

## CHAPTER THREE

# *Health Services: Well Chosen, Well Organized?*

*Health services aim to protect or improve health. Whether they do so effectively depends on which services are provided and how they are organized. Resources should be used for interventions that are known to be effective, in accordance with national or local priorities. Because resources are limited, there will always be some form of rationing but prices should not be the chief way to determine who gets what care. Both hierarchical bureaucracies and fragmented, unregulated markets have serious flaws as ways to organize services: flexible integration of autonomous or semi-autonomous health care providers can mitigate the problems.*

## 3

## HEALTH SERVICES: WELL CHOSEN, WELL ORGANIZED?

### ORGANIZATIONAL FAILINGS

Just as the principal objective of a health system is to improve people's health, the chief function the system needs to perform is to deliver health services. The other functions matter partly because they contribute to service provision. It is therefore a major failing of the system when effective and affordable health interventions do not reach the populations that would benefit from them. Sometimes this happens because the providers have inadequate skills, or because of a lack of drugs and equipment: these are the consequence of failures of training and investment, as discussed in Chapter 4, or of purchasing, as discussed here and in Chapter 5. Sometimes services are not delivered to potential beneficiaries because of price barriers: this is the result of a failure to finance the services fairly, as discussed in Chapter 5. But often a failure of service delivery is due to dysfunctional organization of the health system, even when the needed inputs exist and financial support is adequate and fairly distributed. Such an organizational failing can result from the wrong arrangements among different parties involved in service delivery, which in turn creates perverse incentives and leads to mistaken choices about what services to provide, to whom to deliver them, or how to ration when it is not possible to meet everyone's needs or wants. This chapter considers how to choose which services to provide, how to organize provision and how to assure the right incentives for providers.

The complexities of organizing service provision are illustrated by the following example, which is not at all unusual. A poor young woman walks to a rural government health post with her sick baby. There is no doctor at the post, and there are no drugs. But a nurse gives the mother an oral rehydration kit and explains how to use it. She tells the mother to come back in a couple of days if the baby's diarrhoea continues. The nurse sees only half a dozen patients that day. Meanwhile, at the outpatient clinic of a community hospital about an hour's drive away, several hundred patients are waiting to be seen. Some are given cursory examinations by the doctors there and are able to obtain any prescribed drugs at the hospital dispensary. When the outpatient clinic closes, even though it is still early in the day, patients who have not been seen are asked to return the next day, without being given appointments. Some of the doctors then hurry off to work in a private "nursing home" or clinic to supplement their salaries.

The doctors' low pay and the absence of more qualified staff and drugs at the health post might be shrugged off as the consequences of spending too little. But a lack of resources cannot be blamed for the maldistribution of those resources between the health post and the hospital, the low productivity of the nurse, the under-utilization of the hospital when its

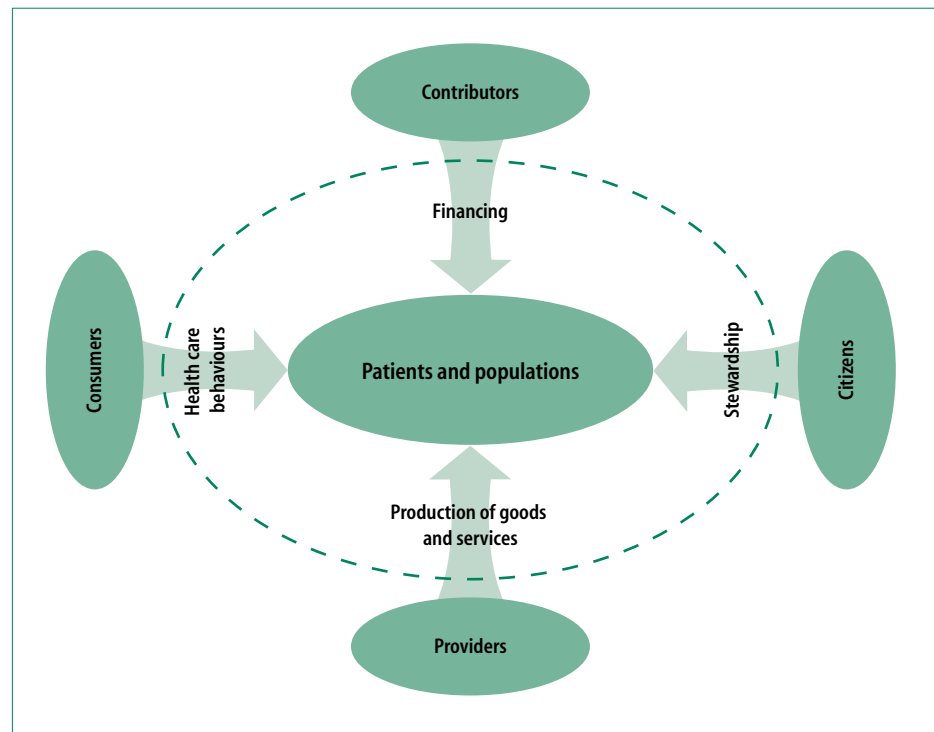
clinic closes early, the failure to have some doctors on duty over a longer interval, and the waste of people's time in waiting and then having to return another day because there is no system of appointments. These problems reflect failures of priority and of organization, both in initial investments and training and then in service delivery or the lack thereof. If the story has a happy ending for the mother and baby, it is only because the child was lucky to have diarrhoea and not malaria or some other condition the nurse could not recognize or could not treat, or requiring care which the mother would have to pay for out of pocket. Getting even limited care for free may also be the reason the mother goes to a public facility rather than to one of the private pharmacies or traditional healers, patronized by large numbers of people.

This chapter looks at how to set priorities for which services health systems should provide, and at the choices and mechanisms involved in rationing so as to make priorities effective. It then considers the organizational factors that help to make sure that the right services reach people at the right time.

## PEOPLE AT THE CENTRE OF HEALTH SERVICES

The story of the mother and baby illustrates another fact about health systems: service delivery is where people meet most directly, as providers and users of interventions. But people play more than those two roles, as Figure 3.1 indicates. At the centre of service delivery is the patient, in the case of clinical interventions, or the affected population, in the case of non-personal public health services. People are also consumers, because they behave in ways that influence their health, including their choices about seeking and utilizing health care. The consumer may be the patient, or someone such as a mother acting on his

**Figure 3.1** The multiple roles of people in health systems



or her behalf, or simply a person making choices about diet, lifestyle and other factors that affect health.

Sometimes the roles of consumer, patient and provider are all combined into one person and one moment, as happens when a woman gives birth with little or no assistance. Every minute, thousands of women across the world are giving birth. In countries where the attendance by trained staff is low (9% in Nepal, 8% in Bangladesh and Ethiopia, 5% in Equatorial Guinea, 4% in Gabon and Mauritania, 2% in Somalia), births usually take place in the presence of lay birth attendants or family members. Even when the delivery is by caesarian section with a trained provider, each woman must still actively participate in birth and the postpartum recovery.

Often the choices people make, particularly about seeking care, are influenced by the responsiveness of the system as described in Chapter 2. Utilization does not depend only on the consumer's perception of need or of the likelihood of benefiting from a service. Although marked differences exist between societies, the basic tenets of ethical provider-patient relations usually include similar elements of consent, confidentiality, discretion, veracity and fidelity (1). Calling the elements of dignity, autonomy and confidentiality that go into responsiveness "respect for persons" underscores the importance of people, and not simply patients, as the recipients of health services.

People also play the role of contributors to financing the system. Millions of poor people pay for all of the services they receive at the time they are ill. In health systems with fairer contribution arrangements, people who are not sick contribute most to financing the health system, through taxes or health insurance contributions, so that the contributor may or may not be the patient or the consumer. Finally, as citizens – and particularly as officials whose job it is to represent citizens and protect their interests – people participate in the system as stewards. In the same way that all four functions have to be carried out in order for the system to perform well, people have to play all these roles in order for the potential benefits to reach the patients and populations at the centre.

People act as providers, consumers, contributors and stewards of the health system during their adult working lives. In contrast, they can assume the role of patients at any time from before birth right up to death. The need to deliver services for people at all ages greatly complicates the choice of what services to emphasize and how to organize them, because people are exposed to different risks at different ages, and priority to any particular intervention is at least in part also a priority for a particular age group. These differences are what make a demographic transition – lower mortality and longer life – into an epidemiological transition – a change in the relative importance of different threats to health, particularly a shift from communicable to noncommunicable diseases.

Besides the variation with age, there are marked differences in disease patterns among regions, countries and specific population groups. For example, in Africa infectious diseases account for nearly 70% of the disease burden, as Annex Table 4 shows. In Europe, they account for less than 20%. The poor suffer more from infectious diseases than the rich (2), but over the next 20 years even the poor will be vulnerable to cardiovascular and cerebrovascular diseases linked to tobacco use (3). It may seem natural to focus health system choices on the causes that account for a large share of the disease burden, either because they affect large populations or because they cause substantial health loss for each victim.

However, all that health systems can actually *do* is to deliver specific services or interventions. Even if a first choice is made to concentrate on one or more particular diseases, it is still necessary to decide what to do – that is, which specific interventions to emphasize. The number of interventions available greatly exceeds the number of diseases, and the

appropriate strategy for disease control may depend on just one intervention or on a combination of several activities. To make matters more complicated, a given intervention may be effective against more than one disease or cause, because it works on a common risk factor or symptom. This is especially true of diagnostic activities: taking blood samples, or using X-rays or other imaging techniques may be appropriate for a great variety of problems. Thus, emphasizing an intervention, or investing in the inputs necessary for providing it, does not automatically focus effort on just one disease. Setting priorities also involves deciding what a particular intervention should be used for.

The range of diagnostic approaches and medical and surgical interventions for many conditions is extensive and likely to expand significantly over the coming decades. This means that services need to be designed and implemented so as to allow for innovation and adaptation to new health challenges and interventions, all the while responding to the needs of people who differ in age, income, habits and health risks. No health system can meet all those needs, even in rich countries. So either there must be conscious choices of what services should have priority, or the services actually delivered may bear little relation to any reasonable criterion of what is most important.

## CHOOSING INTERVENTIONS: GETTING THE MOST HEALTH FROM RESOURCES

The ancient Greeks believed that *Asclepios*, the god of medicine, had two daughters. One, *Hygieia*, was responsible for prevention, while the other, *Panacea*, was responsible for cure (4). While some preventive activities are applied to specific individuals – immunization is the clearest example – the distinction between prevention and cure or treatment corresponds closely to the difference between public health interventions directed to entire populations and clinical interventions directed to individuals. Since there is usually demand for the latter but there may not be any demand for the former, one of the principal tasks in choosing which services should have priority is that of balancing public health and clinical activities (5).

To require the health system to obtain the greatest possible level of health from the resources devoted to it, is to ask that it be as cost-effective as it can be. This is the basis for emphasizing those interventions that give the most value for money, and giving less priority to those that, much as they may help individuals, contribute little per dollar spent to the improvement of the population's health. It is the implicit basis of the measure of performance with respect to disability-adjusted life expectancy presented in Chapter 2 and Annex Table 10. So far as the level of health is concerned, the allocative efficiency of the health system could be enhanced by moving resources from cost-ineffective interventions to cost-effective ones (6). The potential gains from doing this are sometimes enormous, because the existing pattern of interventions includes some which cost a great deal and produce few additional years of life. For example, a set of 185 publicly-funded interventions in the United States cost about \$21.4 billion per year, for an estimated saving of 592 000 years of life (considering only premature deaths prevented). Re-allocating those funds to the most cost-effective interventions could save an additional 638 000 life years if all potential beneficiaries were reached. At the level of specific services, the cost per year of life saved can be as low as \$236 for screening and treating newborns with sickle-cell anaemia or as high as \$5.4 million for radionuclide emission control (7). In poor countries all the absolute numbers will be smaller, but the ratio between more and less cost-effective actions may still be very large.

Combining calculations of the cost with measures of the effectiveness of interventions and using them to determine priorities is a very recent development. Early work using such techniques in developing countries looked mainly at the cost-effectiveness of specific disease control programmes (8–13). This type of work expanded following publication of the *World development report* by the World Bank in 1993 (14) and subsequent work by WHO (15). Table 3.1 provides examples of interventions that, if implemented well, can substantially reduce the burden of disease, especially among the poor, and do so at a reasonable cost relative to results. Services can also be classified by their importance in the burden of disease of particular age and sex groups, and their cost-effectiveness for those groups (14).

Ideally, services with these virtues will also be inexpensive, so that they can be applied to large beneficiary populations and still imply reasonable total expenditures. However, there is no guarantee that low cost per life saved or healthy life year gained will mean low cost per person: some cost-effective interventions can be very expensive, with great variation

**Table 3.1 Interventions with a large potential impact on health outcomes**

Examples of interventions	Main contents of interventions
Treatment of tuberculosis	Directly observed treatment schedule (DOTS): administration of standardized short-course chemotherapy to all confirmed sputum smear positive cases of TB under supervision in the initial (2–3 months) phase
Maternal health and safe motherhood interventions	Family planning, prenatal and delivery care, clean and safe delivery by trained birth attendant, postpartum care, and essential obstetric care for high risk pregnancies and complications
Family planning	Information and education; availability and correct use of contraceptives
School health interventions	Health education and nutrition interventions, including anti-helminthic treatment, micronutrient supplementation and school meals
Integrated management of childhood illness	Case management of acute respiratory infections, diarrhoea, malaria, measles and malnutrition; immunization, feeding/breastfeeding counselling, micronutrient and iron supplementation, anti-helminthic treatment
HIV/AIDS prevention	Targeted information for sex workers, mass education awareness, counselling, screening, mass treatment for sexually transmitted diseases, safe blood supply
Treatment of sexually transmitted diseases	Case management using syndrome diagnosis and standard treatment algorithm
Immunization (EPI Plus)	BCG at birth; OPV at birth, 6, 10, 14 weeks; DPT at 6, 10, 14 weeks; HepB at birth, 6 and 9 months (optional); measles at 9 months; TT for women of child-bearing age
Malaria	Case management (early assessment and prompt treatment) and selected preventive measures (e.g. impregnated bed nets)
Tobacco control	Tobacco tax, information, nicotine replacement, legal action
Noncommunicable diseases and injuries	Selected early screening and secondary prevention

between one health service and another, for the same disease. This is clear in the case of malaria, where two interventions that are about equally cost-effective – chloroquine prophylaxis and two annual rounds of insecticide spraying – differ enormously in how much they would cost to apply to all the affected population of a low income African country (16). Cost differences are even greater for interventions against an infection.

The reverse is also true: health interventions can be cost-ineffective even when they do not cost very much and are intended to benefit large numbers of people. For example, many service providers continue to rely on antibiotics to treat viral illnesses, even though this is known to be ineffective. Even in rich countries, there is a need to ensure that the main output of health services remains focused on effective and affordable public health and clinical interventions. In low income countries, where the full range and cost of possible interventions significantly outstrip available resources, such wasteful practices deprive other patients of critical treatment.

Cost-effectiveness analysis, then, is essential for identifying the services that will produce the most health gain from available resources, but it has to be applied to individual interventions, not broadly against disease or causes. This requirement means that a large set of interventions needs to be evaluated. For all but the richest societies, the cost and time required for such an evaluation may be prohibitive. Moreover, such analysis, as currently practised, often fails to identify existing misallocation of resources because it focuses on the evaluation of new technologies and ignores the existing distribution of productive assets and activities (6).

Intervention costs can also vary greatly from one country, context, and intervention mode to another (17). A naive generalization could lead to serious mistakes in planning and implementing otherwise effective interventions. Even if they cover a relatively small number of interventions, studies in individual countries or populations are needed to avoid such errors. In Guinea, for example, 40 interventions have been studied. These were chosen partly on the basis of more general studies elsewhere, but with detailed local information to confirm what would really be most appropriate in that country (18).

Variations in cost and results among interventions are particularly relevant when a combination of several interventions may be suitable against a particular disease. To take the case of malaria again, at low levels of health expenditure in a country with a high burden of the disease, case management and prophylaxis for pregnant women would be very cost-effective and affordable (16). With more resources available, impregnated mosquito nets could be added – they would prevent more cases but cost more per unit of health benefit gained. A single estimate of cost-effectiveness of malaria control could lead to the wrong conclusion that malaria control is not affordable, for example if the estimate for a low income country is based on a programme combining all technically feasible options. In general, the most cost-effective combination of services depends on the resources available. That relation does not, of course, determine the appropriate level of expenditure on malaria control, which depends on what the country can afford, given its other health problems and priorities. In particular, there is no presumption that it should spend only the amount consistent with one or more of the cheapest interventions. Spending more and using a mixed strategy might yield much greater health gains.

Misuse of cost-effectiveness analysis could also lead to a serious underestimate of the actual cost of control if the estimate were based on the costs and effectiveness of a single type of intervention but multiple interventions were used. Many factors may alter the actual cost-effectiveness of a given intervention programme during implementation. These include: the availability, mix and quality of inputs (especially trained personnel, drugs, equip-

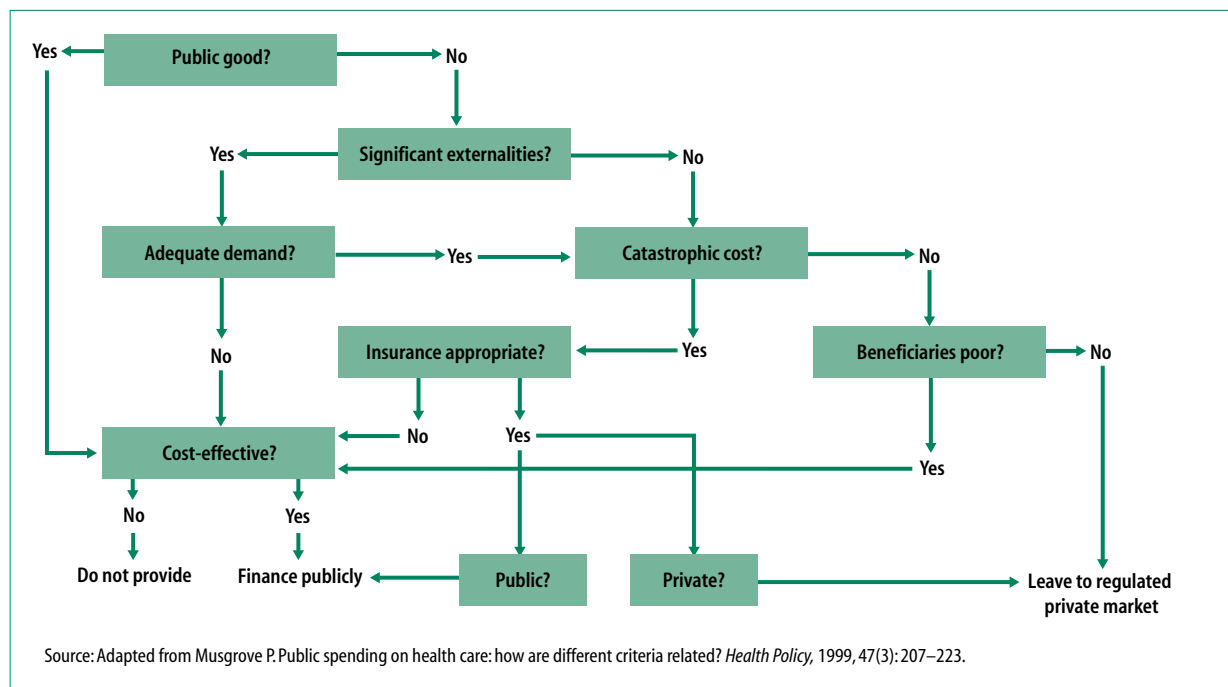
ment and consumables); local prices, especially labour costs; implementation capacity; underlying organizational structures and incentives; and the supporting institutional framework (17, 19).

All these obstacles imply that even on the sole criterion of cost-effectiveness, analysis of a health system's potential for getting more health from what it spends needs to begin with the current capacities, activities and outcomes, and consider what steps can be taken *from that starting point* to add, modify or eliminate services. This is likely to have profound implications for investment if little can be changed simply by re-directing the existing staff, facilities and equipment (20).

## CHOOSING INTERVENTIONS: WHAT ELSE MATTERS?

Cost-effectiveness by itself is relevant for achieving the best overall health, but not necessarily for the second health goal, that of reducing inequality. Populations with worse than average health may respond less well to an intervention, or cost more to reach or to treat, so that a concern for distribution implies a willingness to sacrifice some overall health gains for other criteria. More generally, cost-effectiveness is only one of at least nine criteria that a health system may be asked to respect. A health system ought to protect people from financial risk, to be consistent with the goal of fair financial contribution. This means that the cost matters, and not only its relation to health results, whether money is public or private. A health system should strive for both horizontal and vertical equity – treating alike all those who face the same health need, and treating preferentially those with the greatest needs – to be consistent with the goal of reducing health inequalities. And it should assure not only that the healthy subsidize the sick, as any prepayment arrangement will do in part, but also that the burden of financing is fairly shared by having the better-off subsidize the less well-off. This generally requires spending public funds in favour of the poor.

Figure 3.2 Questions to ask in deciding what interventions to finance and provide





Public money is also the principal, if not the only significant way to pay for public goods, interventions which private markets will not offer because buyers cannot appropriate all the benefits, and non-buyers cannot be excluded. The same is true for partly public goods with large externalities – that is, spillovers of benefits to non-users. Private demand for such services will generally be inadequate. Interventions of this sort are most important in communicable disease control, where treating one case may prevent many others, and especially where it is the environment, rather than identifiable individuals, that is treated. Analysts and decision-makers also correctly argue that resource allocation decisions affecting the entire health system must take into account social concerns, such as a priority for the seriously ill and for promoting the well-being of future generations. Figure 3.2 summarizes the choices for spending public or publicly mandated funds, showing how the different criteria should be considered sequentially and how they can be used to determine whether an intervention is worth buying or not. This way of setting priorities reinforces the emphasis on the two goals of health outcomes and financial fairness. It also emphasizes the importance of public health activities, by starting with interventions that are public or quasi-public goods.

Ignoring these other criteria and using only disease burden and cost-effectiveness as a method for determining priorities can lead to a “race for the bottom of the barrel” among advocates of different interventions, each trying to prove that their programme achieves a greater benefit or costs less than other programmes, sometimes without considering the full range of complicating factors. This often leads to underestimates of the real cost of programmes and their subsequent failure during implementation because of resource shortages.

Too narrow an approach also ignores the important role that the public sector should be playing in protecting the poor and addressing insurance market failure – the tendency of insurance to exclude precisely those people who need it most, because they are at greater than usual risk of ill-health. Many families will be faced at some time with a health problem of low frequency for which there is an effective but high cost intervention. Those who can afford it will turn to the private sector for the needed care. But without some form of organized insurance this option is usually too expensive for the poor who will turn to public hospitals as a place of last recourse. Often this leads to inappropriate and excessive use of hospital care, and it undermines the financing function that health systems should be playing.

Actual health systems always deliver services that correspond to a variety of criteria. The frontier of the possible which defines relative performance reflects this fact, since it is based on actual outcomes relative to health expenditure and human capital. A health system designed and operated solely to pursue cost-effectiveness might be able to achieve much longer average life expectancy or more equality or both, but it would correspond much less to what people want and expect.

What makes it particularly difficult to set priorities among interventions and beneficiaries of health services is that the different criteria are not always compatible. In particular, efficiency and equity can easily be in conflict, because the costs of treating a given health problem differ among individuals, or because the severity of a disease bears little relation to the effectiveness of interventions against it or to their cost. Cost-effectiveness is never the *only* justification for spending public resources, but it *is* the test that must be met most often in deciding which interventions to buy. And it can be set aside only when costs are low and the beneficiaries are not poor, so that they can make their own judgements about the value of a particular purchase and the market can be left to supply it; or when protection from

catastrophic cost is the overriding consideration and prepayment can protect against that risk. Determining the priorities for a health system is an exercise that draws on a variety of technical, ethical and political criteria and is always subject to modification as a result of experience in implementation, the reaction of the public, and the inertia of financing and investment (21).

## CHOOSING INTERVENTIONS: WHAT MUST BE KNOWN?

Setting priorities realistically requires a great deal of information, starting with epidemiological data. Major progress has been made recently in understanding global health and disease patterns (14, 15, 22), including analysis of risk factors which influence several diseases at once. The most significant of such risk factors are malnutrition in children, and poor water and sanitation practices. Other major risk factors include unsafe sex, alcohol, indoor pollution, tobacco, occupational hazards, hypertension and physical inactivity. The public health services in a given country should attempt to deal with such preventable risk factors, taking account of local contexts. For example, the origins of malnutrition vary greatly from one country to another and from one region to another. In sub-Saharan Africa and south Asia, the problem is often a combination of micronutrient deficiency and absolute shortage of calories. In central and eastern Europe, malnutrition is often “poor calories” rather than a “lack of calories” – a diet too high in fat and refined starch. Public health activities will therefore vary, depending on local risk factors and diseases conditions.

Although there are good data on national patterns of risk and disease today, few countries break this information down sub-nationally by income level, sex or vulnerable groups, such as the handicapped, minority ethnic populations, and the frail elderly. Even fewer countries have information on the health-seeking behaviour of those groups or their utilization of health care facilities. Without such information, the effectiveness of interventions is difficult to assess, as the same intervention may have very different effects when applied to different populations.

Governments need to know how to influence the health-seeking behaviour of target groups in need of care. For example, intergroup variations in under-5 mortality are particularly large in Brazil, Nicaragua, and the Philippines, whereas in Ghana, Pakistan, and Viet Nam these differences are much smaller. This shows the need for a greater emphasis on equity in providing health services in the former countries (23). And there are often significant differences in the utilization of preventive and clinical medical attention from one intervention to another, in the same country. In Peru, differences between the rich and poor are far greater with respect to attended deliveries than with respect to immunization (24), largely because of the much higher cost of deliveries.

A key recommendation for policy-makers is to collect and combine data on risk factors, health conditions and interventions with data from household and facilities surveys, focus groups and other qualitative methods, and academic studies, since global and national aggregate data may not reflect local needs. Public health and clinical services should be customized to respond to the latter, and should allow for innovative adaptation during implementation. While gathering and analysing such data is more difficult in the very poorest countries which need this type of analysis the most, the methods are becoming routine and more easily used even at low incomes (25).

The following steps will make health systems more likely to produce effective interventions at an affordable cost, especially for needy populations.

- First, there should be an ongoing detailed assessment of underlying risk factors, disease burden, and utilization patterns of the target populations.
- Second, global information on the cost and effectiveness of interventions, as well as intervention strategies and practice patterns, should be adapted to local prices and local contexts.
- Third, all countries need explicit policies to ration interventions and to ensure that limited resources are spent in identified high priority areas. How to achieve this is taken up next. Few countries have clinical protocols that can be used to standardize practice patterns and match known priority interventions with needs. Fewer still have the means to enforce such guidelines in privately financed provision.
- Finally, none of these steps will matter unless the quality of service delivery is assured.

## ENFORCING PRIORITIES BY RATIONING CARE

Stating priorities is one thing; actually delivering the supposedly most valuable services at the expense of other services is another thing. Markets solve this problem through rationing by price, which means that who gets what goods and services depends not only on how much those goods and services are valued by people, but on who has the means to buy them. Priorities are not set by anyone but emerge from the play of the market. As indicated, this is almost the worst possible way to determine who gets which health services. Every health system therefore confronts the question of what other means to use, when resources are inadequate to needs or wants.

In low-income countries, the difficulties involved in setting priorities and rationing services are extreme. The HIV/AIDS epidemic kills over two million people in Africa every year – more than 10 times the number that perish in wars and armed conflict during the same period. The health services of many low income countries in south Asia and sub-Saharan Africa have been burdened in recent years by this epidemic. In this case, health systems are faced with a long-term problem. Difficult choices have to be made on how resources should be allocated to cover AIDS prevention campaigns, and care for people with AIDS, while maintaining other essential health services. This problem is chronic, and quite different from the need to ration non-urgent care when the system is temporarily burdened by a short-lived epidemic of disease or the results of a natural or man-made disaster. Then emergency services get priority, elective procedures are delayed, and the system concentrates on the epidemic until it is sufficiently under control that business as usual can be resumed.

The most common chronic approach to rationing care is to impose strict expenditure controls that do not try to target any specific disease group or broad category of interventions but simply limit budgetary obligations to affordable levels. This technique has been most commonly used in health systems with global budget financing and leaves it to the budget-holder to ration care. It has been used in the pre-1990 British National Health Service and the ministries of health of many low income countries. Other cost-containment techniques are now being used with varying degrees of success in many European Union countries and some developing countries (26).

The major disadvantage of this approach is that, in low income countries, it usually leads to a degradation of overall standards and quality of care. If resources are in the hands of the better-off, there may be a failure to target vulnerable groups. The available budget is usually captured by the politically strongest providers, such as specialists and hospitals,

rather than being used according to the needs of the population. Thus, in many low income countries, an approach based solely on expenditure control leads to the exclusion of large segments of the population from access to organized care.

A second approach is to ration explicitly, following priorities which were set according to some predetermined criteria, as discussed above. This approach, first introduced in the mid-1980s, has now been partially implemented in the Netherlands, New Zealand, Norway, Sweden and Oregon (USA) (27). All use a combination of social, political and cost-effectiveness criteria. Since 1993, several developing countries have tried to introduce intervention packages, variously described as including “essential” or “basic” or “core” interventions that are affordable within each country context (28). Mexico was the first country to design and adopt such a package (29). Bangladesh, Colombia and Zambia have also begun implementation.

The explicit priorities established through this process are a major improvement over the traditional passive cost-containment approach. One serious disadvantage is that in real life, providers are faced with demand for services that are not included in the defined benefit package. They usually react to this demand in one of two ways – by cross-subsidizing the excluded activities through the budget received to pay for the defined benefit package; or by charging extra for the additional services. The first leads to a financing shortfall for the defined benefit package. The second leads to increases in out-of-pocket expenditure and erosion in financial protection. Attempts to curtail such behaviour by providers have been largely unsuccessful.

Another problem is that there are “limits to rationality” (30), particularly if rationality is identified purely with cost-effectiveness. Politicians, providers and the public care about all the criteria discussed above, and may be very sceptical of the estimates underlying allocative choices. The success of explicit priority setting depends on the acceptance and support of providers and consumers.

Even within the set of services financed by prepayment, and particularly those financed by public or publicly mandated funds, there is no clearly best way to ration care. Figure 3.3 illustrates four simplified approaches, based on a combination of what services cost per individual treated or affected, and how frequently the service is likely to be needed. In general, very costly services are seldom needed, while there is much more frequent need for a variety of interventions with intermediate costs. The upper curve in each panel of the figure shows what the demand for different services might look like in the absence of any form of rationing – that is, if every need were expressed as a demand and there were no price or other barriers to obtaining care. That represents the most that the health system might want or try to deliver.

One way to limit what is actually delivered is to exclude all or most of the rare but very expensive services – to cut off the right-hand tail of the distribution of needs. This is relatively common in private insurance, either by explicit exclusion of services or by risk selection of potential clients so as to reduce the likelihood of those services. This may be, but need not be, consistent with cost-effectiveness, and it is almost a necessary form of rationing in systems with very limited resources. But it maximizes people’s exposure to financial risk if the intervention can be had by paying out of pocket, or to catastrophic health losses if the service is simply not available at all.

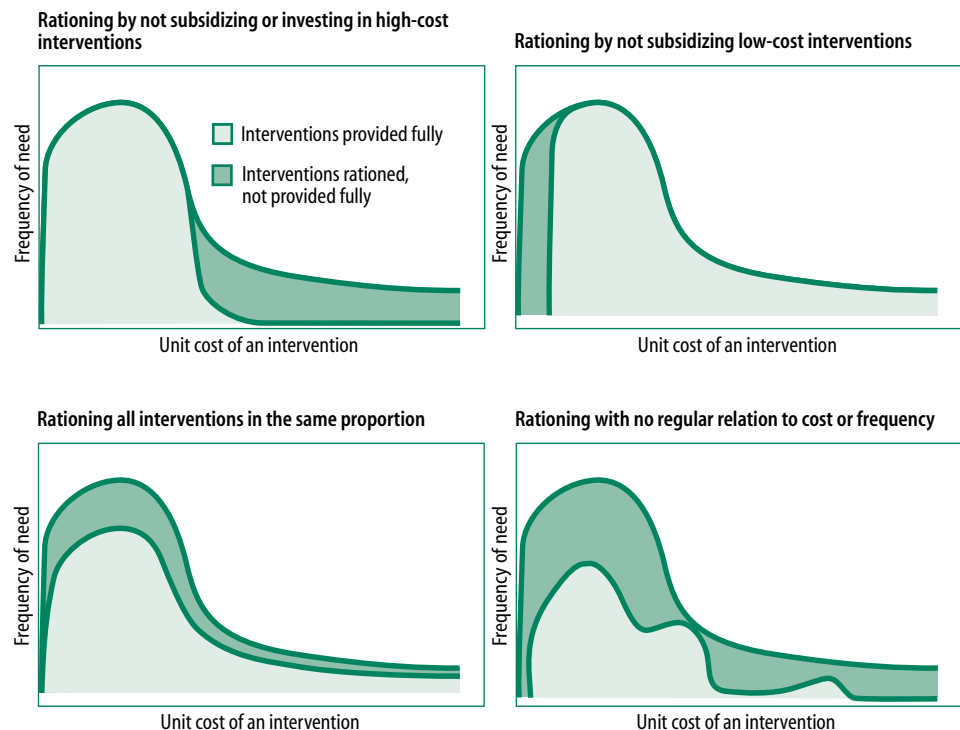
The opposite approach is to exclude common but very inexpensive services from prepayment schemes and in effect require that they be paid out of pocket – that is, to cut off the left-hand end of the distribution. This is likely to save administrative costs, but may or may not represent substantial overall cost saving. As a general rule, prices should not be the

main instrument of rationing, and low prices paid by the non-poor present a relatively minor problem. The difficulty with this approach is clear: it exposes the poor to risks that would be acceptable for the non-poor, and so worsens inequality in financial contribution. Rationing may need to be differently conducted for the poor than for the rest of the population, if prices are to play any role.

A health system could also try to ration all services in the same proportion, giving everyone who needs it the same likelihood of obtaining care independently of its cost or of how many other people need the same intervention. There is little to be said for this way of delivering less care than people need, since it does not respect any of the criteria discussed above. At best it represents an attempt to spread the frustration of not obtaining care more or less equally, but that does not even correspond to equality of responsiveness. It may be the response of a system under pressure and with no clear guidance as to the relative importance of different services.

The last panel of Figure 3.3 corresponds to explicit priority setting, so that rationing is much more severe for some services than for others. Only if this happens are nominal priorities really being enforced so as to affect service delivery. And only if the priorities are chosen according to some appropriate criteria can rationing, however it is enforced, actually contribute to better health system performance.

**Figure 3.3 Different ways of rationing health interventions according to cost and frequency of need**



## AFTER CHOOSING PRIORITIES: SERVICE ORGANIZATION AND PROVIDER INCENTIVES

Priority setting is generally considered a public sector exercise, particularly concerning the proper use of public or publicly mandated expenditure. It does not matter for this purpose whether the delivery of services is public or private, nor how providers are paid. What matters is that by contracting with private providers or reimbursing them through public insurance, the government can assure that its priorities are respected even where it does not provide the services. In the sphere of private, voluntary financing of services there generally are no explicit priorities: that part of the health system responds to demands rather than to needs. It is important to take into consideration the impact of out-of-pocket spending on the poor due to increased demand in the private sector for interventions that are not in the public package. But some priorities can nonetheless be enforced through regulation, as for example by requiring all private insurance policies to include a package of essential services or by limiting the degree to which private providers or insurers can select patients or clients on the basis of risk. These are among the tasks of stewardship discussed in Chapter 6. More generally, since it is ultimately providers who do or do not deliver the priority services, rationing requires “careful governance of the agents” who act for patients and assess their competing health needs (31).

Given a list of priorities, and given one or more mechanisms for rationing care, the way services are actually delivered – who benefits from which interventions, how efficiently they are provided, how responsive the system is – can still differ markedly from one health system to another. These differences reflect the fact that while providers may be urged or enjoined to deliver particular services, and public budgets and regulations are designed to reinforce those choices, there is still a variable latitude for providers themselves to decide whom to treat, for what, and how. Just how much latitude providers should have is one of the crucial questions for a health system. The outcome depends on organizational and institutional characteristics, which together determine some of the fundamental incentives to which providers respond.

The relationship between organizations, institutions, and interventions parallels that between the players, the rules and the objects of a game. *Organizations* are the players – for example, individual providers, hospitals, clinics, pharmacies, and public health programmes. *Institutions* are the rules (formal rules and informal customs) – the socially shared constraints that shape human interactions, along with the mechanisms by which these rules are enforced. The key institutions that affect the service delivery system include rules relating to stewardship (governance, information dissemination, coordination, and regulation) and purchasing. *Interventions*, in the sense of services or activities as described above, are the objects of the game and include clinical treatment, public health measures, and health-promoting intersectoral actions (32). *Incentives* are all the rewards and punishments that providers face as a consequence of the organizations in which they work, the institutions under which they operate and the specific interventions they provide.

Both among and within countries there are marked differences in all these features, reflecting the complexity of the production process for health interventions and the variations in culture and tradition. The characteristics that exert the most powerful influence on clinical and public health services are the organizational structures or forms, the service delivery configurations, the organizational incentive regimes, and the linkages among services. As emphasized in Chapter 1, health services deal with an asset – the human body – that is very different from those that other economic activities deal with. Nonetheless there

are some aspects of how health services are produced that do not differ greatly from the production of other services. Evidence of the importance of these factors is slowly growing as a result of progress made in applying systems analysis and organizational theory to health services (33–35).

## ORGANIZATIONAL FORMS

Health services can be organized in three fundamentally different ways – via hierarchical bureaucracies, through long-term contractual arrangements under some degree of non-market control, and as direct, short-term market-based interactions between patients and providers (36). These arrangements are independent of whether ownership is public or private. For example, the ownership of services that are organized as hierarchies can be public, as in the extensive network of public health, hospital, and ambulatory clinics that are part of the Turkish Ministry of Health service delivery system and that of many other countries. But they can also be private, as in a United States health management organization like Kaiser Permanente. Such private entities often suffer from many of the same bureaucratic rigidities as public ones. Likewise although market-based interaction between providers and patients is most common in the private sector, short-term market exchanges in the form of user fees are pervasive in the public sector in many low income countries.

India provides examples of all three organizational forms. The services delivered by government are hierarchical, with providers who are employed directly. At the other extreme are direct, market-based, non-contractual interactions between the population and providers. These include both private providers *per se* and informal fee charging in public facilities: 80% of total health care spending takes place in this domain. In between are several forms of contractual arrangement. One type comprises long-term contracts between the public sector and nongovernmental providers (both non-profit and for-profit). This arrangement is used predominantly for treating patients suffering from cataract and, by increasing the number of providers that are financed publicly, has allowed for a large expansion of surgery to prevent blindness, particularly among the poor. Another contractual arrangement characterizes private insurance, which may or may not be publicly regulated. The client has one kind of relation with an insurer, which in turn has a different relation – one that may or may not be contractual – with providers.

Each of these ways to organize health services has its strengths and weaknesses in various contexts and when applied to different types of population-based and clinical services. When a strongly coordinated approach is needed, as was the case for example during the postwar (late 1990s) reconstruction of the health service in Bosnia and Herzegovina or during an outbreak of cholera, hierarchical controls are better. Largely inspired by experiences such as the British National Health Service and the difficulty of addressing health problems through markets alone, many low and middle income countries have, over the past 50 years, established state-funded health care systems with services produced by a vertically integrated public bureaucracy. This has led to improved access to health care for millions of people and underpinned many successful public health programmes.

But hierarchical bureaucracies also have some serious shortcomings when it comes to the provision of health services. These shortcomings have become more apparent in recent years (37, 38). Bureaucracies are vulnerable to capture by the vested interests of the bureaucrats and providers who work in them. They are often not as effective in downsizing or reorienting priorities as they are in expanding capacity and adding services. And they are often associated with many of the same shortcomings as private markets in terms of abuse

of monopoly power (such as the collection of rents in the form of informal charges) and information asymmetry. Over time, many of the hierarchical service delivery systems have become excessively rigid, with inefficient processes producing low-quality care that is unresponsive to the needs and expectations of the populations and individuals that they serve. This has been the motive for many recent reform efforts, as described in Chapter 1.

Where there is a call for innovation and flexibility to respond to specific needs, as in the development of new drugs and equipment, markets are better. But direct market interactions between patients and providers in the health sector have the major disadvantage of exposing individuals to the financial risks of illness unless the financial resources are adequately pooled. And it is difficult or impossible to assure that such transactions respect any priorities among interventions and patients that the health system is trying to implement.

Because of the disadvantages of both rigid hierarchies and out-of-pocket payment in the health sector, countries throughout the world are today experimenting with long-term contracts to achieve the combined advantages of greater flexibility and scope for innovation while maintaining overall control over strategic objectives and financial protection. There is already some analysis of experiments with contracting for service provision in low and middle income countries (39), and much effort has also gone into drawing lessons from the better documented instances, particularly in the United Kingdom, which may also be relevant elsewhere (40).

## SERVICE DELIVERY CONFIGURATIONS

Health services, like many other forms of production, can be implemented in more dispersed or more concentrated configurations, or in hybrid arrangements that combine some concentrated with some dispersed elements (41). Dispersed service configurations are usual for activities which do not benefit from economies of scale – unit costs are no lower for large than for small production units – such as primary care, including the integrated management of childhood illness; pharmacies; dental offices; field-based implementation of public health programmes; counselling; social work; and community and home-based care. Such ambulatory services usually involve a fairly broad range of activities of varying degrees of complexity, such as the management of common clinical and nonclinical activities by individuals or small teams of people.

Dispersed, competitive production by small producing units works well wherever markets are a satisfactory way to organize output. It is less successful in health, for all the reasons that markets work more poorly for health care. However, attempts to offset market failings by integrating such dispersed activities into a hierarchical bureaucratic structure have almost always run into problems of staff motivation and accountability. Close supervision is difficult to implement, while excessive control is detrimental. A more successful approach has been to establish a contractual relationship that relies on professional reputation, and a strong sense of commitment and responsibility. Such contractual relationships have a long history of success in countries such as Denmark and Norway, and have recently been tried successfully in Croatia, the Czech Republic, and Hungary.

Concentrated service configurations are common for activities such as hospital care, central public health laboratories, and health education facilities, which do benefit from economies of scale – lower costs with larger size – and scope – lower costs from undertaking a variety of activities (42, 43). These interventions are highly specialized and expensive, and require large teams of people with a wide range of skills. Some require continuous observation (for surgical treatment and care), and highly controlled sterile conditions (for



surgical and burns units). Accountability can usually be enforced through direct observation of outputs or outcome. Most personnel can be employed as regular or part-time staff, rather than under the contractual relationships that appear to be better for dispersed activities. Countries have been more successful in integrating these services into hierarchical public bureaucracies but pay the price of the disadvantages of this organizational form.

There is both an upper and a lower efficiency boundary for concentrated service configurations. At the upper end, the large 1000 to 2000 bed hospitals and huge public health laboratories in central and eastern Europe were characterized by over-specialization, low productivity and low quality of care (44). At the lower end, there are also considerable efficiency and quality problems when facilities that perform specialized care are too small. Cottage or district-level hospitals with 20 to 50 beds are common in many low and middle income countries, such as Ethiopia, Morocco, and Turkey, especially in rural regions and in the private sector (45). Often they have low bed-occupancy rates and the staff do not see a sufficient volume of patients to maintain the clinical skills needed to treat rarer conditions. They may deal well with more common conditions, but then they must be integrated into a referral system that can treat more difficult or unusual ailments.

Hybrid service configurations fall somewhere between these two extremes. Many of the activities with a large potential impact on outcomes (shown in Table 3.1) are implemented in this form. Programmes to control infectious diseases such as malaria, tuberculosis and HIV/AIDS benefit from the planned coordination of some of their strategic elements at the national level. Yet their implementation can sometimes be more effective when carried out under contractual relationships with local providers than when implemented as vertical programmes isolated from other ambulatory services. For example, the implementation of the integrated management of childhood illness in Egypt requires close national coordination of activities such as immunization, malaria control and iron supplementation, but implementation would be impossible without local providers with the broad range of skills needed, for example, to treat acute respiratory infections, diarrhoea, and childhood illnesses.

This latter example highlights a key challenge in health service delivery. That is, to balance the need for broad policy oversight with sufficient flexibility so that managers and providers can innovate and adapt policies to local needs and contexts in a dynamic way. Population-based and clinical health services that can be refashioned through negotiation and adapted during implementation at the discretion of agencies and their staff are more responsive to the health needs and non-health expectations of the population than those that are implemented through rigid centralized bureaucracies (46–49). This is consistent with the relations between responsiveness and service characteristics described in Chapter 2. But this approach may lead to outcomes quite different from those intended at the outset. The more focused managers and staff are in pursuing a clear mandate, the more likely it is that broader policy objectives will be achieved without having to resort to rigid hierarchical structures for control (50).

## ALIGNING INCENTIVES

Service providers need flexibility, not for arbitrary purposes, but so that they can respond to well-defined incentives – that is, so the incentives defined by organizational and institutional arrangements can be effective instead of being frustrated by rigidities. The growing awareness of the structural nature of problems in hierarchical service delivery systems has led policy-makers in many countries to examine the incentive environment of organizations and alter the distribution of decision-making control, revenue rights, and financial

risk among the different participants, as analysed in *The world health report 1999* (16).

There is a wide range of ways to change the organizational incentive regime of health services. In many Latin American countries, including Argentina and Brazil, decentralization has led to a shift in decision-making control and often revenue rights and responsibilities from central to lower levels of government. The devolution of central control to provinces in Sri Lanka is another form of decentralization. The creation of semi-autonomous hospitals in Indonesia shifted decision-making and control even further down the line to the level of facilities. In Hungary, during the early 1990s, general practitioners were transformed from civil servants into semi-autonomous practitioners on contract with local governments and the newly created National Health Insurance Fund.

In each of these examples, there is a change in one or more organizational incentives that exerts a powerful influence on how the organizational unit in question behaves, be it a province, region, district, or individual provider unit such as a hospital or ambulatory clinic (51). Figure 3.4 shows the relation between the organizational forms discussed earlier and the following five incentives.

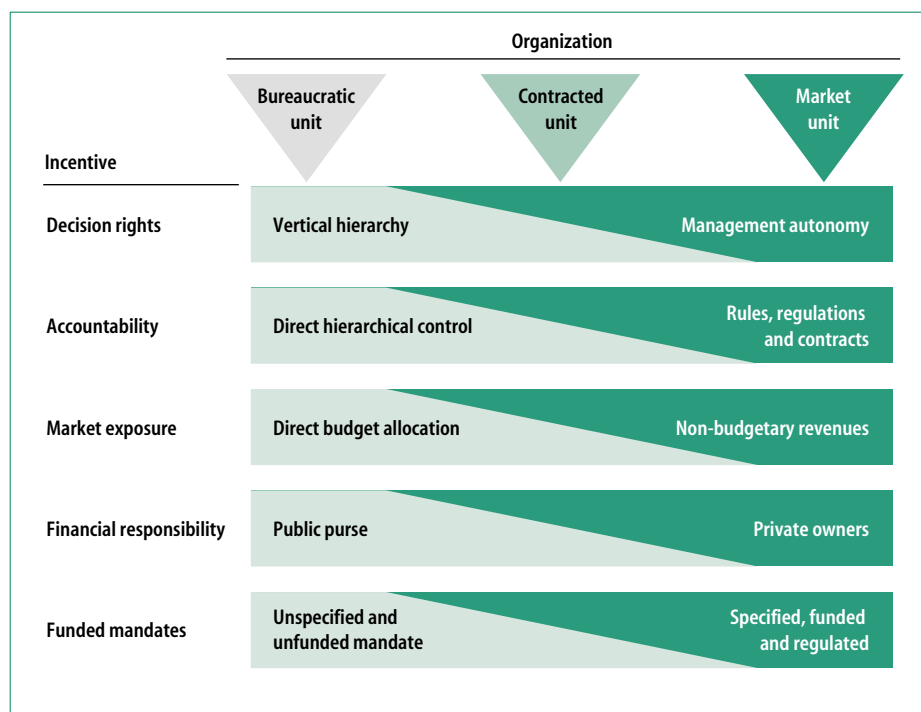
- The degree of *autonomy* (decision rights) that the organization has *vis-à-vis* its owners, policy-based purchasers such as insurance funds, the government, and consumers. Critical decision rights include control over input mix and level, outputs and scope of activities, financial management, clinical and nonclinical administration, strategic management and market strategy (where appropriate).
- The degree of *accountability*. As decision rights are delegated to the organization, the ability of governments to assert direct accountability (through the hierarchy) is diminished. When autonomy increases, accountability must be secured by shifting from hierarchical supervision to reliance on monitoring, regulations, and the economic incentives embedded in contracts.
- The degree of *market exposure* or revenues that are earned in a competitive way rather than through a direct budget allocation. Market participation need not imply out-of-pocket financing; it is preferable for provider organizations to compete for prepaid revenues. When governments bail out organizations that run deficits or are indebted as a result of weak technical performance, they undermine the impact of market exposure.
- The degree of *financial responsibility* for losses and rights to profit (retained earnings and the proceeds from the sale of capital). This determines the financial incentive for managers and staff to economize. Under increased autonomy they, rather than the public purse, become the “residual claimant” on revenue flows, but such claims must be clearly spelled out and regulated.
- The degree of *unfunded mandates*. Where the share of total revenues earned through markets is significant, organizations are at financial risk because of the unrecoverable costs associated with requirements for which no funds are provided, such as care for the poor or very sick. Organizational reforms that increase autonomy should therefore be accompanied by complementary reforms in health financing to protect the poor. Chapter 5 discusses some recent examples in Latin America.

How far countries can safely go in pushing service provision away from hierarchical control and towards an incentive environment (the right of the spectrum in Figure 3.4) depends on the nature of the services and the capacity to create accountability for public objectives through indirect mechanisms such as regulation and contracting. There is no single blueprint for a successful service delivery system. But countries such as Canada (52)

that have succeeded in creating a more coherent framework for these three organizational characteristics perform better than countries such as the United States (53) where there are many conflicting signals because market incentives are very strong in some places and more tightly controlled in others.

The coherence of organizational incentives is especially important in the hospital sector because of the central role of these organizations in service provision. Countries that have introduced consistent objectives and that have aligned the five organizational incentives appear to have been more successful than countries that have ended up with conflicting objectives and incentives regimes. For example, in Singapore, the public hospitals have been given considerable autonomy over management decisions ranging from procurement to personnel (54). Accountability is now enforced through contracts rather than hierarchical controls. The hospitals compete with each other for patients and can keep any surpluses they generate through savings. And there is an explicit subsidy scheme for low income groups, although cross-subsidies are still needed to cover some unfunded mandates. Follow-up assessments indicate that the reforms have succeeded in improving responsiveness to patients and efficiency in resource management, while protecting poor patients against opportunistic behaviour by hospitals trying to increase their revenues. In Indonesia, the degree of autonomy is much less but the various incentives are nevertheless more balanced than in New Zealand and the United Kingdom where there has been less policy coherence across the five organizational incentives (39, 55, 56). Hospitals are without question the most complex organizations involved in service delivery, and their role has been undergoing rapid change as new procedures shift the balance between inpatient and ambulatory care and as financial pressures have increased (57). How to organize hospital services and how to integrate them with other providers is perhaps the hardest question a service delivery system faces.

**Figure 3.4 Different internal incentives in three organizational structures**



One way that many countries have tried to increase market exposure of hospitals is to “outsource” or “unbundle” some hospital activities. Experience so far in this area has been mixed. For example, there has been some success in outsourcing the maintenance of medical equipment in Thailand, management services in South Africa, and routine custodial, dietary, and laundry services in Bombay. Most of these activities benefit from the efficiency gains that can be provided by external suppliers that specialize in a given service. But with few exceptions, outsourcing is much more difficult with clinical services because of loss of strategic control over part of the production process, cost shifting, and difficulties in monitoring the quality of the outputs (58).

Many public health interventions, such as malaria control programmes, nutrition programmes in Senegal, and reproductive health programmes in Bangladesh, are now carried out through long-term contracts with nongovernmental providers rather than rigid vertical programmes under a central hierarchical bureaucracy. And there has been a marked increase in the autonomy and privatization of general practitioners, dentists, pharmacists and other ambulatory health care workers in central and eastern Europe, with both good and bad consequences.

As in the case of hospitals, ambulatory services that are made autonomous perform better when there are minimal conflicts between the objectives and organizational incentive regimes. Table 3.2 provides some examples of organizational incentives for ambulatory

**Table 3.2 Examples of organizational incentives for ambulatory care**

Organization affected	Country examples
<p><b>Local or district teams that manage several clinical facilities and public health services</b></p> <p>Includes district level ministry of health offices and municipal councils. Changes in organizational incentives are often modest and mostly related to decision rights over budget and staff. Financial risk remains limited. Actual degree of market exposure may be greater than intended when user fees are significant.</p>	<p><b>Finland:</b> municipalities own and manage health centres, employ staff, raise taxes and set fees.</p> <p><b>Philippines:</b> decentralization of responsibility for primary health care (and other social services) to local governments in 1993. Assets, staff and budgets transferred to local level. Ministry of Health (MoH) set up community health care associations along with each local government unit. Health workers now report to local government, not to MoH. Supervision by MoH has become more difficult.</p> <p><b>Zambia:</b> the Central Board of Health (CBoH), the executive arm of the MoH, now contracts through annual district plans with independent district health boards/ district teams. Districts have gained greater control over their non-salary recurrent budget. But staff are mostly still employed by the civil service. This is changing as new graduates are hired by districts and unskilled staff are recruited locally. Accountability to CBoH is retained through sanctions if agreed performance targets are not met. Income from user fees is retained by facilities.</p>
<p><b>Individual facilities</b></p>	<p><b>Belarus:</b> polyclinics now receive their own budget and can retain a proportion of their earnings from user fees.</p> <p><b>Burkina Faso:</b> community-managed health centres established under the Bamako Initiative comprise one-third of public facilities and manage user fees (up to 10% of recurrent budget) for drugs mainly. Staff management is formally centralized. There are no clear accountability lines between community boards and health centre staff.</p> <p><b>Mali:</b> independent health centres are not-for-profit cooperative establishments owned, financed and managed by community associations. These health centres recruit their own staff. Few are as yet financially independent in practice.</p>
<p><b>General practitioners</b></p>	<p><b>Croatia:</b> previously centrally employed, salaried ambulatory care physicians. Now they are independent contractors.</p>

care. Tensions often occur when decision rights are not extended to managers (for example, when political pressure makes it impossible to dismiss staff), when accountability mechanisms are neither built into long-term contracts nor enforced through market discipline, and when the providers are not allowed to retain their surpluses or made responsible for their losses. The latter undermines the incentive to economize.

There is still considerable debate about whether long-term contracts with private providers create better incentives than similar contracts with public providers. Which incentives are most appropriate may depend on which goals have priority. The global trend is to try to avoid the inefficiencies and unresponsiveness that occur when a hierarchy becomes too rigid, while avoiding the opposite extreme of unregulated markets. The latter almost always undermine financial protection and may interfere with the strategic coordination needed to provide effective care.

## INTEGRATION OF PROVISION

As organizational units like hospitals or clinics become more autonomous, the service delivery system is at risk of becoming fragmented. Fragmentation may occur among similar provider configurations (hospitals, ambulatory clinics, or public health programmes) or between different levels of care. Such fragmentation has negative consequences for both the efficiency and the equity of the referral system unless explicit policies are introduced to ensure some sort of integration among the resulting semi-autonomous service delivery units.

When health services become fragmented, allocative efficiency suffers. For example, nonclinical health facilities designed to provide public health services in Poland and Hungary often engage in secondary prevention and a wide range of basic care because they are not adequately linked to ambulatory care networks. The university hospitals that have recently been made autonomous in Malaysia provide a wide range of inpatient and outpatient care for conditions that could have been treated effectively at lower levels in a community setting. The newly autonomous general practitioners in the Czech Republic have been quick to buy a large quantity of expensive equipment that is rarely used (59).

When organizational changes among providers cause fragmentation, disillusionment with a market-oriented system can lead to some vertical and horizontal reintegration, with more hierarchical control. Armenia, Hungary, New Zealand and the United Kingdom have recently experimented with such steps. Both the market model and the hierarchical model present problems; it is important not to forget the shortcomings of the centrally planned models that were apparent in countries as diverse as Costa Rica, Sri Lanka, Sweden, the United Kingdom and the former Soviet Union (59).

One way to preserve the virtues of autonomy for providers without fragmentation is via “virtual integration” instead of traditional vertical integration. Under vertical integration, a clinic takes orders from a hospital or a government department, limiting its responses to local needs. Virtual integration means using modern communication systems to share information quickly and without cumbersome controls. This is particularly valuable for referrals, and can include nongovernmental providers hard to incorporate under hierarchical schemes. Bangladesh and Ghana are experimenting with this innovation.

Even in the United States, vertical integration under health maintenance organizations (HMOs) is being eclipsed by virtual integration between the provider network HMOs,

other provider groups, and a globalized insurance industry. Vertical integration between production and distribution units is now being viewed as a coordination mechanism of last resort, and is used mainly when contractual alternatives are not available (60).

Efforts at virtual integration face three common problems, related to decentralization, separating purchasers from providers, and user charges. In many countries, there has recently been an increased enthusiasm for decentralization as a means of attaining a wide variety of policy and political goals in health as in other areas. The explicit objective of decentralization is often to improve responsiveness and incentive structures by transferring ownership, responsibility and accountability to lower levels of the public sector. This is usually done through a shift in ownership from the central government to local levels of the public sector – states or provinces, regions, districts, local communities, and individual publicly owned facilities.

A common difficulty with such reforms has been that the internal structural problems of the hospitals, clinics and public health facilities do not disappear during the transfer. In Uganda, decentralization did not close the financing gap experienced by many health facilities. In Sri Lanka, decentralization exposed weak management capacity but failed to address it. In Ghana, the unfunded social obligations were passed on to lower levels of government which did not have the financial capacity to absorb this responsibility because the proposed social insurance reforms had stalled. In many cases, central governments reassert control in a heavy-handed fashion when local governments deal with politically sensitive issues in a way that does not accord with the views of the national government on how such issues should be treated.

Where there is a split between purchasers and providers, similar tensions often arise. In Hungary and also in New Zealand there has been conflict between purchasing agencies situated in different branches of the government and still responsible for stewardship (such as ministries of health and finance) and the owners of the contracted providers (such as municipalities and local governments). In Hungary, constitutional powers were given to a self-governing National Health Insurance Fund that was controlled by the labour unions during the early 1990s. For about eight years, until the abolition of this arrangement in 1998, there was an open conflict between the Ministry of Finance and the Health Insurance Fund over fiscal policy and expenditure control. Providers were often not paid on time.

Finally, the introduction of user fees creates tensions between policy-based and prepaid purchasing and market-driven purchases of services by individual consumers. This has been especially true in many of the central Asian republics and in countries affected by the east Asia crisis, where the revenues channelled through policy-based purchasing have experienced a dramatic drop in recent years. This can undermine national policies on priority setting and cost containment, and as discussed in Chapter 2, it makes financing much less fair. The issue of how to organize purchasing as an integral part of the financing function is treated at more length in Chapter 5.

In order to attain the goals of good health, responsiveness and fair financial contribution, health systems need to determine some priorities and to find mechanisms that lead providers to implement them. This is not an easy task, because of two sources of complexity. Priorities should reflect a variety of criteria that are sometimes in conflict, and that requires a great deal of information that most health systems simply do not now have available. And to make priorities effective requires a mixture of rationing mechanisms, organizational structures, institutional arrangements and incentives for providers that must above all be consistent with one another and with the goals of the system.

## REFERENCES

1. **Beauchamp TL, Childress JF.** *Principles of biomedical ethics, 3rd ed.* Oxford, Oxford University Press, 1989.
2. **Gwatkin DR, Guillot M.** *The burden of disease among the global poor: current situation, future trends, and implications for strategy.* Washington, DC, and Geneva, The World Bank and the Global Forum for Health Research, 1999.
3. **Jha P, Chaloupka FJ, eds.** *Tobacco control policies in developing countries.* Oxford, Oxford University Press, 2000.
4. **Loudon IS, ed.** *Western medicine: an illustrated history.* Oxford, Oxford University Press, 1997.
5. **McKee M.** For debate – does health care save lives? *Croatian Medical Journal*, 1999, **40**(2): 123–128.
6. **Murray CJL et al.** *Development of WHO guidelines on generalized cost-effectiveness analysis.* Geneva, World Health Organization, 1999 (GPE Discussion Paper No. 4).
7. **Tengs TO.** *Dying too soon: how cost-effectiveness analysis can save lives.* Irvine, California, University of California, National Center for Policy Analysis, 1997 (Policy Report No. 204).
8. **Barnum H, Tarantola D, Setiady I.** Cost-effectiveness of an immunization programme in Indonesia. *Bulletin of the World Health Organization*, 1980, **58**(3): 499–503.
9. **Barnum H.** Cost savings from alternative treatments for tuberculosis. *Social Science and Medicine*, 1986, **23**(9): 847–850.
10. **Prescott N, de Ferranti D.** The analysis and assessment of health programs. *Social Science and Medicine*, 1985, **20**(12): 1235–1240.
11. **Mills A.** Economic evaluation of health programmes: application of the principles in developing countries. *World Health Statistics Quarterly*, 1985, **38**(4): 368–382.
12. **Mills A.** Survey and examples of economic evaluation of health programmes in developing countries. *World Health Statistics Quarterly*, 1985, **38**(4): 402–431.
13. **Lee M, Mills A, eds.** *Health economics in developing countries.* Oxford, Oxford University Press, 1984.
14. **World development report 1993 – Investing in health.** Washington, DC, The World Bank, 1993.
15. **Murray CJL, Lopez AD, eds.** *The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries and risk factors in 1990 and projected to 2020.* Cambridge, MA, Harvard School of Public Health on behalf of the World Health Organization and The World Bank, 1996 (Global Burden of Disease and Injury Series, Vol. I).
16. *The world health report 1999 – Making a difference.* Geneva, World Health Organization, 1999.
17. **Hammer J.** *Economic analysis for health projects.* Washington, DC, The World Bank, 1996 (Policy Research Working Papers, No. 1611).
18. **Jha P, Bangoura O, Ranson K.** The cost-effectiveness of forty health interventions in Guinea. *Health Policy and Planning*, 1998, **13**: 249–262.
19. **Peabody J et al.** *Policy and health: implications for development in Asia.* Cambridge, Cambridge University Press, 1999.
20. **Murray CJL, Kreuser J, Whang W.** Cost-effectiveness analysis and policy choices: investing in health systems. In: Murray CJL, Lopez A. *Global comparative assessments in the health sector: disease burden, expenditures and intervention packages.* Geneva, World Health Organization, 1994.
21. **Bobadilla JL.** Investigación sobre la determinación de prioridades en materia de salud [Inquiry into the determination of priorities in health]. In: Frenk J, ed. *Observatorio de salud.* Chapter 11. Mexico, Fundación Mexicana para la Salud, 1997 (in Spanish).
22. **Murray CJL, Lopez AD.** *Global health statistics.* Cambridge, MA, Harvard School of Public Health on behalf of the World Health Organization and The World Bank, 1996 (Global Burden of Disease and Injury Series, Vol. II).
23. **Wagstaff A.** *Inequalities in child mortality in the developing world. How large are they? How can they be reduced?* Washington, DC, The World Bank, 1999 (HNP Discussion Paper).
24. **Cotlear D.** *Peru: improving health care financing for the poor.* Washington, DC, The World Bank, 1999 (Country Studies).
25. **Wagstaff A.** *HNP module of Poverty Reduction Strategy Paper (PRSP) toolkit.* Washington, DC, The World Bank, 2000.
26. **Missialos E, Grand JL, eds.** *Health care and cost containment in the European Union.* Aldershot, Ashgate, 1999.
27. **Ham C.** Corporatization of UK hospitals. In: Preker AS, Harding A, eds. *Innovations in service delivery: the corporatization of hospitals.* Baltimore, Johns Hopkins University Press for The World Bank, 2000 (in press).

28. **Bobadilla JL et al.** Design, content and financing of an essential national package of health services. *Bulletin of the World Health Organization*, 1994, **72**(4): 653–662.
29. **Bobadilla JL et al.** *El paquete universal de servicios esenciales de salud [Universal package of essential health services]*. Economía y salud, documentos para el análisis y la convergencia. Mexico, Fundación Mexicana para la Salud, 1994 (in Spanish).
30. **Robinson R.** Limits to rationality: economics, economists and priority setting. *Health Policy*, 1999, **49**: 13–26.
31. **Maynard A.** Rationing health care: an exploration. *Health Policy*, 1999, **49**: 5–11.
32. **Berryman SE et al.** *Assessing institutional capabilities*. Washington, DC, The World Bank, 1997 (World Bank Working Paper).
33. **Wilson JQ.** *Bureaucracy: what government agencies do and why they do it*. New York, Basic Books, 1989.
34. **Schmalensee R, Willing RD.** *Handbook of industrial organization, Vols I and II*. Amsterdam, Elsevier Science, 1989.
35. **Williamson O.** *The economic institutions of capitalism: firms, markets and relational contracting*. New York, Free Press, 1985.
36. **Williamson OE.** Comparative economic organization: the analysis of discrete structural alternatives. *Administrative Science Quarterly*, 1991, **36**(2): 269–296
37. **Barr N, ed.** *Labor markets and social policy in Central and Eastern Europe*. Oxford, Oxford University Press for The World Bank, 1994.
38. **World Bank.** *World development report 1996 – From plan to market*. New York, Oxford University Press, 1996: 123–132
39. **Lieberman S.** Corporatization of Indonesia hospitals. In: Preker AS, Harding A, eds. *Innovations in service delivery: the corporatization of hospitals*. Baltimore, Johns Hopkins University Press for The World Bank, 2000 (in press).
40. **Palmer N.** *The theory and evidence of contracting for primary care services: lessons for low and middle income countries*. London, London School of Hygiene and Tropical Medicine, 1999 (unpublished paper).
41. **Gregory R.** Accountability, responsibility, and corruption: managing the ‘public production process’. In: Boston J, ed. *The state under contract*. Wellington, New Zealand, Bridget Williams Books, 1995.
42. **Panzar J, Willing R.** *Economies of scale and economies of scope in multi-output production*. Murray Hill, NJ, Bell Laboratories, 1975 (Economic Discussion Paper No. 33).
43. **Teece DJ.** Economies of scope and the scope of the enterprise. *Bell Journal of Economic Behavior and Organization*, 1980, **1**: 223–247.
44. **Ho T.** Hospital restructuring in the European and Central Asian Regions. In: McKee M et al, eds. *The appropriate role of the hospital*. Copenhagen, World Health Organization Regional Office for Europe, 2000 (in press).
45. **Barnum H, Kutzin J.** *Public hospitals in developing countries: resource use, cost and financing*. Baltimore, Johns Hopkins University Press, 1993.
46. **Lipsky M.** *Street-level bureaucracy*. New York, Russell Sage, 1980.
47. **Tarimo E.** *Towards a healthy district: organizing and managing district health systems based on primary health care*. Geneva, World Health Organization, 1991.
48. **Conyers D, Cassels A, Janovsky K.** *Decentralization and health systems change: a framework for analysis*. Geneva, World Health Organization, 1993 (document WHO/SHS/NHP/93.2).
49. **Janovsky K, Travis P.** *Decentralization and health systems change: case study summaries*. Geneva, World Health Organization, 1998.
50. **Pressman J, Wildavsky A.** *Implementation*. Berkeley, University of California Press, 1973.
51. **Harding A, Preker AS.** Conceptual framework for organizational reform of hospitals. In: Preker AS, Harding A, eds. *Innovations in health service delivery: corporatization in the hospital sector*. Baltimore, Johns Hopkins University Press, 2000 (in press).
52. **Evans B.** General revenues financing: a comparison of US and Canada. In: Figueras J et al, eds. *Funding health care and long-term care: options in Europe*. Copenhagen, World Health Organization Regional Office for Europe, 2000 (in press).
53. **Robinson JC.** *The corporate practice of medicine: competition and innovation in health care*. Berkeley, University of California Press, 1999.
54. **Phua K.** Corporatization of hospitals in Singapore. In: Preker AS, Harding A, eds. *Innovations in health service delivery: corporatization in the hospital sector*. Baltimore, Johns Hopkins University Press, 2000 (in press).
55. **Scott G.** Corporatization in New Zealand hospitals. In: Preker AS, Harding A, eds. *Innovations in health service delivery: corporatization in the hospital sector*. Baltimore, Johns Hopkins University Press, 2000 (in press).



56. **Ham C.** Priority setting in health care: learning from international experience. *Health Policy*, 1997, **42**(1): 49–66.
57. **McKee M, Healy J.** *The role of the hospital in a changing environment*. European Observatory on Health Care Systems and London School of Hygiene and Tropical Medicine, 1999 (unpublished paper).
58. **Mills A.** Contractual relationship between government and the commercial private sector in developing countries. In: Bennett S, McPake B, Mills A. *Private health providers in developing countries: serving the public interest*. London, Zed Books, 1997.
59. **Preker AS, Feachem RGA.** *Market mechanisms and the health sector in Central and Eastern Europe*. Washington, DC, The World Bank, 1996 (Technical Paper No. 293).
60. **Klein B, Crawford RG, Alchian AA.** Vertical integration, appropriable rents, and the competitive contracting process. *Journal of Law and Economics*, 1978, **21**: 297–326.