

Global Budgeting in the OECD Countries

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Many of the Organization for Economic Cooperation and Development countries use global budgeting to control all or certain portions of their health care expenditures. Although the use of global budgets as a cost-containment tool has not been implemented in the United States in any comprehensive way, recent health care reform initiatives have increased the need for research into such tools. In general, the structure, process, and effectiveness of global budgets vary enormously from country to country, in part because the underlying social welfare system of each country is unique.

INTRODUCTION

The large number of uninsured persons and increasing health care expenditures in the United States have led many policy-makers and consumers alike to examine the health care financing and delivery systems of other countries that provide care to virtually all citizens and appear to spend less money doing so. Table 1 presents 1990 per capita health expenditures in U.S. dollars and as a percent of gross domestic product (GDP) for 10 OECD countries. U.S. per capita health care expenditures, both in absolute dol-

lars and as a percent of GDP, are far higher than all other comparison countries. How is it that these countries are able to provide health care to virtually all their citizens at substantially lower cost?

One answer to this question lies in the mechanisms used to pay health care providers. All but two (Japan and the United States) of the countries listed in Table 1 use global budgets or expenditure caps to constrain the growth in hospital and/or physician expenditures. Global budgets tend to be prospectively set caps on spending for some portion of the health care industry. Although hospitals are the most popular targets for such caps, physicians and pharmaceutical firms may also be subject to them. Global budgeting has proven to be a popular cost-containment technique, especially in the wake of the large cost increases most countries experienced in the 1970s and 1980s. A recent study (U.S. General Accounting Of-

Table 1
1990 per Capita Health Care Expenditures

Country	Per Capita Expenditures	As a Percent of Gross Domestic Product
United States	\$2,566	12.1
Canada	1,770	9.3
France	1,532	8.8
Sweden	1,451	8.6
Germany	1,486	8.1
Switzerland	1,633	7.7
Italy	1,236	7.7
Norway	1,184	7.4
Japan	1,171	6.5
United Kingdom	972	6.2

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SOURCE: Schieber, G.J., Poullier, J.-P., and Greenwald, L.: U.S. Health Expenditure Performance: An International Comparison and Data Update. *Health Care Financing Review* 13(4): 1-88, Summer 1992.

fice, 1991) estimated that global budgets and expenditure caps in certain countries lowered inflation-adjusted spending on health care services 9-17 percent.

Although the use of global budgets as a cost-containment tool has not been implemented in the United States in any comprehensive way, many industry observers have reached the conclusion that this method may be worthy of further investigation. To assist in this investigation, Lewin-ICF (now Lewin-VHI) was commissioned to undertake a comprehensive review of the publicly available literature on the structure and performance of global budgeting systems in the OECD countries. In this article, we present the major highlights of this literature review and summarize our basic findings regarding the relevance of this literature to the domestic U.S. policy debate.

STRUCTURAL CONSIDERATIONS

Many countries use global budgeting to control all or certain portions of their health care expenditures. The structure, process, and effectiveness of these expenditure caps vary enormously, in part because the underlying social welfare (specifically health care) systems of each country are unique. Nevertheless, if one compares broad health care system features across countries, distinct similarities become evident. The important question to ask is whether one can infer from these similarities that certain criteria influence a country's choice to implement global budgeting.

In this section, we examine key features that characterize the national health care systems of many European countries. Although the list is not exhaustive (i.e., it excludes details on covered bene-

fits), it does include those features that are discussed at length in the available literature. Specifically, we examine three system features: the role of the government in paying the facilities and providers through which health care services are delivered (funds flow); the mechanisms through which health care services are financed; and the role of the private insurance market as an alternative or a supplement to the national health care system. Table 2 provides a summary of these features, as available, for 22 countries. (The list excludes two OECD member countries, the United States and Turkey.)

Funds Flow

For the purposes of this analysis, funds flow is defined by whether the facility, physician, or other provider is compensated directly by the national or local government or by other sources, such as an insurance fund. For hospitals, we used operating costs as the basis for defining funds flow, because many countries pay differently for operating and capital expenses. In addition, most countries distinguish between those physicians who provide hospital-based services and those who provide ambulatory services. Hospital-based physicians are generally paid a salary, which is factored into the hospital's operating budget, and ambulatory care physicians are compensated via some other method. For the purpose of defining funds flow, we examined the subset of ambulatory care physicians.

As shown in Table 2, most of the countries for which data were available to us pay some or all of their providers directly with government funds. In some cases, such as the United Kingdom and Canada, virtually all covered health care services

are paid for by the government.¹ In the former, government-run District Health Authorities (DHAs) pay providers. In Canada, the 10 provincial Ministries of Health are responsible for physician payment.

In other countries, government-provider ties are more fragmented. For example, in France, only government-owned public hospitals are subject to global budgets, which are negotiated by the government and the hospital. Furthermore, public hospitals are not allowed to accept payment from privately insured patients. However, private hospitals are allowed to contract with the National Health Insurance system to receive (per diem) payments from the government, in addition to the revenues they receive from private insurers.

In Germany, providers are compensated through private associations of insurance companies, or sickness funds, which receive revenues from the national government, employers, and employees. This arrangement makes payment an arms-length transaction between an agent of the government, the sickness fund, and the provider. The Netherlands, which is going through a major health care reform, maintains private payment to providers through sickness funds, which receive premium payments from the insured and some subsidies from a government-designed fund.

In general, few countries have experience with large-scale (i.e., national) public financing for health care services. Even the United Kingdom is experiencing a shift in financing sources; a growing percentage of Britons are purchasing supple-

mental private health insurance to cover certain types of inpatient care and expensive outpatient diagnostic services.

FINANCING MECHANISMS

Another important system feature is the mechanism(s) by which health care expenditures are financed. As shown in Table 2, we divide financing into five categories: private out-of-pocket payments, employer-based premiums, dedicated tax revenues, general tax revenues, and other financing methods.

Out-of-Pocket Payments

Out-of-pocket payments include patient cost sharing in the form of deductibles and/or copayments. Although out-of-pocket payments in the United States also include direct payments to providers by those individuals who are not covered by an insurance plan, the universal-coverage characteristic of national health insurance makes such direct payments unlikely. In general, cost sharing is not a popular option for controlling health care costs in countries with national health systems. However, as health expenditures have continued to rise during the 1980s and 1990s, many countries have introduced limited cost sharing or have increased existing cost-sharing levels.

France and Japan have the most extensive set of cost-sharing rules of those countries studied. In France, out-of-pocket payments account for approximately 17 percent of total payments for health care. Copayment levels are:

- 25 percent for physician visits.
- 20 percent for hospital services up to the 30th day of care, plus a \$6 daily room charge.

¹The United Kingdom recently implemented a number of health care reforms, one of which gave more than 200 hospitals the opportunity to "opt out" of the National Health Service (NHS) and operate on a free-market basis, with only partial NHS payment for their operating costs. As of April 1991, only 57 hospitals had opted out.

Table 2
National Health Care System Characteristics in Organization for Economic Cooperation and Development Countries

Country	Funds Flow			Financing Mechanisms				Private Insurance Market?	Global Budgeting
	Direct	Indirect	Private Out-Of-Pocket	Employer-Based	Dedicated Tax Revenues	General Tax Revenues	Other		
Australia	Yes	Yes	NA	NA	NA	1.25 percent income tax for physician services, State and Federal taxes for hospitals	NA	Yes	Yes
Austria	(¹)	NA	NA	NA	NA	NA	NA	NA	NA
Belgium	NA	Yes	Yes	NA	Payroll tax		Some subsidies	1 percent of population	NA
Canada	Yes	NA	Limited cost sharing; premiums in British Columbia and Alberta provinces	NA	1.9 percent payroll tax in Ontario	Yes	Some donations	90 percent of population has supplemental benefits	Yes
Denmark	Yes	NA	Cost sharing for drugs and dental	NA	Payroll tax	Yes	NA	NA	Yes
Finland	Yes	NA	Nominal cost sharing	NA	Payroll tax	Yes	NA	NA	Yes
France	Yes	Yes	Cost sharing; varies by type of service.	NA	Payroll tax	Some subsidies	NA	1.5 percent of population, plus supplemental benefits	Yes
Germany	NA	Yes	Limited cost sharing	NA	Payroll and pension taxes	(¹)	NA	9 percent of population; 7 percent have supplemental	Physician services
Greece	(¹)	NA	NA	NA	NA	NA	NA	NA	NA
Iceland	(¹)	NA	NA	NA	NA	NA	NA	NA	Yes
Ireland	Yes	Yes	Yes	NA	NA	Yes	NA	Yes	Yes
Italy	(¹)	NA	NA	NA	NA	NA	NA	NA	Yes

Table 2—Continued
National Health Care System Characteristics in Organization for Economic Cooperation and Development Countries

Country	Funds Flow		Financing Mechanisms					Private Insurance Market?	Global Budgeting
	Direct	Indirect	Private Out-of-Pocket	Employer-Based	Dedicated Tax Revenues	General Tax Revenues	Other		
Japan	Yes	Yes	Copays of 10-30 percent	NA	Payroll tax	Some subsidies; government pays administrative costs	Gifts to physicians	Some supplemental	No
Luxembourg	(¹)	NA	NA	NA	NA	NA	NA	NA	No (as of early 1980s)
Netherlands	NA	Yes	Premiums	Premiums	Payroll tax	Go to the Exceptional Medical Expenses Act	NA	Supplemental benefits	Yes
New Zealand	(¹)	NA	NA	NA	NA	NA	NA	NA	NA
Norway	(¹)	NA	NA	NA	NA	NA	NA	NA	Yes
Portugal	(¹)	NA	NA	NA	NA	NA	NA	NA	Yes
Spain	Yes	Yes	Yes	NA	NA	Yes	NA	Yes	Yes
Sweden	Yes	NA	Some cost sharing for drugs and dental	NA	10 percent from payroll tax	72 percent from tax, plus subsidies	NA	NA	Yes
Switzerland	Yes	Yes	Yes	Yes	NA	NA	NA	2 percent of population	Canton of Vaud only
United Kingdom	Yes	Limited as of 3/91	3 percent	NA	12 percent	85 percent	NA	9 percent have supplemental benefits	Yes

¹This information was not obtained for this country.

²The unemployed are financed by the Federal Labor Administration and the local welfare agencies.

NOTE: NA is not applicable.

SOURCE: Wolfe and Moran, Lewin-VHI, Fairfax, VA, 1992.

- 30 percent for laboratory tests and dental services.
- 30-70 percent for covered prescription drugs, plus 100 percent for non-covered prescription drugs.

It is not clear, however, how effective cost sharing has been as a cost-containment tool in France; supplemental insurance typically pays the patient's share (Abel-Smith, 1992). In Japan, cost sharing ranges from 10 to 30 percent of costs, depending on the insurance carrier, whether the insured is an employee or a dependent, and whether treatment is in a hospital or an outpatient setting. The Japanese are exempt from copayments if their expenses exceed the monthly catastrophic cap of approximately \$400.

Many countries also limit out-of-pocket payments for those types of services that are considered to be overutilized or overpriced; this usually includes prescription drugs and dental services.

Employer-Based Premiums

The workplace provides an efficient setting in which to collect funds earmarked for health care delivery. Employer-based financing usually takes the form of a payroll deduction shared by employer and employee. In the United States, this deduction covers an insurance premium, which is calculated to reflect the actuarial estimate of the expected health care utilization of the group (or individual) covered. This is not the case in most European countries, where payroll deduction rates are mandatory and uniform (i.e., there is no variation based on benefit package, risk, etc.). These payroll deductions are, by definition, payroll taxes, and therefore are discussed in the following section on Dedicated Tax Revenues.

Two countries, Switzerland and the Netherlands, use employer-based insurance premiums to finance portions of their health care expenditures. The Netherlands is undergoing a major reform that includes moving to a dual-financing mechanism, using income-based as well as flat-rate premiums. Certain Dutch residents will be charged flat-rate premiums that (totaled) will cover 25 percent of the country's health care financing needs. Although insurers may not charge citizens different premium rates (based on risk factors), insurers may change the flat-rate premium amount. This feature was designed to encourage competition among insurers.

Dedicated Tax Revenues

The most common form of dedicated taxation is the payroll tax. Ten of the countries studied use a payroll tax to finance all or part of their health care expenditures. Rates are determined by a wide range of decisionmaking bodies: In France and Britain, rates are set by the government; in Germany, by the various sickness funds; and in Japan, by the insurance carriers. Another payroll tax component that varies across countries is the proportion paid by the employer versus the employee. In Ontario, the only Canadian province that uses payroll taxes as a source of revenues, the 1.9-percent payroll tax is paid entirely by the employer. In Germany, the employer and employee share the deduction equally.

In the countries studied, payroll taxes do not finance the entire health care bill; there are typically additional resources available to cover expenses incurred by the retired and otherwise unemployed members of the population. These re-

sources may be collected through other dedicated taxes, general tax revenues, or some other means. For example, in Germany, all retired persons must pay a tax on pension assets to fund health care expenditures. More commonly, payroll taxes are supplemented by general tax revenues.

General Tax Revenues

General tax revenues fund a varying proportion of total health care expenditures in those countries studied. In the United Kingdom, such revenues finance 85 percent of all expenditures, and in Sweden, 72 percent. In many countries, general tax revenues are used to help finance hospital capital costs, which are kept separate from operating costs. In Japan, general tax revenues are used to subsidize the costs of certain insurance plans (the subsidy amounts range from 16 to 50 percent of the plan's expenditures). General tax revenues also pay the administrative costs of the Japanese insurance plans that cover public service employees.

Other Sources

All of the countries studied receive financing from more than one source. Some sources are incremental and fund care for specific groups of citizens or specific services. Some are private attempts to correct for inconveniences inherent in national health care systems. In Germany, the unemployed are financed by the Federal Labor Administration and local welfare agencies. In Canada and some other countries, hospital capital costs are financed through a combination of tax revenues and donations from community groups. In Japan, physicians are allowed

to receive gifts (usually cash) from their patients, who hope that such displays of generosity will bring them favored status and better medical care.

Another major source of financing that exists outside the national health care system is private health insurance. The private insurance market is apparently flourishing in most countries, which indicates that few countries have experience in financing 100 percent of health care expenditures through a single mechanism.

Private Insurance Markets

In countries with national health care systems, the private insurance market sells one (or both) of two products: a supplemental product or a replacement product. The supplemental product provides coverage for benefits that are not covered by the country's national health insurance plan. The replacement product offers the same (or sometimes a richer) set of benefits as the national system. In the supplemental insurance market, carriers compete among themselves for customers. In the replacement market, however, carriers may compete with the national health system for customers. Depending on how closely the market for replacement products is regulated, its presence could increase costs in the national health system by attracting the healthy, low-risk citizens, and leaving the national system with the sicker, older individuals.

In Germany, all citizens with annual salaries greater than approximately \$37,000 have the option to disenroll from the community-based sickness funds and purchase private insurance from "substitute" funds instead. These substitute funds offer supplemental benefits to their members and tend to reimburse physi-

cians at higher rates than the traditional sickness funds. These features make them very popular with the wealthier (and presumably healthier) Germans, leaving higher concentrations of presumably high-risk citizens from lower social classes in the community-based funds. For more details on risk segmentation in the German health system, see Wysong and Abel (1990).

Supplemental health insurance provides coverage of services that are not available under a national system's benefits package. As shown in Table 2, this type of insurance is very popular in most countries. Supplemental benefits are designed not only to cover additional benefits but also to reduce the inconveniences common to many national health care systems, such as long waits for elective procedures and high-technology diagnostic tests. Supplemental benefits usually include elective surgery, private or semi-private hospital rooms, and nursing home care.

Conclusions

In this section, we examine three health care system features: the role of governments in paying providers for incurred costs, the source(s) of financing for health care expenditures, and the role of private insurance. Can we draw conclusions as to whether any of these features influence a country's decision to implement global budgeting as a cost-containment tool?

There appears to be a strong link between the role of the government in provider payment and the use of global budgets. In those countries in which hospital and/or physician operating costs are paid

entirely by the Federal or local governments, global budgets seem to be the payment method of choice.² This is intuitively appealing because the direct link between the financing source and the provider makes global budgets relatively easy to negotiate and administer. In a country such as Japan, where health care providers are paid by any one of the many (public and private) insurance plans, setting global budgets and determining what proportion will be paid by which insurance plan would be far more difficult.

The relationship between financing mechanisms and the use of global budgets is less clear. Although most countries with global budgets receive the bulk of their finances through dedicated or general tax revenues, this is more likely a function of the universal nature of the health care system, rather than the payment mechanism used.

Finally, the private insurance market may be significant in the following manner. One could hypothesize that an extensive private replacement product market would limit a country's ability to design and administer global budgets. Some countries such as France have worked around this by using global budgets for publicly owned hospitals only, denying these hospitals the ability to collect fees from privately insured patients. Such efforts, however, can control system cost increases only at the margin.

GLOBAL BUDGET PROFILES

In this section, we describe the global budgeting schemes used in selected OECD countries. Table 3 provides a summary of how global budgets are used in 10

²This conclusion is reinforced in Teris (1991).

countries. It includes information on the following characteristics:

- Type of provider covered by the budget.
- Type of expenditure covered by the budget.
- Type of service covered by the budget.
- Process by which the budget is set.
- Action taken if the budget is exceeded.
- Budget financing source.
- Geographic boundaries to which the budget applies, if any.

Variable Definitions

The following brief descriptions supplement the information in Table 3 and provide background for the subsequent country profiles.

Provider Type

There are two major types of providers to which global budgets are applied, hospitals and physicians (Belgium also sets global budgets for drug expenditures). As shown in Table 3, hospitals are by far the more popular of the two. In some cases, global budgets are applied to particular subsets of hospitals, such as public or teaching facilities, or subsets of costs, usually operating expenses. Hospitals are more likely targets for global budgets because one can measure a hospital's patient cost determinants (i.e., service mix, utilization, length of stay) and its underlying operating costs and come up with a prospective operating budget that (presumably) bears close resemblance to the previous year's budget.

Global budgeting for physician expenditures is a different matter. Most attempts to cap physician expenditures have taken the form of a fee schedule plus some utilization control. Two factors have led to the failure of such schemes:

the rise in the number of practicing physicians in many countries and the (related) persistent increase in volume of services provided. Nevertheless, Germany, Canada, and the Netherlands have implemented physician expenditure caps with a reasonably high level of success.

Expenditure Type

This category provides a distinction between hospital operating and capital expenditures. Most countries include only operating expenses in their global budgets and review requests for capital resources separately. In some cases, certain capital costs are rolled into the global budget, but in general the budget includes only operating expenses.

Capital expenditures are approved conservatively; the levels of high-technology surgical and diagnostic resources tend to be much lower in countries that use hospital global budgeting. This fact concerns both American clinicians and patients, who believe firmly in the American "right" to the highest standard of care available (Aaron, 1991).

Service Type

Some global budgets cover particular services rather than all services offered by the provider. This is the case in those countries that make a distinction between physicians who provide hospital-based care and those who provide ambulatory care. The hospital-based physicians are paid a salary that comes out of the hospital's operating budget, while the ambulatory care physicians are paid on a fee-for-service or capitated basis. A few countries impose a global budget on ambulatory sector physician expenditures.

Table 3
Characteristics of Global Budgeting Schemes Used in Organization for Economic Cooperation and Development Countries

Country	Provider Type	Expenditure Type	Service Type	Budget Process	Action if Budget Exceeded	Financing Source	Geographic Specifics
Australia	Public hospitals	Operating costs	—	State-controlled	Rise in private patient revenues decreases State-funded revenues	State tax revenues and Federal grants	State-specific
Belgium	Teaching hospitals	Operating and capital costs	Magnetic resonance imaging	Sickness-fund-defined global budgeting for magnetic resonance imaging amortization, operating costs, and radiologist fee	No additional funds	Social Security contributions, State subsidies.	NA
	Pharmaceutical companies	—	Prescriptions	Sickness fund sets cap on drug consumption	If consumption exceeds estimated level, unit prices are reduced	NA	NA
Canada	Physicians	—	Ambulatory care	Negotiation	Fees reduced following year	National and provincial tax revenues	Province-specific
	Hospitals	Operating costs	—	Negotiation	Government maintains small emergency budget for operating overruns	Same	Province-specific
Finland	Hospitals/clinics	Operating costs	—	Multiple review process	NA	National tax revenues	Province-specific
France	Public hospitals	Operating and debt service costs for construction and high-cost equipment	—	Nationwide hospital target guides negotiation between hospital, fund, and government	Small regional "maneuvering margin"	Payroll tax; hospitals paid in monthly installments	Regional

See footnotes at end of table.

Table 3—Continued
Characteristics of Global Budgeting Schemes Used in Organization for Economic Cooperation and Development Countries

Country	Provider Type	Expenditure Type	Service Type	Budget Process	Action if Budget Exceeded	Financing Source	Geographic Specifics
Germany ¹	Physicians	—	Ambulatory care	Negotiation between sickness fund associations and physician associations	NA	Payroll taxes, paid to physician associations, which distribute to physicians	Regional
Netherlands	Hospitals	Operating and some capital costs	Inventory and equipment only	Negotiation between hospital and sickness funds	None	Payroll tax, premiums, catastrophic fund	NA
	Physicians	—	Ambulatory care	Income cap that limits volume growth; defined through negotiation	Must repay additional income according to a formula	Payroll tax, premiums, catastrophic fund	NA
Sweden	Hospital	Operating costs	—	Negotiation	NA	County and national taxes	County-specific
Switzerland	Hospital	Operating costs	—	Negotiation	NA	Federal Government	Canton of Vaud only
United Kingdom	Hospital and physician	Operating and capital costs	All, including prescription drugs	Set by the Ministry of Health	No excess funds	General tax revenues	Implemented through 200 District Health Authorities

¹As of September 1991, the substitute funds removed expenditure caps on expenditures for physician services.

NOTE: NA is not applicable.

SOURCE: Wolfe and Moran, Lewin-VHI, Fairfax, VA, 1992.

Budget Process

The budget process often takes the form of negotiation between the funding source and the provider type to which the budget is applied. This is a relatively foreign concept in the United States, although the growing popularity of preferred provider organization (PPO) networks has allowed many insurance companies and providers the opportunity to strengthen their negotiation skills. In some countries, global budgets are set by the payer (i.e., the government or the sickness fund).

Action Taken if Budget Is Exceeded

In the past, end-of-year budget overruns were usually covered by additional funds. However, the large cost increases experienced by most countries during the 1970s and 1980s forced many of them to discontinue this process. One common outcome of budget overruns is a reduction in the rate of budget increase for the following year, sometimes to zero or below.

Financing Source

Financing was discussed in great detail in the previous section. Financing for global budgets often comes from tax revenues and is distributed either directly to the provider or to an intermediary organization that is responsible for distribution.

Geographic Specificity

In many countries, global budgets vary geographically in definition, level, and implementation. This is often because finances are distributed on a local level. The level of geographic specificity is also a function of the degree to which negotia-

tion is a part of the budget process; regional (rather than national) negotiations are often believed to result in payment levels that are more accurate and more acceptable to the provider community.

Global Budgeting by Country

In this section, we describe how global budgeting is used in the following countries: Australia, Belgium, Canada, Finland, France, Germany, the Netherlands, Sweden, Switzerland, and the United Kingdom. These profiles provide insight into the many ways in which global budgeting is used around the world. The variety is partly the result of sociopolitical factors that are the byproduct of a country's history and culture.

Australia

Like the United States, Australia has a long history of private health insurance and a powerful private hospital industry. Nevertheless, Australia has enjoyed reasonable success in controlling its health care expenditures.

Australia's Medicare program provides universal coverage for both inpatient and ambulatory care. Medicare is partially financed by a 1.25-percent income tax that pays for physician services. Hospital expenses are paid for separately by the Australian States and are financed from various Federal and State revenues. The system is supplemented by a private insurance market that covers, among other things, care in private hospitals in which patients may choose their physicians (this is not a feature of the Medicare system). The details of the Medicare agreement between the Australian Commonwealth and the States are negotiated on a

regular basis; the next round of negotiations will take place this year (Willey, 1992).

Public hospitals provide a significant portion of the care in Australia, accounting for more than 75 percent of bed days in 1986 (Altman and Jackson, 1991). They are the major teaching institutions and research centers of excellence and are a responsibility of the State governments, which set each hospital's annual budget. In the past, hospital budgets were based on historical costs and were updated annually for inflation and approved capital expansions. However, recent State-level reductions in Federal funding have increased the degree of cost control to which public hospitals are subjected.

As State-approved cost increases have decreased, hospitals have moved to increase their revenues from privately insured patients. In response, the States, which control the total size of the hospitals' budgets, have reduced public revenues commensurate with the increased revenues from private patients, thereby keeping the growth in private patients under control. But if budgets continue to tighten, States may be forced to allow the public hospitals to keep their extra private revenues. This would provide hospitals with an incentive to take as many private patients as possible and leave the public patients on waiting lists.

Belgium

Belgium has a compulsory health insurance system that provides coverage to the entire population. The system is administered by one public fund and five mutualities and is funded by both social security contributions and State subsi-

dies. A 1982 system reform introduced the use of global budgets in the hospital sector. Specifically, both the operating budget and a quota of bed days are fixed prospectively for each hospital. If the hospital exceeds the quota, it is paid a reduced per diem rate. If it does not reach the quota, it is paid a per diem estimated to reflect fixed costs (Willey, 1992).

Belgium also proposed a method to cap expenditures related to diagnostic testing in 1986. The original proposal allowed each machine installation (i.e., a computerized tomography scanner and a magnetic resonance imaging (MRI) scanner) a maximum number of tests per year. If the hospital owning the machine wanted to purchase a new piece of equipment, it had to discard an existing one. This proposal was blocked by the Belgian medical associations, whose members felt that it was an attempt to regulate their practice of medicine. Instead, each teaching hospital was given a global budget for all MRI operating and amortization costs, including the radiologists' fees. More recently, 1990 and 1992 system reforms have modified inpatient and radiology services payment rates to reflect differences in patient case mix.

Belgium is the only country in our sample that caps pharmaceutical expenditures. In 1985, the Belgian government fixed a ceiling on all pharmaceutical spending by the various sickness funds that pay health care providers. The funds set estimated levels of prescription drug consumption, which is unusually high in Belgium. If actual consumption exceeds the estimated level, a regulatory commission automatically reduces the unit price paid to the pharmaceutical companies.

Canada

Canada uses global budgets to control hospital operating costs, and, with varying degrees of success, physician ambulatory care expenditures. All budgets are defined, implemented, and updated on a province-by-province basis. In reality, Canada is a collection of 10 separate national health care systems.

Although the Canadian Federal Government helps finance health care by means of income tax revenues, more than one-half of a province's financing is raised at the provincial level, usually through general tax revenues; Ontario also charges a payroll tax, and Alberta and British Columbia charge health insurance premiums.

Each province gives its hospitals a fixed budget for operating costs, usually in the form of an increment over the previous year's approved budget, adjusted for the current expenditure trend in the entire provincial budget. Provinces vary in how they set budgets. Some will grant exceptions from the across-the-board increase, while others are less flexible. Some, such as Saskatchewan and British Columbia, retain the practice of performing line-by-line hospital budget reviews in order to determine the final budget amount.

Although global budgets give the hospital's management discretion in how to allocate their funds, the provincial governments do require minimum levels of nursing and facilities throughout the hospitals. The governments also specify the maximum allowed utilization for the hospital, usually in the form of patient-days. The province also may approve the list of clinical services offered by the hospital; in some cases, such as in British Columbia, the budget is itemized by clinical service

type, and the hospital is not allowed to transfer money across service types.

The province of Quebec has especially tight controls over hospital spending. It sets global budgets in the following manner. At the beginning of each year, the Ministry of Social Affairs sends each hospital a prospective operating budget form, which is accompanied by guidelines about cost increases allowed by the forthcoming provincial government budget. The hospital enters all routine operating costs (about 85 percent of total operating costs), plus costs for special programs, such as ambulatory health centers, graduate education, and community health programs, and any additional costs it thinks should be covered. The budget is returned to the ministry, which reviews the requests. Unless the hospital can justify unusual increases in detail, the ministry cuts it back. The hospital may submit a fully justified revision of the prospective budget during the year if events change and costs are substantially increased. The provinces maintain small accounts to cover emergency operating overruns, although they are more and more reluctant to provide such end-of-the-year funding.

Physician expenditures are controlled a number of different ways in Canada. In British Columbia, Manitoba, Saskatchewan, and Ontario, levels of utilization are set that are usually based on the previous year's levels, with some adjustment for factors such as changes in population, the volume of practicing physicians, and new technology. If physicians exceed predetermined levels of utilization, the provinces may do the following:

- Adjust the next year's fee increase downward accordingly. This strategy is used in Ontario and Manitoba.

- Force physicians to work at temporarily reduced fees for a set period of time. This strategy is used in British Columbia.
- Pay current fees at a discounted rate to counteract the anticipated size of the utilization increase for the year. This strategy is used in Saskatchewan.

Quebec takes a different approach to capping physician expenditures: It sets income ceilings for general practitioners and separate caps for overall expenditures on general practitioner and specialist services. If the expenditure cap is exceeded, the subsequent year's fee increases are reduced. Physicians may bill up to a certain amount each quarter. Once they reach their limit, their fees are reduced by 75 percent. In many cases, physicians approaching their limit will go on vacation for 2 weeks every 3 months and let a colleague use their office, in exchange for a share of that physician's billings (Brown, 1989).

Finland

Finland's health system is recognized as one of the most efficient in the world; In 1982, it earned the designation of model country for the quality of its health care system from the World Health Organization. At the same time, Finland successfully kept its health expenditures to less than 7 percent of GDP throughout the 1980s. The Finnish national health insurance system is paid for through a combination of employer contributions, general tax revenues, and a very low out-of-pocket payment for both clinic visits and inpatient days. Corporations are legally obligated not only to pay particularly high income taxes but also to ar-

range comprehensive occupational health plans for their employees.

The centerpiece of the Finnish system of cost control is a rolling 5-year operating expenditure plan controlled by central government agencies that allocate monthly national government subsidies to municipal health collectives. Hospitals and primary care clinics prepare annual incremental operating expenditure requests for both personnel and minor capital expenditures. These budgets are reviewed first by the health collective that owns the hospital and/or clinic and then by a series of local and national government bodies. In general, 40 percent of the expenditure requests are accepted and adopted into the 5-year plan. Although local health collectives have the option of funding unaccepted personnel and equipment, the government maintains the right to cut off funding for previously accepted costs as "punishment." This governmental power has never been exercised.

Capital expenditures for large or technologically advanced equipment purchases are also provided through central government subsidies but are accessed through a much more politicized process than operating expenditures.

Finland is undergoing some fundamental rethinking of how the national health system should be structured. Both the Finnish cabinet and Parliament have decided, in principle, to replace most of the existing plan with a block-grant system called the Hiltunen Plan. Although this major transformation was targeted to take place in January 1992, it has been delayed until 1993. Under the Hiltunen scheme, the 461 Finnish municipalities that own and operate the public health centers and hospitals would gain control over the flow of health care revenues. As a

result, each municipality would be capable of determining how to use revenues formerly earmarked for the hospitals. Options could include expanding primary health centers or contracting with private hospitals (Saltman, 1992).

France

France's National Health Insurance (NHI) system is administered through a network of local sickness funds that cover virtually 100 percent of the country's population. The system remains closely tied to the national government, which supervises the funds and provides them with financing by means of a payroll tax.

France is relatively new to global budgeting, having implemented it for public hospitals in 1984. Prior to then, public hospitals were paid per diem rates, which is how the private hospitals are still paid. Each public hospital negotiates its proposed global budget with the predominant sickness fund in its region and with representatives of the national government. The budget covers operating costs, as well as debt service expenses for hospital construction and high-cost medical equipment. Hospitals are paid in monthly installments, divided among the sickness funds according to their shares of total patient days. Some additional funds exist to supplement the global budget under exceptional situations.

France also calculates a nationwide hospital spending target, which provides a context for the hospital-specific budget negotiations. The government uses its participation in the budget negotiations to restrain total spending to within the target amount. To date, rates of increase in hospital budgets have been determined

centrally and applied across all hospitals (Wiley, 1992).

Germany

The highly decentralized German health care system is administered through more than 1,000 sickness funds, of which there are two types: "local" funds whose members are geographically similar and tend to be blue collar workers and "substitute" funds whose members are occupationally related and tend to be higher income earners. The sickness funds collect a payroll tax from the employees and their employers, pension taxes from the elderly, and supplemental funds from government funds and agencies. These revenues are in turn paid out to hospitals in the form of a per diem rate and to regional associations that represent and pay physicians on a fee-for-service basis through a negotiated fee schedule.

In Germany, hospital operating expenses are paid by means of negotiated per diem rates. Although a hospital-specific operating budget is negotiated each year (i.e., expected days of care multiplied by the per diem rate), hospitals are compensated for days of care exceeding the annual projection, albeit at a reduced rate. Unlike most of the other countries described herein, Germany also caps physician expenditures. The physician expenditure caps are set in the context of bi-annual meetings of an advisory body called the "Konzertierte Aktion" (Concerted Action), which was created in 1977 to help battle the health care cost crisis. Concerted Action brings together representatives from all parts of the health care system: physicians, hospitals, pharmaceutical companies, payers, and consum-

ers, and acts as a forum for resolving differences. It also develops recommendations for provider-payer negotiations on topics such as establishing maximum increases in physician spending. Although the conference's guidelines are not binding, they are extremely influential.

The recommendations of the conference are then taken up and negotiated by regional associations of sickness funds and physician associations (there are 18 regions). First, the parties negotiate an annual budget cap for the region, defined in per capita terms. The baseline is typically historical per capita expenditure rates for prior quarters. This baseline cap is adjusted for medical technology, morbidity, age (under or over 60 years), and also takes into account the percent change in wage rates for the sickness fund population. It is then multiplied by the expected number of sickness fund members during the year.

The capitation payments are also segmented by type of service (physician, laboratory, and all other). The sickness funds in each region then transfer to the regional physician association the amount budgeted for physician services. The associations pay the physician fee-for-service amounts based on a fee schedule that is comprised of procedure-specific point values (what we call "relative value units") and a conversion factor. If physicians' bills exceed the negotiated budget in any given quarter, the conversion factor for all claims is reduced for the remainder of the year.

Actual fees are calculated at the end of each quarter after all claims are submitted to the physician associations. Prior to final reconciliation at the end of each quarter, physicians receive interim pay-

ments based on their previous quarter's experience.

Service utilization is tracked in the following manner. Patients seeking care must get a "sickness certificate" from their sickness fund and take it to their physician. Each patient is given only one certificate per quarter and therefore must remain with the initial physician for the entire quarter, except for specialist referrals. The physician records on the certificate a code (similar to the American Medical Association's *Current Procedural Terminology* codes) for each service provided. At the end of each quarter, the physician turns in the certificate to the physician association, which calculates the total number of services provided and, using the prospectively determined budget cap and the national relative value scale, calculates the final fee schedule. If utilization is higher than projected, the conversion factor is reduced. If utilization is lower than expected, the conversion factor is increased.

Although this system builds in an explicit tradeoff between service volume and unit price, it is not clear whether German physicians have modified their practices accordingly; recent data show that quarterly utilization increased 13 percent in 1991 (Wicks, 1992).

The expenditure cap was instituted in 1985 as a temporary feature. Its effectiveness, however, has led the sickness funds to maintain it as an important cost-containment feature. Physicians, on the other hand, have lobbied extensively to have the cap removed and in late 1991 negotiated a tentative agreement with the national association of substitute funds to restore pure fee-for-service compensation. According to a recent study by the Health Insurance Association of America,

it is unclear whether the cap will remain a feature of the German health care system (Wicks, 1992).

The Netherlands

Health care in the Netherlands is provided through both public sickness funds (70 percent of Dutch citizens) and private insurance plans (30 percent), although a major reform plan recently implemented will replace this current fragmented system with a single program of basic and catastrophic coverage for the entire population.

The Netherlands has successfully kept health care costs under 9 percent of GDP through the use of several cost-containment strategies directed at both hospitals and physicians.

Hospitals are paid by means of prospective global budgets that are negotiated with the sickness funds and private insurers. The budgets cover operating costs plus capital costs for inventory and medical equipment.

If a hospital spends less money than was provided in its budget, it may keep the difference. The savings cannot be used for higher wages or additional, non-budgeted hirings, and any equipment purchases must be approved. Next year's global budget will be calculated from this year's (lower) expenditures, not from this year's budget. If a hospital runs a deficit, it may not request supplemental funding.

Physician compensation varies, depending on whether one is a general practitioner (GP) or a specialist, and whether one is under contract to a sickness fund or a private insurer. GPs are paid on a fee-for-service basis for privately insured patients but are paid a capitated rate for the public plan. Specialists are paid on a fee-

for-service basis regardless of the patient's source of insurance.

Physician fee levels and capitation rates are set by negotiations between physician associations, the sickness funds, and the private insurers. All negotiations take place under the scrutiny of a quasi-governmental body called the Central Council for Health Care Charges. Negotiations are conducted for two cost components: physician income and practice costs. Income negotiations are conducted between the Ministry of Social Affairs and the National General Practitioners Association and the National Specialists Association. The goal is to come up with a "norm" income and a "norm" patient list size (for GPs). These two statistics, along with the negotiated practice cost component, are used to calculate GP fee schedules and capitation rates.

Specialists, on the other hand, set their own fees and are paid these in full, regardless of payer. Each specialist's billings are totaled at the end of the year and compared with the negotiated norm income. Specialists exceeding the norm must pay back one-third of the first \$15,000 excess, and two-thirds of any income above that level.

Although this complex negotiation process has constrained physician fees below the Dutch consumer price index, increases in physician (particularly specialist) supply have led to increases in national physician expenditures (Graig, 1991).

Sweden

The Swedish health system combines local financing with central financing and monitoring. The Swedish system differs, however, in the degree to which control of

the system has shifted from the central government to the county level. Since 1964, inpatient care has been provided by hospitals managed and financed exclusively (except for the largest cities) by the 26 county councils that comprise Sweden. The county councils also pay the salaries of 96 percent of the Nation's physicians.

The influence of the counties over their own systems lies in their constitutional right to tax residents and businesses to provide for their health care. Employed proportionally, county taxation provides the majority of revenues for the Swedish system, with less than 10 percent paid for through out-of-pocket revenues.

The monitoring and planning role of the central government consists of negotiating voluntary growth-rate agreements with the counties, allocation of new physician positions, and approval of hospital construction. Its financial role consists of lump-sum transfers to county councils from central general tax revenues and the coordination of smaller intracounty transfers to offset resource imbalances. Generally speaking, it is county-level rather than national-level planning measures and taxation controls that are responsible for health care cost control in Sweden.

Switzerland

Switzerland has a fragmented hospital payment system, with lump sum grants coming from the government of each Swiss canton plus per diem and charge payments coming from the various sickness funds. Although hospital global budgets are not fully implemented in Switzerland at this point, several of the cantons have created "integrated funds" that represent all sickness funds and the can-

tonal government for the purpose of handling all hospital bills.

The integrated fund pools health care revenues from the cantonal government, which provides a lump sum, and from the sickness funds. It has lists of patients in each hospital, the sickness funds of which they are members, and their lengths of stay. Each hospital has its own per diem rate. The fund bills each sickness fund for all care provided to its members that week by multiplying the hospital's per diem by the total number of days. It then sends the hospital the total sum in its agreed budget in weekly or biweekly installments. At the end of the year, the fund makes any necessary adjustments in hospital payments.

Although the situation just described uses global budgeting as an administrative convenience rather than a cost-containment tool, the canton of Vaud has implemented strict hospital global budgets. According to some experts, it is only a matter of time before other cantons follow suit (Glaser, 1989, 1991).

The United Kingdom

The British National Health Service (NHS) is the most centrally financed and managed health care system of those presented here. When instituted in 1948, its goal was to provide universal, comprehensive health care free to all patients, with care to be financed by general tax revenues (Anderson, 1989). Like many other systems examined here, the NHS is undergoing a major reform to improve the effectiveness and efficiency of health care delivery.

The NHS is subject to an overall budget cap, as it is a national budget line-item expense. Financing levels are set each year

according to the population's estimated health care needs. These limits are becoming untenable in the face of a growing elderly population and the rising incidence of high-cost illnesses such as acquired immunodeficiency syndrome.

The hospital sector is comprised of 12 Regional Health Authorities (RHA), which are each responsible for four to five million people. Every RHA is divided into approximately 15 District Health Authorities (DHAs). Each DHA is responsible for four or five hospitals. Hospitals are paid by means of global budgets. Although NHS funds are allocated to each RHA, the DHAs play a crucial role in determining each hospital's final budget. The DHAs track and provide the RHAs with historical expenditure data and demographic estimates that are used to set the global budgets. One element of the current NHS reform has been to increase the managerial and budgetary authority of the DHAs.

Another recent reform eliminated the use of global budgets for a particular subset of hospitals. The Ministry of Health approved a move to allow approximately 16 percent of hospitals to "opt out" of the NHS and operate primarily on a free-market basis, with only partial NHS payment for operating costs. The theory behind this change is that allowing hospitals to contract directly with the DHAs will increase competition among hospitals and thereby improve the cost effectiveness and quality of care. Recent estimates are that approximately 60 hospitals have taken advantage of this reform option (Wiley, 1992).

Physicians are paid differently based on their function. Hospital-based physicians are salaried; certain prestigious hospital-based physicians, known as consultants, are allowed to see private-pay

patients on the side, which may earn them substantially more money. General practitioners, or ambulatory care physicians, are paid a base salary to cover their operating costs, a capitation rate for each patient on their "list," and additional fees for certain community health services, such as vaccinations.

LESSONS FROM THE LITERATURE

During the course of this work, it quickly became clear that the literature is largely descriptive, and presents little evidence of rigorous empirical assessment of the effects of the global budgeting schemes employed in comparison to other alternatives. We did not find this to be unduly surprising, because global budgeting schemes are typically employed as elements of a country's overall approach to financing health benefits and controlling expenditures and are not generally structured as experiments that would permit such evaluation. Given the important differences between countries in the scope of insurance entitlements, the structure of benefits, and differences in the nature of the underlying health care system, assessing the incremental effects of budgeting methods in isolation from other factors would require a large-scale cross-sectional analysis that would face significant problems of data and cost.

With that said, we were somewhat surprised not to find an analytical literature that attempted to quantify the effects of budgeting within the context of individual national programs. In the United States, a substantial amount of research, funded by both public and private sources, is directed at efforts to assess the efficacy of public policy interventions. In addition to

providing substantial support to research and demonstration efforts to assess interventions in rigorous ways, our public policy literature is replete with analyses that attempt to quantify the effects of specific policies. Given the importance of efforts to control budgetary costs of health care programs throughout the OECD member countries, the lack of such analyses in the publicly available literature is worthy of note.

One possible explanation for this lack of literature is the fact that global budgets are typically implemented within the walls of government financing programs. With a few notable exceptions (e.g., Germany and the Netherlands), global budgets in OECD countries apply to activities financed by the government (such as public hospitals), rather than private spending outside of government budgets. Viewed from this vantage point, the relative importance of global budgeting in many industrialized Nations is a function of the fact that a substantially greater share of total health expenditures flows through public budgets in those systems. To the extent that global budgeting is simply a technique to develop and enforce budgets for these large public programs, the data policymakers' need to assess policy alternatives is undoubtedly generated in the context of the annual budget processes of these Nations. Because the great majority of these systems are parliamentary, most real budgetary deliberations occur in private among the elected members of the prevailing governing coalitions in the development of budget proposals that are often enacted at the point at which they are announced to the public. In this context, it is probably not surprising that the sort of research effort that informs our more public (and adversarial)

policy debate is absent in many of these countries.

Given the state of publicly available knowledge of global budgeting in the industrialized world, the value of this literature to guide policy deliberations regarding budgeting techniques in the United States will depend greatly on how policymakers decide to proceed with efforts to reform the financing system. To the extent that reform efforts involve the creation or expansion of new public programs, the experience in other countries offers a broad range of examples of how global budgets might be applied to maintain public budgets within specified limits. To the extent that policymakers wish to apply global budgeting techniques to control private sector health care spending, however, the extant literature provides few ideas—and no hard evidence of successful prototypes.

REFERENCES

- Aaron, H.: *Serious and Unstable Condition: Financing America's Health Care*. Washington, DC. The Brookings Institution, 1991.
- Abel-Smith, B.: Cost Containment in Europe. *The Milbank Quarterly* 70(3):399, 1992.
- Altman, D., and Jackson, T.: Lessons from Down Under. *Health Affairs* 10(3):129-146, Fall 1991.
- Anderson, O.: *The Health Services Continuum in Democratic States: An Inquiry into Solvable Problems*. Ann Arbor, MI. Health Administration Press, 1989.
- Bator, F.M.: The Anatomy of Market Failure. *Quarterly Journal of Economics* 72:351-379, August 1958.
- Brown, B.: How Canada's Health System Works. *Business & Health* 7(7):28-30, July 1989.
- Glaser, W.A.: *Health Insurance in Practice*. San Francisco. Jossey-Bass, Inc., 1991.
- Glaser, W.A.: New School for Social Research, New York City. Personal Communication. November 10, 1991.

- Glaser, W.: *Paying the Hospital*. San Francisco. Jossey-Bass, Inc., 1987.
- Godt, P.: Confrontation, Consent and Corporatism: State Strategies and the Medical Profession in France, Great Britain, and West Germany, *Journal of Health Politics, Policy and Law* 12(3): 459-480, Fall 1987.
- Graig, L.: *Health of Nations: An International Perspective on U.S. Health Care Reform*. Washington, DC. The Wyatt Company, 1991.
- Iglehart, J.K.: Canada's Health Care System. First of three parts. *The New England Journal of Medicine* 204(3):202-208, July 17, 1986.
- Iglehart, J.: Germany's Health Care System. (First of two parts.) *The New England Journal of Medicine* 324(7):503-505, February 14, 1991.
- Iglehart, J.: Germany's Health Care System. (Second of two parts.) *The New England Journal of Medicine* 324(24):1750-1756, June 13, 1991.
- Kirkman-Liff, B.: Physician Payment and Cost-Containment Strategies in West Germany: Suggestions for Medicare Reform. *Journal of Health Politics, Policy and Law* 15(1):88, Spring 1990.
- Naylor, D.C.: A Different View of Queues in Ontario. *Health Affairs* 10(3):111-112, Fall 1991.
- Pitofsky, R.: The Political Content of Antitrust. *University of Pennsylvania Law Review* 127(4): 1051-1075, 1979.
- Saltman, R.: Recent health policy initiatives in Nordic countries. *Health Care Financing Review* 13(4):157-166, Summer 1992.
- Terris, M.: Global Budgeting and the Control of Hospital Costs. *Journal of Public Health Policy* 12(1):61-71, Spring 1991.
- U.S. General Accounting Office: *Health Care Spending Control: The Experience of France, Germany, and Japan*. Gaithersburg, MD. November 1991.
- Wicks, E.K.: *German Health Care: Financing, Administration, and Coverage*. Washington, DC. Health Insurance Association of America, 1992.
- Wiley, M.: Hospital financing reform and case-mix measurement: An international review. *Health Care Financing Review* 13(4):119-134, Summer 1992.
- Wysong, J., and Abel, T.: Universal Health Insurance and High-risk Groups in West Germany: Implications for U.S. Health Policy. *The Milbank Quarterly* 68(4):527-60, 1990.

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