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Management without objectives
The French health policy gamble

ABSTRACT

The combined behaviour of providers and consumers under French NHI has led to a dynamic proprietary sector, the growth and modernization of public hospitals, and a flood of new doctors. Medicine in France has become not only big business but good business. However, the price of prosperity in the health sector has been an explosion of health care costs. Although this has created pressure for the State to strengthen controls over the health system, French policy-makers have made an unambiguous gamble in favour of the *status quo*—they have taken stop-gap measures in order to avert more jolting structural reforms.

After highlighting the virtues of the French health system and the evolution of health policy, this paper presents the long-cycle trends in average growth rates of medical care consumption, and analyzes the two principal management options to balance the structural deficit in health care financing: methods to increase revenues and methods to control expenditures. Finally, the paper considers three unresolved problems in managing the French health system and postulates that the combination of NHI and *la médecine libérale* will survive only so long as these issues are avoided.

INTRODUCTION

Images of health systems abroad are usually distorted perceptions of what one would like to imitate or avoid at home. In the United States, we harbour images of barefoot doctors in China, and socialized medicine with long queues in Britain. The French envisage a 'big brother' state delivering medical care in Britain and a significant portion of the population of the United States—those without health insurance—walking the streets without care (1). Whatever images the British

have developed about the delivery of medical care outside the NHS, this paper should help in assessing their neighbour's health system across the Channel.

In contrast to Britain, following the Second World War, France was not a pathbreaker in the domain of social policy. Although the Laroque Report was instrumental in laying the foundations for a social security system based on the notion of national solidarity, unlike the Beveridge Report, it did not reassess the role of the State in assuming responsibility for the general welfare (2). Nor was its influence as broad as that of the Beveridge Report. Whereas the British State increased its control over the health system in one swoop through the nationalization of hospitals and the creation of the NHS in 1948, the French State increased its control more gradually while involving business groups—the *patronat*—and trade unions in the management of the social security system. As a result of exercising such prudence before tampering with the financing of medical care, the French health system is characterized by the co-existence of NHI and private medical practice under fee-for-service reimbursement—what the French call *la médecine libérale.*

Douglas Ashford has observed that Britain created its welfare state 'by intent' and France 'by default' (3). The paradoxical result is that Britain—the former welfare leader—spends less (per capita) on health care than all other Western European nations, including France—the former welfare laggard (4). What is more, the British elected a Conservative Government which pledged to reduce social expenditures while the French elected a Socialist President whose programme involves increasing social expenditures. In the course of catching up with the level of British health expenditures, France has developed a prosperous health sector and captured the imagination of certain British politicians in the Thatcher Government (5). Is this phenomenon another case of the grass seeming to be greener across the Channel like French-style economic planning during the sixties? Or is the organization of medical care, *à la française*, a system worthy of imitation?

It is presumptuous to answer this question dispassionately; it provokes a host of value judgments and ideological

predispositions about the proper role of the State in the social organization of medical care (6). For this reason, in the present essay I proceed rather indirectly so as to enable the reader to arrive at an independent judgment. I begin by sketching the broad features of the French health care system and highlighting its virtues. Then I attempt to fill in this image by reviewing the evolution of French health policy. Finally, I analyse the problem of rising health care costs and discuss some unresolved issues of regulatory policy and management based on my experience in working with the Director of the principal NHI Fund.

AN OVERVIEW OF THE FRENCH HEALTH CARE SYSTEM

The French health system is a prototype of continental European health systems: its distinguishing characteristics are collective financing, through the mechanism of NHI, and the coexistence of a public and private sector for the provision of medical services (7).

National Health Insurance

French NHI is part of the country's comprehensive social security system originally legislated in 1928 and implemented in 1930 (8). At first, NHI was mandatory for specific occupational groups and administered by private insurance and mutual aid funds. Since 1945, however, the Social Security Ordinance committed the State to devising a unitary NHI programme with equal benefits for all (9). This process of extending health insurance coverage and making benefits uniform has taken over thirty years and is still not complete. Virtually the entire population (99 per cent) is now covered under four NHI funds. The majority (75 per cent) are covered by the *Caisse Nationale d'Assurance Maladie des Travailleurs Salariés (CNAMTS)*—the NHI Fund for Salaried Workers (10). However, agricultural workers (8 per cent), the self-employed (7 per cent), and a set of special interest groups (9 per cent), have their own health insurance funds.

The self-employed are eligible for fewer benefits and required to pay higher co-payments than salaried workers, and the special interest groups such as miners, merchant seamen, railway workers, veterans, and public employees maintain their right to more favourable benefits. In spite of this pluralism in the structure of French NHI, one can safely say that the French have succeeded in eliminating financial barriers to medical care.

From the point of view of reimbursement, all four NHI funds have similar hierarchical structures to facilitate service to their subscribers. The CNAMTS, for example, which finances roughly 70 per cent of aggregate health expenditures and 30 per cent of the capital for hospital investment is organized around 16 regional health insurance funds and 122 local 'primary' health insurance funds. In French administrative law, the CNAMTS is a private organization charged with a public service. But in reality it is quasi-public since it falls under close ministerial supervision; and it is parafiscal since it is financed not directly from state revenues but almost entirely by employer and employee pay-roll taxes.

From the point of view of consumers, upon visiting their physicians, they typically pay the service charge, in full, out of their pockets. Subsequently, they fill out a form and present it to their local health insurance fund, either by mail or in person. The fund will then reimburse the consumer roughly 75 per cent of the charge as set by a national fee schedule. Thus, 25 per cent of the fee is financed as a co-payment—which the French call a *ticket modérateur*. If physicians refer their patients to hospitals, they do not have to pay directly. Instead, the hospital bills their health insurance fund for roughly 80 per cent of the charges and bills the patient separately up to a maximum of 480 francs over a six-month period. The same applies to diagnostic hospital services provided on an outpatient basis and to costly drugs and laboratory tests. In the hospital, patients are eligible for further benefits. If they are kept more than three days and are unable to work, beginning on the fourth day the local health insurance fund pays cash benefits.

La médecine libérale

As far as the provision of medical services is concerned, in the ambulatory care sector, the French—particularly the medical profession—are deeply attached to a set of principles associated with *la médecine libérale:* selection of the physician by the patient and vice versa, clinical freedom for the doctor, professional confidentiality and, above all, fee-for-service payment. In the hospital sector, the French are committed not merely to the co-existence of public and private non-profit hospitals but also to proprietary hospitals *(cliniques)* which account for almost 20 per cent of the total number of beds.

La médecine libérale can be traced to an often idealized past when the health sector was a cottage industry. Office and home visits were the predominant modes of medical practice and physicians were neither concerned about primary prevention such as occupational health programmes, nor about the diffusion of medical technology, nor about regional teaching hospitals. Since the passage of the first health insurance law in 1928, French professional medical associations have sedulously cultivated an image of the personal, symbiotic doctor-patient relationship. The principles of *la médecine libérale* were first elaborated in a document called *la Charte Médicale,* in 1927. In 1955, they were codified by executive decree in the *'Code de Déontologie Médicale.'*

Despite the strength and centralization of French public administration, there are few countries where private fee-for-service practice has been more established than in France. Since the Second World War, however, as in other industrially advanced nations, French physicians have practised in a socio-economic context whose growth and changing patterns have transformed the health sector from a cottage industry to a major industrial complex. In the face of such change, the French state has wavered between protecting the prerogatives of *la médecine libérale* and adapting the health sector to the demands of a modern economy. On the one hand, policy-makers have acceded to pressures from the medical profession and the hospital industry; on the other, they have protected the right of access to medical care by extending health insurance coverage and introducing controls over physicians and hospitals.

The case for the *status quo*

In one of his rare speeches on health policy, former President Giscard d'Estaing assured the nation that 'France will remain the country which through the pluralism of its health system, will succeed in reconciling *la médecine libérale* and the socialization of its cost (NHI)' (11). Political change has not altered national policy on this matter. Neither President Mitterand nor Communist Minister of Health, Ralite, have questioned the combination of NHI and *la médecine libérale*. Although the Socialist Party Programme called for aggressive development of health centres, and although Ralite has proposed a law to abolish private pay-beds as well as private consultations within public hospitals, the fundamental ways in which medical care in France is currently financed and organized remain unchallenged.

In the long-run, as I have argued elsewhere, the marriage of NHI and *la médecine libérale* may not survive as a distinguishing characteristic of the French health system (12). Rather than planning for the health system's gradual adaptation, however, and managing its transformation in relation to long-range objectives for health care reform, French policy-makers have made an unambiguous gamble in favour of the *status quo*.

The case for the *status quo* in French medical care organization grows out of a recognition that there are virtues associated with combining NHI and the private provision of services. Above all, there is an apparent freedom from resource constraints and management objectives. This is not to suggest that France has overcome the problem of scarcity. It does suggest that critical actors in the health system behave *as if* there were no resource constraints.

From the point of view of institutional providers, since they are reimbursed on the basis of patient-day rates, they have had a carte blanche to expand. From the point of view of physicians and other health care professionals, since they are reimbursed predominantly on a fee-for-service basis, they have been given pecuniary incentives to increase consultations and medical procedures. From the perspective of consumers, there are no gatekeepers to the medical care system.

They are covered under NHI for a wide variety of treatment modalities. Pathways through the system may lead to general practitioners as easily as to specialists, to solo or group practice medical offices, to a public hospital outpatient department or to dispensaries managed by municipalities, trade-unions, or non-profit associations.

The combined behaviour of providers and consumers under French NHI has led to a dynamic proprietary sector, the growth and modernization of public hospitals and a flood of new doctors. Medicine has become not only big business but also good business. In 1975 the average income of French physicians was 51 per cent higher than that of executives and 114 per cent higher than that of engineers (13). Using 1974 data, an OECD study indicated that the ratio of an average doctor's income to that of an average production worker's was higher in France than in all other OECD countries—7·0 compared with 5·6 in the United States and a low of 2·7 in the United Kingdom (14).

The price of prosperity in the health sector has been an explosion of health care costs. Over the past decade, average annual health expenditure increases have fluctuated around 17 per cent (in current prices). Although this has created pressure for the State to strengthen controls over the health sector, as we shall see, French policy-makers have succeeded in taking short-term stop-gap measures in order to avert more jolting structural reforms.

A BRIEF HISTORY OF FRENCH HEALTH POLICY

Following the Second World War until the beginning of the 1970s, the French health system grew without any apparent constraints. This expansion phase coincided with a period of triumphant success in the medical and biological sciences. Politicians, citizens, and health professionals believed, as a general rule, that more was better: more pharmaceutical products, more hospitals, more personnel, more innovation, and more expenditures. There was a broad consensus on this approach to health policy; to such an extent, in fact, that there was no political debate about priorities in the health

sector—a sure sign of tacit agreement between major interest groups.

In the early seventies, the economic crisis struck and the situation changed. Signs of this change came as early as 1965 when the *Patronat* released its report on the future of French Social Security (15). Two years later, President de Gaulle centralized the formerly more autonomous social security funds to tighten control over social expenditures. But it is only several years later that the exponential growth of health expenditures was widely perceived and that policymakers began pointing out that this growth was not accompanied by a significant increase in life expectancy.

By the mid-seventies, questions were raised about the quality of medical care, the functions of a hospital within a health system, the prevailing method of fee-for-service reimbursement, and the effects of the CNAMTS' reimbursement policies on the structure and evolution of the health sector.

At the present time, these questions remain central to issues of regulatory policy and day-to-day management. Before reviewing the problems which they raise in more detail, however, it is helpful to highlight several turning points which have characterized the evolution of French health policy from 1945–80.

Negotiations with the medical profession

Since the first health insurance law in 1928, there have been a series of explosive conflicts between the health insurance funds and physician trade-unions (16). The controversy has repeatedly focused on the issue of fee setting. Physician trade-unions refused to abide by negotiated fees and sign contracts with the local health insurance funds because they did not want the State to be in a position to monitor and potentially control their income. Thus, until 1960, the law which was supposed to establish a negotiated fee was not enforced. The physician trade-unions even refused the 'Gazier Plan' proposed in 1956 despite the fact that it would have adjusted their fees to a cost of living index.

In 1960, two years after de Gaulle's rise to power, the government imposed a system of individual contracts on

physicians thus forcing them to accept nationally set fees if they wished to be reimbursed for their services. In giving physicians individual choice in deciding whether to abide by national fees, a severe blow was struck at the collective power of trade-unions. The government's strategic move produced irreconcilable disagreements between physicians and divided the formerly unique trade-union, the *Confederation des Syndicats Médicaux Français (CSMF)* thus leading to the creation of a second national physician trade-union, the *Federation des Médecins de France (FMF)* (17). The system of individual physician contracts functioned for a decade and in 1970, 80 per cent of physicians in private practice had signed individual contracts with the government, thus agreeing, in principle, to abide by the nationally set fees.

In 1971, largely in response to the rising costs of medical care and to ideas promoted by the VIth Plan's Commission on Health and Social Transfers (18), a national collective contract was finally accepted by the government, the CNAMTS, and the physician trade-unions (19). The contract was made for four years and applied to all physicians except those who individually took the initiative to opt out. National fees were negotiated annually on the basis of a relative value scale—the *nomenclature*—and a system of statistical profiles on the procedures performed by each physician was established to monitor the volume of medical care provision. Until 1975, for the most part, physicians abided by the fee schedule while increasing the volume of their procedures. However, during this period, the system of physician profiles was not operational and health care costs continued to grow. In 1976, a new national collective contract, almost identical to the preceding one, was signed but it functioned with difficulty especially during the annual fee negotiations.

Within two years the difficulties had grown into open conflict between the State and the largest physician trade-union, the CSMF, which represents roughly 45 per cent of all physicians in private practice. In July 1979, the government blocked the previously agreed-to increases in physician fees, urged self-discipline in controlling the volume of medical procedures, and threatened to link future increases in fees to effective control of volume such that aggregate health expen-

ditures be contained within a global budget. The CSMF called three strikes between October 1979, and June 1980. The final strike resulted in violence between physicians and the police and so in June when it came time to renew the collective contract, the CSMF opted out.

A new collective contract was signed on 1 July between the State and the FMF, which represents only 13 per cent of physicians in private practice. The innovation in this latest round of negotiations is that the collective contract applies to all physicians and that those who do not wish to abide by the national fees can sign a special agreement, thereby joining a 'second sector' in which they are free to determine their own fees 'with tact and reasonableness' so long as they indicate the fee on the patient's reimbursement form (20). The patient remains reimbursed on the basis of a national fee unless the physician has altogether opted out of the system in which case the patient is hardly reimbursed at all.

This crisis of 1980, significant as it is, is but the most recent one in a history of conflict between physician trade-unions and the State.

The Hospital Reform

In 1958, the Hospital Reform Act was passed to modernize the French hospital system by linking regional specialty hospitals to university medical schools (21). The principal provisions of the reform were to initiate a shift in the reimbursement of hospital-based physicians from fee-for-service toward salary payment and to restore the reputation of French bio-medical sciences which had progressively lagged behind since the beginning of the century. In the French tradition of reform by Decree, the Hospital Reform took advantage of Article 92 of the Fifth Republic's Constitution, which allowed the Prime Minister to pass an Ordinance and thereby circumvent normal parliamentary control. Since the architect of the reform, Robert Debré, was not only a distinguished pediatrician but also the Prime Minister's brother, implementation of this reform was closely monitored by the government. Not surprisingly, it succeeded in completely overhauling the hospital in spite of vigorous resistance by

physicians who were hostile to the principle of being paid like civil servants, by the state.

Although there were measures taken to facilitate the transition, the Hospital Reform made salaried payment in hospitals the rule and encouraged full-time salaried work. In addition, it encouraged chief physicians to engage in research and teaching as well as in clinical work. Perhaps the principal innovation following the Hospital Reform was the emergence of new scientific, as opposed to clinical, disciplines within the large teaching hospital. New professors were hired in such fields as biochemistry and biophysics and they began establishing research laboratories as well.

Despite these changes, the Hospital Reform preserved some of the financial interests of the highest ranking clinical professors—*les grands patrons*. They conserved the right to hospitalize their private paying patients in 'private' beds within their *service* at the public hospital. And they were allowed to use up to four per cent of their beds in this capacity (this privilege is about to be revoked). In addition, new investment funds accompanied the Hospital Reform and thereby increased the hospital-centred focus of the French health system. The development of new medical technology and specialization contributed to the rising costs of hospitals and eventually to the Social Security Reform.

The Social Security Reform

In 1967, the Ordinances of 21 August subsequently ratified by the Law of 31 July 1968, produced a major reform. The reasons for this were largely due to a 'structural deficit' in health insurance financing: health care costs were rising faster than the wage base on which the pay-roll taxes were levied. Having come out of a social democratic tradition, the original founders of the social security system in 1945 believed that the individual regional and local funds should be managed by elected representatives. However, this did not provide the government with the degree of control which it wanted over the funds. Consequently, the 1967 Ordinances divided the responsibility for managing the system between representatives of workers (trade-unions) and of employers

(the *patronat*). Since the trade-union movement is split (CGT, CFDT, FO) and the *patronat* is solidary, power has actually rests with an alliance between the *patronat*, the State, and the more conservative trade-union, *Force Ouvrière* (FO).

The main theme of the 1967 Ordinances was to co-ordinate the formally separate administrative branches of the entire social security system: health insurance including maternity, invalidity, and industrial accidents; family allocations; and pensions. Each branch was given a certain autonomy to manage its funds and the responsibility of keeping its financial flows in balance. In addition, the local and regional funds were placed under the administrative authority of national funds which are responsible for maintaining overall budgetary balance. On the health side of the social security system, the CNAMTS became the central banker for the entire health system.

Despite the 1967 reform, the CNAMTS has failed to eliminate recurring and growing deficits and consequently the Ministry of Finance and the Prime Minister have repeatedly intervened to increase the level of pay-roll taxes and raise questions about more fundamental reforms, none of which have yet been implemented.

The Hospital Law and health planning 1970–80

The Hospital Law and its subsequent regulations represent a new stage in the evolution of French health policy—one of planning and increasing regulation. The idea of medical progress was not questioned but subsequent to passage of the law, all new hospital construction, as well as capital expenditures, were supposed to conform to a national as well as detailed regional plans which were elaborated on the basis of national standards. This procedure is known as the *carte sanitaire* (22). Whereas all previous regulatory measures emanating from the Ministry of Health aimed to encourage hospital modernization and better management, the 1970 reform was far broader in scope. It proposed no less than a series of measures to reorganize the French hospital system by creating a new 'public hospital service' to which all private hospitals could become associated.

The Hospital Law aimed especially to control the growth of the private sector. It established regulatory commissions charged with authorizing hospital expansion and capital expenditure programmes in the private sector. In addition, the Hospital Law encouraged co-operation between hospitals within a region and sought to establish a 'harmonious distribution' of facilities based on identification of health 'needs'. The Hospital Law required the elaboration of a national as well as regional health plans. France's 21 administrative regions were divided into 284 health service areas (*secteurs sanitaires*) and each area was required to conform to national standards.

Despite the passage of the Hospital Law, however, the number of hospital beds in the private sector increased until 1978 (23) and health care expenditures have continued to soar. Since the early seventies, rising health care costs provoked concern about the state's ability to finance NHI thus casting doubt on the 'limits of solidarity' (24). The Ministry of Finance could no longer ignore the growth of health expenditures for they lead to social security deficits, increased fiscal and parafiscal pressures (from income and pay-roll taxes) and affect disposable income and the production costs of industry. Increasing costs of production get passed on to consumers either through real wage losses or price increases and this runs against French economic goals of developing an industrial sector that can compete in international markets.

THE COST EXPLOSION AND METHODS TO MANAGE IT

Long-cycle trends

Between 1960–80, as a per cent of GDP (Gross Domestic Product), the total consumption of medical services in France almost doubled from 4·3 to 8·1 (25). That represents an average annual rate increase of 15 per cent in current prices, and 7·5 per cent, in 1970 constant prices. Figures 1 and 2 depict secular trends—in current and in constant 1970 prices—of the average annual rate of increase for the three

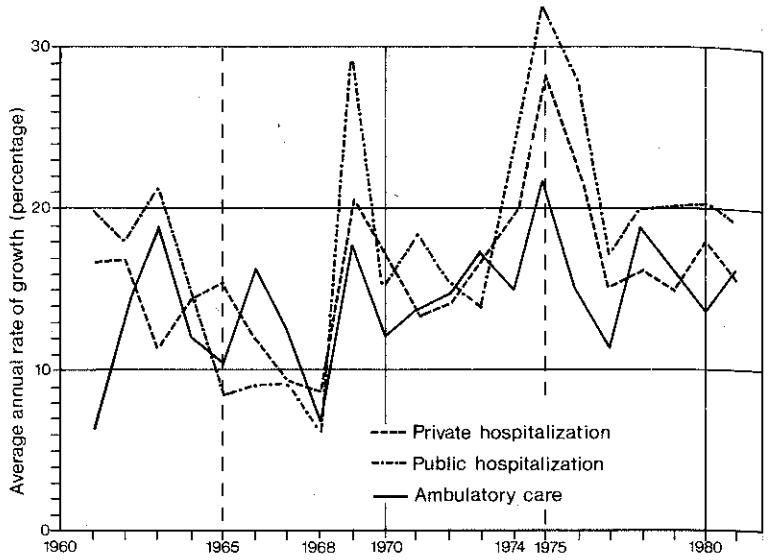

FIG. 1. Average growth-rates. Final medical care consumption in current prices.
Source: National Health Accounts (INSEE—CREDOC)

principal categories of medical care consumption: private hospitals, public hospitals, and ambulatory services in the private sector. Figure 3 depicts the average annual growth for aggregate medical consumption—public and private hospitals and ambulatory services combined—as well as for the expenditures of the CNAMTS (26).

In looking over the growth-rates of average annual health care costs, it is worthwhile noting the peaks and slumps in Figures 1–3 for they reflect the broader forces which appear to affect the growth of health care costs: hospital investment policies, macro-economic stabilization policy (particularly wage levels since 70 per cent of hospital costs are attributed to personnel), and political events.

The peak in 1960 probably corresponds to the initial stability of the Fifth Republic and to the individual contracts signed with physicians, which assured them of reimbursement in return for acceptance of nationally set fees. The

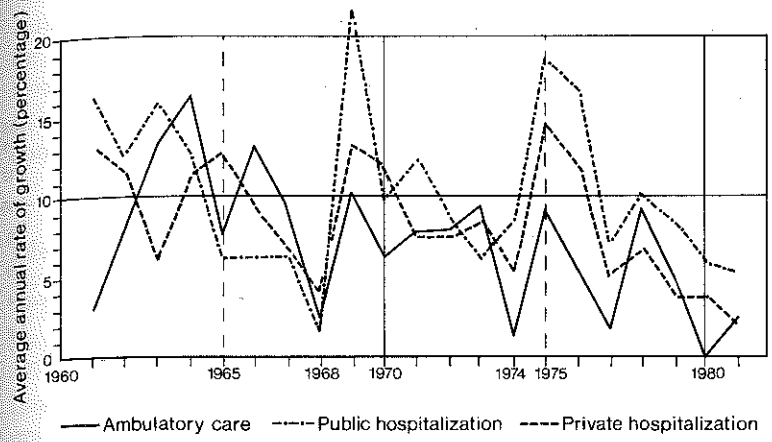

FIG. 2. Average growth-rates. Final medical care consumption in 1970 constant prices.
Source: National Health Accounts. General Price Index (INSEE)

slump in 1964 is probably a reflection of Finance Minister Giscard d'Estaing's deflationary stabilization programme of 1963. The slump of 1968 appears to reflect what the French refer to as the 'Events of May' as well as the earlier Social Security Reform of 1967 which tightened control over the local and regional health insurance funds. And the peak in 1969 coincides with the wage increases negotiated at Grenelle following the general strike.

Although health planning, particularly the *carte sanitaire* procedure was in operation during the early seventies, its effects on hospital investment and subsequent growth-rates in health care consumption could not possibly be detected before the late seventies for it takes six-to-eight years, on average, to put a hospital into service from the date of the initial authorization to proceed. Since the sixties and early seventies correspond to France's expansion phase in the health sector, and since wages of hospital workers increased along with hospital expansion and modernization plans, it is not surprising to note high growth-rates between 1974 and 1976. As for the slump of 1973, it probably reflects the energy crisis and economic recession.

Of course, such explanations are speculative, at best (27).

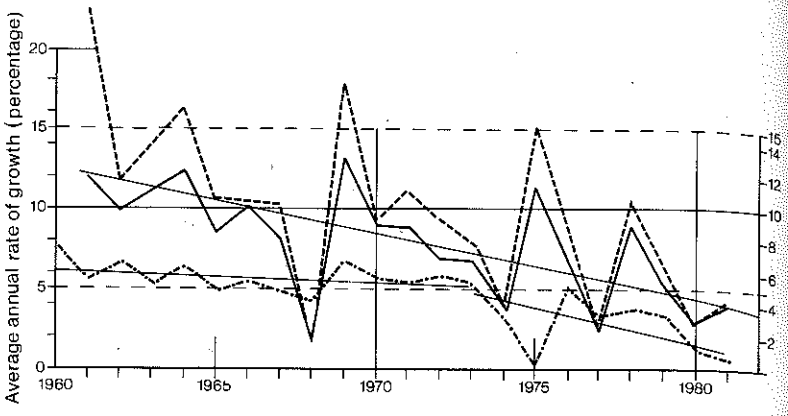

FIG. 3. Average growth-rates. Final medical care consumption in constant prices.
Source: National Health Accounts (CREDOC—INSEE)

This is not the place to analyse the determinants of rising health care costs. The purpose of Figures 1–3 is merely to visualize long-cycle trends and to suggest what Lévy *et al.* have already argued in depth: that the growth of health care costs, in France, reflects broad and complex processes of societal transformation (28). An average annual rate of increase in health care consumption of 7·5 per cent (in constant prices) over two decades is high. This point has been made time and again in major reports on the problem of rising health care costs in France. What is noted less often is the secular decline in this growth-rate from 1960 to 1980 (see Figure 3). Although, at first, this downward trend would suggest that the problem of rising costs is improving, a look at the secular decline of the GDP, in constant prices, over this same period, indicates that since 1973 the growth-rate of the GDP has declined faster. This explains why rising health care costs continue to remain on the health policy agenda: they are felt even more strongly.

Since 1977, the economic situation has exacerbated the problem of rising costs, for growing unemployment as well as slow economic growth have reduced the revenues of the NHI

Funds thereby increasing their deficit (29). What, then, can be done to balance the structural deficit in health care financing? In the crudest terms, the French State has two principal management options: to increase revenues and to control expenditures.

Methods to increase revenues

Increase pay-roll taxes

Pay-roll taxes for health insurance provided by CNAMTS are currently equal to 18·75 per cent of the taxable wage base. Employees pay 5·5 per cent on their full wage; employers pay 8 per cent on the full wage and 5·45 per cent on the wage below a ceiling of 7080 francs a month. Over the last eight years pay-roll taxes for employers as well as employees have been raised on six occasions as part of financial salvage operations to balance the social security budget.

Raise wage ceilings

In France, pay-roll taxes are assessed as a proportion of salaries beneath a ceiling. To raise or even to eliminate this ceiling would increase revenues while simultaneously reducing inequalities since those employers with employees earning wages above the current ceiling pay proportionately less than those with employees earning wages below the ceiling.

Extend the taxable base

Another method to raise health insurance revenues would be to tax capital in addition to labour or move toward a value added tax. The main argument for a move in this direction is that the present tax burden penalizes labour intensive industries and favours capital-intensive ones (30). Moreover, during periods of recession the present mechanisms encourage employers to reward overtime work rather than increasing the number of employees. On the other hand, one might reasonably ask whether it makes sense to tax new investments when these are all the more necessary to restructure the present economy.

'Fiscalize' the entire system

Whereas raising the wage ceilings and extending the pay-roll tax base represent methods by which to redistribute the tax burden of firms within the parafiscal system, financing social expenditures out of the government budget, as in Britain (through the fiscal system) is yet another option—one with very different economic and political implications.

Such a reform would eliminate the concept of contributory insurance schemes. Firms would be relieved of the tax burden they now bear but the State would be forced to increase taxes in order to finance the present level of social expenditures. Politically, this would shift power from a corporatist social security system managed by trade-unions, and the *patronat,* to the State. Consequently, French Social Security would fall under the public sector and be bound by its administrative procedures. Parliament would have to approve its annual budget, all health personnel including physicians would become civil servants and the degree of administrative centralization would most likely increase.

Increase private financing

Roughly 80 per cent of French health expenditures are collectively financed by the CNAMTS and the Ministry of Health. That leaves 20 per cent in the form of private financing by individual out-of-pocket payments. One way to finance the growth of health expenditures is simply to increase the share of private financing through co-payments or deductibles. This method would probably result in individuals relying more heavily on mutual aid funds and subscribing to private health insurance to protect themselves against their increased risk.

Methods to control expenditures

Price controls

Regulation of prices, in France, is a well-established tradition and the health sector is no exception to the imposition of administrative pricing. On the demand side, policy-makers can attempt to reduce utilization of services by adjusting the level of co-payments and deductibles. On the supply side,

policy-makers can manipulate reimbursement rates for physicians in private practice as well as for private and public hospitals.

Demand-side policies are strictly limited in a society which has grown accustomed to NHI. Nevertheless, a number of minor measures can be taken whose effectiveness depends on the price elasticity of demand with respect to the service in question. In 1977, for example, the Council of Ministers reduced reimbursement rates for certain 'non-essential' drugs from 70 to 40 per cent of the controlled prices. In 1980, the government imposed a co-payment as well as a deductible for long-term hospitalization: co-payments above 80 francs a month for 6 months or above a total of 480 francs were thereafter assumed by the CNAMTS (31).

On the supply side, regulation of physician fees is one of the cornerstones of French health policy. As we have seen, negotiations with the medical profession have resulted in agreement by a large majority of physicians to accept nationally set fees. The problem, however, is that the *nomenclature* of professional procedures is more of an instrument for purposes of billing the NHI funds than an instrument for giving price signals to physicians so as to encourage them to behave in ways which are cost effective. Since the *nomenclature* is the result of negotiations between professional medical associations, the CNAMTS and the government, it also reflects the relative power of medical specialty groups to negotiate advantageous fees for the procedures controlled by their disciplines (32). Thus, although negotiation of the *nomenclature* is a critical institutional mechanism for controlling reimbursement rates of physicians in private practice, it is not necessarily an effective instrument of price control.

Economists suggest that fee schedules be designed so that relative value points reflect relative costs (33). By this criterion, the *nomenclature* is a crude instrument. For example, the value of a particular surgical procedure is constant whether or not it is performed by a general practitioner, a certified surgeon, or a cardiologist, and regardless of the presence and degree of pre- or post-operative complications. In contrast, pricing rules for X-rays are more refined. They not only distinguish between reimbursement rates for radiol-

ogists versus gastroenterologists but also include amortization and operating charges based on the value of the technology and equipment required by the procedure. As for consultations and home visits, their rate of reimbursement is constant, regardless of whether the doctor spends five minutes or an hour, thus encouraging 'fast medicine' and multiplication of procedures.

There is an additional problem with the French *nomenclature*: the relative values are not annually adjusted for changes in technology—for example, economies of scale in the production of laboratory tests, or the introduction of microprocessors that reduce the unit cost of radiological equipment. Thus, there are built-in distortions which, on the whole, tend to encourage specialized diagnostic services and use of medical technology such as electrocardiograms and colonoscopes.

In addition to physician reimbursement rates, French policy-makers also control reimbursement rates to proprietary hospitals (*cliniques*) and to public hospitals. Both are reimbursed largely on the basis of costs incurred, the principal unit of reimbursement being the patient-day (*prix de journée*). In the public sector, the value of the patient-day for year n + 1 is calculated by dividing total operating costs, including teaching, research, and administrative costs, other ancillary costs plus the institution's deficit for year n, by the total number of patient-days. In the private sector, the patient-day is less of a catch-all category for, in contrast to the public hospital, operating room costs, expensive drugs, laboratory costs, blood transfusions, and prostheses are all billed separately on a fee-for-service basis.

From the point of view of price control over hospitals coordination is exceedingly difficult to achieve because the CNAMTS negotiates the rate of the patient-day for *cliniques*, whereas the Department Prefect, on instructions from the Ministry of Health as well as the Ministry of the Budget, sets the rate of the patient-day for public hospitals (34).

Volume controls

In an open-ended system characterized by fee-for-service payment under NHI the problem with price controls is that

the volume of services tends to be adjusted to compensate for rigid price regulation. This is true for private practice in the ambulatory sector as well as for *cliniques* and public hospitals. Thus, policy-makers in France have attempted to control the volume of services provided.

In the ambulatory care sector, since the collective contract of 1976, the system of statistical profiles on the procedures performed by each physician was computerized. The rationale has been to control the quality of medical care and to sensitize physicians to the financial implications of their activities. The system is based on finding irregularities in medical practice and issuing sanctions to doctors who overprescribe tests and drugs. This is exceedingly difficult, however, because criteria on proper workloads have not yet been agreed on. If the entire medical profession is influenced by reimbursement incentives to increase medical procedures, particularly specialty services and high-technology medicine, or if it is influenced by cultural norms to overprescribe drugs, the effect of the profiles will be negligible.

Since 1980, all French physicians receive periodic statements summarizing the consultations and procedures for which they have billed the CNAMTS through the intermediary of their patients. Enormous amounts of data have been collected on patterns of physician activity. Information is currently being collected by the CNAMTS on the sociodemographic characteristics of physician clientele populations. This is critical for it will one day enable the CNAMTS to go one step beyond pointing up disparities in the procedures performed by physicians; it will enable the CNAMTS to ignore disparities easily explained by such factors as age and sex and to investigate selectively the seemingly less justifiable disparities.

In the hospital sector there have been isolated attempts to control volume and regulate quality of care. However, there has been no systematic effort comparable to the physician profiles neither in the *cliniques* nor in the public hospitals. When volume controls have been imposed in the hospital sector, they have aimed largely at procedural issues to reinforce the price controls. For example, they have attempted to put limits on allowable rates of expenditure increase and to

regulate administrative procedures such as hospital budget review (35). Although French hospitals are not financed on the basis of closed budgets, estimated budgets may be inferred indirectly once one knows the allowable patient-day rates and the estimated number of patient-days.

With respect to *cliniques*, more refined classification schemes have been devised within which to regulate expenditure increases of like groups of institutions. With respect to public hospitals, every year a Circular is issued by the Ministry of Health, after consultation with the Ministry of the Budget and the Ministry of Social Security (now called the Ministry of Solidarity) which sets the allowable rate of increase for all hospital budgets. In addition, entire categories of expenditure within hospitals have been strictly limited, and new positions for full-time staff have been denied by the Ministry of Health (36).

Capital controls

In contrast to price controls and volume controls which are short-run methods to contain expenditures, capital controls are designed to contain long-run health expenditures. They aim to limit hospital expansion and modernization plans, capital expenditures for new medical technologies, and the production of new 'human capital,' e.g., doctors. Although controls on hospital investment have been a part of national economic planning in France since 1946, controls on the supply of medical manpower are relatively new.

With respect to hospital facilities and capital expenditures, the *carte sanitaire* procedure originally aimed to promote redistribution of health resources. At the national level, areas of need were explicitly identified and standards were devised in terms of hospital bed/population ratios for specific medical services. At the regional level, resource inventories were carried out for each of the 284 new health sectors. The level of existing resources was compared to the national standards and public issues were made on the basis of the observed disparities. The result of this exercise was to identify 'substandard' regions and to legitimate new investments there. There was no corresponding decrease of hospital beds, however, in regions which were above standard.

Since 1976, the *carte sanitaire* procedure has served as an instrument for the planning of retrenchment. Over a period of ten years (from 1970–80) the rejection rate on hospital investment requests (in the private sector) increased from 55 per cent to over 80 per cent (37). As for the public sector, a series of new Circulars as well as a new law have increased the Ministry of Health's authority over the growth of public sector hospitals (38). In 1976, the government decided to stabilize the aggregate number of hospital beds in France. In 1979, the Law of 29 December granted the Minister of Health authority to close down hospital beds in the public sector. So far, no beds have yet been closed by Ministerial Decree. Under the previous regime, the *carte sanitaire* standards served as criteria for assessing where to cut. Under the present regime, however, policy-makers are talking of expanding hospital personnel not reducing beds.

Along with the December 1979 Law granting the Minister of Health power to close down hospital beds, as part of a long-term cost control policy, the French government passed legislation reducing the number of physicians trained, by cutting enrollments in the medical schools. In effect, since 1971 the Ministers of Health and of Education were granted the authority to control indirectly the supply of physicians by controlling entry into the medical school 'pipeline'. The criteria for controlling entry were supposed to reflect the university's capacity for training physicians. However, in 1979, when it was declared that the number of medical students accepted into their second year of training would drop over a few years from 9000 to 5000, there was no longer any doubt about the fact that France had imposed a *numerus clausus*. One may speculate about the reasons—no doubt partly to control long-run health care costs but also to conserve the prestige of the medical profession, or at least its income.

Structural change

Price controls, volume controls, and capital controls share one thing in common: they assume that the way in which the health system is presently organized will stay the same. If we relax that assumption, however, there may be other methods

to control health care expenditures all of which are worth at least a brief mention.

Above all, changes in the financial and organizational arrangements for health services hold the promise of containing health care costs. The experience of health maintenance organizations (HMO's), for example, in the United States suggest that effective management may reduce hospitalization by as much as 30 per cent (39). In contrast to the French or British health systems, HMO's and other prepaid group practice organizations assume a contractual responsibility to provide or insure the delivery of a range of health services in return for a fixed payment from enrolled members. HMO's put physicians at risk for the expenditures they generate. Generally, the physicians work on a salaried basis with a possibility of earning an annual bonus depending on the organization's success in assuring low rates of hospital admission and short lengths of stay. Such an incentive structure discourages inappropriate or excessive use of ancillary services and of inpatient facilities while at the same time maintaining incentives for quality: an HMO whose reputation is questioned may suffer from disenrollment and find it more difficult to attract new members.

The experience of encouraging health centres (CLSC's) in Québec and imposing prospectively set annual budget limits on hospitals—so-called global budgets—is another approach to controlling health expenditures. Its significance lies in showing that there are possibilities for substitution of community-based ambulatory care for costly institutional services. Within the hospital sector, global budgets force policy-makers to ascertain the relative efficiency of hospitals so as to distinguish between those with excessive and those with insufficient budgets. Although global budgets are no panacea for the problems of resource allocation in the health sector, at the very least they force explicit consideration of how to allocate limited resources among competing claims within the hospital sector.

Finally, still another experience in devising new financial arrangements for hospitals is now in progress in the state of New Jersey (USA). The New Jersey Health Department, in collaboration with all third-party payers and the state hospital association, have agreed to link reimbursement directly to standardized costs identified by analysis of case mix so-called diagnostic related groups (40). The innovative aspect of this experiment is the application of a primitive administrative technology capable of establishing a common language between doctors and administrators. The technology enables physicians to examine patterns of resource consumption for similar patients in their own practices over time, and also permits one physician to be compared with another, and one institution with another. Thus, a potentially powerful mechanism now exists for increasing the visibility of physician practice in a fashion which permits non-physicians to observe deviations readily and to evaluate them.

The combination of NHI and *la médecine libérale*, in France, has been so cherished that there has been no temptation to transform financial and organizational arrangements for the delivery of health care. Currently, however, there have been some signs of change. Inspiration from the experience of Québec has prompted policy-makers to experiment with global budgets in individual hospitals. Also, the new Director General of public hospitals at the Ministry of Health recently arranged for a French delegation to review the New Jersey experiment. In addition, members of the Cabinet at the Ministry of Solidarity are talking cautiously about experimenting with 'new forms of medical practice' such as health centres that attempt to combine social and medical services like the CLSCs in Québec.

Perhaps the most interesting structural change now under consideration concerns the future role of preventive medicine in the French health system. In March of 1982, Minister of Health, Ralite, received the report of an urgent task force he had appointed to make recommendations about what to do in the field of prevention (41). Thus, far, his first measure has been to designate four regions which will receive a starting budget with which to initiate a range of prevention programmes. Assuming that these programmes remain a political priority and that they are effective, it follows that one could reduce significantly the burden of disability and disease associated with alcoholism, smoking addiction, and poor working conditions. Of course, this may be a great illusion

for all of these achievements will not prevent us from dying some day of a disease requiring costly medical technology and prolonged hospitalization. Nevertheless, the idea is enticing.

THE PRESENT PREDICAMENT: SOME UNRESOLVED PROBLEMS

Faced with the problem of financing the explosion of health care costs, French policymakers have relied, above all, on revenue increasing methods—in particular on raising payroll taxes and raising the wage ceilings to which they are applied. As for the methods to control expenditures, outlined above, French policy-makers have relied largely on short-run methods such as price controls and volume controls. They have also reinforced the *carte sanitaire* procedure to regulate investment and limit enrollments of medical students so as to regulate the future supply of doctors. There have been no long-term strategies, however, to alter the financial and organizational arrangements for health care services in France.

To devise long-term strategies, it is necessary to specify explicit objectives and to reach agreement about the desirability of meeting them. Such is the conventional wisdom embodied in decision-making techniques such as 'management by objectives', PPBS, and zero-based budgeting. These administrative technologies were helpful during the expansion phase of the health sector when there was widespread agreement on the pursuit of such objectives as hospital construction and modernization. During the present containment phase, however, the old administrative tools no longer seem relevant (42).

In modern France—even the new France of socialist inspiration—no one appears to know what the future 'modern' health sector should look like. As for the present health care system, political debate has focussed more on the management of the entire social security system than on the social organization of medicine, the objectives of the health system, and alternative methods of achieving them. In this context, it

is hardly surprising to note the absence of long-term strategies to alter the financial and organizational arrangements for health services in France. Even if one were to focus on the broader management of the entire social security system, it would be challenging, indeed, to identify a set of explicit agreed-upon objectives for reform. It is no small paradox that the French welfare state, in pursuing universal entitlements and national solidarity, has created rising expectations and virulent disagreement between major interest groups.

At the present time, the Socialist Government has proposed dismantling the 1967 Social Security Reforms and returning the management of the system to the trade-unions or elected representatives of the insured. In response, the *patronat* has threatened to have no part in the system. Such ideological conflict is frequent and unfortunate, for it detracts attention from the more fundamental problems of health sector management: substantive health policy issues; institutional issues; and political issues.

Substantive health policy issues

Four critical problems—all widely recognized by French policy-makers—have periodically been addressed, then quietly dismissed and remain, to this day, unresolved.

First, there is the problem of the appropriate role for hospitals within the health system. France was one of the first European countries to classify and eventually reorganize its hospitals in relation to the concept of regionalization (43). The 1958 Hospital Reform Law envisage the regional teaching hospital as the pivotal institution around which the health system functioned. In contrast, a 1969 task force made a case for regionalization of health services so as to enable substitution of ambulatory community-based care for hospital care, whenever possible (44). Most recently, the Gallois Report criticized the lack of co-ordination between hospital services and *la médecine libérale* and urged the government to strengthen the organization of health services outside the hospital sector (45).

In spite of the attention devoted to this problem, the administrative and organizational separation between hospi-

tal services and *la médecine libérale* remain a major obstacle to continuity of care in the French health system. In addition, poor co-ordination often leads to excessive reliance on hospital care for services which would be best provided outside an institution, for example, long-term care for the elderly. Under the present government, it appears that the communist Minister of Health favours a hospital centred health system whereas the socialist Ministry of Solidarity favours reinforcing the community-based ambulatory care sector. Unfortunately, there is no explicit guiding policy on this matter.

Second, is the problem of deciding what responsibilities to give to preventive medicine and public health. Programmes in occupational health and safety, environmental control, and health education need to be supported by epidemiological research and evaluation. This has traditionally been a weak area in the French health care system.

Third, is the problem of negotiations with the medical profession as well as other health professionals such as dentists, physical therapists, and midwives, over their fees. The CNAMTS and the government have often acted as if these negotiations were the essence of health policy. There is a confusion here between what is and what ought to be. Usually the negotiations have, in fact, constituted the essence of health policy. But that reflects more about the poverty of health policy than about the importance of the negotiations. Ideally, health policy goals such as redistributing physician manpower should serve as criteria in the negotiations over fees. In practice, however, the agreements with the medical profession are a reflection of corporatist politics with the resulting fees largely determined neither by relative costs, nor by health policy criteria but rather by skill in bargaining and brute power (46).

Fourth, is the problem of devising appropriate information systems for purposes of long-run planning and day-to-day management. To do this, it is essential to specify explicit health policy goals. It is also essential to dismantle certain routine data collection efforts which are no longer useful for purposes of monitoring and evaluation, in order to make room and develop capability for devising badly needed information systems.

In contrast to Britain, the French have highly disaggregated information on the activities and prescribing behaviour of French physicians in private practice. With respect to hospitals, however, the CNAMTS is unable, at this time, to calculate its total reimbursement payments, over a given period, to a particular hospital. The CNAMTS knows what it pays to *all* general hospitals *(centres hospitaliers)* in France for reimbursement of patient-day fees but it cannot yet distinguish, for example, between patient-days in surgery and patient-days in intensive care.

Institutional issues

When viewing the health sysem from the outside, it is odd to note that the CNAMTS finances health care expenditures without exercising management controls on what is provided; the central government, through the Ministry of Health, exercises titular control over all public hospitals even though it finances only a small fraction of total health expenditures; and physicians determine the mix and quantity of resources used even though they share no financial responsibility, neither in hospitals nor in private practice. From the point of view of institutional analysis, the most critical problem in French health policy is the lack of effective linkages between health care payers (the CNAMTS), the providers, and the State Administration as regulator (47).

Since the CNAMTS controls the purse strings, it sets implicit policies and these policies do not necessarily coincide with the goals of health policy; in fact, they often work at cross-purposes. For example, provider reimbursement incentives encourage the multiplication of medical procedures and of patient-days spent in hospitals whereas policy-makers at the CNAMTS and in the Ministry of the Budget are concerned with controlling rising health care costs (48).

In 1976, a group of students from France's elite National School of Public Administration (ENA) published an analysis of the relation between the CNAMTS and the public hospital. In their analysis they suggested that 'the contradictions between the exigencies of good management and the rules of hospital remuneration should be eliminated' (49).

They explained that 'the relations between health insurance and the public hospital are more influenced by factors resulting from their historic evolution than by a rational distribution of skills and responsibilities.' Finally, they questioned the legitimacy of an administrative system in which two health planning institutions—the Ministry of Health and the CNAMTS—can follow divergent policies. Since 1976, this situation has remained the same.

Political issues

At some point in the future, it will be interesting to see if a number of fundamental policy issues will be identified and explicitly confronted, in France, or if they will be avoided and, if so, how? These issues revolve around the following questions: What kinds of political and institutional mechanisms will be established to decide what proportion of the GNP to devote to health? By what criteria should health and social expenditures be allocated? How can revenues and expenditures be kept in balance? Who should finance these expenditures and how (e.g., income taxes or pay-roll taxes)? How can France move from the present system of administrative centralization and rigid controls to one more open to local initiatives and more adaptable to the evolution of new medical technology, new management methods, and emergent risk factors? What mechanisms will be devised to monitor the quality of medical care and to evaluate its impact on health status? Finally, how will health care be rationed and will the procedures for health care rationing be explicit or implicit? (50).

A CONCLUDING COMMENT

The unresolved problems of French health policy are captivating for the intellectual but not for the policy-maker. For the policy-maker, these problems are more likely to resemble the labour that greeted Hercules in the Augean Stables. Health policy-makers in France tend to keep their heads high

and protect the marriage of NHI and *la médecine libérale* from the menacing storm of rising health care costs.

Like captains of a ship in a stormy sea, French policy-makers strive to keep the present system afloat. The key ingredient to hold the ship on course is short-term policy—sensitive negotiation with physicians, representatives of the private and public hospital sector, the *patronat,* and trade-unions; careful avoidance of sensitive policy issues; and delicate day-to-day management *without* long-range objectives.

If this health policy gamble is won, the social organization of medical care in France will be preserved, structural reform forestalled, and the case for the *status quo* vindicated. If the gamble is lost, it means that the storm of rising health care costs is strong. The ship keels over, and as the pressures to face trade-offs explicitly grow, management without objectives will no longer be appropriate. French policy-makers will be forced to contemplate the unresolved problems outlined in the preceding section. Should this occur, the French image of the British NHS may require reappraisal and French policy-makers may find themselves looking back across the Channel!

NOTES AND REFERENCES

1. A student of mine at the University of Paris IX—Dauphine, Dr Henri Philippe, did a content analysis of the French medical press which revealed a systematic bias against the British NHS. See e.g., the *Quotidien du Médecin,* whose reporter in London, Annie Daguerre, sends back at least two reports a week on the problems of 'nationalized medicine'.

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4. The most recent figures from the OECD Directorate of Social Affairs for Manpower and Education indicate that in 1980, as a per cent of GDP, health expenditures for the United Kingdom were equal to 5·7 in contrast to 8·1 for France.

5. I am referring, for example, to the former Minister of State for Health, Gerard Vaughan's interest in NHI systems abroad.

6. For further elaboration on this point, see my *The Health Planning Predicament: France, Québec, England and the U.S.* (Berkeley: University of California Press, forthcoming in 1983, Chapter II). See also A. CULYER, A. MAYNARD, and A. WILLIAMS, 'Alternative systems of Health and Care Provision: An Essay on Motes and Beams' in, M. OLSON (ed.) *A New Approach to the Economics of Health Care.* (Washington, D.C.: American Enterprise Institute).

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8. R. F. BRIDGMAN, 'Medical Care Under Social Security in France,' *International Journal of Health Services*, **4,** 1971.

9. J. J. DUPEYROUX, *Droit de la Sécurité Sociale.* (Paris: Dalloz, 1979, 8th ed). For a more critical appraisal of the French Social Security System, what J. P. DUMONT has called an 'unfinished cathedral,' see his *La Sécurité Sociale Toujours en Chantier.* (Paris: Les Editions Ouvrières, 1982). Also see S. COHEN and C. GOLDFINGER, 'From Real Crisis to Permacrisis in French Social Security.' in L. LINDBERG, R. ALFORD, C. CROUCH, and C. OFFE, (eds.) *Stress and Contradiction in Modern Capitalism.* (Lexington, Mass.: D. C. Heath, 1975).

10. The literal translation of CNAM is the National Sickness Insurance Fund. However, since the more customary American term for sickness insurance is health insurance, I have taken the liberty of referring to French NHI.

11. VALÉRY GISCARD D'ESTAING, Speech presented to the Academy of Medicine on the occasion of the bicentennial of the birth of Laennec. Paris, February 17, 1981. Parentheses are my own.

12. V. RODWIN, 'The Marriage of NHI and *La Médecine Libérale', Milbank Memorial Fund Q.* **59**(1), 1981.

13. CH. GLARMET-LENOIR, *Les Revenus avant Impôt et les Tarifs des Médecins Conventionnés en 1977. Evaluation 1962–1977.* (Paris: CREDOC).

14. OECD. *Public Expenditure on Health. Studies in Resource Allocation, No. 4,* (Paris, 1976).

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16. H. HATZFELD, *Le Grand Tournant de la Médecine Libérale.* (Paris: Les Editions Ouvrières, 1963).

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22. G. MOREAU, 'La planification dans le domaine de la santé: les hommes et les équipements,' *Revue Française des Affaires Sociales*, Numéro Spécial, no. 4, October-December, 1980. For a thorough review of the application of the *carte sanitaire* to policies on medical technology, see R. FUHRER, 'Policy for Medical Technology in France', Chapter 6 in *The Implications of Cost Effectiveness Analysis of Medical Technology, Background Paper #4: The Management of Health Care Technology in Ten Countries.* (Washington D.C.: Office of Technology Assessment, 1980).

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24. See e.g. the report of the Finance Committee to the Sixth National Economic Plan: *Economie Générale et Financement.* (Paris: Documentation Française, 1971).

25. These figures are based on the most recently available OECD data. Directorate of Social Affairs for Manpower and Education.

26. Figures 1–3 are based on estimates from the French National Health Accounts compiled by CREDOC from INSEE data. Final medical consumption (CMF) represents the greater part of aggregate health expenditures including categorical programmes such as maternal and child health, school and university programmes, the health service for the military, biomedical research, administrative costs, and capital formation.

In Figures 2 and 3, current medical care consumption is deflated by the 1970 INSEE general price inflation index.

In Figure 3, the growth of the CNAMTS' expenditures is always higher than those of the CMF because they are more sensitive to the growth in hospital expenditures and because health insurance coverage has increased over the past two decades.

27. See e.g. discussions of this issue by the *Commission des Comptes de la Santé,* Ministry of Health and a discussion paper presented to the World Health Organization by B. MAJNONI D'INTIGNANO, 'Cost Containment Policies: France'. Paris: *Assistance Publique,* March, 1981.

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37. G. MOREAU, *op. cit.*, no. 22.

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47. V. RODWIN, 'On the Separation of Health Planning and Provider Reimbursement: The US and France', *Inquiry*, **18,** Summer, 1981.

48. B. MAJNONI D'INTIGNANO, 'Les instruments de maîtrise des dépenses de santé sont-ils performants?' in *La Santé des Français*. (Paris: PUF, 1980).

49. 'L'assurance maladie et l'hopital public,' in *Revue Française des Affaires Sociales*, special issue, July/September 1976, p. 206.

50. These questions are explored in J. DE KERVASDOUE, J. KIMBERLY, and V. RODWIN, (eds.), *La Santé Rationnée: La Fin d'un Mirage*. (Paris: Ecomonica, 1981).