# Notes and Brief Reports

## Medical Care Expenditures in Seven Countries*

More than 5 years have passed since publication of Brian Abel-Smith's study for the World Health Organization (WHO).[1] It still is widely recognized as the only definitive study in the international health field with adequate comparability of data.

An earlier Social Security Administration (SSA) analysis, attempting to update the figures in the 1967 WHO study, appeared in the BULLETIN for December 1970.[2] This earlier Office of Research and Statistics analysis was based largely on estimates prepared by the British Office of Health Economics (OHE) in their 1970 adjustment of the WHO figures.[2]

To further update this material, the Social Security Administration has developed estimates through 1969 for seven countries, including the United States and five others that were among the countries covered in the WHO study. Limited resources precluded duplicating the WHO approach of sending out extensive questionnaires to each country to obtain standardized information and data. The method used, instead, has basically been to isolate statistical aggregates in the health care field that, in combination, closely approximate the level of expenditures reported in the WHO study for appropriate years. By developing index numbers from corresponding data in subsequent years it has been possible to arrive at estimates that bring the WHO figures up to date.

As indicated in the earlier note, OHE itself had pointed out deficiencies in its figures. Many of the same shortcomings may be attributed to the Social Security Administration estimates presented here. They are first of all only approximations and are not designed to approach the precision that can be expected from the older WHO data. Furthermore, they may differ considerably from other published estimates that are based on different but equally valid definitions of what should be included under medical care expenditures. Variations in price levels and purchasing powers can complicate intercountry analysis and can even render year-to-year comparisons for the same country somewhat elusive. Despite these shortcomings, they do afford a basis for making tentative observations regarding broad general patterns of health costs and their trends.

An examination of the material indicates that the United States continues to devote a higher share of its gross national product (GNP) to health care expenses than any of the other countries except Canada. Yet, when the problem of health costs is examined from the aspect of annual rates of increases in actual expenditures, it is clear that the United States experience of rising costs in recent years has not only been duplicated but surpassed in most of the other countries. This is true if unadjusted annual increases are compared or if appropriate changes are made to account for inflationary factors.

Recent data from WHO sources on government health expenditures and their relationship to overall budget outlays have also been included in this report.

### SHARE OF GNP DEVOTED TO HEALTH CARE

Table 1 presents data from the WHO-Brian Abel-Smith study on percentages of GNP devoted

TABLE 1.—Total expenditures for health services as percent of the gross national product, seven countries, selected periods, 1961–69

| Country (ranked by percent of GNP) | WHO estimates [1] | | SSA estimates | |
|---|---|---|---|---|
| | Year | Percent of GNP | Year | Percent of GNP |
| Canada | 1961 | 6.0 | 1969 | 7.3 |
| United States [3] | 1961–1962 | 5.8 | 1969 | 6.8 |
| Sweden | 1962 | 5.4 | 1969 | 6.7 |
| Netherlands | 1963 | 4.8 | 1969 | 5.9 |
| Federal Republic of Germany [3] | 1961 | 4.5 | 1969 | 5.7 |
| France | 1963 | 4.4 | 1969 | 5.7 |
| United Kingdom | 1961–1962 | 4.2 | 1969 | 4.8 |

[1] Brian Abel-Smith, *An International Study of Health Expenditure*, WHO Public Health Paper No. 32, World Health Organization, Geneva, 1967.
[2] Figures differ slightly from official SSA estimates because of adjustment to account for expenditures in medical education.
[3] Excluded from WHO study. Figure for 1961 is SSA estimate.

* Prepared by Joseph G. Simanis, International Staff, Office of Research and Statistics.

[1] Brian Abel-Smith, *An International Study of Health Expenditure*, WHO Public Health Paper No. 32, Geneva, 1967.

[2] Joseph G. Simanis, "International Health Expenditures," *Social Security Bulletin*, December 1970.

[3] The Office of Health Economics, *International Health Expenditures*, OHE Information Sheet No. 6, September 1970.

TABLE 2.—Average annual rates of increase in expenditures for health services, consumer price index, wage index, gross national product, and population, seven countries, selected periods, 1961–69

| Country (ranked by health services expenditure rate) | Period | Average annual rate of increase for— | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Health expenditures | Consumer price index | Health expenditure adjusted for CPI changes | Wage index | Health expenditure adjusted for wage index changes | Health expenditure adjusted by average of CPI and wage index changes | Gross national product [1] | Population |
| Netherlands | 1963–69 | 15.1 | 5.0 | 10.1 | 10.1 | 5.2 | 7.7 | 11.9 | 1.2 |
| France | 1963–69 | 14.9 | 3.7 | 10.9 | 7.5 | 7.0 | 9.0 | 10.1 | .9 |
| Sweden | 1962–69 | 14.0 | 3.9 | 9.2 | 5.3 | 8.2 | 8.7 | 9.8 | .7 |
| Canada | 1961–69 | 13.2 | 2.9 | 10.1 | 5.4 | 7.3 | 8.7 | 9.9 | 1.8 |
| Federal Republic of Germany | 1961–69 | 10.3 | 2.6 | 6.8 | 7.5 | 2.6 | 4.7 | 8.0 | 1.0 |
| United States | 1962–69 | 10.1 | 2.9 | 6.9 | 4.2 | 6.0 | 6.5 | 7.3 | 1.1 |
| United Kingdom | 1962–69 | 9.5 | 3.8 | 5.6 | 4.7 | 4.6 | 5.1 | 6.9 | .7 |

[1] In current prices.

Source: See list of references, page 42.

to total health care expenditures in several countries during the early 60's. To the list of countries abstracted from the WHO selection, Germany has been added on the basis of a Social Security Administration estimate. The countries are listed in descending order according to the percentage of their GNP expended on health in 1961. Canada, having spent the most for this purpose (6.0 percent of GNP), heads the list, followed by the United States with 5.8 percent. The United Kingdom is last with 4.2 percent.

Basing international comparisons on shares of GNP has some inherent pitfalls since GNP itself increases at varying rates in different countries. During the relevant years covered by this study, Canada's GNP growth was greatest (113 percent), an average annual rate of 9.9 percent, and the United Kingdom's was the least (60 percent), an annual average of 6.9 percent. Varying growth rates in population would also have to be taken into account in a more rigorous analysis. Table 2 gives annual rates of growth for the seven countries for both GNP and population.

Table 1 also includes the more recent Social Security Administration estimates for the same countries for 1969. In all the countries, the share of GNP expended on health care has risen above the level prevailing in the early 60's. Basically, however, the sequence remains the same: Canada is first, followed by the United States. The United Kingdom is again last. Within the general pattern, however, France has pulled abreast of Germany and Sweden has narrowed the gap between itself and the United States.

It is noted parenthetically that in the United States in fiscal years 1970 and 1971, there were sharp increases in health expenditures in relation to GNP—7.1 percent and 7.5 percent, respectively.[4] Rising medical care outlays coupled with a slowdown in the general economy resulted in these sharp increases. Adequate data are not available, however, to make comparative estimates for trends in other countries during the same years.

## INFLATIONARY FACTORS

In contrast to the sequence in table 1 a somewhat different pattern emerges if the countries are ranked by trends in actual, unadjusted health expenditures rather than in shares of GNP expended in this field. Table 2 lists these countries according to annual rates of increases in expenditures. On this basis, the Netherlands emerged as first, with the fastest rate of growth. The United States, as a reflection of the fact that health expenditures were rising more rapidly in other countries, dropped to a position near the bottom of the list, followed only by the United Kingdom.

It is important to recognize that each of the countries has been subject to varying amounts of inflation in health care inputs and other economic sectors as well. Some reflection of the degree of inflation throughout the economy is given in column 2 of table 2, which presents the annual rates of increase in the consumer price index (CPI). In each case, the rate at which overall consumer prices rose was only a fraction of the rate of increase of health expenditures.

[4] Barbara S. Cooper and Nancy L. Worthington, "National Health Expenditures, 1929–72," *Social Security Bulletin*, January 1973.

In fact, with the exception of the United Kingdom, the annual increase in each country's health expenditures is more than three times the rise in prices for all goods and services as registered by the CPI.

To arrive at some approximation of the rate of increases in health costs, minus the inflationary pressures to which the overall economy was subjected, the rate of growth of health service expenditures (column 3) has been adjusted for changes in the CPI to give a rate of growth in constant monetary units. Thus, the Netherlands no longer remains first but has been superseded by France and equaled by Canada. The United States remains near the bottom of the list but is followed not only by the United Kingdom, as in column 1, but also by Germany.

Consideration of inflationary factors in the health field should go somewhat beyond a discussion of trends in the CPI. In the United States, appropriate adjustments are usually made on the basis of a convenient indicator—the medical care component of the CPI. This component is an attempt to measure the inflationary thrust in medical services and items that constitute the major inputs of the health care delivery system and that are purchased by the consumer. Wages and earnings constitute the major part of the medical care component.

Ideally, for the purposes of the analysis, an adjustment factor would be sought for each country, based on a CPI medical care component. In the absence of such data, a proxy indicator, obtained by adjusting the rate of increase in the CPI to reflect more of the changes in wages has been used. The assumption is that wages in the medical care sector have risen at the same rate as wages throughout the economy. The results of adjusting for increases in the CPI and in the wage index were averaged.[5] The final adjusted figures are shown in column 6. (For purposes of comparison, adjustments on the basis of wage index increases alone are given in column 5.) Three countries, France, Canada, and Sweden, have the most rapid adjusted rate of growth in health expenditures, ranging from 8.7 to 9.0 percent. In contrast, Germany and the United Kingdom show the slowest growth rate, 4.7 and 5.1 percent, respectively.

This method, in effect, uses a proxy indicator that, on an annual basis, is the average of the increase in the CPI and the wage index. The proxy indicator is not intended to be more than an approximation of a medical care component of the CPI. Although it is true that in the United States the annual increase in a similarly derived proxy indicator is close to that of the medical care component (3.6 percent, compared with 3.7 percent), it is highly unlikely that so close an approximation prevails for the other countries.

## DATA ON GOVERNMENT EXPENDITURES

The World Health Organization publishes annual statistics on government expenditures for health care that, in most cases, are drawn from the *United Nations Statistical Yearbook* or the statistical annual of the relevant country. Unfortunately, not all countries are included in the series and for those that are there are occasional gaps in the years covered. At times, data for different years are drawn from different sources, raising questions of comparability. In addition, each country has a different approach toward dividing health care costs between the public and private sectors.

Nonetheless, this material does provide a basis for some interesting observations. Table 3 contains the figures given on government health expenditures for some of the countries analyzed earlier. As indicated in the table, government spending rates in the health field, by most countries, represent stable percentages of their total governmental budgets that do not change appreciably from year to year. Canada, where the share of health expenditures rose from 17.4 percent to 28.3 percent of the total budget, is, of course, an exception. Part of the increase there is due to the introduction of the governmental program for medical care coverage in the late 60's. This program supplemented the government hospitalization insurance introduced a decade earlier.

In the case of the United States, from 1967 to 1970, expenditures for health remained at about 11 percent of the total. The fact that no

[5] For discussion of a related problem in the United States, see Saul Waldman, *The Effect of Changing Technology on Hospital Costs* (Research and Statistics Note No. 4, Office of Research and Statistics, February 28, 1972), which uses a weighted average of (a) an index of earnings of hospital employees and (b) the CPI as a deflator.

TABLE 3.—Government health expenditures as percent of total government budget, seven countries, selected years

[Millions of national currency units]

| Country | Year | Health expenditures | Percent of total budget |
|---|---|---|---|
| Canada | 1966–1967 | 2,018 | 17.4 |
| | 1969–1970 | 3,557 | 28.3 |
| United States | 1967–1968 | 19,923 | 10.5 |
| | 1968–1969 | 22,780 | 11.0 |
| | 1969–1970 | 24,982 | 11.0 |
| Federal Republic of Germany | 1968 | 6,347 | 3 7 |
| | 1969 | 6,955 | 3.5 |
| Netherlands | 1964 | 1,980 | 11.0 |
| | 1965 | 2,300 | 11.0 |
| | 1966 | 2,720 | 11.4 |
| | 1967 | 3,180 | 11.9 |
| Sweden | 1965 | 3,776 | 11.7 |
| | 1966 | 4,482 | 12.0 |
| United Kingdom | 1965 | 1,520 | 16.1 |
| | 1966 | 1,655 | 16 3 |
| | 1967 | 1,838 | 16.1 |

Source: *World Health Statistics Report*, vol. 24, No. 11, 1971, and vol. 23, No. 11, 1970, World Health Organization.

new programs were introduced in these years played an important role in maintaining these stable percentages. In earlier years, this percentage would have been considerably lower since no government funds were needed for the sizable Medicare and Medicaid programs yet to be established.

With respect to the four West European countries in the table, the stable percentages would logically cover a longer span of time since there have been relatively few changes in the past decade in the pattern of health care delivery, particularly with respect to the allocation of expenditures between the government and private sectors. Against the general background of universally rising medical care expenditures, meanwhile, there has been a parallel growth in both the total budget and government health outlays in these countries at a rate which tends to keep one at a constant percentage of the other.

## LIST OF REFERENCES

The most significant published sources used in arriving at the estimates in this article are listed in the next column.


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Barbara S. Cooper and Nancy L. Worthington, *National Health Expenditures, Fiscal Year 1972*, Research and Statistics Note No. 19, Social Security Administration, Office of Research and Statistics, November 29, 1972.

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**WEST GERMANY:**

*Statistisches Jahrbuch*, 1964–71 editions, Statistisches Bundesamt, Wiesbaden; *Ersatzkasse*, 8–9, 1968, page 351; *Gesundheitsbericht*, Deutscher Bundestag, Bonn, December 18, 1970, page 158.

**SWEDEN:**

*Statistical Abstract of Sweden*, National Central Bureau of Statistics, Stockholm, 1969 edition, page 265, and 1971 edition, page 272; *Social Security in the Nordic Countries*, Stockholm, 1968, page 15, and Oslo, 1971, page 14.

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