# Health care cost containment in the Federal Republic of Germany

by Markus Schneider

*Since 1977, cost containment has been an integral part of health policy in the Federal Republic of Germany. The common goal of the cost-containment acts was to bring the growth of health care expenditures in line with growth of wages and salaries of sickness fund members. The Health Care Reform Act of 1989 is the most recent manifestation of this policy. The main features of the numerous cost-containment acts are described in this article, and the effects of cost containment on supply and demand are analyzed.*

## Introduction

From 1975 to 1987, the share of gross domestic product (GDP) devoted to health care in the Federal Republic of Germany (FRG) increased from 7.8 to 8.3 percent. This increase is lower than that of most other Western countries. For example, in the United States, the increase was 2.8 percent of GDP for the same period, in France, 1.8 percent, and in Canada, 1.3 percent of GDP (Schieber and Poullier, 1990). Therefore, cost-containment policy in the FRG seems to be more successful than in other countries.

Following a short description of some special features of the German health care system is an overview of both health expenditures in the FRG and various cost-containment measures taken since 1977. Two questions are addressed: First, why is cost containment successful? Second, what are the economic results of the cost-containment measures?

## The German health care system[1]

Although the history of the sickness funds dates back to the Middle Ages, the foundation of the modern health care system was laid by Bismarck in 1883 (Rosenberg, 1986). The government requires that working persons have health insurance, regardless of their income. For salaried workers, an income limit is established, above which workers may choose between private insurance or the sickness funds for their coverage. For both blue and white collar workers, employee shares of premiums are calculated as a percentage of gross wages, and premiums are collected monthly as a payroll tax from the employers. However, the full cost of the premium is split 50-50 between employer and employee.

There are several types of sickness funds providing what is called "social health insurance." Presently, these include 266 local sickness funds, 691 company sickness funds, 152 guild sickness funds, 19 agricultural sickness funds, 1 seamen's and 1 miners' sickness fund, and 15 substitute sickness funds. Approximately 88 percent of the total population is insured by these 1,145 sickness funds; of this group, about 84 percent are compulsorily insured. That is, they do not have incomes high enough to allow them to choose. The remaining 16 percent do, but have chosen the sickness funds over private insurance. All employees with incomes below a certain level, unemployed persons, retired persons, self-employed farmers, disabled persons, students, and artists are covered by sickness funds.

It is worth noting that, of the insured people who qualify to choose either private or social insurance, the majority chooses the latter. There is a simple reason for this. In most cases, for married couples and families with children, the premiums of private insurance companies are higher than those for the sickness funds. As a consequence, there is risk selection between sickness funds and private insurance companies. Single persons with incomes above the compulsory-insurance income level prefer private insurance companies. Families more frequently choose to be insured by sickness funds.

Compared with other countries, the most significant characteristic of the German system is the organization of sickness fund physicians under public law. There are State organizations of sickness fund physicians (for ambulatory care), 19 of which are for physicians and 17 of which are for dentists. These organizations control both the reimbursement of fees and the regional access to physicians providing ambulatory care for patients of the sickness funds. Quarterly, each office-based physician sends the vouchers for patients of the sickness funds to the regional organization for reimbursement. The organization itself monitors volume and value of services of each physician. Furthermore, the organization controls the number and value of prescriptions and referrals. By monitoring these activities, these organizations play an important role in the cost-containment process.

Corresponding to the State organizations of sickness fund physicians are the State associations of the sickness funds. There are general contracts at national and State levels for the delivering and monitoring of medical services. These general contracts regulate the particulars of the medical services rendered, principles of reimbursement, fees for services, processing of claims, and economic monitoring. These contracts provide the general framework (without direct involvement of the government) for the relationships between the sickness fund associations and the organizations of sickness fund physicians.

This self-regulation by the associations of funds and organizations of physicians is a central principle of the German social health system since the beginning of the last century (Herder-Dorneich, 1980). Although the principle of self-regulation is not without fault, it is not

[1]In this article, the term "German" refers only to the old Federal Republic of Germany. Nevertheless, it should be noted that the characteristics of the health care system of the FRG have been extended to the new Federal Republic of Germany since January 1, 1991.

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generally questioned because of the political power of the health care organizations. All cost-containment laws in the FRG emphasize the importance of the principle of self-regulation. Nevertheless, such laws define the obligations of the health care organizations quite specifically. The administrations of these organizations are obliged to promote cost effectiveness and bring the increase of health expenditures into line with the growth of income.

Institutions comparable to the organizations of sickness fund physicians do not exist in the hospital sector. The 3,000 hospitals negotiate directly with the sickness funds. Consequently, the institutional framework of the hospital sector requires different measures of cost containment. Furthermore, there is another reason why cost containment for hospital services requires a different concept. Hospital capital investments are financed by the States; current expenditures by the sickness funds. This dual financing system results in numerous conflicts of interest.

## Trends in health expenditures

### Prior to 1977

After World War II, the expenditures of the sickness funds were at a low level. As the economy in Germany started to grow, the income of the sickness funds increased. This increase, in combination with legislation making more services available to insured members, caused expenditures to rise. These legislatively mandated expansions of service required a steady increase in premiums paid by employees and employers. During the period 1950-60, expenditures of the sickness funds increased at an annual rate of about 16 percent. Many warnings concerning the ultimate effect of this rate of increase went unheeded, mainly because of economic prosperity. During the 1960s, health expenditures increased at an average annual rate of about 10 percent, increasing to some 20 percent from 1971 to 1975. This cost explosion then became a major public and political concern.

At this time, a projection of health expenditures into the future was published. Geissler, the former minister of social affairs in the State of Rhineland-Palatinate, forecasted that, with continued high growth rates of health care expenditures, in the year 2000, one-half of the gross national product (GNP) would represent health expenditures. He called for action (Geissler, 1976), and thus began a debate on cost containment in the sickness fund system.

In 1975, the unemployment rate increased to 4.8 percent, the highest since 1955. The German economy was in the midst of a recession. The rate of return on capital fell to 1.3 percent. Comparably low rates of return on capital followed later in 1982 and 1983. The recession reinforced the pressure to reduce health care costs. Public discussion on cost trends and alternative cost-containment activities—such as a common national sickness fund—led to the voluntary agreement between sickness funds and the organizations of sickness fund physicians to restrict the increase in overall compensations for office-based services. The national organizations of both contracting parties made recommendations to their respective organizations at the State level (Figure 1) to limit the increase. As a result, the growth rate of health care expenditures dropped significantly in 1976.

### 1977-83

The idea of overall constraints based on agreements between the organizations of sickness funds and of sickness fund physicians became a central element of the Cost Containment Act, which was enacted on July 1, 1977. In 1977, the growth rate of total health expenditures decreased further, from 8.7 to 5.7 percent. This was the lowest growth rate of health expenditures since 1967. In spite of this success, the economic pressure to keep premiums down continued. The period 1977-83 showed the lowest economic growth after World War II. Real GDP increased, on average, only 1.6 percent per year. During the periods 1970-77 and 1983-89, economic growth was more than 1 percent higher (Table 1). Since 1979, the rate of return on capital decreased further, and the growth rate of health expenditures climbed to 10 percent in 1980. On December 1, 1981, and July 1, 1982, measures of the second cost containment act came into force. A further cost containment act followed on January 1, 1983, in connection with the Budget Act of 1983. The salient features of all these acts are shown in Table 2.

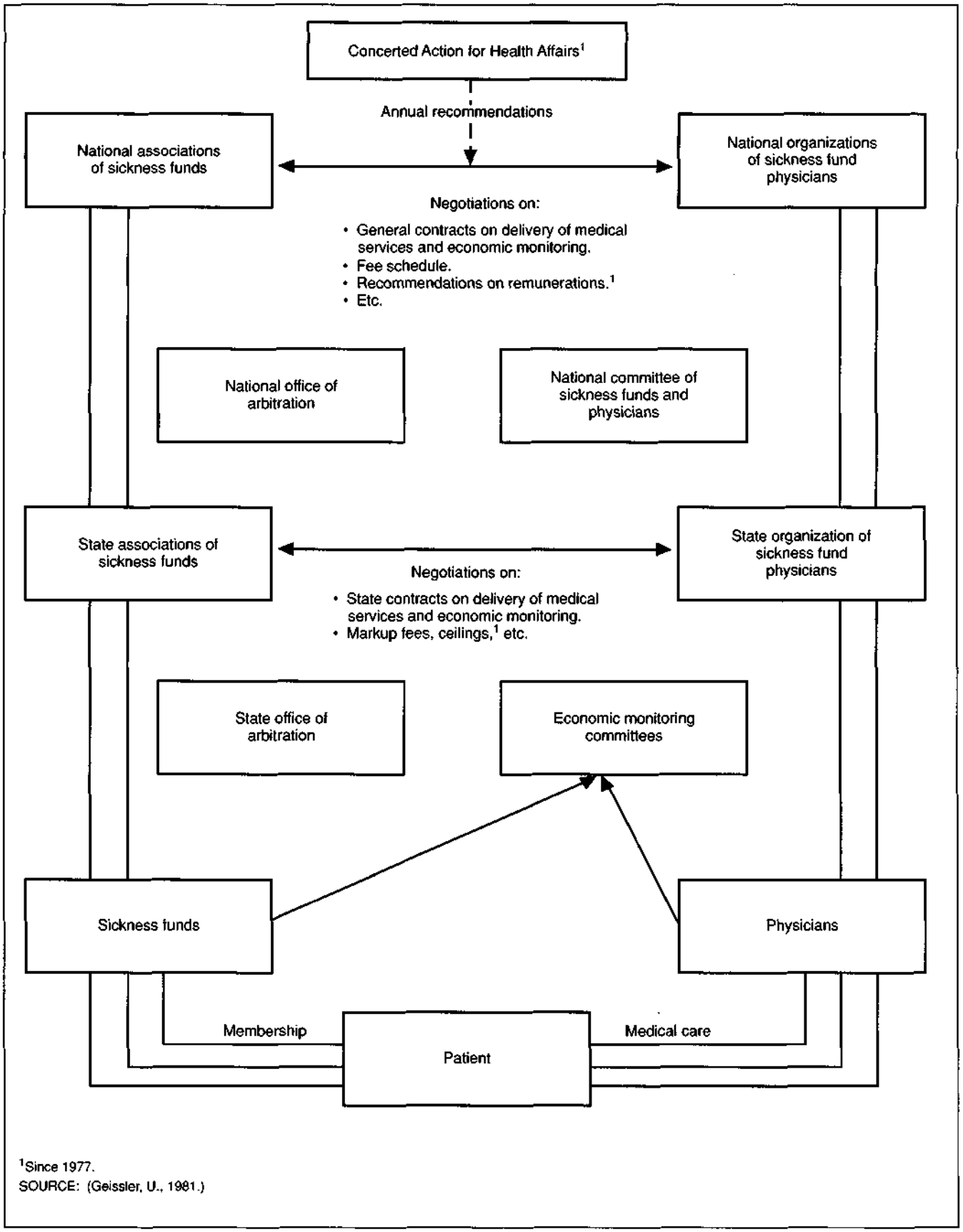
### 1983-89

In 1983, when Chancellor Kohl came into office, supply-side economics were discussed. Unemployment reached 8.4 percent. Nothing seemed to be more important than restoring Germany's productivity growth. The cost containment acts of 1982 and 1983, which were prepared under the social-liberal coalition, helped to stabilize expenditures in the ambulatory sector. But the total growth rate of health expenditures was driven more and more by spending for hospital services. The share of total expenditures of the sickness funds devoted to hospitals increased from 29 percent in 1980 to 35 percent in 1985 (Bundesministerium für Arbeit und Sozialordnung, 1989). In 1985 and 1986, hospital financing was reorganized.

The Health Care Reform Act (enacted January 1, 1989) ended, provisionally, the series of cost-containment measures started in 1977 (Table 2). It led to a completely new codification of the law of sickness funds. This is a further step toward the consolidation of all social legislation in Germany into a single code. The Health Care Reform Act of 1989 can be considered the most important statute since the Law of 1911, on which the basic foundations of the sickness fund system were constituted. The impact of this series of reforms may be seen in detail in Table 3. As an example, the share of GDP spent by sickness funds decreased from a high of 5.52 percent in 1988 to 5.00 percent in 1989.

**Figure 1**

**Overview of the relationships between and among the participants in the health care system: Federal Republic of Germany**




[1]Since 1977.

SOURCE: (Geissler, U., 1981.)

**Table 1**

**Selected economic indicators for 3 time periods: Federal Republic of Germany, 1970-89**

| Indicator | 1970-77 | 1977-83 | 1983-89 |
|---|---|---|---|
| | Percent growth rates | | |
| Gross domestic product | 8.5 | 5.0 | 5.4 |
| Real gross domestic product[1] | 2.7 | 1.6 | 2.8 |
| Gross domestic product deflator | 5.7 | 4.1 | 2.2 |
| Consumer prices | 5.5 | 4.4 | 1.5 |
| Wages[2] | 9.4 | 4.5 | 3.8 |
| | Average percent growth | | |
| Unemployment | 2.6 | 5.5 | 8.9 |
| Rate of return on capital | 3.6 | 2.8 | 4.2 |

[1]For prices, 1980 = 100.
[2]Includes fringe benefits.

SOURCE: Beratungsgesellschaft für angewandte Systemforschung (BASYS mbH).

## Objectives of cost containment acts

With the Cost Containment Act of July 1, 1977, a series of cost-containment acts started that had the common goal of bringing the growth of health care expenditures into line with the growth of wages and salaries of the sickness fund members. The act implemented a macroeconomic approach of expenditure regulation that has been first and foremost revenue-oriented. That is, the growth of sickness fund expenditures has been related to the growth of their revenues (premiums based on wages).

A further goal of all cost-containment acts was to preserve free access, independent of income. The limitation on expenditure growth should not result in a limitation of necessary services to the patient. The

**Table 2**

**The Cost Containment Acts of the Federal Republic of Germany: 1977-89**

**Cost Containment Act of 1977**
- Concerted Action for Health Affairs is created.
- Coinsurance on prescriptions: Payment of 20 percent of cost (maximum of 2.50 DM) is replaced by a copayment of 1 DM for each drug.
- Reimbursement for dentures is limited to 80 percent of cost.
- Sickness funds are permitted to introduce coinsurance on orthodontics.
- Nursing care at home is obligatory under certain circumstances to reduce inpatient care.
- Costs for home help given by near relatives are no longer reimbursed.
- Family members with income above a certain level are no longer insured free of charge.
- Retired persons are only accepted as members of sickness funds if they were members during their working years.

**Hospital Cost Containment Acts of 1981 and 1982**
- Reduction of number of beds is to be accelerated by subsidies.
- Sickness funds must cooperate in the hospital planning of the States.
- Sickness funds have greater say in determining the level of reimbursement for health care.
- Regulation of hospital care is included in Concerted Action for Health Affairs.

**Supplementary Cost Containment Acts of 1981 and 1982**
- Fees for technical dental services are reduced for 1 year by 5 percent.
- Reimbursement for dentures is changed: Insurance pays 100 percent for dentists' services and up to 80 percent of material and laboratory costs.
- Copayments for medical aids and appliances are introduced.
- For medical aids and appliances, reimbursement levels are fixed until December 31, 1983.
- Copayments on drugs are raised to 1.50 DM; for physiotherapy and eyeglasses, to 4 DM.
- New eyeglasses are only reimbursable once every 3 years if visual acuity does not change.
- Cures are only granted once every 3 years.
- Handicapped persons can become voluntary members of the sickness funds if they or their relatives have been members for at least 3 of the preceding 5 years.
- Length of stay after inpatient admission for childbirth is regularly limited to 6 (formerly 10) days.
- A copayment of 5 DM is introduced for transportation costs.

**Amended Budget Act of 1983**
- Insured persons must pay 5 DM per day (for a maximum of 14 days) for inpatient care.
- The copayment on drugs is raised to 2 DM per item.
- Expenses for home health care may be reimbursable if necessary to minimize inpatient care.
- Medicines for minor ailments are no longer covered after April 1, 1983.

**Amended Budget Act of 1984**
- Contributions to sickness funds must be applied on special wages, such as bonuses, tips, etc.
- Patients with sick benefits have to pay contributions to the social old-age and unemployment insurance; contributions are split between patients and sickness funds.

**Hospital Financing Act of 1985**
- The present mixed financing of construction by the Federal Government and the States will be shifted to the States.
- Sickness funds and hospitals may finance certain kinds of investments by per diem rates.

See footnotes at end of table.

## Table 2—Continued

## The Cost Containment Acts of the Federal Republic of Germany: 1977-89

**Federal Hospital Payment Regulation of 1986**

- The concept of prospective budgets that are agreed upon by sickness funds and hospitals is introduced.
- If the funds and hospitals do not agree on a budget, an arbitration board decides.
- It is possible to arrange special daily rates for hospital departments and special payments for expensive types of care, e.g., heart operations.
- Patients receive detailed information about the care they receive.

**Health Care Reform Act of 1989**

- Provides choice of type of insurance for blue collar workers with incomes above the assessment ceiling, making legislation for these workers equal to that already applicable to white collar workers.
- Sickness fund coverage for students is restricted.
- Compulsory insurance is extended to young adults in secondary educational programs.
- Compulsory insurance for certain categories of self-employed people is abolished.
- Requirements concerning prior insurance periods for retired persons are tightened.
- Qualifying conditions for voluntary membership in sickness funds are made stricter.
- Provisions are repealed under which retired persons, civil servants, and self-employed persons previously could join a health plan.
- Family assistance is established as an autonomous insurance right.
- Coverage for preventive care, e.g., preventive dental care and health check-ups, is expanded.
- Concept of "patient pays first, then is reimbursed" is introduced; coinsurance for dentures is increased; bonuses are payable if teeth are regularly attended to.
- Fixed reimbursement levels for pharmaceutical products and appliances are introduced.
- Provision of home care is expanded.
- Special services that require continuous attendance are made available.
- Certain provisions concerning death benefits are repealed, and certain transitional provisions are made.
- Severe restrictions are placed on reimbursement for travel or transportation costs.
- Individual sickness funds are authorized to introduce new services temporarily on an experimental basis and to test them under pilot conditions.
- In all contracts, the principle of stability of contribution rates is to be a prerequisite.
- Monitoring of medical services is to be conducted on a sample basis.
- Sickness funds may terminate contracts with inefficient hospitals.
- General monitoring is to be done of costs and quality in hospitals; needs for major medical technologies are to be coordinated.
- The minimum contribution payable by voluntarily insured persons is doubled.
- The employer's share of contributions is set at 50 percent as a general rule.
- Introduction of compulsory and optional contribution-sharing arrangements.
- Reduction of the system of revenue sharing of the sickness insurance for retired persons.

NOTE: DM is Deutsche mark.

SOURCE: Beratungsgesellschaft für angewandte Systemforschung (BASYS mbH).

## Table 3

## Health expenditures as a percent of gross domestic product, by source of finance: 1970-89

| Year | Total | Sickness funds | Social old-age and accident insurance | Federal and local government | Private health insurance | Other |
|---|---|---|---|---|---|---|
| | | | Percent | | | |
| 1970 | 5.35 | 3.00 | 0.35 | 0.73 | 0.44 | 0.83 |
| 1971 | 5.84 | 3.37 | 0.36 | 0.84 | 0.44 | 0.83 |
| 1972 | 6.14 | 3.60 | 0.38 | 0.88 | 0.44 | 0.83 |
| 1973 | 6.49 | 3.88 | 0.39 | 0.95 | 0.43 | 0.84 |
| 1974 | 7.11 | 4.39 | 0.43 | 0.96 | 0.48 | 0.86 |
| 1975 | 7.83 | 5.02 | 0.42 | 0.99 | 0.50 | 0.89 |
| 1976 | 7.79 | 5.08 | 0.38 | 0.95 | 0.50 | 0.88 |
| 1977 | 7.71 | 4.99 | 0.37 | 0.96 | 0.49 | 0.90 |
| 1978 | 7.75 | 4.96 | 0.36 | 1.02 | 0.50 | 0.80 |
| 1979 | 7.64 | 4.96 | 0.36 | 0.93 | 0.51 | 0.87 |
| 1980 | 7.91 | 5.15 | 0.38 | 0.95 | 0.53 | 0.90 |
| 1981 | 8.23 | 5.34 | 0.39 | 1.02 | 0.57 | 0.92 |
| 1982 | 8.12 | 5.21 | 0.38 | 1.01 | 0.57 | 0.96 |
| 1983 | 8.04 | 5.16 | 0.33 | 0.97 | 0.56 | 1.01 |
| 1984 | 8.18 | 5.31 | 0.32 | 0.94 | 0.56 | 1.04 |
| 1985 | 8.31 | 5.37 | 0.33 | 0.98 | 0.57 | 1.06 |
| 1986 | 8.24 | 5.35 | 0.33 | 0.96 | 0.57 | 1.03 |
| 1987 | 8.27 | 5.36 | 0.33 | 0.97 | 0.58 | 1.02 |
| 1988 | 8.46 | 5.52 | 0.33 | 0.99 | 0.60 | 1.03 |
| 1989[1] | 8.08 | 5.00 | 0.32 | 0.98 | 0.62 | 1.16 |

[1]Estimated.

SOURCE: Beratungsgesellschaft für angewandte Systemforschung (BASYS mbH).

benefits already granted should, in general, not be reduced. On the contrary, the results of medical progress should be made available to the insured. All members of the sickness funds should have access to high standards of medical care. The crucial point of the Cost Containment Acts, however, is the fact that, with very few exceptions, services have not been limited. Members of the sickness funds have unlimited access to the whole range of medical and dental care.

The challenge of cost containment was not only to avoid negative effects on medical progress and access to care but also to give those funds that require high premiums effective measures to stabilize their financial situations when wages fluctuate. It is necessary to keep in mind that the premium rates of the members of the 1,145 sickness funds vary greatly among the funds. The income base consists mainly of wages, salaries, and pensions. Thus, premiums are completely independent of individual risks of medical treatment costs. In 1989, the average premium rate was 12.78 percent of income. This means that an industrial worker with an average gross monthly income of 3,448 Deutsche marks (DM) paid 440 DM in monthly premiums. But the variation in an individual's ability to pay and in health risks of the members has led to great variations in the premium rates of the 1,145 sickness funds. On January 1, 1990, the rates for both employer and employee ranged from 8 to 16 percent. So the maximum premium was 760 DM per month for an industrial worker with a monthly income equal to the income ceiling of 4,725 DM.

To achieve the goal of income-related expenditure growth, the increase in expenditures for certain kinds of care was linked to the increase in the income of sickness fund members. In other words, the expenditure increase was linked to the average insurable wage from which the premium to the sickness fund system is calculated. The point has been made that the linkage between economic data and expenditures for health does not correspond well to the demand for health services. The marginal increase in income of the fund members is actually the result of bargaining between employers and labor unions and does not reflect the marginal increase in need.

To limit the increase in sickness fund expenditures, recommendations were introduced at the national level to increase overall reimbursement to both physicians and hospitals. These recommendations were also aimed at the negotiations between physicians and funds at the State level, because it is at this level that overall sickness fund payments to physicians are set. In determining the rate of increase of the expenditure cap for payments to physicians, several factors must be taken into consideration, including the increase in worker's average annual income, office costs, physician working time, and the expansion of services justified by epidemics or progress in medical research.

The Cost Containment Act of 1977 created an on-going program at the national level called Concerted Action for Health Affairs (CAHA). CAHA was created to discuss and agree upon recommendations for spending increases for ambulatory and dental care and drugs. Additionally, CAHA deals with major problems connected with the provision of medical care. Participants develop recommendations to improve efficacy and efficiency in health care. On the basis of their findings, providers and funds conduct negotiations and settle contracts. CAHA has 64 members, including representatives of the main associations concerned: sickness funds, private health insurance, physicians, dentists, hospitals, pharmacists, pharmaceutical industry, trade unions, and employers. The States, counties, and municipalities are also represented in this conference. CAHA is convened by the Federal minister of labor and social affairs, which ministry is responsible for the sickness funds. Other Federal ministries are represented but cannot vote. CAHA makes recommendations concerning the increase in overall payments for physician and dental care and prescriptions. In addition, CAHA discusses the effectiveness, efficiency, and rationalization of the health care system as well as the development of medical and economic background data to guide policy.

The Cost Containment Act of 1977 also introduced other regulations intended to reduce costs. These regulations relate to the provision of home help and home nursing care, the restriction of rest and recuperation in spas, the connection between ambulatory and inpatient care, and user charges.

When efforts to contain costs were beginning, CAHA discussed the idea of cost containment in hospitals but did not have the right to make recommendations. As a result, there were complaints from physicians, dentists, pharmacists, the pharmaceutical industry, and the sickness funds that the hospitals, which caused the highest share of expenditures for the sickness funds, were not bound by recommendations as to the increase of expenditures. This situation was changed by the act of 1982. This second cost containment act also increased user charges for drugs and physiotherapy.

Since 1986, in its annual reports, a board of seven advisers to CAHA provides medical and economic guidelines on which CAHA may base its various recommendations.

The Health Care Reform Act (HCRA) of 1989 was not designed to be a radical revision of the current system of health insurance. Services and benefits covered by the "principle of solidarity" should be redesigned. The principle of solidarity requires equal financial burdens in financing services for major health care needs. To avoid undesirable effects caused by "free riders" and high premiums, only medically necessary services should be included in the health care baskets of the sickness funds. Further objectives of HCRA were to encourage individuals to take greater responsibility for their lifestyles and for using services as sparingly as possible. HCRA also strengthened the role of the sickness funds' administrations to enable them to monitor the efficiency of physicians and hospitals and to contract out any "bad apples."

Although HCRA of 1989 amended the laws of the sickness funds completely, further reform that addresses financial risks is needed. Inequality of treatment with regard to choice of sickness fund still exists for both blue and white collar employees. Thus, the next step will be an organizational reform which, as announced, will be submitted to the current legislature beginning in 1991.

## Supply effects

Any regular supply curve slopes upward indicating that, the higher the price, the greater the amount offered. A lower price leads to lower production. It is obvious that this traditional view of the supply curve indicates a contradiction between the goals of cost containment to reduce expenditures without limiting access to medical services.

In fact, there was much criticism of health care providers concerning the overall CAHA recommendations and their effects on quality of medical care. Compared with other professions, physicians' and dentists' real incomes have decreased since 1980. One must question how far the income level can be reduced without jeopardizing the economic situation of physicians and dentists working in outpatient practices. The question arises as to how overall recommendations on the yearly increase of expenditures can be put into practice in a situation in which some 100,000 physicians and dentists practice privately. Similarly, how can a recommendation on the increase of expenditures for drugs be put into effect in a situation in which some 1,000 pharmaceutical firms work in a free-market system? How could increases in spending for medical progress, e.g., research and development of new drugs, be held to fixed growth rates?

## Office-based physicians

Ambulatory medical services are provided by office-based doctors. More than 80 percent of their revenue comes from sickness funds. Therefore, all activities of the sickness funds concerning reimbursement directly affect the incomes of the doctors.

Both private insurance and the sickness funds pay for ambulatory medical services on a fee-for-service basis. The current fee schedule for physician services supplied to members of the sickness funds was established in 1978. Since then, the structure of the schedule as well as fees for various services have been changed as a result of negotiations between the national and regional organizations of the sickness funds and the organizations of sickness fund physicians. In general, physician reimbursement for a given service differs because, traditionally, the white collar workers' funds pay higher fees. Physicians are reimbursed on the basis of a legal fee schedule containing even higher rates for services supplied to people with private insurance. The differences in physician pay have lead to a system of multiple standards, which is occasionally reflected in differing waiting times and amounts of face-to-face contact with physicians.

The effects of cost containment on ambulatory care have been primarily price-containment measures. Although, on average, expenditures for ambulatory care grew from 1977 to 1989 at an annual rate of 5.4 percent, fees increased only at a 1-percent annual rate. This increase of fees has been much lower than the average inflation rate of 3 percent for consumer prices (BASYS and CREDES, 1990).

**Table 4**

**Annual growth rates of selected health care sources in percents for 3 time periods: Federal Republic of Germany 1970-89**

| Item | 1970-77 | 1977-83 | 1983-89 |
|---|---|---|---|
| | | Percent | |
| Active physicians | 3.3 | 3.4 | 3.1 |
| Office-based physicians | 1.5 | 2.2 | 2.3 |
| Hospital physicians | 4.6 | 3.4 | 2.8 |
| Active dentists | −0.1 | 1.1 | 2.0 |
| Pharmacists | 3.7 | 1.6 | 3.2 |
| Hospital beds | 0.8 | −1.0 | −0.3 |
| Hospital staff | 3.8 | 1.8 | 1.7 |
| Nurses | 5.6 | 4.6 | 4.1 |

SOURCE: Beratungsgesellschaft für angewandte Systemforschung (BASYS mbH).

In spite of cost containment, the number of office-based physicians has increased by more than 2 percent annually since 1977 (Table 4). By the end of 1989, the number of office-based physicians had reached 73,381. That is 17,224, or 31 percent more than in 1977 (Kassenärztliche Bundesvereinigung, 1990). Therefore, the revenue per physician has increased much more slowly than has the total increase of expenditures for physician services. As the total population remained practically the same since 1977, the number of patients per office decreased steadily.

The supply side has reacted to price containment by increasing the number of services per patient. This holds true especially for those services with low marginal costs, such as laboratory tests. But because total revenues are fixed by the sickness funds, more services did not automatically mean more revenues per physician. On the contrary, more services result in price decreases, as the average point value of fees decreases because of both the reimbursement ceiling and the increase in the number of physicians. As yet, there has been no fundamental reaction on the part of the supply side to this increased economic pressure. Obviously, the incomes of office-based physicians seem to be high enough to bear the cost-containment policy.

## Dentists

In Germany, per capita expenditures for dental care are the highest in the world (Schneider et al., 1990). This is mainly because of high expenditures for dentures, which have been nearly fully covered by the sickness funds since 1974. Table 5 shows annual growth rates of 18.8 percent during the period 1970-77, before cost containment. In this period, the number of practicing dentists was relatively stable at some 27,000 (Kassenzahnärztliche Bundesvereinigung, 1990). Increased demand did not affect this number until 1980. Since 1980, the number of practicing dentists has grown by 2 percent annually (Table 4). This growth rate is higher than that for utilization of dental care, which shows the lowest growth of all health care services in the 1980s (Table 6).

## Table 5

### Health expenditures, by type of service and year: Federal Republic of Germany, 1970-89

| Year | Health expenditures[1] | Ambulatory services by physicians | Dental services | Drugs | Hospital services | Others[2] |
|---|---|---|---|---|---|---|
| | | | Millions of Deutsche marks | | | |
| 1970 | 36,117 | 7,327 | 3,946 | 7,124 | 12,014 | 5,687 |
| 1971 | 43,852 | 9,156 | 4,884 | 8,142 | 14,854 | 6,817 |
| 1972 | 50,587 | 10,313 | 5,652 | 9,176 | 17,426 | 8,020 |
| 1973 | 59,493 | 11,660 | 6,666 | 10,431 | 21,123 | 9,613 |
| 1974 | 70,048 | 13,519 | 8,004 | 11,956 | 25,302 | 11,267 |
| 1975 | 80,374 | 14,624 | 11,035 | 13,226 | 28,578 | 12,911 |
| 1976 | 87,384 | 15,516 | 12,528 | 14,094 | 30,337 | 14,909 |
| 1977 | 92,345 | 16,261 | 13,234 | 14,547 | 32,252 | 16,051 |
| 1978 | 99,639 | 17,298 | 14,302 | 15,743 | 34,551 | 17,744 |
| 1979 | 106,334 | 18,652 | 15,741 | 16,753 | 36,364 | 18,824 |
| 1980 | 116,920 | 20,207 | 17,424 | 18,536 | 40,082 | 20,671 |
| 1981 | 126,842 | 21,879 | 19,084 | 19,851 | 43,517 | 22,511 |
| 1982 | 129,776 | 22,530 | 17,898 | 20,792 | 45,287 | 23,269 |
| 1983 | 134,570 | 23,370 | 17,738 | 22,010 | 46,724 | 24,728 |
| 1984 | 143,574 | 24,642 | 18,975 | 23,323 | 49,558 | 27,076 |
| 1985 | 152,173 | 25,706 | 19,573 | 24,938 | 52,912 | 29,044 |
| 1986 | 159,061 | 26,624 | 19,503 | 25,992 | 55,771 | 31,171 |
| 1987 | 166,156 | 27,798 | 19,174 | 27,508 | 58,182 | 33,495 |
| 1988 | 178,721 | 28,950 | 23,250 | 29,566 | 60,636 | 36,319 |
| 1989[3] | 181,373 | 30,507 | 21,512 | 29,891 | 62,453 | 37,011 |
| | | | Percent annual growth | | | |
| 1970-77 | 14.4 | 12.1 | 18.8 | 10.7 | 15.2 | 16.0 |
| 1977-83 | 6.5 | 6.2 | 5.0 | 7.2 | 6.4 | 7.5 |
| 1983-89 | 5.1 | 4.5 | 3.3 | 5.2 | 5.0 | 7.0 |

[1]Does not include cash benefits, administration, construction, research, and development.
[2]Includes medical aids, appliances, psychotherapy, physiotherapy, long-term care, transportation services, and public health service.
[3]Estimated.

SOURCE: Beratungsgesellschaft für angewandte Systemforschung (BASYS mbH).

## Table 6

### Percent growth of health expenditures in real prices, by type of service and year: Federal Republic of Germany, 1970-89

| Year | Total | Ambulatory services by physicians | Dental services | Drugs | Hospital services |
|---|---|---|---|---|---|
| | | | Percent | | |
| 1971 | 9.7 | 8.4 | 16.9 | 9.0 | 4.5 |
| 1972 | 8.4 | 6.6 | 13.1 | 8.2 | 2.5 |
| 1973 | 9.7 | 7.3 | 13.5 | 8.9 | 3.2 |
| 1974 | 8.7 | 7.5 | 11.1 | 9.7 | 4.2 |
| 1975 | 8.6 | 5.4 | 26.9 | 5.8 | 0.5 |
| 1976 | 5.3 | 3.0 | 9.2 | 4.6 | 1.2 |
| 1977 | 2.1 | 0.7 | 2.9 | 0.3 | 2.4 |
| 1978 | 4.8 | 4.8 | 5.3 | 5.9 | 2.0 |
| 1979 | 2.5 | 4.5 | 5.9 | 2.4 | 0.1 |
| 1980 | 4.5 | 5.5 | 7.4 | 5.2 | 2.0 |
| 1981 | 2.6 | 3.9 | 4.5 | 4.0 | −0.5 |
| 1982 | 0.0 | 3.2 | −7.5 | 0.8 | 0.2 |
| 1983 | 1.2 | 2.8 | −2.5 | 1.7 | 0.1 |
| 1984 | 4.3 | 3.6 | 4.9 | 3.3 | 3.4 |
| 1985 | 3.6 | 2.4 | 2.4 | 3.8 | 4.1 |
| 1986 | 3.6 | 3.7 | −2.0 | 3.6 | 4.2 |
| 1987 | 3.4 | 6.9 | −4.8 | 5.0 | 1.8 |
| 1988 | 7.7 | 10.7 | 18.9 | 5.5 | 3.7 |
| 1989 | −0.5 | 1.0 | −9.7 | −0.3 | 1.2 |
| | | | Average | | |
| 1970-77 | 7.5 | 5.5 | 13.2 | 6.6 | 2.6 |
| 1977-89 | 3.1 | 4.4 | 1.6 | 3.3 | 1.8 |

SOURCE: Beratungsgesellschaft für angewandte Systemforschung (BASYS mbH).

For members of sickness funds, dentists bill according to the common fee schedule for dental services. Claims by dentists are settled similarly to the way those of physicians are—through the State dentist organizations, which in turn settle up quarterly with the sickness funds. For dentures, HCRA of 1989 changed the payment method, so the dentist now has to bill the patient directly. Then the sickness funds reimburse patients.

Although there was no comparable ceiling as there was for the ambulatory medical sector during most of the years of cost-containment efforts, the actual growth rates of expenditures for dental care (excluding dentures) were lower than the CAHA-recommended levels (Berg, 1986). One explanation for this has been the relative values of fees in the fee schedule for dental services. Restorations were undervalued, crowns and dentures, overvalued. This distortion in the relative values of the fee schedule encouraged dentists to provide crowns and dentures. In 1986, the common fee schedule for dental services was completely revised. Furthermore, since July 1, 1986, special guidelines came into force to ensure the use of cost-effective material for dentures.

## Pharmaceuticals

The Cost Containment Act of 1977 required that the national organization of sickness fund physicians and the national associations of the sickness funds recommend a maximum expenditure for prescriptions. In cases in which the maximum was exceeded, steps had to be taken to identify the causes of the overrun. If the excess expenditure did not arise from an unpredictable increase in morbidity, there were no mechanisms to keep the increase within the budget. Therefore, it was not surprising that the annual growth rates of pharmaceutical expenditures were only 1 year behind those recommended by CAHA. However, after the Cost Containment Act of 1977, the real growth rates of pharmaceutical expenditures were reduced to one-half their previous amount.

The State exerts no influence with respect to drug price-fixing at the production level. Pharmaceutical products are priced according to the prevailing market situation. The cost of production, the quality and price of competing products, the prescribing habits of physicians, and the regulations required by the Federal Government regarding safety, efficacy, and price are among the factors that influence the pricing decisions of each pharmaceutical firm. The pharmacist's selling price is based on the wholesale markup and the pharmacist's own retail markup. The limits of both markups are defined by law.

Although the real growth of expenditures for drugs during the period 1977-89 could have been reduced by one-half to that of the span before cost containment (Table 6), the share spent for drugs was rather high. This was because of high prescription rates and high prices. In comparison to member States of the European community, Germany had the highest drug prices of all (Sermeus and Adrianssens, 1989).

In recent years, the government has introduced measures to enforce price competition in the market for pharmaceutical products. The parliament created a so-called "Revision Commission," the task of which is to publish and distribute lists comparing prices and medical compounds having the same uses and/or ingredients. Savings of approximately 2 billion DM yearly are anticipated once the new regulations are fully in force.

In the meantime, there are several lists available to physicians containing information on price, composition, quality, etc. These lists are published by the pharmaceutical industry, by researchers, and by the Revision Commission. Further price-containment measures have included the monitoring of physician prescribing habits and voluntary price containment by the pharmaceutical industry. In spite of these activities, during the period 1983-89, prescription prices increased more than consumer prices (Table 7).

With the Health Care Reform Act of 1989, the reimbursement policy of the sickness funds has changed significantly. For drugs with suitable substitutes, reimbursement is set at the price level of generics. Insured people should have incentives to use cheaper medicines without restricting their entitlement to medically sound pharmaceutical products in any way. In addition, competition should be promoted among pharmaceutical manufacturers. From the standpoint of insured people, the new system recommended under HCRA of 1989 will operate as follows: The sickness funds will pay the full cost of any medicine for which a

**Table 7**

**Annual growth of health expenditures in percents for 3 time periods, by type of service: Federal Republic of Germany, 1970-89**

| Type of service | 1970-77 | 1977-83 | 1983-89 | 1977-89 |
|---|---|---|---|---|
| **Expenditures in current Deutsche marks** | | Percent | | |
| Total | 14.4 | 6.5 | 5.1 | 5.8 |
| Ambulatory services by physicians | 12.1 | 6.2 | 4.5 | 5.4 |
| Pharmaceuticals | 10.7 | 7.2 | 5.2 | 6.2 |
| Dental services | 18.8 | 5.0 | 3.3 | 4.1 |
| Hospital services | 15.2 | 6.4 | 5.0 | 5.7 |
| **Expenditures in 1980 prices** | | | | |
| Total | 7.5 | 2.6 | 3.7 | 3.1 |
| Ambulatory services by physicians | 5.5 | 4.1 | 4.4 | 4.4 |
| Pharmaceuticals | 6.6 | 3.3 | 3.3 | 3.3 |
| Dental services | 13.2 | 2.0 | 1.2 | 1.6 |
| Hospital services | 2.6 | 0.6 | 3.1 | 1.8 |
| **Prices**[1] | | | | |
| Total | 6.4 | 3.8 | 1.3 | 2.6 |
| Ambulatory services by physicians | 6.2 | 2.0 | −0.1 | 1.0 |
| Pharmaceuticals | 3.9 | 3.7 | 1.9 | 2.8 |
| Dental services | 5.0 | 2.9 | 2.0 | 2.5 |
| Hospital services | 12.2 | 5.7 | 1.9 | 3.8 |
| Consumer prices | 5.5 | 4.4 | 1.5 | 3.0 |

[1]For prices, 1980 = 100.

SOURCE: Beratungsgesellschaft für angewandte Systemforschung (BASYS mbH).

fixed price has been established. If the insured person uses a more expensive medicine, he or she pays the amount in excess of the fixed price. For medicines for which no fixed price has been set, there is a copayment of 3 DM per item. The difficulty of establishing fixed prices has resulted in some delays in fully implementing the changes set forth in HCRA of 1989.

According to HCRA of 1989, fixed rates are planned for the following types of medicines:

- Drugs with the same active ingredients.
- Drugs with pharmacologically comparable active ingredients, especially chemically related ingredients.
- Drugs with comparable pharmacological-therapeutic effect, in particular drug combinations.

The allocation of medicines into these groups must make certain that the range of treatment possibilities is not reduced and that medically sound prescription alternatives are available. Prices are fixed jointly by the national organizations of sickness funds and physicians. These groups must ensure an adequate supply of effective medicines of guaranteed quality at reasonable prices. The amounts set are to be reviewed regularly and adjusted in light of changes in the market situation.

The first steps to introduce this new system have already been made. Fixed prices are set, on the average, at 30 percent below the previous prices of the brand name products (Schwabe and Paffrath, 1990). Many pharmaceutical companies reduced their prices to the levels of the fixed amounts. In December 1989, prices of drugs with fixed rates dropped by 21 percent, and prices of drugs without fixed rates went up by 2.1 percent.

HCRA of 1989 also promotes drug substitution. On the prescription form, the doctor is obliged to specify whether the pharmacist is allowed to dispense a cheaper generic rather than the original preparation. Since 1981, the percentage of generic prescriptions has increased from 7.2 to 21.9 percent (Schwabe and Paffrath, 1990).

## Hospitals

The Hospital Law of 1972 had considerable influence on the expenditures of the sickness funds. Prior to 1972, hospital owners were responsible for the construction of hospitals—public, private, or nonprofit—subsidized by State funds. The amount of State subsidies was determined by each individual State, and showed considerable variation. The daily hospital rate was the result of negotiations between the hospital and the sickness funds. The rate never covered actual costs, and the hospital had to make up the deficit.

With the Hospital Law of 1972, the construction of hospitals became a matter of public interest. The daily charge was fixed by the hospitals, the sickness funds, and the States at the beginning of the planning period (for 1 year) and had to cover the expected current or operating costs of the hospital, including salaries for hospital physicians. The States were required to develop hospital financial plans. Construction and restoration of hospitals were subsidized up to 100 percent from public funds according to the hospital plan (Beske, 1982).

The Hospital Law of 1972 has led to the construction of a considerable number of modern hospitals, containing a greater number of beds, and the availability of up-to-date major equipment. During the period 1970-77, hospital services showed the highest percent increase in prices compared with other services (Table 7).

Cost containment of hospital capital expenditures was never specifically included in the scope of CAHA, largely because of the separate financing mechanisms for current services and construction. Nevertheless, the recommendations of CAHA have influenced the growth rates of daily charges. In connection with the guidelines for hospital staff per bed, the annual growth rate of hospital prices was reduced to 3.8 percent for the period 1977-89, compared with 12.2 percent for the period 1970-77 (Table 7).

The Hospital Financing Act and the Federal Hospital Payment Regulation Act (Figure 2), which came into existence in 1985 and 1986, respectively, implemented a prospective budget system that allows for profits in a certain range. The prospective budget includes all operating costs (i.e., staff and resource costs). Investment costs are included only to a very small extent, as they are predominantly financed by means of public State subsidies. Each hospital has to set up a standard cost and service record, providing an overview of the cost structure of each hospital. The Hospital Financing Act also contains several alternative payment forms. Besides the basic daily rate, special compensation rates may be used. It has been proposed by the Ministry of Labor and Social Affairs that a uniform national special compensation plan, with approximately 100 to 120 compensation rates, be developed.

Although the ratio of hospital beds per 1,000 population has decreased from 118 in 1977 to 109 in 1988 (BASYS and CREDES, 1990), it is notable that, despite this reduction, Germany has the highest density of acute care beds in the European community. There is a wide range in the number of hospital beds per 1,000 population among the States of Germany, with 9.5 at the bottom of the range and 15.4 at the top (Statistisches Bundesamt, 1988). Some of the difference can of course be explained by the proportion of elderly and the existence of medical teaching faculties in urban versus rural areas. On the other hand, such a wide range indicates that there is an excessive supply of acute care beds in some areas, a view supported by the fact that German States with fewer acute care beds do not complain about hospital deficiencies.

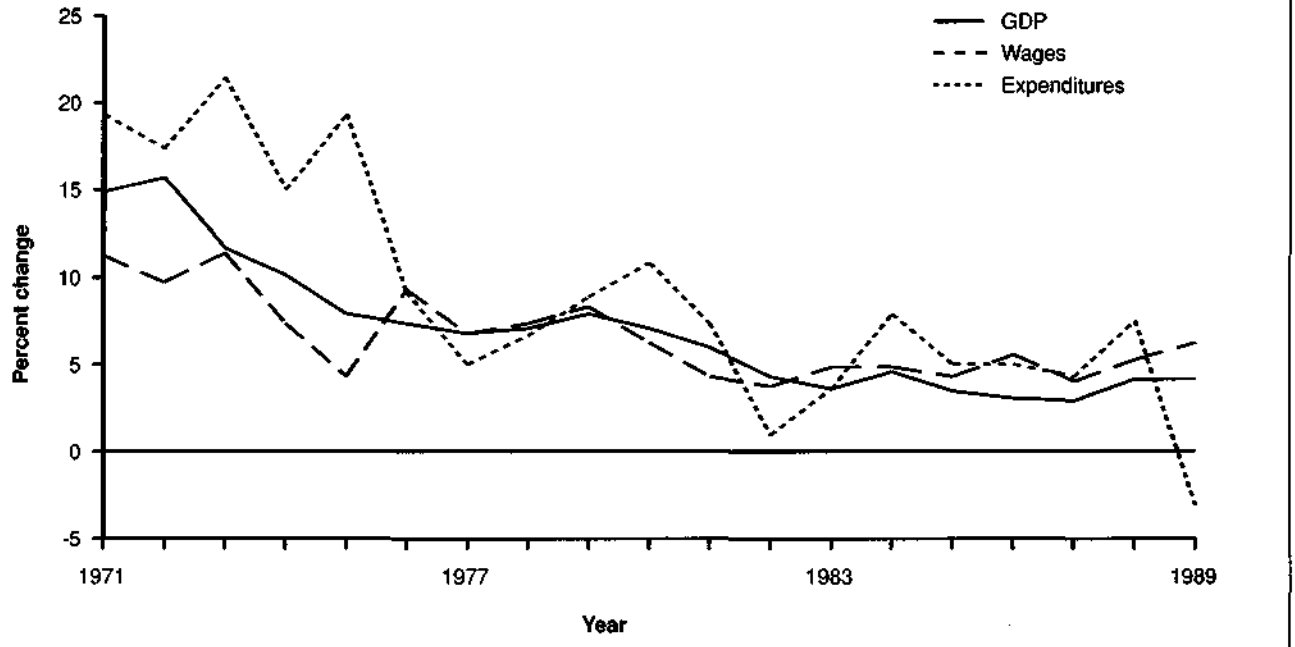
The pressure to contain daily charges has helped, indeed, to stabilize hospital costs but has also delayed the adjustment of hospital capacities to become more efficient. In Germany, the average length of stay and bed density is higher, and the staff per bed lower, than in other Western countries.

## Demand effects

As pointed out, cost-containment policy has been primarily price-containment policy. Containment of utilization was designed to play only a supplementary role. The following measures were introduced as part of the cost-containment legislation to limit the quantity of services delivered:

**Figure 2**

**Annual percent growth of GDP, wages, and health care expenditures of sickness funds: Federal Republic of Germany, 1971-89**




NOTE: GDP is gross domestic product.
SOURCE: Beratungsgesellschaft für angewandte Systemforschung (BASYS mbH).

- Reducing the entitlement to benefits.
- Reimbursement limits per case, combined with monitoring.
- User charges.

Most German health politicians and administrators believe that coinsurance or copayment regulations are ineffective and have negative distributional effects. People should have free access to medical services. The physician carries the responsibility for avoiding unnecessary services. Therefore, user charges are not the appropriate measures to reduce supplier-induced demand, if such exists.

Despite these orientations, since the enactment of the Cost Containment Act in 1977, user charges have been revised several times and increased in certain health services. Various exemptions have been introduced to take care of social indigents. At present, children and teenagers under 18 years of age are exempt from coinsurance, except for dentures and transportation costs. An exemption from coinsurance is also possible if services with fixed prices (e.g., drugs or eyeglasses) are involved. Also exempted are persons collecting unemployment and those obtaining higher education. Furthermore, there are limits to coinsurance in accordance with the income of the insured.

Altogether, real expenditures in 1980 prices increased during the period 1970-89 from 63 billion DM to almost 151 billion DM. Compared with 1977, the major effect of cost containment on demand was on dental care, which increased, on the average, only 1.6 percent annually, followed by hospital care, with 1.8 percent annually (1980 prices). Since 1977, the greatest increase in demand is for ambulatory care, which is the only sector without user charges to date (Table 7).

## Ambulatory services

Patients are free to choose any doctor. However, since 1984, patients covered by sickness funds may claim only one treatment voucher per quarter. (A treatment voucher is prepared and submitted by the physician and lists the charges for all visits by the patient to that physician during the quarter.) Patients must obtain from their physician a referral certificate for visits to any other doctor. In practice, this restriction is of minor importance. Analyses of treatment vouchers indicate a rise in referral certificates and services delivered per voucher.

Because of the existing agreements of remuneration, an increase in the number of vouchers and in the quantity of services per voucher does not result in a proportionate increase in total remuneration. Nevertheless, physicians compete with each other, and therefore, the individual physician is interested in increasing services to maintain his income.

Although patients of sickness funds do not face user charges for office visits, figures indicate the effects of HCRA of 1989 on demand for this service. Real expenditures increased by 10.7 percent in 1988 and dropped to an increase of 1.0 percent in 1989 (Table 6). This decrease in demand may be partly explained by

uncertainty on the part of patients concerning actual user charges and the increase in user charges for prescriptions.

## Dental services

In the pre-cost-containment period, the demand for dental care was stimulated by the decision of the Supreme Court of Social Affairs in 1974, which held that insured people should be covered for dentures in case of missing teeth. In 1975, real expenditures for dental care increased by 26.9 percent. The introduction of a coinsurance rate of 20 percent for dentures (under the Cost Containment Act of 1977) reduced the demand temporarily (Table 6).

The announcement of HCRA of 1989 led to anticipatory effects in 1988. In the area of dentures, where user charges increased from about 20 to 50 percent, the number of cases paid for through the organization of sickness funds for dentists rose by 21 percent. Expenditures for dentures increased by 27 percent. It is worth noting in this context that expenditures for dentures had decreased in 1986 (–10.0 percent) and in 1987 (–8.9 percent) as a result of fee reductions in the common fee schedule. In 1989, when the higher user charges came into force, expenditures for dentures dropped by 46 percent.

## Pharmaceuticals

The first Cost Containment Act of 1977 introduced a copayment of 1 DM per prescription. In 1982, this charge was raised to 1.50 DM and, in 1983, to 2 DM. Since 1989, the insured has had a copayment of 3 DM to the pharmacist for a prescribed drug that has, as yet, no fixed price. Since June 1, 1989, for drugs with fixed prices, the patient has had to pay the difference between the fixed price and the actual retail price. For drugs without a fixed charge, the rate of 3 DM will remain until the end of 1991. As of January 1, 1992, a coinsurance payment equal to 15 percent of the price of the drug (with a maximum of 15 DM per item) will be required.

All these changes in user charges have had significant effects on demand, even if the changes were temporary. In addition, cost-containment acts have tried to control demand through improved monitoring of prescribing behavior of physicians and through "negative lists." These are lists of items that are not reimbursable for patients 18 years of age or over. Prescribed drugs in the following areas are on negative lists:

- Drugs for colds and flu-type infections, including decongestants, analgesics, antitussives, and expectorants.
- Any medicines for the mouth or throat, excluding fungal infections.
- Laxatives.
- Travel sickness remedies.

## Hospital services

Patients are essentially free to choose any hospital, although all admissions to a hospital are by referral only. According to the Health Care Reform Act of January 1, 1989, the doctor making the referral must take into account the cost-effectiveness of the hospital in question. A comparative price list of hospitals is currently being compiled. As long as the prices of hospitals are not comparable, this price list may have only minor effects.

From January 1983 through December 1990, patients had to pay 5 DM for each calendar day in a hospital from the first day of admission and for a maximum of 14 days within any calendar year. This copayment was increased to 10 DM on January 1, 1991. The copayment is forwarded to the sickness funds. Patients treated in spa clinics or rehabilitation clinics pay 15 DM per day to the sickness funds (with exemptions for social indigents and special cases). This does not apply to children up to the age of 18 nor to any period of partial hospitalization.

It is questionable whether the low copayment has had even a negligible effect on demand for hospital services. However, hospital days per capita reached the lowest point during the period 1977-88, with 3.37 days. Although length of stay fell from 20.8 days in 1977 to 16.6 days in 1988, utilization of hospitals remained quite stable. Average bed days per capita were 3.56 in 1977 and 3.46 in 1988 (BASYS and CREDES, 1990). One reason for the relatively long length of stay and high use of hospital services in Germany is the way in which ambulatory care and hospital care are kept separate. Therefore, HCRA of 1989 introduced measures to improve the division of labor in both sectors. Patients referred to a hospital for treatment, but who are not confined to bed should, under certain circumstances (such as before or after an operation) be treated on an outpatient basis. This should either reduce or avoid the need for hospital admission and reduce the need for beds as well.

## Structural effects

### Public-private mix of care

All cost-containment measures in the sickness fund system have directly or indirectly influenced the private sector. Civil servants with incomes below a set level are covered by sickness funds, and the premium is paid entirely by the government. Most civil servants, however, are able to and do choose to be privately insured, paying these premiums themselves. Therefore, cost-containment measures that are enacted by the sickness funds (such as user charges) are usually made applicable to civil servants who are covered by these funds as well. However, payment systems in the private sector do differ from those in the public sector.

The principle of patient indemnification applies to private patients in the area of ambulatory care; i.e., they pay the full cost of any bill to the provider and are then reimbursed by their health insurance. Civil servants submit their invoices both to the local payment office of their employers and to their private health insurance plan. The public employers reimburse in general 50-70 percent of the bills, depending on the family status of the civil servant.

The fee schedule for private patients differs from that for sickness fund members. On average, the fees for

private medical treatment are twice as high as those for medical treatment under the sickness funds. The private fee schedule was revised in 1965, 1982, and 1988. No studies are available about the effects on quality of the higher fees for private services. A study in the area of Munich showed that physicians dedicated more working time to private patients than to patients of sickness funds (Neubauer and Birkner, 1980). Furthermore, the sickness funds monitor regularly all claims of physicians. The private health insurance plans usually monitor the submitted invoices only if they exceed a certain threshold.

In contrast to the social sector, the private fee schedule is also applied to hospitals. The hospital physicians (usually the senior consultants) bill patients directly for medical services. On admission, the patient signs a declaration accepting liability for the costs. Then, charges for inpatient care for private patients are paid directly to the hospital by the private health insurance companies. Charges are based on number of days of care, and private patients pay an additional charge over and above the per diem set for sickness fund patients. The daily charge for private patients is, on the one hand, lower than that for sickness fund patients, because of the direct billing of costs of private medical treatment by hospital physicians. On the other hand, the per diem for private patients covers additional services that come with a private-insurance room. On average, the total costs per hospital case are therefore about twice as high for private patients as for patients who have social health insurance coverage.

Private spending accounts for less than one-quarter of health spending in Germany. Since the beginning of cost containment in the mid-1970s, the private share as well as the number of privately insured people has increased steadily. The additional demand for nursing care was not covered by the sickness funds, and price inflation of services covered by private insurance has been greater than that for the social funds.

Of importance in this analysis is the validity of the price indexes involved. The price indexes used were developed using different statistics. The hospital cost price index is based on per diem costs adjusted to productivity gains by falling length of stay. The public price indexes (i.e., price index for the services of the sickness funds) for ambulatory physician services and dental care reflect the rise of point values of the fee schedules. The prices of private physician services are determined by the average fee. This last concept may lead to an overestimation of the price increases of services for patients with private insurance.

In the period 1977-89, prices for private health care rose annually by 3.8 percent. During the same time, prices for public health care rose by 2.3 percent (Table 8). This means that prices for private health care increased more than consumer prices in general. In contrast, the increase in public prices was below the general inflation rate. This lower increase of public prices was mainly the result of the sickness funds' expenditure cap for physician services. This cap steadily reduced the conversion factor of the common fee schedule.

**Table 8**

**Percent private and public mix, utilization, and prices of health expenditures: Federal Republic of Germany, 1970-89**

| Year | Private share of total expenditures | Utilization for public expenditures | Growth rates | | |
|---|---|---|---|---|---|
| | | | Prices for public expenditures | Utilization for private expenditures | Prices for private expenditures |
| | | | Percent | | |
| 1970 | 23.7 | — | — | — | — |
| 1971 | 21.7 | 11.6 | 11.6 | 4.0 | 7.0 |
| 1972 | 20.8 | 9.6 | 6.5 | 4.6 | 5.6 |
| 1973 | 19.6 | 11.2 | 7.3 | 4.9 | 5.8 |
| 1974 | 18.8 | 9.7 | 8.4 | 5.5 | 7.0 |
| 1975 | 17.8 | 10.3 | 5.2 | 1.9 | 6.9 |
| 1976 | 17.7 | 5.7 | 3.0 | 2.9 | 5.3 |
| 1977 | 18.1 | 1.7 | 3.5 | 3.3 | 4.2 |
| 1978 | 17.9 | 5.1 | 2.9 | 3.0 | 3.6 |
| 1979 | 18.1 | 2.2 | 4.1 | 4.0 | 4.3 |
| 1980 | 18.1 | 4.7 | 5.1 | 3.9 | 5.7 |
| 1981 | 18.0 | 2.7 | 5.7 | 2.1 | 5.7 |
| 1982 | 18.9 | −0.7 | 2.0 | 2.9 | 4.0 |
| 1983 | 19.6 | 0.7 | 2.1 | 3.1 | 4.3 |
| 1984 | 19.6 | 4.3 | 2.3 | 4.3 | 2.3 |
| 1985 | 19.6 | 3.8 | 2.0 | 2.4 | 3.7 |
| 1986 | 19.4 | 4.0 | 0.8 | 2.0 | 1.3 |
| 1987 | 19.4 | 4.2 | 0.3 | 2.2 | 2.1 |
| 1988 | 19.3 | 6.7 | −0.9 | 3.3 | 3.5 |
| 1989 | 22.0 | −3.2 | 1.3 | 12.7 | 2.8 |
| | | | Average | | |
| 1970-77 | 19.8 | 8.5 | 6.5 | 6.0 | 3.9 |
| 1977-89 | 19.1 | 2.9 | 2.3 | 3.6 | 3.8 |

SOURCE: Beratungsgesellschaft für angewandte Systemforschung (BASYS mbH).

### Range of contribution rates

During the period 1977-89, the average premium rate for the sickness funds increased from 11.5 percent to 12.9 percent of the employee's income. As mentioned previously, great differences in premium rates are hidden by these averages. On July 1, 1978, premium rates ranged from 7 to 14.2 percent. In January 1990, this span ranged from 8 to 16 percent. It is obvious that not all cost-containment acts reduced the differences among premium rates. Therefore, the sickness fund system is in need of further reform. Although HCRA of 1989 amended the law of the sickness funds completely, the freedom of choice to subscribe to sickness funds is unequally available to blue and white collar workers. Thus, an organizational reform has been announced that will establish uniform rules concerning narrower premium rates and freedom of choice of fund.

### Wage effect on national income

The relative stability of the share of GDP devoted to health care in the 1980s results partially from the decreasing share of wages in GDP. The linkage between health expenditures and wages can lead to differences between general economic growth and growth in health care, if wages increase more or less than economic growth. Figure 2 shows the annual growth rates of sickness fund members' wages along with GDP. During the periods 1976-79 and 1984-89, economic growth surpassed the increase in wages. Therefore, the linkage between wages and sickness fund expenditures led to additional gains in profit and interest. The linkage between wages and premiums enforces the economic cycle, and it can be expected that the share of GDP devoted to health care will increase in the next recession.

## Future problems

The cost-containment policy of the German health care system has been directed mainly toward reducing price inflation, although volume of services is also a concern in the budgeting of health care costs. This policy has proved useful in keeping down premium rates and encouraging economic growth. However, in the long run, this policy will lead to lower quality of care or to cuts in health care supply as cost inflation surpasses the reimbursement of costs. The Federal Government has anticipated this conflict. According to HCRA of 1989, future adjustments of payments should be more closely linked to costs and quality monitoring of outcomes. Concentration should also be focused on the quality of new medical technologies provided. Nevertheless, the problem remains: How should prices be adjusted to improve quality of health care and reduce overutilization?

The unification of both German countries has been considered and addressed by the price-containment policy. Fee schedules for physician and dental services have been established in the five eastern States of Germany, but with the reduction of 45 percent of the conversion factor. Thus, two different price levels now exist. It is planned to harmonize the two levels of fee schedules step by step, along with the equalization of wage levels in both parts of Germany.

Presently, it seems that the lower fee levels in the eastern States of Germany impede investments in offices and hospitals. Thus, physicians may prefer to stay in existing ambulatory health care centers rather than establish their own practices. Paying ambulatory health care centers on a capitated basis is being considered. Perhaps this will open the way for a mixed fee-capitation system in the future.

One of the major future problems for the German health care system is the provision of adequate services for patients in need of nursing care. Expenditures for long-term care in nursing homes and for home care are the fastest growing health care expenses. Reimbursement regulations for nursing services comparable to those in other areas of health care do not exist. At the moment, the organization of providers of nursing services is also very poor. Therefore, it is difficult to transfer the experience of cost containment to nursing and other sectors.

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