

# Organization of ambulatory care provision: a critical determinant of health system performance in developing countries

Peter Berman<sup>1</sup>

---

Success in the provision of ambulatory personal health services, i.e. providing individuals with treatment for acute illness and preventive health care on an ambulatory basis, is the most significant contributor to the health care system's performance in most developing countries. Ambulatory personal health care has the potential to contribute the largest immediate gains in health status in populations, especially for the poor. At present, such health care accounts for the largest share of the total health expenditure in most lower income countries. It frequently comprises the largest share of the financial burden on households associated with health care consumption, which is typically regressively distributed.

The "organization" of ambulatory personal health services is a critical determinant of the health system's performance which, at present, is poorly understood and insufficiently considered in policies and programmes for reforming health care systems. This article begins with a brief analysis of the importance of ambulatory care in the overall health system performance and this is followed by a summary of the inadequate global data on ambulatory care organization. It then defines the concept of "macro organization of health care" at a system level. Outlined also is a framework for analysing the organization of health care services and the major pathways through which the organization of ambulatory personal health care services can affect system performance. Examples of recent policy interventions to influence primary care organization — both government and nongovernmental providers and market structure — are reviewed. It is argued that the characteristics of health care markets in developing countries and of most primary care goods result in relatively diverse and competitive environments for ambulatory care services, compared with other types of health care. Therefore, governments will be required to use a variety of approaches beyond direct public provision of services to improve performance. To do this wisely, much better information on ambulatory care organization is needed, as well as more experience with diverse approaches to improve performance.

**Keywords:** Ambulatory care, organization and administration; cost of illness; developing countries; diarrhoea, prevention and control; health services administration; outcome assessment, health care.

---

*Voir page 799 le résumé en français. En la página 800 figura un resumen en español.*

## Introduction

The epidemiological transition in Western Europe in the early part of the twentieth century has largely been attributed to gains in living standards and changes in population behaviour. Much of this took place before many low-cost prevention and treatment technologies were available. Widespread access to basic health care has already greatly accelerated this transition for today's lower income nations.

Health care services deserve much of the credit for the sizeable gains in health status made in developing countries over the last few decades. Despite these gains, the performance of health care systems in developing countries still leaves much to be desired. There is ample evidence of sub-standard quality, maldistribution in terms of both types of

services and beneficiaries, and high cost burdens on individuals and, in some cases, communities and nations.

Health care system reform strategies in developing countries have emphasized new methods for generating resources for health care and rational approaches, such as those based on disease burden and cost-effectiveness, for the allocation of resources in public programmes. The logic behind these reform strategies seems to be that if one can decide what are the best things for the health care system to do and raise enough money to pay for them, they will be done successfully. This ignores the widespread evidence of underused public services and extensive nongovernment provision, even of those interventions which have been chosen as government public health priorities.

The objective of this article is to focus attention on the organization of health care provision as a critical and under-appreciated determinant of successful health system policies. Better understanding of the organization of health care at a system level has

---

<sup>1</sup> Associate Professor of International Health Economics and Director, International Health Systems Group, Harvard School of Public Health, 22 Plympton St., Boston, MA 02238, USA (email: pberman@hsph.harvard.edu).

significant implications for the design of strategies to improve system performance. It is argued that this hypothesis is particularly significant for the organization of personal ambulatory care provision in lower income countries. These providers are the source of most of the potential health gains and account for most of the financial burden of the current health care system in poorer countries. In many countries, personal ambulatory care provision is the most pluralistic and competitive part of the health care system and the least amenable to improvement solely from expanding public provision. The system-level organization of these services (macro organization as it is termed below) is poorly measured and understood. As a result, governments do not do enough of the things needed to improve system performance.

The article begins by presenting the case for the importance of ambulatory care provision in health care system performance. The concept of the macro organization of health care services is then introduced as a useful analytical category in the analysis of health care systems along with a review and critique of available information. The mechanisms through which macro organization affects system performance are then discussed. Diarrhoeal disease control programmes provide one example of the importance of understanding macro organization. The article concludes with a discussion of the implications of better analysis of macro organization for governmental reform efforts and some suggestions on the next steps for global data collection and analysis.

## Importance of ambulatory care provision

### Defining ambulatory care provision

The term “ambulatory care provision” refers to the individuals and organizations that deliver *personal health care services on an outpatient basis*. It is useful to contrast this concept with the related use of the terms “primary care” and “primary health care”, both of which have been defined in various ways by observers of health care systems. The WHO definition, as found in the 1978 Declaration of Alma-Ata is well known (1). It can be contrasted with that given by Starfield in her widely used text:

“Primary care ... is the basic level of care provided equally to everyone. It addresses the most common problems in the community by providing preventive, curative, and rehabilitative services to maximize health and well-being. It integrates care ... and deals with the context ... Primary care is distinguished from other types of care by clinical characteristics of patients and their problems ... Primary care practitioners are ... distinguished from their secondary and tertiary counterparts by the variety of problems encountered ... primary care is the first point of contact with the health system.” (2)

These definitions mix concepts of *where* health care is provided (e.g. first-level providers), *when* it is provided (e.g. first contact care), and *what* is provided (e.g. basic or essential health care services). They contain both positive (e.g. when and by whom) and normative dimensions (e.g. valuing something as “essential” or “basic”).

This article focuses on analysis of the positive dimensions of health care service organization — what is, not what should be — as an essential element in the assessment of the role of health care organization in health system performance. Personal ambulatory care services are provided not only by “first-level” providers and certainly often by unqualified providers, including those expected to provide only diagnostic services and medical goods. They include both first-contact and some follow-up, referral, or specialist services, and include care that is not necessarily part of what health planners would denote as basic or fundamental services.

### Defining health system performance

There is no universally accepted set of criteria for assessing health system performance. WHO has taken an important step by explicitly acknowledging that health systems are about more than just aggregate health status improvement (3). In analysing the role of ambulatory care provision in health system performance, this article will diverge slightly from the WHO framework, mainly in relation to the “responsiveness” criterion.

The analysis presented is based on the notion that health system performance must be assessed in terms of multiple criteria. Three important criteria are cited here: population health outcomes, protection from financial risk resulting from disease and ill-health, and satisfaction with the process and results of health care. Each of these criteria can be assessed in terms of both their level in a population and their distribution.

### Contribution of ambulatory care provision in lower income countries

We examine below the place and contribution of ambulatory care provision in terms of each of the criteria of health system performance, with a particular focus on the lower income countries.

**Level and distribution of population health outcomes.** In discussing the population effectiveness of health interventions, a sharp distinction is often made between “preventive” and “curative” services. Preventive services are designated as encompassing primarily population or community-based approaches, as having the largest potential contribution to population health gains, and as being more cost-effective. Preventive services are often treated as synonymous with public health programmes, such as vector control programmes, community-based water supply, and health promotion. These kinds of programmes typically target populations and provide benefits in a collective way. They have strong “public

goods" justifications. They are often contrasted with individual-centred curative care. Of course, preventive services also include personal preventive care, such as immunization and antenatal care. Personal preventive services can be organized in different ways. For example, child immunization can be provided in a clinic setting in conjunction with a routine check-up or can be delivered in the field on national immunization days through field workers who only perform immunizations. However, most personal preventive services and a great deal of personal curative care (in fact, all that is not provided on an inpatient basis) comprise the personal ambulatory health care that is the main focus of this article. It is argued that such health care delivered in ambulatory care settings makes up by far the largest potential contribution of health care to improved population health outcomes in lower income countries. Further, the role of personal curative health care is typically underestimated as a significant contributor to these outcomes.

To support this assertion, we examine more carefully the current dominant approach to setting health care priorities based on assessment of burden of disease and cost-effectiveness of interventions. Table 1 presents some estimates of the potential for addressing the burden of disease in developing countries for the population as a whole and for children aged 0–4 years based on disability-adjusted life year (DALY) calculations (4).

The disease/injury categories used were classified according to whether personal ambulatory health care services would be a major source of delivering interventions to reduce this part of the burden of disease. Included were conditions with major acute illness care interventions, which are usually provided on an ambulatory basis, and immunizable diseases. Excluded were conditions whose major interventions are population-based or where inpatient treatment is needed. For conditions with both significant population-based interventions and ambulatory care interventions, such as malaria, half of their burden was counted.

Table 1 shows that for the population as a whole, about 62% of all DALYs lost and 83% of the associated top ten causes are addressed primarily with ambulatory care interventions. For children under 5 years of age, Murray & Lopez reported only the top ten causes, which account for 78% of all DALYs lost. Ambulatory care interventions are the main source of action for about 75% of those conditions.

Infectious and parasitic diseases accounted for about 41% of all DALYs lost in developing countries in 1990. These conditions are typically seen as a central focus of the public health agenda; however, examining the priority list of these conditions reinforces the view of the importance of personal ambulatory services. Childhood diarrhoea and lower respiratory infection are ranked first and third as causes of DALYs lost by under-5-year-olds, accounting for about 35% of the total. The interventions recommended for these conditions are primarily

Table 1. The potential contribution of personal ambulatory care services to addressing the burden of disease in developing nations<sup>a</sup>

	Whole population	Children aged 0–4 years
% of all DALYs attributed to 96 causes	83.5	N/A
% of all DALYs primarily addressed through personal ambulatory care interventions	62.1	N/A
% of all DALYs attributed to top 10 causes	43.9	78.4
% of DALYs in top 10 causes addressed through personal ambulatory care interventions	83.3	75.3

<sup>a</sup> Source: ref. 4.

treatment of acute symptoms through personal ambulatory care. Recommended cost-effective interventions for tuberculosis and sexually transmitted diseases, two important communicable disease groups affecting adults, are primary treatment of identified cases, with secondary prevention as a related outcome. Treatment of acute malaria episodes is also an important contributor to population health outcomes related to malaria.

As is well known, in the poorest countries infants and children under 5 years of age may bear the largest share of the burden of disease. Murray & Lopez estimated that under-5-year-olds accounted for 52% of DALYs lost in sub-Saharan Africa. This burden is also weighted towards the poor. A recent analysis of inequalities in child mortality (5) reported a statistically significant negative correlation of under-five mortality with household consumption in seven out of nine countries studied. Putting together the different pieces of evidence on burden, its distribution, and role of ambulatory personal health care services in addressing the burden, it seems clear that ambulatory care is where the greatest health impact of health care will be obtained in lower income countries.

**Level and distribution of the financial burden of health care.** Another objective of health care systems is to help allay the financial burden of health care on households and to provide the mechanisms through which this burden can be fairly distributed. It is argued here that personal ambulatory care services are the major contributor to the large and inequitable health financing burden borne by households in the lower income countries. Reforms to financing personal ambulatory care services are central to efforts to address the financial burden criteria in health system performance in lower income countries.

Personal health services typically account for the largest share of total health spending in poorer countries. This contrasts with the situation in wealthier countries, where inpatient services make up the largest share of spending. The first column in Table 2 shows the estimated share of total health spending going to ambulatory personal health care services for a sample of lower income countries, based on recent national health accounts studies. The

Table 2. Contribution of personal ambulatory health care services to total health spending and its distribution

	% of total health spending in personal ambulatory health care services	Average share of household out-of-pocket spending to personal ambulatory care services (%)	Ratio of lowest to highest quintile of household out-of-pocket health spending as a share of income/consumption
India <sup>a</sup>	ca. 55%	68.2% (rural) 63.3% (urban)	1.18 (rural) 1.4 (urban)
Egypt <sup>b</sup>	ca. 70%	93%	1.34
Mexico <sup>c</sup>	ca. 55%	> 90%	1.47 <sup>d</sup>
Bangladesh <sup>e</sup>	72%	> 90%	3.05

<sup>a</sup> Ref. 23. <sup>b</sup> Ref. 24. <sup>c</sup> Ref. 25. <sup>d</sup> Ref. 26. <sup>e</sup> Ref. 27.

estimates range from ca. 55% to 72% of total health care spending. This contrasts with an estimated average of 29.1% of total expenditure on ambulatory care from OECD countries in 1990 (6).

As shown in the second column of Table 2, household out-of-pocket spending on health care is significantly weighted towards personal ambulatory care services. This is the most direct financial burden of health care on households. It typically makes up a large share of total spending in lower income countries, explaining the figures in the first column.

The third column in Table 2 shows the ratio of household out-of-pocket spending on health care as a percentage of household income/consumption for the sample of countries. Out-of-pocket spending tends to be distributed regressively, with the poor bearing a relatively larger burden than the better-off. For the reporting countries, this burden on the poor is also weighted towards personal ambulatory care services, i.e. the poor spend relatively more out-of-pocket on those services. It is also likely that the poor bear a larger burden of lost work time and productivity (another dimension of the financial burden) from the diseases and conditions that are amenable to prevention and treatment through personal ambulatory care.

Household health spending results in foregone consumption of other goods causing reduced household welfare. The welfare loss is compounded if poor families spend scarce cash for services of little or no health benefit. In addition, sudden shocks to household resources from high and unexpected health spending can lead to sale of assets and increases in poverty, sustaining these losses into the future.

Some researchers have noted that the household spending burden related to personal ambulatory care services is more likely to result in routinely reduced consumption rather than sudden shifts of households into poverty. For example, an analysis of

Indian household survey data noted that the high end of the household spending distribution is most probably associated with costly inpatient treatment episodes (7).

**Population satisfaction.** Both the conceptualization and measurement of a population's satisfaction with health care and health care systems is at an early stage of development. Blendon et al., in a survey of populations in several OECD countries, reported significant differences across countries, as well as some puzzling inconsistencies within countries in terms of individuals' satisfaction with their own health care and their feelings about the health care system overall (8).

Little research of this type has been carried out in lower income nations. But it seems self-evident that high rates of unattended preventable and treated illness and a high financial burden on households would not lead to a highly satisfied population. Personal ambulatory care provision would certainly contribute to the overall level of satisfaction, although it is not clear if it would do so more than inpatient service provision.

## Organization of ambulatory care provision

If ambulatory care provision is the locus of critical determinants of health system performance in terms of health outcomes, financial burden, and other objectives, what do we know about its organization in lower income countries? Unfortunately, the answers are "not much" and "not enough"!

The organization of health care delivery can be analysed at both the "macro" and "micro" levels (9). Let us call those who produce health care services "providers". Providers can be organizations as well as individuals. For example, a rural health centre can have a staff of twenty or more with a range of qualifications. We might speak of rural health care centres as important providers of antenatal care services. Within a health centre, these services might be delivered by physicians, midwives, and assistant midwives on different days and in different locations. As shown in Fig. 1, "micro" organization refers to factors affecting health care delivery *within* a provider organization.

In understanding the organization of health care delivery as a factor affecting health care system performance, we need a higher level or more aggregated unit of analysis. "Macro" organization refers to the mix of different types of provider organizations in a market, region, or country and to the structure of the market itself which affects their behaviour. This article focuses on the "macro" organization of personal ambulatory care services in lower income countries.

Despite its importance, the information available globally about the macro organization of health care is completely inadequate. This lack of data is

especially evident for personal ambulatory health care provision.

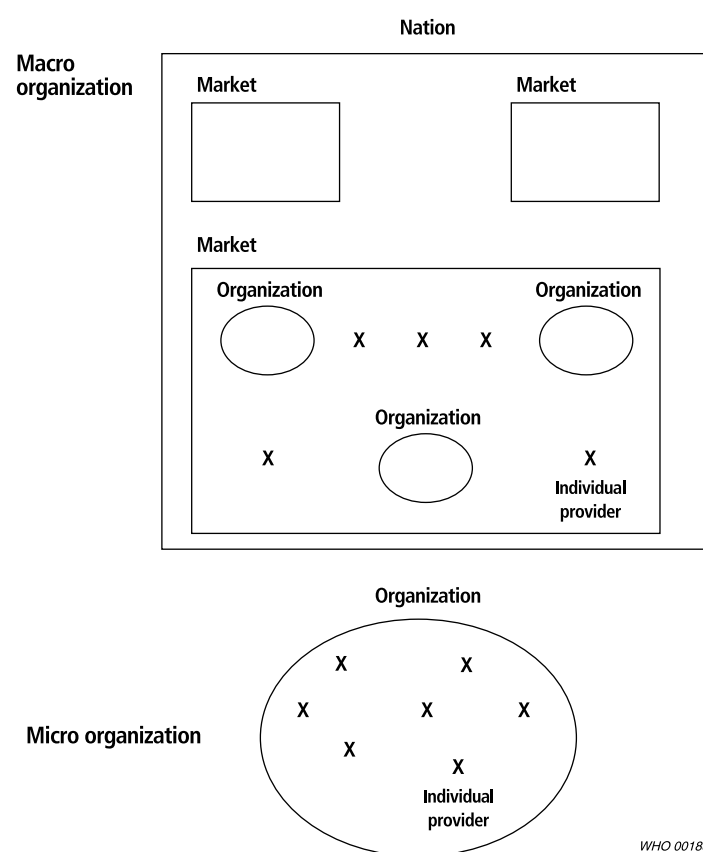
Table 3 presents the type of data reported annually in statistics about delivery of health care globally. These data are collected through official government submissions. No international body collects any better information about the developing countries as a group; however, OECD collects somewhat more complete information for its member countries. A list of the indicators on macro organization collected in the OECD Health Data is given in Table 4. Both of these data sets lack the critical information needed to describe macro organization for ambulatory curative care.

There are two major gaps in the current information base. First, we lack a feasible and useful typology for health care organization, particularly for personal ambulatory care providers. Ambulatory care providers include a wide range of health care organizations. These providers combine in different ways different systems of medicine and complexity of organization — from traditional practitioners and part-time less-than-fully-qualified providers (9) to the outpatient departments of tertiary hospitals. In the middle of this range lie the qualified ambulatory care providers such as government health centres and dispensaries and private individual and group physician practices. The use of these terms in national and global statistics is quite uninformative since there is no standard set of definitions used.

The second major gap is the lack of global information on the public-private mix in ownership and in the roles of different types of providers. The role of different provider types can be described in terms of the salience in the volume of health care provided and expenditure on that care (9). An increasing number of country-specific studies have called attention to the large and ostensibly growing role of private health care in lower income countries (9-11), a trend that is especially significant for ambulatory care organization.

These information problems are not limited to lower income countries. The organization of ambulatory care has been changing rapidly also in developed countries, especially in the USA. Phenomena such as the increasing size and prevalence of group practice, corporate ownership of large numbers of physician practices, integration of hospital

Fig. 1. Macro and micro levels of health care organization



WHO 00188

and ambulatory care provision in a single organization, and independent practice associations have transformed ambulatory care in the USA and Western Europe (12, 13). For the above-mentioned reasons, analysts are very limited in terms of their ability to monitor these trends quantitatively.

It is possible to improve on the current information base with the data now available in many lower income countries. This requires more systematic analysis, combining provider and household information from a variety of sources. Table 5 provides recent data on ambulatory care provision in Egypt in terms of the absolute numbers of different types of public and private providers and their shares of total volume of services (contacts) and total expenditure. Government provision of ambulatory care accounts for a relatively small share of the total

Table 3. Typical global statistics on health care provision, 1990s<sup>a</sup>

Health services Indicator	World	Low- and middle-income countries	High-income countries	East Asia and Pacific countries	Europe and Central Asia countries	Latin America and Caribbean	Middle East countries and South Africa	South Asian countries	Sub-Saharan countries
No. of inpatient beds per 1000 population	3.3	2.4	7.6	2.2	9.2	2.3	1.7	0.7	1.2
No. of physicians per 1000 population	1.6	1.4	2.4	1.2	3.1	1.4	1.0	0.3	0.1

<sup>a</sup> Source: World Bank data.

Table 4. Health care organization indicators collected in the OECD health data<sup>a</sup>

Health employment	Throughput	Expenditure on ambulatory care	Medical facilities
Total health employment	Average length of stay: inpatient care	Total expenditure on ambulatory care	Beds: total inpatient care
Active (practising) physicians	Average length of stay: acute care	of which publicly financed	Beds: acute care
Active (practising) female physicians	Occupancy rate: inpatient care	Physicians' services	Beds: psychiatric care
Active (practising) general family practitioner	Occupancy rate: acute care	of which publicly financed	Beds: nursing home care
Active (practising) specialists/consultants	Somatic hospitals turnover rate	Dentists' services	Private hospital beds
Active (practising) dentists	Hospital personnel per bed	of which publicly financed	Private-for-profit hospital beds
Active (practising) pharmacists	Nurses per bed	Laboratory tests	Scanners
Certified (registered) nurses	Births in hospitals	of which publicly financed	Radiation treatment equipment
	Deaths in hospitals	X-rays and imaging diagnosis procedure	Lithotriptors
	Doctors' consultations per capita	of which publicly financed	Magnetic resonance imagers
	Patient contacts per physician	Dental prostheses	
	Dental consultations per capita	of which publicly financed	
		(Price Indices)	
	<i>Variety of output indicators for specific procedures and services</i>		

<sup>a</sup> Source: ref. 6.

Table 5. The role of different provider types in personal ambulatory care, Egypt, 1995<sup>a</sup>

	No. of provider units	% of all units	% of all ambulatory care contacts	% of all expenditure on ambulatory care
<b>Hospitals</b>				
Government	573	0.77	16.44	12.87
Public sector <sup>b</sup>	94	0.13	6.54	3.77
Private sector	752	1.02	2.56	5.40
<b>Clinics</b>				
Government	3330	4.46	12.56	15.23
Public sector	7169	9.69	4.94	9.23
Private sector	ca. 1500	2.03	8.31	53.50
<b>Individual physician practices</b>				
Pharmacy	ca. 14 000	18.92	3.07	1.09
Other providers	ca. 3 000	4.05	NA	NA
<b>Total</b>		<b>100</b>	<b>100</b>	<b>100</b>

<sup>a</sup> Source: ref. 9.

<sup>b</sup> Public sector refers to government-owned providers, not part of ministries of government, such as the social health insurance organization.

volume and expenditure. Within the government sector, ambulatory care delivered *at hospitals* significantly exceeds that provided at dedicated ambulatory care facilities (such as health centres), despite years of investment in the lower-level facilities. Private physicians' practices provide a much larger share of

total volume. Traditional and unqualified providers account for a small share.

## Ambulatory care provision and health system performance

Thus far it has been argued that ambulatory care provision is important and that we lack adequate information about its importance. But what is it about ambulatory care organization that determines health system outcomes? The effects come from both the demand and supply sides. They can be viewed descriptively through comparisons of different types of ambulatory care organization at a particular time or dynamically as the outcome of health care markets.

Ambulatory care providers differ in the prices they charge to users, other non-price costs incurred by users such as time and travel costs, and in their characteristics that affect the users' perceptions of quality. As many studies of the demand for health care have demonstrated, these provider attributes affect how much care is demanded and where it is delivered. Perhaps more importantly, price, other costs, and perceived quality differ in their importance and impact according to the age, sex, and socioeconomic status of consumers, i.e. the attributes of different types of organization affect both coverage and equity.

These effects translate into the health system performance measures cited above. Providers differ not only in terms of the perceived quality of services but also in terms of their technical quality and efficacy. Potential service users sort themselves between non-use, self-treatment, and use of various

types of providers. Often, those most able to benefit from an intervention (say, on the basis of age, sex, or income) select those provider types with the lowest technical quality/efficacy because they perceive them to be of better quality or because of lower access costs. This results in the perverse outcome of access to services with little positive impact or even negative impact on health. When this is combined with high or even higher costs to users than the more efficacious alternatives, system performance suffers in terms of both the health and financial protection criteria.

Unfortunately, this pattern is found for many of the major health problems in lower income countries. For example, Uplekar et al. have reported that over three-quarters of the tuberculosis patients treated by private practitioners in India are not given proper diagnostic tests and most receive drug regimens that are both inappropriate and very costly. They estimate that patients spend five to six times more than they need to on what is often an inadequate therapeutic course (14).

Providers also differ in their production costs, i.e. a technically adequate intervention can be produced in different ways at different costs. Even if all providers are economically efficient, differences in their organization and in the non-technical quality attributes of what they produce will lead to cost differences. This, in part, accounts for the large cost differences across health care systems.

## Market factors in ambulatory care provision

With a feasible typology one can observe and describe the mix of providers in a market or a country at a particular point in time. But to the extent that providers (both organizations and individuals) work in a competitive market, their characteristics and behaviour may be significantly determined by market factors.

Little attention has been paid to the development of health care markets in lower income countries. Governments have seen health care as a state responsibility, often claiming a special emphasis on basic health services. Nevertheless, there is ample evidence that competitive health care markets are common in lower income countries (15).

Personal ambulatory care services are particularly suited to the development of competitive markets in lower income countries. For example, Hanson & Berman (11) reported much higher levels of nongovernmental activity for physicians' services than for hospitals and beds. Preker et al. (16) cited a number of reasons why there should be greater propensity to market competition for personal ambulatory services than for other types of health care.

Although much personal ambulatory care is considered part of the *public health* agenda on grounds of health gain, equity, and market failure, few of these

goods fit a strict model of market failure in the *public goods* sense used by economists, i.e. insufficient conditions to generate a competitive market. There is private demand for such core public health interventions as immunization and antenatal care, not to mention the treatment of diarrhoea and tuberculosis. Markets are contestable in that there are few constraints to market entry in lower income countries where regulation is limited and little capital investment is needed. Most personal ambulatory care is comprised of interventions that are discrete and time bound. Episodes of need are frequent. Consumers can shop around with little risk and only modest inconvenience. They have more and better information than is available for technologically more sophisticated services. Providers can adjust prices and quality easily. In contrast to the situation in more advanced countries, government regulation is weak in lower income countries and there is little organized financing that could help to limit low quality.

The result of these conditions is that ambulatory care markets in lower income countries are often very pluralistic and competitive, with many different types of providers offering similar services to consumers at a variety of price and quality levels. While there are countries or regions within countries in which the absolute supply of personal ambulatory care services is so constrained that there is little competition, these are the exception, not the rule. Far more common is the situation in which qualified government providers offer a package of services, which in the eyes of consumers compete with a variety of qualified and unqualified private providers and traditional practitioners. Governments and international organizations have learned time and again that simply creating a supply of personal ambulatory care providers does not necessarily lead to coverage of "underserved" populations, even when these services may be technically superior and are offered without charge. There is certainly a great deal of unmet need for basic (and good technical quality) personal health care in lower income countries, but this is not the same as unmet demand (17).

## Diarrhoeal disease control and ambulatory care organization

Diarrhoea ranks second as a cause of loss of DALYs in developing countries, with 8% of the total disease burden, and third in the causes of loss of DALYs among children under 5 years of age, accounting for 17% of the total estimated burden of disease for that age group. Low-cost, efficacious therapy is available to prevent more than half of all diarrhoea mortality (and 90% of mortality from acute watery diarrhoea) and to reduce the sequelae of severe episodes (18).

The principal intervention offered by health care for diarrhoeal episodes is oral rehydration and clinical evaluation and treatment of associated risks such as undernutrition and other infections. While mass information campaigns have been used to

encourage self-treatment, the main vehicle for interventions is personal ambulatory health care.

Governments and international organizations have invested substantially in the 1980s and 1990s in programmes to increase access and coverage with the desired interventions. Government-supported providers include village-level health workers, paramedical and medical personnel in outreach programmes and in various types of ambulatory care facilities, and personnel in hospital outpatient departments.

Fig. 2 presents data from a sample of Demographic and Health Surveys (DHS) reporting on where children with acute diarrhoeal episodes have been taken for treatment. This and many other sources show that despite sizeable government investments in service delivery, the majority of cases in many countries are seen by a variety of nongovernment providers. Many of these individuals are not fully qualified, do not make use of the appropriate technology, and impose significant financial burdens on poor patients.

Viswanathan & Rohde have reported the results of “a nationwide study of mothers and practitioners” (19). They summarize their findings as follows:

“The low rate of consultation at public health facilities for the complaint of diarrhea had convinced planners that mothers did not seek professional medical care for most cases ... Survey findings were dramatically contrary, with 65 percent of all episodes consulting a health professional outside the home. More than 80 percent of these consultations were to private practitioners generally called “doctors” but, by and large, neither fully trained nor always licensed. The high level of trust and respect for such practitioners was quite remarkable. With less than 10 percent consulting the health system: sub-centers, PHC’s, etc., it became evident why so few cases are seen there.” (19).

The report goes on to describe surprisingly high rates of knowledge and behaviour among mothers concerning fluid replacement and feeding continuation and a high degree of interest among qualified and

unqualified practitioners in improving the technical quality of their work.

These and other studies on diarrhoea and many other diseases describe a macro organization of health care services that is dramatically different from the one recognized in most government programmes. It is a significant determinant of programme performance in terms of the level and distribution of health outcomes, financial burden, and satisfaction. Providers of many types of services compete for patients’ attention with different attributes of quality, price, and other costs to patients. Even where government services may offer better technical quality and lower prices, and it is not always clear that they do so, they often lose patients to others in the market.

This situation is not unknown to programme managers, nor is it ignored in national programmes. Significant resources are devoted to educating families about appropriate action as well as nongovernment providers such as pharmacists and physicians about appropriate treatment. There are programmes to expand the use of commercial channels to increase access to oral therapy. But are these efforts given sufficient attention and are they adequate to address the challenge to system performance posed by the macro organization of personal ambulatory care?

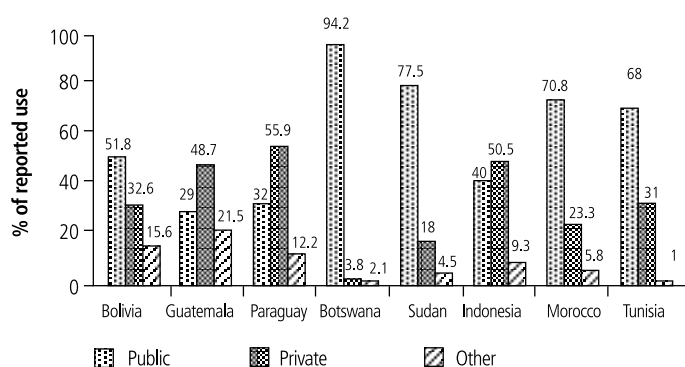
## Conclusion

### Addressing organization-related causes of poor system performance

Diversity in the market for personal ambulatory care services is not news to anyone who has ever lived or worked in a developing country. The responses of governments to these conditions has typically been to implement changes in the organization of the government’s own health care provision; for example, use of community health workers; creation of smaller, community-level facilities such as subcentres; vertical programmes; and mass campaigns. These actions are mainly intended to improve access and reduce cost through increasing the supply of services. Underlying these types of investments is the widespread assumption that the populations of most developing nations lack access to personal ambulatory care providers and services.

This assumption may have been valid for many developing countries in the 1950s and 1960s and it may still be true for a smaller group of countries where the overall supply of health care is still grossly underdeveloped. But it is probably not the case for most of the population living in lower income countries, especially if we include South Asia and China. It may be more correct to say that populations in many low-income countries have significant access to personal ambulatory care providers, but that because of consumer preferences they consume too much health care of low technical quality and of high cost. This implies that increasing the supply of government providers is not the only or even the main type of government action that is needed.

Fig. 2. Sources of treatment for diarrhoea



Source: ref. 23

WHO 00189



Governments could do much more to address organization-related causes of poor performance in two areas. First, as Musgrove (20) has noted, governments devote too much attention to direct provision of services and not enough attention to interventions that affect nongovernment providers, such as organizing financing, improving regulation, and information activities to create better-informed consumers and providers. In diverse and competitive ambulatory care markets where government providers are minority suppliers, it seems obvious that intervention to affect the nongovernment supply would be a significant, if not a major, component of public policy and action. The evidence now accumulating on the importance of nongovernment providers in overall health system performance further supports this conclusion.

Governments could also be much more innovative in their approaches to improving their own ambulatory care provision. Over the last two decades, the OECD countries have introduced exciting innovations in governance, incentives, organization, and information to improve public management of health care. Few of these innovations have migrated to lower income countries. When they do, it is often with a focus on hospitals, such as the recent widespread interest in hospital autonomy in developing countries.

There have been important recent efforts to introduce innovation in health care organization to government ambulatory care services in lower income countries. For example, since the mid-1990s, Zambia has created new public organizations to manage government health care delivery locally (21); and Egypt is experimenting with new types of government-run family practice centres in Alexandria and may soon extend this experiment to rural areas. More innovation of this type is needed, along with assessment and evaluation efforts to document its impact on system performance indicators.

### Strategies for the future

Personal ambulatory health care provision is typically the most diverse and competitive segment of health

care delivery in lower income countries. It is also the locus of the largest potential gains in health system performance.

To take full advantage of this potential, governments, international organizations, and researchers need to devote more energy to understanding the macro organization of health care services and the functioning of health care markets. Learning what to do to improve system performance through reforms targeted at macro organization and learning how to implement such reforms successfully in lower income countries will take time. The essential next steps include:

- much better information on providers and markets for personal ambulatory care services;
- experimenting with expanded government efforts to improve performance in ambulatory care provision through innovative approaches with provider payment, governance, regulation, and information interventions for consumers and providers.

The international community could rapidly address the information gap by supporting a global effort to develop basic health care provision definitions and measures, as they have done for health care financing and population and epidemiological statistics. A sustained programme of experiments with innovations to make public and private health care work better to improve health system performance will take more time and money. But with the increasingly complex challenges of the basic health agenda — integrated management of childhood illness (IMCI), reproductive health, and the care of HIV-infected populations — is there really any choice? ■

### Acknowledgements

Financial support for this work was provided by the United States Agency for International Development through the Data for Decision Making Project (cooperative agreement No. DPE-5991-A-00-1052-00). Comments by anonymous reviewers are appreciated.

## Résumé

### L'organisation des soins ambulatoires : un déterminant critique de la performance des systèmes de santé dans les pays en développement

Réussir à assurer des services de santé personnels en ambulatoire, c'est-à-dire offrir aux patients ambulatoires un traitement pour une maladie aiguë ou des soins de santé préventifs, est l'élément le plus important de la performance du système de santé dans la plupart des pays en développement. La performance du système de santé peut être définie par plusieurs variables complémentaires : l'état de santé de la population, la protection financière de la population contre les coûts de la maladie et des soins, et la satisfaction de la population quant aux procédés et aux résultats. Pour évaluer la performance du

système, il faut tenir compte à la fois de la valeur et de la distribution de chacune de ces variables.

Les soins de santé personnels en ambulatoire sont capables d'apporter les gains immédiats les plus importants au niveau de l'état de santé dans les pays à faible revenu, notamment dans les populations pauvres. Actuellement, ces soins de santé représentent la majeure partie des dépenses totales de santé dans la plupart des pays à faible revenu. Dans les ménages, ils représentent souvent la plus grande part de la charge financière correspondant aux dépenses de santé, classiquement

distribuée de façon régressive. Comme ces soins sont à l'origine de nombreux bénéfices et coûts importants et sont l'occasion la plus fréquente d'interaction avec le système de santé, ils constituent un élément majeur de la satisfaction de la population.

L'organisation des services de soins de santé personnels en ambulatoire, un déterminant critique de la performance du système de santé, est à l'heure actuelle mal connue et insuffisamment étudiée par les politiques et programmes de réforme des systèmes de santé. L'article s'ouvre sur une brève analyse du rôle des soins ambulatoires dans la performance globale des systèmes de santé, et se poursuit par un résumé des données mondiales, insuffisantes, sur l'organisation des soins ambulatoires. Il définit ensuite le concept de « macro-organisation des soins de santé » au niveau du système. Ce terme désigne l'association de différents types d'acteurs des soins de santé (personnes et établissements) au sein d'un système. Il comprend aussi la structure du marché des soins de santé qui détermine les interactions entre prestataires et les liens avec d'autres marchés, comme celui du financement des soins de santé ou celui des investissements en matière de soins de santé.

La macro-organisation des soins de santé influe sur la performance à la fois du côté de la demande et du côté de l'offre. Différents types de prestataires sont davantage susceptibles de toucher des groupes d'âge, de sexe et de niveau socio-économique différents et donc d'influer sur la couverture et l'équité de l'utilisation des soins de santé. Les différents types de prestataires offrent également un niveau différent de qualité technique et de coût/prix, ce qui influe sur les résultats au niveau de la santé et sur les coûts et dépenses du système. Malgré l'idéologie de service public qui prévaut dans un grand

nombre de pays, le marché libéral est pratiquement la règle pour les soins de santé personnels en ambulatoire dans les pays à faible revenu. Les services publics sont en concurrence avec des prestataires à but lucratif ou non lucratif et avec des prestataires non qualifiés, en général sur des marchés peu régulés ou ne disposant pas d'un financement organisé pour exercer un contrôle sur la qualité et sur les coûts.

La façon dont cette macro-organisation affecte la performance peut être illustrée par de nombreux exemples. L'article cite le cas des programmes de lutte contre les maladies diarrhéiques en Inde. La plupart des cas de diarrhée sont vus par des prestataires privés, dont nombre n'ont pas les qualifications requises, et qui offrent des services souvent perçus par les patients comme de qualité suffisante malgré une valeur clinique parfois médiocre et un coût parfois élevé pour les familles. La politique actuelle qui tend à renforcer le service public est mal adaptée à la macro-organisation qui régit ce type de marchés. Cette situation est typique de la plupart des pays à faible revenu et des problèmes de santé publique prioritaires.

En conclusion, cet article propose de demander aux gouvernements d'utiliser diverses approches, au-delà de la fourniture directe de services, en vue d'améliorer la performance des systèmes de santé. Il sera pour cela nécessaire de disposer d'une bien meilleure information sur l'organisation des soins de santé primaires et d'une plus vaste expérience des diverses approches susceptibles d'améliorer la performance. Un tel programme est d'autant plus urgent que l'on doit s'intéresser, sur le plan mondial, à des problèmes cliniques de plus en plus complexes tels que la santé génésique, la prise en charge intégrée de l'enfant malade et le traitement du VIH/SIDA.

---

## Resumen

### **Organización de la atención de salud ambulatoria: un determinante decisivo del desempeño de los sistemas de salud en los países en desarrollo**

El éxito de los servicios ambulatorios de salud personal, es decir, del tratamiento de enfermos agudos y la atención de salud preventiva ambulatorios, es el factor que más contribuye al desempeño de los sistemas de atención de salud en la mayoría de los países en desarrollo. Ese desempeño puede definirse conforme a ciertas variables complementarias: el estado de salud de la población, la protección financiera facilitada a las poblaciones para hacer frente a los gastos por enfermedad y tratamiento, y la satisfacción de la población con los procesos y resultados. Para valorar el desempeño del sistema, deben considerarse tanto el nivel como la distribución de cada una de estas variables.

La atención de salud personal ambulatoria puede ser la que más contribuya a una mejora inmediata del estado de salud en los países de bajos ingresos, especialmente entre los pobres. Actualmente, ese componente de la atención sanitaria representa la mayor parte del gasto total en salud en la mayoría de los países de bajos ingresos. A menudo supone la mayor parte de la carga financiera familiar asociada con el consumo de

atención de salud, cuya distribución suele ser regresiva. Por ser una fuente de muchos beneficios y costos importantes, así como el punto de interacción más frecuente entre la población y el sistema asistencial, la atención de salud ambulatoria es un factor que contribuye enormemente a la satisfacción de la población.

La «organización» de los servicios ambulatorios de salud personal es un determinante decisivo del desempeño del sistema de salud, pese a lo cual ha sido poco estudiado e insuficientemente considerado en los programas y políticas encaminados a reformar los sistemas de atención de salud. El artículo comienza con un breve análisis de la importancia de la atención ambulatoria en el desempeño general del sistema de salud, al que sigue un resumen de los datos globales, insuficientes, sobre la organización de la atención ambulatoria. A continuación se define el concepto de «macroorganización de la atención de salud» a nivel de sistema, que hace referencia al conjunto de diferentes tipos de proveedores de atención de salud (tanto personas como servicios) en un sistema sanitario

concreto. También se incluye la estructura de los mercados de atención de salud que determina los efectos de interacción entre los proveedores y los vínculos con otros mercados, tales como los relacionados con la financiación o los insumos de la atención de salud.

La macroorganización de los servicios de atención de salud afecta al desempeño, tanto en el lado de la oferta como en el de la demanda. Si hay diferentes tipos de proveedores, es más probable que se atienda a los diferentes grupos de la población por edad, sexo y nivel socioeconómico, lo que afecta a la cobertura sanitaria y la equidad de la atención de salud. Los diferentes tipos de proveedores también desempeñan su actividad a distintos niveles de calidad técnica y de relación costo/precio, lo que afecta a los resultados sanitarios, así como a los costos y gastos del sistema. A pesar de que en muchos países prevalece la ideología de la prestación pública de servicios, los mercados competitivos son prácticamente universales en lo concerniente a la atención personal ambulatoria en los países de ingresos más bajos. Los proveedores públicos compiten con proveedores con fines lucrativos o sin ellos, así como con proveedores no preparados, generalmente en mercados sin apenas reglamentación o sistemas de financiación organizados, que permitan controlar tanto la calidad como los costos.

Pueden citarse numerosos ejemplos de cómo esa macroorganización afecta al desempeño. En este artículo

se hace referencia a los programas de control de las enfermedades diarreicas en la India. Allí la mayoría de los casos de diarrea son atendidos por proveedores privados; éstos muchas veces no están plenamente preparados, y los servicios que prestan, si bien considerados a menudo de suficiente calidad por sus pacientes, tienen también con frecuencia escaso valor clínico y representan un gasto considerable para sus familias. La actual política encaminada a fomentar la prestación pública de servicios no tiene en cuenta como debería la macroorganización de estos mercados. Esta situación es característica de la mayoría de los países de ingresos más bajos y de los problemas prioritarios de salud pública.

En conclusión, en este artículo se sostiene que, a fin de mejorar el desempeño, los gobiernos deberán aplicar otras alternativas aparte de la prestación pública directa de servicios. Para actuar sensatamente se necesita una mejor información sobre la organización de la atención primaria, y más experiencia en la aplicación de las distintas alternativas orientadas a mejorar el desempeño. La necesidad de aplicar este programa es aún más apremiante si consideramos la creciente atención prestada en todo el mundo a problemas clínicos más complejos, como la salud reproductiva, la atención integrada a los niños enfermos y el tratamiento del VIH/SIDA.

## References

1. **Primary health care. Report of the International Conference on Primary Health Care, Alma-Ata, 6–12 September 1978.** Geneva, World Health Organization, 1978.
2. **Starfield B.** *Primary care: concept, evaluation, and policy.* New York, Oxford University Press, 1992: 7.
3. *The world health report 2000 – Health systems: improving performance.* Geneva, World Health Organization, 2000.
4. **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).
5. **Wagstaff A.** Socioeconomic inequalities in child mortality: comparisons across nine developing countries. *Bulletin of the World Health Organization*, 2000, **78**: 19–29.
6. **Organisation for Economic Co-operation and Development.** *OECD health data 1996.* Paris, Software, 1996.
7. **Krishnan TL.** *Access to health and the burden of treatment in India: an interstate comparison. Research project on strategies and financing for human development.* Trivandrum, Centre for Development Studies, 1995.
8. **Blendon RJ et al.** Who has the best health care system? A second look. *Health Affairs*, 1995, **14** (4): 220–230.
9. **Berman P.** *Understanding the supply side: a conceptual framework for describing and analyzing the provision of health care services with an application to Egypt.* Boston, MA, Data for Decision-Making Project, International Health Systems Group, Harvard School of Public Health, 1999.
10. **Bennett S, McPake B, Mills A.** *Private health providers in developing countries: serving the public interest?* London, Zed Books, 1997.
11. **Hanson K, Berman P.** Private health care provision in developing countries: a preliminary analysis of levels and composition. *Health Policy and Planning*, 1998, **13**: 195–211.
12. **Robinson JC, Casalino LP.** Vertical integration and organizational networks in health care. *Health Affairs*, 1996, **15**: 6–22.
13. **Saltman RB, Figueras J.** *European health care reform: analysis of current strategies.* Copenhagen, World Health Organization Regional Office for Europe, 1997 (WHO Regional Publications, European Series, No. 72).
14. **Uplekar M et al.** Tuberculosis patients and practitioners in private clinics in India. *International Journal of Tuberculosis and Lung Disease*, 1998, **2**: 324–329.
15. **McPake B.** The role of private sector in health service provision. In: Bennett S, McPake B, Mills A, eds. *Private health providers in developing countries.* London, Zed Books, 1997: 21–38.
16. **Preker AS, Harding A, Girishankar N.** *The economics of public and private participation in health care: new insights from institutional economics.* Washington, DC, The World Bank, 1999 (unpublished manuscript).
17. **Musgrove P.** *Mismatch of need, demand and supply of services: picturing different ways health systems can go wrong.* Washington, DC, The World Bank, 1995 (Human Capital Development and Operations Policy HCO Working Papers).
18. *The world health report 1999 – Making a difference.* Geneva, World Health Organization, 1999.
19. **Viswanathan H, Rohde J.** *Diarrhea in rural India: a nationwide study of mothers and practitioners.* New Delhi, Vision Books, 1990.
20. **Musgrove P.** *Public and private roles in health: theory and financing patterns.* Washington, DC, The World Bank, 1996 (World Bank Discussion Paper No. 339).
21. **Cassels A, Janovsky K.** *Reform of the health sector in Ghana and Zambia: commonalities and contrasts.* Geneva, World Health Organization, 1996 (unpublished document WHO/SHS/CC/96.1).
22. **Berman P, Rose L.** The role of private providers in maternal and child health and family planning services in developing countries. *Health Policy and Planning*, 1996, **11**: 142–155.

23. *India policy and finance strategies for strengthening primary health care services*. Washington, DC, The World Bank, 1995 (Report No. 13042-IN).
24. **Rannan-Eliya R, Blanco-Vidal C, Nandakumar AK.** *The distribution of health care resources in Egypt: implications for equity. An analysis using a national health accounts framework*. Boston, MA, Data for Decision-Making Project, International Health Systems Group, Harvard School of Public Health, 1999.
25. **Berman P et al.** *Health care financing in Latin America and the Caribbean: the first regional national health accounts network*. Bethesda, MD, Latin America and Caribbean Health Sector Reform Initiative, Partnerships for Health Reform Project, Abt Associates, 1999.
26. **Parker SW, Wong R.** Household income and health care expenditure in Mexico. *Health Policy*, 1997, **40**: 237–255.
27. **Data International Ltd.** *Bangladesh national health accounts*. Dhaka, 1998.
28. *Investing in health research and development: report of the Ad Hoc Committee on Health Research Relating to Future Intervention Options*. Geneva, World Health Organization, 1996 (document TDR/Gen/96.1).