ As a result, most Western nations introduced controls over the introduction of new drugs.

In Britain the process followed the characteristic pattern of adoptive legislation, with subsequent more stringent controls stemming from the old political reluctance to interfere with

private enterprise and the free market. A supervisory body, the Committee on the Safety of Drugs, chaired by Sir Derrick Dunlop, was set up in 1962, but the drug companies' submissions were to be made voluntarily. The Dunlop Committee implemented a three-stage assessment through laboratory toxicity trials, clinical trials and surveillance. The latter was supplemented by the yellow card system, under which doctors were supplied with forms for reporting adverse drug reactions, but practitioner feedback proved unreliable. As was almost inevitable, the arrangement for voluntary drug submission proved unsatisfactory as the pressures of commerce and competition remained, especially for the smaller companies.

In 1968 the Medicines Act extended external control over the industry, but in practice close co-operation between the drug companies and regulators, the frequent interchange of personnel between regulator and industry, and government reluctance to damage the industry's profitability allowed considerable leeway within the regulatory system. Drug-testing through full-scale clinical trials proved an expensive procedure and was not always effective in predicting side effects that became apparent with long-term clinical use. In 1981 the Conservative government introduced a scheme under which companies could be exempted from the full programme of controlled clinical trials required by law, which effectively reduced the extent of safety regulation within the industry.⁷⁰ The intention was to establish an early warning system that would enable government to issue warnings or to withdraw drugs from the market if necessary, thus maintaining the principle that even if drugs do not positively contribute to health, they should at least not harm the patient.⁷¹

The thalidomide tragedy was one among a number of factors that helped to shape a more critical public attitude towards medicine and medical practitioners during the 1960s. Postwar social change, with the great expansion in the number of the middle classes and the relatively well educated, the emergence of environmental awareness, and mass means of communication (especially, perhaps, television) all contributed to the development of a society increasingly able and willing to question and criticise established institutions and long-accepted standards. Thalidomide, and the long struggle for compensation on the part of the

affected British families, which was not resolved until 1973, seemed to demonstrate that the good faith of governments and commercial companies could not be depended on.⁷² The proliferation of popular pressure groups and self-help groups from the 1960s onwards helped to raise public awareness of single, separate medical issues, and reinforced a growing impression of the inadequacy of organised medicine to meet all medical needs. At the same time, new voices began to criticise the achievements and attitudes of modern medicine.

In 1961 Thomas Szasz put forward the idea that mental illness was 'manufactured' by psychiatrists and (sometimes) the state, and by the 1970s Archie Cochrane had questioned the effectiveness of most therapeutic interventions, with Thomas McKeown arguing that an improving standard of living rather than medical innovation had initiated the great decline in the death-rate since 1870.⁷³ There was increasing criticism of the medical profession for its assumption of authority over patients: in 1971 an American organisation, the Boston Women's Health Collective, published *Our Bodies Our Selves*, which emphasised the importance to women of an informed response on issues concerning their own personal well-being. In 1976 Ivan Illich argued more broadly that modern medicine made people ill, and in 1981 Ian Kennedy's *Reith Lectures* condemned modern medicine for its exclusive focus on the disease process rather than the needs of the patient. Indeed, Kennedy went so far as to recommend that patients take greater responsibility for their own health, to the extent of questioning the power exercised by doctors.⁷⁴

Such criticism helped to change the public attitude towards the modern practice of medicine, as it was filtered through to the general population by television and the popular press. Already in 1972, for example, a BBC documentary on the history of Charing Cross Hospital, London, ended by contrasting the humanity of the interwar hospital, where little could be done to cure the disease but the consolation and comfort of the patient was a priority, with the isolating experience of treatment in the modern high-technology hospital.⁷⁵ A sharp reminder of the power of television to shape public opinion came in October 1980, when *Panorama* broadcast a programme on brain death, highlighting the cases of four individuals declared brain dead by

American physicians, who later recovered. The removal, with donors' or relatives' consent, of organs from those deemed brain dead for transplant purposes had by this time become a not unusual procedure, and public consternation at the *Panorama* programme was reflected in a two-year stagnation in transplantation number.⁷⁶

The effect of social and intellectual developments on the public attitude towards modern medicine and the medical profession itself was complex. On the one hand, people generally became much more sensitive towards their own health and more demanding of the health services: in 1987 it was calculated that public expectations of the NHS were rising at 5 per cent a year, because of, among other things, an awareness of what could be provided, advances in medical treatment and a reduced tolerance of discomfort.⁷⁷ On the other hand, the public also began to take more independent action in preserving its own health. Membership of the Vegetarian Society soared from the later 1970s, and in the 1980s attendance at swimming pools and gymnasia significantly increased. Non-smoking became an issue in restaurants and public places. The later 1980s and the 1990s were beset by continuing crises over the epidemic of bovine spongiform encephalopathy among British cattle, and public anxiety about the possible transmission of the disease to consumers. In the 1990s supermarkets began stocking organic produce, and the year 1999 was distinguished by a public outcry against the introduction of genetically modified foods. In the meantime, non-orthodox medicine became increasingly popular. By 1981 GPs had been outnumbered by alternative therapists in Britain, and in the 1990s several of the more prominent alternative therapies, such as homeopathy and chiropractic, were brought within the provisions of the NHS.⁷⁸

By the end of the twentieth century, public confidence in the altruism of doctors and the competence of modern medicine was beginning to fragment. While government attempts to control spending on health were generally blamed for deteriorating facilities and services within the NHS, the periodic uncovering of scientific shortcomings in services, for example, repeated local breakdowns in the cervical cancer screening programme, helped to undermine general confidence in the judgement of doctors

and medical scientists. In 1998 publicity surrounding the high failure rate of heart operations at the Bristol Children's Hospital led to the suspension of three surgeons and the call for tougher control over medical practice. In the following year similar accusations (subsequently unproven) of medical negligence against child heart patients were levelled at the country's premier centre for cardiac surgery, the Brompton Hospital. In that year also, legal sanction was sought for parents to over-rule doctors' decisions on the treatment of severely handicapped and terminally ill children.

It was increasingly apparent that, especially where children were involved, the professional authority of medicine no longer went unquestioned by families concerned in the treatment of one of their number. It was a development that raised the level of stress and anxiety within the medical profession itself. Although the situation had by no means reached the extreme then current in the United States, where the likelihood of a successful outcome of a medical procedure had become almost a determining factor in whether it was undertaken, British medical practice in the 1990s was increasingly aware of the threat of litigation for clinical negligence.

The growing public unease over real or perceived shortcomings in medical treatment, organisation and preventive services within the NHS occurred alongside a rising concern among health professionals from the later 1970s over continuing inequality in health between different regions of the country and different social classes. Comparative international health statistics showed that, in key indicators such as infant death and heart disease, British mortality rates had not improved as fast as those of other wealthy Western societies. In 1977 the Secretary of State for Social Services appointed a Research Working Group under Sir Douglas Black to investigate inequalities in health across the country.

Published amid heated political controversy in 1980, the Black Report demonstrated the existence of a significant class-related disparity in health, the poorest (social class V) suffering a death-rate twice as high as the wealthiest (social class I). It was a pattern that held good for a wide range of medical conditions, from obesity through arthritis to accidents. The group could only explain these differences as being the result of poverty and material deprivation. They called for a comprehensive strategy to

eliminate poverty, a radical redistribution of resources to include measures aimed at reforming the lifestyle and living conditions of the poor, as well as the provision of medical services, and for these measures to be targeted particularly at children.⁷⁹ The government, however, balked at the perceived expense of implementing such a programme, despite reinforcement of the Black Report findings on health and social class by a second investigation, Margaret Whitehead's *The Health Divide*, published in 1987. The emphasis of general government policy on health continued to be on individual responsibility and on a change in lifestyle to fit the emergent model of healthy living: the consumption of plenty of fresh fruit and vegetables, no smoking, little or no alcohol and regular exercise.

The achievement of a common level of health for all became an issue not only in Britain, but also in the world community in the late 1970s. In 1978 the World Health Organization declared its aim of *Health For All by the Year 2000*, a programme based on the social relations of health rather than on medical intervention, on housing, education and health promotion rather than on the provision of medical services. In the years that followed, several countries, including the United States, began to publish health strategies of their own, based on the World Health Organization blueprint. It was not until 1992, however, that Britain's Conservative government (in power since 1979) produced its own such document, the White Paper *The Health of the Nation*. It adopted an individual approach, framing strategy in terms of specific problems rather than in terms of broad social improvement. Key areas for action were identified as coronary heart disease and stroke, cancer, HIV/AIDS and sexual health, mental illness and accidents. The desired results were set in line with existing trends, a decision that blurred any obvious impact of subsequent government action.⁸⁰ Interested researchers, meanwhile, were beginning to develop more radical and democratic solutions, for example that better health is directly related to the degree of equality and social cohesion present within a given society.⁸¹

When the Labour Party came to power in 1997, the issue of inequality in health assumed a more prominent place in government pronouncements on future health policy, in line with the party's long-standing commitment to social equality and an

improvement in living standards for working people and the poor. In July 1999 the then Health Secretary, Frank Dobson, announced a £96 million plan for reducing the number of deaths from heart disease, cancer, suicide and accidents, with a view to saving 300,000 lives over ten years. Following the example of the Black Report and *The Health Divide*, Dobson's White Paper, *Saving Lives*, again stressed that the poorest social groups had a life expectancy five years less than that of the well-to-do, and that they were more likely to die from heart disease and cancer. Twenty-six Health Action Zones were to be established in the country's poorest areas, offering such socially based strategies as first aid training for 11–16-year-olds, and 'Expert Patients' programmes to help people to manage their own illnesses. A few weeks later, the BMA published a report of its own, which argued that the children of Britain's poor were among the unhealthiest in the developed world and were destined to become illness-prone adults.⁸²

Conclusion

At the turn of the twentieth century, British medical and social observers were agreed that, despite the achievements of modern medicine, and despite fifty years of largely free medical provision, the health of the nation's poorest classes remained unsatisfactory. One survey published in 1998 emphasised the continuing relevance of the old mortality and morbidity division along the north/south divide and the urban/rural axis. Twenty-seven British communities were identified as having a 'high and rising' mortality ratio, of which twenty were urban, including Oldham, Salford, Manchester, Liverpool and Edinburgh. Five London boroughs, with Hackney in the lead, and the rural counties of Stirling, Durham (a former mining county) and Perth, also featured in the list. The authors noted an increasing polarisation of death-rate by area in Britain, an inequality of mortality so striking that 'if the Registrar General of 1851 were to repeat the study of mortality carried out then, he would no doubt be shocked by the extent, persistence and widening of the basic divided British society'.⁸³ Despite the 1978 World Health Organization declaration, Britain had not achieved health for all by the

year 2000. Yet in general health and life expectancy had improved significantly since 1945, partly as a result of social change and partly as a result of the contributions of biomedicine. Definitions of both health and poverty had themselves changed since the Second World War with the general rise in expectations and in the standard of living. While these changing cultural standards and expectations altered the concept of health itself over time, the statistical accounts provided a continuing reminder of the very real ways in which health and life expectancy had improved since 1860.