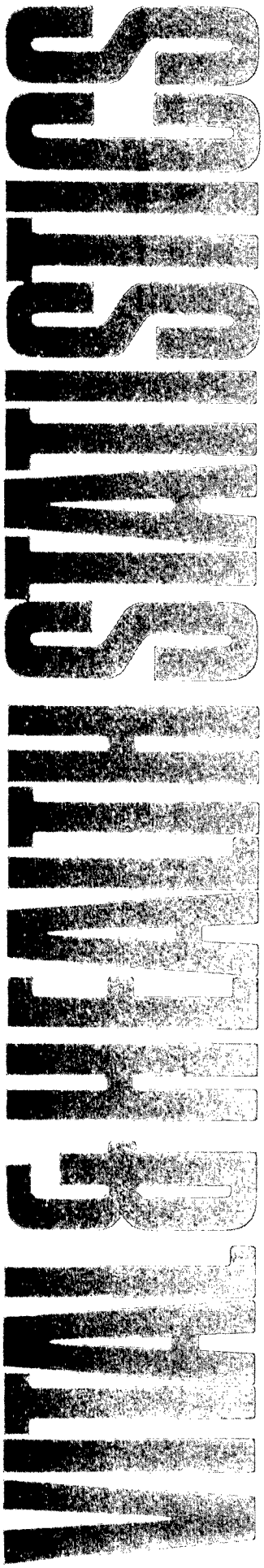

Comparison of Health Expenditures in France and the United States, 1950–78

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If, despite this expertise, errors of interpretation remain, they are the responsibility of the author.

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[a]The Research Center for the Study and Observation of Conditions of Life.

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Symbols

- - -	Data not available
. . .	Category not applicable
-	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500
*	Figure does not meet standards of reliability or precision

Comparison of Health Expenditures in France and the United States

by Simone Sandier, Director of Research of the Medical Economics Division, Centre de Recherche pour L'Étude et L'Observation des Conditions de Vie

Introduction

A comparison of the health care systems in France and the United States through 1973[1] indicated that hospital services were the greatest part of total health care expenditures. Similarities in the growth patterns as well as differences in the structures of these systems and in the level of health care expenditures in the two countries were found.

From 1950 to 1973, health care expenditures in France and the United States increased more rapidly than the gross national product did. Also, direct financing by patients was replaced progressively by third-party payments (i.e., public funds or private insurance), but direct financing and private insurance had a greater role in the United States than in France.

During that time, health care expenditures were greater in the United States than in France, in absolute terms and in relation to overall economic indicators; however, the French spent more on pharmaceutical services and less on hospitalization than the Americans did.

The purpose of this report is to update the earlier results by extending the study to 1978. The methods of analyses were (1) compiling available, comparable statistical information on production, utilization, prices, and expenditures on health care; (2) comparing ratios such as density of personnel and per capita expenditures; and (3) determining the effects of various factors (e.g., the general economy, prices, and volume of health care expenditures) on the growth patterns of health care costs.

This report has three chapters. The first chapter generally describes the demography, economy, and main features of each country's health care system. The second chapter explains and analyzes the growth of health care expenditures in relation to economic indicators and corresponding changes by method of financing and category of health care service. The third chapter pertains to the hospital sector, the major component of health care expenditures. This chapter also discusses the growth of production means and its contribution to increasing hospital costs.

The scope of this study did not allow analysis of physicians' services and medical goods to the extent of other sectors; these areas should be the subjects of further study.

Principal results

Several conclusions were drawn from the comparative analysis of health care expenditures in France and the United States to 1978.

As noted in "A Comparison of the Health Care Systems of France and the United States,"[1] primary differences between the two countries were evident in levels of expenditures, financing structures, and distribution of types of health care in given years. Nonetheless, the patterns of change in France and the United States shared many features, such as rapid growth rate of hospital expenditures, slow growth rate of pharmaceutical services, and increased role of the public sector in financing health care, which resulted in decreased costs paid directly by patients.

The result of these changes was a growing similarity in health care expenditures between France and the United States. For example, per capita medical expenditures remained greater in the United States, but the gap between medical expenditures in the two countries was shrinking slowly because of the faster growth rate in France. Also, financing by third-party providers was greater in France, yet it was growing faster in the United States, and the proportion of direct payments by patients was declining more quickly in the United States than in France.

Furthermore, the share of expenditures that may be attributed to pharmaceutical services was greater in France but was declining at a more rapid rate than in the United States; however, hospital expenditures were a greater percent of total costs in the United States but were increasing at a more rapid rate in France.

The tendency to uniformity also was obvious in a detailed study of the operation of the hospital systems of each country. The United States served as a role model because:

- Lengths of stay in short-term institutions were declining at a faster rate in France and were nearing values observed in the United States.
- The number of personnel was increasing faster in France, although the staff-bed ratio was greater in the United States.
- Increased care for the elderly in institutions, which is represented in the United States by increases in nursing home beds, was evidenced in France by introduction of medical care in homes for the elderly (hospices), which are slowly becoming the equivalent of convalescent homes.

Trends

In a study of change and growth patterns for 28 years in two different countries, trends in rates of economic growth, overall inflation, and medical care price indexes must be considered. A study of the increases in expenditures in relative or constant price can refine the initial analyses based on nominal values.

To varying degrees during 1973–1978, economic growth declined and the rate of inflation accelerated simultaneously in both countries. During this period, the share of medical expenditures (i.e., expenditures for personal health services) in the gross national product (GNP) rose, reaching 7.1 percent in France and 8.0 in the United States by 1978. As a result, governments in both countries showed increased concern for the growth in health care expenditures. In nominal terms, total medical expenditures increased more in both countries from 1973 to 1978 than they previously did; however, the progression in the volume of use slowed considerably in the United States and to a lesser degree in France.

One result of the 1973–78 analysis was that "elasticities" computed against the GNP, which were useful in periods of economic growth parameters to predict growth in use of medical care (at current prices or in volume) lost meaning during economic stagnation or recession. In the short term, it may be concluded that growth in medical care costs is independent of the general economic climate; however, insufficient evidence was available to extrapolate this conclusion to the interim or long term.

The role of financing methods in the growth of medical care appeared minor compared with distribution of care and technical progress. Comparison between the two countries indicated that if health insurance is not compulsory and is not the responsibility of the government, people rely on private insurance carriers for coverage during illness, thus limiting direct payments. However, the national health insurance fund (Assurance Maladie) in France apparently averted the economic crisis in the health care field. In addition, relative prices of physicians' and pharmaceutical services declined during 1973–78 as a result of medical services tariff negotiations conducted by health insurance fund offices. In the United States, overall medical care prices increased at an average annual rate of 1 percent more than inflation; in France, relative prices declined at the rate of 0.7 percent per year.

The low fees for ambulatory and pharmaceutical services specified by Assurance Maladie in France may explain lower pharmaceutical prices and why use of this service results in its higher percent of total medical expenditures in France.

In both countries, it was hoped that controls on the diffusion of hospital equipment would help contain health care expenditures. Therefore, the American "certificate of need" and the French "carte sanitaire" (health map) were introduced. However, these measures were received reluctantly at the local level (where hospitals are vital to regional development and as sources of employment) and also were opposed by people who desired superior equipment near their residences.

Life expectancy at birth, a common but imprecise indicator of health, increased during the past few years for men and women. In the United States, life expectancy is shorter than in France, but the increase in life expectancy has been more rapid. The relationship of variations in life expectancy to distribution of medical care and changes in lifestyles cannot be determined accurately. Furthermore, difficulty in determining the impact of health care services is compounded because morbidity can be both the reason and the result of care. Regional differences in each country are more pronounced than those observed between national averages in France and in the United States; therefore, study of these differences might clarify the impact of health care services.

Increases in nominal prices and volume of health care in the two countries during 1950–78 each accounted for one-half of the increase in per capita medical care expenditures. Because of high inflation rates, the share that could be attributed to volume of health care declined to 27 percent in the United States and to 41 percent in France from 1973 to 1978.

Chapter I. General features of the United States and France

The United States comprises 9,405,352 square kilometers, and France, which is 17 times smaller, comprises 544,000 square kilometers (figure 1).

Climatic ranges vary because of the differences in areas occupied. France is farther north (between the 51st and 41st parallels) than the United States (between the 49th and 24th parallels); the southern region of the United States is only 33 degrees north of the tropic zone. The climate in France generally is mild; the climate in the United States is varied—cold in the North, semitropical in the South, dry in the Midwest, and wet in the Northwest.

Demography

Population density influences the ease of adequate distribution of health care and availability in immediate vicinities of target populations. In 1978, the United

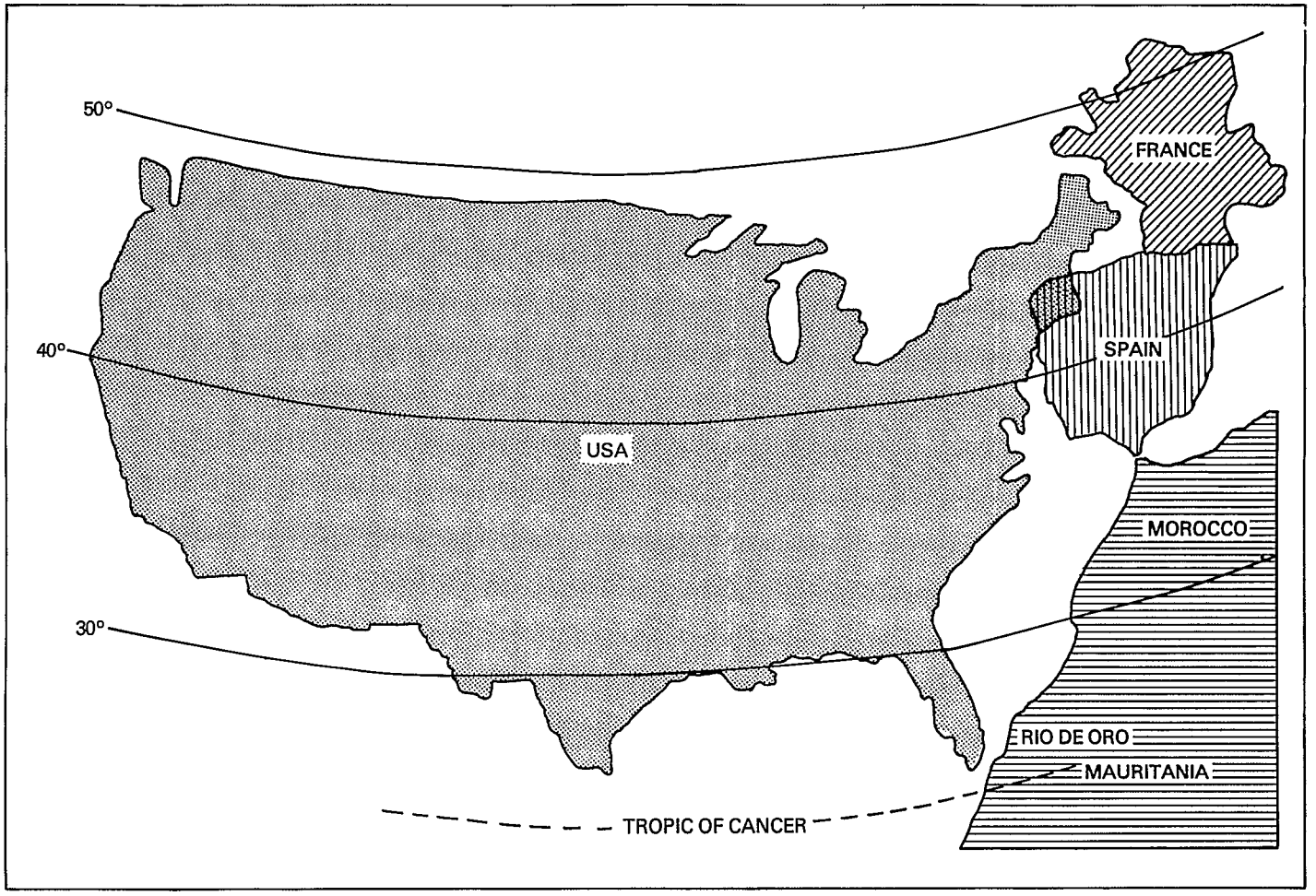


Figure 1. Geography

States population was four times the population of France (217.3 compared with 53.2 million). With 98 people per square kilometer, France ranks as a medium-population density country (50 to 150 people per square kilometer). With 23 people per square kilometer, the United States is considered to have a low-density population (fewer than 50 people per square kilometer).

The French population is older than the population of the United States—France has a smaller proportion of people younger than 20 years of age and a larger proportion of people older than 65 years of age (table A). Medical care requirements are slightly greater in France, because morbidity usually increases exponentially with age.

The population of the United States is growing faster (43 percent from 1950 to 1978) than that of France (27 percent). In both countries, the growth rate clearly declined during the past few years, mainly because of a decrease in the birth rate; the birth rate averages 15 per 1,000 population in the United States and 14 per 1,000 population in France. This decrease has contributed to the aging of the population—the proportion of people over 65 years of age increased between 1950 and 1977 from 11.4 percent to 13.8 percent in France, and from 8.1 percent to 10.9 percent in the United States.

These changes quantitatively and qualitatively affect the need for medical care and, in both countries, planners increasingly are faced with the problem of distributing health care services to the elderly.

Table A. Percent distribution of population, by age: France and United States, 1976

Age	France	United States
	Percent distribution	
All ages	100.0	100.0
Under 20 years	31.4	34.3
20-64 years	55.0	55.0
65 years and over	13.6	10.7

SOURCES: National Institute of Statistics and Economic Research, Paris; and National Center for Health Statistics, Hyattsville, Md.

Political organization

Although both countries are Western democracies, three differences may affect health care systems:

1. In the United States, States are largely autonomous and, therefore, the government is less central than it is in France, where regulations, organizations, and rates are uniform throughout the country. For this reason, the United States is a better testing ground for pilot projects on health care distribution or financing.
2. The French economy is nationalized (e.g., electricity, gas, transportation, and communications are owned by the government).
3. Industrial development and developments in the health care field[2] in France depend to a great extent on technologies developed overseas.

Economy

Economic levels of two countries with different industrial and financial structures are difficult to compare because only general economic indicators, such as per capita GNP, are available. From this perspective, it appears that in 1950 the economic level of the United States was much higher than that of France. However, the difference between the two countries diminished considerably by 1978 when per capita GNP at current prices was only 7 percent higher in the United States than it was in France (it was 2.7 times higher in 1950 [see table B]). This initial analysis is misleading to the extent that during 1950–78 inflation, which was growing at a greater rate in France than in the United States, contributed to the rapid growth of the French GNP. Thus the gap in GNP's[1] should not be viewed as indicating differences in standards of living until they are corrected by a purchasing power parity index in the two currencies.

At constant prices, the per capita GNP from 1950 to 1978 increased by a factor of 1.9 in the United States and by 3.3 in France. The gap between France and the United States is shrinking but cannot be quantified precisely.

Table B. Per capita gross national product (GNP) and average annual growth rates for current prices at the exchange rate of a given year and the constant 1978 prices at the 1978 exchange rate and ratio during 1950–78 and 1973–78: France and United States, 1950–78

Year	Per capita GNP in current prices at exchange rate of given year				Per capita GNP in constant 1978 prices at 1978 exchange rate			
	France		United States	United States	France		United States	United States
	Francs	Dollars	Dollars	France	Francs	Dollars	Dollars	France
1950	2,341	671	1,841	2.74	12,076	2,675	4,989	1.87
1978	39,945	8,857	9,451	1.07	39,945	8,857	9,451	1.07
	Average annual growth rates (percent)							
1950–78	10.7	9.7	6.0	...	4.4	4.4	2.3	...
1973–78	13.3	13.0	9.1	...	2.5	2.5	1.1	...

NOTE: Exchange rate: 1 dollar = 4.5117 francs in 1978.

In both countries, the overall inflation rate accelerated and economic growth declined from 1973 to 1978. This apparently did not result in a decline in the growth of health care expenditures, either in current or relative values; but it did emphasize the problem of health care financing.

Health care sector

Distribution of medical services was similar in both countries; for example, patients are free to consult physicians of their choice, physicians and other professionals usually are paid for each service rather than salaries, and public and private sectors coexist, especially in the hospital service area.

On the other hand, financial coverage differed in the two countries. In France, 99 percent of the population is covered by a compulsory health insurance plan that reimburses hospital, medical, and pharmaceutical expenditures but leaves a percent (the "ticket moderateur"[b]) to be paid by the patient.[3]

In the United States, only the elderly and the economically disadvantaged receive Medicare and Medicaid benefits; others rely on private insurance. Medical coverage for hospitalization is better than for ambulatory services, but pharmaceutical services usually are not covered well.

Production factors in the medical sector

Like all economic sectors, production capacity of medical care depends on the volume, quality, and organization of production factors such as personnel, buildings, and equipment.

In the health care field, manpower is the most important factor, as in most service production sectors; it accounts for the greatest share in expenditures (approximately 80 percent). In 1975, personnel employed in the health care sector constituted approximately 5 percent of the employed population in both countries.

In all categories of personnel the density per 1,000 population was greater in the United States than in France (table C). However, the gap between the two countries seemed to be narrowing for physicians and nursing staffs. From 1950 to 1976, the number of doctors per capita increased more rapidly in France—the annual increase in density averaged 1.1 percent in the United States and 3.6 percent in France. The large number of students in medical schools indicates that this trend is not likely to change in France before 1985. Both countries have areas that are medically underserved[4] and planners encourage young physicians to move to these areas.

Table C. Number of medical care personnel per 100,000 inhabitants: France and United States, 1976

Medical care personnel	*France*	*United States*
Physicians:		
All active physicians	153.1	160.2
All private physicians	107.8	100.0
Generalists practitioners	64.8	21.4 (34.5)[1]
Specialists	43.0	78.6 (65.5)[1]
Nurses:		
All nurses	386.7	681.0
Registered nurses	123.7	230.0
Others	263.0	451.0
Dentists	50.0	52.0
Pharmacists	38.8	57.0

[1]Second computation of density of private physicians in the United States includes, in the "generalists" category, "internal medicine physicians" who perform services comparable to those of French general practitioners.

SOURCES: Ministère de la Santé, Paris, and National Center for Health Statistics, Hyattsville, Md.

The two countries have important differences in degrees of specialization and organization of medical offices. The range of specialties among physicians and dentists is much greater in the United States. The level of specialization also is much greater in the United States. In France, general practitioners account for 65 percent of all private physicians. In the United States, general practitioners account for only 21 percent of all private physicians. If American internists are counted as general practitioners, the percent increases to only 34.5 percent of all private physicians. In addition, more auxiliary personnel are employed in medical and dental offices in the United States than in France.

In both countries, health care policymakers must consider that in times of economic recession, growth in the health care field helps to alleviate unemployment; however, rapid increases in the number of personnel is incompatible with the goal of containing costs.

State of health

No single indicator may be used to compare the state of health of the French and American peoples. The effect that use of medical services has on health cannot be measured in either country because health depends on many factors, such as environment and living conditions.[5]

Mortality rates and life expectancy for various age groups are the factors most commonly analyzed in the health care field. These factors seem to indicate that the general state of health is slightly better in France (figures 2 and 3) than in the United States. The French also have longer life expectancy and less infant mortality (table D).

Data in table D are national averages that disguise the pronounced differences by social class and region.

[b]The ticket moderateur (paid by the patient) is approximately 25 percent of the expenditures for physicians' services, 20 percent of the hospitalization costs (with exceptions), 30 percent of prescription drug expenses (60 percent for comfort drugs and 0 percent for necessary drugs), and 40 percent for services performed by auxiliary health workers (massage, speech therapists, and others).

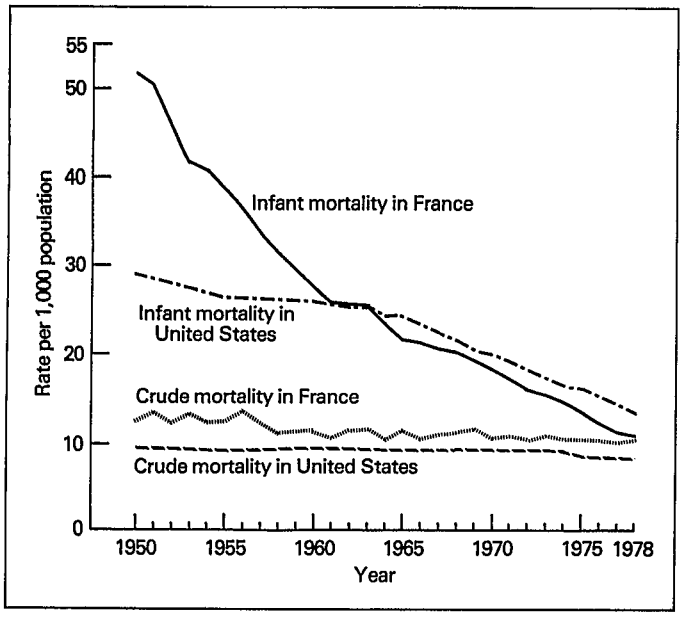


Figure 2. Crude mortality rate and infant mortality rate: United States and France, 1950-78

Table D. Life expectancy at selected ages by sex and infant mortality rate: France and United States, 1976

Age	*France*	*United States*
	Life expectancy (in years)	
At birth:		
Men	69.2	68.7
Women	77.2	76.1
20 years:		
Men	51.0	50.9
Women	58.6	57.8
40 years:		
Men	32.5	32.7
Women	39.3	38.7
65 years:		
Men	13.4	13.7
Women	17.4	17.7
	Infant mortality rate[1]	
Deaths at under 1 year of age per 1,000 births	12.5	15.2

[1]Corrected infant mortality rate (including infants born alive who died before they were registered in civil boards).

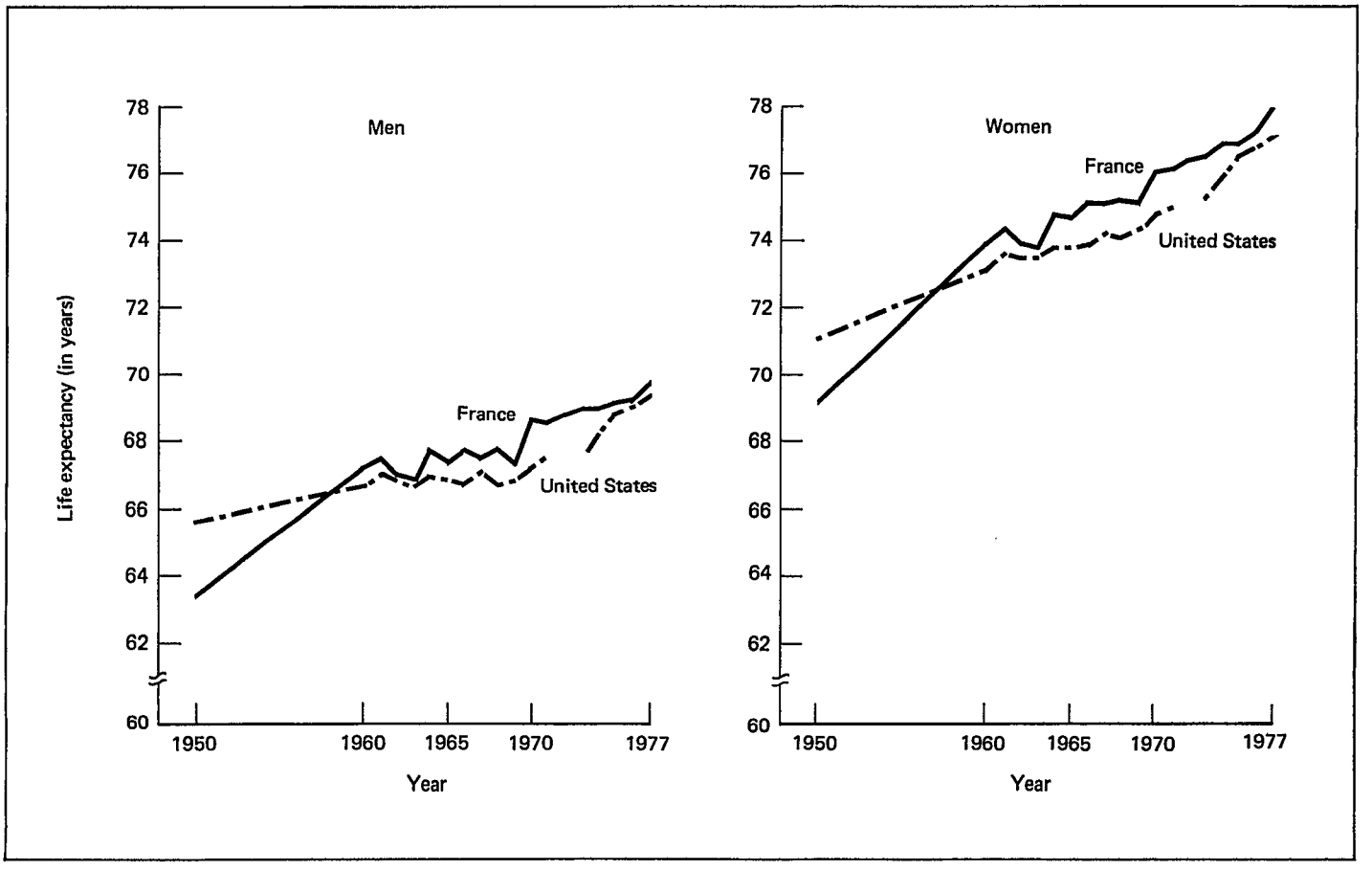


Figure 3. Life expectancy at birth, by sex: United States and France, 1950-77

The difference in life expectancy was as much as 4 years between the U.S. States and regions in France.

In both countries, cardiovascular diseases and cancer are leading causes of death.

Factors in the use of medical services

The influence of demographic or socioeconomic factors on medical services use is similar in both countries.[6,7]

- Rural populations use fewer medical services than urban groups do.
- Income level is only a weak influence on total use of medical services, but it does imply different structures because individuals use more specialized and fewer inpatient hospital services.[8]
- Age and sex (demographic variables) most influence level and growth of different types of health care services.[6]

In France and the United States, the demographic groups that rank highest in use of medical services are infants and the elderly and, to a lesser extent, women in childbearing years. Women use more ambulatory services than men do, but they frequent hospitals less (except during childbearing years) and their lengths of stay are shorter.

Despite the significant impact of age on the level and rate of growth of medical services use, changes in the age structure of the two populations (which is a slow phenomenon) were not and will not be important in the increase in average medical services use. From 1950 to 1970, the French per capita growth in medical services use, due solely to changes in age structure, was less than 5 percent for all services. The growth in per capita volume of care received was 300 percent. However, these factors were not studied further because they did not explain the growing demand for services in any category.

Use of medical services is concentrated in both countries—a small number of patients account for a large proportion of expenditures. For example, during 9 months in 1978, 3.3 percent of the French population received 50 percent of all medical services, and 10 percent of the population received 72 percent of all medical services.[9]

By comparison, in 1970 (the closest year for which comparable data are available) 5 percent of the U.S. population used the most services and accounted for 50 percent of the medical expenditures in 1 year; 10 percent of all users accounted for 66 percent.[10]

This aspect of medical expenditures has numerous repercussions on health care policies and must be considered in any decisionmaking process on collective health care financing, distribution of technology, or cost containment.

Statistical data

Comparison of the growth of health expenditures in France and the United States was based on statistical data gathered from several sources such as:

- Statistics on economic accounts in the medical sector, which are compiled according to international rules for national accounts and have been compiled annually since 1929 in the United States and since 1950 in France. (Particular attention was given to medical care expenditures—called "Personal Health Expenditures" in the United States and "Final Medical Consumption" in France.)
- Production, personnel, and equipment statistics.
- Statistics on output measures and use of services (medical services produced and used).
- Data and studies of the impact of demographic and socioeconomic factors on the use of medical care services (drawn from household surveys).
- Studies of medical facilities (physicians' offices and hospitals).

In making these comparisons difficulties were encountered and problems varied. First, national differences in geographic, demographic, political, and economic factors were unrelated to health and medical structures and to specific social policies. Second, statistical data often were not based on similar concepts (area covered, definitions, nomenclatures, and units of measure); therefore, valid conclusions are difficult to determine. Third, a problem for which economic theory offers no solution, the comparison of parameters (equipment, salaries, and production) are calculated in monetary units that are not stable or comparable. Use of an iterative process of successive approximations is the only method by which to provide valid comparisons.

Chapter II. Changes in medical care expenditures

This chapter presents a comparative analysis of the growth of medical care expenditures, personal health expenditures in the United States,[11] and final medical consumption in France.[12]

General

Area covered

This analysis considered goods and services provided by qualified professionals and specialized establishments for prevention, diagnosis, and treatment of disease for which costs were paid directly by the beneficiary or by third-party providers. This study excluded medical services provided by private companies and schools, as well as costs of research, teaching, and preventive health care and administrative expenditures made by health insurance organizations.

Homogeneity in definitions for total expenditures enabled valid comparisons between the United States and France. However, a detailed look at the types of services raised questions concerning the determination of the boundaries between services.

- *Hospitals*—An accurate definition of hospitals was difficult because of gradual transitions from short-stay and long-stay hospitals, nursing homes, homes for the elderly (hospices), and retirement homes, in which medical care is available to varying degrees.
- *Expenditure computation*—Methods of computing expenditures under various headings may cause an overlap in statistics relating to different categories of expenditures.

Breakdown of expenditures

The breakdown of medical expenditures by service category is shown in tables E and F. Services provided may be grouped into three aggregates: institutional care or hospitalization, medical services, and medical goods.

National accounts also categorized health care expenditures by source of financing. In the United States, health care expenditures are delineated by direct payments; private insurance; and Federal, State, and local governments. In France, health care expenditures are shown by consumers, mutual insurance

Table E. Per capita medical care expenditures, by type of services and goods: France and United States, 1978

Type of service and goods	France			United States		
	Francs	Dollars	United States = 100	Dollars	Francs	France = 100
A. Hospital and nursing home care	1,371.9	304.0	73	411.5	1,856.8	135
1. Physicians' services	414.4	91.8	58	158.0	713.2	172
2. Dentists' services	277.4	61.5	103	59.6	269.0	97
3. Other medical services	186.7	41.3	215	19.2	86.4	46
B = 1 + 2 + 3 Medical services	878.5	194.6	82	236.8	1,068.6	122
4. Pharmaceuticals and small equipment	542.0	120.1	177	67.7	305.4	56
5. Eyeglasses and appliances	48.9	10.8	62	17.4	78.5	160
C = 4 + 5 Medical goods	590.9	130.9	154	85.1	383.9	65
D. Other[1]	...	...	...	19.4	87.6	...
T = A + B + C + D Personal medical expenditures	2,841.6	629.8	83	752.9	3,397.2	119

[1]Includes all other services and goods.

NOTES: Exchange rate: 1 dollar = 4.5117 francs in 1978. Figures may not add to totals due to rounding.

Table F. Breakdown of medical expenditures by type of service

France	*United States*
Total, medical care	Total, medical care
Hospitalization	Institutional care
	Hospital care
	Nursing homes
Total, medical services	Total, professional services
Physicians' services	Physicians' services
Services of auxiliary personnel	Other professional services
Laboratory services	
Spas	
Dental services	Dental services
Total, medical goods	Total, medical goods
Pharmaceuticals	Pharmaceuticals
Eyeglasses and appliances	Eyeglasses and appliances

companies, Assurance Maladie, and state and local governments.

Time periods

The comparison covered 1950–78 for all health care expenditures and for the three aggregates defined earlier (hospitalization, medical services, and medical goods); however, statistics for France were available in great detail only for 1960–78.

To analyze changes accurately and associate them with factors such as rates of economic growth, inflation, and the introduction and diffusion of insurance systems, four periods of unequal length were studied—1950–60, 1960–70, 1970–73, and 1973–78.

Methods used to compare changes in expenditures

To consider differences in the United States and France by total populations, level and growth of economies, overall inflation rates, increases in prices of medical care, and variations in the dollar and French franc exchange rates, several approaches based on the study of different parameters were used.

- *Nominal value per capita expenditure (NV)*—NV is expressed in a country's currency at the prices of a given year or in the currency of another country using the average exchange rate in effect during the given year.
- *Relative value per capita expenditure (RV)*—RV is obtained by deflating the nominal value by the general price index (GPI) in each country. RV is expressed either in 1978 currency of each country or in the currency of another country at 1978 exchange rates. Increase in RV shows the increase in medical expenditures if the GPI had not increased.
- *Nominal price index for medical care (NPI)*—NPI is established with a reference base year value of 100 and shows the changes in price for a given type of service.
- *Relative price index for medical care (RPI)*—RPI is obtained by deflating the NPI by the GPI. RPI growth shows the price increase for services if the GPI had not increased.
- *Per capita volume of medical care (PCV)*—PCV is the value at constant prices and is obtained by deflating NV for a given category of service by the corresponding NPI. The volume of care reflects qualities and kinds of medical services provided. PCV indicates growth in medical expenditures if prices had not increased.

The following relationships hold between these variables:

$$NV = RV \times GPI = PCV \times NPI = PCV \times RPI \times GPI$$

With these relationships, growth of medical care expenditures may be separated into components: price and volume or relative value and general price index.

For additional clarification, the share of medical expenditures in the GNP is a ratio that indicates the share of medical care in the economy of the country.

Medical care expenditures in 1978

Level of expenditures

Preliminary estimates for 1978 show total medical consumption was $168 billion in the United States[11] and 151 billion francs[13] ($34 billion) in France.

These expenditures were a greater percent of the GNP in the United States (8.0 percent) than in France (7.1 percent), although 1978 per capita GNP was 6.8 percent higher in the United States.

Per capita[c] personal medical care expenditures totalled $753 in the United States (20.0 percent more than in France); in France, per capita medical care expenditures were estimated to be 2,841 francs or $630 at the current exchange rate.

The totals are the results of different expenditure patterns for different types of care in each country. The per capita expenditure is greater in the United States for hospitalization and medical services, but pharmaceutical expenditures are greater in France (table E and figure 4).

Using the definitions and estimation methods established for each country, per capita hospital expenditures in the United States were $411, or 35 percent greater than in France, where they were estimated to be 1,372 francs ($304) (table G). Per capita expenditures for physicians' services in France were estimated to be 414 francs ($92), which is 72 percent greater than expenditures in the United States ($158). Pharmaceutical expenditures in France were 542 francs ($120), or 77 percent more than in the United States, where they were estimated to be $68. Expenditures for dental

[c]Population figures are shown in table 3.

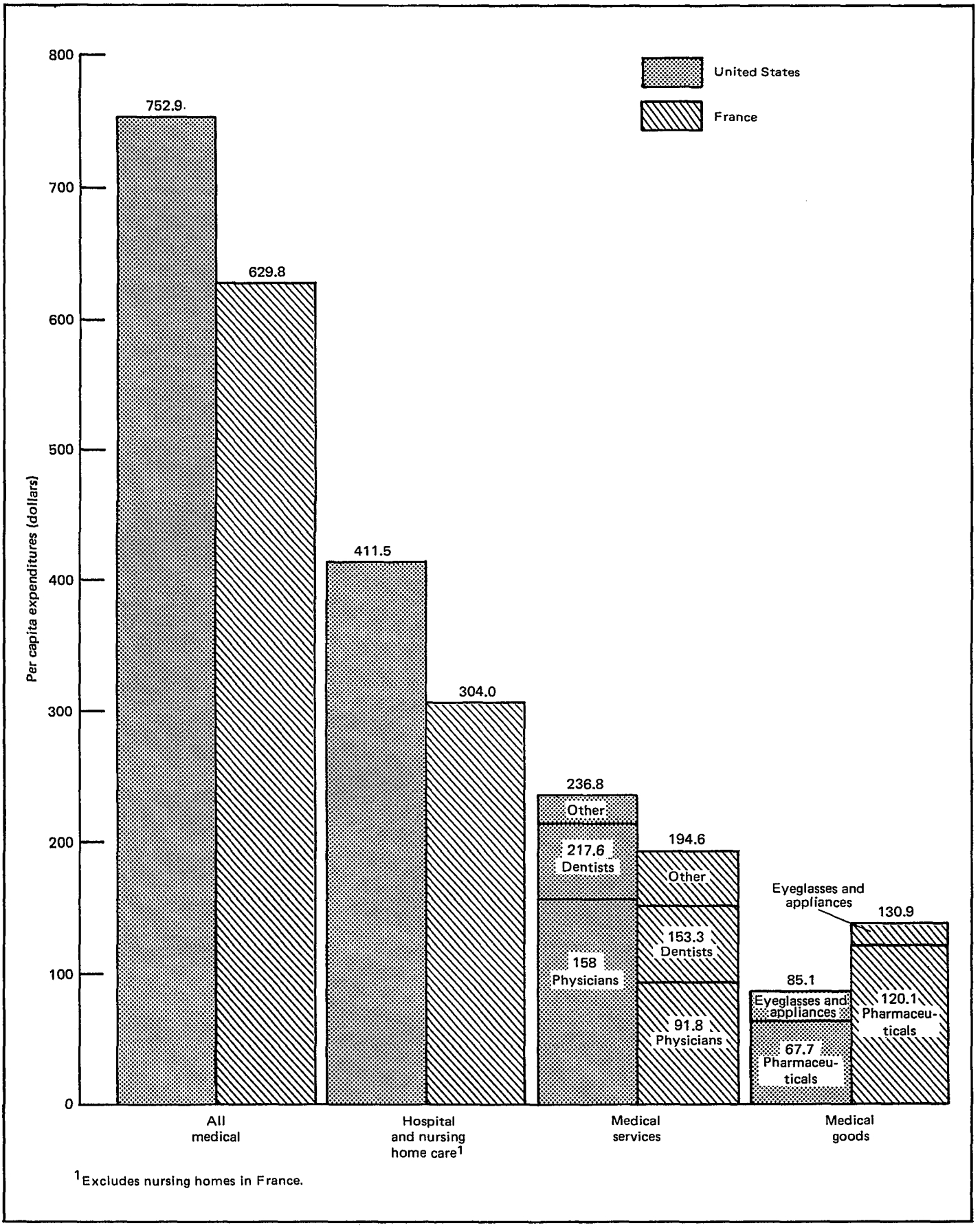


Figure 4. Per capita medical care expenditure, by type of services and goods: United States and France, 1978

Table G. Medical care expenditures[1] as a percent of gross national product (GNP), per capita expenditures at current prices, and ratio comparing the 2 countries: France and United States, 1950–78

Year	Medical expenditures as a percent of GNP		Total per capita national care expenditure at current prices				Per capita expenditure: United States compared to France	
			France		United States			
	France	United States	Dollars	Francs	Dollars	Francs	Nominal value	Relative value
1950	3.0	3.8	20.09	70.24	70.37	245.59	3.50	2.37
1960	4.0	4.7	53.15	250.66	128.81	631.17	2.42	1.65
1965	4.9	5.4	100.02	490.09	188.42	923.26	1.88	1.45
1966	5.2	5.5	111.91	549.49	205.22	1,007.63	1.83	1.41
1967	5.2	5.8	122.93	604.81	227.07	1,117.18	1.85	1.41
1968	5.2	5.9	129.54	641.23	252.32	1,248.98	1.95	1.49
1969	5.5	6.2	147.98	768.00	280.63	1,456.47	1.90	1.40
1970	5.7	6.7	157.81	872.40	315.25	1,708.66	2.00	1.37
1971	5.8	6.8	179.02	992.57	342.52	1,887.29	1.91	1.32
1972	5.9	6.8	221.40	1,116.88	376.14	1,895.75	1.70	1.33
1973	5.9	6.8	281.99	1,269.38	413.53	1,840.21	1.46	1.30
1974	6.1	7.1	309.56	1,497.41	467.72	2,254.41	1.51	1.28
1975	6.8	7.6	429.45	1,844.66	534.82	2,294.38	1.24	1.21
1976	6.8	7.8	447.82	2,148.95	602.45	2,873.69	1.34	1.21
1977	6.8	7.9	488.96	2,409.89	674.46	3,311.60	1.38	1.25
1978	7.1	8.0	629.84	2,841.64	752.98	3,394.94	1.20	1.20

[1]Personal health care expenditures in the United States. Final medical consumption in France.

NOTE: Exchange rate: 1 dollar = 4.5117 francs in 1978.

care were approximately equal in both countries—$60 in the United States and 277 francs ($61) in France.

These figures must be interpreted carefully because medical care, covered by a single heading, was not identical for both countries; available data did not lead to equally accurate estimates in all service categories; and the activities of various producers of services differed between France and the United States. Examples of these problems are described below.

Services for ambulatory patients provided in hospitals by staff physicians were included in "hospitalization" for the United States but in "physicians" for France. Inpatient care by private physicians was included as part of physicians' services for the United States but was included in hospitalization for France (see appendix).

Medical offices in the United States employ more personnel and offer more services than those in France do. Therefore, part of the expenditure that corresponds to "assistants" jobs or "laboratory services" in France was classified under physicians' services in the United States. Hence, a study of "medical services" (excluding dentists) reduced the margin between the United States and France.

Pharmacy expenditures were covered only partially by third-party providers (public or private) in the United States. Estimates were difficult to make because they apparently underestimated actual expenditures slightly.[14]

United States expenditures were re-estimated using, when possible, same definitions and classification of services used for France. By these estimates, 1978 total expenditures for institutional care were $441 in the United States (45 percent more than in France) and expenditures for physicians' services to ambulatory patients were $128 (or 39 percent more than in France).

Differences in levels of expenditures are caused by differences in levels of service utilization and price levels. A greater expenditure in one country may result from higher prices, greater use, or both of these factors (see chapter III).

Because pharmaceutical prices are much greater in the United States than in France,[14] the greater level of expenditures in France indicates greater utilization of pharmaceutical products than in the United States.

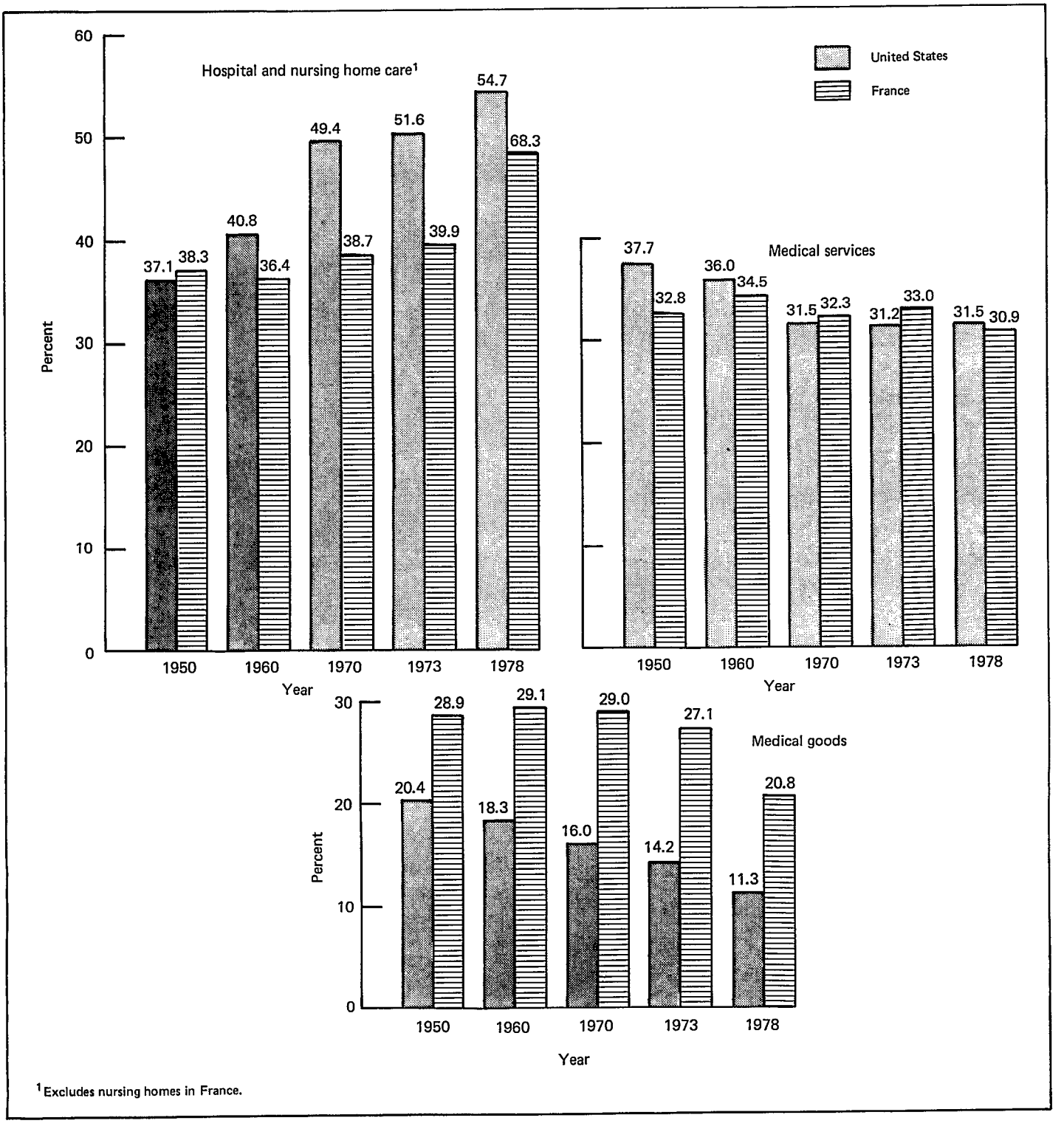
Structure of expenditures

The distribution of medical expenditures by service category (figure 5 and table H) differs in the two countries, in that (1) a greater proportion is spent on hospitalization in the United States (54.7 percent)[d] than in France (48.3 percent), (2) a greater proportion is spent on medical goods in France (20.8 percent) than in the United States (11.3 percent), and (3) expenditures for medical services are similar in both countries (31.4 percent in France and 30.9 percent[e] in the United States).

Organization of medical services financing differs between France and the United States. Compulsory health insurance (Assurance Maladie) covered 99 percent of the French population in 1978. In the United States, Medicare and Medicaid are the only publicly

[d]This figure increases to 58.6 percent if physicians' fees are included and outpatient care is excluded.

[e]This figure decreases to 27.6 percent if inpatient care is excluded and outpatient care is included.



[1] Excludes nursing homes in France.

Figure 5. Percent of medical care expenditures spent on hospital or nursing home care, medical services, and goods: United States and France, 1950-78

funded insurance programs available. Medicare covers only people 65 years of age and older; Medicaid covers only the economically disadvantaged. For the balance of the U.S. population, individuals or their employers purchase insurance from private carriers.

These differences and the differences in levels of reimbursement are indicated in the structures of medical care financing (figure 6 and tables J and K).

In 1976, the proportion of public sector funds was much greater in France, where 71.0 percent of the expenditures were covered by Assurance Maladie, and 3.2 percent of the expenditures were paid by national and regional public funds. In the United States, Federal, State, and local governments were responsible for only 39.1 percent of all medical expenditures.

The proportion covered by private insurance in

Table H. Percent distribution and medical care expenditures, by type of services and goods: France and United States, 1950-78

Year and country	All medical care expenditures	Hospital and nursing home care[1]	Total medical services for ambulatory patients and home care	Physicians' services	Dentists	Other medical services	Total medical goods	Pharmacy and small equipment	Eyeglasses and appliances	Other[2]
1950:										
United States	100.00	37.10	37.70	25.24	8.82	3.64	20.36	15.86	4.50	4.83
France	100.00	38.30	32.80	...	...	...	28.90	...	...	---
1960:										
United States	100.00	40.84	35.99	24.00	8.35	3.64	18.28	15.44	2.84	4.89
France	100.00	36.40	34.50	19.10	11.10	4.30	29.10	26.44	2.66	---
1970:										
United States	100.00	49.41	31.49	21.83	7.23	2.43	15.98	12.79	3.19	3.12
France	100.00	38.70	32.30	16.50	9.85	5.95	29.00	27.09	1.91	---
1971:										
United States	100.00	50.47	31.36	22.07	7.03	2.26	14.86	12.04	2.82	3.31
France	100.00	39.44	32.00	16.21	10.40	5.39	28.56	26.77	1.79	---
1972:										
United States	100.00	51.49	30.75	21.44	7.05	2.26	14.47	11.70	2.77	3.29
France	100.00	39.94	32.19	16.11	10.34	5.74	27.87	26.14	1.73	---
1973:										
United States	100.00	51.62	31.17	21.56	7.38	2.23	14.16	11.36	2.80	3.05
France	100.00	39.88	32.99	16.44	10.01	6.54	27.13	25.49	1.64	---
1974:										
United States	100.00	52.75	30.57	21.06	7.30	2.21	13.62	10.94	2.68	3.06
France	100.00	41.44	32.06	15.90	10.15	6.01	26.50	24.75	1.75	---
1975:										
United States	100.00	53.33	30.78	21.45	7.08	2.25	12.71	10.15	2.56	3.18
France	100.00	43.27	31.35	15.56	9.84	5.95	25.38	23.52	1.86	---
1976:										
United States	100.00	53.93	31.01	20.93	7.66	2.42	12.11	9.69	2.42	2.95
France	100.00	46.67	30.68	15.38	9.39	5.91	22.65	20.88	1.77	---
1977:										
United States	100.00	54.50	31.24	20.95	7.81	2.48	11.57	9.26	2.31	2.69
France	100.00	48.34	30.83	14.87	9.94	6.02	20.83	19.12	1.71	---
1978:										
United States	100.00	54.66	31.46	20.99	7.92	2.55	11.30	8.99	2.31	2.58
France	100.00	48.30	30.90	14.67	9.69	6.54	20.80	19.04	1.76	---

[1]Excludes nursing homes in France.
[2]Includes all other goods.

NOTE: Figures may not add to totals due to rounding.

the United States was greater (29.2 percent) than the proportion covered by mutual insurance in France (3.8 percent); total direct payments by patients also were greater in the United States (31.7 percent) than in France (22 percent).

These differences show that if health insurance is not compulsory and is not the responsibility of the public sector, people tend to rely on private carriers to cover illness and to limit direct payments.

Hospitalization, the least often needed and most costly type of care, accounted for the lowest proportion of direct payments by consumers in both countries. In France, 6.8 percent of direct payments were for hospitalization; in the United States, 12.6 percent of direct payments were for hospitalization—6.8 percent for hospitals and 43.1 percent for nursing homes. Dental services, which are optional services, account for more direct payments than other services in both countries—60.2 percent in France and 76.5 percent in the United States (table J).

Private insurance in the United States financed a large proportion of physicians' services in 1976 (39.6 percent). Direct payments by consumers for physicians' services were only slightly greater in the United States (34.9 percent) than in France (28.7 percent); however, public financing of physicians' services was much less common in the United States (25.5 percent) than in France (64.9 percent). This clearly demonstrates the reliance of the U.S. population on private insurance in lieu of compulsory public insurance.

Pharmaceutical expenditures in 1976 did not constitute a large portion of medical service expenditures but were distributed among a great number of patients. Private insurance provided only limited funding for pharmaceutical expenditures, and the financing structures differed between the countries. In France, 35.2 percent of pharmaceutical costs were direct payments by consumers; in the United States, 83.9 percent of the costs were direct payments by consumers. The public sector financed 58.2 percent of the expenditures

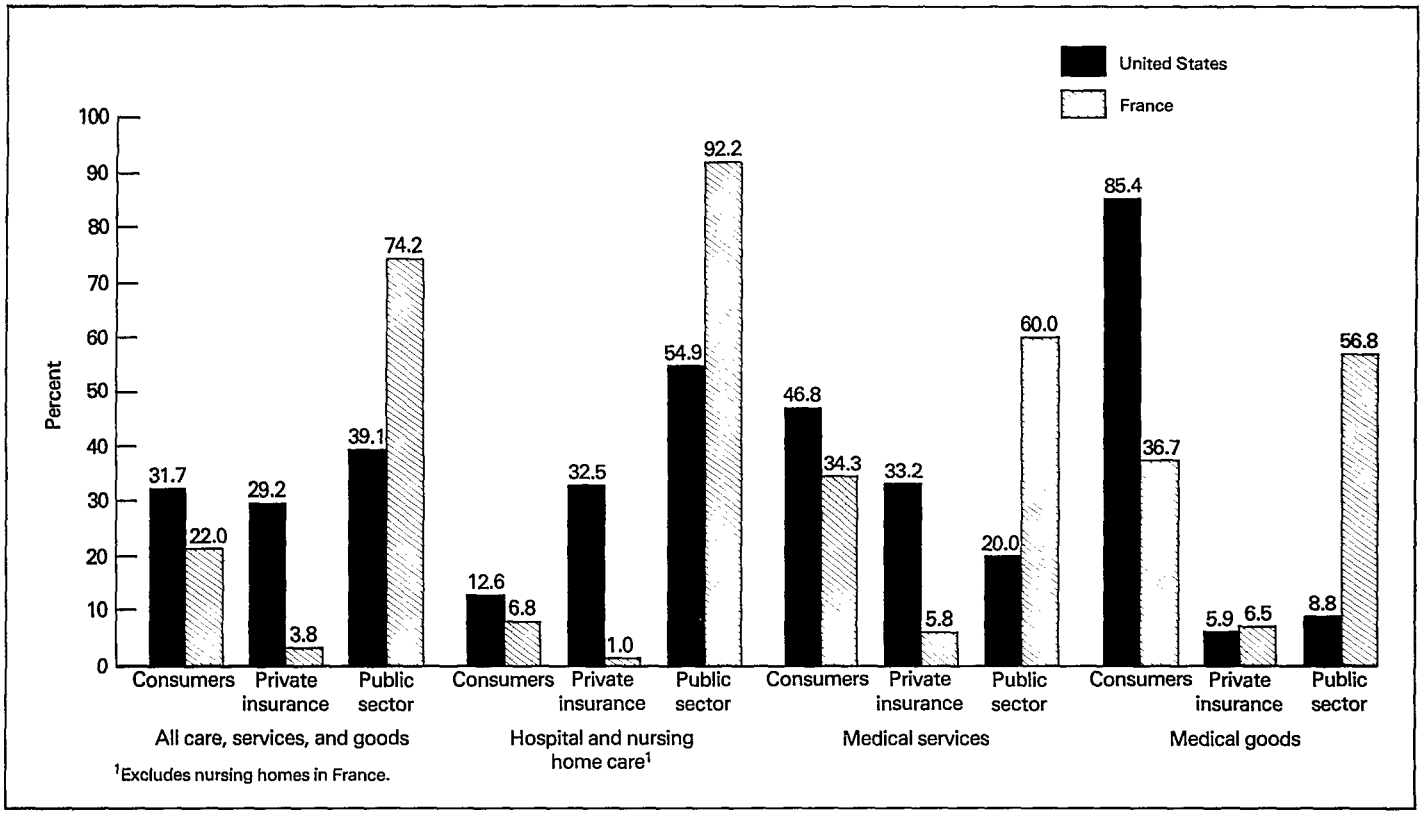


Figure 6. Percent of medical care expenditures, by type of financing, services, and goods: United States and France, 1976

in France but only 8.9 percent in the United States. Public financing of pharmaceutical expenditures may explain the greater level of pharmaceutical expenditures in France.

Analysis of changes in health care expenditures 1950 to 1978

Growing role of medical care in the economy

In France, as in the United States and several other countries, the role of medical care in the economy grew from 1950 to 1978. Analysis of the changes (figure 7) revealed several distinct periods:

- From 1950 to 1960, health care expenditures in the GNP increased at similar rates in the two countries, from 3.8 to 4.7 percent in the United States and from 3.0 to 4.0 percent in France (table G).
- From 1960 to 1965, growth was more rapid in France, probably because of extension of health insurance and improvement in financial coverage for medical expenses.
- From 1966 to 1970, health care expenditures in the GNP increased more rapidly in the United States than in France as a result of the introduction of Medicare and Medicaid.
- After stagnation in the medical expenditure to GNP ratio from 1970 to 1973 (a period of sustained economic development), growth began again in both countries from 1973 to 1978. Economic development slowed and the proportion of medical expenditures in the GNP increased from 6.8 percent to 8.0 percent in the United States and from 5.9 percent to 7.1 percent in France. Increases were evident in the percent the GNP spent on medical expenditures in 1975, a year characterized in the United States and France by a decline in the GNP.

These developments support the hypothesis that medical consumption rates change independently of the general economy.

Growth in expenditures and prices

Although rapid in both countries, the growth in per capita medical expenditures at current price levels was characterized from 1950 to 1978 by a greater average yearly increase rate in France (14.1 percent) than in the United States (8.8 percent) (table G). However, overall inflation rates were greater in France, with an average yearly increase in the GPI of 6.0 percent from 1950 to 1978. This index rose an average of 3.6 percent annually in the United States.

If adjustments are made for inflation in each

Table J. Percent distribution of medical care expenditures by type of financing, according to type of services and goods: France and United States, 1976

Care, services, and goods	France						
	Type of financing						
	All financing	Private			Public		
		Total	Direct payment by consumer	Mutual insurance and other	Total	National and regional governments	Health insurance fund
	Percent distribution						
1. Hospital care	100.0	7.8	6.8	1.0	92.2	5.2	87.0
2. Physicians	100.0	35.1	28.7	6.4	64.9	1.4	63.5
3. Dentists	100.0	64.2	60.2	4.0	35.8	0.3	35.5
4. Other medical services	100.0	19.0	12.3	6.7	81.0	1.9	79.1
5. Pharmaceuticals and small equipment	100.0	41.8	35.2	6.6	58.2	2.1	56.1
6. Eyeglasses and appliances	100.0	60.0	54.4	5.6	40.0	–	40.0
Total (2 + 3 + 4 + 5 + 6)	100.0	41.4	35.3	6.1	58.6	1.5	57.1
Total, medical care	100.0	25.8	22.0	3.8	74.2	3.2	71.0

Care, services, and goods	United States						
	Type of financing						
	All financing	Private			Public		
		Total	Direct payment by consumer	Private insurance and other	Total	Federal	State and local governments
	Percent distribution						
1. Hospital care	100.0	45.2	6.8	38.4	54.8	39.9	14.9
2. Nursing home care	100.0	44.5	43.1	1.4	55.4	31.5	23.9
Total (1 + 2)	100.0	45.1	12.6	32.5	54.9	38.6	16.3
3. Physicians' services	100.0	74.5	34.9	39.6	25.5	18.5	7.0
4. Dentists	100.0	95.2	76.5	18.7	4.8	2.8	2.0
5. Other medical services	100.0	79.5	55.1	24.4	20.5	14.5	6.0
6. Pharmaceuticals and small equipment	100.0	91.1	83.9	7.2	8.9	4.6	4.3
7. Eyeglasses and appliances	100.0	91.9	91.2	0.7	8.1	6.3	1.8
Total (3 + 4 + 5 + 6 + 7)	100.0	83.1	57.6	25.5	16.9	11.7	5.2
Other[1]	100.0	25.7	–	25.7	74.3	54.6	19.7
Total, medical care	100.0	60.9	31.7	29.2	39.1	27.5	11.6

[1]Includes all other services and goods.

NOTE: Figures may not add to totals due to rounding.

country by deflating medical expenditures by the GPI to create a new expenditure series or RV, the difference in rates of growth is reduced, but not eliminated. The average rate of growth in this adjusted expenditure series was 5.0 percent per year in the United States from 1950 to 1978 and 7.6 percent per year in France (figure 8).

The difference in levels of per capita medical care expenditures in the two countries declined during 1950–78 by either measure of expenditure. Americans spent an average of 3.5 times more than the French on medical care in 1950 (in current prices); by 1978, Americans spent only 20 percent more than the French (in current prices).

The reduction was smaller but pronounced in per capita RV's of expenditures; the United States to France ratio declined from 2.4 in 1950 to 1.2 in 1978.

Increasing similarity of medical expenditures in the two countries was marked between 1950 and 1960 and continued, although more slowly between 1960 and 1974; by contrast, the difference in PV's from 1975 to 1978 remained stable (figure 9).

Average rates of growth in medical expenditures for the 1950–78 period corresponded to different rates of increase for different subperiods (figure 10).

The growth in the value of expenditures at current prices accelerated from 1973 to 1978 in both countries. During these 5 years, per capita medical expenditures in the United States increased by a yearly average of 12.7 percent compared with 9.4 percent from 1960 to 1970. In France, the rate of growth was faster—17.5 percent per year from 1973 to 1978 compared with 13.3 percent from 1960 to 1970. To avoid misleading conclusions, however, these high rates must be adjusted for general inflation. Therefore, the RV of per capita medical expenditures increased at a slower rate during the period of economic crisis than before it, at an average yearly rate from 1973 to 1978 of 4.4 percent in the United States and 6.1 percent in France (figure 10).

Table K. Per capita medical care expenditures, by type of financing, services, and goods: France and United States, 1976

Care, services, and goods	France													
	Type of financing													
	All financing		Private						Public					
			Total		Direct payment by consumer		Mutual insurance and other		Total		National and regional governments		Health insurance fund	
	Francs	Dollars	Francs	Dollars	Francs	Dollars	Francs	Dollars	Francs	Dollars	Francs	Dollars	Francs	Dollars
All medical expenditures per capita	2,144.47	448.68	551.45	115.38	471.53	98.65	79.92	16.72	1,593.02	333.30	68.70	14.37	1,525.32	319.13
Hospital care	1,001.42	209.52	78.46	16.42	68.06	14.24	10.40	2.18	922.96	193.10	51.60	10.80	871.36	182.31
Physicians	330.77	69.20	116.05	24.28	94.99	19.87	21.06	4.41	214.72	44.92	4.50	0.94	210.22	43.98
Dentists	189.83	39.72	121.82	25.49	114.31	23.92	7.51	1.57	68.01	14.23	0.59	0.12	67.42	14.11
Other medical services	140.51	29.40	26.69	5.58	17.22	3.60	9.47	1.98	113.82	23.82	2.65	0.55	112.17	23.47
Pharmaceuticals and small equipment	444.22	92.94	185.80	38.88	156.42	32.73	29.38	6.15	258.42	54.07	9.36	1.96	249.06	52.11
Eyeglasses and appliances	37.72	7.89	22.63	4.73	20.53	4.30	2.10	0.44	15.09	3.16	–	–	15.09	3.16
Total	1,143.05	239.15	472.99	98.97	403.47	84.42	69.52	14.55	670.06	140.19	17.10	3.57	653.96	136.82

Care, services, and goods	United States													
	Type of financing													
	All financing		Private						Public					
			Total		Direct payment by consumer		Private insurance and other		Total		Federal		State and local governments	
	Francs	Dollars	Francs	Dollars	Francs	Dollars	Francs	Dollars	Francs	Dollars	Francs	Dollars	Francs	Dollars
All medical expenditures per capita	2,879.57	602.47	1,754.57	367.20	912.47	190.91	842.60	176.29	1,124.50	235.27	790.74	165.44	333.76	69.83
Hospital care	1,303.35	272.69	589.23	123.28	89.04	18.63	500.19	104.65	714.12	149.41	520.40	108.88	193.72	40.53
Nursing home care	249.64	52.23	111.32	23.29	107.78	22.55	3.54	0.74	138.32	28.94	78.58	16.44	59.75	12.50
Total	1,552.99	324.92	700.55	146.57	196.82	41.18	503.72	105.39	852.44	178.35	598.98	125.32	253.46	53.03
Physicians	602.76	126.11	448.76	93.89	210.40	44.02	238.36	49.87	154.00	32.22	112.13	23.45	41.92	8.77
Dentists	220.82	46.20	210.30	44.00	169.01	35.36	41.30	8.64	10.52	2.20	6.21	1.30	4.30	0.90
Other medical services	69.78	14.60	55.44	11.60	38.43	8.04	17.02	3.56	14.34	3.00	10.08	2.11	4.25	0.89
Pharmaceuticals and small equipment	279.13	58.40	254.23	53.19	234.20	49.00	20.03	4.19	24.90	5.21	12.90	2.70	12.00	2.51
Eyeglasses and appliances	69.78	14.60	64.14	13.42	63.62	13.31	0.53	0.11	5.64	1.18	4.40	0.92	1.24	0.26
Total	1,242.27	259.91	1,032.87	216.10	715.65	149.73	317.22	66.37	209.39	43.81	145.68	30.48	63.71	13.33
Other[1]	84.31	17.64	21.65	4.53	–	–	21.65	4.53	62.66	13.11	46.08	9.64	16.59	3.47

[1]Includes all other services.

NOTES: Exchange rate: 1 dollar = 4.78 francs in 1976. Figures may not add to totals due to rounding.

These increases are results of growth in use of medical care (in quantity and service) and in prices (whether judged by RV or current prices) for different types of medical services and goods, which were not uniform during the entire period.

The volume of medical care, which describes growth in medical care expenditures if medical prices remained constant, increased at an average annual rate of 4.0 percent in the United States from 1950 to 1978, less rapidly than the rate in France (7.2 percent).

Per capita medical care consumption increased most from 1960 to 1970 in both countries, at an annual rate of 8.3 percent in France and 5.2 percent in the United States. However, from 1973 to 1978, growth increased; this was more marked in the United States (3.3 percent per year) than in France (6.9 percent).

No reasons are obvious for this decline; however, two hypotheses are presented. First, declining growth was normal after improvements in social insurance

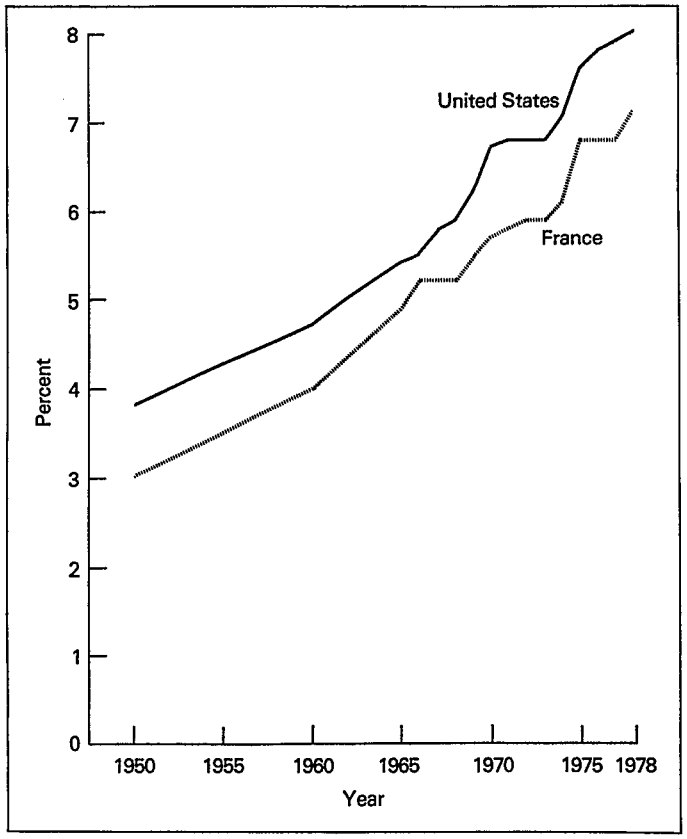


Figure 7. Medical care expenditure as a percent of gross national product: United States and France, 1950-78

systems (from 1960 to 1970 in France and from 1966 to 1970 in the United States), which permitted previously unmet needs for care to be attained.

Second, despite the demand for care, which generally is independent of overall economic conditions, the economic crisis during 1973–78 contributed to the decline in the demand for care and, consequently, in the growth of medical care providers. Growth of medical care providers may have been restrained by the diffusion of technical progress, a significant force behind development of health care use. This may have had less effect in France because of collective financing.

The price index for medical care[f] increased faster in France than in the United States, with average annual growth rates from 1950 to 1978 of 4.7 percent in the United States and 6.4 percent in France. However, in both countries, increases in medical care prices were close to the increases in the consumer price index (CPI). The RPI[g] for medical care averaged an annual increase of 1.0 percent in the United States and 0.4 percent in France during the same period. For this measure as for the others, the situation differs in different subperiods. In the United States, the Economic Stabilization Program, which lasted from August 1971 to April 1974, explains, to a great extent, the 0.5-percent decline per year in relative prices from 1970 to 1973 and the rise from 1973 to 1978. In France, the decline in relative prices for medical care (−0.9 percent per year from 1970 to 1973 and −0.7 percent from 1973 to 1978) was a direct result of the hard negotiations over fees between professionals and health insurance officials, particularly in the cases of medical and pharmaceutical services.

[f]This index is an implicit price index computed from price increases in each service category.

[g]Medical care price index divided by the GPI.

Role of various factors in growth in medical care expenditures

As a followup to the description of the changes in the factors that caused medical expenditures to increase, the influence of each factor (general price index, relative prices for medical care deflated by the GPI, volume of care, and medical spending of relative value [medical care in current prices] deflated by the GPI) was quantified (figure 10).

The method used was:

if a variable X_o is the product of variables X_i, $i = s, r..n$

let

α_i = the increase in variable X_i

C_i = the contribution of variable X_i to the growth of variable X_o,

then

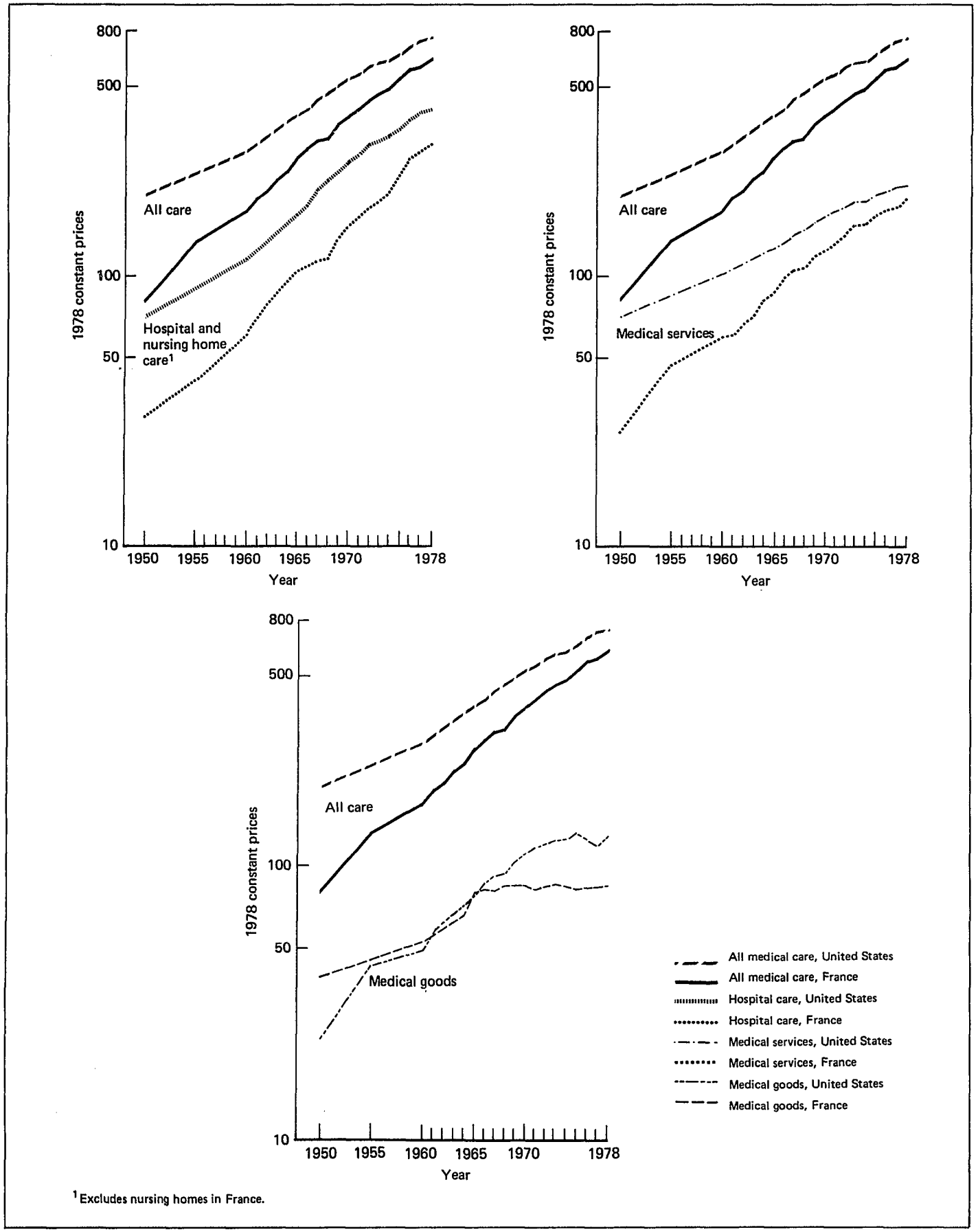
$$X_o = \Pi_i X_i$$

$$(1 + \alpha_o) = \Pi(1 + \alpha_i)$$

$$\log (1 + \alpha_o) = \sum_i \log (1 + \alpha_i)\, C_i = \frac{\log (1 + \alpha_i)}{\log (1 + \alpha_o)}$$

In both countries during 1950–78, increases in prices and volume each accounted for approximately half of the per capita increase in medical expenditures (table L). However, volume of expenditures was more important in France (53 percent compared with 47 percent in the United States), and price of expenditures was more important in the United States. Although inflation increased more rapidly in France than the United States, the contribution of the GPI was approximately the same in both countries (42 percent in the United States and 44 percent in France). The proportion attributable to relative prices (i.e., the medical care price index divided by the GPI, which measures the extent that the medical care prices rose faster [or slower]) is much lower in France (3 percent compared with 11 percent in the United States).

This situation differed according to subperiods; the weight of prices increases in both countries when



[1] Excludes nursing homes in France.

Figure 8. Per capita medical care expenditures in relative values, by type of medical care, services, and goods: United States and France, 1950-78

the rate of general inflation rises. For example, from 1960 to 1970, the increase in expenditures attributable to the volume of care peaked at approximately 60 percent, then it declined to 27 percent in the United States from 1973 to 1978 and to 41 percent in France during the same period.

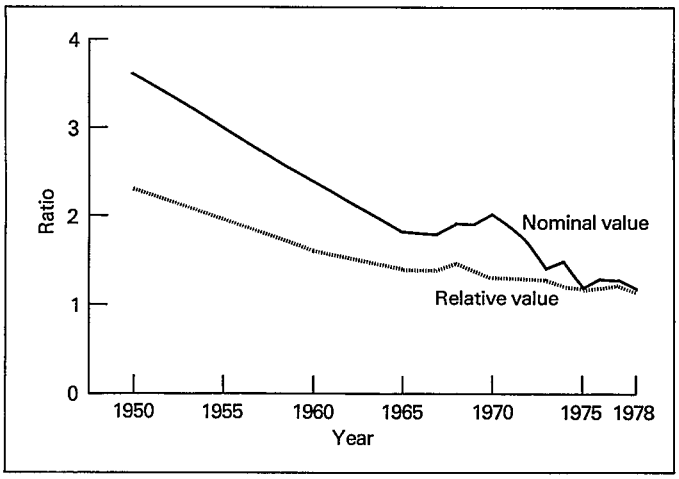


Figure 9. Per capita medical care expenditures as a ratio in terms of nominal and relative values: United States and France, 1950-78

Similarly, from 1960 to 1970, the proportion of the GPI was approximately 30 percent; from 1973 to 1978, the GPI accounted for almost 65 percent of the total increase in expenditures. The weight of relative prices for medical care remained low—in France, the weight was negative from 1970 to 1978. In the absence of growth in other factors, the decline in medical care prices in relation to the GPI in France would have contributed to a decrease in per capita medical expenditures. However, this reasoning does not account for compatibility among the growth rates of the various factors; for example, the slight increase in relative prices for care is not independent of the acceleration of the general inflation rates.

This analysis suggests possibilities to moderate growth of expenditures and indicates the limits of eventual policies. In particular, it emphasizes the role of overall inflation and its mechanical effects on the growth in medical expenditures.

Different types of care

Patterns of change.—The patterns of change and growth described for total medical expenditures resulted from different patterns for different types

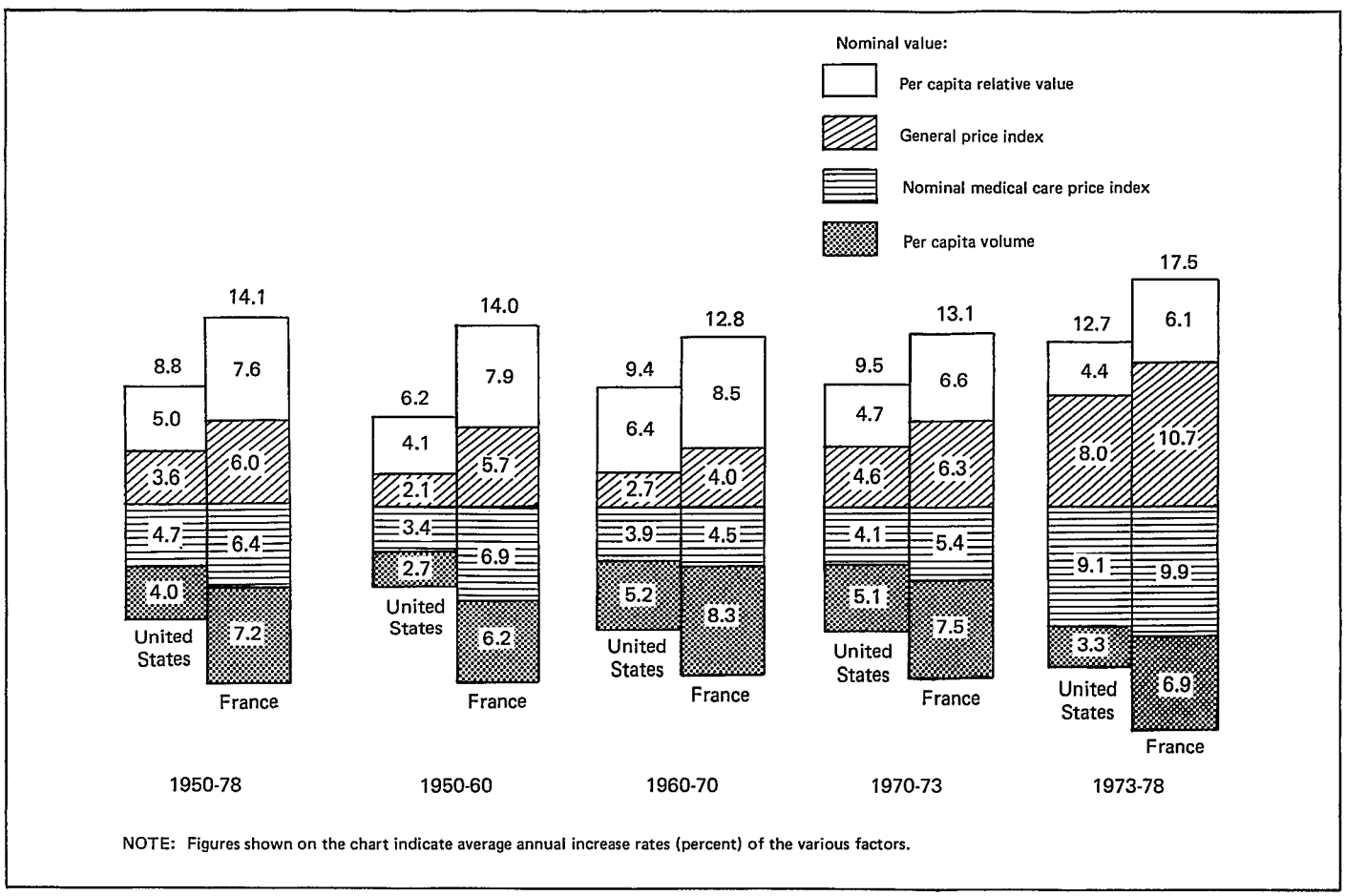


Figure 10. Percent distribution of contributions of various factors to the increase of medical expenditures by selected periods: France and United States, 1950-78

Table L. Percent distribution of contributions of various factors to the increase in medical expenditures by selected periods

Selected period	Factors	Total medical care		Hospital and nursing home care[1]		Medical services		Medical goods	
		France	United States	France	United States	France	United States	France	United States
		Percent distribution							
1950–78	Nominal value	100	100	100	100	100	100	100	100
	General price index	44	42	43	36	45	45	48	55
	Relative price	3	11	9	18	13	15	–28	–25
	Volume	53	47	48	46	42	40	80	70
1950–60	Nominal value	100	100	100	100	100	100	100	100
	General price index	44	34	44	30	41	38	42	40
	Relative price	9	21	5	32	28	16	–21	–5
	Volume	47	44	51	38	31	46	79	65
1960–70	Nominal value	100	100	100	100	100	100	100	100
	General price index	32	30	31	25	34	35	33	36
	Relative price	4	13	16	19	10	18	–23	–28
	Volume	64	57	53	56	56	47	90	92
1970–73	Nominal value	100	100	100	100	100	100	100	100
	General price index	49	50	45	44	46	52	61	90
	Relative price	–7	–5	11	2	7	–2	–57	–59
	Volume	58	55	44	54	47	50	96	69
1973–78	Nominal value	100	100	100	100	100	100	100	100
	General price index	63	64	51	59	68	63	94	102
	Relative price	–4	9	6	11	–6	16	–44	–35
	Volume	41	27	43	30	38	21	50	33

[1]Excludes nursing homes in France.

NOTE: Figures may not add to totals due to rounding.

Table M. Average annual rates of increase during 1950–78 in nominal values of medical care expenditures per capita, by services and goods: France and United States

Care, services, and goods	France	United States
	Average annual increase (percent)	
All care, services, and goods	14.1	8.8
Hospital care[1]	15.1	10.4
Medical services	13.9	8.1
Medical goods	11.4	6.6

[1]Includes nursing home care in the United States.

of care. In the United States and France, hospital expenditures seemed to increase most, followed by professional services; expenditures for medical products grew at a slower rate (table M).

Contributions of price and volume to the growth of expenditures (figure 11) differed for the three main health care categories (hospital care, medical services, and medical goods). Prices carried less weight for medical goods, accounting for 20 percent of the growth in per capita spending in France and for 30 percent in the United States. Prices and volume accounted for almost an equal percent for hospital care, but for medical care for ambulatory patients and for home health care the proportion attributable to price increases (approximately 60 percent) exceeded that of volume of care expenditures (40 percent). These conclusions were valid in both countries despite differences in medical consumption levels and growth, the different role of third-party providers in the financial coverage of care and the setting of prices, and differences between the overall economic climate in the two countries.

Distribution of expenditures

Structures.—Changes in the distribution of expenditures by category of service are results of the differences in the availability of care and in the utilization of various services, as well as increases in corresponding prices.

In both countries the proportion of hospital expenditures grew from 1950 to 1978. The amount spent for medical goods declined and medical services expenditures remained stable as a percent of the total (figure 5).

The amount of expenditures attributable to hospitalization (hospitals and nursing homes) increased in the United States from 37.1 percent in 1950 to 54.7 percent in 1978; expenditures for nursing homes increased more rapidly than expenditures for hospitalization. In France, expenditures are not reported separately for the two types of institutions, and the increased proportion of hospital services in total expenditures accompanied efforts to modernize and improve the comfort of hospitals and improve medical standards of homes for the elderly.

Stability of the proportion of medical services expenditures is a phenomenon that indicates different situations for different professionals. Within the aggregate of medical services expenditures (excluding dental), the proportion spent on physicians' services declined in both countries—85.1 percent in France

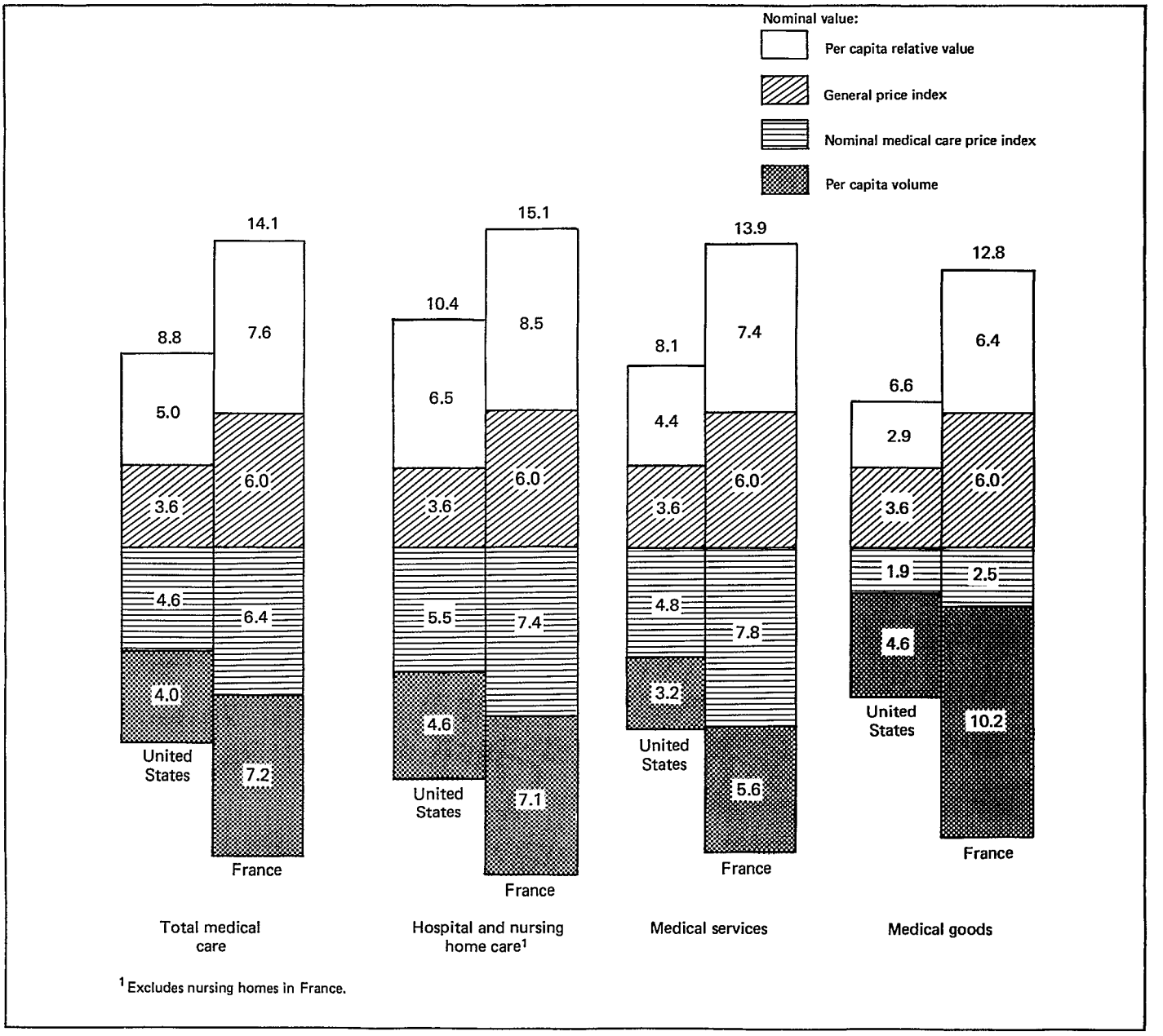


Figure 11. Percent distribution of contributions of various factors to the increase in per capita expenditures by services and goods: France and United States, 1950-78

and 91.1 percent in the United States in 1960, but only 70.9 percent in France and 66.6 percent in the United States in 1978. Correspondingly, the share of expenses for other professional services increased from 1960 to 1978 from 8.9 percent to 33.4 percent in the United States, and from 14.9 percent to 29.1 percent in France.

These figures indicate that, in both countries, treatment often involved care provided by professionals other than physicians; from an economic standpoint, the amount of activity that physicians devoted to administering services declined and more physicians' activities involved prescribing the services of other professionals.

The decline in the proportion of expenditures for medical goods indicates the small increase in prices of pharmaceuticals compared with other medical services. In France, the proportion of expenditures for medical goods declined from 28.9 percent in 1950 to 20.8 percent in 1978; nevertheless, this proportion remained higher during that period than in the United States, where the proportion of expenditures was 20.4 percent in 1950 and 11.3 percent in 1978.

In 1966, introduction of Medicare and Medicaid in the United States resulted in better coverage for hospital care and apparently caused the share of pharmaceutical expenses as a percent of total expenditures to decline. Introduction of the programs also resulted in some substitution of hospitalization for ambulatory care. This service remained stable from 1950 to 1965.

Changes in the financing of medical care

From 1950 to 1978, the structure of medical care financing changed as a result of the combined effects of several factors.

1. An increasing number of individuals were covered under insurance systems. In France, Assurance Maladie was extended from industrial and commercial wage earners to cover agricultural workers and all independent professionals. In the United States, with the establishment in 1966 of the Medicaid and Medicare programs, the elderly (aged 65 and over) and low-income individuals benefited by having a part of their medical expenses covered. In addition, an increasing number of people subscribed to private insurance plans for various health care services; for instance,[15] from 1970 to 1976, the percent of individuals under 65 years of age covered by insurance increased from 35.2 percent to 62.2 percent for physicians' services, from 6.6 percent to 24.0 percent for dental care, and from 53.5 percent to 76.3 percent for prescription drugs.
2. Coverage of insured individuals improved. In France, the *ticket moderateur* (coinsurance) was eliminated for an increasing number of diseases. Agreements signed between Assurance Maladie and physicians in 1960, 1971, and 1975 insured better reimbursement for costs incurred.
3. The structure of expenditures by category of service changed. The trend toward hospital care, which is better covered by third-party providers than other services, particularly was important.

Changes in the distribution of health care expenditures by type of financing were evident in both countries by declines in the proportion paid directly by patients and by an increase in the amount of financing provided by third-party providers (figures 12 and 13).

The percent of expenditures directly financed by patients, which is higher in the United States than in France, declined from 65.6 percent in 1950 to 31.7 percent in 1976 in the United States; during the same period in France, it decreased from 39.4 percent to 21.8 percent (table N).

The percent of expenditures covered by the public sector (Federal, State, and local governments) increased at a faster rate in the United States, from 22.4 percent in 1950 to 39.1 percent in 1976. This is less than French levels, where the population increased from 58.6 percent in 1950 to 74.5 percent in 1976.

The percent of total expenditures paid by private insurance organizations, which is negligible in France, almost tripled in the United States, increasing from 9.1 percent in 1950 to 27.0 percent in 1978. However, in 1966 and 1967, the proportion paid by private insurance declined as a result of the introduction of Medicaid and Medicare. This decline was temporary, and the increase resumed in 1968.

The decline in the proportion of direct payments resulting from better coverage did not correspond to a decline but to an increase in the amount paid by patients. In current prices, this amount quadrupled in the United States, from $46 in 1950 to $191 in 1976; it increased by 17 times in France (from 22 francs in 1950 to 471 francs in 1976). With adjustments for inflation, the amount paid directly by patients (in constant prices) almost doubled in the United States and quadrupled in France from 1950 to 1976. This amount was a stable proportion of the GNP in the United States (approximately 2.5 percent); the percent was lower in France but increased from 1.2 percent in 1950 to 1.6 percent in 1960, to 1.5 percent in 1976. Improved social coverage, therefore, did not prevent individual expenditures from increasing at a rate equal to or greater than the economy, and it did not protect patients from increased medical care expenditures.

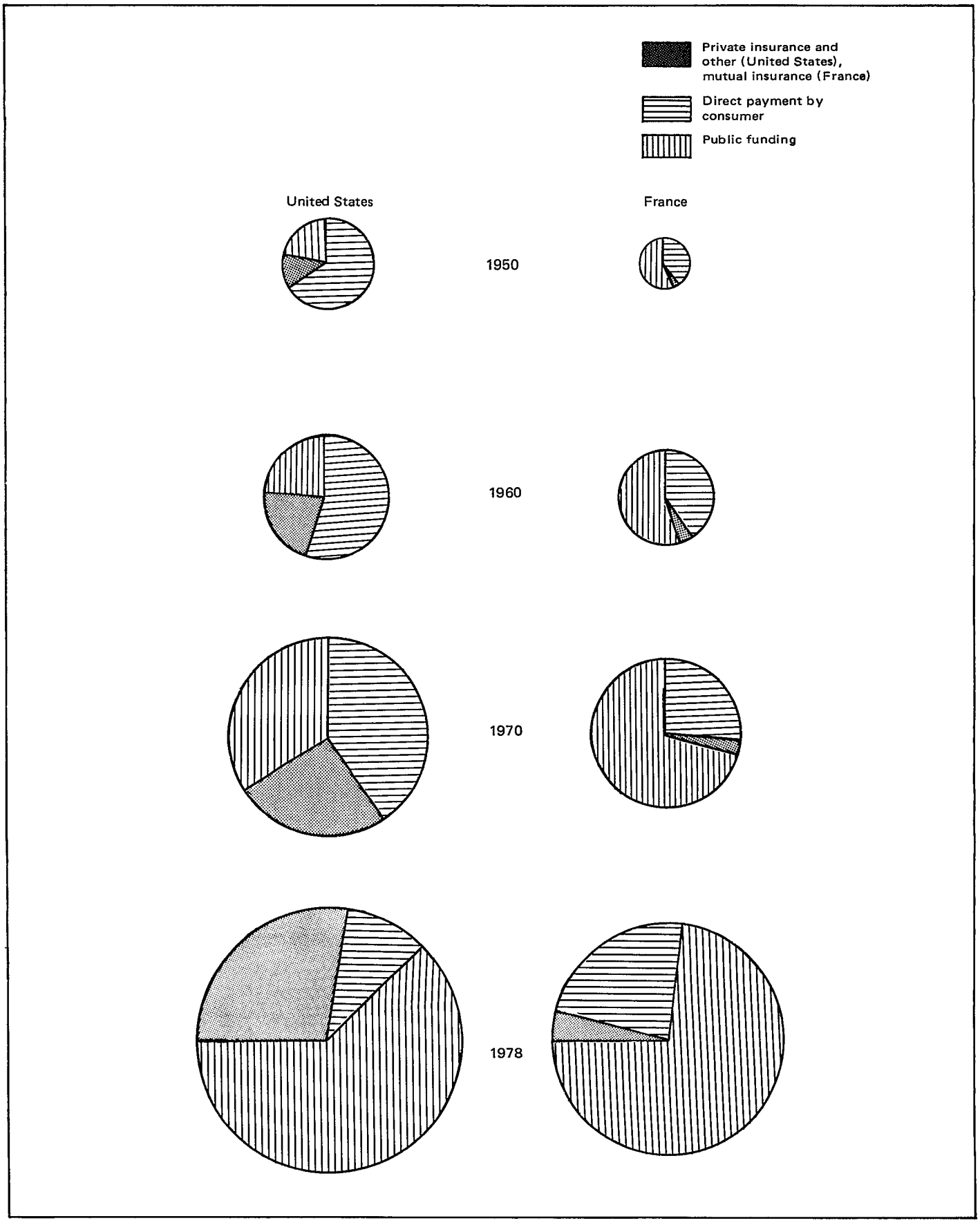
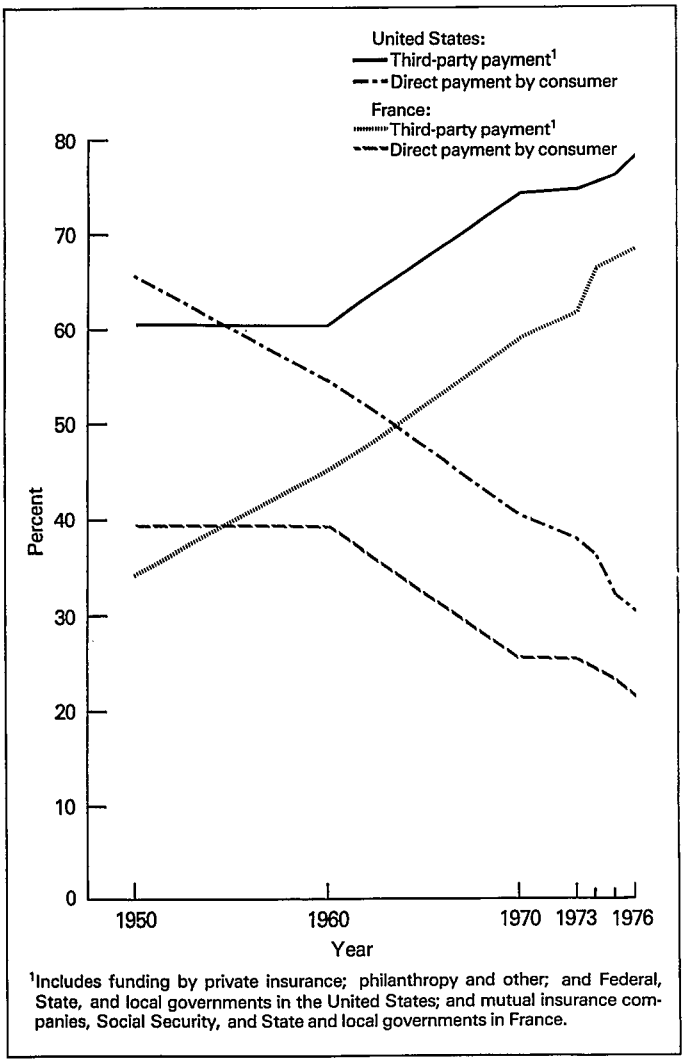


Figure 12. Percent distribution of medical care expenditures, by type of financing: United States and France, 1950, 1960, 1970, and 1978



[1]Includes funding by private insurance; philanthropy and other; and Federal, State, and local governments in the United States; and mutual insurance companies, Social Security, and State and local governments in France.

Figure 13. Percent of medical care expenditure, by third party payment and direct payment by consumer: United States and France, 1950-76

Table N. Percent distribution of medical care expenditures, by type of financing: France and United States, 1950–76

Type of financing	1950		1960		1970		1973		1974		1975		1976	
	France	United States	France	United States	France	United States	France	United States	France	United States	France	United States	France	United States
	Percent distribution													
All financing	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
All private financing	41.4	77.6	43.1	78.2	29.2	65.9	28.7	63.7	28.4	61.8	27.3	60.4	25.5	60.9
Direct payments	39.4	65.6	39.5	54.8	25.7	40.4	25.2	38.0	24.8	35.4	23.8	32.5	21.8	31.7
Philanthropy and other	...	2.9	...	2.3	...	1.5	...	1.4	...	1.4	...	1.3	...	1.2
Mutual insurance and other	2.0	9.1	3.6	21.1	3.5	24.0	3.5	24.3	3.6	25.0	3.5	26.6	3.7	28.0
All public financing	58.6	22.4	56.9	21.8	70.8	34.1	71.3	36.3	71.6	38.2	72.7	39.6	74.5	39.1
Public funds[1]	14.1	22.4	8.9	21.8	5.0	34.1	4.1	36.3	3.6	38.2	3.3	39.6	3.2	39.1
Social Security	44.5	...	48.0	...	65.8	...	67.2	...	68.0	...	69.4	...	71.3	...

[1]Includes funding by Federal, State, and local governments in the United States and by national and regional governments in France.

NOTE: Figures may not add to totals due to rounding.

SOURCE: National Health Accounts.

Chapter III. Hospitalization

Particularly in the United States, hospitalization is the major component of medical care utilization as well as an important economic activity—a source of employment.

Hospital expenditures are defined differently by accounting systems of France and the United States. U.S. expenditures were redefined to correspond with French definitions (appendix). On the basis of these comparably defined statistics, hospital services were a per capita expenditure of 1,372 francs ($304) in France and $370 or $441 in the United States in 1978, depending on whether nursing homes are included with hospitals. Hospital sources also accounted for a larger share of total health care expenditures in the United States than in France in 1978—58.6 percent (or 49.2 percent excluding nursing homes) in the United States compared with 48.3 percent in France.

Hospital expenditures in 1978 accounted for 4.4 percent of the GNP in the United States (3.9 percent excluding nursing homes) and 3.4 percent of the GNP in France. In 1977, approximately 770,000 people were employed in this sector in France and 4.2 million people (including nursing home employees) in the United States—3.5 percent and 4.2 percent, respectively, of the employed population in France and the United States.

Both countries classified establishments by services provided and patients who received services. Classifications included general hospitals, psychiatric hospitals, tuberculosis hospitals, and other hospitals that gave special care or served only specific patients (e.g., cancer and rehabilitation hospitals). Establishments also were classified as short-stay or long-stay facilities. However, statistical analyses indicated that these common headings covered different social and medical services in both countries. Some care provided in general or psychiatric hospitals in France probably was provided in nursing homes in the United States, in which patients essentially received nursing care.

In France, homes for the elderly (hospices) and retirement homes do not have high medical standards and, therefore, were not considered part of the hospital sector. Strong efforts have been made to increase medical services in these institutions and transform them into treatment and convalescent homes, so that these institutions will be similar to American nursing homes.

For the reasons discussed above, comparisons of levels of equipment, utilization, personnel, and other areas were made carefully. Data on nursing homes were included with statistics on hospitals.

Distinction between ambulatory care and hospitalization is clear in France because public hospitals employ staff physicians and do not allow private physicians to attend hospitalized patients. In the United States, physicians are permitted to admit and care for patients in institutions that grant them. Outpatient services in hospitals are much more developed in the United States than in France.

Hospital sector production

Production capacity of hospitals usually is expressed in the number of beds; however, this factor is not an adequate indicator of quality of services or housing, which are the two aspects of hospital production. Therefore, production capacity must be supplemented by additional descriptive information on factors of production such as equipment and personnel.

Capacity

When general, psychiatric, and tuberculosis hospitals were considered, the number of beds in hospitals was 70 percent higher in France in 1977, 10.8 beds per 1,000 population compared with 6.5 beds per 1,000 population in the United States (table O).[16,17]

Higher density of beds in France was found for all types of institutions; however, the difference was less in general short-stay hospitals, for which density was 30 percent greater, and was greater for beds in intermediate and long-stay institutions.

Table O. Number of hospital beds per 1,000 population and average annual rates of increase during 1962–72, 1972–77, and 1962–77, by type of institution: France and United States, 1977

Type of institution	1977			Average annual increase (percent)					
				1962–72		1972–77		1962–77	
	France	United States	France and United States[1]	France	United States[2]	France	United States[2]	France	United States[2]
General short-stay	6.26	4.90	1.30	1.1	1.5	0.6	1.1	0.9	1.4
General long-stay	1.50	0.27	5.60	5.0	–4.0	4.6	–4.2	4.8	–4.0
Total general	7.76	5.17	1.50	1.6	1.1	1.3	0.9	1.5	1.0
Psychiatric institutions	2.56	1.32	1.90	1.7	–5.5	1.7	–11.3	1.7	–7.4
Tuberculosis institutions	0.43	0.02	21.50	–5.6	–12.9	–11.0	–30.1	–7.4	–19.1
Total hospitals	10.75	6.48	1.70	0.9	–2.0	0.6	–2.7	0.8	–2.2
Nursing care homes	...	[3]5.54	...	...	[4]12.0	...	[5]4.58	...	9.5
Sections	0.20	...	...	...	...	...	...	...	...
Total	10.95	12.02	0.90	0.9	1.3	0.6	0.3	0.8	0.7

[1] Number of beds per 1,000 population (France) / Number of beds per 1,000 population (United States)

[2] Increases are computed for non-Federal hospitals only.

[3] In 1976.

[4] 1963–73 period.

[5] 1971–76 period.

SOURCES: Ministère de la Santé, Paris; American Hospital Association (hospitals), Chicago; and the National Center for Health Statistics (nursing homes), Hyattsville, Md.

Correct interpretation of these differences is contingent on recognition that in the United States nursing homes admit patients who, in France, would be cared for in intermediate- or long-stay hospitals, psychiatric institutions, and to a lesser extent in short-stay hospitals. Several characteristics also differentiate U.S. nursing homes from French hospices and retirement homes, although attempts have been made to compare these facilities. A National Center for Health Statistics survey found that 87 percent of all patients in nursing homes were admitted for physical reasons (illness or need for care) and 8.2 percent for psychological disorders. Only 7 percent were admitted for social or economic reasons.[18] Furthermore, nursing home care often followed hospitalization—55 percent of the patients admitted to nursing homes were transferred from short- or long-stay general hospitals, psychiatric hospitals, or other nursing homes. This percent increased with advanced medical standards in these institutions.

In 1976, nursing homes accounted for 5.5 beds per 1,000 population in the United States;[19] nursing homes and related homes[h] together accounted for 6.5 beds per 1,000 population. When services equivalent to French hospitals were considered, the density of beds in the United States was between 8.5 and 10.5 beds per 1,000 population.[i] The difference in density of beds between France and the United States was less than expected if differences between hospitalization practices in the two countries were not recognized. These densities of beds are similar to those in 1962 (9.1 beds in the United States and 9.7 in France per 1,000 beds); nursing homes were not yet common in the United States.

Analysis of trends over time strengthened the hypothesis that in the United States nursing homes progressively have attracted a clientele that is cared for in hospitals in France. To meet the increase in the number of elderly and chronically ill people, the number of beds in intermediate and long-stay institutions and also in psychiatric institutions increased in France; in the United States, the number of beds has declined since 1966, but the density of beds in nursing homes has risen rapidly (9.5 percent per year from 1962 to 1977). A similar movement toward improving medical standards of hospices, which would convert them into convalescent and treatment homes, is underway in France.

Similar trends occurred in the number of beds in short-stay institutions, which increased in both countries; of beds in tuberculosis hospitals, which declined rapidly; and in total density of beds which, from 1962 to 1977, increased 0.8 percent per year in France (hospitals) and 0.7 percent per year in the United States (hospitals and nursing homes).

Technical equipment

Hospitals adapt to the technical improvements in diagnostics and treatment by acquiring new equipment. Available statistics did not permit detailed comparative analyses but did indicate that in both countries, acquisition of technical equipment increased noticeably faster than the number of beds. For example, in French general public hospitals, the number of hemodialysis machines quadrupled from 1970 to 1976; the

[h] "Related homes" refers to personal care homes with or without nursing services, and domiciliary care homes.

[i] This computation corresponds to the sum of hospital beds and 30 and 60 percent, respectively, of nursing home beds.

number of high-voltage radiotherapy units almost doubled in 10 years.[20] In the United States, L. Russell described the diffusion of several current technologies such as respiratory therapy, diagnostic radioisotopesis, electroencephalography, and three "prestige" technologies—cobalt bombs, open-heart surgery, and renal dialysis.[21]

It appears that, despite the great effort by French hospitals, American hospitals provide more specialized equipment.

Staff

Similarly, the staff-to-bed ratio was higher in the United States than in France. In 1977, this ratio was 2.3 full-time equivalents (FTE's), compared with 1.2 FTE's in France for all hospital institutions. This difference partially was due to the larger number of tuberculosis and psychiatric institutions in France, which have lower ratios; however, the difference also was found in all general hospitals, for which the ratio was 2.6 FTE's per bed in the United States and 1.5 FTE's in France.

The staff-to-bed ratio increased in both countries, because the number of personnel grew faster than the number of beds to permit development of hospital "hotel" services and use of new medical equipment; therefore, the staff-to-bed ratio increased. For all hospitals, the increase from 1962 to 1977 averaged 5.4 percent annually in the United States and 3.8 percent in France. However, for general hospitals only, the growth rate was more rapid in France (4.5 percent per year) than in the United States (2.9 percent). Although rates of increase did not vary in subperiods in the United States, acceleration was noticeable in France during the 1972–77 period, particularly the increase of 6.5 percent per year in the staff-to-bed ratio in general hospitals (table P). These increases allowed hospitals to change production in quantity and kind. They particularly contributed to intensification of care over shorter periods of time and to development of outpatient visits.

Hospital production and utilization of hospital services

Measuring production and utilization of hospital services raises problems of definition because hospital activities encompass many components, and the variables that describe them do not always have the same meaning. Established customary measurements such as the number of days or admissions were used, and data on length of stay and on types of care received during hospitalization were added to account for evolution of treatment methods.

Frequency of admissions to hospitals is similar in both countries—approximately 17 admissions per 100 population in 1977. However, because of the longer lengths of stay in France, days of hospitalization per capita were 76 percent higher than in the United States (table Q).

Interpretation of this initial information on hospital utilization accounted for differences in the scope of the statistics between the two countries—patients convalescing in nursing homes were excluded from

Table P. Number of full-time equivalent staff per bed, ratio, and average annual rates of increase during 1962–72, 1972–77, and 1962–77, by type of institution: France and United States, 1977

Type of institution	1977 level			Average annual increase (percent)					
				1962–72		1972–77		1962–77	
	France	United States	France and United States[1]	France	United States	France	United States	France	United States
General short-stay	...	2.65	...	...	2.7	...	2.6	...	2.7
General long-stay	...	1.40	...	...	2.9	...	3.7	...	3.1
Total general	1.46	2.59	0.56	[2]3.8	2.9	[2]6.5	2.9	[2]4.5	2.9
Psychiatric institutions	0.57 (public 75) 0.69 (private 77)	1.10	0.52	---	6.7	---	10.4	---	7.9
Tuberculosis institutions	0.49 (private 77)	0.0	...	...	...	...	...	...	...
Total hospitals	[3]1.21	[4]2.28	0.53	[5]1.5 [6]3.0	5.2	[5]2.9 [6]5.4	5.8	[5]2.0 [6]3.8	5.4
Nursing care homes	...	[4,7]0.50	...	...	...	...	...	...	...

[1] Number of full-time equivalent staff per bed (France) / Number of full-time equivalent staff per bed (United States).
[2] General public hospitals only.
[3] Estimate.
[4] This rate would equal 1.46 if the total of hospitals plus nursing homes were concluded (comment L. Russell).
[5] Private hospitals only.
[6] All general public hospitals and all private hospitals.
[7] 1976.

SOURCES: Ministère de la Santé, Paris; American Hospital Association (hospitals), Chicago; and the National Center for Health Statistics (nursing homes), Hyattsville, Md.

U.S. statistics. Hence, the data showed that hospital days for all institutions in 1977 numbered 3.2 per person in France and 1.8 per person in the United States. For short-stay care only, the difference between the two countries was 35 percent less, with 1.8 days per person in France and 1.3 days per person in the United States (table R).

For general hospitals, the average length of stay was 66 percent higher in France, or 12.9 days compared with 7.8 days in the United States. For short-stay hospitals alone, this difference was much less (23 percent higher in France) and the average length of stay was 10.9 days in France and 7.6 days in the United States (table S).

Table Q. Number of hospital admissions per capita, ratio, and average annual rates of increase during 1962-72, 1972-77, and 1962-77, by type of institution: France and United States, 1977

Type of institution	1977 level			Average annual increase (percent)					
				1962-72		1972-77		1962-77	
	France	United States	France and United States[1]	France	United States	France	United States	France	United States
General short-stay	16.57	16.67	0.99	3.9	1.2	3.8	1.6	3.9	1.3
General long-stay	0.76	0.08	9.50	7.2	-4.6	4.8	-4.4	6.4	-4.5
Total general	17.33	16.75	1.03	4.0	1.1	3.8	1.6	3.9	1.3
Psychiatric institutions	0.50	0.31	1.61	4.1	2.4	10.8	-0.7	6.3	1.4
Tuberculosis institutions	0.07	0.00	...	-2.2	-10.4	-2.6	-9.7	-2.3	-10.2
Total hospitals	17.90	17.06	1.05	3.9	1.1	3.9	1.3	3.9	1.2

[1] $\frac{\text{Number of hospital admissions per 100 population (France)}}{\text{Number of hospital admissions per 100 population (United States)}}$.

SOURCES: Ministère de la Santé, Paris; and the American Hospital Association, Chicago.

Table R. Number of hospital days per capita, ratio, and average annual rates of increase during 1962-72, 1972-77, and 1962-77, by type of institution: France and United States, 1977

Type of institution	1977 level			Average annual increase (percent)					
				1962-72		1972-77		1962-77	
	France	United States	France and United States[1]	France	United States	France	United States	France	United States
General short-stay	1.80	1.33	1.35	1.0	1.5	0.3	0.8	0.8	1.3
General long-stay	0.42	0.08	5.25	5.8	-2.2	3.7	-5.6	5.1	-3.3
Total general	2.22	1.41	1.57	1.6	1.2	0.9	0.5	1.4	1.0
Psychiatric institutions	0.87	0.39	2.23	1.1	-6.3	-0.7	-11.4	0.5	-8.1
Tuberculosis institutions	0.08	0.00	...	-7.4	-16.4	-16.7	...	-10.6	...
Total	3.17	1.80	1.76	0.5	-2.6	-0.1	-3.2	0.3	-2.8

[1] $\frac{\text{Number of hospital days per 1,000 population (France)}}{\text{Number of hospital days per 1,000 population (United States)}}$.

SOURCES: Ministère de la Santé, Paris; and the American Hospital Association, Chicago.

Table S. Average annual length of stay in days per capita in hospitals, ratio, and average annual rates of increase during 1962-72, 1972-77, and 1962-77, by type of institution: France and United States, 1977

Type of institution	1977 level			Average annual increase (percent)					
				1962-72		1972-77		1962-77	
	France	United States	France and United States[1]	France	United States	France	United States	France	United States
General short-stay	10.88	7.60	1.43	-2.8	0.4	-3.3	-0.8	-2.9	...
General long-stay	55.78	155.80	0.36	-0.3	0.9	-1.5	0.1	-0.7	0.6
Total general	12.85	7.75	1.66	-2.2	-0.2	-2.8	-1.6	-2.4	-0.6
Psychiatric institutions	174.47	131.20	1.33	-3.6	-8.5	-7.7	-11.1	-5.0	-9.4
Tuberculosis institutions	123.06	60.83	2.02	-2.9	-6.3	-12.4	-10.2	-6.2	-7.5
Total hospitals	17.83	10.50	1.70	-3.3	-3.7	-3.7	-4.6	-3.4	-4.0

[1] $\frac{\text{Average annual length of stay (France)}}{\text{Average annual length of stay (United States)}}$.

SOURCES: Ministère de la Santé, Paris; American Hospital Association (hospitals), Chicago; and the National Center for Health Statistics (nursing homes), Hyattsville, Md.

Values of staff-to-bed ratios suggested that, in the United States, the amount of care received per day and the quality of hospital hotel services were higher than they are in France. This hypothesis, which assumes similar levels of personnel productivity, could not be tested because there is no overall index of the volume of services received per day that could support the comparison.

Changes

Since 1972, the number of days spent in psychiatric hospitals declined in both countries, but this decline was greater in the United States. For tuberculosis hospitals, this decline in the number of days spent also was greater in the United States and occurred during a longer period.

Short-stay hospitals were a more comparable group of institutions than all other hospitals in these two countries. When short-stay hospitals were examined alone, the average number of admissions and of days per person in France and the United States increased from 1962 to 1977. The number of admissions per 100 population increased faster in France than in the United States—an average rate of 3.9 percent per year from 1962 to 1977, compared with 1.3 percent in the United States. Because of this, the difference between the two countries, which was 10 percent in 1973, disappeared.

From 1962 to 1977, length of stay in the United States was stable, despite a slight increase after the Medicare and Medicaid programs were introduced; by contrast, length of stay in France (which had an average of 17.0 days in 1962) declined 2.9 percent per year[j] (figure 14).

Because of the offsetting effects of changes in admissions and lengths of stay, the trend in the number of hospital days per person was similar in both countries—the number of days per person increased approximately 1 percent per year from 1962 to 1977.

Several partial indicators show the transformation of hospital care and the growth in the services provided per hospital day. For example, the American Hospital Association estimated that from 1972 to 1975, the amount of services provided per day in the United States increased an average of 3.7 percent per year,[22] the number of laboratory examinations per day increased an average of 11.1 percent per year from 1969 to 1976,[23] and the number of surgical operations per admission increased by 3 percent per year from 1970 to 1977.[24] In France, the growth in volume of care from 1965 to 1976 was approximately 5 percent per year per admission and approximately 9 percent per day.[20]

Development of outpatient services increased rapidly in both countries, and the number of outpatient visits per admission increased at an average yearly rate of 3.8 percent in France and 4.8 percent in the United States.

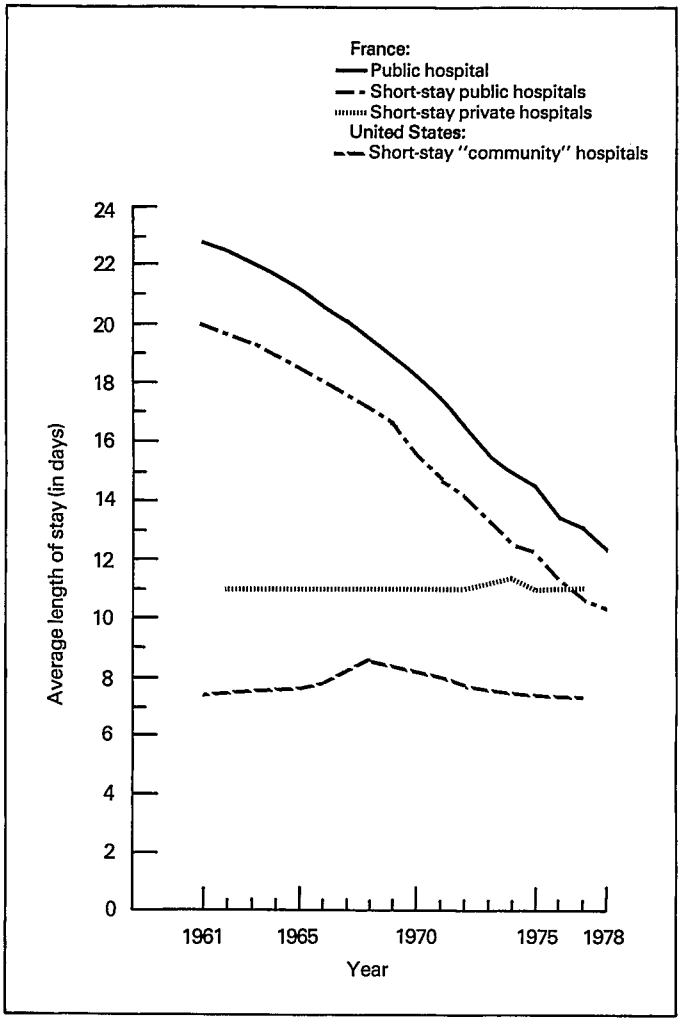


Figure 14. Average length of stay in general hospitals, by type of hospital: France and United States, 1961-78

This phenomenon must be viewed by considering two hospitalization features. Development of outpatient services brings new clienteles to hospitals, which contributes to the demand for high-intensity inpatient care by serving a concentration of numerous diagnostic examinations in a short period. On the other hand, the opportunity for hospital physicians to follow patients' progress using outside consultations also contributes to shortening patients' length of stay. The decline in lengths of stay leads to shifting of the hospital costs to the ambulatory care sector.

These changes in hospital production (the growth of inputs per unit of production and the intensification of care) contributed to the rapid increase in prices in this sector.

Hospital prices

The changing nature of hospital production precludes simple analysis of trends in the hospital sector.

[j]This decline may be attributed to public hospitals, for which the length of stay was 19.8 days in 1962 and 10.8 days in 1977.

Growth in prices per day or admission (the units used to measure hospital production) is a poor indicator because it indicates changes in units rather than hospital production; as shown previously, the quantity of hotel and medical services corresponding to 1 day or one admission increased. Therefore, to clarify changes in prices and show growth in hospital costs if quantity of production inputs remained constant, hospital cost indexes were developed in France and the United States.

The following analysis of hospital prices accounts for the factors discussed above.

Prices per day and per admission

Using current data, prices per day could not be compared between institutions or services in the two countries. In particular, costs billed by physicians to patients in hospitals (part of the cost of a hospital) are difficult to estimate. However, a single hospital day was billed at a higher rate in the United States than in France (table T).

In general hospitals, the average 1977 price per day in France was 338 francs ($69), which was 60 percent lower than the average price per day in a U.S. community hospital ($194). This significant difference could not be attributed entirely to the large number of acutely ill patients in U.S. community hospitals or to average length of stay—7.6 days in U.S. community hospitals and 12.8 days in French general hospitals.

The difference in price per day between the two countries was 40 percent; this difference decreased when prices per admission in short-stay hospitals were compared. In the United States, the 1977 price per admission in short-stay hospitals was $1,494; in France, the price was 4,092 francs ($833).

Growth in prices per day for all institutions in NV's was more rapid in France (figure 15). Therefore, for 1950–77, the average annual rate of increase was 9.9 percent in the United States and 13.0 percent in France. In both countries, the rate of growth accelerated from 1970 to 1977, to 19.6 percent per year in France and to 13.6 percent per year in the United States.

Because length of stay declined in France, the difference between the two countries is less marked for the growth of prices for a hospital stay, which increased during 1972–77 by 13.9 percent per year in the United States and by 16.6 percent in France (table T).

When these patterns are compared, the general inflation rate must be considered in both countries and at different periods by analyzing the rates of increase in relative prices (i.e., nominal prices deflated by the GPI).

By this index, changes in price per day were much closer in the two countries, with an average annual rate of increase of 6.7 percent in France and 6.2 percent in the United States from 1950 to 1977 (table U). However, during 1970–77, growth in price per day in constant currency was more rapid in France (9.7 percent per year) than in the United States (6.6 percent per year). This marked acceleration in France was linked to the increase in personnel and to the decline in lengths of stay during the same period. Similarly, from 1972 to 1977, the price per admission in short-term institutions (in constant currency) followed the same trend—5.7 percent per year in France and 5.8 percent per year in the United States.

Table T. Cost per patient day in France and the United States, cost per admission, and ratios in general short-stay hospitals, with average annual rates of increase during 1972–77: France and United States, 1972–77

Year and factor	*Per diem price*				*Price per admission (short-term)*			
	France: public and private general hospitals[1]		*United States: community hospitals*[2]	*France and United States*[3]	*France: public and private general hospitals*[4]		*United States: community hospitals*[2]	*France and United States*
	Francs	*Dollars*	*Dollars*		*Francs*	*Dollars*	*Dollars*	
Year								
1972	132.8	26.3	98.5	0.3	1,900.9	376.9	778.2	0.5
1973	150.1	33.7	107.3	0.3	2,096.9	470.8	836.9	0.6
1974	175.9	36.6	118.5	0.3	2,394.7	498.3	924.6	0.5
1975	222.7	51.9	142.0	0.4	2,932.8	682.8	1,093.4	0.6
1976	286.3	59.9	167.9	0.4	3,598.4	752.9	1,292.6	0.6
1977	338.1	68.8	193.9	0.4	4,091.5	832.7	1,493.9	0.6
				Average annual increase (percent)				
Factor								
Nominal price	20.60	21.20	14.50		16.57	17.18	13.93	
General price index	10.34		7.69		10.34		7.69	
Relative price	9.29		6.32		5.65		5.79	

[1]Total general public and private hospitals, cost for stay only, fees for treatments not included. Source: S. Sandier and F. Tonnellier, Medical care consumption in the context of Social Security General Health Insurance (to be published).

[2]Revenue per patient day (not including fees for private physicians). Source: American Hospital Association (hospital statistics), Chicago.

[3]$\frac{\text{Cost per patient day in dollars (France)}}{\text{Revenue per patient day (United States)}}$.

[4]Price per patient day (estimated to be 11 percent higher than that of all hospitals), multiplied by average length of stay.

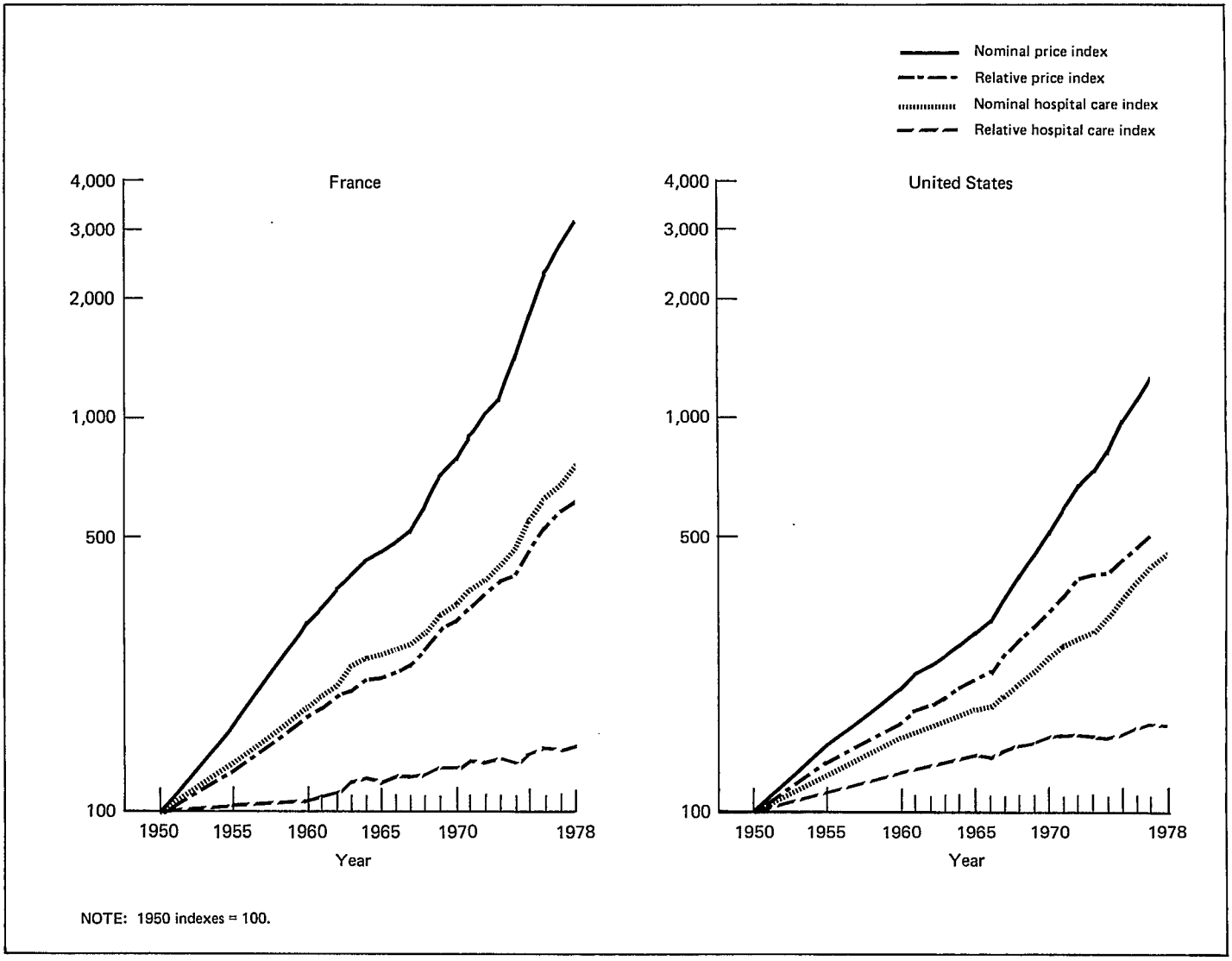


Figure 15. Hospital costs, by selected factors: France and United States, 1950-78

Table U. Average annual rate of increase in nominal and relative prices per patient day: France and United States, selected periods during 1950-77

Selected period	*Nominal Price*		*Relative Price*	
	France[1]	United States[2]	France[1]	United States[2]
1950–77	13.0	9.9	6.7	6.2
1950–60	11.6	7.5	5.6	5.3
1960–70	10.1	9.7	5.8	6.7
1970–77	19.6	13.6	9.7	6.6

[1]All public and private hospitals (cost of stay and fees).
[2]Non-Federal, short-term, general, and other (American Hospital Association) (cost of stay).

This analysis suggested that hospital prices evolve chiefly as a function of two factors—general inflation and increases in the quantity of production inputs necessary during a hospital day or length of stay. The following analysis clarifies these points.

Structure of hospital costs and cost index of hospital care

Hospital costs may be divided schematically into two components—costs associated with personnel (salaries and fringe benefits) and productive factors that

represent intermediate consumption such as food, energy, and pharmaceutical services.

In both countries, expenditures for personnel account for more than 60 percent of all production costs; however, in France, the proportion is higher. In 1977, personnel expenditures accounted for 65 percent of the operating costs in general public hospitals in France, compared with 60.4 percent in the United States.[k]

This difference in the two countries was expected to be the reverse because the staff-to-bed ratio is higher in the United States. Larger personnel expenditures in France probably were the result of higher benefits in France and more equipment in American hospitals (which reduces the number of personnel).

Growth in hospital costs is due to the simultaneous effects of increases in the amount and prices of inputs used in production. The latter component may be isolated by using the cost of care index.

From 1950 to 1969, this index was compiled as the sum of the index of increases in salaries, weighted by the share of salaries in total production costs and the GPI, weighted by the share of other inputs in production costs. The AHA cost index has been used since 1969. The Health Care Financing Administration, however, also computed a cost index for hospital inputs; the results were received too late to be included in this report. The growth rates are similar to the ones used in this report.

From 1950 to 1977, the cost index for hospital care increased yearly by an average of 5.5 percent in the United States and by 7.4 percent in France; however, in relation to the GPI, the growth rate was similar in both countries—1.8 percent per year in the United States and 1.3 percent in France. Differences observed in subperiods (figure 15) primarily reflect the variability of general inflation. The growth in the cost of hospital care at relative prices seldom was outside the range of 0.5 to 2.0 percent. This result is not surprising, because for 40 percent of production inputs the growth in prices followed the GPI closely; for the remaining 60 percent, prices increased slightly faster because salaries of low-paid staff members increased faster than the GPI.

Comparison between changes in prices per day and the cost of care index clarifies evaluation of the total quantity of inputs used for the production of a hospital day.

During 1950–77 the daily average showed 5.3 percent more inputs in France and 4.2 percent more inputs in the United States (table W). These data complement the study of growth in personnel and show that other inputs developed similarly. The more rapid increase in volume of inputs per day in France from 1970 to 1977 (8.1 percent per year) was probably the cause of the sharp decline in length of stay.

Table W. Average annual rate of increase in volume of production inputs per day: France and United States, selected periods 1950–77

Selected period	*France*	*United States*
	Average annual increase (percent)	
1950–77	5.3	4.2
1950–60	5.0	3.0
1960–70	3.7	4.6
1970–77	8.1	5.4

The contribution of the different parameters to the growth of price per day may be determined (table Y)

Table Y. Percent distribution of contribution of various factors to the growth of price per day, according to selected periods

Selected period	*Price per day*	*Volume of inputs per day*	*Relative cost of care*	*General price index*
	Percent distribution			
1950–60:				
France	100	44	6	50
United States	100	41	30	29
1960–70:				
France	100	38	21	41
United States	100	48	22	30
1970–77:				
France	100	44	8	48
United States	100	41	9	50
1950–77:				
France	100	42	11	47
United States	100	43	20	37

by observing that:

- The two countries have obvious similarities.
- The increase in volume of inputs in France and the United States over different periods accounted for approximately 40–50 percent of the increase in the price per day.
- The contribution of the GPI is variable, ranging from 29 percent in the United States from 1950 to 1960 to almost 50 percent in both countries during the 1970–77 period of high inflation.
- The contribution of relative price increases is more varied ranging from 6.0 percent in France from 1950 to 1960 to 30 percent in the United States during the same period.

These percents aid in defining possibilities for moderating the growth in price per day. The effect of

[k]This information was retrieved from 1977 national accounts for France.

general inflation is important and mechanical, and its influence cannot be curbed at the health care policy level. Limiting growth in the volume of production inputs would contain costs but also would restrain development of health care techniques and methods.

Hospital expenditures

Comparison of hospital expenditures covers hospital and nursing home expenditures in the United States and hospital expenditures in France. The scopes of these two aggregates are reasonably comparable; however, expenditures are not constructed according to the same concepts in both countries. In France, hospital expenditures include costs of stay and fees to physicians paid by hospitalized patients; in the United States, they encompass care to outpatients, but exclude fees to private physicians.

To account for these differences, hospital expenditures in the United States were revised to include all costs for inpatients (see appendix) and amounted to $441 in 1978, 45 percent more than the expenditures in France, 1,372 FF ($304).

Because of a lack of information, comparison of rates of change computed from unadjusted American and French statistics were assumed to be valid. These statistics indicated that expenditures in both countries in current prices increased more rapidly in the hospital sector than in any other sector of medical care.

From 1950 to 1978, the annual rates of increase averaged 15.1 percent in France and 10.4 percent in the United States (figure 16). The growth rate in France was higher when the impact of general inflation was eliminated. From 1950 to 1978, the relative value of per capita expenditures increased by an average of 8.5 percent per year in France and 6.5 percent per year in the United States (figure 17). The rate of growth in volume (expenditures deflated by the cost of care index) also was greater in France—approximately 7.1 percent per year from 1950 to 1978, compared with 4.6 percent per year in the United States (figure 18). However, in both countries, the number of hospital days per capita rose slowly (approximately 1 percent per year); therefore, increase in prices per day clearly was the determining factor in growth in expenditures (figure 19). The increase in prices per day may be separated into volume and prices of inputs. The contributions of price per day to the growth in hospital expenditures was important. In comparison the increase in the number of hospital per capita days explains only 12 percent of the growth in per capita expenditures in France during 1950-77 and 4.0 percent in the United States (table Z).

Other expenditure breakdowns are possible based on information concerning types of production inputs and qualifications and salaries of personnel.[20,24] These factors indicated that approximately half of the increase in hospital expenditures was explained by growth in the volume of production inputs used (personnel and equipment) and the other half by the rise in the prices of these inputs, which primarily reflects general inflation.

Summary

Comparison of the two countries showed that per capita hospital expenditures were higher in the United States, despite more rapid growth rates in France in nominal value, relative value, and volume.

Analysis of expenditures for a single year and for changes over time produced common results—neither number of beds nor length of stay explained disparities in the two countries. Rather, production inputs (personnel and equipment) affected level and growth of expenditures while permitting different organization of hospital activity.

The number of beds and lengths of stay are higher in France, yet the admission rate is similar in both countries. The United States leads in the number of personnel per bed and in the amount of equipment, which partly explained shorter lengths of stay and the trend toward outpatient visits. In all of these areas, trends in France have grown increasingly similar to the trends set by the United States, which served as a model. This tendency for the two countries to become

Table Z. Average annual rate of increase of various factors and percent distribution of their contributions to the increase in per capita hospital expenditures: France and United States, 1950–77

Factor	Average annual rate of increase (percent)		Contribution to the growth of expenditures (percent)	
	France	United States	France	United States
			Percent distribution	
Expenditures per capita	15.0	10.3	100	100
Number of days per capita	1.7	0.4	12	4
Volume of care per day	5.3	4.2	38	40
Relative cost of care	1.3	1.9	9	18
General price index	5.9	8.8	41	38
3+4+5 Average price per day	13.0	9.9	88	96

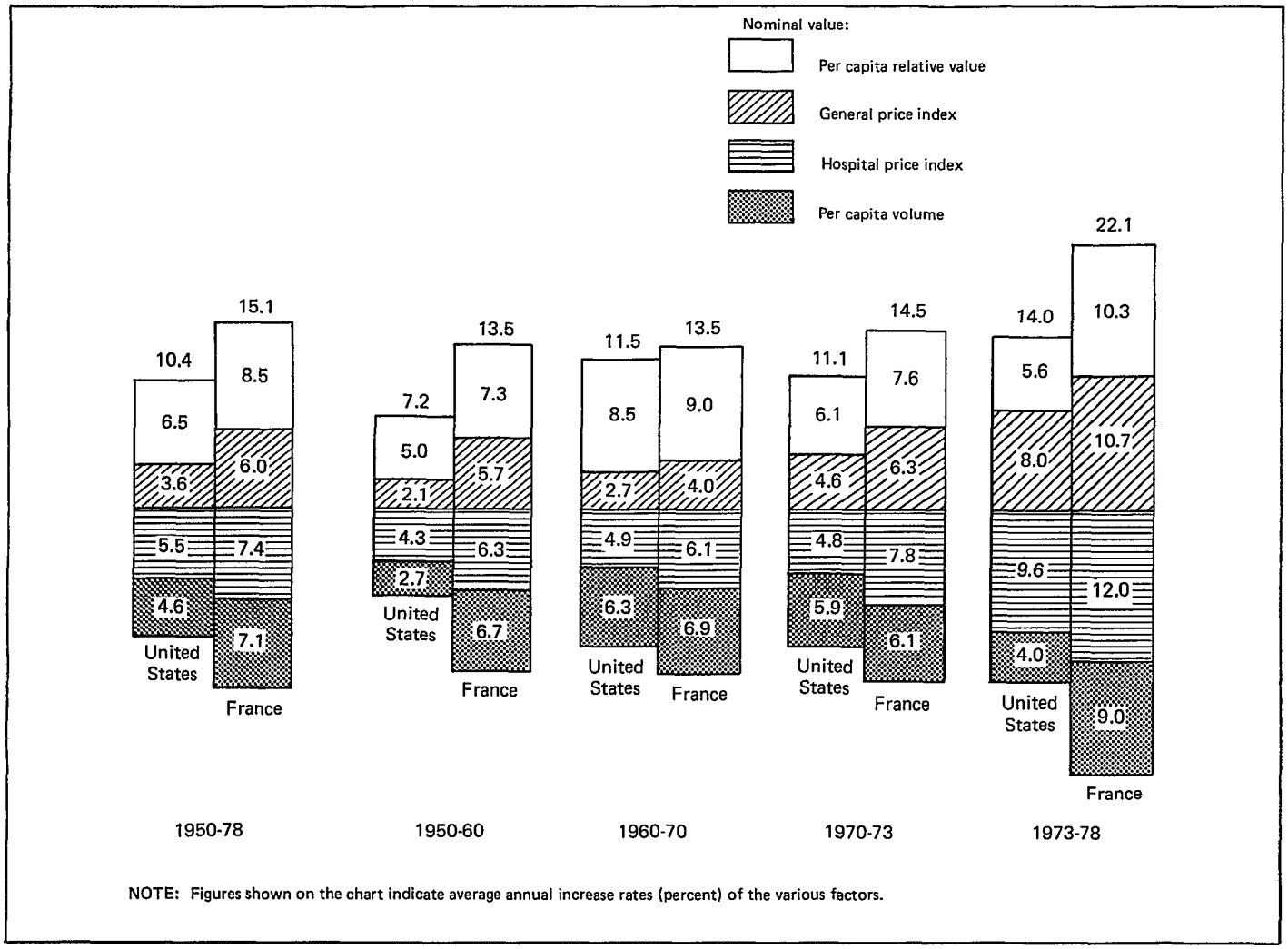
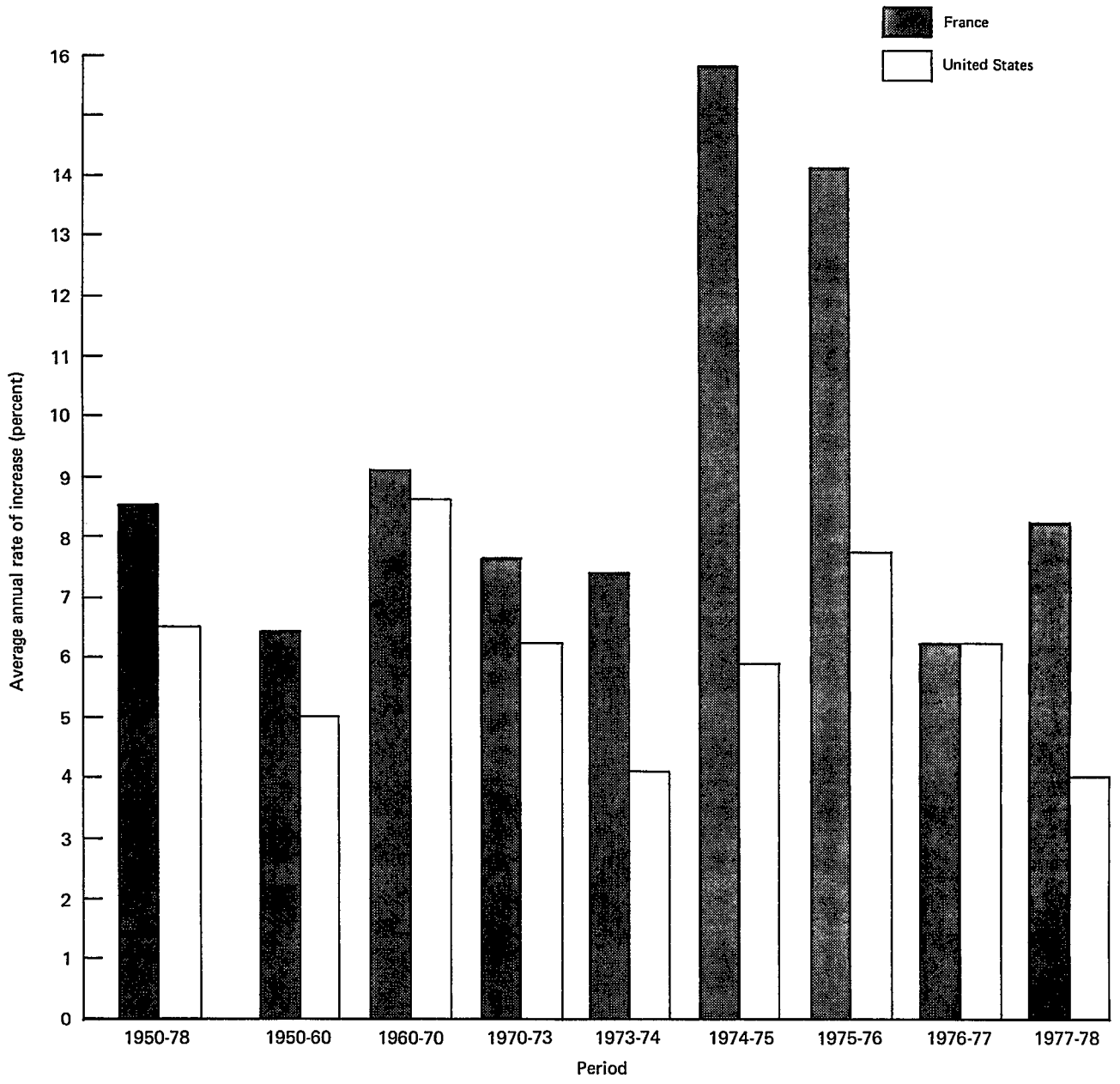


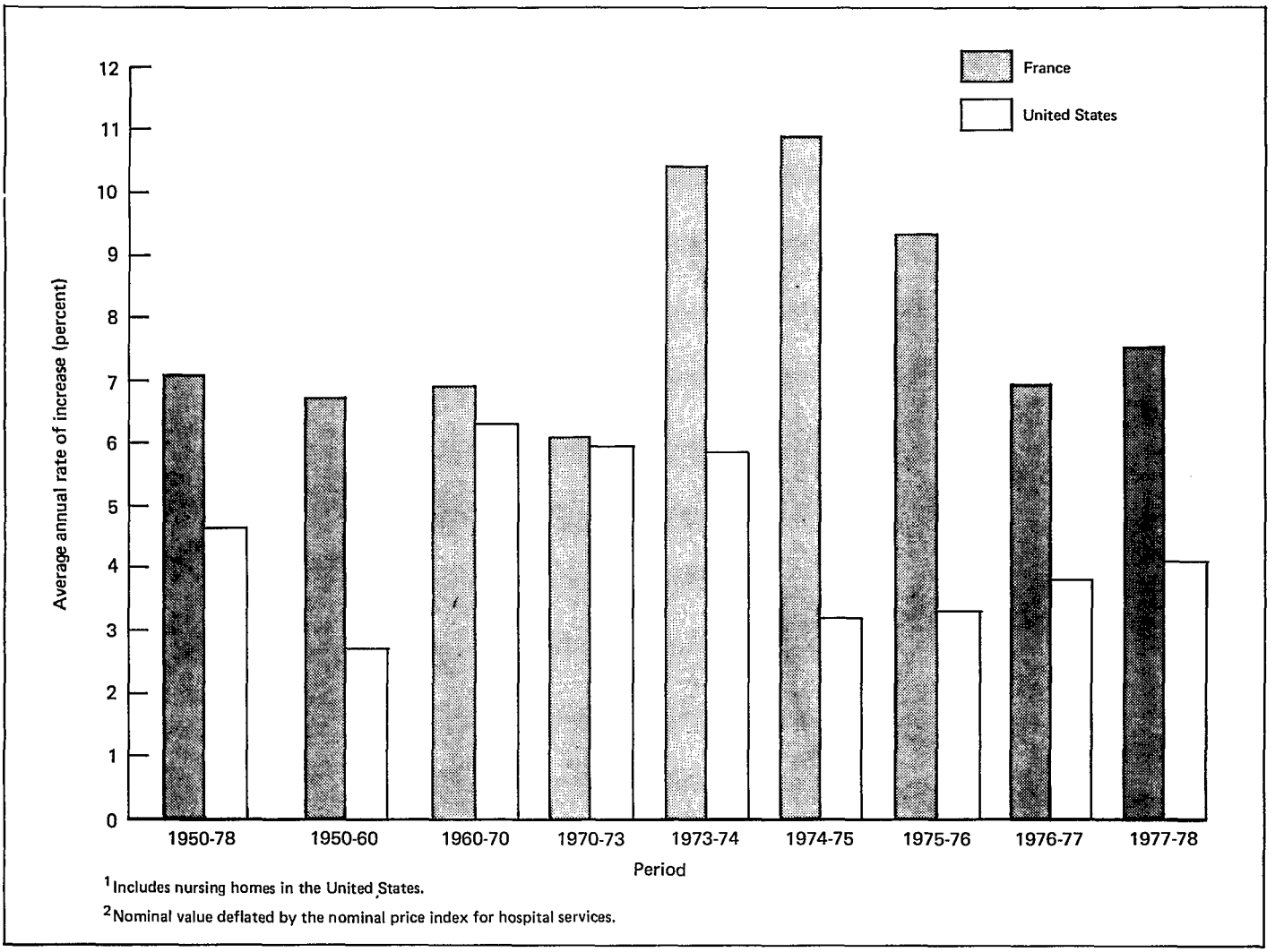
Figure 16. Percent distribution of the contributions of various factors to the increases in per capita hospital expenditures: United States and France, 1950-78



[1] Includes nursing homes in the United States.

[2] Nominal value deflated by the general price index.

Figure 17. Average annual rate of increase of per capita hospital[1] expenditures, in relative value[2]: France and United States, selected periods from 1950 through 1978



[1]Includes nursing homes in the United States.

[2]Nominal value deflated by the nominal price index for hospital services.

Figure 18. Average annual rate of increase of per capita hospital[1] expenditures, in constant prices[2]: France and United States, selected periods from 1950 through 1978

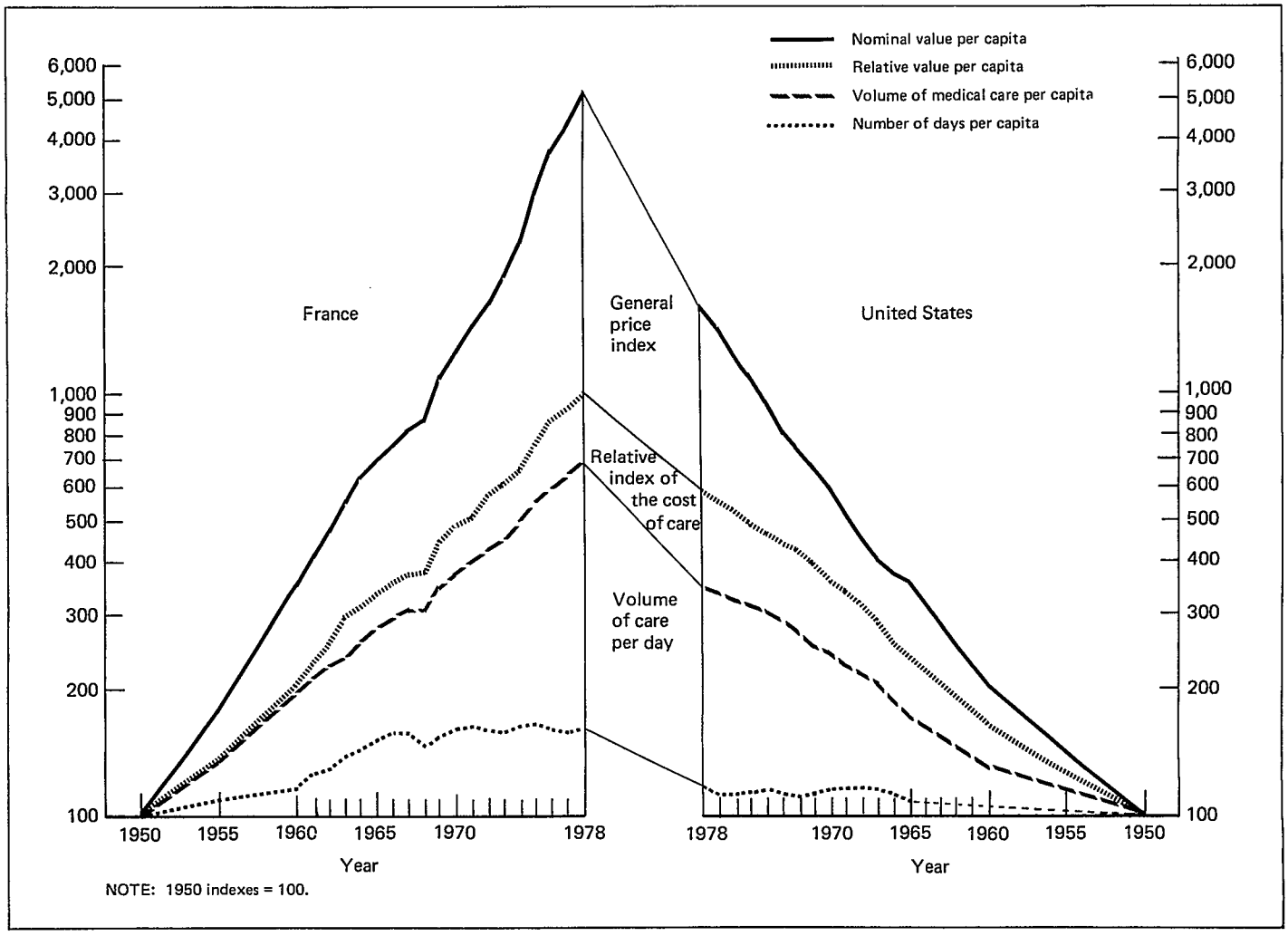


Figure 19. Changes in per capita hospital expenditures, by selected factors: France and United States, 1950-78

similar was especially clear in the most recent period studied (1972–1977).

Analysis of factors that contributed to change showed similarities in the two countries. In particular, the analysis emphasized the need to consider general inflation in the study of expenditures (because it has mechanical effects on production costs) and to link growth in prices per day to the changing meaning of a day (because this factor corresponds to increases in medical and hotel services).

Because health care policy cannot alter general inflation rates, containment of hospital costs depends on setting maximum rates of growth for production inputs. Justifications for such a decision have yet to be found. From an economic standpoint, it should be noted that in the United States, which does not have compulsory health insurance, people voluntarily purchase private insurance to cover the risks of hospitalization. From a health standpoint, containment measures would be justified only if one believes that the further growth of the means of care does not help satisfy patients' demand for the improvement of their health in conditions of greater security and comfort.

Conclusions

The comparative analysis of health care expenditures in France and the United States through 1978 led to several conclusions. As the earlier study showed, differences between the two countries were greatest in expenditure levels, financing structures, and distribution of health care by service category in a given year. By contrast, trends observed in France and the United States share several characteristics such as rapid growth in hospital expenditures, less rapid growth for pharmaceutical expenditures than total expenditures, increasing public sector role in health care financing, and the declining proportion of costs paid directly by the patients.

The result of these changes, although more accentuated in one country than the other, showed increasing similarity between France and the United States. Per capita medical expenditures were higher in the United States, but the gap between the two countries was decreasing because of the faster growth rate in France. The proportion of financing by third-party providers was greater in France but was increasing faster in the United States, and the proportion of direct payments by patients was declining more quickly in the United States. The share of expenditures that may be attributed to pharmaceutical services was greater in France but was declining at a more rapid rate than in the United States; however, hospital expenditures were a greater percent of total costs in the United States but were increasing more rapidly in France.

This tendency toward uniformity appeared again when operation of the hospital system was studied in detail. The United States served as the model because lengths of stay in short-stay institutions were declining at a faster rate in France and nearing the values observed in the United States; the number of personnel was increasing faster in France, but the staff-to-bed ratio remained higher in the United States; and development of care for the elderly in institutions, which in the United States increased the number of nursing home beds, was comparable in France to improvement of medical standards in hospices which were becoming the equivalent of convalescent homes.

Study of trends

The study of trends for 28 years in two countries demonstrated the need to consider rates of increase in the economy, general inflation, and medical care prices. Analysis of growth in expenditures at relative or constant prices supported redefinition of the initial analysis based on nominal values.

In both countries the 1973–78 period was marked, but to different degrees, by a simultaneous decline in economic growth and an acceleration in the rate of inflation.

By 1978, medical expenditures rose as a proportion of the GNP to 7.1 percent in France and 8.0 percent in the United States. As a result, the governments in both countries have been increasingly concerned with the growth in health care expenditures. Although total medical expenditures increased more in both countries from 1973 to 1978 than in earlier periods, growth in volume decreased considerably in the United States and to a lesser degree in France.

One result of the analysis of the most recent period was that elasticities calculated with respect to the GNP, which were useful parameters in periods of economic growth to predict the increase in use of medical care at current prices or in volume, lost meaning during economic stagnation or recession. For the short term, it was concluded that growth in medical care expenditures was independent of the general economic climate. Whether this will continue could not be determined.

Role of financing method

The role of financing methods in growth of medical care appeared minor compared with that of the organization of the distribution of health care and technical progress.

Comparison of the two countries indicated that if health insurance is not compulsory and is not the responsibility of the government, people tend to rely on private insurance to protect themselves against the risk of illness and to limit direct payments.

However, since France has a general health insurance plan the impact of economic crisis on the health care sector apparently was minimized.

By taking advantage of the fee negotiations with suppliers of medical services, Assurance Maladie caused relative prices of physicians' and pharmaceutical services to decline from 1973 to 1978.

In the United States, overall medical care prices increased at an average annual rate of 1 percent more than the inflation rate; relative prices for medical care declined by 0.7 percent per year in France.

Control of fees for ambulatory and pharmaceutical services prescribed by Assurance Maladie in France may explain lower pharmaceutical prices and why consumption of pharmaceutical products accounts for a higher percent of total medical expenditures in France.

In both countries, controls on the development of hospital equipment have been thought to limit growth in health care expenditures. The American certificates of need and the French carte sanitaire were responses to this view. However, application of such measures were resisted at the local level, where hospitals often represent regional development and sources of employment, and also were opposed by populations deserving up-to-date equipment available nearby.

Life expectancy at birth, a common but imperfect indicator of health, increased over these years for men and women. In the United States, life expectancy was shorter than in France, but the increase has been more rapid. It is not possible to state whether these trends were the result of the spread of medical care or changes in lifestyles. The effect of medical care was difficult to determine because illness can be both the reason for and sometimes the result of care. A study of regional differences within each country, which are more pronounced than the differences between the national averages of France and the United States, might clarify this effect.

During 1950–78, increases in prices and volume of health care in both countries contributed to approximately half of the increase in per capita medical care expenditures. However, because of high inflation rates from 1973–78, the amount that may be attributed to volume of health care declined to 27 percent in the United States and 41 percent in France.

This demonstrates the mechanical impact of inflation on growth in cost of services and, therefore, on growth in health care expenditures. Because inflation rates cannot be controlled by health care policymakers, containing health care costs limits growth in the amount of care provided. Justifications for such an approach remain to be found.

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List of detailed tables

Table 1. Birth rate, crude death rate, and infant mortality rate: France and United States, 1950–78

Year	Birth rate		Crude death rate		Infant mortality rate[1]	
	France	United States	France	United States	France[1]	United States
	Number of births per 1,000 population		Number of deaths per 1,000 population		Number of deaths of infants under 1 year of age per 1,000 live births	
1950	20.7	24.1	12.8	9.6	51.9	29.2
1951	19.7	---	13.5	---	50.2	---
1952	19.4	---	12.4	---	45.1	---
1953	18.9	---	13.1	---	41.7	---
1954	18.9	---	12.1	---	40.8	---
1955	18.7	25.0	12.2	9.3	38.6	26.4
1956	18.5	---	12.5	---	36.2	---
1957	18.5	---	12.1	---	33.8	---
1958	18.2	---	11.2	---	31.5	---
1959	18.4	---	11.3	---	29.6	---
1960	18.1	23.7	11.5	9.5	27.4	26.0
1961	18.3	---	10.9	---	25.7	---
1962	17.9	22.4	11.6	9.5	25.7	25.3
1963	18.3	21.7	11.7	9.6	25.6	25.2
1964	18.3	21.0	10.8	9.4	23.4	24.8
1965	17.8	19.4	11.2	9.4	21.9	24.7
1966	17.6	18.4	10.8	9.5	21.7	23.7
1967	17.0	17.8	11.0	9.4	20.7	22.4
1968	16.8	17.5	11.1	9.7	20.4	21.8
1969	16.8	17.5	11.4	9.5	19.6	20.7
1970	16.8	18.4	10.7	9.5	18.2	20.0
1971	17.3	17.2	10.9	9.3	17.2	19.1
1972	17.1	15.6	10.7	9.4	16.0	18.5
1973	16.5	14.9	10.8	9.4	15.4	17.7
1974	15.3	14.9	10.6	9.2	14.5	16.7
1975	14.1	14.8	10.6	8.9	13.6	16.1
1976	13.6	14.8	10.5	8.9	12.5	15.2
1977	14.0	15.3	10.1	8.8	11.5	14.1
1978	13.8	15.3	10.2	8.8	10.6	13.6

[1]Corrected infant mortality rate (including infants born alive who died before they were registered in civil records).

SOURCES: National Institute of Statistics and Economic Research, Paris; and National Center for Health Statistics: *Statistical Abstract,* Washington, U.S. Government Printing Office, 1978.

Table 2. Life expectancy at birth, by sex: France and United States, 1950–77

Year	France		United States	
	Men	Women	Men	Women
	Life expectancy (in years)			
1950	63.4	69.1	65.6	71.1
1960	67.3	73.9	66.6	73.1
1961	67.5	74.3	67.0	73.6
1962	67.0	73.9	66.8	73.4
1963	66.8	73.8	66.6	73.4
1964	67.7	74.8	66.9	73.7
1965	67.4	74.6	66.8	73.7
1966	67.7	75.1	66.7	73.8
1967	67.5	75.1	67.0	74.2
1968	67.7	75.2	66.6	74.0
1969	67.4	75.1	66.8	74.3
1970	68.6	76.0	67.1	74.8
1971	68.5	76.1	67.4	75.0
1972	68.7	76.4	---	---
1973	68.9	76.5	67.6	75.3
1974	68.9	76.9	68.2	75.9
1975	69.1	76.9	68.7	76.5
1976	69.2	77.2	69.0	76.7
1977	69.7[1]	77.9	69.3	77.1

SOURCES: National Institute of Statistics and Economic Research, Paris; and National Center for Health Statistics, Hyattsville, Md.

Table 3. Population, per capita gross national product (GNP) in terms of current prices at the exchange rate of a given year, and general price index: France and United States, 1950–78

Year	Population in thousands		Per capita GNP in current currency				Exchange rate	General price index (1967 = 100)	
			France[2]		United States[1]				
	France	United States	Dollars	Francs	Dollars	Francs	1 percent = Francs	France	United States
1950	41,829	151,900	670.86	2,341.30	1,841.22	6,436.91	3.4968	45.3	72.1
1955	43,428	165,100	1,113.50	3,886.13	2,450.00	8,754.27	3.4997	59.9	80.2
1960	45,684	180,000	1,323.59	6,490.24	2,747.95	13,474.57	4.9039	78.8	88.7
1961	46,163	183,000	1,430.60	7,010.00	2,842.07	13,926.14	4.9039	81.3	89.8
1962	46,998	185,800	1,569.40	7,690.00	3,015.60	14,776.40	4.9003	85.3	90.6
1963	47,816	188,500	1,728.10	8,468.00	3,131.56	15,334.64	4.9003	89.4	91.7
1964	48,310	191,100	1,897.60	9,298.30	3,309.26	16,215.37	4.9005	92.5	92.9
1965	48,758	193,500	2,023.20	9,918.07	3,556.07	17,444.00	4.9012	94.7	94.5
1966	49,164	195,600	2,168.20	10,646.00	3,840.60	18,903.50	4.9136	97.3	97.2
1967	49,548	197,500	2,319.30	11,411.15	4,031.89	19,827.60	4.9200	100.0	100.0
1968	49,915	199,400	2,487.00	12,310.90	4,355.60	21,582.00	4.9513	104.5	104.2
1969	50,318	201,400	2,683.10	13,925.40	4,645.00	24,081.60	5.1991	111.2	109.8
1970	50,768	203,800	2,792.20	15,413.25	4,714.01	26,021.34	5.5282	117.0	116.3
1971	51,249	206,200	3,089.70	17,024.70	5,160.00	28,431.60	5.5118	123.4	121.3
1972	51,703	208,200	3,765.00	18,975.60	5,624.40	28,324.80	5.0446	131.1	125.3
1973	52,118	209,900	4,804.14	21,378.41	6,107.32	27,202.00	4.4540	140.7	133.1
1974	52,460	211,400	5,070.45	24,367.10	6,680.00	32,064.00	4.8057	160.0	147.7
1975	52,705	213,100	6,423.10	27,555.20	7,170.00	30,759.30	4.2954	178.8	161.2
1976	52,891	214,700	6,628.80	31,619.70	7,751.69	37,049.98	4.7796	196.0	170.5
1977	53,078	216,300	7,195.30	35,329.10	8,720.00	42,815.20	4.9133	214.4	181.5
1978	53,278	217,250	8,857.00	39,945.19	9,451.12	42,624.50	4.5117	233.9	195.4

[1]Gross national product.
[2]Produit Intérieur Brut.

Table 4. Total medical care expenditures in current prices, by type of financing: France, 1950–76

Year	Social security	Public, central and local governments			Mutual insurance companies	Private financing (households and private insurance)	Total final medical consumption
		Medical assistance	Medical assistance to veterans	Total			
	Francs						
1950	1,300	380	34	414	146	1,078	2,938
1951	1,722	442	45	487	191	1,468	3,868
1952	2,201	599	50	687	239	2,031	5,413
1953	2,432	632	55	687	263	2,031	5,413
1954	2,688	673	56	729	290	2,231	5,938
1955	2,985	716	63	779	315	2,473	6,552
1956	3,462	831	85	916	366	2,865	7,509
1957	3,932	968	85	1,053	408	3,101	8,494
1958	4,524	1,043	97	1,140	463	3,698	9,825
1959	4,705	933	117	1,050	496	4,390	10,641
1960	5,672	917	142	1,059	546	4,631	11,908
1961	7,164	958	120	1,078	600	4,943	13,785
1962	8,840	1,121	174	1,294	630	5,100	15,864
1963	10,635	1,446	182	1,628	661	5,554	18,478
1964	12,732	1,596	186	1,782	673	6,286	21,473
1965	14,268	1,588	197	1,785	773	7,070	23,896
1966	16,416	1,631	220	1,851	870	7,878	27,015
1967	18,483	1,666	218	1,884	974	8,626	29,967
1968	19,413	1,730	238	1,960	1,202	9,424	32,007
1969	24,624	1,790	274	2,064	1,389	10,567	38,644
1970	29,145	1,887	325	2,212	1,570	11,363	44,290
1971	33,818	1,913	344	2,257	1,733	13,068	50,876
1972	38,991	2,115	360	2,475	2,193	14,087	57,746
1973	44,858	2,283	397	2,680	2,338	16,276	66,152
1974	52,949	2,432	431	2,863	2,812	19,418	78,042
1975	68,006	2,792	456	3,248	3,425	22,545	97,224
1976	80,906	3,140	488	3,628	4,218	24,908	113,660

NOTES: Exchange rate: 1 dollar = 4.78 francs in 1976. Figures may not add to totals due to rounding.

SOURCE: National Health Statistics, Comptés Nationaux de la Santé, Paris.

Table 5. Per capita medical expenditures in current prices: United States, 1950–78

Year	Hospitals	Nursing homes	Physicians	Other professional services	Dentists	Pharmacy	Eyeglasses and appliances	Total	Hospital and nursing home care	Medical services	Medical goods	Other medical services
	1	2	3	4	5	6	7	T	A	B	C	D
						Dollars						
1950.....	24.90	1.21	17.76	2.56	6.21	11.16	3.17	70.37	26.11	26.53	14.33	3.40
1960.....	49.46	2.86	30.92	4.69	10.75	19.89	4.22	128.81	52.32	46.36	24.11	6.02
1965.....	70.46	10.48	42.85	5.22	14.20	29.18	9.44	188.42	80.94	62.27	38.62	6.59
1966.....	78.18	12.28	45.86	5.80	14.82	30.40	10.45	205.22	90.46	66.48	40.85	7.43
1967.....	90.28	14.28	50.15	6.22	16.61	31.72	9.83	227.07	104.56	72.98	41.55	7.98
1968.....	102.88	16.56	54.36	6.97	17.98	34.48	10.58	252.32	119.44	79.31	45.06	8.51
1969.....	116.44	18.57	61.31	7.13	20.35	37.20	10.51	280.63	135.01	88.79	47.71	9.12
1970.....	133.39	22.44	68.81	7.65	22.79	40.33	10.07	315.25	155.83	99.25	50.40	9.77
1971.....	146.14	26.74	75.60	7.73	24.07	41.54	9.67	342.52	172.88	107.40	51.21	11.03
1972.....	164.71	28.97	80.82	8.48	26.49	44.00	10.33	376.14	193.68	115.79	54.33	12.34
1973.....	180.35	33.13	89.16	9.22	30.52	46.98	11.59	413.53	213.48	128.90	58.57	12.58
1974.....	207.97	38.73	98.49	10.34	34.15	51.17	12.55	467.72	246.70	142.98	63.72	14.32
1975.....	239.77	45.46	114.66	12.04	37.88	54.32	13.71	534.82	285.23	164.58	68.03	16.98
1976.....	272.69	52.22	126.11	14.60	46.19	58.40	14.60	602.45	324.91	186.90	73.00	17.64
1977.....	307.13	60.44	141.29	16.73	52.69	62.45	15.62	674.46	367.57	210.71	78.07	18.11
1978.....	340.93	70.64	158.08	19.17	59.64	67.70	17.40	752.98	411.57	236.89	85.10	19.42

NOTE: T = A + B + C + D, A = 1 + 2, B = 3 + 4 + 5, and C = 6 + 7.

SOURCE: Health Care Financing Administration, Baltimore.

Table 6. Per capita medical care expenditures in current prices, by type of services and goods: France, 1950–78

Year	Physicians	Dentists	Assistants	Laboratories	Pharmacy	Eyeglasses and appliances	Total medical care	Hospital and nursing home care[1]	Medical care to ambulatory patients and home care	Medical goods
	1	2	3	4	5	6	T	A	B	C
						Francs				
1950.....	---	---	---	---	---	---	70.24	26.87	23.06	20.34
1955.....	---	---	---	---	---	---	150.87	48.24	53.84	48.79
1960.....	49.80	29.00	4.44	4.27	68.93	6.90	260.66	94.91	89.92	75.83
1961.....	47.96	34.40	4.94	4.79	85.05	7.43	298.62	111.45	94.69	92.48
1962.....	51.51	39.28	5.92	5.83	95.34	8.26	337.55	128.60	105.34	103.60
1963.....	62.70	42.85	7.34	7.07	105.49	8.95	386.44	148.99	121.97	114.44
1964.....	73.53	52.14	8.55	8.38	119.00	9.58	444.48	169.74	146.16	128.59
1965.....	79.80	55.72	10.73	9.64	133.52	10.15	490.09	186.72	159.71	143.67
1966.....	93.77	60.15	14.42	11.47	150.88	10.74	549.49	203.83	184.04	161.62
1967.....	103.37	66.22	16.63	14.49	167.39	11.34	604.81	220.80	205.28	178.74
1968.....	110.63	68.92	17.75	14.64	177.90	11.76	641.23	234.44	217.13	189.66
1969.....	130.57	79.32	21.23	17.27	208.26	12.84	768.00	293.25	253.65	221.09
1970.....	143.10	85.80	26.24	19.86	236.37	16.78	872.40	336.83	280.79	253.15
1971.....	160.00	95.57	29.62	23.92	264.10	17.78	992.57	389.20	315.85	281.88
1972.....	179.91	107.23	36.48	27.68	290.06	19.40	1,116.88	443.09	358.41	309.46
1973.....	207.40	127.05	43.56	31.41	321.85	20.88	1,269.38	504.90	417.44	342.76
1974.....	236.50	145.48	51.51	37.42	365.73	25.87	1,497.41	616.52	480.20	394.16
1975.....	287.13	170.38	62.80	47.04	426.94	34.34	1,844.66	798.20	578.29	461.28
1976.....	329.34	189.65	74.72	55.68	444.22	37.72	2,148.95	999.32	659.30	481.76
1977.....	358.11	222.99	82.82	62.27	458.70	41.26	2,409.89	1,161.80	740.59	499.96
1978.....	414.07	275.48	94.20	75.68	541.07	46.98	2,841.64	1,371.97	875.99	588.02

[1]Excludes nursing homes in France.

NOTES: Exchange rate: 1 dollar = 4.5117 francs in 1978. Figures may not add to totals due to rounding.

SOURCE: Centre de Recherche pour L'Étude et L'Observation des Conditions de Vie, Paris.

Table 7. Medical care price index, by type of services and goods: United States, 1950–78

Year	Cost of hospital care	Physicians	Other professional services	Dentists	Pharmacy	Eyeglasses and appliances	Total medical care	Hospital and nursing home care	Medical care to ambulatory patients and home care	Medical goods
	1	2	3	4	5	6	T	A	B	C
					Dollars					
1950	51.0	55.2	---	63.9	88.5	73.5	58.4	51.0	59.0	84.2
1960	78.3	77.0	---	82.1	104.5	85.1	81.7	78.3	79.6	101.3
1965	93.1	88.3	94.8	92.2	100.2	92.8	93.3	93.1	89.4	97.7
1966	94.4	93.4	96.8	95.2	100.5	95.3	95.5	94.4	94.0	98.3
1967	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968	107.5	105.6	103.5	105.5	100.2	103.2	105.7	107.5	105.5	101.1
1969	116.0	112.9	107.5	112.9	101.3	107.6	112.5	116.0	112.4	103.4
1970	126.1	121.4	111.4	119.4	103.6	113.5	120.4	126.1	120.1	107.0
1971	134.1	129.8	116.1	127.0	105.4	120.3	127.2	134.1	127.8	110.0
1972	138.6	133.8	120.4	132.3	105.6	124.9	131.0	138.6	132.2	111.0
1973	145.4	138.2	122.8	136.4	105.9	129.5	135.9	145.4	136.5	112.0
1974	158.8	150.9	135.4	146.8	105.9	138.6	146.9	158.8	148.8	113.6
1975	177.9	169.4	151.4	161.9	109.6	149.6	162.8	177.9	166.2	118.5
1976	196.0	188.5	160.5	172.2	118.8	158.9	178.7	196.0	182.9	128.0
1977	213.8	206.0	169.4	185.1	126.0	168.2	194.0	213.8	198.6	135.7
1978	229.9	233.1	176.2	198.1	134.1	174.4	210.3	229.9	220.3	143.6

NOTES: 1960 Indexes = 100. The price indexes corresponding to aggregates T, A, B, and C are implicit price indexes.

SOURCES: Consumer Price Index, and the American Hospital Association, Chicago.

Table 8. Medical care price index, by type of services and goods: France, 1950–78

Year	Physicians	Dentists	Assistants	Laboratories	Pharmacy	Eyeglasses and appliances	Total medical care	Hospital and nursing home care[1]	Medical care to ambulatory patients and home care	Medical goods
	1	2	3	4	5	6	T	A	B	C
					Francs					
1950	---	---	---	---	---	---	51.30	54.19	38.98	75.87
1955	---	---	---	---	---	---	76.30	71.27	70.02	96.81
1960	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1961	94.60	96.50	103.50	100.00	101.60	103.40	102.80	105.66	96.70	102.00
1962	102.30	102.40	108.40	100.00	104.30	107.50	108.70	113.12	103.60	104.90
1963	110.70	109.60	110.50	123.30	104.00	111.50	116.40	126.13	111.80	105.00
1964	122.20	116.00	110.50	125.00	104.20	115.20	122.00	132.92	120.40	105.50
1965	126.90	120.90	112.60	125.00	104.30	120.00	124.70	135.52	124.90	106.00
1966	135.30	126.60	116.10	131.70	104.70	124.30	129.10	140.16	131.80	106.70
1967	141.60	132.10	119.90	141.70	104.80	126.20	132.20	144.57	137.90	106.90
1968	153.00	135.80	122.40	141.70	104.10	133.00	138.00	152.83	145.20	106.60
1969	170.00	148.10	133.90	141.70	108.30	137.10	150.00	170.93	158.90	110.80
1970	176.40	154.00	141.30	148.30	110.50	137.30	156.40	181.67	165.40	112.90
1971	188.00	163.70	148.10	157.30	110.10	145.90	164.20	195.93	175.70	113.00
1972	203.20	172.30	157.30	157.30	111.70	151.10	172.30	208.26	186.80	114.70
1973	223.40	191.90	170.40	157.30	111.10	152.90	183.20	227.83	204.10	114.20
1974	239.10	221.10	179.80	171.10	116.70	167.40	199.20	251.81	223.30	120.30
1975	273.60	241.80	200.10	180.70	123.90	178.60	233.70	294.23	249.20	127.90
1976	302.60	260.70	216.10	190.60	126.50	184.90	246.60	337.10	271.20	130.80
1977	324.10	295.10	236.40	195.40	130.50	196.10	266.40	366.74	294.50	135.30
1978	355.00	334.00	256.90	205.50	144.30	216.30	293.30	402.83	323.70	149.50

[1]Excludes nursing homes in France.

NOTES: 1960 Indexes = 100. The price indexes corresponding to aggregates T, A, B, and C are implicit price indexes.

SOURCES: National Institute of Statistics and Economic Research, Paris, and Centre de Recherche pour L'Étude et L'Observation des Conditions de Vie, Paris.

Table 9. Per capita medical care expenditures in relative values,[1] by type of services and goods: United States, 1950–78

Year	Hospitals	Nursing homes	Physicians	Other professional services	Dentists	Pharmacy	Eyeglasses and appliances	Total	Hospital and nursing home care	Medical services	Medical goods
	1	2	3	4	5	6	7	T	A	B	C
						Dollars					
1950.....	67.46	3.28	48.12	6.94	16.83	30.24	8.59	190.70	70.80	71.90	38.80
1960.....	108.93	6.30	68.10	10.33	23.68	43.81	9.29	283.80	115.30	102.10	53.10
1965.....	145.65	21.66	88.58	10.79	29.35	60.32	19.51	389.60	167.40	128.80	79.90
1966.....	157.12	24.68	92.17	11.66	29.78	61.10	21.00	412.60	181.90	133.60	82.10
1967.....	176.36	27.90	97.97	12.15	32.45	61.97	19.20	443.70	204.30	142.60	81.20
1968.....	192.88	31.05	101.91	13.07	33.71	64.64	19.83	473.20	224.00	148.70	84.50
1969.....	207.16	33.04	109.08	12.69	36.21	66.18	18.70	499.40	240.30	158.00	84.90
1970.....	224.06	37.69	115.58	12.85	38.28	67.74	16.91	529.70	261.80	166.80	84.70
1971.....	235.35	43.06	121.75	12.45	38.76	66.90	15.57	551.80	278.50	173.00	82.50
1972.....	256.79	45.17	126.00	13.22	41.30	68.60	16.11	586.60	302.00	180.60	84.70
1973.....	264.70	48.62	130.86	13.53	44.79	68.95	17.01	607.10	313.40	189.20	86.00
1974.....	275.06	51.22	130.26	13.68	45.17	67.68	16.60	618.80	326.40	189.20	84.30
1975.....	290.56	55.09	138.95	14.59	45.90	65.83	16.61	648.30	345.70	199.50	82.50
1976.....	312.43	59.83	144.49	16.73	52.92	66.91	16.73	690.40	372.40	214.20	83.70
1977.....	330.57	65.05	152.07	18.01	56.71	67.22	16.81	726.10	395.70	226.80	84.00
1978.....	340.84	70.62	158.04	19.17	59.62	67.68	17.40	753.00	411.60	236.90	85.10

[1]Nominal value deflated by the general price index.

NOTE: Figures may not add to totals due to rounding.

Table 10. Per capita medical care expenditures in relative values,[1] by type of services and goods: France, 1950–78

Year	Physicians	Dentists	Assistants	Laboratories	Pharmacy	Eyeglasses and appliances	Total medical care	Hospital and nursing home care[2]	Medical care to ambulatory patients and home care	Medical goods
	1	2	3	4	5	6	T	A	B	C
						Francs				
1950.....	---	---	---	---	---	---	362.36	138.63	118.77	104.96
1955.....	---	---	---	---	---	---	597.34	191.00	213.16	193.19
1960.....	147.91	86.14	13.19	12.68	204.73	20.48	774.18	281.90	267.07	225.21
1961.....	137.92	98.92	14.21	13.77	244.57	21.37	858.73	320.50	272.29	265.93
1962.....	141.28	107.73	16.24	15.99	261.50	22.64	925.78	352.71	298.98	284.14
1963.....	164.03	112.11	19.20	18.50	275.97	23.42	1,010.97	389.77	319.08	299.39
1964.....	185.94	131.86	21.62	21.19	300.95	24.24	1,124.06	429.25	369.63	325.18
1965.....	196.99	137.55	26.49	23.80	329.58	25.06	1,209.76	460.90	394.22	354.63
1966.....	225.31	144.52	34.65	27.56	362.55	25.81	1,320.36	489.78	442.22	388.36
1967.....	241.86	154.93	38.91	33.90	391.65	26.54	1,415.06	516.59	480.28	418.18
1968.....	247.61	154.25	39.73	32.77	398.18	26.32	1,435.19	524.72	485.97	424.50
1969.....	274.61	164.28	44.65	36.32	437.99	27.00	1,615.20	616.76	533.45	464.99
1970.....	286.04	171.50	52.45	39.70	472.46	33.54	1,743.79	673.26	561.25	506.01
1971.....	303.25	181.14	56.14	45.34	500.55	33.69	1,881.21	737.65	598.26	534.24
1972.....	321.05	191.35	65.10	49.40	517.61	34.62	1,993.07	790.69	639.59	552.23
1973.....	344.70	211.16	72.40	52.20	534.98	34.70	2,109.77	839.17	693.80	569.68
1974.....	345.74	212.67	75.30	54.70	538.16	38.06	2,189.04	901.29	702.00	576.22
1975.....	375.67	222.93	82.17	61.55	558.61	44.93	2,413.55	1,044.36	756.64	603.54
1976.....	393.03	226.33	89.17	66.45	529.53	45.40	2,564.52	1,192.57	786.80	574.93
1977.....	390.68	243.27	90.35	67.93	500.41	45.01	2,629.01	1,267.44	807.93	545.42
1978.....	414.07	275.48	94.20	75.68	541.07	46.98	2,841.64	1,371.97	875.99	588.05

[1]Nominal value deflated by the general price index .
[2]Excludes nursing homes in France.

NOTES: Exchange rate: 1 dollar = 4.5117 francs in 1978. Figures may not add to totals due to rounding.

Table 11. Per capita medical care expenditures in constant prices,[1] by type of services and goods: United States, 1950–78

Year	Hospitals	Nursing homes	Physicians	Other professional services	Dentists	Pharmacy	Eyeglasses and appliances	Total medical services	Hospital and nursing home care	Medical care to ambulatory patients and home care	Medical goods
	1	2	3	4	5	6	7	T	A	B	C
						Dollars					
1950	112.25	5.45	75.00	---	19.25	16.91	7.52	253.50	117.70	99.04	24.43
1960	145.22	8.40	93.60	---	25.94	25.52	8.65	331.60	153.62	128.29	34.17
1965	173.99	25.88	113.12	9.70	30.51	39.05	17.74	425.00	199.87	153.40	56.79
1966	190.40	29.91	114.45	10.56	30.84	40.56	19.12	452.30	220.30	155.85	59.68
1967	207.55	32.83	116.90	10.96	32.90	42.54	17.14	477.80	240.38	160.76	59.68
1968	220.02	35.42	119.99	11.87	33.76	46.15	17.88	502.10	255.43	165.62	64.03
1969	230.77	36.80	126.58	11.69	35.71	49.25	17.03	525.00	267.58	173.98	66.28
1970	243.19	40.91	132.12	12.10	37.81	52.20	15.47	551.00	284.10	182.03	67.67
1971	250.54	45.84	135.77	11.73	37.55	52.85	14.02	566.70	296.38	185.05	66.87
1972	273.21	48.05	140.80	12.41	39.66	55.87	14.42	604.40	321.26	192.87	70.29
1973	285.16	52.38	150.38	13.23	44.33	59.49	15.61	640.20	337.55	207.94	75.10
1974	301.09	56.07	152.14	13.46	46.08	64.80	15.79	670.10	357.16	211.68	80.59
1975	309.85	58.75	157.78	14.01	46.35	66.46	15.98	691.30	368.60	218.14	82.44
1976	319.85	61.25	155.95	16.03	53.14	65.92	16.02	709.10	381.11	225.12	81.94
1977	330.26	64.99	159.88	17.40	56.39	66.46	16.20	731.20	395.25	233.67	82.66
1978	340.93	70.64	158.08	19.17	59.64	67.70	17.40	753.00	411.57	236.89	85.10

[1]Nominal value deflated by the price index for health care.

NOTE: Figures may not add to totals due to rounding.

Table 12. Per capita medical care expenditures in constant prices,[1] by type of services and goods: France, 1950–78

Year	Physicians	Dentists	Assistants	Laboratories	Pharmacy	Eyeglasses and appliances	Total medical care	Hospital and nursing home care[2]	Medical care to ambulatory patients and home care	Medical goods
	1	2	3	4	5	6	T	A	B	C
						Francs				
1950	---	---	---	---	---	---	401.59	199.74	191.49	40.08
1955	---	---	---	---	---	---	579.95	272.65	248.90	75.34
1960	176.79	96.86	11.41	8.77	99.47	14.92	735.19	382.30	291.07	113.37
1961	179.98	119.06	12.26	9.84	120.79	15.54	852.00	424.89	316.97	135.55
1962	178.75	128.12	14.03	11.98	131.90	16.62	910.79	457.91	329.14	147.65
1963	201.07	130.58	17.06	11.78	146.37	17.36	973.74	475.80	353.15	162.94
1964	213.61	150.13	19.88	13.78	164.80	17.99	1,068.57	514.38	392.96	182.22
1965	223.24	153.93	24.48	15.85	184.73	18.30	1,152.71	554.98	413.92	202.63
1966	246.03	158.69	31.91	17.90	207.95	18.69	1,248.38	585.79	452.00	226.45
1967	259.16	167.43	35.63	21.01	230.48	19.44	1,335.77	615.19	481.86	249.97
1968	256.69	169.51	37.25	21.23	246.60	19.13	1,362.85	617.90	484.06	265.99
1969	272.66	178.89	40.73	34.93	277.49	20.26	1,501.70	691.06	516.72	298.31
1970	287.98	186.09	47.71	27.52	308.67	26.43	1,636.03	746.80	549.53	335.22
1971	302.13	194.99	51.38	31.25	346.14	26.36	1,772.96	800.14	581.54	372.93
1972	314.31	207.86	59.58	36.16	374.71	27.77	1,901.22	857.00	621.08	403.35
1973	329.57	221.13	65.67	41.03	418.03	29.54	2,032.26	892.66	662.05	448.71
1974	351.14	219.77	73.60	44.94	452.23	33.43	2,204.77	986.20	696.11	489.83
1975	372.56	235.35	80.63	53.50	497.24	41.59	2,315.10	1,092.73	751.17	539.18
1976	386.37	242.97	88.83	48.56	506.73	44.13	2,555.91	1,194.07	786.93	550.64
1977	392.25	252.38	90.00	65.49	507.21	45.51	2,653.23	1,276.03	814.02	552.43
1978	414.07	275.48	94.20	75.68	541.07	46.98	2,841.64	1,371.87	875.99	588.02

[1]Nominal value deflated by the price index for health care.
[2]Excludes nursing homes in France.

NOTES: Exchange rate: 1 dollar = 4.5117 francs in 1978. Figures may not add to totals due to rounding.

Table 13. Relative price index[1] for medical care, by type of services and goods, with the general price index: United States, 1950–78

Year	Cost of care	Physicians	Other professional services	Dentists	Pharmacy	Eyeglasses and appliances	Total medical care	Hospital and nursing home care	Medical care to ambulatory patients and home care	Medical goods	General price index
	1	2	3	4	5	6	T	A	B	C	D
						Dollars					
1950.....	70.7	76.6	---	88.6	122.7	101.9	81.0	70.7	81.8	116.9	72.1
1960.....	88.3	86.8	---	92.6	117.8	95.9	92.1	88.3	89.7	114.3	88.7
1965.....	98.5	93.4	100.3	97.6	106.0	98.2	98.7	98.5	94.6	103.4	94.5
1966.....	97.1	96.1	99.6	97.9	103.4	98.0	98.2	97.1	96.7	101.2	97.2
1967.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968.....	103.2	101.3	99.3	101.2	96.2	99.0	101.5	103.2	101.2	97.0	104.2
1969.....	105.6	102.8	97.9	102.8	92.3	98.0	102.4	105.6	102.4	94.2	109.8
1970.....	108.4	104.4	95.8	102.7	89.1	97.6	103.5	108.4	103.3	92.0	116.3
1971.....	110.6	107.0	95.7	104.7	86.9	99.2	104.8	110.6	105.4	90.7	121.3
1972.....	110.6	106.8	96.1	105.6	84.3	99.7	104.5	110.6	105.5	88.6	125.3
1973.....	109.2	103.8	92.3	102.5	79.6	97.3	102.1	109.2	102.6	84.2	133.1
1974.....	107.5	102.2	91.7	99.4	71.7	93.8	99.4	107.5	100.7	76.9	147.7
1975.....	110.4	105.1	93.9	100.4	68.0	92.8	101.0	110.4	103.1	73.5	161.2
1976.....	115.0	110.6	94.1	101.0	69.7	93.2	104.8	115.0	107.3	75.1	170.5
1977.....	117.8	113.5	93.3	102.0	69.4	92.7	106.9	117.8	109.4	74.7	181.5
1978.....	117.7	119.3	90.2	101.4	68.6	89.3	107.6	117.7	112.7	73.5	195.4

[1]Medical care price index deflated by the general price index.

NOTE: 1967 Index = 100.

Table 14. Relative price index[1] for medical care, by type of services and goods, with the general price index: France, 1950–78

Year	Physicians	Dentists	Assistants	Laboratories	Pharmacy	Eyeglasses and appliances	Total medical care	Hospital and nursing home care[2]	Medical care to ambulatory patients and home care	Medical goods	General price index
	1	2	3	4	5	6	T	A	B	C	D
						Francs					
1950...	---	---	---	---	---	---	89.11	94.12	67.70	131.79	57.57
1955...	---	---	---	---	---	---	101.71	95.00	93.34	129.06	75.01
1960...	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1961...	91.59	93.43	100.21	96.82	98.37	100.11	99.53	102.30	93.63	98.76	103.28
1962...	94.47	94.56	100.10	92.34	96.32	99.27	100.38	104.46	95.67	96.87	108.29
1963...	97.51	96.54	97.33	108.61	91.61	98.21	102.53	111.10	98.48	92.49	113.53
1964...	104.05	98.77	94.09	106.43	88.72	98.09	103.88	113.18	102.52	89.83	117.44
1965...	105.47	100.48	93.58	103.89	86.68	99.73	103.64	112.63	103.80	88.10	120.32
1966...	109.46	102.42	93.93	106.55	84.71	100.56	104.45	113.39	106.63	86.32	123.60
1967...	111.55	104.06	94.45	111.62	82.56	99.41	104.61	113.89	108.63	84.21	126.94
1968...	115.30	102.34	92.24	106.78	78.45	100.23	103.99	115.17	109.42	80.33	132.70
1969...	120.38	104.87	94.82	71.94	76.69	97.08	106.22	121.04	112.52	78.46	141.22
1970...	118.72	103.64	95.09	99.81	74.37	92.40	105.26	122.27	111.31	75.98	148.59
1971...	119.97	104.46	94.51	100.38	70.26	93.10	104.78	125.03	112.12	72.11	156.71
1972...	122.09	103.52	94.51	94.51	67.11	90.79	103.52	125.13	112.24	68.92	166.44
1973...	125.01	107.39	95.36	88.03	62.17	85.56	102.52	127.49	114.21	63.91	178.70
1974...	117.69	108.83	88.50	84.22	57.44	82.40	98.05	123.94	109.91	59.21	203.17
1975...	120.53	106.52	88.15	79.60	54.58	78.68	102.95	129.62	109.78	56.34	227.00
1976...	121.59	104.75	86.83	94.67	50.83	74.29	99.08	135.45	108.97	52.57	248.88
1977...	119.04	108.39	86.83	71.77	47.93	72.03	97.85	134.71	108.17	49.70	272.25
1978...	119.53	112.46	86.50	69.19	48.58	72.83	98.75	135.63	108.99	50.33	297.01

[1]Medical care price index deflated by the general price index.
[2]Excludes nursing homes in France.

NOTE: 1964 Index = 100.

Table 15. Per capita medical care expenditures in current value, by type of financing: France and United States, 1950–76

Financing	1950		1960		1970		1973		1974		1975		1976	
	France (Francs)	United States (Dollars)	France (Francs)	United States (Dollars)	France (Francs)	United States (Dollars)	France (Francs)	United States (Dollars)	France (Francs)	United States (Dollars)	France (Francs)	United States (Dollars)	France (Francs)	United States (Dollars)
All sectors	70.23	70.38	260.66	128.81	872.40	315.37	1,256.02	413.53	1,487.65	467.72	1,845.82	534.82	2,144.47	602.45
Direct payments	27.67	46.12	102.96	70.66	224.21	127.36	316.52	157.27	368.94	165.43	439.31	173.85	471.53	190.91
Philanthropy and other	...	2.07	...	2.92	...	4.77	...	5.83	...	6.55	...	6.71	...	7.26
Mutual and private insurance	1.40	6.41	9.38	27.18	30.53	75.54	43.96	100.56	53.56	116.70	64.60	142.11	79.92	169.02
Total private	29.07	54.60	112.34	100.76	254.74	207.68	360.48	263.66	422.50	288.67	503.91	322.66	551.45	367.19
Public funds	9.90	15.78	23.20	28.05	43.62	107.69	51.50	149.87	53.56	179.05	60.91	212.15	68.70	235.26
Social Security	31.26	...	125.12	...	574.04	...	844.05	...	1,011.60	...	1,281.00	...	1,525.32	...
Total public	41.16	15.78	148.32	28.05	617.66	107.69	895.54	149.87	1,065.16	179.05	1,341.91	212.15	1,593.02	235.26

SOURCES: Centre de Recherche pour L'Étude et L'Observation des Conditions de Vie, Paris, and the Health Care Financing Administration, Baltimore.

NOTE: Figures may not add to totals due to rounding.

Table 16. Average annual rate of increase of nominal value of per capita medical care expenditures, by services and goods: France and United States, selected periods during 1950–78

Period	All medical care, services, and goods		Hospital and nursing home care[1]		Medical services for ambulatory patients and home care		Medical goods	
	France	United States	France	United States	France	United States	France	United States
	Average annual increase (percent)							
1950–78	14.1	8.8	15.1	10.4	13.9	8.1	12.8	6.6
1950–60	13.6	6.2	13.5	7.2	14.6	5.7	14.1	5.3
1960–70	13.3	9.4	13.5	11.5	12.1	7.9	12.8	7.7
1970–73	13.3	9.5	14.5	11.1	14.1	9.1	10.6	5.1
1973–78	17.5	12.7	22.1	14.0	16.0	12.9	11.4	7.8

[1]Excludes nursing homes in France.

Table 17. Average annual rate of increase of nominal price indexes[1] for medical care, by services and goods: France and United States, selected periods during 1950–78

Period	All medical care, services, and goods		Hospital and nursing home care		Medical services for ambulatory patients and home care		Medical goods	
	France	United States	France	United States	France	United States	France	United States
	Average annual increase (percent)							
1950–78	6.4	4.7	7.4	5.5	7.9	4.8	2.5	1.9
1950–60	6.9	3.4	6.3	4.4	9.9	3.0	2.8	1.9
1960–70	4.6	3.9	6.1	4.9	5.2	4.2	1.2	0.5
1970–73	5.4	4.1	7.8	4.9	7.3	4.4	0.4	1.5
1973–78	9.9	9.1	12.1	9.6	9.7	10.0	5.5	5.1

[1]Excludes nursing homes in France.

Table 18. Average annual rate of increase of per capita medical care expenditures in relative value and constant prices, by services and goods: France and United States, 1950–78

Period	All medical care, services, and goods		Hospital and nursing home care[1]		Medical services for ambulatory patients and home care		Medical goods	
	France	United States	France	United States	France	United States	France	United States
	Average annual increase (percent) in relative value[2]							
1950–78	7.6	5.0	8.5	6.5	7.4	4.4	6.3	2.8
1950–60	7.9	4.1	7.4	5.0	8.4	3.6	7.9	3.2
1960–70	8.5	6.4	9.1	8.6	7.7	5.0	8.4	4.8
1970–73	6.6	4.7	7.6	6.2	7.3	4.3	4.0	0.5
1973–78	6.1	4.4	10.3	5.6	4.8	4.6	0.6	–0.2
	Average annual increase (percent) in constant prices[3]							
1950–78	7.2	4.1	7.1	4.6	5.6	3.2	10.1	4.6
1950–60	6.2	2.7	6.7	2.7	4.3	2.6	11.0	3.4
1960–70	8.3	5.2	6.9	6.3	6.6	3.6	11.5	7.1
1970–73	7.5	5.1	6.1	5.9	6.4	4.5	10.2	3.5
1973–78	6.9	3.3	9.0	4.0	5.8	2.6	5.6	2.5

[1]Excludes nursing homes in France.
[2]Nominal value deflated by the general price index.
[3]Constant price deflated by the price index for each service category.

Table 19. Average annual rate of increase of medical care prices relative to the general price index, by type of services and goods: France and United States, selected periods during 1950–78

Period	All medical care, services, and goods		Hospital and nursing home care[1]		Medical services for ambulatory patients and home care		Medical goods	
	France	United States	France	United States	France	United States	France	United States
	Average annual increase (percent)							
1950–78	0.4	1.0	1.3	1.8	1.7	1.2	–3.4	–1.6
1950–60	1.2	1.3	0.6	2.2	4.0	0.9	–2.7	–0.2
1960–70	0.5	1.2	2.0	2.1	1.1	1.4	–2.7	–2.1
1970–73	–0.9	–0.5	1.4	0.2	0.9	–0.2	–5.6	–2.9
1973–78	–0.7	1.1	1.2	1.5	–0.9	1.9	–4.7	–2.7

[1]Excludes nursing homes in France.

Table 20. Nominal price index and relative price index of a hospital day: France and United States, 1950–78

Year	Nominal price index 1950 = 100		Relative price index 1950 = 100	
	France[1]	United States[2]	France[1]	United States[2]
1950	100.0	100.0	100.0	100.0
1955	163.4	148.0	125.4	133.1
1960	300.0	206.3	172.7	167.8
1961	325.7	223.9	181.6	180.2
1962	367.6	235.8	195.4	187.7
1963	397.8	249.1	201.7	195.9
1964	437.5	266.2	214.5	206.6
1965	458.1	284.8	219.2	217.3
1966	481.6	308.3	224.3	228.7
1967	519.5	346.2	235.6	249.7
1968	591.5	393.0	256.6	272.0
1969	709.9	448.3	289.4	294.5
1970	782.0	518.6	303.0	321.6
1971	895.2	591.0	328.9	351.3
1972	1,032.4	673.6	357.1	387.7
1973	1,183.8	734.3	381.4	397.8
1974	1,403.7	819.8	397.7	400.3
1975	1,801.8	970.1	457.0	434.0
1976	2,312.1	1,113.8	534.8	471.1
1977	2,741.2	1,268.0	579.6	503.8
1978	3,162.9	---	613.1	---

[1]Includes cost of stay and fees in all public and private hospitals.
[2]Includes cost of stay in non-Federal short-stay, general, and other institutions (American Hospital Association).

Appendix. Estimates of hospital expenditures in the United States and France by using a common set of definitions

Definitions of hospital expenditures differ in the two countries studied. In the United States, hospital expenditures are expenses of hospitalized patients and the costs of outpatient visits but exclude payments for services provided in the hospital by private physicians. In France, hospital expenditures are only the expenses of hospitalized patients; they include the costs of the stay billed by the hospital and fees paid to the physicians for hospital care.

Several factors help to estimate American hospital expenditures that correspond to those used for the French statistics.

- In 1977, outpatient services were between 10 and 15 percent of total hospital expenditures;[17] 10 percent was used in this study.
- In 1970, according to Andersen as quoted by Klarmann,[25] 42 percent of all physicians' services could be attributed to inpatient care. In this analysis, 40 percent was used.

Unpublished HCFA data indicate that in 1978 the per capita expenditures for physicians were $158.08. These expenditures were $94 for 60 percent of ambulatory care and $63 for 40 percent of hospital care. Nursing home expenditures totalled $71. Hospital expenditures (including outpatient services but excluding physicians' fees) were $341, from which outpatient care may be subtracted (10 percent of $341 or −$34) and to which physicians' fees are added ($63).

Therefore, for definitions comparable to those underlying the French statistics, per capita expenditures in the United States in 1978 were $128 for physicians' services (ambulatory), $370 for hospitalization, and $441 for hospitals and nursing homes (institutional care).

These estimates comprise the following share of total personal medical expenses: 58.6 percent for institutional care, 49.2 percent for hospitalization, and 17.0 percent for physicians' services.

Compared with per capita expenditures in France, those for institutional care are 14 percent higher and expenditures for physicians' services are 39 percent higher.

NOTE: A list of references follows the text.

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