

Issues in health services delivery

Economic and policy incentives

Discussion paper

5

The effects of economic and policy incentives on provider practice



Evidence and Information for Policy
Department of Organization of Health Services Delivery
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Geneva

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*The effects of economic and policy incentives
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1. Overview

Introduction

Economic incentives in payment systems have received considerable attention in attempts to explain the ways in which health care providers practice. Providers' responses to economic incentives are mediated by professional values and experience. Relationships between providers, employers and/or paying agencies affect the way in which incentives are transmitted and interpreted (Giacomini et al, 1996). Consequently, specific behavioural responses cannot accurately be predicted from the mere existence of an incentive without knowledge of the context in which it exists. A complex set of health care objectives and policies may result in many incentives, some of which act in opposite directions. A framework to study the effects of incentives has been developed by WHO and used by analysts in 10 countries to prepare case studies of the reactions of health care providers to incentive patterns which have been affected by macroeconomic and organizational change.

Authors in each country adapted the framework (an earlier version) to circumstances in their own country. Changes have been made to the framework based on their experience. The revised framework is included in the Appendix. This report summarizes the studies, discusses common issues and analyses experience with specific incentives in health-related human resource policies. An agenda for future research is included, and countries in the case studies, where current developments can inform specific research issues, are identified.

This report can be read in conjunction with a parallel paper (Buchan, Thompson and O'May, 2000) which provides a research review of the theoretical underpinnings of remuneration and incentive strategies in health care. It is also published as part of the OSD series on issues in health services delivery.

Countries chosen for case studies have all undergone health policy change during the last decade. They represent a broad cross-section of geographic areas. Their stages of economic development range from high income to low income. Three countries have transitional economies following dissolution of the former USSR. Most case studies share a number of common issues, but there are also many differences. The predominant emphases adopted by country authors can be roughly grouped according to three areas of focus:

1. Effects of macroeconomic trends and health policy changes on practice characteristics. Countries with this focus include New Zealand, the Islamic Republic of Iran, Bahrain, Estonia and Côte d'Ivoire.
2. Effects of specific incentives on provider behaviour. Countries with this focus include Nepal, Bangladesh and Ghana.
3. Planned health system reforms and their potential effects on practice characteristics or provider behaviour. Countries with this focus include Mongolia and Kyrgyzstan.

Health policy objectives and system restructuring

Throughout the world, countries are reviewing health policy and restructuring delivery systems. A greater role for the private sector in health care finance and provision is an integral part of this policy evolution in most countries. In addition, some countries are undergoing modifications in their remuneration and planning systems and in levels of administrative responsibility. All these changes affect incentive structures facing providers. Knowledge of how, and under what conditions incentives work will be vital if policy objectives are to be achieved. This knowledge is especially important in a move to systems of market-based allocation, which depend on financial signals to health care consumers and providers.

Frameworks for the systematic analysis of health financing reform (WHO, 1995a) and health systems decentralization (WHO, 1995b) are being developed by WHO. Each of these frameworks recognizes the importance of strategies and processes which will involve health care providers in system change. The framework for analysis of the effects of incentives is consistent with the analytical approach of the other frameworks, wherever possible, in order to provide a cohesive approach to the analysis of health system change.

Payment methods

Modes of payment create a set of economic incentives, which may be explicit in the rationale for a particular mode, or which may be implicit in modes of payment that have other objectives. An example of an explicit incentive would be capitation schemes that encourage the primary care physician to assume responsibility for a broad range of a patient's health needs, and to become a gatekeeper¹ for specialist and institutional care. Implicit incentives are found in fee-for-service reimbursement, which aims to provide equitable compensation for specific treatments, but which has powerful incentives for style of practice. An expected pattern of incentives can often be associated with specific payment methods (Barnum, Kutzin and Saxenian, 1995). Many providers participate in a variety of systems as the result of managed care or contractual arrangements. In the United States, health maintenance organizations (HMOs) funded by capitation often adopt risk-sharing mechanisms to align incentives of the fee-for-service panel physicians with the incentives of the the HMO (Rice, 1997).

Provider payment methods can generate mixed incentives for economic efficiency. For example, incentives to maximize throughputs² could be technically efficient, but produce less than optimal value in terms of treatment outcomes. Payment modes contain few incentives related directly to optimal treatment outcomes, although certain payment and organizational modes tend to be associated with improved outcomes in policy recommendations. An example is the expectation that capitation will lead to higher levels of preventive care, and to effective acute care, in order to reduce life-cycle treatment costs. However, such claims involve implicit assumptions that may not characterize actual

¹ A gatekeeper role involves the ability to refer patients to other levels of care, and the requirement by those levels of care of a referral as a condition of treatment. In funding policy, a referral may be required by the paying agency as a condition of reimbursement.

² Throughputs measure amounts of care provided, using indicators such as cases treated or bed-days.

practice or financial responsibility. For example, where capitation fund holders³ compete for individual or group contracts, the planning horizon may be limited to the contractual period and short-term cost reduction may take precedence over long-term health considerations. Payment methods must exist within an institutional and regulatory context that encourage optimal treatments in order to achieve an objective of improved health outcomes.

Many developing countries are adopting or considering capitation for primary care physicians. Contracting service provision to institutions or group medical practices is being actively pursued. Conceptual and practical issues in contracting are being studied with a view to identifying success factors and pitfalls (WHO, 1998). Many countries are shifting to new payment arrangements from a tradition of public-sector health delivery in which providers were paid by salary. Economic crises in a number of these countries during the last two decades have resulted in an erosion of the value of salaries as a result of inflation. Salaries are sometimes pro-rated by employers under financial pressure. Contract payments and salaries may be delayed to the extent that they are worth less, when received, due to high rates of inflation or currency devaluation. Under these circumstances incentives collaborate or compete with the basic need for economic survival.

Data analysis

The framework has been designed as a descriptive tool that will allow qualitative assessment based on the weight of evidence. This summary concentrates on issues and qualitative evaluations by authors of the case studies. Data are important for analysing trends and constructing indicators for measuring performance relative to policy objectives. Each case study includes data tables for health finance and health-related human resource supply compiled from existing data resources. These data have been very useful in understanding the economic circumstances and health care delivery system of each country. Although space limitations prevented an extensive discussion of data in this summary, a table containing some of the most important indicators is included in Section 2.

³ We follow the convention of Barnum et al in referring to fund holders as organizations that collect funds from sources of finance and pay providers, without implying a specific form of practice organization, such as fund-holding practices in the United Kingdom.

2. Statistical comparison of countries in the case studies

A number of statistical indicators for countries in the study are included in Table 1. All data in the Health Finance and Health-Related Human Resources sections were obtained from tables in the country studies. Other indicators were included in some, but not all, of the studies. Data not available in the studies were obtained from a number of sources, which are listed on the first page of Table 1. Country study data in sections other than health finance and health-related human resources are shown in bold print to distinguish them from referenced sources.

Population density

Population density is given for rural populations except Bahrain, where the indicator applies to the entire country. Rural population density is defined as the rural population divided by square kilometers of arable land in rural areas.

Economic classification

Economic classifications are from the World Bank, for 1995. New Zealand is the only high income country in the study. Estonia and Bahrain are middle-income countries, although there are relatively large gaps between them in GDP per capita. The other seven countries are low-income, with Bangladesh and Nepal at the low end of the distribution and the Islamic Republic of Iran at the higher end.

Exchange rates

Exchange rates are expressed as units of local currency per US\$. Data are year-end values from the International Monetary Fund. Three years are shown. Country studies contain health finance data in local currency, with reporting periods of 1995 to 1997 in most cases. The exchange rates allow conversions to a common currency. In some cases (e.g. Mongolia, Kyrgyzstan) they also provide a perspective on economic trends.

Health finance

The health finance indicators provide comparisons of total health expenditure in US\$ per capita, and as a per cent of GDP. Most countries have estimates of household out-of-pocket expenditure. Ghana and Kyrgyzstan include only user fees reported by government health facilities. Percentage shares for each of the major sources of finance provide a glimpse of the role of government, insurance and foreign loans or donations as well as out-of-pocket expenditure.

Health-related human resources

Midwives and nurses are combined under one category in Nepal and Ghana. Most countries were unable to provide counts of informal practitioners, but were able to comment on their roles in health care.

Health indicators

New Zealand, Bahrain and Estonia have the strongest health status indicators, while Bangladesh and Nepal, which have the lowest GDP and health expenditure per capita, have the weakest health status indicators.

Table 1 Statistical indicators

	New Zealand	Nepal	Bangladesh	Iran (Islamic Rep. of)	Mongolia	Bahrain	Estonia	Kyrgyzstan ¹	Ghana ¹	Côte d'Ivoire
Population (millions) [1]	3.6	20.9	119.8	62.5	2.3	0.6	1.46	4.6	17.1	15
Land area (000 km ²) [2]	268	137.0	144.0	1,648	1,565	0.71	45.2	192	228	322
Rural population density/km ² [2]	23	782.0	1 026	157 ¹	75	868	36	196	381	318
GDP per capita (US\$) [2]	16 307	202	243	1,544 ¹	338	8 380	2 880	658	369	671
Economic classification 1995 ² [4]	HI	LI	LI	MI	LI	MI	MI	LI	LI	LI
Exchange rate 1995 [3]	1.53	56.0	42.5	1 748	474	0.38	11.5	11.2	1 449	490
Exchange rate 1996	1.42	57.0	42.5	1 749	694	0.38	12.4	16.7	1 754	524
Exchange rate 1997	1.72	63.3	42.5	1 754	813	0.38	14.3	17.4	2 273	599
Health finance										
Health expenditure per capita US\$	1 349	9	11	70	20	473	173	13	8	25
Percent of GDP	8.3	4.6	4.6	4.3	5.8	5.8	6.0	2.0	2.2	3.7
Government share (%)	75.9	10.6	17.8	37.8	53.0	71.3	9.9	69.4	42.3	37.7
National insurance or social security (%)				10.1	27.1		79.5	0.1		
Other insurance										0.01
Household out-of-pocket (%)	16.7	74.0	72.0	52.1	2.8	28.7	10.4	6.0	7.7	62.3
Foreign loans & donations (%)	0	12.4	10.2	0.0	17.1	0	0.2	24.5	50.0	
Health human resources										
Physicians per 100,000 population	190	10	15	89	267	156	311	204	8	11
Medical assistants per 100,000	0	54	4	**	261	111	60	140	2	
Nurses per 100,000 population	748	28	10	106	339	375	534	450	91	38
Midwives per 100,000 population		*		21			39	63	*	13
Dentists per 100,000 population	35	0	1	15	14	13	65	24		2
Health status										
Life expectancy at birth [2]	76	56	58	69	65	72.4	68.0	68	59	55
Infant mortality per 1,000 births [2]	8	91	79	20	55	9.5	10.4	30	66	86
Under 5 mortality [2]	9	131	115	33	74	11.3	16.0	42	116	138

* See nurses ** See text

Source references:

[1] *Trends in Developing Economies 1996*. World Bank.

[2] *World Development Indicators 1997*. World Bank.

[3] *International Financial Statistics*. International Monetary Fund. Washington, D.C.

[4] *World Development Report, 1996*. World Bank. Certain data for New Zealand were obtained from the Ministry of Health, New Zealand, 1997.

¹ United Nations Statistical Yearbook, 42nd edition.

² Household out-of-pocket expenditure in Ghana and Kyrgyzstan includes only user fees reported by government health facilities. Both countries have significant levels of informal charges that are not included in these data, and therefore, out-of-pocket expenditure and total health expenditure are underestimated.

Note: Country studies for data on health finance and human resources. For other sections, country study data are in bold print. Otherwise, source references are noted above.

3. Common issues and incentive effects

Macroeconomic restructuring and health finance

All countries in the study have undergone some degree of macroeconomic restructuring in recent years. Typically, economic policy changes involve a greater role for market allocation of resources and a corresponding decrease in central influence over the economy. In health care, this change usually leads to a greater role for the private sector in health care delivery and for patient payments in health finance.

Uncontrolled growth of private practice has occurred in a number of countries (e.g. Nepal, Bangladesh, the Islamic Republic of Iran, Côte d'Ivoire). Private practice has often been given impetus by a deterioration of public sector capacity as a result of low economic capacity and adverse fiscal trends. These effects have been exacerbated by low incomes in the health sector. Formal or informal user charges for access to public facilities are another phenomenon reported by many of the countries. In Ghana, informal charges in the public system have become such an important part of provider incomes that reforms planned for the system of formal user fees may be jeopardized.

In countries that were aligned with the former Soviet Union (Estonia, Kyrgyzstan and Mongolia) the change in economic climate was accompanied by a change in political systems, divestiture of government enterprises and deregulation of prices. Inflation and recession coexisted in these countries during the early 1990s. Income disparities worsened as those who relied on fixed incomes or social support suffered a rapid decline in purchasing power. The incidence of poverty rose dramatically in Mongolia (37%) and Kyrgyzstan (60%). An increased private-sector role in health care is being encouraged in these countries as a matter of policy.

Countries that enjoy a relatively high degree of economic capacity have also been affected by adverse economic conditions, which have led to varying degrees of policy shift in favour of private-sector activities in health (Bahrain and New Zealand).

Increased privatization of health care finance and delivery involves policy dilemmas for governments, as noted by authors in both Estonia and Nepal:

- The introduction of market allocation mechanisms (especially user fees) often conflicts with governments' responsibility to guarantee populations access to medical services.
- Promotion of private sector delivery, which is usually concentrated in urban areas, can conflict with policies that seek to strengthen primary care and rural health systems.

Effects on provider practice – public and private systems

Health care providers in public systems, which have come under economic stress, often find that they must choose between suffering a loss in financial status or participating in private-sector activities. The result in many of the study countries has been the growth of a parallel private system with little or no formal standards or regulation of service quality. This growth, often unintended in public policy, has arisen instead through a process of passive privatization. Muschell (1995) has defined passive privatization as a process in which private provision responds to increasing demand or to budget constraints in the public systems. In the country studies, decreases in the capacity of the public system

(including deterioration of quality and lack of essential supplies such as drugs) was a major factor leading to passive privatization. A second factor was the choice by providers to participate in private practice in order to maintain incomes.

Where providers practice in both public and private systems, their best efforts are often reserved for the private system in which an increase in throughputs leads to higher financial rewards. Specific effects reported in the country studies include:

- specialists in the Islamic Republic of Iran, who charge fees up to 10 times higher than the officially sanctioned levels, and who refuse to accept clients of the national insurance system;
- physicians employed in rural health centres in Bangladesh, who have a high rate of absenteeism, and who stream patients who can afford to pay into after-hours private practice;
- informal charges in the public sector levied either by health centres, health providers or both (Ghana, Kyrgyzstan, Côte d'Ivoire, Bangladesh).

In countries where private systems are encouraged as an alternative to the public system, private clinics and hospitals may attract specialists from the public system, weakening capacity in public hospitals (Estonia). Physicians from rural areas may be attracted to urban centres that offer greater opportunities for private practice. Younger physicians tend to be the most mobile, and this can result in fewer rural physicians with an older average age (Kyrgyzstan). In Côte d'Ivoire senior physicians in the public system often obtain multiple contracts to care for industrial employees in the private sector, then sub-contract responsibilities to other physicians – a situation that impedes the ability of new physicians to establish private practice.

Policies that deliberately encourage privatization or tolerate passive privatization have led to a deterioration of quality in the public system. The poor are often not able to afford private care. As a result, the most vulnerable must rely on a weakened system, where they often receive care from providers who are preoccupied with serving paying clients in after-hours private practice.

While dual employment in both public and private sectors is usually associated with senior professions, some countries report that nursing staff and technicians also hold joint employment in both sectors. The Islamic Republic of Iran reports widespread holding of more than one job because the cost of living in urban centres is well above the salary level of public sector employees. Many people there hold second jobs outside the health care sector.

Bahrain was the only country to report successful experience with parallel systems. The Ministry of Health (MOH) encourages and regulates limited part-time ambulatory care by specialists in public institutions during the evenings. User fees are shared between physicians and the MOH (which uses its share to pay nursing and technical staff who work in the clinics). Since 1992, specialists can also conduct part time practice in private clinics. All hospital care remains in the public sector, except for three private hospitals (two of the private hospitals operate on a non-profit basis). Physicians cannot charge private patients in public hospitals. The author of the Bahrain case study notes that mixed public and private practice involves an implicit bargain, or social contract, between

providers and the MOH; and that MOH has strengthened internal policies to ensure that service quality and equity of access are not compromised.

The lesson from Bahrain seems to be that appropriate regulation and common objectives shared by the public-sector employer and professional employees are essential conditions if joint public and private practice are to coexist without a loss of skills or effort in the public system.

Downsizing in the public sector

Public-sector capacity may be downsized as a result of reduced financial support, or as part of a policy to encourage private-sector growth. Reduction in public-sector capacity has had mixed effects. Nepal reports that forced retirement of many professionals at the peak of their ability has weakened the capacity of the delivery system at a time when there are many challenges to adjust to new circumstances. In Estonia, which reported the highest supply of physicians (311 per 100,000 population), closing of hospital beds and retirement of physicians who could not meet new standards of licensing led to higher quality care.

Changing roles in health finance

Decentralization and the introduction of national insurance plans have been major initiatives in health finance. In either case there is the risk that health system restructuring may be attempted without building the necessary institutional capacity to accept new responsibilities at operational levels. This is especially true with regard to decentralization, where administrators at lower levels may be ill-prepared to accept new responsibilities in a rapid transition from central to regional administration.

Decentralization

Decentralization is an important part of planned changes to the delivery system in several of the study countries. In Ghana, decentralization is seen as a way to increase accountability, job satisfaction and, ultimately, efficiency at service delivery sites. In Bangladesh, decentralization is a strategy to overcome bureaucratic inertia at the central level and respond to local circumstances.

In Nepal, decentralization has been implemented, but its success has been constrained by a lack of managerial capability and insufficient efforts to strengthen managerial skills. A weak information system has compounded the weakness in institutional capacity. As a result, resources continue to be concentrated in urban areas and high priority programmes for primary care and prevention rely on donor funds. Donor funds, in turn, often do not flow through the Department of Health, leading to an uncoordinated use of scarce resources.

In Côte d'Ivoire, an official policy of decentralization appears to be frustrated by central control over health budgets, depriving district administrators of the ability to allocate resources in accordance with local priorities.

National insurance

Four of the study countries have introduced or are in the process of introducing national insurance plans (the Islamic Republic of Iran, Estonia, Mongolia and Kyrgyzstan). Ghana has pilot programmes under way. The author of the Mongolia case study notes, “The mechanism of social insurance shifted responsibility to employers and employees at a time when major reforms were directed at downsizing the public service.” Estonia reports that widespread tax evasion has reduced premium income by as much as 25% and caused financial difficulty for the national plan. Kyrgyzstan is taking an interesting approach by introducing a plan that will supplement, rather than replace, government contributions to health care.

The rapid introduction of national health insurance plans is problematic in countries without a tradition of risk management. Where insurance is introduced during a period of financial instability, the challenge is increased. Administrative capacity, cultural and institutional features of a country are all important determinants of success for national insurance plans, and without the right mix of enabling factors national insurance can decrease allocative efficiency and worsen distributional problems between urban and rural areas Kutzin (1997).

Adverse experience with decentralization and insurance

In Estonia, a national insurance plan was implemented with decentralized responsibility for both finance and administration. However, some regions were at a disadvantage due to low capacity to generate revenue. Subsequently, the insurance fund was consolidated at the national level as was resource planning. On the other hand, administration of facilities was decentralized to the municipal level. This combination of central responsibility for finance and planning and decentralized responsibility for administration was not successful, however, and decentralization is now being reversed.

Contracting

Contract arrangements can be used to separate funding and delivery roles. New Zealand reports that contracting has made it easier to implement clinical practice guidelines. Medical associations took the lead role in developing the guidelines, thereby increasing their acceptability to the profession. Other accomplishments from contracting include new health services for native populations, new preventive services for children and an increase in mental health services. The Government allocated additional resources to fund these priority services, and remuneration incentives were complementary, rather than determining, factors.

The author of the New Zealand study notes that contracting can lead to “goal congruence between agency and contractor”, but cautions that “...this approach...does not work successfully with...contracts where demand is difficult to manage (e.g. emergency services) or where only one provider is available.” This observation highlights an important distinction between contracting and incentives: the contracting agency can specify the services it wishes to purchase (and specify quality characteristics, such as treatment guidelines) in a market where supply is competitive. Incentives, however, must be interpreted and accepted by providers if they are to elicit desired responses. The observation in New Zealand that providers did not rationalize roles, despite financial

incentives inherent (but not explicit) in the contracting process, demonstrates this point. Factors that prevented a reallocation of responsibilities include labour market rigidities and unwillingness by senior professionals to share responsibilities due to a professional culture that has led to a “closed shop”.

New Zealand reports that another result of the contracting environment has been a tendency for general practitioners to form independent practice associations (IPAs). The IPAs may be one method to increase the bargaining power of individual practices in dealing with contracting agencies. An outgrowth of this trend has been limited fund holding by some IPAs, mainly for pharmaceuticals and laboratory services.

In Estonia, the national insurance plan contracted with public sector hospitals. Payments for each fiscal period were made in advance to offset the effects of rapid inflation and currency devaluation taking place at the time. Amounts paid were calculated using fee-for-service rates and utilization patterns in the prior period. The result was excess service provision and budget overruns.

Other countries are planning to contract service provision to public and private facilities. Mongolia plans to convert health centres that serve a population base of only 2,500 to contract arrangements with the national insurance plan. Such arrangements raise questions about the financial viability of the health centres and the potential effects on retention of staff (each centre has a sanctioned complement of 3 physicians, 2– 4 health assistants, 3 – 4 nurses and a pharmacist).

Mongolia and Kyrgyzstan intend to implement capitation contracting with groups of family physicians in urban areas. Both countries also plan case-based reimbursement of hospitals. Responsibility for managing the contracts will be assigned to the national insurance plans. Mongolia expects to have local governments manage contracts during the transition period. Kyrgyzstan is proceeding on a gradual basis, converting a limited number of providers to the new arrangements during 1998.

Bangladesh is preparing requests for proposals to operate primary care clinics in urban slums where there is little health care at present except for immunization services (Acharya and Hussain, 1998). Each contract will cover a population of approximately 500,000 persons. NGOs and not-for-profit corporations with experience in Bangladesh will be eligible to submit proposals. The project is especially interesting in a study of incentives, as it will provide a whole new primary care delivery structure to urban underserved areas. Contracting arrangements in other countries usually involve a reorientation of relationships between established providers and agents, in which new incentives are confronted by a certain inertia based on experience and management capacity.

Management capacity

The management environment differs greatly between developed countries, such as New Zealand, and developing countries where management skills often are under-developed. Several country authors identified management capacity as a major difficulty in effecting health system reforms. There is a very real possibility that in the process of system reorganization, health care administrators or medical professionals with little administrative training, will be assigned responsibilities for which they are ill-prepared.

Where relatively new concepts, such as decentralization, insurance and contracting, are introduced in combination, the challenge is especially daunting.

Transitional funding

The availability of resources to underwrite training and new infrastructure during changes to health care systems is also a vital issue. In New Zealand, expenditure reductions during the period of major reorganization were considered an impediment to change. Kyrgyzstan identified adverse economic conditions as the major factor that prevented implementation of planned reforms after 1994.

In all the developing countries in this study the public sector has generally suffered major losses of financial support, and administrative structures must compete with service delivery for very limited public funds. Management information systems, and the ability of administrators to use data in decision-making, are also important to the management of insurance programmes and contracts. Information systems tend to be underdeveloped in many countries and there is a natural reluctance to allocate resources for this purpose when there is a great financial need in basic delivery capability.

4. Specific incentives for human resource issues

The case studies contain information about recurrent human resource issues, including retention of professionals and their urban-rural distribution; primary health care and quality of care. Some countries are implementing incentives to deal with these issues as part of a health policy package. In other instances, incentives have been in place for a number of years. Disincentives exist as the result of weaknesses in the delivery system, financing arrangements or institutional capacity.

Common policy objectives and corresponding packages of incentives and complementary measures, which were identified in the case studies, are summarized in Table 2. The structure of Table 2 is meant to inform policy development. *Incentives seldom exist in isolation, and the policy context in which they exist may be as important as the incentive itself in affecting behaviour.* In practice, distinctions between incentives, complementary measures and constraints are sometimes difficult to make. In Table 2, incentives are the main policy levers identified in the case studies. Complementary measures may be more difficult for health policy makers to influence. In the first example, competitive salaries and seniority awards were identified as issues of concern to the Ministry of Health in Bahrain. The fact that there is no income tax in Bahrain means that salary increases are of greater value to providers than they would be under a system of taxation. Income tax policy is generally not amenable to change through health policy, however, and it is identified as a complementary measure rather than an incentive in its own right. In the case of housing and educational incentives in rural Nepal, discussed below, the country author indicated that adequate salary (compared to the cost of living) was a necessary condition for the incentive to be successful.

Constraints that may impede the functioning of incentives are also identified in Table 2. Constraints can make the difference between a policy being viable in one country and not viable in another. In the example of competitive salaries discussed above, salary increases are not an option in many countries due to economic conditions or overriding policy regarding public sector salaries. Constraints sometimes take on the role of disincentives: in Bangladesh and Ghana, for example, the studies' authors conclude that centralized decision-making and poor management practices have created dissatisfaction among health staff, and these circumstances have led to poor quality service in public facilities.

Incentives for recruitment and retention

Recruitment and retention of health professionals are issues of concern in almost all countries. Educational incentives have had some success in Ghana, where government-sponsored opportunities for rural physicians to obtain higher education have helped to retain professionals in the public service. A similar programme in Nepal is viewed with skepticism by professionals, who perceive that opportunities for foreign training are tainted by favouritism.

Nepal reports success with an educational programme that allows health workers in rural areas to train for higher professional classifications. The programme has aided in the retention of rural health staff and improved the quality of rural primary care. Nepal also reports that housing and educational opportunities for children, combined with good working conditions, were successful incentives to recruit nurses to a health sciences institute outside the main urban area. Interestingly, the same incentives were not

successful with physicians at the institution. These experiences suggest that professional status and family responsibilities will also affect responses to incentives.

Rewarding quality

A recurring theme in many of the studies is the desire to structure remuneration so that quality is rewarded. Existing remuneration systems do not contain inherent incentives for quality care. None of the study countries have developed remuneration schemes based on quality or health outcomes. This is not surprising, especially in view of the fact that most health care systems, even in developed countries, are not oriented to the measurement of health outcomes.

Professional standards and skilled supervision may be the best means to ensure quality. Treatment protocols and prescribing guidelines are examples of ways in which quality of care can be defined in specific terms. Most study countries have developed such protocols, but success in implementing them has not been consistent. Professional leadership, training and continuing education programmes are important to the dissemination and uptake of these measures. Management information systems are important to measure compliance and results. This combination of circumstances has been a key factor in the successful adoption of practice guidelines in service contracts in New Zealand.

Peer review can provide a strong inducement to professionals to comply with accepted standards. Effective peer review requires an enabling professional culture. In some of the study countries, authors report that professional governance is weak and cultural constraints tend to discourage criticism or effective supervision.

Table 2 Incentive packages for human resource issues from country case studies

Objectives	Incentives	Country	Complementary Measures	Constraints	Results
Recruitment and retention - in country	<ul style="list-style-type: none"> - Competitive salaries - Seniority awards in pay scales¹. 	Bh	Fiscal policies that increase the after-tax marginal value of salaries.	<ul style="list-style-type: none"> - Budget limitations. - Low public service salaries. - Policies to reduce salaries as a share of operating costs. 	Helps retain physicians in Bahrain.
	Allow after-hours private practice in public institutions.	Bh Gh (p) Np	Service standards and controls to prevent reduced work effort in the public system.	Work effort may be concentrated in private practice, leading to deterioration of quality in public service.	Considered successful in Bahrain. Other countries have experienced deterioration in the public system where providers also engage in independent private practice.
	Tolerate informal payments ² .	Gh		Informal charges limit access and may impede reforms that involve formal user fees and exemptions.	In Ghana, informal payments are widespread and entitlements to exemptions from formal charges are not respected.
Recruitment & retention - rural areas	<ul style="list-style-type: none"> - Higher salary or location allowances. - Remuneration based on workload³. 	Gh (p) Np Mg Es Kg (d)	<ul style="list-style-type: none"> - Decentralized administration. - Freedom to allocate institutional revenues or savings from operational efficiency to fund incentives. - Improved infrastructure and staff competence. 	<ul style="list-style-type: none"> Overall staff shortages. Budget limitations. Professional and lifestyle disadvantages. Greater potential in urban areas for earnings from private practice. Conflicting financial incentives (e.g. loss of housing allowance in Bangladesh). 	No identified successes.
	<ul style="list-style-type: none"> - Services in defined areas as a condition of licensing or specialty training. - Opportunity for government sponsored higher education 	Gh Np Ir Bd CI	Consistent application of policies for transfer and tenure.	<ul style="list-style-type: none"> - Confidence may be lost if selection process is perceived to be arbitrary - Provider concerns that temporary postings may become indefinite. 	Results for (2): <ul style="list-style-type: none"> - Aids retention of professionals in public service in Ghana - In Nepal, providers are critical of policy, as opportunities to train abroad are not linked to performance.

¹ Seniority as a basis for remuneration is often considered an inferior alternative to a results-based salary (which is not known to exist in any of the study countries). Seniority can affect retention, however, as noted by the Bahrain authors.

² Not official policy in any of the study countries. Ghana author speculates this may be explain “blind eye” to informal charges.

³ Planned in Ghana, but not yet implemented. Not implemented in other countries.

Objectives	Incentives	Country	Complementary Measures	Constraints	Results
	- Provide housing and good quality educational opportunities for family.	Np	Adequate salary		Health sciences institute in Nepal reports success with nurses, but not with physicians.
Recruitment & retention – rural areas	Recruit trainees from rural areas.	Mg	Public health and family practice emphasis in training curricula.	Traditionally, urban area students are over-represented in student population.	No results reported in case studies.
Quality and availability of primary care.	- Training and promotion opportunities for nurses and medical auxiliaries. - Training of multifunction health workers. - Community mobilization of women volunteers, TBAs and local leaders.	Np Gh (p) Np Mg	Clear job descriptions and criteria for promotion.	Opposition by professional associations to expanded roles for multifunction health workers.	- Nepal reports success with a programme that allows health assistants and other health workers in rural areas to train for posting to higher levels. - No results reported in the country studies.
Encourage teaching and research	Pay non-practicing allowance in lieu of private practice.	Np		Allowances may not be competitive with private practice earnings.	Nepal reports success in basic medical sciences. In clinical departments, many physicians resigned their teaching positions.
Improve quality of care	Specify clinical guidelines in provider contracts.	Nz	- Leadership role by professional organizations. - Inclusion in curricula of medical schools.	- Weak professional governance or management ability. - Information systems.	New Zealand reports success in having guidelines adopted, although effects on clinical behaviour are not certain.
	Licensing of institutions and professionals based on defined standards.	Es Kg	- Tradition of professionalism in medical culture. - Acceptance of civil and legal authority.	Potential shortage of qualified inspectors and managers.	Estonia reports a reduction in the number of hospitals and unqualified doctors and an increase in quality.

Abbreviations:

Bh: Bahrain

CI: Côte d'Ivoire

Gh: Ghana

Kg: Kyrgyzstan

Np: Nepal

Bd: Bangladesh

Es: Estonia

Ir: Islamic Republic of Iran

Mg: Mongolia

Nz: New Zealand

(p) planned but not implemented. (d) formerly in place but dropped due to economic and political change (Kyrgyzstan)

5. Summary of country studies and authors' conclusions

This section summarizes each country study, and lists the main conclusions identified in the studies. Conclusions were drawn from different sections of each study and were not consolidated by the country authors. The list of conclusions reflects a modest degree of interpretation by the authors of this report, but does not imply endorsement.

New Zealand

New Zealand undertook a major restructuring of public administration in response to adverse economic trends during the mid-1980s. In the health sector, the separation of responsibilities for finance and service delivery was a cornerstone of the new policy. Budget responsibility is now held by a Health Funding Authority (HFA), with four regional offices. The central authority was created in 1996 to combine the responsibilities of four Regional Authorities (NZ MOH, 1997). Hospitals, which formerly were government owned, have been converted to stand alone agencies known as Crown Health Enterprises (CHE).

The public sector provides approximately 75% of health care finance, a share that has declined during the past 15 years. The HFA allocates available funds among the four health regions on a population-based formula. The Government is the dominant funding source for hospitals, drugs and disability support. Government funding for medical professionals varies from virtually 100% for those who manage maternity care to 47% for GPs and 6% for specialists. Private sector funding is mainly provided by household out-of-pocket payments. Insurance accounts for 7% of health expenditure, and is used mainly to cover expenses for those who opt to obtain elective surgery as private patients, and to assist in covering the costs of primary care.

Planning of health-related human resources and service delivery is the responsibility of the HFA and its regional offices. Implementation of service plans is carried out through contracts with CHEs or professional associations. Most professionals are employed by the CHEs or engaged in private practice, and a significant number practice in both venues. Over half the country's GPs belong to Independent Practice Associations (IPAs), which negotiate with the HFA on behalf of their members. Over one-half of the IPAs are responsible for the purchase of drugs and laboratory services on behalf of patients.

The use of contracts involves incentives which are mainly financial, with providers responsible for managing resources negotiated in contractual arrangements. Contracting has facilitated the development of services for priority population groups (e.g. native populations). It has also provided an impetus to the medical profession to develop clinical and prescribing guidelines, which are incorporated in contracts with the HFA. In effect, the contracting model has allowed both government and professional organizations to be more proactive in shaping the types of care provided by private practices.

The freedom to manage resources that characterizes contracting has not led to significant role substitution among professionals. This is attributed mainly to labour market rigidities, lack of formal training courses and resistance by the senior professionals to sharing of responsibility. Interestingly, though, midwives are increasingly entering independent practice as maternity providers. The author points out that this may be due, at least to some extent, to a tendency of GPs to avoid this role due to dissatisfaction with capitation rates offered by the HFA for maternity care.

Authors' conclusions

- While public sector reforms in general are widely acknowledged to have been successful in New Zealand, most commentators conclude that it is too early to determine if health sector reforms have been successful.
- The health system at present has a predominance of short term incentives, especially in hospitals. Better coordination of services and better incentive structures for providers are required to improve the responsiveness of the health care system to the public's needs.
- Preliminary information from two large fund-holding practices found reductions in costs for both pharmaceuticals and laboratory services, but additional evaluation is required to verify the clinical appropriateness of the reductions.
- The separation of purchaser and provider functions, together with contracting, has increased the focus on effectiveness in health care delivery.
- Decreases in real spending during the early years of health reform may have reduced the government's ability to free resources for new activities.
- Many key players have not adapted to the devolution of decision-making rights, and those who have been most responsive to new opportunities have tended to be new providers.
- As the case study author points out: "A contracts based system requires more than principals and agents; it also requires 'principled agents' that have due regard for the government's wider interests".

Nepal

Nepal has undergone significant political and macroeconomic changes since 1990, when a constitutional monarchy and a democratically elected government replaced rule by an absolute monarchy. Market reforms have been introduced, but they have had limited success to date in a country challenged by low per capita income and limited resources and institutional capacity. GDP has declined in real terms during recent years and unemployment is high.

The public sector provides most health services, although there is a rapidly growing private sector in urban areas. Over 75% of health care is financed from out-of-pocket payments. The Government funds 11% while donors provide 12%. Health insurance plays a very small role, although some employers are experimenting with insurance plans provided by firms in neighbouring countries. Government funding has grown at an average rate of 21% in real terms during the four years ending in fiscal year 1996/97, and health expenditure now accounts for almost 6% of government budgetary expenditure – slightly less than half the share of education.

Two incentive programmes were identified as relatively successful in attracting health-related human resources to rural areas. One is a career advancement program that provides paid training for personnel serving in rural areas to move to the next level of their profession (e.g. midwives to staff nurses and health assistants to medical officers). Interestingly, that programme is about to be cancelled.

The second successful incentive programme attracted nurses to the B.P. Koirala Institute of Health Sciences by providing living quarters and child care to supplement adequate salary and working conditions. The same incentives were not successful in recruiting physicians, however, which suggests that different types of incentives may be required for professionals that differ in terms of experience, culture and the importance accorded to peer interaction.

Salaries of health care workers are very low, and this has led to extensive private practice by public service professionals, at times in contravention of their terms of employment. Private practice time often exceeds time spent in public practice, and the quality of public care suffers. Informal payments are sometimes made to obtain preferred access to public facilities. Quantitative estimates are not available.

Rural health care suffers from sub-standard facilities, with most health posts in poor repair and only 13% having electricity. Drugs supply is irregular and the amount of time during which drugs are available during a year ranges from 2 to 10 months among health posts. Supervision is deficient, job descriptions do not exist for most positions and there is a perception of political interference and preferred access by elites. Many rural residents use traditional healers as the first source of care, as they live far from public health facilities. National health policy recognizes the role of traditional healers and encourages human resource development, research and drug production in this sector.

Authors' conclusions

- There is a conflict in health policies that seek to strengthen rural and primary health care while promoting privatization, which is an urban phenomenon.
- Professional bodies have not developed standards for service provision, and government regulations in this area are not sufficient or well enforced.
- Provider supply planning is carried out centrally, and is not informed by on-the-ground realities.
- Decentralization has been constrained by lack of managerial ability at lower administrative levels, a lack of attention to capacity building and reluctance by central administrators to relinquish authority.
- Accountability of health workers is impeded by a lack of job descriptions and service standards.
- Downsizing and restructuring has led to forced retirement of many professionals at the peak of their abilities.
- Financial incentives have led to an inappropriate distribution of responsibility among professional subgroups due to the reluctance of senior professionals to delegate services for which fees can be charged to patients.
- The study author states: "Health for All and economic adjustment programmes appear conflicting, the former requiring increase in government expenditure and the latter, curtailment in government budget. The challenge is to reconcile the two strategies so that ... economic reform programs address priority human concerns and the health development strategy addresses primary health care activities, discourages unproductive and unnecessary expenses and increases efficiency of resources."

Bangladesh

After Bangladesh achieved independence from Pakistan in 1971, it went through a brief period in which many industries were nationalized. Since the mid-1970s, however, successive governments have converted nationalized institutions and industry to private-sector ownership. During the 1990s, the country achieved low rates of inflation, but rates of investment have been

low. Bangladesh has achieved only limited progress in alleviating poverty. Illiteracy remains relatively high among adults and there has been little growth in real income per capita.

The Government, with the aid of international donors, has established a country-wide programme for contraception, which features outreach workers in rural areas who deliver contraceptives to village women. A network of health care facilities staffed by doctors and health assistants has been established, with facilities in most of the rural *thanas* (townships). The health centres have satellite clinics and immunization centres in surrounding villages. Despite the relatively rapid expansion of these primary care institutions, only about 8% of the rural population receives curative services from the government health care system. Satisfaction is low among clients, who wait an average of 35 minutes in outpatient departments to be seen for an average of three minutes. Pharmaceuticals are in short supply at government clinics, privacy often is not respected and professional staff are predominantly male, a situation which discourages women from seeking care in a culture that emphasizes modesty.

Bangladesh is about to begin a new five-year plan in which significant changes will be made to its health and population strategy. Policies have been developed with a view to removing inefficiencies from the government system. Women and the poorest groups are to be targeted for special assistance, and government resources will be concentrated on finance and delivery of a package of essential services at the public health and primary care levels.

The author, using data from the Bangladesh Bureau of Statistics and a morbidity and health status survey (Rabbani, et al., 1997), estimates that out-of-pocket expenditures for health care account for 72% of health expenditure, with the Government providing 18% from domestic revenue and 10.2% from donor aid. There is some discrepancy between these data and published data from the Ministry of Health's Health Economics Unit (HEU, 1997), which estimates that out-of-pocket expenditure accounted for 47% while government contributions from own funds and donor aid were 27% and 26% respectively. The main difference between the two sets of estimates, which are for the same year, is in the size of out-of-pocket expenditure, where the author's source estimates expenditures to be 2.4 times the amount shown in HEU data.

The number of private practice physicians in Bangladesh exceeds the number employed in the government health care system. Most government doctors also conduct private practice, and there is widespread belief that financially better off patients are selectively channelled into private practices. Informal payments are also accepted at government health centres, even though care is intended to be free to patients. Surveys show that health centres open late and physicians actually spend only 43% of scheduled duty time providing care at the centres.

The study author points out that existing incentives do not promote quality care. Negative factors include little opportunity for advancement; inconsistency in administration of policies for job posting; and lack of job security or retirement benefits for staff in the family planning sector. Features that provide a disincentive to rural practice include a provision for pay to be reduced by 10% (as the result of a housing allowance in urban areas); indeterminate lengths of time for rural postings and a financial disadvantage relative to urban physicians in terms of opportunities for private earnings. These negative incentives are compounded by centralized administration, with little discretion at local levels to make decisions about resource allocation.

Authors' conclusions

- There are virtually no accountability features in medical practice, except for an essential drugs list, and guidelines about the drugs that can be prescribed by providers at different levels.
- Professional bodies have no effective role in setting or maintaining professional standards.
- Inefficiency of health system management is due to a lack of autonomy, transparency and accountability.
- Physicians are disproportionately represented in management positions. Most have not been trained for this role and the quality of management suffers as a result.
- There is considerable scope for substitution of nurses and mid-level workers for physicians in the health care system. A human resources development plan indicates that these workers can be trained quickly and at modest cost.

Islamic Republic of Iran

During the last 20 years the Islamic Republic of Iran has undergone revolution, war with a neighbouring country, economic sanctions imposed by the international community and rapid population growth. Inflation rates have been high, with the official price index in 1996 being 33 times as high as in 1985; some commodities have increased in price by over 100 per cent. From 1991 to 1994, GDP declined, although it began to grow again in 1995.

In 1993, responsibility for delivery of services at the provincial level was transferred from regional health administrations to medical universities. Attempts were made to introduce private finance in 1994, with severe effects on hospitals, which did not have a sufficient revenue base to achieve self-sufficiency. The central Government was required to provide supplementary budget allocations to prevent insolvency. The country author reports that hospitals have reduced staff and pay only the minimum salaries and benefits required by law.

At present, approximately 44% of health expenditures are financed by out-of-pocket expenditures. Government accounts for 41%, with a public social security insurance plan responsible for the remaining 15%. Approximately 50% of the population is covered by the public plan, which is financed by levies of up to 20% of workers' salaries.

The Islamic Republic of Iran has a surplus of doctors and their number is growing rapidly, which means that many new doctors have difficulty finding positions. In urban areas of the country, there is a tendency for health professionals to choose private practice or mixed public and private practice. Rural areas face a shortage of doctors. Public service salaries for health professionals have not kept pace with inflation. As a result, average salaries of health professionals are less than average household expenses in urban areas, and secondary employment, both within and outside the health care sector, is common.

Payments from the national health insurance plans are delayed for up to six months or more, causing erosion in the value of payments when received, as well as cash-flow problems. Providers resort to informal payments to supplement official fees set by the Government. Informal payments may be as high as 10 times official fee levels. Many specialists in urban areas will not accept insured patients, and the cost of care has reached levels unaffordable for the majority of the urban population.

A primary health care model developed in the province of West Azerbaijan in the early 1970s, with the collaboration of WHO, has been expanded throughout the rural areas. Village facilities, known as “health houses”, are staffed by a trained resident of the village, who is normally able to provide preventive health leadership, health education, simple curative care and referral to higher levels. Village workers are supported by weekly visits from physicians stationed at rural health centres.

The rural health care model has retained its ability to function in a changing social and economic environment. The village health workers appear to have replaced informal practitioners in most areas. The author of the country study concludes that the population prefers services from a modern health system at village level to those provided by traditional healers.

Authors' conclusions

- Control of the health service by medical universities (instead of by provincial health administrations), together with a 1994 policy that hospitals should be self-sufficient, has had detrimental effects on the quality of preventive and curative care.
- A significant increase in the number of medical students, without corresponding increases in training resources, has led to a deterioration of the quality of training and research.
- Low wages and inflation have led to a decline in efficiency among employees of the urban public health care system, leading to patient dissatisfaction.
- Financial pressures have at times led to a choice of inappropriate treatment alternatives. The author cites research that found a 55% rate of delivery by caesarian section in a Tehran private hospital during a given year, and concludes that a rate of 10% to 15% would have been more appropriate.
- Medical school training is oriented to hospital practice, leaving graduates poorly equipped to carry out general practice at the district level.
- The rural primary care system, with village “health houses” as the entry level and rural or urban health centres as the next point of referral, has been a success. Both providers and clients are satisfied at this level of care.
- Efficiency in the private-care sector is high, but quality is not acceptable in most instances.
- Recommendations to achieve sustainable change include universal health insurance with on-time payments to providers; an increased role for the private sector in urban areas, together with an introduction of new methods of practice organization; reduction of medical school enrollment; and decentralization of administration to make it accountable to provincial authorities.

Mongolia

Mongolia has a large land mass and a widely dispersed rural population. The country is flanked by the Russian Federation and China, and its political and economic development have been influenced by Soviet policies. Mongolia converted very rapidly to a democratic system at the beginning of the present decade. The country suffered an economic crisis in the 1990s, following a breakdown of economic relationships with the former Council of Mutual Economic Assistance. Real GDP declined for three consecutive years from 1991 to 1993 (growth rates from 1993 to 1996 have ranged from 2.3% to 6.3%). Inflation was very high and the exchange rate plummeted from

40 MT to the US dollar at the beginning of the decade to 400MT in mid-1993, and now exceeds 800 MT (March 1998).

Unemployment and poverty increased during the 1990s. Estimates cited by the country author show the incidence of poverty rising from 15.2% of the population in 1991 to 37.1% in 1996. Rural populations had a lower incidence of poverty than the country average, but rural poverty increased as well during this period, and stood at 12.1% during 1996. Urban dwellers have been the worst affected by the economic crisis and will stand to gain the most from the success of remedial measures.

In order to cope with rising deficits the national Government undertook austerity measures, which included reduction in social and health sector expenditures. The real purchasing power of government budgetary expenditure dropped by over 50% from 1990 to 1993. Since then, budgetary expenditures have been relatively constant in real terms. The author notes that government agencies are underfunded at present and staff are poorly paid.

Legislation introduced in 1994 revised social insurance, stressing programme self-sufficiency with financial responsibility borne by employees and employers. Social insurance rates seem very high — at 6% of salary for health insurance and 30% for other social insurance. The Government provides financial contributions for poor families and disadvantaged groups. Universal health insurance included in the social insurance programme covers the cost of most inpatient services and 50% of essential drugs obtained on an outpatient basis. User charges are allowed for non-essential services. By 1997, the national insurance plan had increased its share of health finance to 33% of total health expenditure, with the Government responsible for 49% and household out-of-pocket expenditures providing only 2%. Funding provided by donors and international organizations represented 16%.

Health services were affected by expenditure reductions. Hospital beds were reduced by 35% (to 7.8 per 1,000 population). The number of professional staff employed in the public health service also declined, with the largest decreases among nurses and mid-level workers. The number of health workers still seems relatively high in comparison to other study countries, but this may be a function of the scattered population, difficulty of travel and large distances. The author also notes that physicians are defined to include certain auxiliaries and that 19% of the total numbers are involved in administrative work.

The rural health delivery system consists of health centres in rural *soums* (districts), which serve a population base of approximately 2,500, and mid-level health professionals, known as *feldshers*, who serve rural agglomerations known as *bags*, which have an average population of 50 to 100 families. The objectives of health system reform stress commitment to primary care. The author points out that the present structure of health services in rural areas provides good access to primary care. It is not clear how the new policies will affect these service providers.

New legislation aimed at privatizing health services was passed in 1997. Over 500 private health facilities have been established, employing approximately 1,700 medical practitioners. Payment methods will be changed to provide case-based reimbursement for hospital care and capitation payments for urban general practice. Capitation contracts will cover a package of essential services. Rates will vary to provide an incentive to establish practice in areas of urban poverty. *Soum* health centres will be converted to private ownership through management contracts with local governments. It is not clear how they will be viable, given the small population base they serve (the country study does not discuss this issue).

Authors' conclusions

- Socioeconomic indicators and health status have been adversely affected by economic conditions that have increased unemployment, poverty, poor nutrition and stress.
- The social insurance programme “shifted the responsibility to employers and employees at a time when major reforms were directed at significantly downsizing the public services”.
- Educational achievement, which is relatively high at present, may drop in future due to reduced funding for education.
- A policy to pay higher salaries to doctors in rural areas has not been successful due to unfavourable living and working conditions.
- Preventive and primary care in rural areas are provided effectively by village health workers, allowing for a higher population to doctor ratio in these areas without adverse effects on service provision.
- Decentralization and privatization are taking place without adequate training of management staff in rural and remote settings.

Bahrain

Bahrain is a small island country that ranks at the high end of the income distribution for upper-middle-income countries. Bahrain's health status indicators are similar to those of developed countries. Most health sector workers are employed in government operated hospitals or primary care health centres. There is a relatively high number of professionals, with a population per physician of 641 and a nurse-physician ratio of 2.4 to 1. Hospital beds per 1,000 are relatively low, at 2.9. There are approximately 5.5 outpatient visits per capita, most of which take place in 21 primary care health centres.

The Government is the main source of health finance, and was responsible for 71% of total health expenditure in 1997. The health budget represents 11% of total government expenditures. Household out-of-pocket expenditure accounted for 29% of health expenditure in 1997. There is no health insurance in Bahrain at present, although the Government plans to encourage its introduction over the next five years.

Government health personnel are allowed to conduct part-time private practice. The MOH considers that private practice provides income incentives that improve retention of health personnel, whose earnings are otherwise constrained by government salary scales. Private practice also provides a means to deal with the growing rate of demand for health services, which is approximately double the rate of growth in health budget allocations.

One form of private practice, which has been in existence since the 1970s, consists of limited private practice (LPP) at evening clinics in government facilities. Patients pay for visits to the after-hours clinics, whereas there are no fees for visits during normal working hours. Fees are set by MOH and shared with physicians (the physician's share is 75% in the case of physicians who are Bahraini citizens and less for foreign physicians). A second form of private practice allows providers to establish their own clinics for part-time practice (PPP), and determine their own fee levels. This second mode was introduced in the 1990s. Utilization data indicate a shift in service utilization from LPP to PPP clinics, reflecting a preference of many physicians to practice in the latter mode, which provides greater earnings potential.

Treatment is free in public hospitals, and physicians cannot charge private patients once they are admitted to these hospitals. There are three private hospitals in Bahrain, two of which are non-profit. There are also a number of private clinics. Private facilities account for approximately 10% of discharges and OPD visits.

Bahrain is committed to further introduction of private practice and market-based incentives during the next four year. However, the MOH is adopting a conservative approach to these changes, and indicates that it intends to strengthen its internal ability to manage change in order to preserve the gains in health status achieved in the past and to maintain quality of care and equity of access.

Authors' conclusions

- The high levels of health status in Bahrain have been due to strong government control of the health care system with high priority given to primary care.
- Salaried employment in the public system facilitates shifts between primary and secondary care.
- Preventive and public health programmes, which receive approximately 23% of MOH expenditure, have proven to be very cost-effective.
- The existing remuneration system has proven its effectiveness as revealed by current health care indicators.
- Mixed public and private practice by government employees involves an implicit bargain between providers, who are allowed to earn extra income, and the Ministry of Health, which has strengthened internal policies in order to maintain quality of service and equity of patient access.

Estonia

Estonia, a relatively small country with a population of 1.5 million, became independent following the dissolution of the Soviet Union in 1991. A parliamentary democracy was established, and the country moved to a market-based economy. During the subsequent three years, real GDP declined as inflation escalated. These adverse macroeconomic trends were reversed from 1995 to 1997, when GDP grew modestly. Consumer price inflation dropped to 10% in 1997.

A national health insurance programme, introduced in 1992, is funded by a payroll tax of 13%. It accounts for 80% of health expenditures, while household out-of-pocket payments and direct government finance each accounted for approximately 10% in 1996. Financial responsibility for the insurance plan was originally decentralized to county level, leading to disparities in purchasing power among the 15 counties. Subsequent changes in 1994 centralized financing, with funds allocated to counties based on a per capita formula that recognized age-sex differences in populations. The programme has encountered difficulties, as the rate of growth in premium revenue is less than the rate of increase in health care costs. Some employers pay low formal salaries and supplement them with higher, undeclared payments in order to avoid taxation. The authors estimate that insurance premiums are 20% – 25% less than expected as a result.

Patients using the public sector pay only a nominal contribution for ambulatory care, and there is no charge for inpatient care. However, they pay high fees in private clinics. The insurance fund is considering a move to finance an essential package of services, with patients responsible for the cost of other services. There are potential distributive problems in this approach, due to large disparities in income and income growth among the population.

Centralization of financial responsibility was carried out concurrently with the decentralization of administrative responsibility. Ownership of most hospitals was transferred to municipalities without adequate preparation of local administrative processes, and was accompanied by reduced government supervision and reduced financial support of hospitals. The authors conclude that all these factors led to failure of the decentralization initiative. These conditions also contributed to the growth of a parallel private sector, with many physicians working alternately in public and private clinics. The authors suggest that the primary objective of greater system efficiency may have been jeopardized as a result. Legislation expected in the near future will curtail the decentralization initiative, while providing a role for a senior medical authority of each county in planning, coordination and evaluation of county health care systems.

Private practice has grown slowly in the hospital sector, but is increasing in ambulatory clinics, where private medical clinics increased from 35% of the total in 1994 to 63% in 1996. Almost all dental clinics (95%) are private, although almost half of all dentists continue to be employed in the public sector. The authors point out that specialist physicians, in particular, are being attracted to private practice, and that this trend will affect the range and quality of services that will be available in the public sector in future. Regulation and quality assurance are also flagged as concerns in the growth of private health care.

The number of nurses and midwives has decreased, in part due to hospital closures and declining birth rates. The authors report vacancies for nurses in clinics however. They also report problems in provision of primary care to rural areas. Both of these factors suggest that supply trends for nurses and medical assistants may be problematic.

A new training programme for family medicine has been established. Capitation was introduced in 1998 for family practice and the payment formula included an annual lump sum fee and differentials for practice location. The country has an ageing physician population, with one-third of practicing doctors over 65-years-old. It is too early to gauge the effects of simultaneous changes to training curricula and remuneration systems on practice. These policy changes, together with a potentially rapid replacement of existing physicians, will constitute a significant experiment which should be studied over the next few years.

Authors' conclusions

- The introduction of market allocation mechanisms in health care is problematic for the Government, in view of its responsibility to guarantee access to medical services.
- Advance payments to public hospitals and clinics based on expected utilization patterns (to offset the impact of rapid inflation) led to over-provision of services and excessive expenditures.
- Diminished subsidies from the Government led to low salaries for health workers, price pressures and financial instability for the public insurance plan. This may result in a decrease in services by public institutions.

- Prices for medical equipment and pharmaceuticals are increasing more rapidly than premium income of the national insurance fund, and this could lead to service rationing in the future.
- The rapid development of private practice will lead to reductions in specialists practicing in the public service. Reduced medical school admissions and a limited number of residency positions will contribute to this situation.
- Administrative policy is hampered by a division of responsibilities in which the national government attempts to plan service provision, while funding is negotiated between local health insurance funds and health care providers.
- Informal payments are often made to physicians, as the result of a tradition of gift giving that was common in the former Soviet Union. This tradition may encourage physicians to provide higher quality services, but does not affect quantity of service.
- Limited financial resources in the insurance funds have led to tension in negotiations with hospital administrations.

Kyrgyzstan

Kyrgyzstan achieved independence with the break up of the Soviet Union in 1991. A democratic political system was established and privatization of the economy occurred quickly, with 60% of State-owned property converted to private ownership by 1996. Economic instability characterized the early 1990s, with a 50% reduction in GDP between 1990 and 1994, though it has now begun to recover. Real incomes dropped and poverty levels increased to 60% in 1996.

Changes to the health system were planned during the early 1990s, but were not implemented due to economic conditions. Kyrgyzstan is presently beginning to implement an ambitious plan to restructure the health care system and to introduce new funding through a national insurance scheme for pensioners and persons in the workforce. Private insurance is allowed as an option for self-employed persons, but there is little of it at present.

The Government is the main source of health funding, accounting for almost 70% of the total. The national insurance scheme will be operated by governments at both national and provincial (*oblast*) levels. Insurance revenues were estimated to add approximately 14% to domestic funding sources in 1998. Insurance funds will not replace government funding, however, which in 1998 was still below 1994 funding levels in real terms. As a percentage of GDP, public expenditures on health decreased from 4.2% in 1990 to 2.3% in 1993 and have recovered only slightly since, with 1997 expenditures equivalent to 2.9%.

The insurance plan began contracting with hospitals in 1997 to provide care according to a case-based reimbursement formula. Family GP practices (FGPs) will be encouraged, with funding by capitation and a certain degree of fund holding. The scheme has been introduced as a pilot in one area, and is being extended on a gradual basis across the country, starting with 14 FGPs in 1998. Other significant policies include rationalization of facilities (with anticipated bed closures) and a needs-based funding formula to allocate government and insurance funding among *oblasts*.

Most health care is provided in government institutions at present. Insurance funds will be available to supplement government salaries for staff, with 30% available for this purpose in institutions and 35% available in FGPs. The remainder is earmarked for increasing drug supplies and improving equipment. The present system features relatively small user fees in public

institutions (8% of domestic expenditure in 1997), 40% of which are allocated as salary supplements.

Private practice will be encouraged in health policy. At present the private sector is very small, with about 3.5% of physicians estimated to be practicing in 33 licensed clinics. Most pharmacies are privately owned, except those located in hospitals. Drugs are presently free at hospitals. An outpatient drug plan is being considered by the national insurance plan. At present, patients prefer treatment at hospitals in order to obtain drugs, and this has led to overcrowding and long waiting periods.

Health human resource policy measures include increased emphasis on family practices, an increase in preventive care, delegation of certain physician responsibilities to nurses and skills development through domestic and international training.

Authors' conclusions

- The system of health care finance and delivery is in a state of transition. Inputs, outputs and expected outcomes have been well defined in the policy development process, however it is too early to draw conclusions about the effects of many of the initiatives
- Introduction of private practice may lead to an extension of the types of services offered to patients, but it is expected to lead to migration of younger health care providers from rural to urban areas. This effect will result in fewer and older rural providers.
- There are virtually no incentives for rural practice at present; economic privileges available before independence have been abolished, and a policy that required practice in rural areas for three years after graduation from medical school has been dropped.
- Standard treatment protocols have been defined but are not used at present due to a shortage of drugs in public facilities.
- Informal payments, which exist in the present system, may be reduced as a result of insurance payments to institutions (30% will be used to supplement staff salaries).
- In the past, hospitalization was only possible with a referral from primary care physicians playing the role of “dispatcher”, and there was an unnecessary use of specialist services. Fundholding by family GPs is expected to counterbalance the incentive to refer patients to higher levels of care.

Ghana

Ghana is undergoing macroeconomic restructuring and has plans to privatize much of its economic activity. Health services will continue to be provided by the public sector, but through a new agency, the Ghana Health Service (GHS), which will be separated from the civil service. Significant decentralization of administrative and financial responsibility is planned, with a goal of transferring 42% of the non-wage budget to district control by the year 2001 (staff salaries will continue to be a national responsibility). The author notes a potential conflict between GHS legislation and plans for decentralization, a possibility discussed by Cassels and Janovsky (1996).

While the Government is responsible for the major share of health expenditure, foreign loans and donations account for over 50% of government expenditures. Government recurrent expenditure in 1997 was 8.4% of the total budget. However, the high rate of inflation has eroded the value of budget contributions, to the extent that a 20% increase in government spending

from 1996 to 1997 yielded a 1.8% decrease in real terms after adjusting for inflation. Patient co-payments to government facilities were 7.7% of measured health expenditure. There is also substantial out-of-pocket expenditure in the form of informal payments to providers in the public sector. These payments are not measured systematically, but the author estimates that total out-of-pocket expenditure might exceed public expenditure, based on the percentage of household income spent on health as reported in a 1992 survey.

Health insurance is not prevalent, but a plan is being piloted. Only 10% to 20% of the population have formal employment, and this may impede the establishment of a national health insurance plan. Geographic distribution and quality problems with rural health facilities may limit the potential to develop cooperative insurance schemes for the rural population.

The government health service is the main provider of health care. Many health centres are in poor condition and lack necessary equipment. Major capital investments are planned, with a network of 14 new hospitals and 126 health centres to be built throughout the country. Private for-profit practice does not account for a large share of total service provision, except in midwife services. Private clinics have been growing in urban areas, however, and private hospitals with extensive technical facilities have been established in recent years. In pharmacy, licensed chemical shops are important sources of care.

Retention of physicians is considered to be a major problem due to emigration, which is estimated at 10% annually. Most physicians practice in urban areas. Medical assistants and nurses staff health centres, community clinics and maternal and child health (MCH) and family planning facilities. Professionals in the public service are not permitted to practice in the private sector. This constraint is not enforced, however, and a number of health professionals work part time in private clinics and hospitals. Planned health sector reforms include a provision for professionals to carry out after-hours practice in public facilities (intramural practice) as a way to supplement their incomes.

User fees in government facilities have existed since 1985. New policies for decentralization allow administrators at the district level to use income from user fees to improve facilities and offer financial incentives to staff. Visit fees vary, and are lowest for primary care services. Patients pay the full cost of drugs. Policy reforms will provide exemptions for children, the elderly and pregnant women. A basic package of services is under consideration. The author speculates that providers may resist reforms to financing arrangements and incentives to more efficient practice if the reforms adversely affect the relatively high levels of informal payments in the present system. These speculations are supported by a report by the Volta Regional Research Team (1997), which found that official exemptions are not honoured in practice.

The present system is considered to suffer from rigid management practices as a result of centralized control. Wage levels are low. Seniority and professional rank are the sole determinants of income. Supervision is minimal, due partly to the organizational structure and partly to cultural constraints, and morale is low. Professional governance is considered weak. Professional associations and unions have resisted enhanced roles for lower level professionals, and this has been a constraint in a programme to train multifunction health workers. The author concludes that existing incentives tend to be negative on balance.

Authors' conclusions

- Provider payment and incentive mechanisms have contributed to failures in quality and efficiency in Ghana's health system in the past. New policies have not yet had an impact on the system.
- Local control over internally generated funds provides greater opportunity to local managers to develop effective remuneration incentives. Disparities in income-generating potential due to the type of service provided, or a large base of exempt patients, may limit this capacity in some institutions (exemptions are not enforced at present). It will also be important to avoid disproportionate allocation of these funds for remuneration incentives relative to infrastructure and supplies.
- Low remuneration in the public sector combined with inadequate monitoring of the private sector has led to reports of breaches of ethics and quality of care, and "it is not clear what organization or system exists for ... dealing with client concerns".
- A shortage of health professionals may have contributed to tolerance of informal charges in the public sector.
- Constraints to reorganization and devolution of responsibility include limited institutional capacity to implement reforms, limited experience in financial management at district levels and reluctance by government oversight bodies such as the civil service, Ministry of Finance and Accountant General.
- A policy to reduce staff remuneration from 60% to 33% of the budget by 2001, which is advocated by donors and the Government, may conflict with the objective of creating a well-trained and motivated workforce.
- Planned incentives that can contribute to sustainability of change include increased job satisfaction for managers as a result of greater control over resources through decentralization; increased availability of training to health workers and managers; benefits related to work outputs and opportunities to earn extra income through an intramural private practice system.
- Competitiveness in the public sector will become important as economic growth leads to the existence of a relatively wealthy class and a stronger private practice sector.
- Macroeconomic adjustment policies may lead to an increase in poverty, increasing the number of households who are unable to benefit from improved health systems that feature user charges.

Côte d'Ivoire

Côte d'Ivoire, a former French colony, obtained independence in 1960 and adopted a multi-party democratic system in 1990. The 1980s and early 1990s were marked by financial crisis in which the government deficit rose to 18% of GDP in 1989. Income per capita fell sharply and external debt increased to US\$17.9 billion by 1992. A 50% currency devaluation in 1994 was followed by renewed economic growth and a reduction of previously high inflation rates — to less than 10% in 1995. Poverty increased rapidly during the period of economic decline. Economic growth in recent years has not been evenly distributed and the percentage of the population living in poverty was 33% in 1997.

A health development plan is being instituted, which includes among its policy objectives, reduced rates of maternal and child mortality and reduced incidence of communicable diseases. An essential package of services will be implemented. Other goals include cooperation between

public, private and traditional care sectors. Regulation of private practice is being effected through measures introduced in 1996 and 1997. Administrative reorganization has been effected at the national level. Decentralization is a goal; but most financial and planning decisions are made at the national level, and the country authors conclude that administrative control has become more centralized as a result.

User charges were implemented in the publicly operated health care system in 1994 and now account for approximately 15% of the revenues of the public system. Household expenditures account for approximately 61% of total health expenditures. The share of finance provided by households has declined since 1995. The combination of user charges in the public sector and higher fees in the private sector following devaluation has led to reductions in utilization by vulnerable groups, with the authors reporting reductions of 14% in utilization of maternal care and 5% in child care. User charges are well accepted among higher-income population groups, however.

In addition to government and household finance, industrial employers contract with health providers to care for employees and their families. There is very little organized health insurance, although a number of small mutual insurance associations have been formed to share the financial risks of hospital care.

Private hospitals are limited to urban areas. Private dispensaries are widespread and account for approximately two-thirds of the volume of drug sales. The public sector operates a number of dispensaries, which sell a limited number of essential drugs at low mark-ups. The public pharmacies account for one-third of prescription volume but only 9% of the dollar value of drug sales.

An innovative form of private non-profit practice has been established in 10 facilities in the city of Abidjan. These facilities, known as FSUs, are operated by user management associations. Charges for care are lower than in the private sector. Generic medications are obtained through the public sector distribution network and sold to patients at cost. Another innovation includes pre-payment for ambulatory care through member subscriptions for a limited number of participants. This feature has caused financial problems in some FSUs due to a perception by their management groups that subscription revenue is less than the cost of services.

The public sector health service has expanded the number of treatment facilities and many are relatively modern; but utilization is low and there is an imbalance between utilization of general hospitals (29% occupancy rate) and the nation's four tertiary care hospitals (69.5% occupancy). The imbalance is due in part to an uneven distribution of hospitals and primary care facilities relative to population.

Providers in the public service receive low incomes relative to fees available in the private sector. Many work part time in both sectors, and availability of care in the public sector is adversely affected as a result. Contract work in the industrial sector is quite lucrative and many physicians who practice in the public system compete with private practice physicians for these contracts. Informal payments are common in both the public and private systems.

Authors' conclusions

- Quality in the private sector is uneven, ranging from modern hospital facilities to an informal sector where some staff are unqualified and medications are of doubtful quality.
- Nurses are better qualified for their responsibilities than all other health professions due to changes in training programmes, but the profession feels threatened by unqualified nurses in the informal sector. The ratio of nurses to physicians is 4:1.
- Public sector budgets disproportionately favour the tertiary care sector and should be reallocated in the medium term to strengthen the primary and secondary levels of care.
- Private medical practice is governed by an ethical code, but violations are common, including over-charging, unregulated double-employment by public sector physicians and the practice (by senior physicians) of obtaining numerous posts in the industrial sector and then sub-contracting responsibilities to other physicians.
- Rates set by the non-profit FSUs are not based on actuarial calculations and financial performance has been uneven. The need for financial self-sufficiency in FSUs has impeded access by the poor. Government subsidies to cover losses on high priority activities would make these organizations more viable.
- Treatment guidelines and drug regimens have been prepared, but they are seen as constraints by the health profession and are not used.
- The use of traditional practitioners results from poor accessibility of modern medicine and from deeply rooted cultural influences.
- Most personnel in the public sector are competent, but poor organizational and management practices hamper their performance and motivation.

6. Research agenda

Within the context of the framework used, the case studies have provided a great deal of insight into the various forces that affect health care providers. However, there are limitations in documenting reactions to specific measures. Carefully structured research is often necessary in order to obtain more detailed insight into incentive-response relationships. This section outlines a number of key issues identified in the studies and suggests countries that are good candidates for research.

There will be considerable advantage to doing the human resource research as a component of comprehensive studies on the effects of new policies. Events described in the country studies demonstrate that health workers are in the front line of those affected by policy change, and that specific effects must be understood if health reform is to be successful.

Primary health care

Primary health care systems using trained local health workers have proved resilient in the face of conditions that have created great difficulty in urban health care (the Islamic Republic of Iran, Mongolia). Research questions include:

- What factors have contributed to the preservation of rural primary health care (PHC) systems under adverse economic circumstances?
- What effect will privatization of the public service have on rural PHC? The plan to convert *soum* health centres in Mongolia to contract management may be of special interest.

Joint public and private practice

Joint practice in both the public system and the private sector was flagged as a major area of concern in many of the studies. It usually occurs as a response to low salaries, and in some cases seems to be encouraged by a policy environment that promotes private sector development. In most of the study countries, parallel public and private systems have had a detrimental effect on the public system. Bahrain is an exception. This is a very important policy issue and should be researched with a view to identifying ways to rationalize public and private practice.

Rural physician supply

Policies that will provide salary supplements to providers from service revenues in rural health centres are planned in Ghana (user fees) and Kyrgyzstan (national insurance). Ghana may also allow after-hours practice in public institutions. Programmes in both these countries will provide an opportunity to study the effects of higher salaries in rural areas on physician recruitment and retention.

Urban practice

The development of new models for health care in underserved urban slums in Bangladesh will provide a unique opportunity for research on provider behaviour under very challenging conditions. Delivery models developed by NGOs or non-profit organizations can incorporate different incentive structures than either the civil service or for-profit providers.

Effects of new payment methods

A remuneration plan for family practices in Estonia will provide 80% of income from capitation, with the remainder coming from a basic payment supplemented by additional payments, based on qualifications and distance from a hospital. Concurrently, a new training programme for family medicine has been established. The effects of mixed capitation and salary on existing and newly trained physicians can be studied.

Capitation and case-based reimbursement are planned in Kyrgyzstan and Mongolia. Different approaches are being adopted, however, with pilot projects in Kyrgyzstan contrasting with a more ambitious conversion in Mongolia. The Kyrgyzstan pilot projects offer considerable potential for research.

Changing roles in health finance

Decentralization in Estonia is being reversed. There may be valuable lessons to be learned from a careful study of experience with existing policies. In Ghana, on the other hand, health care providers and planners have high expectations from the anticipated decentralization and the new health services agency. There are many constraints, however, including a system of formal and informal user fees, which is neither coordinated nor carefully regulated.

National insurance plans provide an opportunity to study provider behaviour when responsibility for payment shifts from government to a third-party payer. Estonia has had national insurance since 1992, while Kyrgyzstan is about to undertake a plan in which insurance payments will supplement, rather than replace, government payments. Both countries offer considerable opportunity for research.

Small-scale cooperative insurance and user managed health facilities are being developed in Côte d'Ivoire. These experiments may provide valuable information about the possibility of risk-pooling in countries that lack a formal insurance system.

Appendix – Components of the framework

1. Macroeconomic restructuring and health policy reform

- Country overview
- Analysis of health policy initiatives
- Role of financial and non-financial incentives
- Effects on provider practice and behaviour

2. Health finance

- Health expenditure by source of finance
- Expenditure by source and use of funds

3. Provider supply and practice characteristics

- Supply and practice characteristics
- Payment mode and type of practice
- Practice regulation, governance and service planning
- Practice standards

4. External constraints and enabling factors

General considerations:

- Macroeconomic environment of a country
- Institutional capacity of administrative structures

Professional environment

- Medical culture and training
- Distribution of responsibility among and within professional sub-groups
- Nature of relationships between health professionals and paying agencies

5. Evaluation of funding systems and policy

Evaluation criteria include:

- Broad system goals set by national governments (health policy)
- Objectives negotiated between providers and paying agencies
- Policy objectives identified by WHO for the evaluation of health care systems:
 - i)* Equitable access to care relative to need.
 - ii)* Quality of care in terms of professional standards.
 - iii)* Efficiency in resource allocation.

6. Sustainability of change

Component 1 – Macroeconomic restructuring and health policy reform

Health-related human resource policies are affected by macroeconomic policy, which, in turn is affected by political institutions. Many countries adopted new policies in response to adverse economic conditions during the 1980s and 1990s, often resulting in significant institutional changes. A number of case studies analysed in the WHO publication, *Macroeconomic Environment and Health* (1993), indicate that economic policy change often results in major changes to the health care system.

Health care policy changes will virtually always affect the economic incentives facing health care providers. General economic policies carry over into the health sector and may affect incentives in ways that were not intended. Economic incentives arising from market-based systems of allocating resources may change the delivery of public health and acute care in ways that are not consistent with health system objectives. This seems to be the case in China, where the shift during the 1980s from strong political control to market incentives and institutional autonomy (combined with a need for revenue generation) has caused a change of emphasis in rural health systems from preventive to curative care (Tang, et al., 1994). Hsiao (1994) analysed inefficiencies that resulted from a conversion to market based health care systems in Chile, the Philippines, the Republic of Korea and Singapore. Brunet-Jailly (1993) described how privatization of the drug distribution system in Mali conflicted with an objective to expand the Bamako initiative to make essential drugs available on a cost-effective basis.

Health policy initiatives often include explicit incentives intended to affect provider behaviour; for example bonuses may be paid to those who meet immunization targets¹. Incentives may be implicit in health system reform measures that have a larger scope, such as change from salaried practice to fee-for-service or capitation, as a result of privatization or contracting out responsibilities.

Working conditions and changes to salary or fringe benefits provide powerful incentives to employees of health institutions. Downsizing, increased responsibility and declines in real remuneration have occurred in many countries. Increased stress and insecurity have often accompanied these changes.

Case studies

Case studies will identify policy changes and describe changes in provider practice behaviour that have occurred during the last two decades. Other components of the framework will establish the country context, so that lessons can be learned about the circumstances in which particular incentives may or may not change provider behaviour. We suggest information on Component 1 in the case studies be organized in four sections.

¹ Unofficial reports also note the existence of informal payments by vertical programmes or other sources to managers and health care providers, which have the potential to distort priorities.

Country overview

In order to place the analysis of provider incentives in a macroeconomic and political context, the country overview should summarize changes in economic conditions and national policy during the last two decades. Areas of special interest include:

- Changes to the form of government or economic system (e.g. socialist to market system).
- Health reform activities and reforms planned during the next five years. It is important to distinguish between reforms actually implemented and those that may still be awaiting enabling legislation or administrative implementation.
- Macroeconomic restructuring and changes in the relative importance of the public and private sectors in financing health services (the current health finance environment is discussed in Component 2).
- The role of the public sector in providing health services and regulating private practice.
- Incentives used to manage health providers or to affect the type of health services provided (e.g. policies to increase the relative importance of primary and acute care).

Case studies are most effective where these issues are summarized, with the analyst providing interpretations of how policy is evolving in practice, in preference to detailed statements from policy documents.

Statistical data on major demographic and economic indicators are very useful for comparisons between countries. Indicators should include population, land area, rural population density,² GDP per capita and the exchange rate for the years in which GDP and economic data in other sections of the framework are reported. Health status indicators should be included for life expectancy at birth, infant mortality and under 5 mortality.

Analysis of health policy initiatives

A structured description of key health policy initiatives identified in the country overview will make it possible to identify common objectives and implementation strategies among the countries participating in the study. Please summarize the following information about key policy objectives. The format follows a logical framework approach³:

- *Objectives.* The impact that is expected or desired. A policy measure may have several stated objectives, some of which are too general to measure. Examples of objectives that can be measured include changing the mix of primary and acute care, increasing medical or nursing services and/or increasing access by the poor.
- *Inputs.* Resources provided or activities undertaken to support the objective. Examples could be human resources or training programmes.
- *Constraints.* Outcomes may be dependent on assumptions about existing conditions, such as management ability, or the vested interests of stakeholders.

² Rural population density is defined as the rural population divided by square kilometers of arable land in rural areas. It is an indicator of the ability of rural populations to generate income from agricultural activities.

³ Adapted from World Bank (1996).

- *Outputs.* Goods, services, or changes to administrative infrastructure that were the result of the policy measure.
- *Outcomes.* The final results of the policy measure. For example, a health policy objective to increase preventive care could have increased immunizations as outputs, and reduced incidence of target diseases as outcomes.

Role of financial and non-financial incentives

For each objective, please explain the expected or the actual role of financial and non-financial incentives. In the framework we view incentives as playing one of the following roles:

- *Main determinant of a policy objective.* An example would be financial incentives or preferential access to educational programmes to encourage provider migration to underserved areas.
- *Complementary measure,* if the incentives will assist achievement of the objective. An example would be an objective to increase nursing skills, in which new training curricula were the main input and pay rates that increased according to educational qualifications were a complementary measure.
- *Constraint,* if the existing system of incentives will tend to frustrate achievement of the objective. In the example above, pay scales that were based only on seniority would be an impediment. Another example where financial incentives could impede policy initiatives might be the introduction of measures to achieve medical cost effectiveness in a fee-for-service environment.
- *Neutral* if the existing system of incentives is not expected to influence the success of the policy measure.

Effects on provider practice and behaviour

Describe changes to provider behaviour, supply or distribution that have occurred during or after policy initiatives. A broad perspective is recommended as some responses may not have been predictable and others may have uncertain links to specific policy measures. Case studies from different countries can identify consistent patterns associated with policy change and response, using all elements of the framework.

The Section in the summary report entitled *Specific incentives for human resource issues* (p. 12–15) includes a table describing incentive packages to deal with health human resource issues that are common to many countries. The format of the table will allow country analysts to build on the experience of countries that have carried out case studies summarized in this report. A similar table could be included as Table 1 of the case study.

Some policies may have objectives that can affect behaviour in ways that are difficult to predict when implementing the policy (e.g. privatization or decentralization). Please indicate if the effects have been different across types of provider or practice conditions.

Informed opinion and analysis will be essential to understand the role that remuneration and other incentives have played in health provider management. Analysts should feel free to provide their own conclusions. Opinions from colleagues or a discussion reflecting thinking about controversial issues will also be valuable in order to understand the degree of consensus about the effects of incentives on provider practice.

Component 2 – Health finance

The WHO has noted the need for a broadly-based perspective in analysis of health policy, including an analysis of health finance (Carrin, Jancloes and Ajayi, 1993). Many countries, and virtually all of those in the present study, experienced health policy reform or fiscal restructuring during the 1980s and 1990s. The sources of health finance, and the use of funds available to the health sector, provide an important context for the analysis of health policy. The Organisation for Economic Cooperation and Development (OECD) has developed a template for collecting data on health resources, throughputs and expenditures, and has developed a system for international comparative data (OECD, 1998). In countries undergoing changes to systems of health finance, it is usually desirable to have an analysis of the sources of finance, and the expenditure patterns of each source (Berman, 1997).

In the framework, we request a breakdown by funding source of total health care expenditure and spending for hospitals, health centres and private practitioners. The distribution of expenditures by funding source and type of care will enable analysts to understand the relative priorities of the government and the private sector. Total spending for hospitals and health centres provides important information about the allocation of funding to tertiary, secondary and primary care. Expenditure for independent practitioners provides information on the extent of private practice.

Case studies

Sources of finance: Table 2 requests aggregate expenditure data by each of the major funding sources, and a breakdown of government expenditure between domestic and foreign sources. Time-series data are especially useful in trend analysis. Increases in shares of funding from insurance or households can be very revealing indicators of the changing roles of government and the private sector in health finance.

Expenditure by source and use of funds. Table 3 provides a template to record expenditure by sources of funding and type of health care provider. Other types of expenditures should be included if available, especially drugs and capital investment, which are normally the most important other expenditures in developing countries.

Separate estimates of expenditure for traditional care providers should be provided, if such estimates are available from special surveys, or if they are included in a country's national health expenditure estimates. These data are often difficult to obtain, but can be important to an understanding of the relative strength of the formal and informal health care systems.

Please provide a descriptive analysis to complement and explain the health finance data. If data are not available, the descriptive analysis will be critical to the ability of readers to understand the health finance environment. Questions to guide the descriptive analysis are suggested below:

- Have there been notable changes in the shares of finance from each sector during the last decade? If so, describe the changes and provide expenditure estimates if possible.

- Is there a national health insurance system? If so, is it comprehensive, or restricted to certain groups (e.g. employed persons, the poor or elderly)? What broad categories of service are covered (e.g. hospital care, physician's services, drugs)?
- Are public insurance systems operated by central, district or local authorities? If insurance administration is decentralized, is funding raised locally or is there a central collection of contributions.
- Are there private insurance schemes? If so, are there multiple insurers? Is insurance based on employment? Are there voluntary, cooperative insurance plans? What percentages of the population does each type of plan insure?
- Who is responsible for health care purchasing decisions? Do public or private insurance schemes deal directly with providers, or do patients purchase services and seek reimbursement from insurers? Do foreign donors or lenders influence purchasing decisions? Do non-governmental organizations (NGOs) provide or purchase significant amounts of health services?

Table 2 Total health expenditures by source of funds

Sources of Funds	Years and amounts
Government expenditure	
Domestic revenues	
Foreign loans	
Donors	
Employee insurance	
Private or cooperative insurance	
Household out-of-pocket payments	
Other sources (describe)	
Total	

Table 3 Expenditure by source of finance¹ and provider type

Provider type	Source of finance					Total
	Government	National insurance	Private or cooperative insurance	Out-of-pocket payments	Other ²	
Hospitals ³						
District						
Tertiary						
Health centres						
Private practice physicians						
Other private practitioners						
Other expenditures						
Total expenditure						
Non-formal sector						

¹ Provide as much detail as possible. If necessary, summarize data by combining rows or columns to provide the levels of data available. If expenditure estimates are not available, estimate relative shares of each source of finance for a provider type.

² Identify other sources in descriptive comments.

³ Hospitals should be classified as secondary and tertiary if more relevant to a country.

Component 3 – Provider supply and practice characteristics

This section defines provider supply and practice characteristics, including models of practice organization, mode of payment, regulation, governance, service planning and accountability. These factors are important considerations in an analysis of provider behaviour and response to incentives. A significant change to any practice characteristic may disturb the existing pattern of incentives. Responses of providers will depend in part on the relative strength of the signal, and in part, on whether the implied change in behaviour is consistent with other incentives in the system. For example, the introduction of user fees may have a significant effect on provider behaviour in a private practice system, but may have little effect in a system of public provision of care⁴. Incentives intended to change the distribution of providers between urban and rural areas may produce different effects, depending on whether there is an under-supply or over-supply of that provider type in the country as a whole.

It is also possible that a change in practice conditions may remove a countervailing influence to other existing incentives, resulting in responses that should not be attributed solely to the change. Changes to the regulatory environment, especially, can enable behaviour that results from the existence of incentives previously offset by regulation.

Payment mode and incentives

Payment modes imply specific incentives for health care providers (Barnum, Kutzin and Saxenian, 1995). While the responses of providers to specific payment modes will be determined in combination with other practice characteristics, it is important to consider the expected response associated with each payment mode.

Fee-for-service gives reimbursement for each service provided. Rates may be very structured to take into account different resource inputs and provider qualifications. Fee-for-service rewards productivity in terms of services provided or patients seen. The quantity of services provided may be influenced by provider income targets. The mix of services may be based on the relationship between income and costs of individual services.

Capitation is a form of prospective payment in which providers are paid a fee to provide a broadly defined range of services to clients when, and if, they are needed. Capitation provides a strong incentive to manage financial risk from treatment costs. This incentive may result in a cost-effective mix of services or it may result in attempts to select clients with relatively low health needs. Where fund holders compete for groups of clients, capitation rates based on age-sex profiles and other indicators of relative need may counter a tendency to risk-select based on demographic characteristics.

Case-based payment is a form of prospective payment to institutions in which rates for inpatient care are based on the patient's diagnosis. The diagnostic related groups (DRGs) used in the United States Medicare system are an example. Case-based payment provides a direct incentive to reduce cost per admission and may lead to greater efficiency through

⁴ User fees would be expected to affect consumer demand in either event, and the demand effect could alter patterns of care. The "identification problem" of distinguishing between demand and supply effects is particularly difficult in health care provided through private markets.

a reduction in length of stay or cost per day. The strength of the incentive will be based on existing cost profiles relative to case-based rates⁵. In contrast, low levels of payment relative to actual cost may lead to quality problems if patients are discharged too early. Prospective rates based on diagnosis may also result in reclassification of patients to take advantage of higher payment rates associated with more complex cases.

Time-based payment provides a direct incentive for professionals to increase their time inputs, subject to trade-offs between the marginal value of income and leisure. Time-based payments may be an alternative to fee-for-service or capitation for independent professionals. It is most likely to be used in settings where continuity of care is not an issue, but where there is a recognized need for specialized services (e.g. periodic clinics in rural areas), or where volumes of patient visits are low and urgency high (e.g. emergency departments).

Time-based payment may be used by institutions where labour demand does not warrant full-time employment. Casual work on an hourly basis may be offered as an alternative to full-time employment, where employers wish to limit their exposure to future commitments or to limit the cost of benefit plans available to full-time employees. Time-based payments may be attractive to employees who prefer part time or flexible working arrangements.

Salary is the traditional form of reimbursement within employer-employee relationships. Within salary arrangements, professional standards and terms of employment are expected to be the main determinants of behaviour. However, professional satisfaction with income and working conditions will play an important role in compliance with standards, and reduced satisfaction that may occur as a result of administrative policies associated with health financing reform will be an important consideration in the analysis of provider behaviour.

Case studies

Information requested for the case studies should be organized according to the areas listed below. Tables for data about each characteristic of practice are included at the end of this section. Descriptive comments should also be provided. Questions are suggested to guide the descriptive sections.

Provider Supply and Public or Private Practice. Table 4 requests a breakdown of providers by type of employment. Four categories of provider are included. Please provide more detailed breakdowns if appropriate (e.g. midwives). Include other types of providers, if appropriate, and explain their roles. The table should also include estimates of informal providers who earn incomes from medical care (e.g. untrained village practitioners who are not part of the officially sanctioned system).

- Are any professions considered to have too few or too many practitioners relative to population needs, or to country standards, if they exist?

⁵ In an early analysis of United States experience with case-based reimbursement under Medicare, Feder, Hadley and Zuckerman (1987) found that hospitals with below average cost tended to treat the case-based rates as windfall gains, and did not alter patterns of resource use.

- Are there problems with distribution of providers (e.g. over- and under-serviced areas or disproportionate representation among professional subgroups)?
- Do any providers participate in both public and private practice? If so, please estimate how many do so. Does private practice contravene terms of employment in the public sector, or are there formal arrangements for after-hours practice in public institutions? How does dual public and private practice affect quality and availability of care in the public sector.

Payment mode and type of practice: Table 5 provides a format for classifying institutions and providers according to mode of payment. The table will be most useful as a means of presenting descriptive information about the types of provider paid by each method. If fund-holding practices exist, please comment on the extent of responsibility for patient care assumed by the practices (e.g. financial responsibility for hospital care, drugs, services of specialists, etc).

Informal Payments: Informal payments are made in an effort to secure better access or superior care. They may be referred to as ‘under-the-table payments’ or ‘envelope payments’, and would not be included in established pricing policies or reports of revenue earned. Case studies should include a description of informal payment practices if they exist. Questions relevant to informal payments include:

- Do patients make informal payments to providers in addition to any official user charges?
- If so, are such payments common or rare?
- Are the payments made in the government sector, private practice or both?
- Are they made only in particular settings (e.g. hospitals, clinics), or do they exist throughout the health care system?
- Are informal payments made only to doctors, or are they made to health care facilities or to other providers as well?
- Are they demanded by providers or offered by patients in hopes of obtaining superior care?

Please explain if, in your opinion, the practice of informal payments has affected provider responses to policy change or new remuneration methods. If informal payments are made, please advise if any estimates of the total amounts paid are available, and if informal payments are included in the estimates of out-of-pocket expenditure in Table 3.

Regulation, governance and service planning: Table 6 provides a template for classifying how each profession is controlled and the level at which jurisdiction is exercised. Definitions and questions are given below:

- *Regulation.* Are professions regulated by the national government, or do regional and/or local governments regulate? Are mandated standards actually enforced?
- *Governance.* What are the roles of professional associations and licensing bodies in setting qualifications, approving practice and disciplining members? Please clarify if governance is proactive or ineffective.

- *Service planning.* Is provider supply planned centrally or by regional or local bodies? Is planning strictly a government activity or do other stakeholders participate (e.g. provider groups, regional or community boards with consumer representatives)? Are there defined benefit packages that affect supply requirements, such as an essential package of services provided by the public system or financed by the government?

Practice standards: Table 7 should be used to show which standards apply to specific modes of payment. Definitions of major accountability features in medical care are given below (if appropriate, include other measures relevant to the country).

Patient records, which cover a minimum set of data (e.g., date seen, diagnosis or symptoms, drugs prescribed).

Pooled MIS, which includes shared information systems with data on patient encounters, resources used, capacity utilization (bed occupancy, length of stay).

Service standards, including availability of care (e.g. 24-hour staffing or on call), and clinical standards, such as peer review in hospitals or treatment protocols.

Essential drug list of basic drugs used to treat common conditions. Is use of essential drug list mandatory or optional?

Prescribing guidelines for selection of drugs, dosage, etc. to treat specific conditions. If guidelines exist, is compliance monitored or enforced?

The table is most relevant for private practitioners. If providers are employed predominantly by the public service or by institutions, these accountability features will help to understand administrative policy. Analytical comments may be the most relevant form in which to present information in that event.

Relevant questions for the analysis of practice standards include:

- How long have they been in place?
- Were they established by the profession or by the government?
- Are they incorporated in contractual agreements or required by law?

Table 4 Number of providers by type of employment

Provider type	Government employees	Private practice ¹	Total
Physicians			
Dentists			
Nurses			
Medical assistants ² or paramedics			
Informal practitioners			

¹ The column, "Private practice", should include practitioners employed by other practitioners in private practice (e.g. nurses employed by physicians).

² Medical assistants or paramedics include partially trained doctors who are considered part of the formal health care system.

Table 5 Payment methods and type of practice

Payment mode	Types of providers receiving payment by each mode (examples are shown)
Budget or contract	Institutions e.g. hospitals and health centres
Fee-for-service	Institutions and/or Independent professionals
Capitation	Institutions and/or group practices
Case-based	Institutions – inpatient care
Time-based	Independent professionals
Salary	Profession or specialty

Table 6 Regulation, governance and service planning

Provider type	Central	Regional	Township	None
Hospitals				
Health centres				
Physicians				
Dentists				
Nurses				
Paramedics				

Note: If appropriate, use a coding system to classify providers (e.g. ‘R’ to indicate the level which regulates, ‘G’ to indicate the level at which professional governance is in place, and ‘S’ to indicate the level of administration responsible for service planning). If multiple levels of jurisdiction are involved, please explain the role of each level.

Table 7 – Practice standards by payment mode

Payment mode	Patient records	Pooled MIS	Service standards	Essential drug list	Prescribing guidelines
Fee-for- service					
Capitation					
Salaried					
Mixed models					

Note: Mixed models may combine different modes (e.g. capitation with fee-for-service payment for certain services). If mixed models exist, please specify which modes are combined.

Component 4 – External constraints and enabling factors

External conditions will influence the success of attempts to restructure delivery systems or remuneration incentives. In the framework we distinguish between general conditions, which may vary with the state of development of a country, and characteristics of the professional environment.

General conditions

Major changes to payment systems, such as the introduction of prepayment or capitation systems, will require an enabling economic environment. Decentralization or the introduction of insurance schemes will require managerial skills at each level of decision-making. Policy initiatives may fail if general conditions are not supportive. The classification of general conditions below follows an analysis by Kutzin (1995) of experience with health sector reform.

- The macroeconomic environment of a country must be able to provide the financial support necessary to establish new health care delivery systems. New delivery systems introduced in conjunction with expenditure reduction may fail if there is insufficient support for training and transitional costs. Another example would be employment and income trends, which would affect the ability of populations to pay user charges.
- Administrative structures must have the institutional capacity to support changes to remuneration or delivery systems. An example would be the existence of information systems and information transfer methods in order to monitor the results of change and to allow the distribution of information to both providers and consumers.
- Managerial skills must be available at both central and operational levels in order to manage change or administer incentive systems.

Professional environment

Market-based incentives may be quite effective in an environment characterized by weak professional bonds and flexible roles among professionals; but they may elicit little response in a country with a strong professional culture and rigid professional jurisdictions. Features of the health system environment that will influence provider reactions to incentives include:

- Medical culture and training, which will be especially important where there is a strong regime of professionalism that determines standards, and which may discourage competition.
- Distribution of responsibility among professionals and within professional subgroups. Jurisdictional boundaries and referral patterns are examples.
- The nature of relationships between the profession and paying agencies (e.g. shared responsibility, cooperation, competitive, antagonistic).

Case studies

Please provide comments on each of the general conditions and characteristics of the professional environment outlined above.

Component 5 – Evaluation of funding systems and funding policy

Evaluation will normally be carried out in the context of policy objectives. Policy objectives may be broad system goals set by national governments (health policy), or they may be objectives negotiated between professional associations and paying agencies (administrative policy). In addition to objectives established by these processes, we suggest evaluation within the context of the following key policy objectives identified by WHO for the evaluation of health care systems:

- i) Equitable access to care relative to need.
- ii) Quality of care in terms of professional standards.
- iii) Efficiency in resource allocation.

Case studies

Country case studies may have limited time-frames in which original structured evaluation will not be feasible as part of the case study. If formal evaluations of policy initiatives or payment systems have been carried out in the country, provide a brief description of the evaluations and their conclusions. Indicate methods used in each evaluation (e.g. cost-effectiveness analysis, client/provider focus groups, opinion surveys, etc.). Include references to published papers, if any, and identify the agency that carried out the evaluation.

If formal evaluations have not been done, please provide comments based on your own analysis or the views of informed observers. A format that has been helpful in case studies carried out to date is to identify the most important objectives of policy change, indicate if each objective has been achieved, and what effects its implementation have had in terms of the WHO policy objectives.

Component 6 – Sustainability of change

A major objective of case studies will be to identify the characteristics of new delivery models or payment systems that lead to sustainable change that is consistent with country objectives. Sustainability of change is an important component of evaluation. Where there is insufficient time to assess the effects of new policies or administrative systems, it may be possible to identify conditions that will tend to support new policies or pose challenges to implementation.

Case studies

Questions to consider in the case studies are suggested below. This component of case studies should be coordinated with the two previous components (evaluation, external constraints and enabling factors).

- Are there complementary relationships between systems of health finance, remuneration modes, practice characteristics and external constraints that interact to produce sustainable change that is consistent with both societal goals and legitimate provider interests? Are there inconsistencies that lead to instability (e.g. a reliance on user fees in health finance when levels of poverty or unemployment are high).
- Are short-term and long-term reactions different for certain incentives as a result of external factors?
- Has a shifting policy environment caused an initial response to be modified?

Country case study authors

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