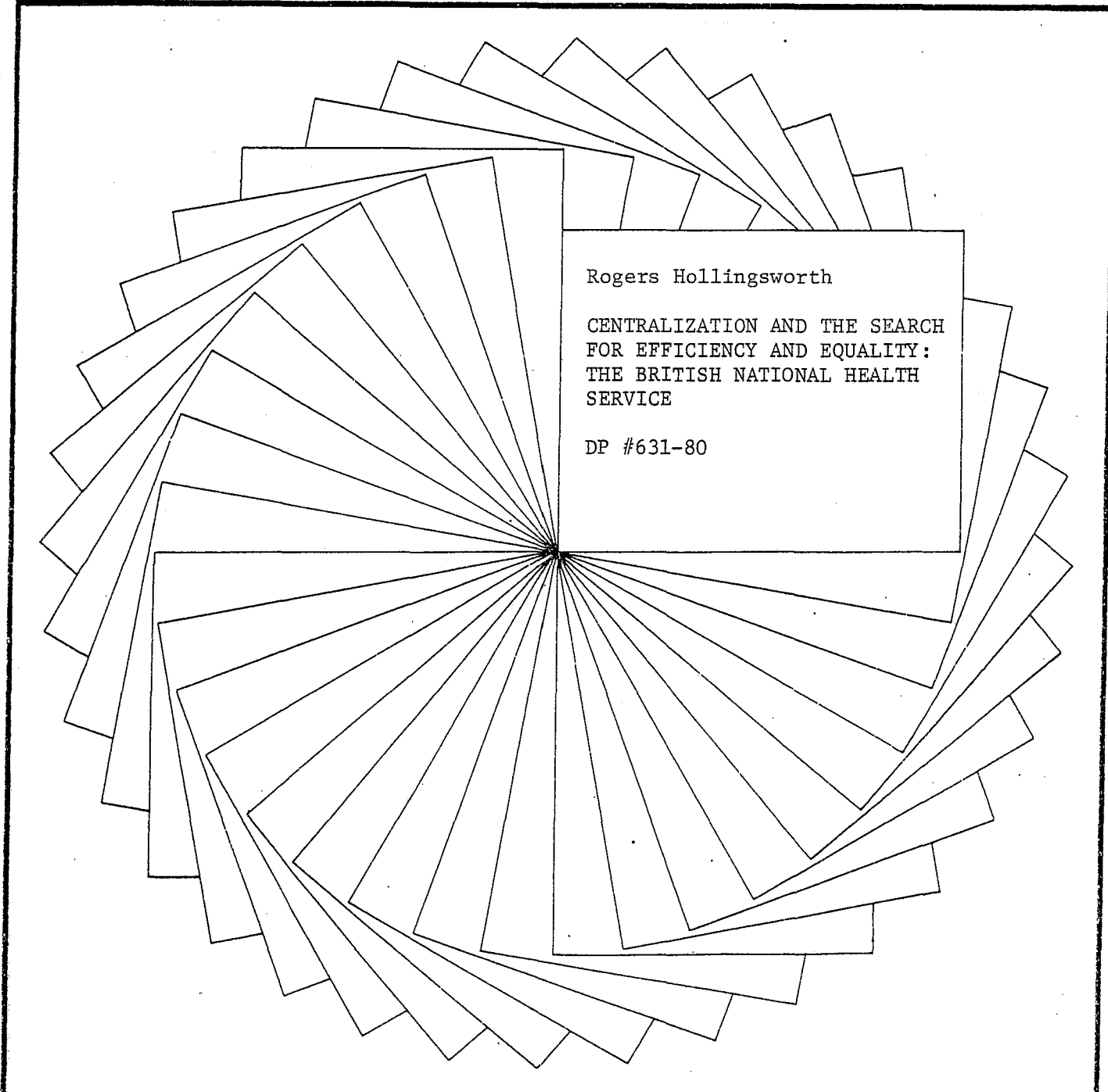




# Institute for Research on Poverty

## Discussion Papers



Rogers Hollingsworth

CENTRALIZATION AND THE SEARCH  
FOR EFFICIENCY AND EQUALITY:  
THE BRITISH NATIONAL HEALTH  
SERVICE

DP #631-80

Centralization and the Search for Efficiency and Equality:

The British National Health Service

Rogers Hollingsworth

September, 1980

This research was supported in part by funds granted to the Institute for Research on Poverty by the Department of Health and Human Services pursuant to the Economic Act of 1964. The author also wishes to acknowledge assistance from the National Science Foundation under Grant Number SOC 76-17318, the German Marshall Fund of the United States, the Commonwealth Fund, and the Woodrow Wilson International Center for Scholars.

Centralization and the Search for Efficiency and Equality:  
The British National Health Service

A major concern in evaluating the performance of a modern medical delivery system is to determine how cost-efficient it is. In this respect, efficiency is usually defined in terms of some type of production function. For example, a particular type of health delivery system would be highly efficient if its outputs (changes in levels of health) were maximized relative to its inputs (e.g., health expenditures and other health resources). Because we do not know what all the factors are which influence levels of health or even how to measure all of the ones which we are able to define, we do not yet know how to assess with any precision the efficiency of a national health delivery system. Due to this deficiency in our knowledge, we tend to focus our attention on the costs of a health delivery system over time and compared with other systems. This, of course, is not an ideal proxy for the measurement of the efficiency of health delivery systems, but it is the approach utilized here. The discussion in this section focuses on some of the structural variables which have influenced health care expenditures, and, indirectly, on the way that the structure of a health delivery system influences its level of efficiency.

THEORETICAL PERSPECTIVES ON MEDICAL EXPENDITURES AND EFFICIENCY

From a theoretical perspective, we know all too little about the structural characteristics which tend to promote a more efficient health

delivery system, or which tend to minimize medical expenditures. In the literature, one case for an efficient health delivery system relies on the theory of the "invisible hand" which Adam Smith set forth more than two hundred years ago; that is, the most efficient health delivery system might be a highly decentralized, competitive one in which large numbers of consumers transmit their tastes to numerous health providers who respond by providing health care at competitive prices (Okun, 1975). Or to phrase it differently, efficiency would be maximized when there were perfect markets. With medical care, however, this theoretical perspective is inadequate, for the marketplace works differently from that anticipated by Adam Smith. For a decentralized medical marketplace to perform as Adam Smith predicted, consumers must be able to evaluate the quality of the medical treatment which they wish to consume. There is a vast literature (Donabedian, 1976), however, which demonstrates that consumers have inadequate knowledge about the quality of services in the medical marketplace. As George Monsma (1970) and others have written, many, probably most, consumers cannot judge the quality of physicians or the relative merit of one type of treatment versus another. Whereas consumers generate the demand for goods and services in many markets, there is considerable evidence that medical providers exert a strong influence not only over the quantity and pattern of medical care which is supplied but also over that which is demanded. As the patient's agent, the physician exerts considerable influence on the demand function of the consumer by altering the patient's perceptions of his needs (Evans, 1974; Feldstein, 1967; Cooper, 1975).

Consumers depend on medical providers to make decisions about medical consumption, since most lack adequate knowledge about their medical needs. Many individuals live with serious disorders without realizing that they have serious medical problems. For example, medical surveys have revealed that for every detected case of rheumatism, there is another that is as yet undiagnosed; with bronchitis, high blood pressure, glaucoma, and urinary infections, there are likely to be five undetected cases, with anemia and diabetes eight times as many undiscovered cases as those which are diagnosed. The problems involving the need for dental care are even more considerable. Numerous studies in the United States and Great Britain have demonstrated that doctors consider only a very small percentage of the population to be free of symptoms which would benefit by treatment (Brearley, 1978, pp. 26-27; Cooper, 1975, p. 13).

Doctors not only play an important role in defining medical needs and shaping the demand for care, but certain doctors generate more demand than others. For example, the level of specialization among doctors leads to higher demands and to higher medical costs. For purposes of cost-efficiency, a critical problem in allocating national resources to medical care has been to determine the appropriate level of specialization in order to achieve the maximum improvement in health but with the lowest cost. There has been a tendency in health delivery systems, once having attained a certain level of medical specialization, to strive for even higher levels of specialized knowledge. But specialized knowledge has an inherent dynamic: an appetite for learning and knowledge which tends

to be self-generating. Because knowledge grows exponentially, medical specialization demands new occupations, new specialties, new capital equipment (Price, 1963; Hage and Aiken, 1970; Stevens, 1973). And the more specialized the health delivery system, the greater the number of diagnostic tests and treatments that can be performed on patients, which leads to constantly expanding cost escalations.

The process by which increasing specialization leads to higher medical costs has historically been a complicated one, with the doctors being the major actors. Even if the physicians' income constitutes a decreasing percentage of the total medical bill, they are the ones who determine the type and quantity of medical treatment and thus are of major importance in influencing the level of medical expenditures. It is the physicians who prescribe drugs, order patients to be admitted to or discharged from hospitals, arrange for x-rays and other diagnostic tests. As Victor Fuchs (1974) points out, physicians are the gatekeepers to the production of medical care. There are numerous studies which demonstrate that the more specialized the doctor, the higher his income, the more likely that he will order not only a larger quantity of tests but more complex and costly ones, and the more likely that he will order patients to be hospitalized (Blackstone, 1977; Donabedian, 1976; Davis, 1974).

Even though physicians play a critical role in shaping both the demand for and the supply of medical care, this is not intended to suggest that physicians are motivated primarily by a desire to maximize their income. Were this the case in Britain, the medical profession would not have tolerated a payment scheme based on the capitation and salary system. There is simply too much evidence that demonstrates that among the major

concerns of physicians are the best interests of their patients and the winning of their patients' approval (Feldstein, 1970; Fein, 1967; Donabedian, 1976). But to achieve these goals, physicians have a tendency to do everything that they have been trained to do regardless of the cost-benefits. And the more training they have, the more they are likely to do (Fuchs, 1974). In addition, the more facilities at the command of physicians, the more they will use them. Feldstein (1967), for example, has demonstrated that the allocation of hospital beds based on medical assessment of need as reflected on admissions and waiting lists has little meaning. Need simply tends to grow in response to provision, for physicians react to an expansion of supply by redefining need along a continuum (Cooper, 1974). And instead of more doctors and more specialists catching up with the demand for medical care, there is considerable evidence that as the number of doctors and specialists increases, the demand for care and the costs for services increase (Donabedian, 1976).

But this leads to another variable which influences the cost of medical care--the demographic age structure of the clients who receive medical care. The distribution of medical services is somewhat U-shaped, with the very young and the elderly receiving more treatment than any other age groups. For example, the elderly represented 16 percent of the British population in 1971-1972 but were responsible for 28 percent of the National Health Service expenditures. Those 65 years and over were responsible for 48 percent of average daily hospital bed use, and consumed one-fourth of all the prescriptions dispensed by

NHS. Whereas the age group 15-64 had 3.6 medical consultations per year, the group over age 75 averaged 7.3 consultations. Expenditures per head on health services in England and Wales was approximately six times as much for people aged 75 and over as for people aged 16 to 64 (Royal Commission on the National Health Service, 1979, p. 61). In other words, the medical needs of a population increase as a function of age, and as the proportion of the population which is elderly increases, the need for and the utilization of medical care increases dramatically. The increase in both needs and utilization combined with an increasingly complex technology has contributed to a medical price spiral in all advanced industrial societies.

But the basic structure of national health delivery systems also influences the variation in national spending levels for medical services. Specifically, the more centralized and more coordinated the health delivery system, the more cost-efficient it is--a view contrary to the argument of the neoclassical economist, that a decentralized, highly competitive system would be more cost-efficient.

Centralization refers to the level at which decisions are made. The most centralized system is one in which all decisions are made by the central government; the most decentralized system is one in which all decisions are made in the private sector. Between these two extremes is a health delivery system in which all decisions are made at the state and local level (Hollingsworth and Hanneman, 1978).

More specifically, a highly centralized national health service would be one in which most of the revenue for medical services is raised



by the central government, and the regulation of medical services is very much under the control of the central government (Stevens, 1966; Lindsey, 1962). This system is hypothesized to be the most cost-efficient because the central government would be in a key position to ration the resources which flow to the health delivery system (Cooper, 1974, 1975), even though much of the demand for medical services might be shaped by providers.

On the other hand, when some decisions are highly centralized and others are quite decentralized, the net result may be a very cost-inefficient service, which is what has existed in the United States for some years. In the United States, the revenue has increasingly been raised by the central government and other third parties (i.e., private insurance companies, Medicaid, Medicare), meaning that there has been more and more money to pay for the increasing demand for services; but the control over prices has been increasingly dominated by the providers, and is very decentralized (Stevens and Stevens, 1974). Thus, in recent years there have been few barriers to the consumption of services in the American system, resulting in spiralling costs as the demand and consumption of services continue to rise. As David Mechanic (1977) reminds us, neither providers nor consumers under this arrangement have had the incentive to forego medical services that offer even the most remote possibility of some health benefit.

To comprehend the impact of centralization on medical expenditures, it is necessary to consider the role of third party payers in controlling prices, one of the most complicated aspects of medical care expenditures,

for the greater the third party financing, the greater the potential for an increase in demand, prices, and expenditures. This leads to the following hypothesis:

The greater the percentage of medical care financed through third party intermediaries, the lower the cost-efficiency, unless there are effective controls by the central government over the price of medical services.

Central governments have attempted to contain the expenditures resulting from third party financing in a variety of ways. Some of the governments which have provided widespread medical insurance have not only attempted to regulate prices but have also attempted to limit the demand for and spending on medical care by rationing medical services with such devices as coinsurance and deductibles. For example, the French government presently not only sets prices for medical services but requires the consumer to pay for twenty percent of the charges for ambulatory services (Glaser, 1970). Another form of governmental influence on prices has been what David Mechanic (1977) has called "implicit rationing." An example is the National Health Service in England and Wales, which has placed a limit on medical expenditures available for hospital beds, specialties, etc. Rationing through deductibles forces consumers to limit consumption. Implicit rationing--as in present day England and Wales--has forced the providers and health administrators to limit the distribution of unnecessary medical interventions. A system in which the government pays for many of the services but imposes few limits on the consumption and distribution of medical services drives up the costs and distribution of services. The United

States has slowly been moving in this direction, and there is considerable evidence that the American system results in unnecessary surgical procedures, physicians performing services for which they are not qualified, physicians migrating to areas where income maximization is greatest, etc. (American College of Surgeons, 1975; Blackstone, 1974, 1977; Glaser, 1970).

There is considerable literature which supports the conclusion that the utilization and prices of medical services are very much influenced by the extent of third party insurance and the extent to which third parties attempt to constrain the prices of medical care. One of the most consistent findings in the literature is that if the client pays a lower price for medical services as the revenue to the provider rises, the demand and the price for both useful and nonessential services rises (Feldstein and Severson, 1964). Echoing the pricing assumptions on which the French system is based, Phelps and Newhouse (1972) have demonstrated that the introduction into a prepaid group practice plan of a twenty-five percent coinsurance feature (which amounts to an increase in out-of-pocket fees) decreases the use of medical services.

A more obvious finding from numerous American surveys is that individuals and families with insurance tend to consume more physician and hospital services and to spend more on medical care than people without insurance (Anderson and Feldman, 1956; Andersen and Anderson, 1967; Odoroff and Abbe, 1959; National Center for Health Statistics, 1972). There are also studies demonstrating that individuals with the most insurance coverage consume the most health services (Donabedian, 1976).

Management for prepaid group practice plans, in which practitioners are paid on a capitation basis, are somewhat more concerned about cost containment than management in clinics where providers are paid on a fee for service basis. Therefore it is not surprising that the literature almost always reports a lower hospital utilization rate under prepaid group practice plans than insurance plans that pay on a fee-for-service basis (Anderson and Sheatsley, 1959; Health Insurance Plan of Greater New York, 1957; Densen et al., 1962; Dozier et al., 1964; Dozier et al., 1968; Hastings et al., 1973). The Kaiser-Permanente groups on the West Coast of the United States, operating with a prepaid group plan, have kept hospital occupancy low by offering financial incentives to doctors to keep patients healthy with preventive care (National Advisory Commission on Health Manpower, 1967).

An examination of utilization and cost levels before and after the introduction of new financing arrangements provides valuable insights into the impact of the change. In the United States, the introduction of Medicare and Medicaid did make medical care more accessible to the aged, the Black population, and other low-income groups. But it also led to excessive patient treatment, overinvestigation, unnecessary expansion of capital equipment, and an excess of specialty skills (Donabedian, 1976; Law, 1974; Blackstone, 1977). In contrast to the American system of high third party financing without effective controls over spending, the British, when they adopted the National Health Service, had a rather significant increase in the demand for services but only a modest rise in spending--due to the third party (government) control over spending

(Abel-Smith and Titmuss, 1956). In sum, substantial alteration in the financing of health care has usually had some major impact on utilization rates. However, the impact of a major expansion in third party payments on medical costs varies with the effectiveness of third party controls (especially control by the central government) over spending.

Thus far the discussion has focused on the relationship between expenditures on medical care and several independent variables: consumer needs, specialization, and centralization. The hypothesized causal relationship among the independent variables is portrayed in Figure 1.

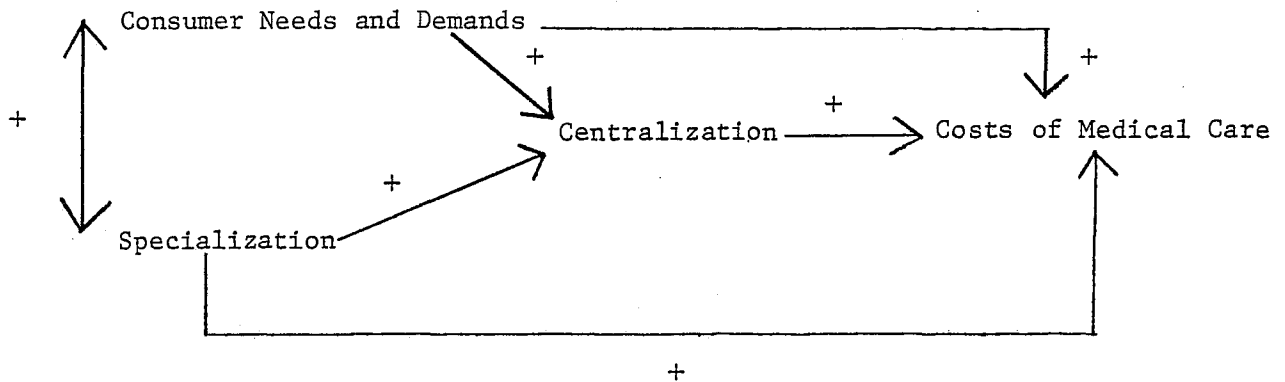


Figure 1. Relationship among health delivery system variables and medical expenditures.

One might think of rising levels of specialization as a proxy for increasing levels of medical technology. As medical technology becomes more efficacious, knowledge about it is communicated to clients who increasingly consume more medical care. As the consumption increases, the price of medical care rises, and there is increased popular demand that the costs

and risks be spread among larger populations. In response to the demand for spreading the risks, central governments become more involved in financing and regulating medical care. In sum, increasing complexity and demand for medical care lead to more centralized health delivery systems. Of course, cross-national variation in the level of centralization remains for several reasons. First, systems have started from different levels of centralization. Second, there has been variability in the relative strengths of providers and consumers. For example, I have argued (1976) that the more powerful the consumer of health care vis-à-vis the provider, the higher the level of centralization. Historically, the provider has been more powerful vis-à-vis consumers in Great Britain, and the system there is quite centralized, whereas in the United States, the consumer has been relatively weak vis-à-vis providers, and the system has remained much more decentralized.

Although the social science literature is filled with discussions about the concept of centralization, there is no consensus about its meaning (Hollingsworth and Hanneman, 1978). However, centralization deals both with the level at which decisions are made and the concentration of decision-making activity. In some of the literature, scholars treat centralization as though it is a single dimensional concept. However, centralization is a multidimensional concept, and if our understanding is to be advanced as to how centralization influences performance, it is necessary that this multidimensionality be captured in the operationalization of the concept.

Decisions, whether they are in delivery systems, complex organizations, political parties, etc., are made at multiple levels. And in discussing centralization, one should identify the level at which decisions are made. For purposes of the discussion of national health delivery systems, there are two key dimensions along which one might identify the level at which decisions are made: decisions based on the amount of revenue which is raised for medical care, and those based on the prices to be set for medical services. Obviously, there are other dimensions which are important when one is discussing centralization, for example, the levels at which standards are set, and at which personnel are appointed. However, these other dimensions are highly correlated with those on which this discussion focuses (Hollingsworth and Hanneman, 1978). In other words, the two dimensions about revenue and prices capture most of the space inherent in the concept of centralization.

The behavior of organizations is very much influenced by their source of revenue. If the revenue comes from the central government, the central government is likely to play an important role in shaping the behavior of the organization. Similarly, if the revenue comes from the private marketplace, then the marketplace will shape the behavior of the firm (Weisbrod, 1977). Of course, some of the revenue may come from the central government, some from state and local governments, and some from the private sector, and one must be sensitive to the proportion of funding which comes from each level. However, one also wishes to capture the level at which the decisions are made about the prices which are set for medical services.

The American health delivery system in recent years is one in which the central government has been funding a rapidly increasing share of the total medical budget, but in which prices are still very much set in the private sector by the providers of medical care. In contrast, the contemporary French system is one in which the central government pays for a very large portion of the total medical expenditures, and also plays an important role in setting the prices of medical services. The following four cell figure permits one to visualize the different types of systems which exist when these two dimensions are cross classified.

		Low	High
Concentration of Control Over Revenue	Low	(1) Market System Great Britain before 1912 U.S. circa 1900	(2) Controlled Private System Great Britain's National Health Insurance System, 1912-1948
	High	(3) Price Inefficient System U.S. circa 1970	(4) Authority System Great Britain circa 1970

Figure 2. Concentration of control over prices.

This figure weighs each of the two dimensions equally. On one dimension, the greater the proportion of medical services funded by the central government,



the more centralized the medical delivery system at that time-point. Similarly, the greater the proportion of medical funding from the private sector, the less the level of centralization. The second dimension is measured in the same manner: the greater the proportion of prices set by the central government, the higher the level of centralization; the greater the proportion of prices set in the private sector, the more decentralized the system.

In cell one, most of the revenue for medical care comes from the private sector and prices are set by large numbers of providers responding to the pressures of the market place. Cell two is a system where most of the revenue is raised in the private sector, but the decisions about prices are much more concentrated than in cell one. This is the type of arrangement which characterized the British National Health Insurance System (Levy, 1944). The system which is most costly from an expenditure point of view is that characterized by cell three, with more and more revenues being raised by the central government but with prices being determined in the private sector by large numbers of providers. The Authority System (cell four) is one in which there is high concentration of decisions over both the control of revenue and the control over prices. This characterizes the British National Health Service, probably the most cost-efficient system among the world's highly industrialized countries.

#### EXPENDITURES ON THE BRITISH NATIONAL HEALTH SERVICE

Shortly after the National Health Service came into existence, critics focused on the extravagance of the system. They charged that

a public service financed largely with public funds tended to be overutilized, and that as long as consumers believed that they were receiving something free, they would continue to overutilize the service; only when the British introduced a plan whereby the consumer had to pay some type of deductible would excessive utilization be corrected. To support their argument, critics were able to point to the fact that the NHS cost much more than the public was originally told that it would cost and that the costs were rapidly escalating from year to year. For example, the Beveridge Report had estimated the costs of the NHS to be approximately 170 million pounds, while the White Paper of 1944 had an even lower figure, 132 million pounds (Harris, 1946, p. 274). In 1946, the National Health Service Bill mentioned a figure of less than 180 million pounds (Jewkes and Jewkes, 1961, p. 40). Moreover, Aneurin Bevan had believed that the costs would be unchanged by 1965, for he thought that after the NHS had dealt with untreated sickness (pent-up demand), medical care expenditures would stabilize and decline. In fairness to Beveridge and others who were involved in the early planning of NHS, their early predictions assumed that most voluntary hospitals would remain in the private sector. Moreover, they failed to take into consideration the inflationary tendencies of the postwar economy. Nevertheless, the predictions were grossly inaccurate, as the net capital and operating costs for the National Health Service were 339.6 million pounds in 1948/49, and there was a substantial increase in each succeeding year (see Table 1).

Table 1

Operating and Capital Expenditures in the Early Years of  
the National Health Service in England and Wales  
(in millions of pounds in current prices)

	1948/49	1949/50	1950/51	1951/52	1952/53	1953/54
Capital Expenditures	11.8	13.7	15.3	16.5	9.8	8.8
Operating Expenditures	327.8	371.6	390.5	402.1	416.9	430.3
Total	339.6	385.3	405.8	418.6	426.7	439.1

Source: Abel-Smith and Titmuss, 1956, p. 26.

Very much concerned with rising costs of the NHS, the Conservative government appointed the Guilleband Committee in 1953 to investigate costs and to advise how medical expenditures could be contained. To the surprise of almost everyone, in its 1956 report the committee concluded that "the cost per head at constant prices was almost exactly the same in 1953-54 as in 1949-50" (Abel-Smith and Titmuss, 1956, p. 46). During this period, there had been an increase in the population and a substantial rise in prices in the total economy. But in 1948/49 constant prices, there had been no increase in the cost of the system on a per capita basis. Moreover, the NHS was not nearly as costly in terms of the total society's resources as many critics had believed: The gross cost as a proportion of the gross national product was actually less in 1953/54 (3.42) than in 1948/49 (3.57) (Ibid., p. 60). (See Table 2.)

Table 2

The Gross Cost of the National Health Service as a  
Proportion of the Gross National Product

1948/49	1949/50	1950/51	1951/52	1952/53	1953/54
3.57	3.80	3.75	3.56	3.50	3.42

Source: Abel-Smith and Titmuss, 1956, p. 60.

Once it was clear that the National Health Service was not the extravagance that its early critics had made it out to be, ironically, it was denounced for not spending enough on medical care, and not providing adequate services to the British public. To make a convincing case, the critics pointed to the United States for evidence that more expenditures would result in a better health delivery system. It is difficult to evaluate the impact of medical expenditures on a society's level of health (Hollingsworth *et al.*, 1978), but the following discussion attempts to shed some light on why the British health delivery system has been one of the least expensive among the more advanced industrial societies.

#### Control of Government Expenditures on Medical Care

In theory, all parts of the public sector are responsible to Parliament, which must approve the expenditures allocated to various departments of the

government. But the political process which has shaped the Parliamentary Acts that allocate government money to medical care is very complicated. The Treasury, of course, has also been very much involved in the budgetary process, but its control over expenditures has been very loose. Basically the Treasury and the Ministry of Health agreed that each year the expenditure levels of the different branches of the NHS would be operated at a level similar to the previous year. There has been some incremental adjustment for inflationary price changes, and the ministry has entered into negotiations for new services which have been weighted against the demands of other departments' requests for new programs. Once an overall budget allocation is agreed upon, the Ministry has the flexibility to adjust expenditures within line items of the budgets, but very little flexibility across different budget items. The Treasury has also carefully scrutinized the general budget allocations to the department as well as individual capital expenditures which exceed specific limits. In general, however, the Treasury has allowed the Department of Health and Social Security to determine its own capital expenditure priorities, which has meant that there has been a great deal of fierce in-fighting over the allocation of money for capital expenditures.

In the National Health Service Act of 1946, the law stipulated certain procedures for the budgetary process. For example, at the end of each fiscal year each Executive Council was required to submit to the Minister an estimate of its expenditures for the following year for all of its services. In practice, these estimates were very much tailored to the previous year's expenditures. At the same time, the amount allocated

to the Executive Councils reflected estimates of the number of general practitioners, dentists, and pharmacists, and the size of the population by age and sex.

The budgetary process involving the local Health Authorities was somewhat more complex. Until 1959, the local health services were financed equally by funds from the central government and from local rates (Lindsey, 1962, p. 105). Thereafter, the central government contribution was more in line with the general grant which the central government made to local authorities in carrying out the functions of government. Each local health authority outlined its expenditures and revenue, and the Minister then provided a grant of not less than three-eighths and nor more than three-fourths of this amount. The central government provided partial payments to the local authorities and exerted a control that was quite loose and indirect, leaving the local authorities a great deal of independence in allocating their funds.

As the government has attempted to reduce expenditures on hospitals, the NHS has focused more closely on hospital spending, meaning that the budgetary process for hospital and specialist services is most complex. Furthermore, the process has been complicated because of the existence of multiple authorities: the Boards of Governors of the teaching hospitals, as well as the Regional Hospital Boards (R.H.B.), and under them the Hospital Management Committees (H.M.C.). Originally, each H.M.C. would submit proposed expenditures for the coming year to the R.H.B., based on the expenditure of the current year. In turn, the R.H.B. would

submit its proposed budget to the Ministry. The costs were broken down into administrative costs and such hospital maintenance subheadings as salaries and wages, maintenance of buildings, food, and heating. Although this was the type of activity which occurred below the Ministry level, after 1952 the Ministry placed a ceiling on spending levels for the country as a whole. The Ministry then allocated a sum of money, based essentially on the previous year's level of expenditure, to Boards of Governors and Regional Hospital Boards, and the latter then distributed funds to the Hospital Management Committees in their areas.

Soon, however, the unsatisfactory nature of this type of budgetary process became quite evident, as the allocations were not very responsive to the real needs of an individual hospital authority, a particular region, or the country. This type of process tended to preserve inequities in the allocation of resources which had existed when the NHS began. Moreover, this type of allocation was not suitable for determining the relative efficiency of individual hospitals. In response to this type of budgeting, the Nuffield Provincial Hospital Trust and several other nonprofit organizations proposed a budgetary process based on departmental costing (Feldstein, 1963, p. 173). Following a careful study of the subject, the Department of Health and Social Security proposed that hospitals move as quickly as possible to the use of departmental costing. This meant that, hereafter, budgets were prepared no longer in terms of wages, heating, maintenance, etc., but according to the needs and expenditures for specific hospital departments: outpatient, radiotherapy, medical services, etc.

This allowed the Ministry and Regional Hospital Boards to more accurately identify those hospitals and departments which diverged from national averages. It also permitted follow-up studies, so that officials could distinguish those factors which tended to promote higher costs. And finally, departmental costing increased the potential for both the Ministry and the Regional Hospital Boards to generate equity across regions in the allocation of resources. But although this method of budgeting had great potential for promoting efficiency and equity in the distribution of hospital resources, it did not address some of the larger issues of how efficiency in hospital care might be achieved. Neglected were the larger questions of the cost-efficiency of one type of treatment versus another, and the choice of inpatient versus outpatient care for certain medical problems. In other words, NHS was very much concerned with how to keep costs low and with how much inequity there was among different hospital regions. This type of process, however, operating at a macrolevel, did not encourage much concern with the more micro type problem of how much an extra unit of hospital resources would impact on an outcome (Feldstein, 1963, p. 174).

In 1961, the Plowden Committee on public expenditure recommended that each department submit not only a detailed estimate of its spending needs for the coming year but an outline of its needs for the next two or three years. As a result, Regional Hospital Boards and Boards of Governors began to submit to the Ministry forecasts of annual expenditures for two and three years ahead, as well as the main features of the fourth



year. Once implemented, these forecasts tended not to contain the entire budget but only details resulting from increases brought about by the consequences of capital expenditures, price increases, and other changes. However, the budgetary process continued to be affected by resources rewarded on the basis of past years' budgets. And as long as expenditures were allocated on this basis, the extra funds allotted for reducing regional disparities was very small. To break with the pattern of an inherited budgetary program, the Department of Health and Social Security has, in more recent years, resorted to PPB (planning, programming, and budgeting). Now, the Regional Hospital Boards and the Boards of Governors must defend all of their budgetary requests by evaluating the effectiveness of each program and by considering alternative ways of achieving the same objectives.

Meantime, it became increasingly obvious to the Ministry and its critics that there were regional inequities persisting in the distribution of health resources. As a result, effective in 1971, the Department of Health and Social Security designed a new formula for equalizing resources over a ten-year period. Beginning in 1971, revenue was allocated to regions according to three basic variables: (1) the population, weighted for an age-sex distribution; (2) the daily total of occupied beds for each region by specialty, in order to obtain the allocation required to finance the existing bed stock at a national average cost; (3) the type and number of cases (e.g., inpatients, outpatients, and day patients) treated within each region. These three variables were then used to develop an allocation for each region. After determining a formula for the allocation for

each region, a comparison was made with the historical allocations that had been awarded to each region. When the discrepancy was determined between what a region should receive and what historically it had received, regions that had been receiving more would, over a ten-year period, receive less and those that historically had been on the low side of allocations would receive a somewhat higher allocation. Ideally, at the end of a ten-year period (1981), all regions would be receiving equal allocations (English, 1976, pp. 164-170; West, 1973, pp. 153-166).

Compared with the health delivery systems of other societies, the British National Health Service has been relatively cost-efficient. On the other hand, its basic structure has not maximized ideal cost-effectiveness. The division of NHS into three basic services--hospital, local authority, and executive council--has meant that there has been no single process for allocating resources and for planning. Moreover, coordination has been difficult because the boundaries of the hospital districts are not congruent with the executive councils' and local health authorities' boundaries (Feldstein, 1963, p. 176). The British have had a medical delivery system which has been quite centralized in that, relative to most societies, a high proportion of the resources have been allocated and regulated by the central government. And while the various parts of the system have been well coordinated relative to other national health delivery systems, the fragmented nature of the British system meant that it would still be somewhat deficient in coordination.

Expenditure Trends of the NHS

From its inception, the hospital sector of NHS has been the most expensive. In the entire U.K., the hospital sector was responsible for 55 percent of the total spending of the NHS in 1950, but this has increased to 66 percent in 1972 (see Table 3). The use of the hospital as a site for treating patients has increased in Britain as in all other advanced industrial societies. The number of patients treated as inpatients increased by almost 90 percent between 1949 and 1971, while the outpatient load increased by approximately 40 percent (see Table 5). Meantime, expenditures for general medical services had declined from 12 percent to 8 percent during the same period. But as a percentage of gross domestic product in the U.K., NHS increased from 4.21 percent in 1950 to 4.82 percent in 1972 (see Table 4), substantially behind that of other advanced industrial societies (Cooper, 1975, p. 30).

Between 1949 and 1971, the consultants in the hospitals of England and Wales increased by 148 percent, while there was an increase of 164 percent in the number of nurses. Meantime, between 1964 and 1972, over 70 percent of the increase in British hospital expenditures resulted from increases in prices and wages. After these increases, the amount of the budget remaining for alternative or additional services ranged from between only 1.71 and 3.36 percent of the previous year's budget. The salaries and wages of nurses in 1970-71 constituted 28 percent

Table 3

Different Health Services as a Percentage of Total NHS Expenditures  
in the United Kingdom, 1950-1972

Year	Hospital Services	General Medical Services	Pharmaceutical Services	Dental Services	Ophthalmic Services	Local Authority Services	Other	Total
1950	54.9	11.7	8.4	9.9	5.2	7.8	2.2	100
1951	56.0	11.0	9.8	7.8	2.8	8.4	4.2	100
1955	57.3	10.2	9.6	6.3	2.5	8.7	5.4	100
1960	56.4	9.8	10.1	6.3	1.9	9.0	6.5	100
1965	60.5	7.8	11.1	5.1	1.6	10.2	3.7	100
1970	64.2	8.3	10.0	4.9	1.4	7.0	4.4	100
1972	66.0	7.9	9.7	4.5	1.7	6.8	3.9	100

Source: Cooper, 1975, p. 29.

Table 4

National Health Service Expenditures as a Percentage  
of National Income in the United Kingdom,  
1950-1972

---

---

Year	NHS As a Percent of Gross Domestic Product at Factor Cost
1949	3.95
1950	4.21
1951	3.95
1952	3.58
1953	3.50
1954	3.41
1955	3.43
1960	3.80
1965	4.08
1970	4.66
1972	4.82

---

---

Source: Royal Commission on the National Health Service, 1979, p. 431.

Table 5  
 Hospital Beds and Patient Flow in England and Wales,  
 1949-1971

	1949	1959	1965	1970	1971
Beds in all hospitals, in thousands	435	482	470	456	450
Beds per 1,000 people	10.3	10.6	9.8	9.3	9.2
Discharges and deaths, in thousands	2,937	4,000	4,818	5,329	5,494
Discharges and deaths, per 1,000 persons	67.9	88.1	100.9	108.8	112.6
Outpatients, in thousands	26,001	29,046	31,484	34,014	34,820
Outpatients per 1,000 persons	593.8	640.0	660.2	694.3	713.3

Source: Department of Health and Social Security, 1973.

of NHS hospital expenditures, while the inpatient cost of doctors was only 3.8 percent of the weekly hospital budget (Cooper, 1974, p. 33-35). On the other hand, nontreatment departments (fuel, grounds, maintenance, etc.) accounted for approximately 40 percent of total hospital costs (Cooper, 1975, pp. 32-34).

Some observers argue that Britain has had a serious shortage of hospital doctors, nurses, and beds. Critics point to the long waiting lists for hospital treatment which have persisted throughout the history of the NHS. For example, there were approximately 530,000 people on waiting lists in 1950, about the same number 20 years later (see Table 6). And the long waiting lists do receive a great deal of attention in the press, in Parliament, and abroad--particularly in the United States. Were the British spending more money on hospital beds and doctors, however, it is not at all certain that the waiting lists would be any shorter. As suggested earlier, Feldstein (1967) and others (Donabedian, 1976) have demonstrated with various econometric studies that an increase in hospital beds based on an assessment of need as defined by admissions and waiting lists has very little meaning (Cooper, 1975, p. 22). Need tends to increase as the supply of beds expands. Thus, in Britain, the size of waiting lists has proven to be insensitive to an increase in the supply of services, since doctors increase the demand for medical care as the potential for more services rises. Some argue that the long waiting lists in Britain, therefore, are not a valid indicator of inadequate responsiveness on the part of the government to demand. Rather, the British government has recognized that much of the demand

Table 6  
Hospital Waiting Lists per 1,000 Persons in England  
and Wales, 1949-1970

Year	Number on Waiting List	Number on Waiting List per 1,000 Persons
1949	497,700	11.37
1950	530,500	12.11
1955	454,900	10.24
1960	465,539	10.17
1965	517,142	10.84
1970	555,883	11.35

Source: Cooper, 1975, p. 23.



for medical care is unlimited, and that only by rationing supply can there be an efficient national health service.

Obviously, the issue of waiting lists is complicated, and there are many dimensions to the problem. Waiting lists are one mechanism for controlling access to care which is viewed as free at the time of use. In the United States, waiting time or lists are deterred by financial constraints on patients. The National Health Service has a good record of providing rapid treatment of urgent cases. One extensive survey of waiting time found that 80 percent of all inpatients indicated that they were not caused any inconvenience or distress by waiting for admission to a hospital. The same study found that 45 percent of all inpatient admissions took place within one month of the patient being admitted on the waiting list, though 6 percent had to wait longer than one year (Royal Commission on the National Health Service, 1979, pp. 125-127).

Moreover, waiting lists should be viewed in the perspective of changes in the National Health Service. In England, the number of patients receiving inpatient care doubled between 1949 and 1976, increasing from 2.8 million to over 5.2 million, while the waiting lists rose from 460,000 to 607,000. When the waiting list is viewed as a proportion of the total number of patients admitted to hospitals, this proportion falls from 16.4 to 11.7 percent, a consideration which is rarely noted (Jones and McCarthy, 1978, pp. 34-36).

## CAPITAL EXPENDITURES

It is in the allocation of capital expenditures that the decision to ration medical resources has been most apparent under the National Health Service, and it is also in this area where the consequences of rationing have been most controversial. Most of the capital expenditures on medical care in the National Health Service have been for hospitals. In the years following the Second World War, however, the restrictions on all capital expenditures, including hospitals, were considerable. Money and building materials in postwar Britain were simply in short supply, and priority was given to the construction of houses and schools. Of course, capital investment cannot permanently be postponed if a medical service is to be maintained. The desirable level of capital investment in a national health delivery system depends on many considerations--the quality of the existing equipment, the speed with which technology is changing, the ability of the existing system to accommodate the demand for care. Whatever the criteria for judging the adequacy of capital investment in a national medical delivery system, however, it would appear that the National Health Service, in its early years, spent too little money on capital investment. By almost every account, the hospital stock was in poor condition at the time the National Health Service came into existence. For example, the hospital survey for the Northwestern Area reported in 1945 "the existing hospitals, considered as buildings, fall far short of a satisfactory standard. Indeed, considering the high place which England takes in the medical world, perhaps the most striking

thing about them is how bad they are" (Ministry of Health, 1945a, p. 9). The survey for South Wales made a similar point: "A number of hospitals visited are so old or badly designed that they cannot be regarded as worth retaining . . . Roughly one-half of the hospital accommodation, expressed in terms of hospital beds, is structurally ill-adapted for the purpose for which it is used" (1945b, p. 11). Furthermore, "many hospitals erected in comparatively recent years are poorly designed, and do not conform to modern principles of hospital construction" (Ibid.). In 1948, approximately 45 percent of all the existing hospitals had been constructed before 1891, and at least 21 percent were erected before 1861. The oldest hospitals were those for the mentally ill, as 40 percent of them were constructed before 1861 (Abel-Smith and Titmuss, 1956, p. 54).

As suggested above, there were multiple reasons for the run-down condition of the hospital stock. Private philanthropy in the pre-World War II period was not sufficient to maintain the nation's hospitals in excellent condition, and local governments were seemingly incapable of raising the necessary capital for expanding and upgrading the municipal hospitals consistent with the nation's needs. Of course, the central government had improved many existing hospitals during the Second World War, but many hospitals had delayed making capital improvements during and immediately after the war in anticipation of the changes which a national health system was expected to introduce.

During the first six years of the National Health Service, less than one percent of all national investment was allocated to capital investment

in the medical sector. The allocation of capital expenditures to each region was so modest that prewar regional inequities persisted in the allocation of hospital beds and other capital equipment. Of the total NHS budget for England and Wales during these years, approximately 3.5 percent was for capital expenditures. It is true, however, that the bulk of the capital expenditures for medical care during these years was for hospitals. For example, Table 7 shows that in 1948-49 seventy-five percent of all NHS capital expenditures were for hospitals, and in 1953-54 eighty-four percent. Nevertheless, only ten percent of the capital expenditure for these years was for new hospital construction or major extensions. Most of the capital investment went into improving the laundries, kitchens, and heating plants of hospitals, as much of this type of equipment was outdated and deteriorated. However, the newer equipment was much more efficient to operate, providing savings of approximately twenty-five percent per annum (Abel-Smith and Titmuss, 1956, pp. 133-136).

It is, of course, impossible to estimate the level of capital expenditure that would have been invested in hospital construction had there been no National Health Service. Certainly the government had substantially increased the number of beds during the war under the Emergency Medical Service, thus reducing somewhat the pressure for hospital expansion that had existed in 1938. Because the costs of NHS were substantially higher than government leaders had anticipated, however, the government decided after 1948 that capital investments

Table 7

Proportion of Capital Expenditures in Different Sectors of the  
National Health Service, 1948-1974

Service	England and Wales			Great Britain		
	5 July 1948-49	1950- 1951	1953- 1954	1961- 1962	1972- 1973	1973- 1974
Hospital	75.0	84.7	84.0	71.0	74.5	67.9
Local Health Authority	24.9	15.1	15.9	24.2	23.5	27.9
Executive Council	0.1	.2	.1	4.8	2.0	4.2

Source: Abel-Smith and Titmuss, 1956, p. 50; Central Office of Information, 1974, p. 55.

were the type of expenditure that could be postponed without incurring political costs. It is noteworthy, however, that as a ratio of capital expenditures on hospitals to all expenditures on hospitals, the NHS spent considerably less than the hospital authorities in the period before World War II, or than the United States was spending in 1951. For example, Table 8 shows that capital expenditures represented 19.6 percent of all expenditures in 1938-39 but only 4.1 percent in 1952-53, while the Americans were spending 23.4 percent of their hospital budget on hospital construction in 1951. Most observers agree that during the early years of NHS, the British investment in hospital construction was less than half of what was necessary to maintain a satisfactory supply of hospitals. During the first 13 years the construction of only one new hospital was completed (Cooper, 1975, p. 40). After 1955, however, capital became available for the construction of new hospitals, and by 1975, almost 12 percent of the NHS budget was for capital expenditures. Even so, by that date, only 18 percent of all hospital beds were in new or replacement buildings which NHS had provided, and over one third of the hospital stock, in terms of floor area, had been built before the turn of the century, with the average age of English hospitals in 1971 over 61 years (Royal Commission on the National Health Service, 1979, p. 141). But by 1970 the NHS was beginning to allocate capital expenditures across hospital regions in a manner that had some effect in reducing the inequity of medical resources across regions.

Because of variability in hospital design and usage, there are no reliable studies which reveal the maximum time which a hospital should

Table 8

The Ratio of Hospital Capital Expenditure  
to All Current Expenditures on Hospitals

	England and Wales		Great Britain		United States
	1938-1939	1952-1953	1961-1962	1972-1973	1951
	(in millions of pounds-current prices)				(in millions of dollars)
Total Hospital Expenditures	46.9	249.7	595.0	2139.0	3913.0
Capital Expenditures on Hospitals	9.2	10.2	44.0	231.0	917.0
Capital Expenditures as a Percentage of all Hospital Expenditures	19.6	4.1	7.4	12.0	23.4

Sources: Abel-Smith and Titmuss, 1956, pp. 52-53, 137-138; Central Office of Information, 1974, p. 55.

be used. In general, hospital stocks in twentieth-century Western Europe and North America have had a life of between only twenty-five to forty years. And if the same rate of replacement existed in the United Kingdom, well over half of the NHS hospitals would have been replaced by 1975. It should not be assumed, however, that simply because a building is old that it is unsatisfactory. While the Americans have had a tendency to replace hospitals, the British, being less wealthy and more concerned with costs, have been more involved in adapting, upgrading, and extending hospital structures. Whereas the Americans have attempted to bring elements of cheerfulness into hospitals, the British have been more tolerant of hospitals that have gloomy and depressing environments. In an American hospital with an overcrowded and squalid structure, staff morale is likely to be very low, but there is substantial evidence that British medical professionals are more tolerant and have greater capacity to provide efficient and excellent work under such circumstances (Royal Commission on National Health Service, 1979, p. 141).

#### Executive Council Expenditures

Even though the general practitioner is theoretically supposed to be the center of the National Health Service, the number of general practitioners employed by the executive councils has remained relatively stable over time, whereas the number of hospital-based doctors has dramatically increased. For example, there were 20,400 general practitioners in England and Wales in 1949, and 21,910 in 1971 (Department of Health and Social Security, 1973,



p. 28). However, the proportion of all operating revenues allocated to general medical practice had declined 11.7 percent in 1950 to 7.9 in 1972 (see Table 2).

Some of the more bitter controversies involving the NHS occurred in its early years in regard to executive council expenditures for optical and dental services. The White Paper of 1944 had assumed that it would be at least ten years before the cost of the ophthalmic services would be 1 million pounds and dental services 10 million (Lindsey, 1962). However, in the first full year of the NHS, the cost in England and Wales for ophthalmic services was 20 million pounds and for dental services 46 million pounds. To the critics of the NHS, this seemed to be clear evidence that the public was taking advantage of a "free good." Certainly, the demand for ophthalmic and dental services increased dramatically once the NHS came into existence. On the other hand, the dramatic increase was evidence that a large portion of the population was without adequate ophthalmic and dental care prior to NHS.

In 1948, there were simply large numbers of people who needed their sight tested and many others who needed their eyes reexamined. To meet the huge demand, opticians worked overtime. Between July 1948 and March 1953, the NHS supplied more than 26 million pairs of eyeglasses in England and Wales alone. It is quite clear that many people did take advantage of the NHS, as in 34 percent of the cases one person received two pairs of eyeglasses. In response to what appeared to be runaway demand, the Labour Government in the spring of 1951 imposed a

charge for glasses. Thereafter, the patient was required to pay one pound per pair, plus the cost of the frames. However, the number of people receiving eye examinations annually was 50 percent less in 1951 than in 1949, suggesting that after the initial backlog of demand for eye examinations and glasses the demand began to return to a more normal level. And while the user fees helped to lower the demand for ophthalmic services, this decline had already set in before the introduction of user fees.

A similar process occurred with dental services. By March 1953, the NHS had supplied almost 6 million pairs of full dentures. At the beginning of the NHS, there appear to have been several million people who were either without dentures but who needed them or who had an inadequate set of dentures. At any rate, there is agreement by almost every account that the general level of dental care in Britain was deplorably low in 1948. In response to the high demand, however, the government also introduced in 1951 a maximum charge of 4 pounds 5 shillings for a full set of dentures. Those who were unable to pay for the dentures were eligible for assistance from the National Assistance Fund (Lindsey, 1962, p. 106). The demand for dentures declined after 1951, but the decline, as with the ophthalmic services, had set in before 1951. With both glasses and dentures, the demand settled down to a more normal level once services had responded to the backlog in demand. In other words, this brief history of the NHS demonstrates that with the introduction of a free national service for certain types of medical care there is indeed an

initial high level of demand by those who are in need of treatment, but once the unmet need is provided the demand will level off and decline. Certainly, over time, the demand for dental and ophthalmic services has become a minor part of the total costs of the NHS--in contrast to the early years of the service.

While pharmaceutical costs have increased dramatically during the history of the NHS, as they have in all Western countries, in proportion to total NHS costs they have remained relatively stable at 8.4 percent of the total cost in 1950 and 9.7 percent in 1972 (see Table 3) (Cooper, 1975, p. 29). More importantly, pharmaceutical costs in Great Britain were approximately half as much per capita as in the United States for the period between 1948 and 1972, and were among the lowest of any highly industrial nation (Rabin and Bush, 1974, p. 66).

The British have managed to curb pharmaceutical prices with several devices. Until 1952, patients received drugs without a charge. In that year, however, patients were required to pay a shilling for each prescription. In 1956, a shilling was imposed on each item prescribed, and since then this charge per item has been increased. These fees have had some modest effect in reducing the number of prescriptions issued, but they probably have had little effect in curbing the price of each prescription (Lindsey, 1962, p. 431). A more effective method of regulating the cost of pharmaceuticals has resulted from the Ministry of Health's Drug Tariff, which specifies the prices of drugs. By this procedure, pharmacists receive the wholesale cost of a drug, as provided by the Drug Tariff, plus an additional fee to

cover overhead and dispensing expenses and a modest profit margin. In effect, the NHS has acted as a quasi-wholesale purchaser or monopsonist and has been able to influence substantially the manufacturers' prices of drugs, especially as a very large portion of all manufactured drugs sold in Britain are designated for use by the NHS (Schicke, 1973, pp. 223-236). Several studies have demonstrated that the prices which the government has paid for drugs dispensed by the NHS have been lower than if the government had not been involved in the process (Lindsey, 1962, p. 438; Interim Report of the Committee on the Cost of Prescribing, 1958).

The British National Health Service is very much in contrast to the American health delivery system, which relies heavily on third party payments to finance much of the pharmaceutical costs, working very much as an insurance form of payment. Insurance companies tend to function as bill payers, adjusting premiums almost automatically to the cost of the service and expecting individuals to increase their coverage as inflationary prices occur (Cooper, 1975, p. 86). When the two national systems are contrasted, one observes that most of the pharmaceuticals available in the U.S. are also available in Britain, but the British system results in a lower level of expenditure (Ibid.).

The British government has also attempted to restrain the quantity of drugs which are dispensed by monitoring the prescribing habits of general practitioners. If a general practitioner's prescribing habits are out of line with other colleagues in England and Wales, a departmental health officer can be expected to visit him and to discuss his prescribing

habits. Each year, almost 7 percent of the general practitioners are visited for this reason. And if a general practitioner persists in excessive prescribing, the GP could have part of his remuneration reduced. Although this seldom occurs the threat that it could has probably acted to constrain the quantity of prescriptions dispensed by general practitioners (Royal Commission on the National Health Service, 1979, p. 84).

#### Local Health Authority Expenditures

Local health authority expenditures have remained relatively stable over time, at 7.8 percent of the total NHS budget in 1950 and 6.8 in 1972 (see Table 2). Within the local health authority budgets, however, there have been important changes. One of the most important resulted from the care of the mentally ill. In 1958-59, the local authorities spent 6.3 percent of their budgets for the care of mental illness, whereas it was 16.7 percent in 1968-69. This shift resulted from the fact that more mental illness was being treated outside hospitals because of new medical technologies. Meantime, domiciliary midwifery declined in importance over time. In 1959, 35 percent of all births in Great Britain occurred at home, where a domiciliary midwife was usually in attendance. By 1971, however, approximately 90 percent of all births occurred in hospitals. In addition, after 1970, domestic help and day care nurseries were no longer the responsibility of Local Health Authorities.

Another interesting change that occurred with local health authorities was the development of health centers, whereby groups of general practitioners rent offices in the centers which also provide space for the health staff

of the local authorities. Health centers were originally part of Aneurin Bevan's plan for integrating curative and preventive medicine and for coordinating general practitioner and local health authority services. But until recent years, very few general practitioners were willing to be in a group practice, fearing that health centers would undermine the independence of the general practitioner. By 1970, a number of doctors practiced in small groups, though no more than fifteen percent of all general practitioners practiced in health center buildings. The basic idea behind the health centers was to facilitate a fully integrated health service in which there was coordination of the planning and provision of all personal health services--including health education, prevention, diagnosis, treatment, and rehabilitation. Specifically, the idea was to coordinate the curative facilities of the National Health Service and the public health and social services provided by local government (Jordan, 1978, pp. 56-57).

During the first 18 years of NHS, there were only 33 health centers in the entire country, but due to financial incentives and local expenditures, there was a tenfold increase in the number of health centers between 1967 and 1972. By early 1976, approximately 3,500 general practitioners were located in 634 health centers (Brearley, 1978, p. 75).

#### Private Medical Expenditures

Virtually all citizens of Great Britain have relied on the National Health Service for medical care throughout its history. Much of the private care has been provided by consultants employed by the National Health Service,

with treatment performed in either NHS hospitals or in private facilities. Unfortunately, there is no complete data on the extent of private expenditures for medical care. However, in 1973, approximately 1 million people subscribed to various provident insurance companies for medical coverage for 2.1 million people, with many middle and higher grade staff of business firms and their families receiving coverage under this type of arrangement. In 1973, the various provident schemes in Great Britain cost about 29 million pounds, with approximately 24 million pounds being paid out in benefits--or less than one percent of total NHS expenditures, and less than two percent of the NHS expenditures on hospital and specialist service. About half of these fees are for hospital costs and the remainder are for consultants' and specialists' fees (Cartwright, 1967). Excluding drugs, in 1973 there was an additional 15 to 25 million pounds spent on private medical care, a figure derived from the Family Expenditure Survey. Much of the additional expenditures covered expenses for care in nursing homes, which were exempted from nationalization in 1948.

Private care has frequently been purchased by foreign visitors in Great Britain who have been ineligible for treatment under NHS. In addition, it has been purchased by those who wanted to be assured of treatment by a consultant of their choice, who desired the privacy of a hospital paybed, and the certainty of immediate hospitalization if necessary. In short, private care has been considered more convenient. There has been very little evidence that people have purchased provident schemes because there is a belief that the quality of care under the

NHS is poor. Over time, well over 80 percent of the hospital inpatients have thought that the hospital care which they received was good or very good, and there has continued to be overwhelming popular support for the National Health Service (Central Office of Information, 1974; Brearley, 1978; Cartwright, 1967; Gregory, 1978).

#### THE PROCESS OF MUDDLING THROUGH: PERSISTING INEFFICIENCIES AND INEQUITIES

Obviously, an assessment of the National Health Service should gauge its performance relative to its goals. In achieving its basic goal of promoting free and equal access to medical care at relatively low costs the NHS has been quite successful. But maximizing low costs while at the same time achieving equality of access has led to consequences which have often been controversial. If low costs and equal access to reasonably high quality services are to be achieved, centralized planning and administration are necessary to bring about a careful geographical distribution of medical staff and other services. The reallocation of services geographically has been a very complex political process, and it is doubtful that this could have been done within a relatively short period of time without the wielding of considerable centralized power.

Even though the National Health Service has been moderately successful in maximizing the goals of equality and efficiency, the process of decision making within the NHS has operated under a variety of constraints, some of which have hampered the goals of efficiency and equality, and retarded structural change in the NHS. The most severe constraints are as follows:



1. Pressures to preserve the traditional structures, status, and values of the British medical delivery system prior to 1948
2. Pressures by different groups--especially the doctors--to shape NHS policy
3. The difficulty of reducing inequality across regions
4. Inadequate information from the central government in order to facilitate change
5. The disjuncture between curative and preventive care

#### Pressures to Preserve British Medical Traditions

Many observers of the NHS do not realize how little change the new system actually brought about in 1948. For all practical purposes, the basic changes were in the method of financing medical services and in the creation of the Regional Hospital Boards and the Hospital Management Committees. The old insurance committees of the National Health Insurance System were simply renamed local executive councils, while the local government health authorities continued to exercise the public health functions for which they had long been responsible.

As Charles Lindbloom and others have pointed out in numerous studies, however, administrators and others who are responsible for shaping social services enjoy an intimate knowledge of the past history of services with which they are involved, and this intimate knowledge is a powerful constraint on change. An administrator who has limits on information and limited intellectual capacities to visualize the consequences of vast changes

generally opts for changes which differ only a small degree from those policies already in effect, meaning that most reforms are only incremental in nature and tend to make only marginal differences in what the society is already doing (Lindbloom, 1959, pp. 79-88). This helps one to understand the continuity between NHS and the system which existed before 1948.

One of the basic goals of NHS was to rationalize health services by providing greater scientific and economic coordination for the system. This it did, within certain limits, with the hospital system. But a basic problem in the history of the National Health Service has been the poor coordination among the three parts of the service: the hospitals, the executive councils, and the local health authorities. The tripartite character of the system, however, evolved from British history, and the NHS reflects a set of compromises based on realities of the past. It is this structure, shaped by the past, that has limited the degree to which the British are able to overcome the tripartite structure, which has been dysfunctional and inefficient.

One of the most serious consequences of the NHS was the intensification of the separation between the general practitioner and the hospital-based doctors. Once the consultants were financially independent of the general practitioner, the communication between the two types of doctors deteriorated. Though the general practitioner was to be the initial contact for all patients, the person who directed the patient to the proper medical channels, the GP, symbolized by his couch, stethoscope, and stack of prescription pads, became increasingly isolated from much of the changing medical technology.

As medical technology became more complex and specialized, the differential in status between the general practitioner on the one hand, and on the other the consultant and the specialist, seemed to grow (Forsyth, 1966, pp. 124-125; Brearley, 1978, pp. 45-46). The general practitioner was deficient in access to sophisticated technology, isolated because of the tendency to practice alone, and was without many of the benefits of hospital-based doctors such as distinction awards, study leaves, free secretarial services, and stimulating discussions with colleagues in the hospital setting. The dignity of the general practitioner was further affronted as many hospitals denied GPs access to diagnostic facilities. There was a very poor exchange of medical records between the hospital and the GP over his own patients. Just how bad the communication could be between the GP and the hospital had been demonstrated on occasion when arbitrators have had to decide whether a GP could see the hospital records of his own patients.

However, the coordination was not only poor between the GP and the hospital but among all branches of the service. Many general practitioners would have little to do with the bureaucracy of the local health authorities. Similarly, there was poor communication between the hospitals and those responsible for the local health authorities. For example, it was not at all unusual for a pregnant woman to see her general practitioner, to consult with a hospital maternity unit, and to visit a local health authority maternity clinic. All of these visits might occur without the knowledge of the others, with no one professional person in charge of the

case, and with no one actually well informed about the case or the woman's medical history. Another example of poor cooperation that frequently occurred is that of the patient prepared to be discharged from the hospital but in need of convalescent accommodation, but who because of poor communication between hospitals and local health authorities would remain in the hospital--despite its long waiting lists--even though the municipal convalescent home may have had empty beds (Eckstein, 1958, p. 243).

Obviously, the success of much hospital-based technology has depended on patients' receiving proper care once they have been discharged from the hospital. One study in 1954 demonstrated that among patients surveyed in four Scottish hospitals, one-fourth deteriorated seriously within three months following their discharge from the hospital because of improper care outside the hospital. This type of study demonstrated not only a need for a well developed system of medical care within the community but one which was well integrated and coordinated with the care which patients receive in hospitals (Brearley, 1978, p. 71; Ferguson and McPhail, 1954).

Not only was there poor coordination among the three parts of the service, but within each branch there were also problems which reflected the persistence of cleavages in the health delivery system which predated NHS. The division between teaching and nonteaching hospitals was such an example. As NHS was being planned, the Goodenough Committee, the Hospital Surveys, and the Medical Planning Commission had advocated a hospital system which would break down barriers between elite and nonelite

hospitals. Though the Goodenough Committee had wanted universities to become integrated with hospitals throughout hospital regions, in fact, the NHS established effective links only between university medical schools and hospitals which were designated as teaching hospitals. Instead of the very best specialists radiating throughout all hospitals within a region, the separation of the hospitals into teaching and nonteaching hospitals has meant that there has been a great deal of insularity among some of Britain's better medical practitioners who simply have been confined to one basic hospital. Because the former elite teaching hospitals have been permitted to retain their individual identities under Boards of Governors--separate from the Regional Hospital Boards which control all other hospitals--the old jealousies and divisions between the elite teaching and the nonteaching hospitals have persisted. And while the standards of nonteaching hospitals have risen substantially under the NHS, most of the teaching hospitals have continued to have the best facilities, equipment, and more money--and the best staff, as it is "more prestigious and lucrative to be attached to a teaching hospital" (Stevens, 1966, p. 89). Teaching hospitals have been permitted to have more private beds, more interesting cases, and more distinction awards. And although the hospital authorities may in theory join together to plan for better medical care in their particular area, in fact having two types of hospitals has led to a great deal of duplication and higher hospital costs (Eckstein, 1958, pp. 245-46).

Pressures by Different Groups to Shape NHS Policy

Most organized groups make some effort to influence government policy. However, their potential to shape government policy varies according to their size, the social status of the members making up the group, the ability of the group to articulate and communicate their demands to the political elite, and the resources of the group. The level of society at which a group is organized is a very important consideration in influencing its success in the political arena. If a group is organized at the local level but the policy issue is shaped at the national level, the group will be less successful in shaping outcomes than the group which is organized at the national level. Similarly, the group which is a multipurpose organization is less likely to be as effective in shaping outcomes than the single purpose organization--all other things being equal. The following four-cell table describes how these two dimensions may be cross-classified.

		Locus of Interest	
		Local	National
Scope of Interests	Specific Issue Area	Local Recreation Club	British Medical Association Royal College of Physicians Royal College of Surgeons
	Multiple Issue Areas	Local Chamber of Commerce	National Labor Unions

With these dimensions, one observes that the British Medical Association and the various Royal Colleges are organized at the national level and have been concerned primarily with the one-issue area of medical policy. For these

reasons, the B.M.A. and the Royal Colleges, relative to other groups, have had an enormous advantage in shaping health policy. In addition, the members of the medical profession have had an important resource which other groups have lacked: a monopoly over a great deal of the technology for the delivery of medical services. The importance of this resource grew as the tools of the medical profession were no longer carried around in a little black bag but became increasingly complex and specialized. For all of these reasons, under NHS the British medical profession has become more intimately involved in shaping medical policy (Stevens, 1966, p. 259). Doctors have served as administrators within the Ministry of Health and have dominated the advisory committees, which have provided professional opinions on administrative matters that have tended to be implemented as policy.

In addition, the medical profession has been closely integrated into the structure of hospital administration. Doctors are permitted to serve on the Hospital Management Committee of their own hospital, though nurses and pharmacists are not. Moreover, consultants are permitted to serve on the Regional Hospital Boards and the Boards of Governors, which employ them, (Ibid., p. 260) and as suggested above, they have tended to dominate the boards.

The specialists and consultants have been much more powerful in shaping medical policy than the general practitioners. Although general practitioners have served on local executive councils, unlike the Regional Hospital Boards and the Boards of Governors, the councils do

not engage in planning but are merely administrative bodies. Commenting about the fact that executive councils merely implement the policies of the Minister of Health, one chairman of a local executive council observed, "We are very much a stamping machine" (Ibid., p. 267). It is the consultants, via the Royal Colleges, who exercise the greatest impact on policy. The most important body through which the consultants increased their power was the Joint Consultants Committee (JCC). Through the JCC, consultants had vital links with every major body involved in shaping ministerial decisions on health policy. According to one authority, the consultants and specialists became so influential in shaping medical policy that the Ministry of Health stepped in only on those issues and occasions that the profession was unwilling or unable to shape its own policies (Stevens, 1966).

In large part, the tripartite national health system resulted because each major bloc within the medical profession insisted on the type of service with which it had the most experience. The consultants within the teaching hospitals demanded that the teaching hospitals be separate from the rest of the hospital service, while consultants in both types of hospitals wanted all general practitioners to be excluded from the hospitals. Meantime, the general practitioners demanded that they work independently from the local health authorities. And the smallest group within the medical profession, the local medical officers, preferred that their activity be targeted at local health centers. Although the medical profession was not happy with the tripartite system, the medical profession was largely responsible for it, as each group within the profession was sufficiently powerful to implement its views on those



issues which it considered to be most salient. Meantime, the consumer's voice became less frequently heard on matters of medical policy, very much in contrast to the early part of the twentieth century when friendly societies and other consumer groups played an important role in shaping the conditions under which doctors would provide medical services.

#### The Difficulty of Reducing Inequality across Regions

When the NHS came into existence in 1948, there were gross variations in the distribution of hospital beds, consultants, general practitioners, and other health services across regions. To have reduced these inequities over time would have required investing more resources in some regions than in others, and this was difficult to bring about--for even if some regions had not been treated equally in the past, the regions which had received more resources in the past did not wish to give up any allocations in order to bring the regions into some type of equilibrium.

Over time, there was some narrowing of differentials among regions in regard to some resources, but the system did not work as Bevan and some of the original planners of the NHS had hoped. The Medical Practices Committee, working in conjunction with local executive councils, attempted to rationalize the distribution of general practitioners by a system of negative direction which closed overdoctored areas to newcomers. This system helped to narrow the inequity in the distribution of GP's as long as the number of doctors was expanding, but when a decline in the number of doctors occurred during the 1960s, the underdoctored and less fashionable areas suffered most (Cooper, 1975, p. 61). In general, doctors preferred

to work in the areas with which they have had the most links. Thus, it is not surprising that one study demonstrated that a doctor's original home and the location of his medical school were the best predictors of where he tended to practice (Butler, et al., 1973).

The distribution of consultants was handled somewhat differently, as there was an Advisory Committee on Consultant Establishments, the chief task of which was to act as the agent of the Ministry of Health and to decide whether the Regional Hospital Boards and the Boards of Governors of hospitals could appoint consultants. The Committee did not indicate where there should be consultants, but it waited for applications to be made and then acted upon them (Stevens, 1966, p. 228). Because each nonteaching hospital was integrated into a large hospital region, the consultant services of hospitals improved substantially. Even so, the regional differences in the distribution of consultants which existed in 1948 still persisted twenty years later (Stevens, 1966, pp. 235-237; Logan, 1971, p. 12; Cooper, 1975, p. 64). Some differences even widened over time. In general, a region deficient in one type of resource has been deficient in others. Regions which ranked low on the distribution of consultants also tended to be low on the distribution of nurses, as well as on capital and operating expenditures (Cooper, 1975, p. 63). On the other hand, differences within regions have narrowed as a result of NHS, even if most differences across regions have persisted. Since 1971, however, there have been serious efforts to allocate resources across hospital regions more equitably, but the outcome of those endeavors is too early to determine.

A within-and-across regional difference has persisted during the history of the NHS between the teaching and nonteaching hospitals. Whereas in the very early years of the NHS the medical staff of nonteaching hospitals increased at a faster rate than in teaching hospitals, that trend was reversed by 1955, at which time the senior and junior staff of teaching hospitals increased much more rapidly than in the nonteaching hospitals. By the middle 1960s, compared with nonteaching hospitals the teaching hospitals had, per 1,000 beds, a third more consultants, six times as many senior registrars, over 50 percent more registrars, 171 percent more house officers, and 60 percent more full-time nurses (Forsyth, 1966, p. 727). Moreover, several studies have demonstrated that patients of similar age, sex, and social class have a much higher chance of dying in a nonteaching hospital from such ailments as appendicitis, schaeamic heart disease, hyperplasia of the prostate, skull fractures and other head injuries, as well as from other common hospital conditions. The differentials in the two types of hospitals result from the fact that nonteaching hospitals carry a disproportionate amount of emergency caseloads and have to work under great pressure. And in general, they provide somewhat inferior treatment, and the educational standards of their junior staff are somewhat lower.

The teaching hospitals before 1948 had been in the private nonprofit sector, and many observers believed that the high quality of their performance relative to public hospitals resulted from the private nonprofit status. The history of the teaching hospitals since 1948, under state control,

however, should demonstrate that high quality care and a high level of innovativeness may result in the public sector as well. The differential performance between teaching and nonteaching hospitals during the twentieth century has had very little to do with such legal distinctions as the public or private nonprofit character of hospitals. Rather the differential has resulted from the fact that a great deal of money and other resources have been lavished on the teaching hospitals. It is the availability of resources and the type of work conditions which these make possible that explains the superior performance of the teaching hospitals. In addition, some of the persisting differences between teaching and nonteaching hospitals are due to tradition. Staff members working in teaching hospitals have long been socialized to provide excellence in care, and this type of expectation is more quickly transmitted to new staff members than in nonteaching hospitals which did not evolve from such a tradition.

#### Inadequate Information from the Government In Order to Faciliate Change

In dealing with the National Health Service, government bureaucrats have been guided less in their policy making by social theory and research than by the pressures of groups which advocated particular types of change. Because the policies which the policymaker considers only marginally differ from those presently in effect, the number of alternative policies to be considered at any point in time was almost invariably small. As a result, administrators considered themselves under little obligation to be informed by a great deal of research. Partly for these reasons, the Ministry of Health conducted very little research for NHS about medical delivery. Not

only in the NHS but in other government agencies as well, the use of modern statistical analysis has been grossly deficient in centralized decision making. As a result, decisions about the number of doctors, consultants, nurses, beds, current operating and capital expenditures have rarely been guided by research. The decision-making strategy has been a very conservative one, in which the government rarely attempted to reach optimal solutions to problems but acted incrementally in response to organized pressures. It is difficult for the investigator to find much evidence that research was used to allocate resources to one region instead of another, or to teaching hospitals instead of to nonteaching hospitals. One may safely argue that until 1971 the Ministry of Health rarely allocated any resources on the basis of a need formula, for the Ministry had no adequate comprehension of how medical needs of different populations should be defined (Cooper, 1975, p. 70). For example, the Under-Secretary of State for Health announced to the House of Commons in 1972, "At present we have neither a comprehensive assessment of need nor a thorough going audit, as it were, of the existing stock" (Ibid.) The decision-making process was clearly what Lindbloom has called "muddling through"--unsystematic in its policy formation and evaluation procedures (Maddox, 1971, pp. 439-448).

British society constantly cried out for more medical resources, but the government's record was very deficient in providing analysis for determining what type of training and level of skills are necessary to respond to the clinical needs of patients. True, the British government

carried out some manpower studies, but rarely in relation to other components in the system (Logan, 1971, pp. 6-17). In sum, government decisions were shaped very much in response to advisory committees made up of medical personnel and very little by staff research within the Ministry (Maddox, 1971); thus opportunities were very restricted for the NHS to evaluate its performance.

These problems were not unique to Britain, however. The amount of resources which should be allocated to the National Health Service or to the health delivery system of any country is still made without much objective or scientific basis. Moreover, the relationship between the resources allocated and the quality of care rendered is still very much an unknown subject. Despite all the centralized planning that goes on in Great Britain, the science of resource allocation in medical care is still in a very primitive stage of development (English, 1976, pp. 164-170).

#### The Disjuncture between Preventive and Curative Care

In many respects, the socialization and education of doctors has equipped them better to deal with the disease patterns which existed in the early part of the twentieth century than with the illnesses which are more prevalent in our own day. Indeed, much of the thinking of the NHS after 1948 was still cast in terms of the acute and infectious illnesses of the past, with their kill or cure outcome. The emphasis was on providing a set of services which would guide the patient through the curative facilities of the hospital. But the improvement in the standard of living and the development of a vast array of antibacterial drugs have

changed the pattern of medical needs. Instead of this change resulting in a healthier population, however, it has resulted in one requiring treatment for congenital and degenerative diseases. Most of the emphasis in medical care has shifted from the treatment of the acutely ill to the provision of medical care to the chronically sick and disabled.

It has taken a long time, however, for the medical profession to change its educational outlook to deal properly with the chronically ill, to become aware that most hospital care should be viewed as an episode in long-term care, and that good medical care requires more coordination and integration of services for inpatient and outpatient care. By the early 1970s, the Ministry of Health had become very much aware of the interdependence of hospital and primary care and the necessity of integrating preventive and curative medicine, as well as the preventive, primary, and hospital dimensions of medical care. The tripartite structure of the first twenty-six years of the NHS, however, had proceeded on the assumption that the three dimensions of preventive (local health authority care facilities), primary (the executive councils), and hospital care could be separate and distinctive branches of medicine. Because the administrative structure reflected three different philosophies of providing care, there was a great deal of competition among the three branches and not enough coordination and communication with a goal of integrating the entire system. As the thinking within the medical profession changed, however, the distinctions among preventive, primary, and hospital care became increasingly blurred, suggesting that the structure

of the NHS was anachronistic and required some fundamental structural changes. And it is in this context that there were serious efforts during the 1970s to change the structure of the NHS in order to better integrate the curative and preventive as well as the hospital and outpatient care facilities.

#### CONCLUDING OBSERVATIONS

Throughout its history, the National Health Service has had a highly centralized industrial relations system, but the highly centralized system of negotiating with employees has exacerbated relations between the NHS staff and management (the government).

The establishment of the National Health Service in 1948 brought about the automatic recognition that all hospital workers had a right to join a labor union of their choice. But the government has often appeared to be insensitive to the needs of less visible hospital workers, particularly the nonprofessional manual workers; because negotiations between unions and management have taken place at a national level, many workplace problems of a local nature have often been ignored by negotiators. Moreover, the morale of NHS workers was seriously affected by the inflation of the 1960s and 1970s, as the government vigorously attempted to resist demands for higher pay. Quite apart from stresses resulting over pay issues, there have been strains within the NHS because of the changing roles of health professionals. For example, the morale of some consultants has been adversely affected because of the increased influence of nurses



and other staff within the hospitals and the development of a multidisciplinary approach to patient care. Although these changes have occurred on both sides of the Atlantic because of advances in medical technology, their effect has probably had more negative consequences on the morale of hospital-based doctors in Britain because the more centralized system has not had the capacity to make compensating adjustments to those who have felt aggrieved.

Had the British a pluralistic and decentralized health delivery system, as in America, disputes involving pay and morale would have been diffused among multiple centers of power. Because the British system is so highly centralized, however, discontent has tended to be centralized, and this had done much to undermine the public legitimacy of the National Health Service. Disagreements over pay disputes and morale problems have tended to be featured on television and in the newspapers, which have over the years had a cumulative effect of undermining the morale of NHS staff.

Although hospital workers have consistently felt considerable social responsibility for patients, over the years they have observed workers in other industries benefiting from strike action. As a result, since 1960 there has been an expansion of trade union membership among NHS professional workers. By 1976, every grade of hospital staff had engaged in some type of strike action over a multiplicity of disputes involving work conditions, pay, and disciplinary matters. Even so, the number of days lost through strike action by NHS staff has been very small in comparison to the

British workforce as a whole (see Table 9), though the labor problems in 1973 did become very severe within the NHS. There have been many types of industrial action other than strikes, however; for example, working to rule, going slow, and refusal to cooperate with management on specific issues.

The various unions representing NHS staff have met nationally to negotiate work conditions in bodies known as Whitley Councils. There have been ten different but linked Whitley Councils consisting of representatives of unions and management which cover the different grades of hospital workers. Doctors and dentists, however, negotiate directly with the government and are subject to the periodic recommendations of the Doctors and Dentists Review Body. The Whitley Councils provide standardized, centrally negotiated terms of work and promote the unity of NHS, but they have tended to ignore the complexities of many local issues, often resulting in low morale at the local level. In addition, the negotiators on management's side have usually had little or no control over the amount of money available, as the NHS is mostly Exchequer financed. As a result, unions have often been frustrated when management negotiators have been overruled by other parts of the government, and this has caused labor to be distrustful of the negotiating process (Royal Commission on the National Health Service, 1979, p. 165).

Over the years, some of the less influential NHS staff have strongly felt that NHS has not dealt fairly with them. For example, the hospital ancillary workers were clearly underpaid and underappreciated during the

first two decades of the NHS. And as late as 1972, a substantial number of ancillary workers were being paid salaries below the government's official poverty line and would have been better off financially had they stopped working and received unemployment and social security benefits (Widgery, 1976, p. 304).

Table 9

Comparison of Days Lost Through Strike Action in the NHS  
With the Workforce as a Whole: Great Britain  
1966-1977

Year	Number of NHS Stoppages	Number of Staff Involved	Average Number of Days Lost per 1,000 NHS Staff	Average Number of Days Lost per 1,000 Employees in Great Britain
1966	2	500	.69	100
1970	5	1,300	8.46	499.2
1973	18	59,000	353.5	324.4
1975	19	6,000	21.88	270.6
1977	21	2,970	8.44	448.0

Source: Royal Commission on the National Health Service, 1979, p. 163.

Another group long dissatisfied with their work conditions consisted of the hospital-based junior doctors. The Junior Hospital Doctors Association emerged during the 1960s "to dramatize the conditions of house officers doing their compulsory preregistration jobs in a sort of medieval apprenticeship and the long hours, poor residential conditions, and bad educational

facilities for registrars (interns) who were still undergoing hospital-based postgraduate specialist education but were more often used as cheap medical labor" (Ibid., p. 303).

As the result of taking vigorous industrial action against the NHS, and after much confrontation, the ancillary workers and junior doctors were able to improve their pay as well as work conditions. This, of course, only encouraged other groups to believe that in order to bargain effectively with an employer as highly centralized and powerful as the NHS, it was necessary for them also to use vigorous countervailing power and the threat of strikes. And it was the frequent threat of strike action by first one group within NHS and then another that caused the politics of health care to become a national topic of daily discussion by the 1970s.

The problem of industrial relations may well pose the most serious challenges to the National Health Service. The highly centralized structure of NHS has encouraged the staff to develop their own organizations. Because labor organizations tend to be protective of their members, resistance and opposition to change and innovations can easily develop. The character of medical care is constantly changing--often very rapidly, meaning that an efficient medical delivery system requires enough flexibility so that tasks and functions can easily be redistributed among professionals. To meet the challenge of change and innovations, staffing structures need to be flexible, so that professionals, whose skills become obsolete, may either acquire additional training or be

retrained. Duties often have to be redefined. But as professional and labor organizations acquire more power to protect their members, the potential increases for serious tension between the need for a flexible medical delivery system and the desire of staff to protect their positions. It remains to be seen whether a system as centralized as the National Health Service, containing many well organized blocs of power, can maintain the necessary flexibility to adjust to the changes dictated by new medical technology. Thus far, however, the NHS has maintained a high degree of professionalism and has had sufficient flexibility to adjust to the rapidly changing world of medical technology.

Centralization has become not only a key variable in social science research but also an important subject of political controversy. In Britain, there has been considerable debate as to whether the National Health Service has become too centralized. Some allege that because of its high level of centralization the system has been unresponsive to public pressures. On the other hand, critics frequently charge that the American medical system is too costly because the government does not have sufficient enough control over how government resources are spent. An added dimension to this argument is the contention that a system as decentralized as the American one has permitted the most powerfully organized groups within the medical system (e.g., the providers) to shape most of its critical policies.

The information reviewed here suggests that the centralized National Health Service has acted as a constraint on British spending on medical

care. When one compares the British system with those of other societies which have spent more resources on health care, there does not appear to be any evidence that had the British invested more resources on medical care the level of health in British society would have been significantly affected. In addition, a high degree of centralization often promotes greater standardization of resources across regions, and this is true in Britain to some degree, even though regional inequities persist.

But even if a highly centralized system is more cost-efficient and tends to produce more equality in the distribution of resources across regions than a decentralized system, it does encounter costs with its personnel. A highly centralized system is more impersonal, and it is difficult for its employees to develop a strong positive identity with the system. In a decentralized or smaller system, there is a likelihood that staff members will have greater loyalty to the system and that their morale will be higher. The highly centralized NHS system has tended to generate countervailing power that is highly mobilized among the constituent parts of the system, which in turn has led to protracted and intense negotiations between management and labor. Employee loyalties to nationwide labor unions and professional associations have become stronger, while loyalties to particular hospitals or the National Health Service have become weaker. There has been very limited ability to contain labor-management disputes at the local level, as cleavages have tended to become nationwide in scope.

On the other hand, the decentralized American medical delivery system has been less cost-efficient and has had more inequities in the distribution

of resources across regions, but it has had much less strife between the constituent parts of the system than has been the case in Britain. Of course, even in the United States, there was increased unionization during the 1960s and 1970s among hospital workers, nurses, and doctors, but negotiations between the unions and management have been confined to the level of an individual hospital and have not become nationwide. Moreover, a high percentage of American physicians have been self-employed or have worked in private clinics. It has been the decentralized structure of the American system that has enhanced its ability to contain disputes at the local level or within a single hospital, which in turn has done much to prevent labor-management disputes from undermining the legitimacy of the entire system.

## REFERENCES

- Abel-Smith, Brian, and Richard Titmuss. The Cost of the National Health Service in England and Wales. Cambridge, England: University Press, 1956.
- American College of Surgeons and American Surgical Association. Surgery in the United States. Chicago: American College of Surgeons, 1975.
- Andersen, Ronald, and Odin W. Anderson. A Decade of Health Services: Social Survey Trends in Use and Expenditures. Chicago: University of Chicago Press, 1967.
- Anderson, Odin W., and Jacob J. Feldman. Family Medical Costs and Voluntary Health Insurance: A Nationwide Survey. New York: Blackiston Division of McGraw-Hill, 1956.
- Anderson, Odin W., and Paul B. Sheatsley. Comprehensive Medical Insurance: A Study of Costs, Use and Attitudes under Two Plans. Research Series No. 9. New York: Health Information Foundation, 1959.
- Blackstone, Erwin A. "Misallocation of Medical Resources: The Problem of Excessive Surgery." Public Policy, 22 (Summer, 1974), 329-352.
- Blackstone, Erwin A. "The Condition of Surgery: An Analysis of the American College of Surgeons and the American Surgical Association's Report on the Status of Surgery." Milbank Memorial Fund Quarterly, 55 (Fall 1977), 429-454.
- Brearley, Paul. The Social Context of Health Care. London: Martin Robertson, 1978.
- Butler, I. R., J. M. Bevan, and R. C. Taylor. Family Doctors and Public Policy. London: Routledge and Kegan Paul, 1973.



Cartwright, Ann. Patients and Their Doctors. London: Routledge and Kegan Paul, 1967.

Central Office of Information. See Great Britain, Central Office of Information.

Cooper, Michael H. "Economics of Need: The Experience of the British Health Services." In Mark Perlman, editor, The Economics of Health and Medical Care. New York: John Wiley and Sons, 1974.

Cooper, Michael H. Rationing Health Care. New York: John Wiley and Sons, 1975.

Davis, Karen. "Theories of Hospital Inflation: Some Empirical Evidence." Journal of Human Resources, 8 (1974), 181-201.

Densen, Paul M., Sam Shapiro, Ellen W. Jones, and Irving Baldinger. "Prepaid Medical Care and Hospital Utilization." Hospitals, 36 (1962), 63-68, 138.

Department of Health and Social Security. See Great Britain, Department of Health and Social Security.

Donabedian, Avedis. Benefits in Medical Care Programs. Cambridge, Mass.: Harvard University Press, 1976.

Dozier, D., M. Krupp, S. Melinkoff, C. Schwarberg, and M. Watts. Final Report on the Survey of Consumer Experience under the State of California Employees' Hospital and Medical Care Act. Sacramento: State of California, 1968.

Dozier, D. et al. Report of the Medical and Hospital Advisory Council to the Board of Administration of the California State Employees' Retirement System. Sacramento: State of California, 1964.

- Eckstein, Harry. The English Health Services. Cambridge, Mass.: Harvard University Press, 1958.
- English, Manuel L. "Budgeting for National Health Expenditures: The British System." World Hospitals, (1976), 164-171.
- Evans, Robert G. "Supplier-Induced Demand: Some Empirical Evidence and Implications." In Mark Perlman, editor, The Economics of Health and Medical Care. New York: John Wiley and Sons, 1974.
- Fein, Rashi. The Doctor Shortage: An Economic Diagnosis. Washington, D.C.: The Brookings Institution, 1967.
- Feldstein, Martin S. "Developments in Health Service Administration and Financial Control." Medical Care, I (January-March, 1963), 171-177.
- Feldstein, Martin S. Economic Analysis for Health Service Efficiency. Amsterdam: North-Holland Publishing Company, 1967.
- Feldstein, Martin S. "The Rising Price of Physicians Services." The Review of Economics and Statistics, 52 (1970), 121-133.
- Feldstein, Paul J., and Ruth Severson. "The Demand for Medical Care." Report of the Commission on the Cost of Medical Care, Vol. I, General Report. Chicago: American Medical Association, 1964.
- Ferguson, T., and A. N. McPhail. Hospital and Community. Oxford: Oxford University Press, 1954.
- Forsyth, Gordon. Doctors and State Medicine: A Study of the British Health. London: Pittman Medical Publishing, 1966.
- Fuchs, Victor R. Who Shall Live? New York: Basic Books, 1974.
- Glaser, William A. Paying the Doctor. Baltimore, Md.: Johns Hopkins Press, 1970.

- Great Britain, Department of Health and Social Security. Health and Personal Social Service Statistics 1972. London: H.M.S.O., 1973.
- Great Britain, Ministry of Health. Hospital Survey: The Hospital Services of the North-Western Area. London: H.M.S.O., 1945a.
- Great Britain, Ministry of Health. Hospital Survey: The Hospital Services of South Wales and Monmouthshire. London: H.M.S.O., 1945b.
- Great Britain, Central Office of Information, Reference Division, Health Services in Britain. London: H.M.S.O., 1974.
- Gregory, Janet. Patients Attitudes to the Hospital Services. Royal Commission on the National Health Service Research Paper Number 5. London: H.M.S.O., 1978.
- Hage, Jerald, and Michael Aiken. Social Change in Complex Organizations. New York: Random House, 1970.
- Hastings, J. E. F., Mott, F. O., Barclay, A., et al. "Prepaid Group Practice in Sault Ste. Marie, Ontario." Medical Care, 11 (1973), 91-103, 173-188.
- Health Insurance Plan of Greater New York. Health and Medical Care Under Three Types of Health Insurance. Cambridge, Mass.: Harvard University Press, 1957.
- Hollingsworth, J. Rogers. Perspectives on Inequality in Education and Health in Great Britain and the United States. Unpublished paper presented before the Comparative and International Education Society, Toronto, February 26, 1976.
- Hollingsworth, J. Rogers, Jerald Hage, and Robert Hanneman. The Impact of the Organization of Medical Delivery Systems on Health Efficiency. Unpublished paper presented before the American Sociological Association, San Francisco, September 4, 1978.

- Hollingsworth, J. Rogers, and Robert Hanneman. Centralization in Health and Educational Delivery Systems: The British and American Experience. Unpublished paper presented before the American Political Science Association, New York, September, 1978.
- Interim Report of the Committee on the Cost of Prescribing. Hinchliff Interim Report. London: H.M.S.O., 1958.
- Jewkes, John, and Sylvia Jewkes. The Genesis of the British National Health Services. Oxford, England: Basil Blackwell and Mott Ltd., 1961.
- Jones, Francis A. and McCarthy, Mark. "Understanding Waiting Lists." The Lancet, (July 1, 1978), 34-36.
- Jordan, William S. Community Medicine in the United Kingdom. New York: Springer Pub. Co., 1978.
- Law, Sylvia. Blue Cross: What Went Wrong? New Haven: Yale University Press, 1974.
- Lindbloom, Charles. "The Science of 'Muddling Through.'" Public Administration Review, 19 (Spring, 1959), 79-88.
- Lindsey, Almont. Socialized Medicine in England and Wales: The National Health Service, 1948-1961. Chapel Hill: University of North Carolina Press, 1962.
- Logan, R.F.L. "National Health Planning--An Appraisal of the Art." International Journal of Health Services, 1 (February, 1971), 6-17.
- Maddox, George L. "Muddling Through: Planning for Health Care in England." Medical Care, 9 (September-October, 1971), 439-448.
- Mechanic, David. "Assumptions Underlying Cost-Containment Philosophies: Strategies for Medical Care." Research and Analytic Report Series. Madison: Home Economics Research Center/Center for Medical Sociology and Health Services Research, University of Wisconsin, 1977.

- Ministry of Health. See Great Britain, Ministry of Health.
- Monsma, George N., Jr. "Marginal Revenue and the Demand for Physicians' Services." In Herbert E. Klarman, editor, Empirical Studies in Health Economics. Baltimore: The Johns Hopkins Press, 1970.
- National Advisory Commission on Health Manpower. "The Kaiser Foundation Medical Care Plan." In Report of the National Advisory Commission on Health Manpower Vol. 2. Washington, D.C.: Government Printing Office, 1967.
- National Center for Health Statistics. Infant Mortality Rates: Socioeconomic Factors. Series 22, No. 14. Washington, D.C.: Government Printing Office, 1972.
- Odoroff, M. E., and L. M. Abbe. "Use of General Hospitals, Variation with Methods of Payment." Public Health Reports, 74 (1959), 316-324.
- Okun, Arthur M. Equality and Efficiency: The Big Trade-Off. Washington, D.C.: The Brookings Institution, 1975.
- Phelps, Charles E., and Joseph P. Newhouse. "Effect of Coinsurance: A Multivariate Analysis." Social Security Bulletin, 35 (1972), 20-29.
- Price, Derek, and John de Solla. Little Science, Big Science. New York: Columbia University Press, 1963.
- Rabin, David L., and Patricia Bush. "The Use of Medicines: Historical Trends and International Comparison." International Journal of Health Services, 4 (Winter, 1974), 66.
- Royal Commission on the National Health Service. London: H.M.S.O., 1979.
- Schicke, R. K. "The Pharmaceutical Market and Prescription Drugs in the Federal Republic of Germany: Cross National Comparisons." International Journal of Health Services, 3 (Spring, 1973), 223-236.

- Stevens, Rosemary. Medical Practice in Modern England: The Impact of Specialization and State Medicine. New Haven: Yale University Press, 1966.
- Stevens, Rosemary. American Medicine and the Public Interest. New Haven: Yale University Press, 1973.
- Stevens, Robert, and Rosemary Stevens. Welfare Medicine in America: A Case Study of Medicaid. New York: The Free Press, 1974.
- Weisbrod, Burton A. The Private Nonprofit Sector: What Is It? Discussion Paper, 416-77. Madison: Institute for Research on Poverty, University of Wisconsin 1977.
- West, P. A. "Allocation and Equity in the Public Sector." Applied Economics, 5 (1973), 153-166.
- Widgery, David. "Unions and Strikes in the National Health Service in Britain." International Journal of Health Services, 6 (1976), 301-308.