

**Incentives and Provider Payment Methods\***

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## **Abstract**

The mode of payment creates powerful incentives affecting provider behavior and the efficiency, equity and quality outcomes of health finance reforms. This paper examines provider incentives as well as administrative costs, and institutional conditions for successful implementation associated with provider payment alternatives. The paper focus on payments by institutions (third parties) to providers. The alternatives considered are budget reforms, capitation, fee-for-service, and case-based reimbursement. We conclude that competition, whether through a regulated private sector or within a public system, has the potential to improve the performance of any payment method. All methods generate both adverse and beneficial incentives. Systems with mixed forms of provider payment can provide tradeoffs to offset the disadvantages of individual modes. Low income countries should avoid complex payment systems requiring higher levels of institutional development.

**KEY WORDS:** Health reform; Reimbursement; Incentives; Provider payment

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## **Introduction**

In Germany, physicians are paid on the basis of individual services provided. In India, government physicians are salaried. In the Netherlands, general practitioners receive a fixed amount for the year per patient from the sickness funds. Why do countries adopt such different provider payment mechanisms? What effect do payment mechanisms have on health care? Country experience reveals that payment methods generate powerful incentives that affect how providers produce health services. Depending on the nature of these incentives and the market and institutional contexts in which they exist, payment mechanisms may induce movement toward or away from improved efficiency, equity, consumer satisfaction, and health status. For these reasons, provider payment reforms are a central part of broader health financing reforms.

This paper surveys the main alternatives for provider payment that might be considered in health finance reforms and assesses their suitability across a wide range of country environments. The survey reveals that there is no single optimal method for paying providers. All methods generate both adverse and beneficial incentives affecting the volume, quality and mix of services. The full administrative costs of alternative payment mechanisms have not been quantified, but the limited information that is available suggests that methods intended to generate more desirable incentives have higher administrative costs. Mixed forms of provider payment are superior to reliance on any single method — they are more practical and allow a trade off of administrative costs and desirable incentives. The desirability of a specific approach depends on the economic, social, and institutional context. For example, in countries with low levels of institutional development, reforms should be limited to simple alternatives such as budget reforms or modest capitation schemes.

Several conclusions stand out as common to all methods of provider payment. First, as reflected by the direction of reforms underway in many countries, regulated competitive provision of services has the potential to enhance the performance of payment methods, whether within the public system or through a regulated private sector. Second, skilled management is essential if incentives are to improve efficiency as intended. Finally, quality assurance programs are required to monitor the effects of adverse incentives.

The scope of the paper is confined to government and third party payment of providers. It does not cover direct, out-of-pocket payments from patients to providers (the first and second parties). Other aspects of health financing reform, including the details of alternative institutional contexts for risk sharing and sector organization are not discussed. The first section briefly surveys the health financing and delivery context in which provider payment mechanisms are evaluated. The second section examines the major payment alternatives and summarizes performance experience. The examination notes the potential effects of incentives and provides a rough ranking of payment methods in terms of administrative costs. The paper concludes with a summary and listing of key institutional conditions for provider payment reforms.

## **Context of Provider Payment**

In most developing countries and in some industrialized countries, the formal health sector is dominated by publicly-financed, publicly-provided services. Here, government is both the main insurer and major provider of services. Budgetary transfers are the most common form of payment to public facilities, usually through line-item allocations from government health authorities (usually ministries of health) to specific programs or facilities. Health workers within public facilities, in turn, are paid for the services they provide on a salary basis. Funding of facilities is usually based on norms and historical spending patterns. These types of publicly-managed systems face problems in

generating adequate incentives for efficiency. Competition between providers is limited. Not only are the incentives to provide effective services at a low cost weak, but administrative rules and regulations may also impede efficient management.

Many countries have already moved or are moving from this system to one with a widening role for the private sector in the provision of care and with more competition among health care fund holders and providers. A key principle of health sector reform that has emerged over the last few decades is the feasibility of separating — institutionally, as well as conceptually — the finance, management of finance, and provision of health care (Figure 1).

Any of these three functions may be undertaken in either the public or private sector and may entail a number of different institutional arrangements. The source of the financing, the manager of finance

(fund holding agency) and providers may be public or private. In addition the fund holding agency may be a single payer or multiple competitive payers. Thus, provider payment can take place in a variety of contexts relating the fund holding agency and providers.

**Figure 1: Flow of Funds under Generic Reforms**

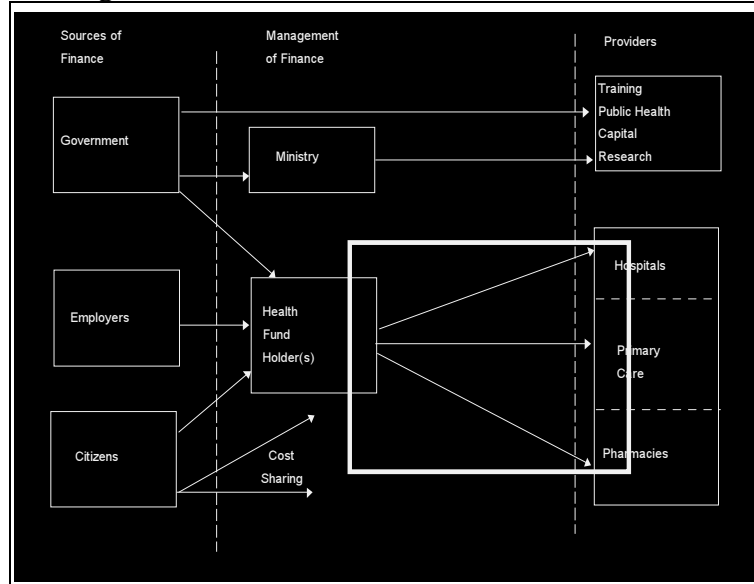


Figure 1 presents the flow of funds under one conception of a reformed health system where the source of finance, management of finance, and provision of services are separated. In the system depicted, recurrent expenditures for personal health services are made through a health fund holder. Depending on the specific system the fund holder might be referred to as a sickness or insurance fund. The health fund holder may receive revenues from employers, the government budget, or directly from citizens. Most typically the fund would receive revenue from all three sources — say a wage-based tax or premium from employers, possible voluntary payments from citizens for supplementary coverage, and a subsidy from the government budget, depending on the specific financing scheme. The health fund holder then transfers funds to service providers. Clearly, provider payment can take place in a variety of contexts relating the fund holding agency and providers.

This last step — the payment of providers — is the focus of this paper. In the reform context, it is represented by the flow of funds within the bold dashed rectangle in Figure 1. Where the finance, management of finance, and provision of health care have not been separated, the flow of funds would typically be from the Ministry of Health to government providers, and from private insurers, if they exist, to providers. Different payment methods can be used for the different provider institutions such as hospitals, primary care givers and pharmacies, or for different types of services within an institution. In fact, many countries use mixed systems employing several provider payment methods.

## Provider Payment Alternatives

The paper reviews four general types of provider payment methods: budgetary transfers, capitated payments (capitation), fee-for-service and case-based payments.

Budgetary transfers are the most common form of provider payment in the health sector. The traditional budget is set out as line-item allocations from government health authorities to specific programs or facilities. In addition to the traditional form of budgeting, an increasing number of countries are using global budgets, which give managers the flexibility to reallocate across inputs or programs as they deem necessary. Under private insurance, the most common form is fee-for-service reimbursement, although the use of capitation is growing rapidly. Case-based reimbursement for hospital services is used in only a few countries.

### *Budgetary Transfers*

**Line-item budgets and global budgets.** Governments in developing countries typically budget health facilities by specific line item (categories such as salaries, drugs, equipment maintenance and the like). Rules and regulations prohibit public managers from switching funds across line items unless approval is received from the central authorities. Often, interim adjustments to increase budgets are easily made either during or at the end of the budget period, especially if individual line items are completely spent. Public managers have limited accountability for performance, except perhaps for ensuring that each line item is fully expended. Line-item budgeting is often an important part of a centrally directed health system.

In contrast to a line-item budget, a global budget<sup>1</sup> is a payment fixed in advance to cover aggregate expenditures in a given period. The major features of a global budget are: (i) it is not linked to line-item expenditures, leaving budget managers free to reallocate expenditures across line items as needed for efficient management; and (ii) once fixed, the budget is difficult to amend over the budget period (that is, supplemental budget amounts are not easily forthcoming from the central financial authorities). Health finance reforms using global budgets are intended simultaneously to increase managers' flexibility while holding them accountable for efficient performance. At the institutional level (for instance, hospitals), global budgets signify that the institution has considerable discretion over the use of the funds in the fixed budget. Global budgets can be an important element of health sector reforms that include decentralization of the health system.

In practice, many governments use some combination of line-item and global budgeting to finance facilities. A public hospital, for example, may receive a small global budget for certain types of expenditures, and line-item budgets for others, particularly personnel.

**Incentives.** The intention of line-item budgeting is to control spending, particularly on staffing levels, and to limit the consequences of weak local management. Tight central control over local management using line-item budgeting, however, is not achieved without substantial losses in efficiency. Line-item budgets may restrict input to inefficient proportions and can also result in perverse incentives that lower efficiency. The existence of unspent funds at the end of the year is

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<sup>1</sup> The term "global budget" is used at national, regional and institutional levels with slightly different meanings. At the national or regional level, a global budget refers to an administratively-set limit on overall public health care spending. National or regional global budgets are implemented in parts of Europe and Canada (for example in Canada, Germany, the Netherlands and the United Kingdom).

often interpreted by central authorities as an indicator of an excessive allocation, leading to a reduction in the budget (or the rate of growth of the budget) for the following period. Line managers thus have an incentive to spend their funds rapidly and without regard for efficiency in order to ensure next year's allocation. Even without the threat of having to relinquish a surplus at the end of period, public managers have weak or nonexistent incentives to produce services at minimum cost under a line-item budget.

Global budgets permit more efficient use of resources. The gain in efficiency actually achieved depends upon how global budgets are set and the extent managers are accountable for performance. The direct effect of global budgets is to control costs, but it is important to distinguish between the short-run (one budget period) and long-run (many budget periods) effects of global budgeting on costs. The short-run effect of a fixed ("hard") budget constraint is to control costs, and when coupled with managerial flexibility, it is also likely to increase efficiency with respect to the mix of inputs used to produce services. In the long run the adjusted budget must reflect the service load and thus be based either implicitly or explicitly on units of service, number of cases, or capitation (Newhouse 1992). Thus, over the long run the strength and even the direction of incentives for resource allocation depends on the implicit or explicit formula for allocating budgets.

*Setting the budget.* The way in which the budget is determined can play an important role in obtaining efficiency under either line item or global budgeting. It is especially critical for global budgets because the greater flexibility in resource allocation must be complemented by desirable incentives if global budget reforms are to result in improved efficiency. Allocating budgets (whether line item or global) on the basis of historical practice creates institutional inertia that tends to lock in existing patterns of resource use. Traditional line-item budgets are rarely tied to results; they are instead based on norms (such as norms specifying unit costs or staffing per hospital bed) or historical patterns.

Global budgets are often set by the fund holder on the basis of the previous period's budget adjusted for demonstrated or predicted changes in service demand. In Australia, Norway and Portugal, global budgets for hospitals are formed from cost projections based on expected case mix and utilization (Wiley 1992). In Ireland, public hospital budgets are determined primarily by the previous year's expenditure adjusted for inflation, expected changes in utilization, and overall public expenditures. A review of this approach found that it sustained the differences in patterns of resource use between efficient and wasteful hospitals (Wiley 1992). Budgeting that is based on unit costs per fixed input (for example, per hospital bed) provides an incentive to add capital inputs (or maintain inputs even when not needed) in order to increase total revenues, leading to increased costs and excess capacity in the long run.

A formal contract can also be used to set out detailed expectations of provider performance and as an attempt to set quality standards, as in Sweden and the United Kingdom, for example (Saltman 1992). Where budgets are related to performance criteria, the incentives generated depend on the specific indicators of performance chosen for this purpose. Prior to the implementation of case-based hospital reimbursement in Hungary for example, hospital budgets were based on occupancy rates, which led to long lengths of hospital stay. Such incentives are not created where budgets are determined on a per capita basis. For example, hospital budgeting based on per capita payments (adjusted for the age of the client population) by Israel's principal social insurance institution, Kupat Holim, led hospital managers to reduce average length of stay and expand the use of lower cost alternatives to hospitalization, such as outpatient surgery and home dialysis. This reform led to a reduction in hospitalization rates and inpatient expenditures (Ron 1982; 1983).



*Assuring Quality.* Line-item and global budgets, of themselves, provide little incentive for quality. Hong Kong has successfully used global budgeting as part of a program to control cost. There is, however, limited evidence of deterioration in the quality of lower tier hospital services (Chu 1992). This is not an insurmountable problem. Regular collection and assessment of information on quality must be built into both line-item and global budgeting processes, with the development of quality measures, identification for assessment responsibility and procedures, and a well established process for negotiating budget disputes.

**Administrative costs.** Administrative costs are incurred by the fund holder, the provider, and the consumer in carrying out any payment scheme. For the fund holder, administrative costs include the costs of making payments and monitoring quality. For the provider, they include direct administrative costs of reimbursement as well as the costs of adhering to related regulatory requirements. For the consumer, administrative costs may be generated by paperwork related to provider payment.

In the case of line-item and global budgets, the administrative costs are borne by the fund-holder and the provider. The consumer administrative costs are negligible. For the fund-holder, the administrative costs of line-item budgeting decrease as the level of line-item detail decreases. In Guatemala, the World Bank supported an effort to reduce the number of line items in the health budget from over 1,750 to 250. The smaller number of items reduces fund-holder administrative costs and, perhaps more importantly, permits efficiency gains from greater flexibility in the use of resources (Florez 1994).

Fund-holder administrative costs for global budgeting tend to be low relative to other forms of provider payment. But management costs to the providers increase as autonomy over budgets increases. Fund-holder administrative costs are tied to the complexity of the budget allocation formula. Unfortunately, the allocation formulae least costly to implement generally provide cost escalating incentives, such as those based on beds, occupancy rates, or historical allocations. Budgeting formulae with more neutral incentives, such as those using case mix adjusted cost and utilization projections, or risk-adjusted capitation for facility or region, tend to have higher administrative costs.

The periodic evaluation of provider performance is another cost of global budgeting that is borne by fund holders. A well run system also requires the maintenance of routine financial accounts and service information by providers and the periodic examination of records by fund holders to maintain accountability, quality and performance. The cost of record keeping and administration of the system, however, should be much less than for the either service-based or case-based reimbursement, which not only require more detailed records but also a continual flow of invoices and remuneration.

**Conditions associated with performance success and failure.** In spite of the adverse incentives for efficiency under line-item budgeting, it remains the most common form of provider financing found in developing countries. There may be good reasons for this. Central ministry officials faced with a lack of trained managers outside of central urban areas, and social and family networks that distort staffing decisions in local areas, may see line-item budgeting with strong central management oversight as the only practical alternative. Even if line-item budgeting is the only system practical, there may be scope for efficiency gains. If there are gross misallocations of funds across line items, such as compressing expenditures on drugs while retaining a bloated salary base,

then correcting these misallocations can improve efficiency. In Cote d'Ivoire, public health spending dropped in real terms by 12 percent between 1981 to 1984. Real cuts were made in medicines and materials, while personnel expenditures were maintained. The resulting distortions in line-item allocations aggravated service delivery problems. Modest efficiency gains under line-item budgeting can also be realized by monitoring production and providing performance-based incentives, such as bonuses, to local staff for improving efficiency. Enterprise hospitals in China, such as the railroad workers hospital in Shanghai, which adopted bonus systems in the 1980s have reported increased staff productivity. Efficiency gains can also be achieved, as in Guatemala, from reducing the number of line items in the health budget. This moves the line-item budget more towards a global budget.

Health finance reforms using global budgets are intended simultaneously to increase managers' flexibility while holding them accountable for efficient performance. To maximize these results, the managers of a facility with a global budget must have good cost information in order to manage the budgeted funds well. They should be free from unnecessary regulatory burden. They must have considerable control over personnel, and they must be accountable for their performance.

Poorly developed management capacity and the difficulty of enforcing quality assurance are possible impediments to the successful introduction of global budgeting. Because incentives to provide good quality care are weak with global budgets it is important to develop strong regulatory mechanisms, either through government enforced standards or self-regulation by professional associations. Performance indicators for quality, however, can be difficult to define and collect. Where multiple providers makes it practical, competition for budgeted funds can offset some of the weak incentives for quality.

Firm and transparent administrative procedures are needed to review and adjust global budgets. If it remains relatively painless for managers to incur budget overruns ("soft" budgeting), the efficiency provided from the flexibility of a global budget will not be realized because budget managers will not experience a true constraint on resource use. On the other hand, systems with little provision for budget adjustment ("hard" budgets) create an incentive to minimize costs but can affect the quality of services negatively if the budgeted amount allocated is inadequate.

Because global budgets are usually accompanied by greater facility-level control over personnel, including the ability to hire and fire personnel, public sector workers and unions may oppose global budgets. One-time severance payments will often be required to retire excess workers. If the global budget applies only to non-personnel costs, then the scope for efficiency gains is reduced accordingly.

Global budgeting can be a useful interim step between the use of traditional line-item budgeting and the adoption of capitation or case-based reimbursement. Over time, management capacity, accounting and data systems can be improved to assist in setting global budgets (as is done, for example, in France and Germany) and to evaluate budget performance in a competitive environment.

### *Capitation*

Under capitation, providers are paid a periodic fixed amount per insured person to finance the costs of a defined package of services. Capitated providers bear financial risk for providing

these services and, in this sense, are insurers. Thus, an important effect of payment by capitation is to motivate providers to control costs and to provide cost-effective services. Capitation also makes the total cost of health services more easily predicted and controlled by health funding authorities.

Capitation can be applied either with or without competition among providers. Even in the absence of competition, the use of capitation can provide the efficiency advantages of a global budget and promote the equitable allocation of resources. In some countries capitation provides the basis for allocating funds across regional health authorities or among noncompetitive public providers. In these countries considerable attention is given to the specification of the capitation formula setting the size of the periodic payment. The formula includes epidemiological and demographic indices that adjust the size of the payment by the expected risk of incurring treatment obligations. Applied in this way, capitation can be used to define a global budget and has much in common with this form of provider payment.

With the introduction of competition, provider/fund holders are allowed to compete to enroll members, and their total compensation depends on how many enrollees they can attract. Where capitation is most effective, consumer choice generates sufficient competition among providers to encourage quality. In the United States for example, advertising emphasizing quality is an element of competition, and the capitation-financed health plans managed by Kaiser Permanente have been leading innovators in cost containment while maintaining quality.

**Incentives.** Capitation gives providers a financial incentive to minimize costs in order to maximize the difference between revenues and expenditures. This can lead providers to innovate in cost reducing technologies, the use of lower cost alternative treatment settings, and health prevention. Not all of the incentives are beneficial, however. Capitation can also encourage providers to select low risk clients in order to reduce the costs of serving their enrolled population, and to limit the quantity and quality of services provided.

The magnitude of the incentives for cost control, risk selection, and quality limits generated by capitation payment depends on several factors: (i) the specific services covered by the capitation payment; (ii) regulations and practices with regard to preferred risk selection; and (iii) the market context, particularly the extent to which providers compete for enrollees and the frequency with which the population is entitled to re-enroll with different providers or fund holders.

*Services Covered* The services covered by a capitation payment generate strong incentives affecting the pattern of resource use. If the payment is to primary care providers and covers only the services provided at that level, the primary care provider has the incentive to minimize costs by referring patients to more specialized providers whenever possible. Under recent payment reforms in Hungary, for example, capitation payments to family physicians cover only their services. This may actually exacerbate the high referral rates that existed when these physicians were paid on a salaried basis (Deeble 1992).

Capitation is more likely to improve efficiency if the defined services covered by the payment create no incentive to refer enrollees to other, more expensive, providers. For example, the capitation scheme under social security health insurance in Thailand stipulates that hospitals serve as capitated fund holders responsible for providing comprehensive care for program beneficiaries. In response, fund holding hospitals established outreach clinics to serve enrollees more cost-effectively by reducing the need for expensive hospitalizations (ILO/UNDP 1993). In this system, competition

has encouraged fund holders to minimize costs by treating patients at the least expensive level of care.

Health status can be enhanced by government mandating, for the capitation payment, a benefits package made up of cost-effective interventions. For specific public health goals, additional bonus payments can be a useful incentive for providers to make available highly cost-effective services, such as immunizations and certain types of screening. Under payment reforms to general practitioners in the U.K.'s National Health Service for example, bonuses are given for achieving specific targets for immunization and vaccination rates (Lynch 1994).

The emphasis on prevention induced by capitation is likely to have beneficial effects on health status, provided the scope of the services (and thus the provider's risk) is sufficiently large. In the United States, 80 percent of women aged 50-74 enrolled in the Kaiser Permanente Plan of Northern California had received mammography screening, compared to 25 percent of women in this age group in the population as a whole, and pediatric immunization rates (DPT, Polio, Measles-Mumps-Rubella) were over 90 percent in Kaiser plans, compared with a national average of 37 percent (Moon 1993). In the Dominican Republic, capitated plans (Iguales) with a limited scope of services have been deficient in providing preventive care (La Forgia 1990).

*Risk Selection* Fund holders can reduce costs by enrolling only persons who are at the least risk of using expensive medical services. If capitation payments are not adjusted for individual risk, fund holders may turn their competitive energies toward the selection of preferred risks ("cream skimming") for enrollment with deleterious consequences for both equity and efficiency (Van de Ven and Van Vliet 1992). Fund holders with a high morbidity mix of enrollees are likely to have insufficient resources to meet their clients' needs. This may limit access for the chronically ill, whom insurers will try to deter from enrolling with their program. In practice, this often means that the elderly and infirm are "dumped" on public programs. There is very limited evidence regarding the effects of capitation schemes on equity, but evidence from the United States indicates that HMOs have had healthier enrollees than the rest of the population (CBO 1994), suggesting they have selected favorable risks to some extent.

Governments can minimize fund holders' risk selection behavior by mandating that fund holders offer open enrollment with uniform premiums. With such a mandate, it is desirable to compensate the funds in some way for the risks of the population enrolled, so that a fund does not go bankrupt, for example, just by the mere fact that a high proportion of its enrollees are elderly who need more costly services. In theory, the underlying risk of the enrolled population can be measured and funds can be compensated for undue risk. Fund holders with a riskier pool of enrollees could be compensated from a larger national or regional risk-equalization fund. There is much discussion, but extremely limited international experience to date with risk-equalization payments. Argentina and Colombia are considering risk-adjusted payments in their health reforms. Germany and the Netherlands are just starting to implement simple risk-equalizing payments for the sickness funds. In Germany, for example, the current formula, introduced in 1994, relies upon five variables intended to capture an enrollee's risk of using costly services relative to the premium paid: age, sex, whether the enrollee is disabled and of working age, family size and income. Over time, these experiences can be evaluated to assess how well simple formulas capture the differentials in underlying risks of the population. Simple formulas may work best when benefit packages are limited; more complex formulas may be needed for comprehensive packages.

*Quality and Competition* Capitation payment mechanisms can generate an adverse incentive for providers to provide insufficient or reduced quality services in order to minimize costs. The potentially negative consequences for quality can be mitigated if beneficiaries have the right to re-enroll periodically with competing fund holders. Measurement of quality differences among capitated providers across markets with varying degrees of competitiveness has not been carried out systematically, but informal observation suggests that competition enhances quality. In a competitive context, providers must be concerned with satisfying consumers in addition to maximizing the margin between revenues and expenditures. Thus, competitive capitation schemes may be more appropriate in urban areas with a relatively large number of physicians than in rural areas where competition is likely to be limited. Well-informed consumers are essential for competitive forces to have their desired effects. Government can facilitate this by collecting and publishing information on package benefits, consumer rights, provider performance and consumer satisfaction (Van de Ven and Van Vliet 1992).

**Administrative costs.** As is illustrated by a prepayment scheme for primary village care in Guinea Bissau (Eklund and Stavem 1994), the administrative costs of a capitation scheme are potentially higher than budgetary transfers but likely to be lower than those of either fee-for-service or case based reimbursement because there are no claims to be processed. This ranking of relative costs among methods appears to hold true for higher resource environments. In capitation plans in a higher resource environment the administrative demands on fund holders (including providers who also act in this capacity) can be considerable. Fund holders need to monitor provider practices, negotiate contracts with allied providers, and establish capitation rates. Governments may face high administrative costs should they attempt to eliminate or minimize the practice of preferred risk selection by running risk equalization schemes. Because capitation can be very risky for fund holders, they need re-insurance to protect themselves against catastrophic losses. This administrative cost may be met by private (possibly multi-national) entities or by governments. Providers under capitated payment methods incur considerable administrative costs in managing risk. These administrative costs are not necessarily wasteful. Some of the risk associated administrative costs that capitated providers bear derive from the need to coordinate care, and this can improve health outcomes. Consumers bear no significant administrative costs.

**Conditions associated with performance success and failure.** Skilled management is critical for successful performance under capitation. Capitation should be introduced cautiously in countries with limited management capacity in health. Fortunately, capitation can be introduced on a pilot basis and can exist in competition with other programs including government budgeted services. The transition to capitation can be gradual and coordinated with programs to develop managerial capacity.

Competition is also important to gain the benefit of quality enhancing entrepreneurial response to capitation. In countries making a transition from a centrally directed economy to a competitive economy, time should be allowed for entrepreneurial skills and reflexes to be developed, perhaps through pilot schemes, before the wide introduction of capitation schemes. In smaller communities, especially in rural areas where transportation is limited, declining cost of services may limit the number of providers and competitive capitation may not be practical.

#### *Fee-for-Service Reimbursement*

Fee-for-service — with or without fixed fee schedules — is commonly used for reimbursement of providers in both the industrialized and developing world. In the Netherlands, a

national tariff setting agency establishes service reimbursement rates annually after negotiation between representatives of physicians and insurers (Hurst 1992). Elsewhere, as in Korea, rates are established through negotiations between associations of fund holders and associations of providers, with government acting as mediator (Yang 1991). In other countries, such as France and Germany, prices for physicians' services are established as relative values or "points," with the monetary value of a point re-negotiated periodically (Hurst 1992). Similarly in Zimbabwe, the association of private insurers annually negotiates a relative value schedule of fees for specific services provided by private physicians (Hecht *et al.* 1992). Unregulated fee-for-service is more common in the United States, although insurers typically will not reimburse beyond "reasonable and customary charges" for a given type of service.

**Incentives.** Unfettered fee-for-service reimbursement promotes an excessive use of services, because consumers rely on providers for information on their need for services and providers, in turn, have a financial incentive to increase the volume of services. This phenomenon, known as supplier-induced demand, is particularly aggravated under third party (institutional) payment. Evidence from countries as diverse as the Netherlands (Hurst 1992) and China (Bumgarner 1992) clearly demonstrates that fee-for-service reimbursement leads providers to increase service volume.

Can controls on fee levels adequately constrain spending under fee-for-service payment mechanisms? Probably not, by themselves. When physician reimbursement levels were frozen from 1971 to 1976 in the Canadian province of Quebec, for example, per capita service use grew at an annual rate of 9.6 percent. By 1976, per capita utilization was 58 percent higher than in 1971 (Barer, Evans and Labelle 1988). It appears that physicians unbundled services and required more frequent visits in order to maintain their income levels in the face of price controls.

Another approach to contain costs under fee-for-service reimbursement is to combine regulated fee or point schedules with limits on the total value of payments. In the provinces of Manitoba and Ontario in Canada, where consumers are given choice among competing providers, fixed physician fees schedules are negotiated with the provincial fund holding agency. Fees for the following year are adjusted downward if the total volume of services exceeds a defined threshold level (Lomas *et al.* 1989). In Germany, global budgets are negotiated between associations of sickness funds and physicians. At the end of the reimbursement period, the value of a point is adjusted according to the volume of services to keep total expenditures within the global budget.

Can cost sharing curb the cost-increasing effects of fee-for-service? The expansion of fee-for-service coverage in the Republic of Korea was associated with a rapid increase in the share of health in GNP from 3.7 to 6.6 percent during the 1980s (De Geyndt 1991). Yang (1991) found that, despite the presence of co-payments as high as 65 percent for some outpatient services and 20 percent for inpatient care, much of this growth resulted from a threefold increase in inpatient volume and a near doubling of outpatient utilization that occurred between 1980 and 1988. Korea was able to sustain this increase in costs because of the rapid economic growth it experienced during this period. Evidence suggests that incentives to providers are likely to have a more significant impact on service use than demand side measures (Kutzin and Barnum 1992).

The fact that fee-for-service reimbursement encourages the production of health services may be satisfying to consumers who believe that the use of a greater quantity of services or more sophisticated technologies mean better quality of care. Fee-for-service reimbursement has been associated, however, with the use of unnecessary and potentially harmful services. For example,

Brazil had (and continues to have) the highest cesarean section rate in the world, with an estimated 31 percent of hospital births delivered in this manner in 1981. One important cause of this was the financial incentive to physicians, who, prior to 1980, received a greater reimbursement for this procedure than for a vaginal delivery. Unnecessary use of caesareans increased health risks to mothers and newborns, especially with regard to infections following childbirth for both, respiratory distress for the newborn, and maternal deaths related to the use of general anesthesia (World Bank 1993a).

**Administrative costs.** The administrative costs of fee-for-service medicine are high. Shimmura (1988) observes that the administrative costs in a sample of countries using budgets and capitated plans, were about one third those in systems with fee-for service reimbursement. Reimbursement made on the basis of detailed service items requires records to be kept on the quantity and type of services provided. Invoices must be sent to fund holders, and payment records must be kept by both providers and fund holders. This requires some degree of information infrastructure, and while this does not require electronic data transfer, such capacity would enhance administrative efficiency. Because reimbursement amounts are determined by the invoices submitted from providers, fund holders, whether public or private, must make some investments in auditing procedures to ensure that the providers are reporting accurate information. In some systems, consumers also bear administrative costs, as they are required to obtain forms from providers and file them with fund holders for each service received.

**Conditions associated with performance success and failure.** Fee-for-service reimbursement has been successful in increasing health system productivity but has led to rapid cost escalation due to the incentives of this system for supplier-induced demand. Cost escalation is most rampant where the third party payer acts purely as a financial intermediary and makes no effort to exercise control over utilization, as in China and Korea. The presence of beneficiary cost sharing requirements is likely to reduce this effect, but the Korean experience suggests that cost sharing alone is not sufficient to fully counteract increases in volume induced by providers. Experience in Canada, Germany and elsewhere, demonstrates that competition among providers under a regulated fee for service system can contribute to quality.

#### *Case-Based Reimbursement*

Under case-based reimbursement, the provider is paid a predetermined amount covering all services per case or episode of illness. The basic method of case-based reimbursement is to bundle services into distinct case categories that are reasonably homogenous with respect to resource use and reimburse a fixed amount per category. Reimbursing by case gives providers an incentive to produce care more efficiently. Case-based reimbursement is a major mechanism for hospital payment in Argentina, Brazil, Hungary and the United States.

The complexity of case-based systems of reimbursement varies greatly with the number of case categories. At one extreme the case classification may be simply an inpatient admission or day. Under Indonesia's compulsory insurance program for civil servants, for example, hospitals are paid a "packet price" per diem that bundles hotel services, materials, and most medical and diagnostic services into one amount (Paqueo and Lieberman 1992). A slightly more complex system of bundled reimbursement rates is used at the district hospital in the Bwamanda health zone in Zaire, where 16 inpatient case payment categories existed in 1989 (Shepard, Vian and Kleinau 1990). As examples of the most complex systems, there were 485 categories used for the U.S. Medicare program in 1992 (ProPAC 1992), 433 categories in Hungary (Jávor, Bordás and Nagy n.d.), and

266 in Brazil (World Bank 1993a). Each of these several hundred categories have detailed classification criteria to be applied by the provider and checked by the fund holder as part of the reimbursement process.

**Incentives.** *Cost Reduction* The major advantage of case-based reimbursement is the incentive that it gives to providers to contain cost per case. By tying the provider's reimbursement to output measured in terms of a diagnosis or case characteristic, the provider has an incentive to minimize the resource content of services provided. Coulam and Gaumer (1992) concluded that the change from cost-based reimbursement to case-based reimbursement by diagnostic related groups (the classification groups are referred to as DRGs in the U.S.) led to a substantial decrease in the growth rate of the U.S. government's inpatient and total payments for Medicare, the public insurance program for the population over age 65. The change to DRGs caused a reduction in average length of stay and a decline in total input use per case, even though input use per day increased.

Although the structure of the bundled payment system in Indonesia is vastly different from U.S. DRGs, the experience of one province for which data are available is consistent with the U.S. experience. Average length of hospital stay for beneficiaries of the government's compulsory insurance program for civil servants in this province fell from 12 to 7 days with the implementation of the unified packet price per diem reimbursement. Although expenditure per day increased, this was more than offset by the reduction in average stay, and total costs per admission were reduced (Paqueo and Lieberman 1992).

*Coding Bias and Case Selection* Case-based reimbursement may encourage providers to attract and accept patients at the low-cost end of the case-based reimbursement category. The provider's financial interest lies in accepting cases for which the preset reimbursement rate exceeds the expected cost of services actually required and rejecting cases for which the reverse is true. In Brazil, payment incentives apparently induced private hospitals to "dump" difficult and costly cases on public facilities (Rodrigues 1989).

Hospitals have an incentive to diagnose patients into highly paid case categories and code medical records in such a way as to increase payments. For example, the change to DRG-based payment in the U.S. induced changes in coding practices that resulted in an increase in the severity of the reported mix of Medicare patients that was greater than warranted by the actual change. Coulam and Gaumer (1992) found that the errors in coding were not random and systematically favored higher weighted DRGs.

*Quality of Care* The incentives to reduce costs per case that are inherent in case-based payments raise concerns about the quality of care and thus the health status of patients whose care is reimbursed on a case basis. However studies in the United States found that quality of care for Medicare patients has been improving during the period since the introduction of DRGs (Wiley 1992). Coulam and Gaumer (1992) found no evidence that the reduction in the number of diagnostic tests and therapeutic activities per case associated with the initial implementation of DRG-based payment had negative consequences for the quality of care.

In contrast to the U.S., case-based payment appears to be associated with quality problems in Brazilian hospitals. Cost studies from several hospitals in Brazil suggest that the level of reimbursement per case is far below the average costs of provision. In São Paulo for example, the low level of case payments has led to low levels of intensive care for conditions that normally require



more use, and low average lengths of stay for diagnoses usually associated with longer stays (World Bank 1993a).

**Administrative Costs.** The administrative costs of a complex system of case-based reimbursement are high for both the fund holding agency and the providers. The information that must flow between fund holders and providers to file claims and monitor reimbursement requires investment in record keeping capacity and other aspects of management information systems. For the fund holder or government administrative agency, extensive management information on patient protocols and their associated costs is required to establish the case categories and appropriate reimbursement rates, especially as new technologies and drugs become available. The difficulties in defining and periodically adjusting case reimbursement rates can be even greater than for detailed service categories under fee-for-service.

Empirical evidence is not available to compare the administrative costs of simple versus complex case-based payment, but the presumption is that a complex system of case-based reimbursement is considerably more costly than a capitated system or fee for service. The designers of a case-based system must carefully weigh the relative advantages of complex versus simple classification systems. One motivation for the complexity of a detailed case-based system is to define the cases with enough specificity, sometimes requiring the creation of subcategories within diagnostic groups, to create relatively homogenous groups with respect to resource use. In contrast, a simple bundled reimbursement system, such as that used in Indonesia, has fewer administrative costs than either a complex case classification system or a fee-for-service system because there is no need for detailed data on each service used.

While administratively costly, the management information and cost accounting required by a case-based system generate benefits beyond reimbursement. The detailed information makes evaluation of the cost effectiveness of performance possible on a routine basis. The value of case mix adjusted cost, mortality, and morbidity statistics as monitoring and management tools to achieve higher efficiency and facilitate comparisons of provider quality is great enough that health systems in many OECD countries bear the cost of maintaining service and cost information for case categories even though this information is not used for reimbursement. Some have adapted DRGs to define budgets for an expected level of case mix adjusted utilization (McGuire 1991). DRGs can also be used to facilitate contracts between fund holders and hospitals (Scotton 1991).

**Conditions associated with performance success and failure.** In the United States, case-based reimbursement of hospitals under Medicare has been successful at reducing the rate of growth of expenditures without harming the quality of care. Although extrapolating from the U.S. experience should be done with caution, the experience suggests some conditions needed for case-based reimbursement to achieve cost savings without compromising health status. First, the case categories should be sufficiently well designed so that incentives to select certain types of patients are minimized, yet not be so detailed as to make them administratively unworkable. There should be a manageable number of case categories (i.e., hundreds rather than thousands), and variation in resource use for different cases within the same category should be small. In addition, for the potential cost savings of a well designed case-based reimbursement system to be realized, internal hospital reorganization and training may be needed so that clinical managers can be given financial responsibilities (Deeble 1992). These conditions imply the need for sophisticated management information and accounting systems and electronic data transfer capacity at both the provider and system administration levels in order to generate and organize the data needed to create and update the case categories, and to monitor and audit the coding and reimbursement process. The need for

an extensive monitoring and auditing system is critical for the success of case-based reimbursement, yet the required level of management capacity, sophisticated information systems and data exchange infrastructure is probably beyond the capacity of most countries.

In countries with adequate infrastructure, quality-based competition among hospitals can help to negate the incentive to minimize inputs per patient admitted under case-based reimbursement. This requires, first of all, a competitive market for producing hospital services, a situation most likely to be found in major metropolitan areas. In addition, well-informed consumers are essential for achieving the benefits of competition between suppliers. To ensure quality of care in hospitals which enjoy de facto monopolies in their market area, regulation or direct government provision of care is required.

### *Mixed Systems*

Most provider payment systems are mixed. A mixed system may be adopted for practical reasons: it may simply be administratively more practical and less costly to reimburse a primary care physician one way and a diagnostic laboratory another way. Mixed systems are also adopted to counter the adverse incentives in pure systems while retaining the desirable features. The underlying incentives under the pure systems are summarized in Table 1. No system is entirely free from unwanted side effects, but both institutional experience (Abel-Smith and Mossialos 1994; Hurst 1992) and detailed analysis (Newhouse 1992; Ellis and McGuire 1986; 1990) confirm the gains from adopting mixed systems.

*Table 1: Summary of Incentives in Pure Reimbursement Systems*

Reimbursement Type	Underlying Incentives for:			
	Cost/Unit	Services/Case	Quantity (of cases)	Risk Selection
Global budget	---	---	—	0
Fee for Service				
Unconstrained	—	++	+	0
Fixed	---	++	+	+
Capitation	---	---	---	++
Case Based	---	---	++	+

*Legend:* --- strong incentive to reduce; — moderate incentive to reduce; 0 no clear incentive; + moderate incentive to increase; ++ strong incentive to increase.

Payment systems can be mixed over several dimensions; we distinguish three. First, different payment schemes can be used for different categories of providers. For example, hospitals may be reimbursed on a case basis while primary care doctors are paid on a capitation basis, as in Hungary. Hospitals make up a major share of health expenditures, and the case-based payment mechanism generates incentives to provide care efficiently that are likely to far outweigh the administrative costs of the payment system. At the physician level in Hungary, however, capitation payment is more practical than case-based payment for outpatient services. In Canada, the mix is

different: hospitals are financed through global budgets, which constrain costs, while primary care physicians are paid by regulated fee-for-service.

Second, there may be mixed payment of a given provider; that is, payment of the total costs for a given provider may be partitioned over several different schemes. For example, hospitals may be reimbursed partly with a global budget to cover fixed costs and partly on a case or fee-for-service basis to cover variable costs.<sup>2</sup> Or, as in Germany, global budget targets may be set for hospital and ambulatory physician services, and actual payments are made on a fee-for-service basis but constrained so that total expenditures do not exceed the global targets. This combination of approaches in Germany is a way to minimize the cost-escalating effects of fee-for-service payments.

Third, the payment method may vary depending on the services provided. For example, there may be two different schedules of hospital services — a package of basic services covered by capitation and elective services covered by fee-for-service. Uruguay provides an example of mixed payment by type of service. Here, most of the population is covered by private HMO-like entities (Instituciones de Asistencia Medica Colectiva, or IAMCs) that provide comprehensive coverage of preventive, ambulatory, and inpatient services. However, the government established a national fund to pay for expensive, high technology services (hemodialysis, renal transplants, hip replacement, and cardiovascular surgery) on a fee-for-service basis. Consequently, these services are excluded from the benefit packages of the IAMCs to reduce their risk and reduce their need to select enrollees based on expected risk (La Forgia and Griffin 1993). Similarly, some HMOs in the United States make capitated contracts with physicians, but "carve out" certain costly services and reimburse these on a fee-for-service basis. These "carve outs" serve to reduce the risk that capitated physicians bear to a reasonable level.

The choice of mix is critical. Depending on the mix, the interplay of incentives across payment modes can effect referrals and costs either positively or negatively. The German and Netherlands systems provide interesting examples. Both are characterized by high consumer satisfaction and both systems have done relatively well at controlling costs over the past ten years.

In Germany, ambulatory care physicians are reimbursed on the basis of points per service. The value of a point is adjusted at the end of the period to constrain the aggregate reimbursement within a global budget set at the beginning of the period. Regional physician associations are responsible for paying providers. The associations monitor physician service volume and temper the tendency for physicians to increase service volume. The associations financially penalize physicians with service volumes well beyond the average if they cannot be explained by case mix. Hospitals operate under global budgets, and hospital physicians are usually employed on a salary basis. With this mix, there is no undue incentive for ambulatory care physicians to refer to hospitals.

In the Netherlands primary care physicians are capitated while specialists are paid a fixed number of points for service with the value of a point preset at the beginning of the period. Capitated primary care givers, thus, have an incentive to refer and specialists have an incentive to accept the referrals to increase their volume of services and income. Although there is an adjustment of the value of the point at the beginning of the subsequent period, there is no global cap on aggregate reimbursement within the period. Pressures to contain specialist costs come from the

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<sup>2</sup> Fixed costs are those which remain unchanged over the budget period independently of the volume of services. Variable costs are linked to the volume of services.

hospital budgets. Hospital directors must operate within a fixed budget and specialist payments come out of those budgets. Thus, there is a positive tension within the hospital to contain costs.

**Multiple Payment Rules.** The incentive effects of mixed payment systems are easiest to predict when the health system is dominated either by a single payer (Canada) or multiple payers that follow consistent payment rules (Germany). In these cases, the incentive effects of the payment system impact uniformly and predictably on the entire system. When fund holders follow different payment rules (the United States), powerful interactions can occur and the incentive effects of individual fund holders payment systems are diffused. In this case, the medical care providers can exploit the system through discriminatory service provision and pricing, shifting costs to funds with higher reimbursement levels and creating access problems for individuals covered by funds (often public) reimbursing at lower rates.

These interactions occur in many developing countries. Physicians may minimize their hours and effort at public salaried positions when their income from fee-for-service medicine in their private clinic is more profitable. They often try to "recruit" patients in public facilities to attend their private clinics. In the United States, multiple fund holders with different fee schedules and payment methods provide opportunities for providers to shift costs across service and provider categories to maximize profit (or minimize losses). These interactions can be reduced or eliminated by imposing uniform fee schedules and payment methods across all or at least all major fund holders. In Germany, for example, there are over 1,000 sickness funds that contract with physicians, but all use standard points established by physician associations and similar contracting methods. It is beyond the scope of this paper to analyze the advantages and disadvantages of multiple versus single rules of the game for payment. However, there may be strong arguments for imposing uniform payment rules across fund holders.

### *Enabling Environment*

The provider payment scheme must be appropriate to the country environment. A developed banking and monetary system is particularly important for fee-for-service and case-based reimbursement. Payment by check is required to facilitate the routine, timely, reimbursement of thousands of transactions with individual providers. A stable macro-economic environment is important for all payment schemes to allow funds to retain their value over the reimbursement period. Prospective payment methods (those where payments are made or committed to providers before services are rendered) are particularly threatened by macroeconomic instability because they typically involve an obligation to provide services over a longer time period. It is difficult to foster a competitive environment in countries that lack an entrepreneurial tradition and a legal framework (for example, property laws) to foster competition. Without appropriate competitive responses, payment intended to promote competition can instead foster the development of local monopoly with attendant costs to consumers in quality and quantity of services. Literacy and education are particularly important elements of the social environment needed to enable consumers to make effective choices. Consumer information, or the lack of it, is a notoriously difficult impediment to the efficient functioning of fee-for-service schemes. Development of a competitive market for services is abetted by an educated and literate clientele.

With regard to the sector environment, critical aspects include the extent of management experience, sector organization, an adequate accounting framework, and an adequate information system. Management skills are required to obtain the benefits of increased efficiency from any of the schemes identified. Each of the schemes has particular strengths with regard to management

incentives for efficiency. For success managers must make the improvements in technical and allocational choices regarding the use and selection of staff, supplies, and technology that are expected according to the scheme design. Management of selected schemes requires particular skills. For example, complex fee-for-service and case-based reimbursement requires the orderly handling of large quantities of information, capitation and global budgeting require careful allocation of allotted funds over the reimbursement period; global budgeting with decentralized planning requires the preparation of a budget plan and effective negotiation with the budget authority. The more complex payment schemes require the use of sophisticated accounting systems and management information systems. Many hospitals and other providers used only the simplest of accounting schemes prior to health finance reforms. The complexity of the accounting system required depends on the details needed for reimbursement. Under the simplest fee-for-service scheme with only a few reimbursement categories, the accounting system can remain basic. More detailed fee-for-service and case-based reimbursement require relatively more complex accounting and management information systems. Operation of complex systems of accounting and management information require trained staff, computers and software that may not be appropriate to the level of staff education and resources available.

## Conclusions

While an inventory of the enabling environment is needed to tailor specific payment schemes to the institutions and capacity of individual countries, some broad generalizations can be attempted.

- There is no single optimal method for paying providers. All methods have some advantages as well as drawbacks (see Table 2) and the desirability of a specific approach depends on the economic, social and institutional context of a particular setting. For most payment methods, the main disadvantages can be addressed to some extent through other measures (see the last column of Table 2). For example, global budgets, by themselves, provide weak incentives to provide services efficiently. To create greater incentives for efficiency, global budgets must be linked to performance. Fixed fees for service can create an incentive for providers to artificially increase volume. To control costs, fixed fees can be combined with total expenditure caps.
- In low-income countries, complex fee-for-service or case-based reimbursement schemes are not appropriate. In addition to the greater degree of resources and training required for such schemes, fee-for-service and case payment are not the best way to reimburse for the public health and primary services appropriate to the epidemiological environment (high rates of communicable diseases, high fertility, and high infant mortality) in most poor countries. Prepaid capitation schemes or stringent global budgets with quality monitoring can have an important role in low income countries, however.
- For middle income countries with more developed institutions that are partly through the epidemiological transition, the benefits of relatively simple service based or case-based reimbursement -- especially in the institutional context of competitive provision of services -- begin to outweigh the administrative costs of the systems. Higher income countries provide an appropriate environment and can benefit from more detailed payment methods.
- Most of the formerly socialist economies could ultimately benefit from the introduction of more complex payment systems. But the limited institutional and private sector

development in these countries means that changes should be adopted gradually while the enabling environment improves.

· Competition among providers is an important component of provider payment reform if the changed incentives are to increase efficiency and quality. This is true whether the competition is created among public institutions or within a regulated private market for health care. Improved management is also an important ingredient for provider payment reform if the new incentives are to be recognized and acted upon by managers.

*Table 2: Advantages and Disadvantages of Provider Payment Alternatives*

Payment Method	Main Advantages	Main Disadvantages	Measures to Minimize Disadvantages
Line Item Budget	<ul style="list-style-type: none"> <li>· Allows strong central control, desirable where local management very weak</li> <li>· Predictable expenses for fund holder (unless supplemental budgets provided)</li> </ul>	<ul style="list-style-type: none"> <li>· No direct incentives for efficiency</li> <li>· Provider may under provide services</li> <li>· Imposes fixed resource use, directly impeding efficiency</li> </ul>	<ul style="list-style-type: none"> <li>· Monitor performance to encourage best use of resources within constraint of fixed factors of production</li> </ul>
Global Budget	<ul style="list-style-type: none"> <li>· Predictable expenses for fund holder, low administrative costs</li> <li>· Unified budget <i>permits</i> resources to be used efficiently</li> </ul>	<ul style="list-style-type: none"> <li>· No direct incentives for efficiency</li> <li>· Provider may under provide services</li> </ul>	<ul style="list-style-type: none"> <li>· Monitor performance. Provide performance based incentives (link global budget to performance, bonuses)</li> </ul>
Capitation	<ul style="list-style-type: none"> <li>· Predictable expenses for the fund holder</li> <li>· Provider has incentive to operate efficiently</li> <li>· Eliminates supplier-induced demand</li> <li>· Moderate admin. costs</li> </ul>	<ul style="list-style-type: none"> <li>· Financial risk may bankrupt provider. Provider may seek to minimize risk by "cream skimming"--enrolling low-risk patients.</li> <li>· Provider may under provide services</li> </ul>	<ul style="list-style-type: none"> <li>· To minimize excessive provider risk consider capitation "carve outs" and adjusting capitated payments to reflect the underlying risks of population enrolled</li> <li>· Enforce contracts to ensure services provided</li> </ul>
Fee for Service (no fee schedule)	<ul style="list-style-type: none"> <li>· Incentives to provide services</li> </ul>	<ul style="list-style-type: none"> <li>· Unpredictable expenses for fund holder</li> <li>· Cost escalating: strong incentives for supplier-induced demand</li> </ul>	
Fee for Service with Fixed Fee Schedules	<ul style="list-style-type: none"> <li>· Incentives to operate efficiently</li> <li>· Efficiency is greatly enhanced when combined with a global budget cap</li> </ul>	<ul style="list-style-type: none"> <li>· Unpredictable expenses for fund holder</li> <li>· Cost escalating: incentives for supplier-induced demand</li> <li>· Higher administrative costs (price controls must be established, revised periodically and enforced)</li> </ul>	<ul style="list-style-type: none"> <li>· Reduce unpredictability of expenses and cost escalation by capping total expenditures within a preset limit, and adjusting prices to keep expenditures within limit</li> </ul>
Case-Based	<ul style="list-style-type: none"> <li>· Strong incentives to operate efficiently</li> </ul>	<ul style="list-style-type: none"> <li>· Unpredictable expenses for fund holder, high administrative costs (but less than fee for service)</li> <li>· Provider has incentives to select low-risks within case categories</li> <li>· Case based payment less suitable for outpatient care</li> </ul>	<ul style="list-style-type: none"> <li>· Adopt detailed case-mix category system</li> <li>· Adopt mixed payment system</li> </ul>

- In general, mixed forms of provider payment are likely to be superior to reliance on any single method. Mixed systems are adopted both because they may be administratively more practical and because they can minimize the adverse incentives that arise with just one payment mechanism.

- There is one payment method to be avoided: unregulated fee-for-service reimbursement. This is because of the cost-escalating incentives it generates for providers to produce excess services and the difficulty of addressing this problem through other measures.

Many of these conclusions are based on informal observation or the views of informed policy observers. Much more empirical analysis is needed before firm conclusions can be reached. For example, administrative costs are difficult to identify and are spread over households, providers at different levels, third party payers and governments. No satisfactory, systematic study of administrative costs has been made. Similarly, the effects of competition on improved efficiency and quality of services have not been systematically measured. This is because the experience with competitive reforms is relatively recent, and because the measurement problems in identifying quality and efficiency are formidable. Research on these questions is greatly needed. In the meantime, health finance reforms underway in many OECD and developing countries support competitive reimbursement of providers.

Any payment reforms will inevitably be associated with constituent winners and losers. For example, a change in the form of provider payment may result in increases or decreases in the demand for health workers in different categories. Payment reform may also reduce physician incomes. Successful reforms will require political strategies to address the concerns of different constituencies. In addition, before introducing a change on a large scale, it may be best to experiment and evaluate alternative payment methods. Provider payment reforms may entail legislative, procedural and accounting changes. Success with a chosen method of provider payment can only be achieved with careful attention to country capacity for implementation and the existence of prerequisite conditions for success.

## Bibliography

- Abel-Smith, B. and E. Mossialos. 1994. "Cost Containment and Health Care Reform: A Study of the European Union." *Health Policy* 28:89-132.
- Barer, Morris L., Robert G. Evans and Roberta J. Labelle. 1988. "Fee Controls as Cost Control: Tales from the Frozen North." *The Milbank Quarterly* 66(1):1-64.
- Bumgarner, J. Richard, Ed. 1992. *China: Long-Term Issues and Options in the Health Transition*. A World Bank Country Study. Washington, DC.
- CBO (Congressional Budget Office). 1994. "Effects of Managed Care: An Update." CBO Memorandum. Washington, DC.
- Chu, David K. W. 1992. "Global Budgeting of Hospitals in Hong Kong." *Social Science and Medicine* 35(7): 857-868.
- Coulam, Robert F. and Gary L. Gaumer. 1992. "Medicare's Prospective Payment System: A Critical Appraisal." *Health Care Financing Review* 1991 Annual Supplement:45-77.
- De Geyndt, Willy. 1991. *Managing Health Expenditures under National Health Insurance: The Case of Korea*. Technical Paper 156. World Bank, Washington, DC.
- Deeble, J.S. 1992. "Health Insurance and the Structure of Health Services." Background paper for the Hungary Health Care and Social Insurance Project. World Bank. May 12.
- Eklund, Per and Knut Stavem. 1994. "Community Health Insurance Through Prepayment Schemes in Guinea-Bissau." In Paul Shaw and Martha Ainsworth, Eds., *Financing Health Services Through User Fees and Insurance: Lessons from Sub-Saharan Africa*. World Bank Discussion Paper Series (forthcoming).
- Ellis, Randall P. and Thomas G. McGuire. 1986. "Provider Behavior under Prospective Reimbursement: Cost Sharing and Supply." *Journal of Health Economics* 5:129-151.
- \_\_\_\_\_. 1990. "Optimal Payment Systems for Health Services." *Journal of Health Economics* 9:375-396.
- Florez, Robin. 1994. "La Reforma Financiera del Ministerio de Salud." Unprocessed. Guatemala, Ministry of Health.
- Hecht, R.M., C. Bonga, M. Chaora, S. Fjelland, P. Manga, E. Maphenduka, M. Thomas, R. Vogel and L. Zinyemba. 1992. *Zimbabwe: Financing Health Services*. Washington, D.C.: World Bank.
- Hurst, Jeremy W. 1992. *The Reform of Health Care: a Comparative Analysis of Seven OECD Countries*. OECD Health Policy Studies No. 2. Paris: OECD.
- ILO/UNDP (International Labour Office and United Nations Development Programme). 1993. *Thailand: Report to the Government on Social Security Implementation and Development. Part I: Main Policy Issues and Technical Problems*. Document THA/90/014(I). Geneva: International Labour Office.



- Jávor, A., I. Bordás and J. Nagy. no date. "Introduction of DRG System in Hungary." Information Centre for Health Care of Ministry of Health and Social Welfare, Szekszárd, Hungary.
- Kutzin, Joseph and Howard Barnum. 1992. "Institutional Features of Health Insurance and their Effects on Developing Country Health Systems." *International Journal of Health Planning and Management* 7(1):51-72.
- La Forgia, Gerard M. 1990. "Health Services for Low-Income Families: Extending Coverage Through Prepayment Plans in the Dominican Republic." Health Financing and Sustainability Project Small HFS Technical Report 2. Abt Associates, Inc. Bethesda, Maryland.
- La Forgia, Gerard M. and Charles C. Griffin, Eds. 1993. "Health Insurance in Practice: Fifteen Case Studies from Developing Countries." Health Financing and Sustainability Project Small Applied Research Paper 4. Abt Associates, Inc., Bethesda, Maryland.
- Lomas, Jonathon, Catherine Fooks, Thomas Rice and Roberta J. Labelle. 1989. "Paying Physicians in Canada: Minding Our Ps and Qs." *Health Affairs* 8(1):80-102.
- Lynch, Maurice L.. 1994. "The Uptake of Childhood Immunization and Financial Incentives to General Practitioners." *Health Economics* 3:117-125.
- McGuire, Thomas E. 1991. "DRGs: The State of the Art, Circa 1990." *Health Policy* 17:97-119.
- Moon, Wayne R. 1993. Presentation on the Kaiser Foundation Health Plan to the Regional Conference of the International Federation of Health Funds, Mmabatho, South Africa. September 14-15.
- Newhouse, Joseph. 1992. "The Basis of Reimbursing Health Care Providers." Unprocessed. September.
- Nguyen, Nguyen. 1994. "Physician Behavioral Response to Price Control." HRO Working Paper No. 46. Human Resources and Operations Policy Vice Presidency, World Bank, Washington, D.C.
- Paqueo, Vicente B. and Samuel Lieberman. 1992. "Indonesia: Health Insurance Issues in the 1990s." Draft confidential report 9999-IND. East Asia and Pacific Country Department III, Population and Human Resources Operations Division, World Bank, Washington, D.C.
- ProPAC (Prospective Payment Assessment Commission). 1992. *Medicare and the American Health Care System: Report to the Congress*. June 1. Washington, D.C.
- Rodrigues, José. 1989. "Hospital Utilization and Reimbursement Method in Brazil." *International Journal of Health Planning and Management* 4(1):3-15.
- Ron, Aviva. 1982. "Kupat Holim - The Oldest H.M.O." Lecture at the Johns Hopkins School of Hygiene and Public Health, November 22. Baltimore, Maryland.

- \_\_\_\_\_. 1983. "Hospital Care Budget Control Through Utilization Rationing." In International Social Security Association, *Improving Cost Effectiveness in Health Care*. Studies and Research No. 19. Geneva.
- Saltman, Richard B. 1992. "Recent Health Policy Initiatives in Nordic Countries." *Health Care Financing Review* 13(4):157-166.
- Schneider, Markus. 1991. "Health Care Cost Containment in the Federal Republic of Germany." *Health Care Financing Review* 12(3):87-101.
- Scotton, Richard. 1991. "National Health Insurance in Australia: New Concepts and New Applications." National Centre for Health Program Evaluation, Working Paper 11. Monash University, Clayton, Victoria, Australia.
- Shepard, Donald S., Taryn Vian and Eckhard F. Kleinau. 1990. "Health Insurance in Zaire." Policy, Research and External Affairs Working Paper 489. Africa Technical Department, World Bank, Washington, D.C.
- Van de Ven, Wynand P.M.M. 1993. "Regulated Competition in Health Care: Lessons for Europe from the Dutch 'Demonstration Project'." Keynote lecture at the 1993 annual conference *Managing Healthcare Markets* of the European Healthcare Management Association (EHMA), June 30. Warsaw, Poland.
- Van de Ven, Wynand P.M.M. and René C.J.A. Van Vliet. 1992. "How Can We Prevent Cream Skimming in a Competitive Health Insurance Market?" In Peter Zweifel and H.E. Frech III, Eds., *Health Economics Worldwide*. Dordrecht, The Netherlands: Kluwer Academic Publishers.
- United States, Prospective Payment Commission. 1993. *Global budgeting: Design and Implementation Issues*. Congressional Report C-93-01. July. Washington D.C.
- Wiley, Miriam M. 1992. "Hospital Financing Reform and Case Mix Measurement: An International Review." *Health Care Financing Review* 13(4):119-133.
- World Bank. 1991. "Federal Republic of Nigeria: Health Care Cost, Financing and Utilization." Report 8382-UNI. Western Africa Department, Population and Human Resources Division, Washington, D.C.
- World Bank. 1993a. "The Organization, Delivery and Financing of Health Care in Brazil." Report 12655-BR. Latin America and the Caribbean Country Department I, Human Resources Division, Washington, D.C.
- World Bank. 1993b. *Brazil: Women's Reproductive Health*. Washington, D.C.
- World Bank. 1993c. *World Development Report 1993: Investing in Health*. New York: Oxford University Press.
- Yang, Bong-Min. 1991. "Health Insurance in Korea: Opportunities and Challenges." *Health Policy and Planning* 6(2):119-129.