"HEALTH INSURANCE SCHEMES OF NON-GOVERNMENTAL ORGANIZATIONS IN BANGLADESH: A STUDY ON PERFORMANCE AND POTENTIAL"

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CERTIFICATE

Certified that the work incorporated in the thesis entitled "Health Insurance Schemes of Non-Governmental Organizations in Bangladesh: A Study on Performance and Potential" was undertaken by **Md. Zakir Hossain** under my supervision.

Haripada Bhattacharjee 12/11/02

Dr. Haripada Bhattacharjee
Supervisor

DECLARATION

The work presented in this thesis is original and has not been submitted by me to any University or Institution for the award of any degree or diploma. Such material as has been obtained from other sources is duly acknowledged in the thesis.

Zhossain 12.11.02

Md. Zakir Hossain

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CHAPTER-I

BACKGROUND and RATIONALE OF THE STUDY

The constitution of World Health Organization (WHO) states that "the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political, economic or social condition" (WHO, 1998). On two separate occasions, in 1970 and 1977, the World Health Assembly has proclaimed that "health is a human right" and that health "is not a privilege reserved for those with power, money or social standing" (WHO, 1998). The same affirmation was made by the International Conference on Primary Health Care (PHC), held in 1978 in Alma-Ata under the joint auspices of WHO and UNICEF.

Taking into account its limited financial resources, the persistence of its traditional cultural values, and its high levels of illiteracy, Bangladesh has made considerable progress during the past three decades in slowing population growth, in improving the health of the population, and in strengthening the health of the population, and in strengthening Primary Health Care services.

The fertility transition is already well underway in the country and the success of the immunization campaign is most impressive. The contraceptive prevalence rate has already reached about 50 percent and the fertility rate has declined from 6.3 in 1971-75 to 3.1 in 1994-1998. The under-five mortality rate has declined from 147 in 1975 to 112 per 1000 in 1998, and over the same period infant mortality has also declined from 112 to 83 per 1000 births (WHO, 2000).

Despite these, however, Bangladesh still remains as one of the few countries in the world where the life expectancy at birth is lower for females than males (MOHFW, 1998). Rates of malnutrition in Bangladesh are among the highest in the World. About 70 percent of mothers suffer from nutritional deficiency anemia, less than 40 percent

of the population has access to modern primary health care services beyond immunizations and family planning. Only 25 percent of pregnant women receive antenatal care, and only 14 percent of births are attended by someone with formal training. Although 97 percent of the population now obtains drinking water from a safe source, only 44 percent of the population uses a sanitary method of excreta disposal (BBS, 2000).

While the progress was satisfactory with respect to reduction in fertility and child mortality, progress was inadequate with respect to maternal mortality and morbidity. Other issues of concern are overall poor utilization of government services, as well as the cost-effectiveness, sustainability, and quality of services. **Available information suggests that government's limited ability to adequately finance the health sector, is one of the most important problems for poor health care services in Bangladesh (World Bank, 2001).**

Health insurance is one of the means of paying for health care and of ensuring access to services by providing a mechanism for sharing the risk of incurring medical expenditures among different individuals. This definition implies two things: (1) there must be a financial cost tied to the use of health services, and (2) people are able and willing to use the insured health services when they perceive themselves to be sick. The latter point reflects the importance of physical access to services of acceptable quality. To be effectively insured, therefore, implies both financial protection and access to desirable services.

The fundamental rationale for insurance is that of risk sharing: by its very nature health care expenditure is often unexpected and potentially large. However, what can not be predicted for the individual is statistically predictable for an adequately large group (Mills, 1985). Under an insurance scheme a premium is paid for each individual, in return the costs of care for that individual are covered should they fall ill. Many developing countries have already been implemented health insurance schemes.

implement effectively coverage for the entire population. This coverage is financed through either general tax revenues (e.g., Canada, Finland, Great Britain, Sweden) or mandatory earmarked contributions (from employers, employees, and sometimes government) to a health insurance coverage is not universal. These countries tend to have a mix of *schemes* of insurance, including some for which government mandates coverage of a defined segment of the population, and others for which participation is voluntary (e.g., China, Indonesia, Kenya, Thailand, United States).

In order to assess the appropriateness of any policy tool, including health insurance, for achieving health policy objectives, one must first define these policy objectives explicitly and identify the main obstacles to achieving them. While the relative weight given to the different objectives of health policy varies from country to country, these objectives are fairly general and may be defined as improving equity, efficiency, acceptability quality, sustainability, and health status. In this study, only equity and efficiency are described in detail. The other objectives are considered, where relevant, as elements of these two broad policy goals.

Equity in the sector has several dimensions (Wagstaff and Van Doorslaer 1993). Equity in the *finance* of care implies that payment for health care is related to an individual's level of income, irrespective of his or her medical need. Equity in the *receipt of care* implies that access to and use of services of an acceptable level of quality is based on medical need, irrespective of an individual's ability to pay. Assuming that health care improves health, this second dimension should be closely relative to a third, which is equity in *health status*. Equity in health status implies a pattern of health and disease in society that is not related to the distribution of income and wealth. Although analysis of equity issues usually involves comparisons across income groups, other aspects of possible inequities (e.g., differences in the receipt of care relative to need by gender, age, ethnicity, etc.) should be considered as well.

Efficiency is also multidimensional. *Allocative efficiency* within the health sector refers to the extent to which sectoral resources are distributed to their most cost-effective uses. Allocative efficiency is also a relevant concept for assessing the size of

the health sector in the national economy. Thus, policies can affect allocative efficiency by causing shifts in the distribution of resources within the health sector or between the health sector and the rest of the economy (issues of financial sustainability arise in this context). *Technical efficiency* is a narrower concept. It refers to the management and use of resources that have already been allocated within the sector. Analyses of technical efficiency try to determine if services are produced at lowest cost possible for a given allocation of resources and thus often focus on the extent to which poor management practices or inappropriate incentives generate waste. A third dimension that is related to technical efficiency is *administrative efficiency*. This is concerned with the costs of managing the health system (WHO 1993). Ability to administer the health system efficiently is also an important element of institutional sustainability.

Equity is clearly related to the level of coverage achieved in health insurance schemes. As persons of lower income are brought into the insurance system, an important barrier to access is reduced for persons who need it most. Thus, insurance can be a powerful mechanism for improving equity in the receipt of care *within* the covered population (Griffin and Shaw 1995). Based on the experience of industrialized and developing countries that have been able to achieve universal coverage with health insurance, a number of conditions for the expansion of coverage and improvement in equity can be identified. The conditions are:

- National policy should make universal coverage mandatory and establish a clear plan for moving in this direction. This requires that government have administrative systems capable of organizing persons in the non-formal sector of the economy, identifying persons for whom insurance premiums will have to be subsidized and targeting subsidies to these individuals.

- There must be growth in levels of income and the percentage of the population employed in the formal sector of the economy.

- The national banking system must be efficient, and there must be a high level of administrative capacity to facilitate the flow of funds and information. There is a need for general skills broadly in the population, such as literacy and numeracy, as well as specific skills and systems related to the business and management of insurance (e.g., negotiation, data analysis, auditing, accounting etc.).
- Because the expansion of insurance schemes involves the pooling of an increasingly greater level of funds, a high degree of integrity and probity in corporate and public affairs is needed.
- Countries, which have achieved universal coverage also, appear to have a history and culture conducive to social solidarity. As with integrity, this is difficult to measure but is essential for insurance to be expanded successfully on a large scale.
- Patience and commitment to making the insurance scheme as extensive as possible are essential, especially because the initial groups to be covered will be a powerful force for the consolidation and expansion of *their* benefits, rather than for an expansion of the scheme in general.

In most countries that have achieved universal coverage (e.g., Germany, Japan, Czech Republic, Costa Rica), the transition from partial to full coverage of the population took between 40 and 100 years. The fastest country to make this transition has been South Korea, which did so in 12 years. This occurred in the context of a clear government commitment to universal coverage, a strong local government system able to implement regular means tests to identify those in need of subsidies, and a real per capita GDP growth rate that averaged more than 10 percent per year during this period (WHO 1995).

There is abundant evidence from countries around the world (e.g., China, the Czech Republic, South Africa, South Korea, the United States) that fee-for-service reimbursement of providers by insurers causes rapidly rising costs because of the incentives generated to produce excess services. Because patients depend on providers

for information as to their treatment needs, and because fee-for-service payment creates an incentive to increase the volume of services in order to increase provider income, this payment mechanism has been shown to lead providers to "induce" demand for referral services. While many recommendations for policy with respect to health insurance are contingent upon a number of factors, one that is unequivocal is that unregulated fee-for-service reimbursement should be avoided (Barnum, Kutzin, and Saxenian 1995; WHO 1995). Other forms of provider payment, such as capitation, can be defined by government for social insurance schemes. Where private insurance exists, governments should encourage insurers to use alternatives to fee-for-service, perhaps through tax incentives that limit the deductibility of premium payments for insurance using fee-for-service, while maintaining deductibility for insurance that uses other methods of paying providers.

The risk of inefficiency from fee-for-service systems can be limited, to some extent, by prospective and retrospective controls on the volume of care, but implementing these effectively requires substantial administrative capacity and a highly developed information infrastructure. Case-based retrospective reimbursement, such as hospital payment for diagnosis-related groups (DRGs), is (from a technical perspective) an improvement over fee-for-service because it pays for outputs rather than inputs, but such payment methods require sophisticated and expensive systems to monitor providers and update payment rates. Therefore, they are probably not feasible in poor countries (Kutzin 1995).

An important function that is essential for cost containment is that of a *gatekeeper* who controls access to more expensive referral services. This function is an important element of the health systems in many industrialized countries, such as Denmark, Finland, Ireland, New Zealand, Portugal, Sweden, and the United Kingdom. Thus, it is used in many countries that have effective national health systems or social insurance systems. In these countries, the gatekeeper function is usually played by a general practitioner with whom the covered person is affiliated. In many other countries, gatekeepers are a feature of private insurance schemes. They exist, for example, in private health maintenance organizations (HMOs) that are found in Chile, the

Philippines, South Africa, the USA, and elsewhere. The power of the gatekeeper function is strengthened in systems, such as in HMOs and the "GP fund holding" arrangement in the United Kingdom, where gatekeepers bear some measure of financial risk for their clinical decisions (Kutzin 1995).

Another way that insurance costs can be reduced is to limit the benefits covered by these schemes to high cost, but low frequency health events. These events are often referred to as "catastrophic", and catastrophic insurance coverage protects individuals against these costs. If the insurance pool is large enough, catastrophic coverage can be inexpensive because the risks are spread over a large number of people. This approach can be effective for financing referral (mostly inpatient) care for the insured population (Griffin and Shaw 1995). Although it might not seem appropriate to leave primary care uncovered, it is quite likely that formal sector employees can and will pay for their ambulatory care out of pocket. Nevertheless, there may be some problems with this approach. Unless effective administrative procedures, such as gate keeping, mandatory second opinions or the insurance fund's approval (certification) of admissions are in place, this type of insurance might cause overuse of hospitals and a greater concentration of resources at this level. The reason is that insured persons will have a strong incentive to ask their providers to treat them in a way that insured persons will have a strong incentive to ask their providers to treat them in a way that minimizes their out-of-pocket costs. Alternatively, it might prove very difficult politically to limit the benefits to catastrophic coverage. Experience from several countries (the Czech Republic and Thailand, for example) suggests that the formal sector and civil servants will fight to expand their benefits in such programs, and their demands can prove difficult for governments to resist. Indeed, expansion of benefits may be more likely than expansion of the population being covered (WHO 1995).

JUSTIFICATION OF THE STUDY

Bangladesh is faced with an array of health care financing problems that leave its health systems far from achieving the objectives of good health status, equity, efficiency, acceptability, and sustainability. The principal problem is simply a shortage of government budgetary resources for health cares relative to an increasing demand and need for care. In a macroeconomic climate that has been characterized by slow to or no growth in national income or government budgets. One manifestation of the budgetary shortfall is deterioration in the quality and effectiveness of publicly provided health services. As a result, an increasing share of the burden of financing health services has been shifted to private individuals and households.

In addition, the decline in the quality of government health services mentioned above has meant that individuals and households have had to increase their health spending in order to get services of reasonable quality. Purchasing privately provided services or by paying for inputs and other 'informal' charges in government health facilities can do this. Thus, through explicit policies and declining public resource allocations, populations are faced with higher costs of accessing quality health services at the time that they are needed. Given the evidence that indicates that fees pose a greater obstacle to utilization for lower income persons the growing reliance on private providers and formal and informal fees in the public sector has undoubtedly exacerbated problems of inequity in the receipt of health care services.

In addition to an absolute shortage of resources going into the health sector, patterns of spending cause or reflect an inequitable and inefficient allocation of inputs and services. The clearest example of this is the concentration of government resources in large urban hospitals. On average, persons living in urban areas have higher incomes than those in rural areas, yet the urban bias in government health spending means that the costs of gaining access to good quality care are highest for the most remote (and usually poorest) groups of the population.

Evidence from several countries (e.g., Kenya, Tanzania (reported in Griffin and Shaw 1995), and Indonesia (MOH Indonesia 1995) indicates that non-poor persons tend to

consume more publicly financed hospital care per capita than do poor persons, implying that they receive a disproportionate share of government subsidies. This pattern of government resource allocation may also be inefficient because the most cost-effective clinical interventions that health systems can provide are those which are most appropriately delivered in a health center or other non-hospital setting.

High levels of waste and other forms of technical inefficiency also plague health systems in Bangladesh. These problems are a threat to any gains that might be achieved through reforms that improve potential cost-effectiveness and equity by reallocating resources (World Bank 1994).

Expanding the role of insurance in health systems provides a potentially useful tool for policy makers to address the problems just described to some extent. The need to mobilize additional non-governmental sources of funds is the main impetus for a focus on developing or expanding health insurance schemes as a policy option. But insurance can also be a means to expand access to care (by reducing financial barriers to access at the time of illness) and to change the *pattern* of spending hopefully in a way that improves the efficiency of resource allocation and use.

Indeed, in many industrialized countries and some middle-income countries, the principal motivation for reforms of health insurance systems are not to mobilize additional resources but to control the rapid growth in government (and private) health spending. In these countries, the focus has been on changing incentives within health financing schemes (usually through changes in methods of paying service providers) to slow down the growth rate of expenditure. Another objective has been improving technical efficiency and consumer satisfaction through the introduction of structured (managed) competitive mechanisms into the health sector.

Important objectives of health insurance for providers are to raise their income levels and to increase their access to new technologies, which could enable them to improve quality of care. For the initial group of insured persons, an important objective is to

consolidate and expand *their* benefits, including greater choice and shorter waiting times, while trying to minimize the amount that they have to contribute to the scheme. Employers may be interested in providing good health benefits for their workers, but they also wish to keep their premium contributions as low as possible so that their overall costs of production are minimized. In this respect, they may be important strategic allies of government health policy makers. Understanding the interests of key stakeholders is essential if government is to have a chance of successfully achieving its aims.

Bangladesh, as many developing countries, is currently undergoing reforms in its health care system and experimenting with various mechanisms to recover some part of its costs, such as charging user fees, introducing drugs revolving fund and prepayment/insurance schemes, etc. All these reforms are a reflection of critical concern-the financial sustainability for the health and family planning programs. Available literature suggests for two principal options for generating additional fund for health care: direct payment or user charges and insurance system

User charges however, are often found to be regressive and are not acceptable. Stanton and Clemens (1989) in their study on the impact on user charges in Bangladesh opined that the imposition of user charges were serious deterrent to proper health seeking behaviour and would impede access of the most of the needy to medical care. Apart from such social considerations, political considerations are also serious obstacles to the introduction of user fees. **In contrast, existing literature suggests that the some insurance systems developed by NGOs have achieved some success in certain areas in Bangladesh (Desmet et. al. 1999; Ensor, 2000; Bennett et. al.1998; Islam, 1999). However, what is lacking in the existing literature is that of comprehensive and systematic evaluative studies on the practice and performance of the health insurance schemes of the NGOs. The present study is an attempt to fill this gap.**

OBJECTIVES OF THE STUDY

The specific objectives of the study are:

(1) To examine the current practice of health insurance schemes of NGOs in Bangladesh;

(2) To assess the performance of two selected insurance schemes of the NGOs;

(3) To evaluate the future potential of health insurance program in the context of Bangladesh.

ORGANIZATION OF THE STUDY

The study is consisted of nine chapters. Following from the introductory chapter, Chapter two discusses the historical route and concepts of health insurance. Chapter three reviews the health insurance schemes with special reference to developing countries. Chapter four discusses the health facilities and health status of the population of Bangladesh. Chapter five discusses the public-sector health care financing system in Bangladesh. Chapter six documents the performance of the two-selected health insurance programs of Bangladesh. Chapter seven presents a model for health insurance market and estimates the results. Chapter eight assesses the potentialities of introducing health insurance program in Bangladesh. Chapter nine concludes the study.

CHAPTER-II

Health Insurance: Historical Route and Concepts

Many developing countries including Bangladesh are currently considering the possibility of introducing health insurance schemes. One reason is to attract more resources to the health sector. A second reason is dissatisfaction with existing services in which staff motivation is poor, resources are not used to best advantage and patients are not treated with sufficient courtesy and respect.

This chapter describes the historical experience of the developed countries in introducing and steadily expanding the coverage of health insurance and describes the different forms which health insurance can take. The aim is to bring the advantages and disadvantages of different approaches from this experience

Historically, health insurance was developed to solve the problem of access to an income to replace earnings when sick, and generally later to secure the provision of an acceptable standard of health care (Abel-Smith 1992). Those originally covered from the early nineteenth century were the more skilled workers and not too poor farmers (Abel-Smith 1989). These groups had too low an income to be able to afford to pay private health professionals for their services when they became ill, and could not afford to use hospitals (public or private) which charged their patients. Often the only alternative services available were of low quality and designated for the poor.

The essence of health insurance was weekly or monthly payment by the insured when well in order to have the right to services when sick, from acceptable providers at specially negotiated low prices which the insurer could achieve by being a bulk buyer for its members. Together, these provisions made the services affordable.

Germany started the compulsory health insurance in 1883 (Zollner et al. 1982). Compulsion had the advantage that the employer could be compelled to contribute. This enabled somewhat lower income groups to be brought into the scheme - particularly if contributions were related to earnings. It also enabled dependents to be

covered. Again risk-rating was avoided: contributions did not vary according to the number, if any, of dependents covered. Thus the ideology of social security developed: people paid according to the earner and the families were met - whatever the health risk and whatever the family sizes.

Many ways of securing the provision of services are in order. Some used what the International Labour Office classifies as the direct method. This pattern was particularly likely to be chosen where services were underdeveloped. Others used the indirect method - existing local providers were contracted. The final stage of development was services available to all. Britain set the precedent in Western Europe in 1948. Scandinavia and Japan followed in the 1960s (Powell and Anesaka 1990), Canada in the 1970s (Soderstrom 1978), Portugal, Spain, and South Korea in the 1980s, Taiwan in 1994.

Countries, which have achieved very high or complete health insurance coverage, have gone through a transition of a compulsory health insurance scheme, available to only that part of the population, which paid contributions, or shared payment with their employers. Usually those not covered included the unemployed, the elderly and the disabled. Some countries covered the elderly as dependents of insured persons. Others built rights to health care on to cash benefits, given as part of their social security schemes.

We can identify three important points this stage of development:

1. Countries generally retained their previous arrangements for the provision of services. The United Kingdom was exceptional in choosing this moment to put nearly all its hospitals under central government ownership.

2. Most countries retained health insurance contributions as one of the sources of finance for the universal services. An exception to this pattern is Denmark, and a partial exception is the Netherlands, where social security contributions are collected as part of the income tax, but still separately labeled.

3. Where the system of universal health provision was called a National Health Service, national health insurance or national health system was simply a question of political choice.

In countries such as Japan, Korea, and Canada where the use of the term 'a National Health Service' might sound socialistic, and was retained in Taiwan for the same reason. The term 'a National Health Service' was preferred by some left-of-centre governments and by the right-wing government of Italy when it depended on the left to keep it in power. The Scandinavians have been much more relaxed about nomenclature. They see no more advantage in talking about a National Health Service than of a national education service. Both are seen largely as the routine functions of local government, like providing fire services.

Countries, which have not developed universal services, have chosen not to do so or a number of reasons, which need to be appreciated. The attempt failed in the Netherlands in the 1970s because of opposition from the trade unions. They realized that their members would have to pay more for their health services if everyone was covered on the same basis. No longer would providers give their members favorable terms if they could no longer make high charges to the higher-income groups who were covered by voluntary insurance. This opposition looks set to be overcome when the new reform is put into effect (Hurst 1991).

A similar consideration operates to some extent in Germany, but there is also the fact that many of the high-income groups with low health risks who are excluded from health insurance can buy the private health insurance they want cheaper than if they were forced to pay a contribution related to their earnings. There is also a problem when there are many different funds. None of them may want to take in uninsured people, some of them may want to take in uninsured people, some of whom it is feared, will include high risk persons who are currently a burden to social assistance services and not to sickness funds (Abel Smith, 1992).

However, the countries of Western Europe are agreed that the provision of health services cannot simply be left to the private market. If it were, health care would become very costly and there would still be unacceptable gaps in insurance coverage.

One way in which national health insurance might be achieved is by requiring everyone to insure with a private insurer for a defined package of services. Subsidies might be available for the poor up to a level of 100% for the poorest. The result would be far from equitable. First it would be administratively difficult to find all the poor for subsidy. Secondly, those non-poor persons identified as bad health risks would have to pay much more than those with good health. The premium would also vary according to age, sex and the size of the family. Ability to pay would come into the picture only to the extent that there were subsidies available to the poor. There would be very high administrative costs as the competing insurers attempted to attract and service individual clients. Government would also need inspectors to ensure that the law was being obeyed. Presumably because of all these disadvantages for equity and cost containment, no country uses this model for national health insurance. But some of the disadvantages of private health insurance are apparent from the experience of the United States, which has the most costly system of health care in the world (Abel Smith, 1992).

A variant would be to require employers to take out defined insurance for their employers and their dependents and to require individuals not in employment to buy their own policy again with subsidies for the poor. This could lead employers to seek to hire single persons and to sack them on marriage or the birth of a child. The premiums paid by employers of clerical staff (such as banks or insurance companies) would be much lower than those in hazardous industries.

The cost of individual premiums would be much higher because of the extra administrative cost and once again these premiums would be related to health risk, age, sex and family size. Again, presumably because of these disadvantages, no country uses this system for national health insurance, though certain better paid groups may be given the option to choose a private insurer.

Two factors dominated in the early stage. One was to avoid 'family size rating' and second was to 'health risk-rating' when compulsory health insurance was introduced in Europe. Standard charges were generally introduced for employees and employers and were usually a proportion of earnings, to reflect ability to pay and to avoid hitting hard at employers of low paid labour. This meant that there had to be special arrangements

for cross-subsidy, or a statutory monopoly insurer to even out risks. The latter option had the additional advantage that administrative costs could be kept low as the costs of sales promotion were saved.

The consensus of Western Europe

Linguistic distinctions between health insurance and national health services and political rhetoric can easily conceal the underlying convergence of principle in Western Europe on the following vital principles:

1. Nobody is denied any important health care because of inability to pay. Dentistry, other than emergency dentistry, and optical care are often regarded as less important services, at least for adults, which people can save up to buy (Abel-Smith 1992). How much to cover is a political decision.

2. With the possible exception of higher income groups, health insurance is prevented from developing risk rating, either according to individual health risks, either according to individual health risks, or according to the number of an insured person's dependents. Health insurance deliberately avoids applying strict actuarial principles. National health insurance is very different from private health insurance.

3. Again with the possible exceptions of the higher incomes groups, health services for the compulsorily insured are not left to the functioning of the unregulated free market because three vital elements for the functioning of such a market are missing. The first is informed consumers, who know precisely what they want to buy. Secondly, the need for health care cannot be known in advance and, when it comes, it can be very expensive indeed. The third is the lack of separation between the functions of authorizing purchase and supplying it. Doctors and dentists do both (Barr 1987). For these reasons:

* Health services are prepaid by some mix of taxes and health insurance contributions (which may be voluntary for the higher income groups in some countries).

* Governments intervene in a whole variety of ways to try and secure value for money. Health systems differ according to whether the emphasis is on control through ownership and salaried employment or on regulation of price, payment system and / or supply. They also differ according to the bodies who do the controlling and regulating - central government, local government or the insurers who pay the bills. Often a complex mix of regulators and controllers has emerged according to the political traditions, historical experience and power groups within each country. And it is because of these differences that *a system which works well in one country cannot simply be transferred to another and produce the same good results.* Each country must make its own choice, taking into account the likely behaviour of the different actors (Abel Smith, 1992).

Meaning of Health Insurance

Health insurance has two aspects. First, it is a way of raising all or part of the money to pay for health care. Second, it is a way of securing the provision of services. Each aspect is discussed below:

Financing services

To raise money, health insurance contributions have a number of advantages:

1. The contributions are administratively easy to collect - at least from those with employers. Indeed the employer is induced to act as a 'tax' collector, deducting the employees' contribution from the pay of each employee, as well as paying over his own share. The calculation of the sum due is relatively simple compared with income tax.

2. The contribution is more willingly paid than a tax, as the employee is aware that he or she gains a personal and identifiable benefit from paying - the right to such health care as defined in the regulations. But the employee will only pay willingly for what is seen as a good service. If costs go up or the range of benefits is widened, an increase in the contributions due can be readily explained and is normally accepted with little complaint.

3. An earnings-related contribution paid for a benefit whose value does not vary to this extent between income groups is redistributive from the better off to the poorer.

4. Contribution income is predictable in the short-run, varying with the level of unemployment, inflation and economic growth.

Employers often argue that their contribution adds to labour costs and is thus damaging to employment, raising prices and damaging exports. But it is much more likely that the employers' contribution ultimately affects the employee, by limiting pay rises.

Many ways one can explain the use of insurance contributions for financing services if they are available to all, even though not everyone pays the contributions. Costa Rica uses the term 'insured by the state' to justify the fact to other contributors that the same rights to health care are being given to people who are poor (Abel-Smith 1989). The dilemma is political. Countries want to retain contributions as a source of revenue, which in the case of the employed worker is simple to collect and not easily evaded. But the more people have been taught that this particular 'tax' buys them the right to health care, the more difficult it is to explain why the same rights to health care should be given out of taxation to people who have not paid for it. How health care for the uninsured urban population should be paid for became a very hot political issue in South Korea, early in 1989. Countries that have long had compulsory health insurance do in practice manage to retain contributions levied only on those at work when they make the transition to universal health care. For these reasons, many countries use both taxation and contributions to finance services, but keep them closely coordinated. Multiple sources of finance, which are not closely coordinated, can lead to waste.

Securing the provision of services

Health insurance has a wide variety of options for securing services. There is no need to use the direct method if some alternative is though to produce better results. The

insurer can make contracts only with those providers who give a quality service at a favorable price. If desired, each insured person can be given a choice of provider, thus generating competition for the insured person's custom. Competition in health care as elsewhere makes those competing keen to satisfy the consumer that they are providing a good, courteous and readily available service.

These advantages could of course be obtained by a tax-financed service, but in practice they usually are not. Conventionally, ministries of health choose the direct method of providing services. They own the health facilities and recruit salaried health professionals to work in them.

Types of Health Insurance Fund

The organizational pattern of insurance funds differs according to their historical evolution and political culture. The possibilities include the following:

1. Some countries have one insurance fund covering all the insured, though powers may be delegated to local areas. This simplifies administration when people change employer or place of residence.

2. An alternative is to have a series of local funds to bring control nearer to the consumer. Cross-subsidies may be needed between richer and poorer areas.

3. A third pattern, found in such countries as Germany, Japan and South Korea, is a system of insurance largely based on industry, which was the way in which health insurance developed in those countries. Under the law all funds have to provide certain defined benefits: some other benefits may be optional. Within the regulations, employers and employees can jointly control their own schemes. The trend over the years however, has been to amalgamate insurance funds to prevent any of them being too small to achieve economies of scale. Decentralization to a number of separate funds gives the advantage that unions can negotiate for extra benefits beyond those, which the law requires. Additionally, joint control between workers and managers may help to secure more harmonious working relationships, but it does not necessarily lead to

much competition between funds. Nor does it lead to tight control over costs. Indeed, insurers have nearly always found it necessary to negotiate prices and contracts with providers through a federal organization. It has, moreover, been found that control over price, but not quantity, is far from giving control over total costs.

4. A fourth possibility is to have competition between funds for members, with a central body collecting the contributions and distributing them among the chosen insurers according to the risks of their members, as recently planned for the Netherlands (Hurst 1991).

Types of Health Insurance System

Comprehensive typology of systems of organizing national health insurance is not possible to make, as most are complex mixes of different types of provision. At one extreme are the direct systems, with salaried professionals with, usually, their own hospitals and health centers. This model is to be found in several Eastern European countries (Kaser 1976), though many are currently planning to change it (Cichon 1991); in Greece; Portugal; Spain and many countries of Latin America. At the other extreme are countries using the indirect method, where health insurance funds contract all services paying private doctors on a fee-for-service basis. This is the pattern in Belgium, Canada, France, Japan, Luxembourg and Germany. It does not follow that the insurers are left alone to get on with the job. Central government plays a very active regulatory role, and is constantly intervening with new measures in an attempt to contain costs and secure value for money (Abel Smith, 1992).

In Denmark, the Netherlands, Italy and the United Kingdom, general practitioners generally work in their own offices and are paid on a capitation basis or some variant of it. Local government in Denmark owns the hospitals used, mainly by central government in the UK and by a mix of public and private agencies in the other two countries. Sweden has local government hospitals and the option of primary care from

free local government health centers, with salaried doctors or private fee-for-service paid doctors where the patient has to part of the fee.

Another way of delineating systems of national health insurance is to show 'who has the power to decide what' within each system. Who decides the number of insurance funds? How are the members of each fund selected? Who chooses the providers, the prices and the scope of the packages of care? Some may take of these decisions, some by the funds, some by the providers or by the insured persons themselves.
It should be recognized that health insurance changes the behaviour of patients, doctors and hospitals. Thus the terms on which providers are contracted (if they are not under direct control as salaried employees), are critical issues which need to be carefully designed from the start, if the cost-escalating experience which has overwhelmed so many health systems is to be avoided.

Methods of securing the provisions

Reimbursement without negotiated rates

Under this system, providers fix their own charges and the patient is fully reimbursed, reimbursed a proportion of the charges or reimbursed on a standard scale laid down by the insurer. The larger the reimbursement, the more providers are encouraged to raise their charges and increase their services. This is the opposite of cost containment.

A more common system at least under private health insurance is for the insurer to reimburse at standard rates laid down in the policy. This also encourages providers to raise charges and increase services. This is what has happened over many years in the United States. For this reason, very few countries use this system under compulsory health insurance. It does, however, operate under the 'Medicare' scheme for hospital insurance in the Philippines. When the scheme began in 1972, it was reimbursing 70 - 100% of hospital costs. Owing to higher prices and the inclusion to dependents, by 1982 the proportion of costs covered had fallen to 48% for primary care hospitals, 30% for secondary hospitals and 15 - 18% for tertiary hospitals. Moreover, the admission rate rose from 3% per year to around 6.5% per year, partly because care outside hospitals was not covered (Patag 1983).

Where reimbursement is used, the compulsory insurance scheme normally negotiates charges with associations representing providers and expects them all to observe them. There is often a continuing conflict with those providers who refuse to observe the contract negotiated by their association. This has been the experience of France over many years (Saint-Jours et al. 1982). There was a similar conflict with doctors in Canada until finally a federal law was passed by which no reimbursement was given to the patient unless the doctor charged at the negotiated level. Naturally patients would avoid any doctor who placed himself or herself outside the scheme in this way. Because of these problems most compulsory health insurers themselves pay providers contracted rates, agreed in advance by negotiation. These rates cannot be exceeded. Any charges, which can be levied on patients or co-payments also, form part of the contract. Such contracts can take a variety of forms. Any system of reimbursement has the disadvantage that the patient has to find the money to pay for services before he can go and claim reimbursement. Poorer people may find this difficult and so hesitate to use the services.

Contractual payments to doctors

Salary - the direct method

The system works well in a country like Sweden with a very long tradition of salaried doctors. The high cost of the system appears to be due to a relatively slow pace of work. But the tradition of the dedicated and con-scientious salaried doctor is not easy to create and, in most other countries, direct provision is much less successful - at least in giving an acceptable primary care service.

This system is not also free from criticism. For example, in many Latin American countries, as in Central and Eastern Europe, doctors arrive late and leave early, patients complain of lack of courtesy and there is often low morale among the doctors. In some countries, patients are told which doctor they will see (they have no choice), there are long delays before treatment and doctors use the service to recruit the better-off patients for their licit or illicit private practice after working hours. Nor is the system always as cheap to operate as it could be - if doctors insist on seeing only three or four patients an hour and refer a third of them to specialists inside the health centre.

To add to this, there are problems of 'gratitude payments', 'the top drawer' or 'envelopes' from patients determined to obtain the best attention and resources in what is nominally a free service. Such practices disadvantage poorer patients who lack the resources to pay in these ways. Costa Rica is changing the system of payment for health centre doctors from salary to capitation, because of public dissatisfaction with the salaried service (Abel-Smith 1989).

A salaried service more often works successfully in hospitals. It is generally applied to all doctors, from the leading specialists and professors, down to the house men or interns. Thus it is considered successful in Germany, the UK, in the public hospitals of France and other countries of Europe and there are no plans to change it. In some cases the specialists can supplement their salaries by treating patients on a paying basis in special private wards or private hospitals.

The disadvantage of this is that a 'dual tract' system may develop as in the UK. Many of the higher income groups do not use the national health service for specialist and minor hospital services (although they still have to pay their share of the costs). They prefer to take out private insurance so that they can have private rooms, more choice of time of admission for non-emergency care, and the knowledge that the specialist they have chosen will be directly responsible for all their care rather than delegating some of it to junior doctors. It is notable that there is hardly a 'dual tract' in Denmark or Sweden.

Fee-for-service

This system is used in such countries as Canada, Australia, New Zealand, Japan, South Korea, Belgium, Germany and Norway. In several of these countries it was adopted because the doctors refused to participate in a scheme which paid them on any other basis. The advantage for the doctors is that it gives them the flexibility to increase income by providing further services. Payment is for work done. The disadvantage is the time needed to record and claim for each service and deal with queries raised by the insurer (Abel Smith, 1992).

The advantage of this system is that it can provide complete free choice of doctor, general practitioner or specialist, for each illness or even during the course of the same illness. In practice the system encourages patients to go direct to the specialist who may order more diagnostic tests than a general practitioner. If the doctor has access to a hospital, the same doctor in and out of hospital can treat the patient. The doctor has incentives to make the services attractive, prompt and courteous. There is, moreover, no incentive to under-provide. As a result, the insured person will find the premium high because of the high utilization it encourages.

The disadvantages of the system for the insurer are escalating costs due to growing utilization and the administrative cost of monitoring claims. Under negotiated standard fees, the only way doctors can augment their income is by providing more services, and this they are in a position to do. Even when there are only two fees, as in Ireland, for a home visit and for an office call, they can encourage repeat visits. When the fee schedule includes over 1000 medical acts as in Germany, or over 2000 as in South Korea, doctors can provide more technical procedures and order more diagnostic tests. Some procedures are bound to be particularly high earning for doctors for the time involved, and this will encourage their use. For example, diagnostic tests were identified as a problem in Belgium, until the relative payments for them were reduced. And where doctors have purchased a particular piece of medical equipment, there are strong financial incentives to use it so as to pay off the capital cost as soon as possible. This has been a special problem in (Western) Germany. Now costs are contained by fixing a budget for all technical services provided by all doctors under statutory health insurance. If the number of medical acts increases, the rate of payment for each goes down proportionately (Hurst 1991).

There is evidence that doctors paid on a fee-for-service basis tend to prescribe more drugs; this is one of the reasons Italy changed to a capitation system of payment for all general practitioners. If doctors do their own dispensing, as in Japan, making a profit on every drug (and particularly if they are paid extra for injections), there are major incentives to over-prescribe (Powell and Anesaki 1990).

Concerns about quality of care are also raised in a number of contexts. Where doctors are paid on a fee-for-service basis for surgery, there is the possibility of some of it being unnecessary. A much -quoted study from the United States showed that varying geographical rates of surgery seemed to be explained by the number of surgeons in each geographical area. Doctors may be tempted to undertake surgical procedures of which they do not have recent experience. Patients who can visit several doctors during the course of an illness and receive drugs from each may take them in a dangerous combination. (McPherson, 1981).

Capitation

Under this system doctors are paid a negotiated sum per month for each person who chooses to register with them for primary care, whether that person uses the service or not. Thus a patient can normally only visit that doctor until the insurer is notified of a change to another doctor. Access to specialists is restricted to cases referred by the general practitioner, except in emergency, and this helps to keep down costs. Under most systems, the doctor has responsibility for the listed patients 24 hours a day and 7 days a week, though a deputy can be appointed by the doctor for some nights and week-ends. The doctor is not allowed to see a listed patient on a private payment basis. Thus there is very substantial continuity of care.

This system has long been used in a pure or modified form in Denmark, the Netherlands, and the United Kingdom and more recently in Italy. It is currently being introduced in Finland, and Indonesia as well as Costa Rica. It is also used in some health maintenance organizations in the United States (Luft 1991).

The advantage for the patient, compared with using a salaried doctor in a health centre, is that they have their own personal doctor whom they have chosen (up to the limits imposed on doctors' list sizes). This doctor has continuous responsibility for the patient's care outside hospital. When the patient is sent to hospital, the general practitioner receives a report from the hospital with recommendations for the later care of the patient. The disadvantage is that the patient cannot go direct to a specialist,

and another doctor takes over their care if they are sent to hospital. The general practitioner may have poorly equipped and poorly furnished premises, as in a pure capitation system the doctor has to pay for the upkeep of his premises out of his capitation payments (Abel Smith, 1992).

The advantage for the doctors is that they are their own bosses and can run their practice in their own way. The only paper work, other than the maintenance of patients' medical records, is to report additions and departures from their list of patients. The only limitation on their clinical freedom is that the insurer may monitor their prescribing. If they are members of a partnership, this has been by choice and they have chosen with which partners to work and what supporting staff there will be, and what they will be paid. The disadvantage for the doctors is that they may achieve the maximum permitted list size in their early thirties and then, unlike other professionals, their income cannot increase except through the negotiation process which affects all doctors. Moreover doctors who want to combine general practice with hospital work will find it hard to do so (Abel Smith, 1990).

The advantage for the insurer is that the cost is predictable (though the cost of the doctors' prescriptions are not), if they are separately paid for. Moreover, capitation payment does create some incentive for doctors to be evenly spread in relation to the population. There is some incentive for doctors to adopt a preventive approach where they think it will save them time in the long run. Doctors and patients are likely to be reasonably content and there is a simple answer to a dissatisfied patient - which is to try another doctor. Administrative costs are low as all that is needed is to keep records of which doctor should be paid for which patients, and to operate a procedure for dealing with complaints, or to sanction doctors who break the crucial rule that doctors cannot see their own listed patients on a private, paying basis. There may be worries about doctors with poor premises or the overuse of deputies or excessive referral to specialists. But evidence from countries where it is used shows that the latter is not a major problem (Zollner, 1982).

Allocating a Fixed budget

Budgets can be given not only to hospitals owned by the service, but also to privately owned hospitals, as in Canada. While a budget gives a hospital manager incentives to use it most effectively in purchasing supplies and hiring staff, what it does not do is to give managers any incentive to encourage doctors to reduce lengths of stay to the minimum needed for effective treatment. If there are patients waiting to come in, shorter lengths of stay will lead to more admissions. As they early days of treatment are the more costly for the hospital, the shorter the length of stay, the larger the budget required. The incentive of the manager is above all else to keep expenditure within the budget allocated. Pressure can be put on managers by closing adjacent hospitals, but this may only result in longer waiting lists. The problem can be eased by supplementing the budget by a payment for each admission as in Massachusetts, or taking account of work done in the previous year in fixing the next year's budget. Moreover, much depends on how far clinicians are willing to play an active part in management (Saint-Jours, 1982).

Payment by itemized bill

Payment by itemized bill has the disadvantage of encouraging escalating costs on a scale even greater than payment of the doctor by fee-for-service. While the level of charges for each item can be negotiated, the doctor responsible item can be negotiated, the doctor responsible for the patient is in a position to order more and more tests and undertake more and more procedures. The temptation to behave in this way is likely to be greatest when the doctor owns the hospital. The insurer is in a weak position to question afterwards how much was really necessary.

Payment by a daily rate

Many countries in continental Europe have for many years paid hospitals on an inclusive daily basis covering all costs, even that of the doctors (Abel Smith 1990). While this gives the hospital an incentive to economize, it has the serious drawback that it encourages long stays because the later days of stay are less costly for the hospital. This can be countered by the insurer employing doctors or nurses to visit patients in hospital to review the possibility of early discharge. Or the insurer can state the number of days allowed according to diagnosis on admission: the hospital has to request permission for further days from the insurer.

Payment by diagnosis

An alternative method is to pay by diagnosis. The United States has developed a complex system of classifying diagnoses into some 480 groups, for each of which a lump sum is paid to the hospital for the whole period of stay. Several European countries have been working on systems, which might be used in their own countries. The system has the advantage of cost control, as payment is related to output and it removes the incentive for long stays. But the hospital can manipulate the system by discharging and readmitting the patient, choosing the more expensive diagnosis when a patient has, or may have, more than one condition - or transferring extra costs to care out of hospital, if this is separately paid for. While controls can be introduced to monitor readmission, the system depends crucially on the honesty of the hospital in reporting the diagnosis correctly. In some countries, the system would open up the field for corruption (Zollner, 1982).

Contractual Payment to the Pharmacist

It is generally the practice in Europe for private pharmacists to dispense prescriptions written by doctors working outside hospitals. The prices of the drugs sold to the pharmacist in bulk are regulated and the permitted mark-up of the pharmacist is negotiated. If this is a percentage of the cost, the pharmacist has an incentive to dispense the more expensive brands where he has discretion to do so. A flat rate dispensing fee does not have this effect. Nor does payment on a capitation basis, as is being tried out in the Netherlands. This, of course, means that the patient has to register with on pharmacy. Another way of encouraging the pharmacist, where he has a choice, to select a cheaper product, is used in Germany. The insurer fixes the maximum, which it will pay for each range of similar products. The pharmacist then knows that he will have to charge the patient any extra cost plus an extra penalty payment (Abel Smith, 1992).

The pharmacist sends his prescriptions each month to the insurer who prices them and pays the pharmacist. This enables the insurer to see that only those drugs permitted under the regulating are prescribed, and to keep computer records of the prescribing of each doctor and use them to inform that doctor of their prescribing pattern, and apply sanctions in cases of excessive prescribing.

CHAPTER-III

HEALTH INSURANCE: REVIEW OF SOME SELECTED SCHEMES

People in formal employment are generally more financially secure than average, and also more easily organized into health insurance schemes since their income is readily identified and can often be taxed at source. Indeed, the size of the formally employed sector, and its rate of expansion or contraction have been cited as important background factors in the success or demise of national health insurance schemes (Preker and Feachem, 1995; WHO, 1995).

An effective health insurance scheme for people outside employment sector may be a means of improving health care services. By allowing communities to contribute to health care, and spreading their contribution over time between sick people and healthy people, extra resources for health care can be mobilized. These can be used to improve quality of care and promote accessibility. In addition, the accountability generated through community participation may enhance efficiency and further improve quality. Ultimately, well-designed health insurance schemes may have a broad positive impact on the organization and delivery of health care (Gilson, 1994).

A plethora of initiatives have been taken in recent years, by governments and international agencies, and NGOs in particular, to extend protection against health care costs to those not in formal employment. Many of these schemes have been designed specifically to improve health care access for rural populations or for the growing number of urban people whose occupations fall outside the formal employment sector (WHO, 1998).

This chapter focuses upon analyzing the health insurance schemes operating in different countries to improve health care access for rural population. It aims to deepen understanding of the diversity of such schemes and to indicate which design features work best in which contexts.

LONG TRADITIONS OF RISK SHARING

The risk sharing schemes analyzed in this chapter represent only a fraction of risk sharing experience in protecting people outside the formal sector against the cost of unpredictable events including bereavement, disability and illness.

The lessons that can be drawn from the traditional risk sharing schemes are limited. But their history shows that people have organized and managed cash-based risk sharing mechanisms for high-expenditure ("catastrophic") events, often with quite complex contribution and benefit arrangements schedules. Membership is typically tightly limited, though. Indeed, "kinship" and "trust" feature in descriptions of these schemes, membership of which is usually by individual (rather than by household) and voluntary. Additionally, such schemes depend on a high degree of social homogeneity among participants and their trust in one another. As a result, the scope for such schemes to serve as a basis for national schemes is limited, unless they were to be supported as a set of initiatives in which other actors, government and non-government, were also to participate in a coordinated manner (WHO, 1998).

Traditional risk sharing schemes that did successfully evolve into national insurance systems can be found in Germany, Japan and Korea. In these countries, small schemes for people employed in the same craft, town or industry were gradually expanded to cover the whole population in line with the move towards full or high employment and industrialization of the economy. Concurrently, employment in agriculture fell sharply (albeit over different periods in the three countries), although agricultural productivity and earnings rates rose, enabling a larger proportion of agricultural workers to organize themselves into insurance schemes, or to buy into industrially-based insurance funds. In Korea, government subsidized such rural participation. In more recent years, a reverse trend has been identified in Central and Eastern Europe. In countries such as Kazakstan, Kyrgyzstan, Russia, Bulgaria and the Slovak Republic, a combination of falling total employment and shrinking tax revenue are hindering attempts to use employment-based coverage as a basis for national health insurance (Ensor, 1997).

People outside formal sector employment can be problematic for health planners because of frequent fluctuations in and the unpredictability of their income flow, and difficulties in assessing their income (WHO, 1998). Additionally, their income is often untaxed, making it difficult to collect premium payments at source. Making membership compulsory, which has substantial advantages in terms of the size of the risk pool and control of adverse selection, is also much harder in the case of non-formal sector workers. It must also be remembered that groups outside the formal sector differ significantly from each other. So in order to succeed health insurance schemes for the non-formal sector must take the particular conditions and circumstances of their target groups into account (Lipton, 1976).

Implementation conditions for risk pooling vary markedly between urban and rural populations. Industrialization, high and rising per capita income and population density -- typically urban characteristics -- all facilitate the growth of insurance (Ensor, 1997). Writing 20 years ago, Lipton (1976) assembled evidence to show that earnings and leisure -- in brief, welfare -- are both substantially higher in urban areas. In advancing his thesis of "urban bias" he also argued that the gap between urban and rural areas is most evident in health care:

"The townsman has nine times as good a prospect of medical attention as the villager in India, eleven times in Ghana, thirty-three times in Ethiopia. The poorer, the larger in area and the less densely populated a country is, the greater in general is this disparity"(pp 265-266).

Although access to health care services is better in urban than in rural areas, recent and rapid growth in the size of the urban informal sector is complicating the picture. In fact, in many developing countries, informal urban employment has been growing more quickly than formal urban employment. In Latin America, where comparable data exist, the informal sector now accounts for most urban employment, as shown in Table I (ILO, 1996).

Similar growth trends are reported for countries in South Asia and sub-Saharan Africa. Furthermore, workers in the urban informal sector can be extremely heterogeneous. Some self-employed workers may be relatively affluent whereas others have very low incomes and a vulnerable existence. In other words, establishing risk-sharing mechanisms can be as difficult for the urban informal sector as for the rural informal sector. That said, although heterogeneity and a lack of solidarity characterize many urban communities, this is not always the case -- some informal sector workers may be well organized, making it easier to establish and administer insurance schemes.

Despite recent rapid urban growth, however, the rural sector remains the dominant sector in developing countries as a whole. In 2001, 74% of South Asia's population, 69% of the population of East Asia and the Pacific, and 69% of the population of sub-Saharan Africa were rural (World Bank, 2001). In 1988, 69% of the rural population in least developed countries was estimated to fall below the poverty line (Jazairy, Alamgir & Panuccio, 1993). On the basis of UN projections, more than half of Africa's population will be rural until well into the third decade of the next century (UN, 2001).

Overwhelmingly, agricultural employment dominates in the rural sector, and much of this is seasonal, family or self-employment. Cash income is seasonal and also subject to significant fluctuations from year to year. In poorer countries, much of the rural population faces cash liquidity constraints for much of the year.

A Typology Based on Degree of Risk Sharing

Most of the schemes reviewed in this study can be classified into two categories: focused on providing cover for either high-cost, low frequency events, or low-cost, high frequency events (designated Type I and Type II schemes respectively). Schemes such as those in Chogoria, Kenya, Nkoranza, Ghana, Taiwan and Korea is clearly Type I schemes. Type II schemes includes the Dana Sehat scheme in Indonesia and the Lalitpur Medical Insurance Scheme in Nepal in Nepal.

A large number of Types II schemes also contained referral services in their benefit package. They are listed as "Type II + referral schemes. Several schemes covered both high-cost, low frequency events and low-cost, high frequency events, often without setting premiums on an actuarial basis.

Table 3.1: Two ends of the risk-sharing spectrum.

Type I Schemes	Type II Schemes
High-cost, low-frequency events	Low-cost, high-frequency events
Tend to be hospital-owned or based	Tend to be community-owned or based
Tend to set wide geographical boundary	Tend to be based at the village level
May use actuarial basis or variable costs for calculating premium	Premium set mainly according to ability to pay
May be committed to meeting certain designated costs	Committed only to raising extra revenue for services, some only concerned with availability of and payment for drugs.

It is interesting to see that, Type II schemes are not "proper" insurance schemes since they did not cover the risk of high financial (i.e. catastrophic) loss associated with hospitalization. Furthermore, Type II schemes were often implemented in situations where the cost of higher levels of care (if available) were borne by government.

In poor communities, though, where cash flows are unreliable, even the small co-payments necessary to access primary-level government services can represent a catastrophic cost. So in covering the costs of access to such services, type II schemes may indeed have had a real insurance element to them as far as beneficiaries are concerned. In particular, Type I and Type II schemes differed with respect to:

* Degree of social cohesiveness.
* Level of demand for insurance.
* Administrative complexity. (WHO, 1995)

Personal risk aversion was more likely to form the basis of demand for membership of Type I schemes than for membership of Type II schemes. Membership of Type II schemes appeared instead to relate more to a commitment to secure joint benefits for the community. Lack of a cohesive community was thus much less of an issue for

Type I schemes than for Type II schemes. Moreover, beneficiaries of Type I schemes tended to be distributed over a wide area, relatively heterogeneous and therefore less likely to experience strong feelings of solidarity. Some Type I schemes appeared (mistakenly) to emphasize community solidarity. For example, the evaluation report for the Nkoranza Community Financing Health Insurance Scheme in Ghana states:

"The concept of risk sharing in the community must be well explained for the people to understand that if you insure and do not benefit directly, your neighbor will benefit from your contribution" (Somkang et al., 1994).

Table 3.2: Regional distribution of schemes by type of insurance protection.

Scheme Type	Africa	South Asia	SE and E Asia	Lac	Total
Type I	8	2	8	0	18
Type II	20	5	7	2	34
Type II + Referral	3	9	14	4	30
Total :	31	16	29	6	82

Source: **WHO/ARA Paper Number 16, 1998**

Type I : basically hospital inpatient care.

Type II : basically primary care.

Type II : + Referral: primary care scheme with referral coverage.

Lac : Latin America and the Caribbean.

Generally, Type I scheme placed less emphasis on altruism and community development. This and the nature of the benefits they offered meant that the financial impacts of adverse selection affected such schemes more severely. On the other hand, moral hazard may have been more of an issue in Type II schemes that covered costs associated with treatment of relatively minor conditions and where decisions to utilize services were driven by the client (rather than the health care provider).

Effective demand for insurance in developing countries has been hotly debated. For Type I and Type II schemes, it appeared to have been influenced by very different

contextual factors. Many of the Type I schemes evolved in circumstances where user fees for hospital services were high, which meant that people were interested in purchasing insurance primarily for its risk sharing benefits. In contrast, demand for Type II schemes did not necessarily stem from desire for risk sharing. Instead, these schemes focused far more on improving the availability and quality of care, particularly through extending services to previously unserved communities. Improved access to pharmaceuticals seems to have been a common motivating factor in the development of may Type II schemes.

Much of the debate about risk sharing has also focused on the administrative feasibility of such schemes. Again, there was a critical difference between Type I and Type II schemes. Type I schemes that aim to cover certain variable costs may require actuarial estimates of premiums in addition to information on those costs, and are more difficult to manage than Type II schemes. Management structures for Type I scheme reflected this. They tended to be more complexes and their management problems more substantial. The availability of specialist management skills may be crucial to Type I schemes but are probably less of a constraint for narrowly defined Type II schemes. That said, if Type II schemes include access to referral facilities, then covering the costs of this service, contracting for higher level care and controlling the utilization of such services will call for significant management capacity (WHO, 1998)

Schemes can also be classified according to fund ownership and management. Fund ownership was important for several reasons. First, it often revealed a scheme's initial motivation and objectives. These varied substantially. Some facility-based schemes were primarily driven by the need to raise revenue, for example. Others sought to combine revenue raising with improved utilization of services. Thus hospital-based schemes may have paid little attention to meeting a population's needs for services at different levels (as in Chogoria, Kenya), focusing instead on the quality of those services that were provided (Mwabu, 1994). A second reason for typologizing schemes according to fund ownership was that fund ownership often determined the scheme's design details. Thirdly, ownership can be an important determinant of the

overall trust and confidence a population has in a scheme and the services it provides. Finally, ownership can significantly influence government's opportunities for complementing and supporting a scheme (Ensor, 1997).

The distribution of schemes according to ownership classification and region and illustrates the variety of fund ownership arrangements is shown in Table 3.3. It also draws attention to the substantial role of NGOs. NGOs are, of course, a mixed group, and include private sector agencies, religious missions, and both international and local charitable movements.

Table 3.3: Schemes by ownership of fund and region

Ownership	Africa	S Asia	SE & E Asia	Lac	Total
Health facility	8	1	4	0	13
Community	8	3	6	1	18
Cooperative & Mutual	4	1	2	2	9
NGO	6	8	6	2	22
Government	4	0	9	1	14
Joint Ownership	1	3	2	0	6
Total :	31	16	29	6	82

Source: **WHO/ARA Paper Number 16, 1998**

Community-owned schemes usually focused on primary-level benefits, especially drugs, but may also have included referral services, and often had a broad community development orientation. Examples include the Abota Health Insurance Scheme in Guinea Bissau, and Dana Sehat in Indonesia and Farmer's Health Insurance in Taiwan (Kaddar, 1997)

Cooperative schemes are often linked to the local labor market and based on individuals' place of work. Contributions to the health fund may be paid for from the sale of cooperatively produced goods. Examples here included the former cooperative medical system of China, the Tribhovandas Foundation in India and the Mutuelle de Yoffe in Senegal (Saltman, 1995).

NGO-owned schemes varied, reflecting the origin and purpose of the NGO in question. They included facility, community and cooperative schemes. The ORT Health Plus Scheme in the Philippines, the SSSS scheme run by a local NGO in West Bengal, the Bwamanda Hospital in the Democratic Republic of the Congo and Nkoranza Community Scheme in Ghana schemes were just some examples (Donaldson, 1982).

Government-owned schemes also varied. Some consisted of subsidies for the poor or non-formally employed paid directly into an existing fund for formal sector employees. Examples included the Rural Social Insurance Program in Ecuador and Bao Hiem Y Te in Viet Nam, and on a much smaller scale, the Tarlac Health Maintenance Program in the Philippines. Others began as cooperative or small employment-based schemes and came to form the basis of a national system, as in Korea. Some others, such as Thailand's Health Card and Bao Hiem Y Te in Vietnam were intended to provide much wider coverage within a national framework, but actually covered only a small minority of the eligible population (Ron and Carrin, 1996).

Ownership categories are not mutually exclusive: some health facilities were owned by NGOs or government, and the borderline between a community organization, a cooperative and an NGO was often unclear. In all but six schemes, ownership of the fund lay with a single party. In India, SEWA's fund was owned jointly by the SEWA (NGO) Bank and the United India Insurance Company. Clients were not satisfied with the service provided by the insurance company, however, and the NGO decided to run the scheme itself (Dave, 1991).

The schemes collectively known as Medicare II in the Philippines were owned tri-partly by local government, the Department of Health and the Philippines Medical Commission. Others scheme such as that of the Social Work and Research Centre in India and the Bajada Medical Cooperative in the Philippines were owned jointly by the community and an NGO. UMASIDA in Tanzania was owned jointly by its five constituent informal associations (Carrin and Verecke, 1992).

Only twelve of the schemes reviewed were found voluntary, i.e. people chose whether or not they wished to join the scheme, and if they preferred not to join could still access health care facilities (although they would normally incur a user fee in so doing).

Among the mandatory schemes, only a few, such as the scheme in Boboye District, Niger, Farmer's and Labour Insurance for the self-employed in Taiwan, and the NHI for the rural and self-employed in Korea made membership compulsory for all individuals within a defined catchment population (whether defined geographically, or by occupation or employment). The regulations of the other mandatory schemes were much weaker, simply requiring that anyone choosing to use a particular health facility join the scheme.

Mandatory schemes such as the scheme in Boboye, which ensured membership of the entire catchment population, had many advantages. They avoided adverse selection problems (thus guaranteeing substantial subsidy from the healthy to the sick), and problems relating to poor demand. Yet in most developing countries, weak tax collection systems make implementation of mandatory schemes very difficult (Diop, 1995).

An understanding of the context -- local, national, economic, political and social -- is fundamental to any analysis of the purpose and performance of a risk sharing scheme, and essential to identifying barriers to or opportunities for replicating that scheme elsewhere.

Risk sharing is often supported by economic growth. In East and South-East Asia, rapid expansion of health insurance in the non-formal sector has coincided with rapid economic growth. Thus the Korean class II rural schemes were initiated at a time a accelerating economic growth and urbanization, with the aim of extending health protection to rural dwellers under what was becoming an increasingly national insurance system. Extension of health insurance to those outside formal sector employment in Taiwan likewise occurred when the economy was booming (Su CI, 1995).

China's Cooperative Medical System (CMS) in particular demonstrates how closely entangled economic and political structures and health system organization may be (WHO, 1998). The CMS was developed during a time when communal agricultural production was seen as key to economic development. When the focus of macroeconomic policy shifted to the "socialist market" concept and centralization, and provincial government subsidies were cut and redirected, the CMS collapsed (Hsiao, 1995). Several efforts are now being made in China to reinstate certain aspects of the old CMS, such as the Rural Cooperative Medical Care System. However, given the considerable changes in cultural values and health staff attitudes that have occurred, this is proving to be less than straightforward.

Characteristics of the local culture and economy may favor or facilitate the creation of certain types of risk sharing mechanism. In Nepal and Guinea Bissau where the majority of beneficiaries were subsistence farmers, and in areas such as Urmal, India where a large number of farmers were organized in cooperatives. However, cooperative and mutual schemes were more likely to evolve if cash crops were produced and marketed through cooperatives, such as the Coffee Growers Association of Colombia and the milk marketing cooperatives in India (Vyas and Chatterjee, 1995).

Strong traditions of community initiative and management, or very cohesive communities, may also encourage the development of community-based insurance schemes. Some of the schemes reviewed did indeed operate with in small, close-knit communities, but others covered large districts with diverse communities. In Guinea Bissau, the small size of local villages and their cohesiveness due to opposition to colonial powers has been seen as contributing to the success of health insurance schemes (Chabot, Boal and Da Silva, 1991).

The configuration, quality and price of existing health service provision are particularly important contextual factors. If physical availability and the quality of existing health services, particularly government services, are inadequate, health insurance may be perceived as a means of improving or extending them. Additionally,

the price of existing health services may be an enabling or inhibiting factor with respect to be development of risk sharing.

User fees for government services, for instance, may be essential if the potential role of insurance is to be recognized or broad popular demand for insurance created (Bennett and Ngalande-Banda, 1994). In virtually all of the schemes examined, people had been accustomed to paying fees for health services before risk sharing was introduced, or had no real access to health care. This was the case with schemes in Nepal, Bangladesh, India and Senegal. Moreover, fee levels had often been prohibitively high for a large proportion of the population, particularly for facility-based health care. High fees discourage utilization, however, and can ultimately result in low revenue. (This scenario was sometimes the starting-point for considering the introduction of health insurance schemes). For example, in former Zaire, health zones were intended to be self-supporting and -- with the exception of funds received from external donors -- expected to recover full operating costs. Fees were accordingly high and revenue uncertain. Likewise in Africa generally, mission hospitals have been forced increasingly to set high fees since government subsidies and overseas support are no longer available (Gilson et al., 1994).

NGOs dominated schemes are generally independent of government. But schemes planned and implemented without coordination with government had sometimes experienced major problems. In India, for example, the Bengali scheme began to collapse when a government hospital was opened nearby. Similarly in Mexico, the NGO CIMIGEN failed to generate the necessary and anticipated demand for its services because a new government facility was opened close by. Other schemes were initiated with active participation by central or local government. They include the Tarlac Health Maintenance Program and Medicare II in the Philippines, Health Card in Thailand and Dana in Indonesia (Wibulpolprasert, 1991).

NGOs involved in broad community development activities initiated many schemes. Examples include the ORT Health Plus Scheme in the Philippines, the Pallisa Community Development Trust in Uganda, BRAC in Bangladesh, the Barpali Village Scheme in India, the Socio Economic Development Project in Irian Jaya (Indonesia)

and the Bwamanda Hospital scheme in the Democratic Republic of the Congo. By being linked to broad development activities, the health insurance component of a scheme may be more likely to achieve its aims. For instance, development activities often help raise the income level of local households, thereby increasing the amount of cash available to pay premiums.

In Bwamanda, a donor-funded rural development project had boosted the local economy, creating the conditions essential to the success of the health insurance scheme, with which it was also linked (Moens, 1990). In such circumstances, communities may be more willing to participate actively in health insurance schemes since they consider that their priority needs (for a stable income, for instance) are also being addressed. A health insurance scheme may also benefit in more subtle ways from its association with a pre-existing community development project or activity.

If a health insurance scheme is linked to the community development project with which they are already involved, many households may feel they should support the scheme's membership drive. This was the case with the ORT scheme: early registrants were predominantly members of the ORT Cooperative. Such a membership pattern is also advantageous because it is likely to include many healthy households, thereby reducing adverse selection problems (Ron and Kupferman, 1996).

Some development activities have incorporated health insurance to increase the participation of target populations, conversely. The Grameen Health Program in Bangladesh and the SEWA Integrated Social Security Scheme in India were initiated by banks specializing in micro-credit for poor families. Both organizations found that the main cause of loan default was illness of a borrower or family member of a borrower and thus developed a social insurance scheme that included health insurance. Banks and mutual also demonstrated some of the more innovative approaches to financing health insurance. For example, the SEWA scheme has developed special fixed deposit savings accounts, the interest on which can be used to cover the insurance premium.

Overview of Reviewed Schemes

This section provides a brief overview of the design of the schemes reviewed. The schemes examined were predominantly insurance rather than personal prepayment schemes and membership of all but twelve of the schemes was voluntary.

Membership and Coverage

Potential beneficiaries of schemes were defined both by geographic location (particularly catchment areas for hospital-based schemes, and village, ward or district of residence for community-owned schemes) and by nature of work (whether this be occupation, place of work, or how produce is sold). Four of the schemes reviewed, the Smokey Mountain Cooperative in the Philippines, SWHI in Thailand, and the Kasturba Hospital scheme and SEWA in India were targeted at "the poor" (Gupta, 1994).

Table 3.4: Membership Basis of Schemes

Type	Number
Family / household	40
Individual	15
Individual and family	7
Village or cooperative	3
Other / unknown	17

Forty of the schemes took the household as the unit of membership (Table3.4). Schemes that had initially allowed individuals to enroll of often rapidly faced problems of adverse selection and had switched to enrolment by household. In Nkoranza, Ghana, premiums were set individually but the whole household had to join the scheme. If a family had not enrolled all its members it was obliged to pay a double premium for each non-enrolled member. In Vietnam, households joining the country's health insurance scheme voluntarily were required to enroll at least two-thirds of their household (Ensor, 1995).

Conversely, in Taiwan, enrolment was per individual under both the Farmers Health insurance scheme and Labor insurance, since only workers and not their dependants could be enrolled. However, the Farmers scheme appears to have been compulsory (thereby reducing the risk of adverse selection) and the Labor insurance scheme probably attracted few self-employed (thereby minimizing the scale of risk of adverse selection).

Schemes can help prevent adverse selection by requiring that a minimum number or proportion of households in a village or members of cooperative joins. In the Kasturba Hospital scheme at least 75% of poor households in a village must join the scheme, otherwise it is withdrawn from that particular community. Under the Palmalmal Health Centre Scheme in Papua New Guinea, premiums have been set for a whole village. In the Kisiizi Hospital Plan in Uganda, the membership unit is the traditional Engozi (mutual benefit) society.

At least a quarter of the schemes reviewed had not set a fixed enrolment period and did not operate a prescribed waiting time that members must undergo before qualifying for insurance benefits. This may be less important for Type II schemes. But the lack of these conditions in Type I schemes, for which health services needs are more unpredictable and of higher financial impact, can lead to severe adverse selection problems since people are likely to enroll only when they are sick.

At the VHS hospital in Madras, India, for example, where enrolment was allowed throughout the year and a waiting period was not applied, less than a quarter of subscribers had renewed their membership. The remaining three-quarters had most probably joined only at the time of illness, eroding the insurance effect of the scheme (Dave and Berman, 1990).

A variety of enrolment and waiting period practices were used by other schemes to prevent adverse selection if it was potentially a major problem. The ORT scheme (Philippines), which allows group or individual membership, operates a waiting period of two months for individuals but only two weeks for group members.

Gonoshathya Kendra in Bangladesh imposes no waiting period for the use of clinic services, but a week for hospital care (Desmet, 1997).

The Raigarh Ambikapur Health Association in India has a general waiting period of two months before entitlement, while in the Philippines, some of the Medicare II schemes impose a three-month waiting period. Also in the Philippines, the Tarlac Health Maintenance Program imposes a one-month wait for members paying the full annual premium and three months for those paying in installments.

Coverage

Table 3.5 summarizes the proportion of the eligible population actually insured, based on the most information available.

Table 3.5: Coverage of Schemes

Name of Scheme	Country	% Pop. Covered	No. of Beneficiaries	Eligible Population
ASSABA	Guatemala	< 1%	40 HHs	Local population
CASP	Dem. Rep./Congo	< 1%	6700	Entire population
UMASIDA	Tanzania	< 1%	6000	Informal sector groups
Bokoro	Dem.Rep./Congo	4.5%	4000	-
Barpali	India	6%	-	Local population
St Alphonse	Dem.Rep./Congo	6.2%	620	Population in urban Matete
Chogoria	Kenya	1.8%	1700	Population in catchment area
Bao Hiem Y Te	Viet Nam	9%	130 000	Entire population
REMEF	Dem.Rep./Congo	10 - 14%	700 - 1000	Local community
ORT	Philippines	11%	2000	Local community
Dana Sehat	Indonesia	13%	-	Primarily rural population
Fed PHC Mother's club	Philippines	14%	12 000	Members of local clubs
Smokey Mountain	Philippines	14%	250 HHs	Families on Smokey Mtn
Tribhovandas	India	16 - 20%	800 000	Members of milk coop
SSC	Ecuador	17.5%	812 000	Small-scale farming HHS
KSSS	India	18%	34 000	-
Kongolo	Dem.Rep./Congo	19/3%	976	Pop. in catchment area

Name of Scheme	Country	% Pop. Covered	No. of Beneficiaries	Eligible Population
CIMIGEN	Mexico	20%	-	Preg. Women in catchment
CAM	Burundi	20 - 25%	1.2 million	Entire population
MFB de Yaounde	Cameroun	22%	455	People from 1 particular village in Yaounde
Nkoranza	Ghana	23%	22 890	Catchment population
Health card	Thailand	24.7%	1.2 million	Non-poor villagers
SWRC	India	25%	20 000	-
Masisi	Dem.Rep./Congo	26.8%	3530	Urban catchment pop.
GK	Bangladesh	27.5%	45 600	Poor in catchment area
BRAC	Bangladesh	30%	36 000	-
PHACOM	Madagascar	30%	42 700	Villagers
RCMS	China	31 - 100%	546 000	Rural pop. in 14 countries
Molodo	Mali	33%	532 HHs	Population of 17 villages
Ala/dowa	Nigeria	40%	-	Health centre catchment
SWHI	Thailand	45%	27 million	Low-income + elderly
National HI	Philippines	47%	600 000	Entire pop.
Gaubin	Papua New	50%	19 000	Health centre catchment
Lalitpur	Guinea	50%	7574 HHs	People in 6 villages
Grameen	Nepal	52%	107 250	Poor who bank at Grameen
Bwamanda	Bangladesh	66%	80 000	Health district population
Kasturba Hospital	Dem.Rep./Congo	74%	19 450	Hospital catchment pop.
Goalpara	India	86%	1250	-
Abota	India	90%	200 000	Entire rural pop.
Sichuan RHIE	Guinea Bissau	90+%	40 440	-
Boboye	China	90+%	250 000	District population
CMS	Niger	90+%	700 million	Entire rural pop.
Palmalmal	China	90+%	4440	Health centre catchment
NHI Class II + IV	Papua New Guinea	90+%	19.7 million	Self-employed + rural pop.

HH : Households.

Source: **WHO/ARA Report, 1998**

Only 12 of the 82 schemes found "mandatory" or "universal" membership within their area. But even within this group, effective membership -- dependent on people paying premiums -- was often low. At Boboye in Niger the whole population was included by means of a mandatory poll tax. But where "compulsory" membership meant paying the premium on attendance at the health centre, coverage levels tended to be much lower -- for instance, 33% at Molodo in Mali, and 25% for SSWRC in India. Schemes that became compulsory as employment levels rose, as in Japan, Korea and Taiwan, evidently had close to full coverage (Who, 1998).

With the exception of the schemes in China, coverage of the target population tended to be low for the non-compulsory schemes. Bwamanda Hospital in the Democratic Republic of the Congo, the Kasturba Hospital scheme and the Goalpara Cooperative Health Society in India, and the Abota Health Insurance Scheme in Guinea Bissau stand out as having strikingly high coverage in comparison to the other schemes.

Many of the community-owned schemes (such as ASSABA in Guatemala and Dana Sehat in Indonesia and even those that were relatively successful (such as Thailand's Health Card Scheme) failed to cover more than a quarter of the total target population, although coverage among certain communities was obviously much higher (Ron, 1997).

Examination of the histories of long - standing schemes shows that maintaining a given level of coverage requires continuous monitoring and adjustment of premium levels, co-payments and benefit packages, and a sustained information and sales policy. Marketing and information, education and communication strategies (IEC) to promote coverage varied immensely, depending partly on a scheme's catchment area.

The HEWSPECS project in the Philippines, established in 1987, spent 9% of its 1994 budget on marketing and in Nkoranza, Ghana, substantial efforts were devoted to marketing and IEC, with a series of district-wide meetings, campaigns and distribution of information sheets. In the Philippines, the ORT scheme ran a registration campaign. In Chogoria, Kenya, a major marketing campaign was held to launch the new-style scheme (McFarlane, 1996).

Financing: Premiums, Co-payments and Cost Recovery

Premiums of the schemes were generally flat rate and paid annually. Very few schemes used proceeds from cooperative sales to subsidize an insurance fund. Ten schemes operated some form of income-related premium. For instance, two hospital-based schemes in India (Kasturba Hospital and VHS) and one scheme in Bangladesh set premiums on a sliding scale according to income. The more sophisticated schemes in Japan and Taiwan generally set premiums as a percentage of earnings. In Korea, premiums were set according to a complex assessment of income and assets.

A number of families dropped out of the scheme since they had failed to keep up payments (Ron & Kupferman, 1996). During 1993-1994, the Nkoranza Community Financing Health Insurance Scheme in Ghana allowed families who could not afford to pay the premium all at once to pay in installments. In some instances, no attempt appeared to have been made to adjust the frequency of premium payment to local conditions. For example, the Dana Sehat scheme in Indonesia, which was a predominantly rural scheme, required monthly payment of premiums (Stinson, 1982).

Payments in kind were generally not accepted. The exceptions were some villages in Guinea Bissau, the Lalitpur Medical Insurance Scheme in Nepal, the Bolivian Caja, the Kasturba Hospital scheme in India and the Bangladesh Rural Advancement Committee in Bangladesh. Interestingly, very few among the poor agricultural communities in Nepal chose to pay in kind (Donaldson, 1982).

Only thirteen of the schemes had built-in exemption policies. Given the emphasis on serving the poor of many of the schemes this seems quite low. In Boboye, Niger the indigent could apply for special waivers (Diop, Yazbeck & Bitran, 1995) and under the Abota Scheme in Guinea Bissau, villagers could decide to allow the indigent access to drugs despite the fact that they had not paid their premium (Chabot, Boal & Da Silva, 1991).

Under the ORT scheme, project staff would try to seek supplementary funds to subsidize the premiums of poor families (Ron and Kupferman, 1996), while in Lalitpur district, Nepal, poor households could obtain a free health card upon production of the appropriate letter from a community leader (Donaldson, 1982). In many instances, those who could not afford the premiums payable under the scheme would simply pay user fees when using the service or not seek care.

Some South-East Asian countries have responded to the issue of how to provide coverage for the poor by creating a special-low income card or scheme for the poor, rather than integrating them into the main health insurance system. In Vietnam, a separate scheme was operated for very poor people under whom 100% of the premium was paid from the provincial government budget directly into the health fund.

In Korea, the poor were instead theoretically integrated into the system through subsidized premiums. The same practice was being followed locally by the Tarlac Program in the Philippines, households requiring subsidies were identified by local government. Such mechanisms are essential if universal coverage is to be achieved.

All of the schemes relied on funds other than those received from premiums. Table 3.6 shows what costs schemes attempted to cover from prepaid premium collection and cost-recovery rates where available. The schemes with highest cost recovery from prepayment were generally those concerned with the drugs cost component of health care (for example, the Mutuelle NSALASANI scheme in Congo-Brazzaville (Shaw and Ainsworth, 1994). The experience of other schemes seems to underscore the often-important contributory role of prepayment to revenue raising.

Table 3.6: Cost Recovery from Insurance Premiums under the Schemes

Country	Cost Recovery from Pre-payment Last Date Available
India	10% of recurrent expenditure
India	10 - 20% off community costs and 100% referral costs
India	15% of recurrent expenditure
Bolivia	18% of recurrent expenditure
Guinea Bissau	23% of recurrent expenditure
Philippines	30% of recurrent expenditure
Burundi	34% of outpatient drug costs
Bangladesh	12% of recurrent expenditure
Bangladesh	24.7% of recurrent expenditure
Bangladesh	50% of recurrent expenditure
Thailand	50.0%
Former Zaire	65-70% recurrent excl. personal allowances
Thailand	50 - 60%
Nepal	51% of recurrent expenditure
Uganda	72% of recurrent expenditure
India	88% of recurrent expenditure
Niger	89% of drug and management costs
India	96% of community health prog. costs
Philippines	100% of recurrent expenditure
Madagascar	100% of drug costs
Tanzania	100% of costs
Philippines	100% excluding professional salaries
Congo-Brazzaville	100%
Vietnam	130%

Source: **Same as table 3.5**

Table 3.6 suggests that a handful of schemes did achieve self-financing, but it is actually rather deceptive. For instance, under the Les Pharmacies Commentaries scheme in Madagascar, 100% of drug costs were apparently covered, but more usually, drug stocks lasted for three months of the year only. The scheme could therefore not be considered truly self-financing.

Under the Bao Hiem Y Te scheme in Vietnam substantial cross-subsidy occurred: from those in formal sector employment to those who were members of the scheme and without formal employment (Ron and Carrin, 1996). The UMASIDA scheme in Tanzania had however, been fully self-financing for two years. A number of scheme's characteristics may help explain this success. First, the scheme covered those working in the informal sector in Dar Es Salaam who did not have stable incomes but did have cash incomes. Second, adverse selection problems were minimized since entire groups of informal sector workers (such as all the hawkers working in a particular market) were enrolled. Third, the scheme developed quite strict gate keeping mechanisms: members had to obtain approval from the group chairperson before seeking care and care had to be sough from a defined list of providers.

The Bwamanda Hospital scheme in former Zaire again stood out as an exception, with a cost recovery ratio of approximately 65 - 70%. For most other schemes, the cost recovery ratios appeared to be much lower. For instance, approximately 35% of costs only were estimated to be recovered in Thailand. The Abota scheme in Guinea-Bissau is generally considered a success. Yet the scheme can really only be considered a modest success since the drugs stocked at the community level were very basic (just twelve essential drugs), and approximately 90% of the cost of essential drugs sold to health posts was donor-subsidized; (Eklund and Stavem, 1996).

The voluntary health services scheme in Madras charged premiums on a sliding scale, leading to very different cost recovery rates for different groups of patient. Predictably too, most (73.6%) of those joining the scheme had a low income and the scheme accounted for less than 10% of hospital patient revenues (Dave and Berman, 1990). In Taiwan and Korea, government paid a substantial proportion of the premium for non-

formal sector workers (70% and 50% respectively). Moreover, co-payment rates were very high, so ultimately only about 25% of the total charge of services were met from premiums paid by members.

Administration, Fund Management and Information Systems

Administration

Successful operation of a health insurance scheme requires efficient performance of several administrative functions, including premium collection, rate setting (for both premiums and rates of reimbursement and co-payment), marketing, fund management and possibly utilization review, and contracting with health care providers. The importance of these different functions varies according to the design of the scheme in question.

Considerable variation in the complexity of administrative and management structures was therefore observed among the schemes reviewed. Management structures were sometimes very simple. In Guineas Bissau, administrative simplicity was one of the prime reasons for implementing a prepayment as opposed to a user-fee system. A village leader simply visited each household once a year and requested payment of a fixed amount.

After an initial learning period, villagers managed the scheme well, although increasing economic pressures finally led to some misuse of funds, threatening the scheme's credibility. Elsewhere, very complex management structures were established. The Nkoranza scheme in Ghana drew heavily on unpaid committee members, such as the insurance management team, the insurance advisory board and the Diocesan health committee, in addition to running a small salaried management team. The scheme had six management levels.

Chogoria Hospital in Kenya and the SEWA Hospital in India contracted risk management out to a private for-profit insurance company. The hospitals retained only billing functions. However, Chogoria Hospital experienced major administrative

problems during the first three or four years of its scheme, with claims to the insurance company often being submitted a year late (Enright et al., 1994). Similarly, SEWA received complaints from beneficiaries.

The high administrative costs of managing health insurance schemes are often cited as an argument against expanding health insurance to those who work outside the formal sector. In support of this argument, administrative structures do sometimes appear to be disproportionate to the functions performed. The administrative costs of the Dana Sehat scheme in Indonesia seemed very high compared to the amount of funds handled and the level of coverage provided (World Bank, 1991).

Volunteer staff collected monthly premiums of a limited value (approximately US $ 0.05). Village health workers wrote referral letters for all insured persons seeking care at the end of the month presented claims to the fund-holders who then paid them. This entire procedure accounted for no more than approximately 3% of recurrent costs and the same level of revenue would otherwise have been collected through user fees (WHO, 1998).

Similarly, accounts for the Nkoranza scheme suggested that in 1994, 17% of scheme revenue be spent on administration (although this ignored the high input of voluntary labor noted above) and for Gonoshathya Kendra and Bwamanda Hospital, administrative costs amounted to about 12% and 5% respectively of income (WHO, 1998).

Accountability for fund management was not much discussed in the documentation of the schemes reviewed. If schemes were community-owned, fund managers were sometimes held accountable to the local community through community meetings, as in the Kasturba Hospital scheme in India or through simple accounting procedures, such as showing receipts to the community (Mogedal, 1984; Chabot, Boal and Da Silva, 1991).

The Nkoranza Hospital scheme in Ghana incorporated and Insurance Advisory Board that included members of the hospital management team and 25 community members (Somkang et al., 1994). On the whole, though systems for ensuring accountability to the beneficiary communities appeared weak.

Some programs such as the Thai Health Card were centrally-driven and therefore operated within quite tight government guidelines. In Indonesia, however, although guidelines on the use of funds exist, they are not very tight. Elsewhere, complete autonomy reigned. Examples include several schemes in the Philippines and the hospital-based schemes of former Zaire.

Fund management

If premiums are collected only once a year and are intended to cover financial commitments for the whole of that year, the funds must obviously by invested, particularly if inflation is high. The Nkoranza scheme learnt this lesson during its first year of operation when it ran into difficulties through lack of an investment policy and high inflation rates rapidly eroded the fund's value. Thereafter, the scheme bought treasury bonds to counteract this problem (Kyremeh, 1997).

Other schemes found innovative ways to combat inflation. In Masisi, funds were held by the district pharmacy, which immediately converted revenues into drugs; income was later generated through sales of those drugs. For the Bwamanda Hospital scheme capital for the funds was constituted by the NGO.

In more stable economic environments, particularly where safe and accessible investment opportunities exist, such as Korea, Taiwan and Japan, fund management was not problematic. Under the Thai Health Card scheme fund-holders did not have to pay providers until the end of the year and could invest the funds during the year. Investment often took the form of interest-bearing loans to community members (Myers, 1989; Supachutikul, 1996).

Information systems

Few of the studies provided much background on management information systems. Most schemes focused primarily on developing adequate financial management systems in order to be able to account for financial transactions and ensure that only insured people could access benefits. Unfortunately, protecting the scheme against fraudulent claims often proved difficult since checking the identify of the person seeking care was itself often difficult (Somkang et al, 1994; McFarlane, 1996).

Some of the schemes (notably the Thai Health Card scheme, and the prepayment scheme in Boboye) had collected information on quality of care from special evaluations, but not from routine data. In Taiwan, under the Farmers' Insurance scheme, routine patient data provided to the fund now includes fees charged by category, diagnosis, surgery and length of stay.

Provider Payment Mechanisms

The most common form of provider payment mechanism under the schemes reviewed was direct salary and budget subsidy. This was used in over 50% of schemes, and particularly in those schemes with direct service provision. In most instances, funds collected were used to cover the salaries and budgets of the nearest health care facility.

Under the Thai Card scheme, though access was open to any level of care, provided the patient had been referred. More sophisticated methods for allocating funds therefore had to be devised. Initially, a fixed formula was applied to allocate funds across different levels of the system. For example, in Chiang Mai, northern Thailand, 15% of funds were allocated to the village committee, 20% to the health centre, 33% to the community hospital and 32% to the provincial hospital (Supachutikul and Sirinirund, 1993).

Table 6: Frequency distribution of alternative forms of provider payment mechanism

Payment Mechanism	Number of Schemes
Salary and budget	42
Fee for service reimbursement	11
Mixed payment systems	3
Fee per visit	2
Other	2
Unknown	21

The second most common form of payment was fee-for-service reimbursement. This was particularly common for Type I scheme or scheme with a significant hospital care component. Additionally, fee-for-service was frequently used to pay private health care providers at both primary and secondary levels. Under a fee-for-service system, the insurance scheme can operate by directly reimbursing the provider. Alternatively, the patient can pay out-of-pocket and seek reimbursement later, as illustrated by the SEWA scheme. Evidence from elsewhere in India (Ellis, Alian and Gupta, 1996) suggests that in such circumstances demand may be considerably reduced because of the necessity of finding cash to make the initial payments variations upon fee-for-service, including fee-per-visit and a points system for reimbursing physicians were also observed.

Mixed payment strategies were used by some schemes. The ORT scheme in the Philippines and the ASSABA scheme in Guatemala both provided direct salary and budget subvention to primary providers, but for the hospital level, both schemes sought to pay a capitation fee (WHO, 1998). In the Philippines, several pilot schemes provided salaries and budget subvention to publicly owned providers, but paid private providers and contract, using a variety of payment mechanisms.

Health Care Provision

Benefits package

Benefits packages were generally weakly defined. In numerous cases, benefits were redefined when a scheme encountered difficulties in balancing revenue with expenditure. Some schemes applied exclusions (e.g. dental services under the ORT scheme), but otherwise they tended to cover all the services available at the participating facilities.

Very few of the schemes used revenue to provide non-personal services. Those that did were smaller, Type II schemes that offered health education and limited preventive care. In some cases it was not recognized that a scheme could not financially sustain a generously defined benefit package unless it was accompanied by tight referral practice or gatekeeping.

The UTH Prepayment Scheme in Zambia in its first version was an example of this problem. Conversely, under the Bwamanda Hospital scheme, patients could qualify for the insured benefits only if referred by a (fee-for-service) primary health centre. This gatekeeping strategy helped maintain financial viability.

Integration of health care services

Of those schemes reviewed for which the relevant information was available, utilization was permitted as follows: public facilities only (25); private not-for-profit facilities only (15); public and private facilities (8); private-for-profit providers only (2).

Hospital-based schemes tended to focus exclusively on the hospital level and to have limited connections with the primary care level, although there were some exceptions. Thus the Chogoria Hospital scheme covered primary-level providers and used them as gatekeepers for the hospital level. Under the Kasturba Hospital scheme, the principal benefit was hospital care, but premiums were used to pay for primary care (Jajoo, 1992). Community-owned and cooperative schemes tended to have clearer and stronger referral structures than hospital-based schemes. In Taiwan and Korea providers are predominantly private and referral systems extremely weak (if non-

existent). Lack of a gatekeeper has also contributed to rapid escalation of overall health costs in these countries.

Quality of care

Several of the community-owned and NGO schemes had used revenues to increase the accessibility of health services, but very few had sought to improve other aspects of quality of care (the exceptions being the prepayment scheme in Boboye, Niger, and the prepayment for perinatal care scheme in Mexico. In one of the facility-owned schemes had introduction of the scheme been explicitly linked to attempts to improve quality of care. In Mexico, quality improvements focused upon the hotel aspects of care (Ramirex, 1997).

A number of features of managed care (Kane, 1995), as demonstrated by health maintenance organizations in the US and many health care systems in Europe, could be investigated and adapted for their own use by health insurance schemes for the non-formal sector in developing countries. Kutzin (1995) has discussed the following:

* structuring financial incentives for providers (notably through the form of payment mechanism).
* physician profiling, i.e. tracking individual physician treatment patterns.
* selective contracting, i.e. channeling patents to those providers who agree to certain conditions and are contracted to provide care.
* utilization review and quality assurance.
* development and use of standard treatment protocols, including drug formularies.

The more successful schemes did, over time, take on a more effective purchasing role. That is, they started to act as financial managers rather than remaining merely financial intermediaries. For example, both UMASIDA in Tanzania and SEWA in India adopted selective contracting with providers and use of essential drug lists, to help ensure quality of care. However, very few of the schemes had adopted special pharmaceutical policies, although the ORT scheme in the Philippines had managed to negotiate favorable prices for essential drugs purchased from local suppliers (WHO, 1993).

Assessment of Performance

Assessment of the schemes incorporated two important dimensions. Internal assessment of performance was undertaken to assess how successful a scheme had been in providing efficient, equitable and high-quality health care services. Additionally, assessment was made of a scheme's contribution to the overall efficiency, equity and quality of the health care system of which it was a part.

Efficiency

Administrative efficiency:

Data on administrative costs show that the documented proportion of income spent on administration ranges from 5 - 17%. If the opportunity costs of volunteer time had been included in computing administrative costs some of these figures might well have been higher. Although these figures are high compared to Western European insurance funds -- whose administrative costs generally amount to about 5% of income -- they are not unreasonable compared to some administrative costs can associated with social insurance schemes in Latin America and Africa (WHO, 1993).

Allocative and technical efficiency

It has already been stated that most of the schemes were not acting purchasers. In fact, few had defined cost-effective packages for care, few implemented strong referral and utilization control systems to optimize efficient use of different levels of the health care system, and few operated a management information system that monitored cost-effectiveness or appropriateness of care delivered. Moreover, the schemes sometimes introduced inefficiencies of their own into the health care system.

For example, many of the hospital-based schemes largely ignored primary care, while some of the primary care-based schemes certainly underestimated the costs of referral services. Unfortunately, the available documentation did not include assessment of the impact of hospital-based schemes on primary care. But it seems likely that it leads to under-utilization of health centers, resulting in facilities operating at low capacity and

rising unit costs. Meanwhile, patients are probably treated less efficiently at hospital level. the Bwamanda Hospital scheme proved to be an exception, though, since access to the hospital required a referral from a health centre. Referral costs to the latter were not covered by the scheme, however.

As discussed earlier, many of the hospital-based schemes involved fee-for-service payment. Fee-for-service has a number of well-known shortcomings: it provides little incentive for efficiency on the part of the hospital; it does not guard against problems of cost escalation, and administratively it is relatively complex. Additionally, fee-for-service payment gives providers incentives to over-service and over-prescribe. In Masisi, former Zaire, part of the hospital revenue was used as incentive payments for the doctors (Noterman, 1996). Under such circumstances fee-for-service must be subject to strong administrative mechanisms to prevent over-servicing.

The hospital-based schemes in Nkoranza, Ghana and Masisi, former Zaire experienced rapid cost escalation, at least in their early years due to their fee-for-service system. In Korea and Taiwan, where fee-for-service payment also exists, such problems have persisted despite efforts to contain costs through co-payment. Lack of a gatekeeper has also contributed to rapid cost escalation in these countries.

Problems with over-utilization of services and cost escalation appear to have been a problem in Type I schemes especially. But if a scheme incorporates strong primary care and community orientation -- as do many Types II schemes -- effective primary-level gatekeepers are more likely to be in place and these problems avoided or minimized.

Financial efficiency

Unfortunately, scheme managers had not always adequately planned means of investing the revenue raised from the insurance scheme before implementation. Yet this is an important aspect of scheme management since heavy financial losses during the first year of a scheme can adversely affect financial efficiency for a long period.

Equity

Financing:

Risk sharing has been promoted as a means of encouraging more equitable financing of health care. All of the insurance schemes examined set premiums according to a community rating, in principle entailing a subsidy from the healthy to the sick. The extent of such subsidy depended on the extent of adverse selection. In schemes with high levels of adverse selection, cross-subsidy from the healthy to the sick was limited. Very few schemes had adopted sliding scales. Instead, they relied on flat-rate premiums, implying regressively in financing.

Several of the schemes that had examined the issue of affordability acknowledged that it could be a problem. For moderate to large, lower-income households in Nkoranza district, Ghana, the estimated cost of premiums amounted to 5 - 10% of the annual household budget, which may well be a financial barrier to membership (Somkang et al., 1994).

In Muyinga, Burundi, 27% of the respondents of a household survey stated that financial inability to purchase a card was one of the main reasons for not participating in the scheme (Arthin, 1994). And in Mexico, about 20% of those enrolled in the perinatal prepayment scheme dropped out. This was attributed mainly to financial inability to keep up payments (Ensor, 1995).

More important, perhaps, is the question of whether the schemes made financing of health care systems more, or less, equitable. While flat-rate premiums are likely to be less regressive than user fees, they may be more regressive than general tax revenue financing. In a number of developed countries, work to measure the progressiveness or regressiveness of the financing of health systems has established that social insurance is more regressive than general tax. But evidence to this effect is lacking for developing countries.

Another equity issue relates to subsidy. In virtually all the schemes reviewed, the level of external subsidy, be it from government, donors or NGOs, was fairly high and essential to the functioning of the schemes. If, however, the small-scale schemes reviewed managed to attract higher levels of subsidy than those received by the general population outside the scheme, this could be seen as inequitable.

Utilization:

Only the pilot project in Boboye district, Niger, analysed how utilization patterns varied by income group. Use rates among the poor were found to have risen since the start of the scheme, and if payments by the poor who used government facilities were compared for before and after the scheme, it could be seen that total payment had decreased (Diop, Yazbeck and Bitran, 1995).

Fairly substantial evidence suggests that utilization increases far more among insured households located close to a health care facility and that these households are also more likely to join such a scheme (Donaldson, 1982; Criel, 1992; Noterman et al. 1996).

Since under most schemes, people pay the same premium wherever they live, those distant from the facility (who might in any case belong to poorer, more remote, rural communities) in effect cross-subsidize those who live close to the health facility. Such circumstances might also lead to a form of adverse selection whereby more remote households drop out of the scheme since the premiums are so high that it is not worth their while to join the scheme. In which case, average utilization rates rise even higher and more people drop out.

The RAHA scheme in India and the Bwamanda Hospital tried to implement a sliding scale based upon geographical proximity to the facility. Under the RAHA scheme, members referred to any of the three hospitals affiliated with the scheme paid co-payments inversely related to the distance traveled (Rs 200 for less than 25 km, Rs 150 for 25 - 100 km and Rs 100 for more than 100 km).

In Bwamanda, the level of co-payment was based for one year on a sliding scale based on distance from the hospital. The group nearest to the hospital was subject to a co-payment of only 5% (Criel, 1992). It was observed that although enrolment increased among the group furthest away, its utilization of the hospital did not.

Most of the schemes in sub-Sharan Africa permitted access to public health care facilities (which were generally in poor supply) only and were thus unlikely to witness a "market response" (whereby people "shop around") to the establishment of insurance in remote areas. However, in Korea, where private providers were the main mode of service delivery, establishing insurance schemes was not enough to encourage providers to relocate to rural areas. (Peabody, Lee and Bickel, 1995).

Equity between schemes:

In the few countries where coverage through rural risk sharing is considerable -- in Thailand, for example -- equity between schemes has become a major issue. It was also a major issue in China before the breakdown of the country's cooperative medical system. Here, the type of care to which people had access varied substantially according to their community's financial resources, poorer communities could often only afford to cover primary care services and therefore did not cover impatient services at country hospitals (World Bank, 1996).

Coverage is also extensive in Korea, which now has more than 600 insurance funds. However, although government subsidy and regulation of the funds are considerable, it is unclear whether such intervention promotes equity between schemes. Government regulates reimbursement rates and subsidizes 50% of the premiums charged to farmers, the self-employed, workers in small businesses and government workers.

Premiums are set by the individual insurance society, though, implying that schemes covering more affluent groups can buy bigger and better benefit packages, and that government subsidy of such benefit packages will accordingly also be higher (Yu &

Anderson, 1992; Peabody, Lee & Bickel, 1995). In Korea, Japan and Taiwan the schemes covering the non-formal sector are now fully integrated into the national health insurance scheme so that such a comparison is not now possible. In many of the other countries, formal schemes are non-existent or very limited.

Thailand is an exception, and here questions are being posed about the different benefits and government subsidies provided to those in formal and non-formal schemes (Khoman, 1997). It was estimated that in 1994 total expenditure per capita under the Civil Servants' Medical Benefit Scheme was 9.4 times higher than that under the Health Card Scheme, and 3.7 times higher under the Social Security Scheme than under the Health Card Scheme.

Differences become even more marked when the level of government subsidy to the schemes is examined. In 1994, government subsidy per capita for the Civil Servants' Medical Benefit Scheme and the Social Security Scheme was respectively 27 times and 4.4 times that for the Health Card Scheme (Supachutikul, 1996).

Consumer Satisfaction:

During their design phase, most of the schemes paid little attention to the issue of consumer satisfaction, or even to what consumers wanted. Few had carried out marketing surveys before implementation and none of the studies reported having carried out surveys of consumer satisfaction. Judging by demand for the schemes -- which over a period of time can be an excellent indicator of satisfaction -- consumer satisfaction was in fact often low.

Sustainability:

Sustainability has a number of different elements. Within any particular scheme, financial sustainability and administrative or managerial sustainability are important. However, if it is accepted that most of the schemes reviewed were designed to contribute to sources of finance for health care, rather than to their being entirely self-

sustaining, the issue of financial sustainability is relevant only within the context of broader issues concerning the availability of subsidy and finance.

The review highlighted a number of weak design features that could contribute to poor financial viability. These included:

* the small scale of most of the schemes examined.
* adverse selection leading to progressively smaller risk pools and higher costs.
* heavy administrative structures and costs.

The weak design of many schemes, particularly failure to ensure that the whole of a household joined a scheme, or to enforce an adequate waiting period before granting access benefits, meant that adverse selection was often a considerable problem. Adverse selection problems tended to be far greater for Type I schemes than for Type II schemes since the care that was involved tended to more expensive. Adverse selection is of course only a problem in voluntary schemes.

It has been argues that in developing countries, compulsory schemes for non-formal sector workers are unlikely to be feasible owing to insufficient knowledge of the number and location of rural households -- for which identification, income assessment and contribution collection can rapidly become expensive processes. However, authorities in Boboye, Niger managed to implement such insurance scheme through an earmarked tax. Further investigation of the prospects for implementing mandatory schemes in developing countries would be helpful. Clearly, the more highly developed and more extensive local government taxation systems are, the easier it is to make risk-sharing mandatory.

Perhaps one of the most telling pieces of evidence concerning sustainability would be the life span of the schemes reviewed. Unfortunately, no information was available on the current status of 45 of the schemes. Of the remaining 37 schemes, 6 had terminated, 27 were ongoing and 4 had evolved into different forms of health care financing. Of the ongoing schemes, the average life span was about eight and a half years. This average was skewed upwards by some very long-lived NGO schemes such as Gonoshathya Kendra (23 years) and the VHS scheme (25 years).

Conclusions

Debate about the potential for health insurance for the rural poor has encouraged the adoption of quite extreme positions. The diversity of the schemes and experience observed during this review means that many of these positions could be supported. Thus while some schemes have operated with extremely complex administrative structures, the reverse has been true of others. Some schemes have had substantial problems with adverse selection, others have avoided them almost completely.

The schemes reviewed in this study were largely voluntary, hospital, community or NGO -owned schemes. Alternative options warrant further exploration. In particular, since many of the problems associated with the schemes stemmed from their voluntary nature, more information is required on both the feasibility and desirability of compulsory schemes.

Cooperative and mutual insurance organizations might be thought to offer other possibilities too, particularly since they have formed the foundations of social health insurance systems in many Western European countries and Japan. This review unearthed little information on their operation in developing countries, however, perhaps suggesting that their transferability to these countries is limited.

Many of the schemes examined had been poorly designed and had encountered a range of problems as a result. Wide distribution of the basic principles of scheme design and the lessons learned from experience could prevent many such problems in future.

The few success stories that stand out, such as the Bwamanda scheme in former Zaire and the scheme in Boboye, Niger, demonstrate that designing and operating a successful health insurance scheme for the non-formal sector is possible. That said, each of these schemes was very dependent upon skilled external technical support. In fact, many of the schemes reviewed had benefited from extensive external technical assistance from well-informed experts. But provision of such intensive technical support would not be possible on a broad scale.

Organizational changes, such as tighter referral control, implementation of contracting arrangements between purchasers and providers, accreditation and improvement of service quality improvement, and performance-related pay can all be introduced into the health system as part of a shift towards health insurance. In particular, schemes in which there is a purchaser - provider split such as SEWA and UMASIDA appear more likely to develop active purchasing roles than schemes in which the purchaser and provider are more closely integrated, such as Nkoranza and Chogoria.

Several features of the schemes revealed by the view suggest that the schemes are unlikely to be suitable for widespread "self-financing" of health care:

* the population coverage of schemes in low-income countries is generally limited.
* cost recovery rates under the schemes tend to be low.
* membership of schemes is often most limited among the poorest groups.

Evidently then, health insurance for those outside the formal sector has to operate within a broader health financing policy framework. More thought should be given to how local insurance initiatives can best be integrated with a risk-pooling function for the system as a whole. The appropriate roles of local-level schemes and national government should take account of the local context and community preferences.

CHAPTER-IV

HEALTH FACILITIES & HEALTH STATUS OF THE POPULATION OF BANGLADESH

The health status of the population is one of the most important factors in the process of economic development for at least four reasons. First, it reduces production losses caused by worker illness. Second, it permits the use of natural resources that has been totally or nearly inaccessible because of disease. Third, it increases the enrollment of children in schools and makes them better able to learn. Fourth, it frees for alternative uses resources that would otherwise have to be spent on treating illness (World Bank, 1993).

The economic gains are relatively greater for poor people, who are typically most handicapped by ill health and who stand to gain the most from the development of under utilized natural resources. Evidence gathered over the past thirty years indicates that in health, unlike income, the gap between poor and rich countries has been narrowing. Targeting health as part of development efforts is; thus, an effective way to improve welfare in low-income countries likes Bangladesh.

Bangladesh has a dynamic and innovative health sector. The experience with operation research concerning health and family planning services of Bangladesh is one of the most extensive in the world (Perry, 1999). During the last three decades, Bangladesh has achieved considerable success in the area of health and family planning services. **Details of the indicators of health in Bangladesh as agreed on at the ESCAP training workshop held from 15 to 18 July 1997 are given in Table 4.0.**

Table 4.0: Selected Health Indicators of Bangladesh by Source, Year, Value and Level.

No.	Indicator	Source (year)	Value/level
1.	Contraceptive prevalence rate (%)	HDS (1997)	50.9
	Contraceptive prevalence rate (%)	MRS (1998)	57.8
	Any modern method		54.7
	Oral pill		31.2
	Condom		3.1
	Injectables		6.7
	IUD		1.8
	Sterilization		11.6
	Norplant		0.3
	Any traditional method		3.1
2.	Number of contraceptive methods available at family health-care centre	FWCs : four methods, THCs, MCWCs and district hospitals: six methods	
3.	Percentage of births attended by trained health personnel	BDHS (1996-1997)	7.5
4.	Percentage of sexually active women of reproductive age who want to postpone or stop childbearing and who are not currently using any contraceptive method	BDHS (1996-1997)	16.0
5.	Percentage of pregnant women attending		
	(a) Reproductive intentions	BDHS (1996-1997)	28.0
	(b) Concerns about contraceptive methods	BDHS (1996-1997)	24.4
6.	Percentage of pregnant women attending antenatal services who received tetanus immunization	BDHS (1996-1997)	59.4
7.	Percentage of pregnant women attended at care services expressing satisfaction	CIET (Canada, 1999)	95.0
8.	Percentage of pregnant women attended at least once by trained health personnel	BDHS (1996-1997)	Urban : 58.0 Rural : 23.0
9.	Percentage of children with ARI in preceding at two weeks who were seen by medical personnel	BDHS (1996-1997)	32.9
10.	Percentage of children 12-23 months fully vaccinated		54.1
11.	Percentage of population with access to basic health services	MOH-FW (1998)	40.0
12.	Percentage of households with access to safe drinking water	BDHS (1996-1997)	96.5
13.	Percentage of SDPs with a three-month supply of contraceptives in stock		100.0

No.	Indicator	Source (year)	Value/level
14.	Percentage of SDPs :		
	(a) Offering PAP smear		Not available at
	(b) With microscopes		selected SDPs
15.	Percentage of SDPs having available :		100.0
	(a) Equipment for high-level disinfection/sterilization		
	(b) Piped water		
16.	Percentage of SDPs following standard guidelines and high-level disinfection methods including RTIs		100.0
17.	Total population (million)	BBS (1997)	123.8
18.	Median age of population (years)	BDHS (1996-1997)	18.8
19.	Percentage of rural population	BBS (1997)	79.8
20.	Annual change (%)	BBS (1997)	1.6
21.	Growth rate (%)	MRS (1998)	1.2
22.	Crude birth rate (per 1,000)	BBS (1997)	23.6
		MRS (1998)	21.0
23.	Crude death rate (per 1,000)	BBS (1997)	8.0
		MRS (1998)	8.6
24.	Total fertility rate	BDHS (1996-1997)	3.3
		MRS	3.5
25.	Percentage of births within 24 months of previous birth (birth spacing)	BDHS (1996-1997)	17.7
26.	Percentage of births (age <20) to total births	MRS (1998)	24.7
27.	Percentage of deliveries that are C-section	MRS (1998)	Service not available in SDP owing to lack of trained doctors
28.	Annual number of legal abortions	BAPSA (1998)	262 130
29.	Estimated number of illegal abortions		Unethical in country context
30.	Ectopic pregnancy rate	MRS (1998)	No cases reported
31.	Age-specific fertility rate (per 1,000)	MRS (1998)	
	15-19		147
	20-24		192
	25-29		150
	30-34		96
	35-39		44
	40-44		18
	45-49		6
32.	Infant mortality rate (per 1,000)	MRS (1998)	82
33.	Under-5 mortality rate (per 1,000)	MRS (1998)	116
34.	Maternal mortality ratio (per 100,000 live births)	HDS (1997)	420
35.	Expectation of life at birth	HDS (1997)	59
36.	Sex ratio at birth	BBS (1997)	105
		MRS (1998)	105

No.	Indicator	Source (year)	Value/level
37.	Average number of children desired	BDHS (1996-1997)	2.6
38.	Proportion of total population by sex	MRS (1998)	M: 0.51, F: 0.49
39.	Proportion of total population married by sex	MRS (1998)	M: 0.56, F: 0.62
40.	National policy specifying in writing standards of quality of care for :		National policies
	(a) Family planning information and services		are in place to
	(b) Maternal care		support (a) to (f)
	(c) Prevention and management of RTIs and STDs		
	(d) Abortion care		
	(e) Treatment of abortion complications		
	(f) Provision of post-abortion family planning counseling and services		
41.	National policy for the provision of contraceptives at nominal cost or without charge		National policy exists
42.	Provision for :		
	(a) Inquiries/audits into maternal deaths		Policy exists for
	(b) Special measure(s) to reduce maternal mortality		(a) and (b)
43.	National strategic plan to control RTIs including HIV/AIDS		Policy exists
44.	Age at first marriage by sex :		
	(a) Does a legal minimum age exist ?		Yes
	(b) What is the legal minimum age ?		M: 21, F: 18
	(c) Is the legal minimum age endorsed ?		Yes
45.	Implementation of policy measures to :		
	(a) Eliminate female genital mutilation		Policy does not exist and is not relevant
	(b) Eliminate prenatal sex selection		Policy does not exist

Note

BAPSA	Bangladesh Association for Prevention of Septic Abortion	MCWC	Maternal and Child Welfare Centre
BBS	Bangladesh Bureau of Statistics	MRS	Multi-round Survey
BDHS	Bangladesh Demographic and Health Survey	MOH-FW	Ministry of Health - Family Welfare
FWC	Family Welfare Centre	SDP	Service Delivery Points
HDS	Health and Demographic Survey	THC	Thana Health Centre
		CIET	Community Information Epidemiological Technique

Health Facilities in Bangladesh

The medical facilities have rapidly grown in Bangladesh. During 1978-1999 the number of hospitals, both government and private taken together, has more than doubled, the number of beds has also doubled, and the number of registered doctors has increased more than three times. During the same period, the number of medical colleges has increased from 8 to 16, and the number of post-graduate medical institutes from increased from 3 to 6. The growth of health facilities at lower levels of service delivery is also spectacular. However, the rate of increase in the number of health facilities, compared to population, is quite low and it is definitely much lower than required in a society where the health status of the population is miserably low. Before presenting the health status of the population of Bangladesh, below is briefly discussed the health and family welfare services network at upazila level and below.

Health and Family Welfare Service Network in Upazila and Below Level

Public health and family welfare service network of Bangladesh is quite well organized as compared to many developing countries. Primary health care in Bangladesh has largely been the responsibility of the GOB which, has set up 4403 primary health care centers (PHC) at the union level. These centers feed 397 Upazila Health Complex (UHC) and hospitals at the district level through a referral system, but the UHC and hospitals also have their own the primary intake. Table 1.1 provides a brief summary of the level of care and type of facilities available at every level of public administration in the country and the approximate population coverage each type of facility services.

Ward and Village Level

In each ward, there is one Health Assistant (HA) and one Family Welfare Assistant. There are currently 22795 FWAs and 19524 HAs posted in the wards of the country (BHB, 1999). All HAs and FWAs provide door-step health and family planning services to each households they visit every 4-8 weeks. Under the guidance of HA and FWA, there are some volunteers or independent health workers such as Village Health Volunteers (VHV) and trained birth attendants (TBA) providing limited health services at the village level.

Union Level

A Union Sub-centre (USC) or Health and Family welfare centre (HFWC) is set up in each of the 4403 unions to provide static health and family planning services to the population in the Union. One graduate doctor with other health and support staffs usually manages a USC. About 15 health and family planning personnel are posted at this level to manage the static health facilities. Although there is a Population Committee at each union, in most cases, the Committee is not functioning effectively (BHB, 1999).

Upazila Level

397 Upazila Health Complex (UHC) provide the first level referral services to the population in the upazila. Usually 9 graduate doctors are posted in each upazila health complex. They include three specialists-medical officers (medicine, surgery and gynecology), one medical officer for maternal and child health (MCH) and one dental surgeon. Their co-workers are 5 nurses as well as para-medical and non-medical personnel. Besides, there is one family planning officer in a Upazila who is supported by a number of para-medical and non-medical staff. Their offices may or may not be located in the UHC. Every upazila has a 31-bed in-patient department, an outpatient department and a family planning unit, which together provide promotive, preventive and limited curative services to the upazila population.

Table 4.1 : Level of Care and Type of Health Facility in Bangladesh.

Level of care	Administrative Unit	Health Facility	Population Covered
Tertiary Referral Level	Six Divisions	Teaching Hospital and Institute (16) 250-1050 beds each	10-15 million
Secondary Referral Level	64 Districts	59 district Hospitals 50-150 beds each	1-2 million
First Referral Level	397 Upazilas	Upazila Health Complex 31 beds each	200,000-450,000
First Level Health Facility	4403 Unions	Union Health and Family Welfare centre	21000
First Contact with Health Providers	13209 wards	One FWA One HA	7000
	68000 villages	TBA VHV	1000-1500

Source: Bangladesh Health Bulletin (Ministry of Health & Family Welfare), *1999, p-20*

Health Status of the Population of Bangladesh

In 1981, the World Health Assembly adopted the Global Strategy for Health for All (HFA) by the year 2000, inviting 191 WHO member states including Bangladesh to "formulate, or strengthen and implement their strategies for all accordingly and to monitor their progress and evaluate their effectiveness using appropriate indicators to this end" (WHO, 1998, p-7). The global strategy for health for all (HFA, 2000) set the following guiding targets:

i. Life expectancy at birth above 60 years;
ii. Infant mortality rates (IMR) below 50 per 1000 live births; and
iii. Under 5 mortality rates (U-5 MR) below 70 per 1000 live births (WHO, 1998).

Although Bangladesh still lags far behind in achieving the required target of HFA, nonetheless, the improvements in IMR, U5 MR and LEB are spectacular taking into accounts its limited resource endowment. The life expectancy at birth has increased by about 8 years during 1975-1998, reaching to 59.6 years in 1998. This increase is expected to be 9 years between 1998 and 2025 when life expectancy for Bangladesh population will reach 65 years (WHO, 1998).

The IMR has declined from 140 to 73 per 1000 live births during 1980-1998 which is still well below the standard target of HFA. Under-5 mortality rate has decreased from 147 in 1975 to 112 per 1000 live births in 1998. One estimate reckoned that annual 9% decline of U5MR is required for Bangladesh to reach the level of 70 per 1000 live births between 1998 and 2025 (UNICEF, 1999).

The other health indicators, such as, crude birthrate, crude death rate, maternal mortality rate, fertility rate etc. are improving persistently (Table 1.2). **This improvement has been acknowledged by the World Health Organization (WHO). In its latest report, Bangladesh has been placed 88th in overall health system performance among 191 nations after Sri Lanka (WHO, 2000).**

Table 4.2: Crude Birth, Death, Natural Growth, Infant Mortality and Maternal Mortality Rates in Bangladesh.

Year	CBR	CDR	NGR	IMR	MMR	Life Expectancy at birth
1980	33.4	10.2	2.32	140	-	55*
1982	34.8	11.9	2.29	122	-	-
1983	35.0	12.3	2.27	117	-	-
1984	34.8	12.3	2.25	119	-	-
1985	34.6	12.0	2.26	112	7.0	55
1986	34.4	11.9	2.25	116	6.5	-
1987	33.3	11.5	2.18	113	6.0	-
1988	33.2	11.3	2.19	116	5.7	-
1989	33.0	11.4	2.16	98	5.2	-
1990	32.8	11.3	2.15	94	4.8	-
1991	31.6	11.0	2.06	91	4.7	56.1
1992	30.8	11.0	1.98	88	4.7	56.3
1993	28.8	10.0	1.88	84	4.5	57.9
1994	27.8	9.0	1.88	77	4.5	58.1
1995	26.9	8.5	1.84	78	4.5	58.1
1996	24.9	7.9	1.70	77	4.36	59.5
1997	23.6	8.0	1.56	73	4.2	59.6
1998	23.1	7.8	1.50	73	4.1	59.9

** 1981 figure*

Source: **Bangladesh Bureau of Statistics, Statistical Year Books**

While the progress was satisfactory with respect to IMR, U5MR, CBR, CDR and CPR to some extent, progress was inadequate in many other aspects. Rate of malnutrition, for example, in Bangladesh, is among the highest in the world. More than one-third of the

3.33 million infants born annually weight less than 2.5 kg at birth and are classified as having low birth weight. Each year, about 30,000 Bangladeshi children were going completely blind from vitamin "A" deficiency. The average daily caloric intake nationally is only 88% of the recommended level of 2120 calories, and in 27% of rural households, the average daily consumption is still less than 1800 calories (BBS, 1998). Each year, approximately 250,000 death among children under five years of age can be attributed to malnutrition (Perry, 1999). The maternal mortality rate is one of the highest in the world (4.5 deaths per 1000 live births). Ninety-five percent of all deliveries still take place in the home (Mitra et. al. 1998).

Curative health care for the poor in both the rural and urban areas remains in the most dismal state. The access of rural population to public health care is extremely limited. being restricted to 12% of rural households. This portion has remained remarkably stable during the period since the mid- eighties.

Inadequate health care places the rural households at a (even) greater risk of slippage into the down ward spiral of poverty. For example, the hard cove poor households (lowest two income deciles) spend 7-10% of their income to cover private health expenditures, which is a sizable burden by any reckoning. If this burden can be relieved through greater targeting and provision of public health care, this would have a substantial poverty alleviating effect (CPD-UPL 1996).

Relative proportion of public and private health expenditures indicates that benefits through public health still cover a small part of the health care demand. The amount of "gross" benefits derived from public health spending represents only 0.5% of average rural household income. The pattern of the distribution of public health spending does. however, show a certain degree of progressively. Benefits from the latter source, as a proportion of income, is highest for the poorest (2.9%) which declines almost secularly to 0.2%, in case of the top two deciles. This shows the potential redistribution benefits associated with an effective expansion of public health program in rural areas.

Table 4.3: Public & Private Health Expenditures Incidence by Per Capita Income Decile in Rural Bangladesh (Fig. in Tk.)

Decile	Per Capita Income	Per Caplta Private Health exp.	Per Capita Public Health exp.	2 as% of (1)	3 as% of (1)	3 as% of (2)
	1	2	3	4	5	6
1	1693.58	173.50	48.71	10.2	2.9	28.0
2	2911.38	202.19	33.51	6.9	1.2	16.6
3	3678.96	208.29	46.20	5.7	1.3	22.2
4	4457.10	170.80	13.87	3.8	0.3	8.1
5	5361.35	187.40	67.46	3.5	1.3	36.8
6	6352.07	205.56	30.75	3.2	0.5	15.0
7	7930.18	194.14	32.59	2.4	0.4	16.8
8	9986.57	251.23	25.97	2.5	0.3	10.3
9	14291.59	297.74	27.50	2.1	0.2	9.2
10	26915.58	626.57	51.66	2.3	0.2	8.2

Source: Growth or Stagnation, CPD-UPL, *1996, p-143*

THE HEALTH AND POPULATION SECTOR PROGRAMME (HPSP)

Background

Since 1975, an international consortium of government development agencies in coordination with the World Bank have provided financial and technical assistance to the GOB for the implementation of successive projects, each five to six years in length.

The first project called the first Population Project (1975-80), provided support for reestablishing a physical infrastructure for family planning service delivery, which have been greatly damaged during the war for independence in 1971. The Second Population and Family Health Project (1980-86) provided funds for the further development of the national family planning program. The Third Population and Family Welfare Project (1986-91) provided some support for the reduction of infant mortality along with support for family planning services. The Fourth Population and Health Project (1992-98) provided further support for MCH and disease control activities along with Family Planning Services (World Bank, 1998). In the light of the experience gained during the implementation of all these programs, the Health and Population Sector Program (HPSP)[1998-2003] was formulated. This program is the largest internationally financed health and population project in the world, costing some US$ 705 million in external donor support (Perry, 1999).

Goal, Purpose and Objectives of HPSP

The goal of HPSP is to "contribute to the improvement of the health and family welfare among the most vulnerable women, children and poor of Bangladesh" (MOHFW, 1998, p-14). And the main purpose of HPSP is to achieve "client-centre provision and client utilization of an Essential Service Package (ESP), plus selected services" (ibid, p-14). To achieve the goal, the specific objectives outlined in the HPSP are:

- to provide an essential package of child health care reproductive health care, communicable disease control and limited curative care services with acceptable quality and equity at one-stop service points;

- to provide adequate basic health and family planning services through comprehensive reforms of the health & population sector;

- to provide information, education and communication services through Behavior Change Communication (BCC) which motivate clients to seek services included in the ESP.

- to facilitate the provision of the ESP, both in quantity and quality, within the context of a realistic and appropriate human resource development program;

- to determine the current status of the program, including future need in a changed situation, by ensuring regular monitoring, evaluation and research; and

- to ensure the quality of services through a client-centered approach (MOHFW, 1998).

Salient Features of the HPSP

- Consolidation of 105 semi-independent donor supported projects into 15 programs that receive funding from the revenue budget of the MOHFW to avoid "duplication" of MOHFW activities.

- Unification of the health and family planning activities at the upazila level and below with an aim to eliminate "internal conflicts, wastage and inefficiency" arising out of the duplicative organizational structures of the MOHFW.

- A single comprehensive jobs designation and description of current designations job descriptions and job allocations of the existing Health Assistant and Family Welfare Assistants will be made.

- Line managers in charge of the separate programs have overall responsibility for all the activities in the health sector.

- There eight components of the program which includes among other: (a) essential service package, (b) reorganization of service delivery, (c) integrated support services, (d) hospital level services, (e) sector wide

program management, (f) policy and regulatory action for enhanced sustainability, accessibility, afford-ability and quality of services.

- 60 percent of public expenditure will be used in the support of the ESP.
- The elements of ESP are grouped into five major areas: (a) reproductive health care, (b) child health care, (c) communicable disease control, (d) limited curative care and (e) behavioral change communication.
- Behavior change communication received the highest priority for the activities in all of the components of ESP.
- The main emphasis of BCC will be: (a) to change attitudes and behaviors so that people will attempt to improve their own health status; (b) to build effective community support for health-seeking behavior; (c) to change attitudes and behavior of service providers so that services are more client-centered; and (d) to promote men's understanding of and respect for the special situation of women and girl children.
- Gradual discontinuation of the doorstep delivery of pills and condoms. The ESP will be provided at community clinics for populations of 6000 persons.
- Involvement of local leaders for planning and participation in the implementation and monitoring of ESP delivery at the local level.
- Generation of additional revenues by expanding the government's tax base and reducing tax evasion and/or increasing the relative allocation of revenue to Govt. health and population programs from its current level of 3% to 5% of the GOB's overall budget. Other revenue will be generated locally through cost-recovery activities including the health insurance schemes (MOHFW, 1998).

Major Program Areas outlined in the HPSP

The most important features of HPSP is the introduction of the Essential Service Package (ESP) to be delivered through one stop client focussed services according to the need of the population. The ESP includes five components:

1. Reproductive Health Care (RHC): The broad RHC areas are- Safe motherhood. Family Planning Services, Prevention and Control of RTI/STD/HIV/AIDS, Maternal Nutrition, Adolescent Care, Infertility.

2. Child Health Care (CHC): ARI, CDD, vaccine preventable diseases. Vitamin A deficiency, Malnutrition, School Health Services, General diseases like malaria, measles, diarrhorea etc.

3. Communicable Disease Control (CDC): TB, Leprosy, malaria, kala-azar, STD/RTI/HIV/AIDS, etc.

4. Limited Curative Care (LCC): Basic first aid, treatment of medical emergencies, pain relief and advice, especially for the poor.

5. Behavioral Change Communication (BCC): Social change, social ownership, provider relation, advocacy, ESP intervention promotion, social marketing.

In the HPSP document, following aims of ESP are outlined:

- To maximize health benefits relative to per capita expenditure
- To meet felt needs of the clients,
- To strengthen service delivery, and
- To improve system management.

Within ESP, Government's highest priorities are:

(a) Intervention that have public-good character (i.e. are not excludable and have important externalities), and

(b) Intervention related to maternal and child health.

With these priorities in mind, the elements of ESP are grouped into the following five major areas:

A. Reproductive health care includes seven sub-areas –

i. Safe motherhood

ii. Family planning services

iii. Prevention and control of RTI (reproductive tract infection)/STD (sexually transmitted diseases)/AIDS (acquired immune deficiency syndrome)

iv. Maternal nutrition

v. Adolescent care: Specific 'behavioral communication change' (BCC) to be addressed to adolescents –

- Proper nutrition and hygienic practices
- Information about puberty, safer sexual behavior, and how to avoid health risks.

vi. Infertility: Interventions to be undertaken –

(a) Educate both husbands and wives about the factors contributing to infertility.

(b) For prevention of secondary infertility, the following interventions are required:

- Prevention and treatment of STDs/RTIs
- Safe abortion services
- Safe delivery and post natal care

vii. Neo-natal care: The services that will be mainly at domicilary and union levels including following educational, motivational and health care:

- Health education for mothers on cleanliness
- Breast-feeding
- Thermal control
- Management of birth asphyxia
- Routine eye prophylaxis

- Special care of pre-term and low birth weight babies.

B. Child health care:

- Acute respiratory infection (ARI),
- Diarrhoeal diseases,

- Vaccine-preventable diseases (EPI-Expanded programme of Immunization), and
- Vitamin 'A' deficiency.

C. Communicable disease control

- TB
- Leprosy
- Malaria
- Filaria
- Kala-azar
- Interstinal parasities
- STDs/RTIs (HIV/AIDS)
- Other emerging and re-emerging diseases

D. Limited curative care:

- Basic first aids
- Medical emergencies

-Pain relief and advice

E. Behavioral change communication:

- Social change
- Social ownership
- Provider relations
- Advocacy
- ESP intervention programs
- Social marketing (Figure 1.0)

These grouping of major areas with the sub-areas correspond to those suggested by ICPD. It is important to mention that at the community level, the services will be provided from a fixed center, namely **Community Clinic**. This is a significant shift from the existing domiciliary-based service delivery system. While the move is initiated, the existing mobile services will continue for some time in order to ensure coverage of clients who may not have access to the community clinics, either due to cultural/religious barrier or initial behavioral stand of the service delivery change

Outputs of HPSP

Key indicators to be used for monitoring of implementation activities of HPSP within the stipulated timeframe will include reduction in:

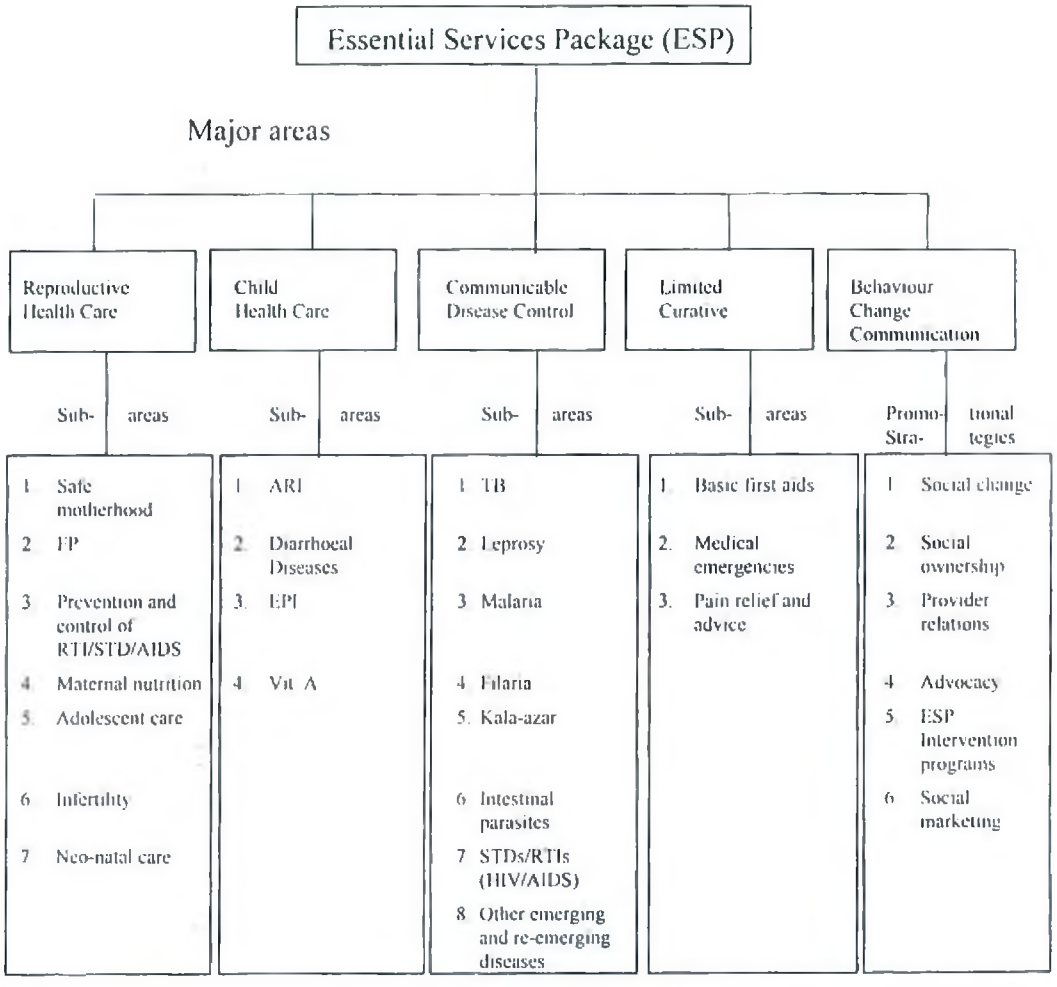
i. Maternal mortality
ii. Infant mortality
iii. Mortality for male & female children under 5
iv. Communicable diseases and
v. Unwanted fertility and reduction of total fertility rate;

And increase/improvement in –

i. Life expectancy of females and males.
ii. Age of women at birth of first child.
iii. Nutritional status
iv. Healthy life style (MOHFW, 1998)

The elements of the ESP are originally taken from the World Development Report, 1993. And are therefore, mostly similar, except in grouping the interventions under different headings and in prioritizing the interventions for their implementation. Under the HPSP of the GOB, the elements of the ESP are summarized under four main headings as it in the World Development Report. However, in the NIPHP, the ESP elements have been categorized under six headings and prioritized for NIPHP support. Ranking for the NIPHP support was based on an assessment of six main factors: customer's perceived demand, public health need, probable impact, feasibility of USAID support, existence of other donors funding and the opportunity costs of investing in a specific service

Figure 4.4 : Structure of ESP under implementation by the Government of Bangladesh: 1998-2003



Source: MOHFW, ICPD Programme of Action, ***p-34, 1999.***

CHAPTER-V

Public Sector Health Care Financing Patterns in Bangladesh

Introduction:

Bangladesh is one of the most densely populated countries in the world having a population of 123 million in an area of 147570 sq. kilometers. Nearly 80 percent of the population live in the rural areas, mostly involved with agricultural occupations. The current per capita income of the country is about US $ 290, one of the lowest in the world. Present literacy rate is about 48 percent (UNDP, 2001).

The planned countrywide network of government health facilities includes a health and family welfare centre in each of the 4403 unions, a health complex in each of the thanas, one hospital in each of the 64 districts as well as 13 tertiary level medical college hospitals and 8 postgraduate institutes besides other establishments like TB clinic, school health clinic, maternal and child welfare centers, urban dispensaries, etc. Presently, there are about 26280 beds available in the public hospitals, with another 8025 beds in the private hospitals (BHB, 1998). More than 60% of human resources in health services are engaged exclusively in service delivery. Among the doctors, two-thirds are employed in service delivery, 21% are in teaching and only 12% are in managerial position. The distribution of a health workforce by level of care reveals that two-thirds of the workforce work at the primary level (Hussain, 1998).

The health status of the population continues to be unsatisfactory as reflected in the major indicators of morbidity, mortality and other epidemiological parameters. About 70 percent of the mothers suffer from nutritional deficiency and anemia. Less than 40 percent of the population has access to basic primary health care, and 75 percent of the pregnant women do not receive antenatal care nor assistance from a trained attendant at the time of birth (Hussain and Begum, 1998). With respect to Alma-Ata targets, Bangladesh could not achieve any of three targets within three decades. The main causes of death remain infections and communicable diseases.

On the other hand, the Government of Bangladesh (GOB) is one of the signatories to the Alma-Ata declaration on Primary Health Care and is committed to providing health for all its citizens to a level that will permit to lead socially and economically productive life.

However, the GOB has redesigned its health care delivery system and its patterns of resource allocation. The new redesigned system includes, among others:

i. Shift in health care priority from urban to rural areas.
ii. Emphasis from curative to preventive, promotive and rehabilitative.
iii. Greater decentralization of services.
iv. Recasting health personnel and training commensurate with the concept of Primary Health Care (Khan, 1997).

The change in the philosophy and concept in health care (as outlined above) has a pervasive ramification both in the designing health care programmes, policies and health care financing. The studies on health care financing in Bangladesh are generally only modestly persuasive. These are characterized more by anecdotal evidence than by quantitative analysis. Conclusions based on impressionistic findings are widespread. A review of the resource allocation and historical expenditure pattern will thus enable us to observe the links between the stated objectives and the progress achieved.

This chapter is an attempt to assess the resource allocation and expenditure patterns for health care services in the light of the changed philosophy and commitments of the GOB. Such an exercise may provide clues to the cost-effectiveness and sustain ability of the initiatives in the health and population sectors, and provide necessary guidelines for effective implementation of recently formulated Health and Population Sector Programme (HPSP).

The chapter is prepared mainly based on published data and information. The data and information have been collected from various sources such as, Bangladesh National Health Accounts 1996-97, Bangladesh Health Bulletin, Statistical Year Books of Bangladesh, World Development Reports, Human, Development Reports of UNDP, World Bank Country Paper, World Health Report 1998 of WHO etc. These data has been used without

raising questions of their reliability and authenticity, though these are not free from criticisms. Simple statistical tools have been applied as and when necessary. For example, in order to estimate the growth rate, semi-log regression equation is used, and to estimate elasticity coefficient of health expenditure determinants, double-log regression is fitted.

Determinants of the Health Expenditure: Literature Survey

Three kinds of economic theory are explicitly or implicitly invoked in analysing the health care: (i) the demand for health care, (ii) the production of health and (iii) public choice theory. Much of the theory underlying the analysis of health expenditure is based on straightforward individualistic demand analysis. Health expenditures for a consumer are the product of the quantity consumed and the price paid. Changes in the income will produce changes in demand. The size of the income elasticity determines how the consumers view the goods consumed: less than zero - inferior; between zero and one - a normal necessity; more than one - a luxury (Mcgure, 1993). The second set of theories implicit in the analysis of health expenditures are in extension of simple demand (1972). that the demand for health care is derived from an underlying demand for health, which is produced through a process defined by a health production function. The choice theory examines relationship between individuals' preferences and collective choices made by the government. The theory explicitly accepts that the government, when making decisions on budgetary allocation, should act as society's agent in attempting maximize the social welfare function (Dunne et. al, 1984).

There have been many studies on the determination of national health care expenditure per person using regression analysis. Often, national income - usually measured as GDP - per person is the sole explanatory variable; even where if is not, it is always found to be the most important, explaining around 90% of the variation in expenditures between countries.

The pioneering analysis of Abel-Smith (1967) and the study of Kleiman (1974), together with better known analysis of Newhouse (1977), present evidence for a positive relationship between per capita health expenditure and per capita GNP, Newhouse develops a cross - section analysis with 13 countries and finds that GNP explains 92% of the variation in health care expenditure. He finds and income elasticity of medical care

expenditure exceeding unity (equal to 1.35), which allows him to express two conclusions. First, health is a luxury good and second, in those countries with higher health care expenditure, each marginal unit of medical services is more likely to improve subjective health status rather than to decrease mortality and morbidity rates. The latter inference is conveyed by the assertion that marginal health expenditure is oriented toward "care" rather than "cure". Near to similar results can be found in the contributions of Cullis and West (1979), Mazwell (1981), the Council of Europe (1980) and in Leu (1986).

Gerdtham et. al (1992) repeat Newhouse's and Leu's models using a single cross-section of 19 countries in 1987. Their final model contains explanatory variables that represent socio-demographic conditions, supplier - induced demand and institutional factors. They estimate income elasticity greater than unity (1.33). Parkin et. al (1987) calculate an income elasticity of 1.18 when the deflator is the exchange rate. However, when purchasing power party (PPP) is used as deflator, the income elasticity drops to 0.9 and is significantly different from unity. Considering the Parkin et. al, results (following Newhouse), we could, therefore, think that one additional unit of health care expenditure devoted to improve physical health status is more likely oriented toward care rather than care.

By using various deflators, Gerdtham and Jonsson (1991) present results, which contradict those of Parkin et. al. They analyze data from 22 countries for 1985 and estimate an income elasticity equal to 1.43 using both health PPP and GDP - PPP, whereas when they use the exchange rate as deflator the income elasticity drops to 1.23. The discrepancy in results between Gerdtham and Jonsson and Parkin is attributed mainly to the variation in health care data (Table 5.1).

Finally, Murillo and others (1993) estimate the income elasticity for most of the OECD countries using different statistical models. Their results are also significantly greater than unity ranging from 1.25 (Belgium) to 1.83 (Denmark).

From the above analysis, two established hypotheses can be developed. First, the existence of a significant correlation between income and health care expenditure and hence, the estimation of the corresponding income elasticity of the health care expenditure is the prime determinant. Second, the assumed impact of a greater expenditure on the population's health status. However, the statistical evidences for the latter are not ample like the former ones.

Trends in Public Sector Health Care Financing in Bangladesh

Structure of Health Sector in Bangladesh

Three major parties, namely, the government, private entrepreneurs and non-government organization (NGOs), operate the health sector of Bangladesh. In addition, a number of bilateral and international agencies are heavily involved in the health sector through their support to and influence on the government and NGOs. The NGOs are mostly involved in the provision of Primary Health Care (PHC) in both rural and urban areas.

The largest service provider in the health sector is the Government. The Ministry of Health and Family Welfare (MOHFW) is the main public authority responsible for providing health care to the entire population. The prime source of the MOHFW is the general revenue taxation of GOB and support from the international development partners.

Under the MOHFW, there are two major implementation wings, the Directorate General of Health Services (DGHS) and Directorate of Family Planning (DFP). The DGHS is responsible for implementation of health programmes and the DFP is responsible for implementing family planning programmes. The budget for all health facilities and activities is channeled through the DGHS and for family planning is disbursed through the DFP.

All recurrent expenditure is financed through revenue budget and all development activities are funded through the GOB's Annual Development Programmes (ADP). Revenue budget is solely supported by the GOB's tax and non-tax income. Development budget is financed mainly by foreign loan and grant, government revenue surplus, and self-financing by the autonomous bodies. The proportion of revenue expenditures by major categories is given in Table 5.3. Apart from this, and MOHFW itself generates a small amount of money through user fees, but can not retain any portion. Entire user fees are transferred to the treasury (Ministry of Finance). In 1996-97 MOHFW generated Taka 166 million from user fees from hospitals and insurance of drug licenses.

Total Expenditure on Health Services as Percentage of GDP

Total health sector expenditure, as percentage of Gross Domestic Product, is often used to compare relative spending on different sectors, and to measure the growth or decrease in the share of national resources develop to each sector over time. The Global Strategy for Health for all by the year 2000 set 5% or more of GDP on health as an indicator.

According to the National Accounts of Bangladesh (1996-87), the aggregate size of government and private sector spending on health relative to GDP was about Taka 54700 million in 1996-97 which is equivalent to 3.9% of GDP, and US $ 10.6 per capita. This was financed 34% by public sources (including foreign assistance), 64% by households and private sector, and 1% by NGOs (BNHA, 1998). This percentage, as claimed by the GOB, is relatively high in comparison with other low income countries. But fact tells us the other story. The World Bank estimate puts the combined public and private per capita expenditure on health and family planning for Bangladesh to be a meager US $ 7 in 1995. This compares very poorly with that of other South Asian countries. For instance, per capita expenditure for health is US $ 21 in India, 18 in Sri-Lanka, and 12 in Pakistan (Griffin, 1995). Though the proportion of GDP allocated to health and population sector has more than doubled in the last ten years, Bangladesh still large behind many other low-income Asian countries in this respect as well.

However, when the data are broken down by public and private spending, it does appear that government health expenditures including door funding, only account for 0.19% of real GDP in 1996-97. During the last 17 years (1980-81 / 1996-97), government health spending as a percentage of real GDP has increased insignificantly, from only 0.03% in 1977 to 0.19% in 1997 (Table 5.1). If the donor funding is subtracted from public sector health financing, which is accounting for as much as one half of total public sector financing, per capita spending in real terms must be, at best, stagnated, despite greatly increase concerned with health and population programmes. With the worst health problems and lowest spending on health services it appears that Bangladesh has little or no local capacity to raise money for health care. This point is relevant in as much as Public Health Care programmes attempt to foster community efforts to finance and delivery health services. If there is little or no local tax capacity or responsibility for public expenditure, such efforts may have little success, which is defecate the case of Bangladesh.

The Relationship between Health Expenditure and GDP Per Capita

The most consistent finding as observed from the literature of health care has been that the main determinant of the amount of a country spends per head or as a share of GDP is income. The World Bank study (1992) on poor Asian countries also supports the earlier studies. An exercise was carried out with Bangladesh data using the double log equation in the form:

$$\text{In (HEPC)} = \alpha + \beta_i \text{ In GDP (pc)} + e_i$$

The double log specification means that the elasticity of per capita health expenditure with respect to per capita income is given directly as the estimate of *ai* in the equation. However, the above study estimated the elasticity of health expenditure separately both the total health expenditure and government health expenditure. The estimated elasticity for total health spending was found to + 1.37 (a 1% increase in GDP is associated with a 1.3% increase in health expenditure). The GDP per capita explains about 94% of the variance in health expenditure per capita (R-square - 0.94%), and the height statistics (t = 9.92) emphasized the strong relation between health spending and GDP.

With the same equation using the government spending rather than total spending as the dependent variable, per capita GDP explains government health spending exceedingly well. Both the R - square and t - statistics are close to the high levels that characterized the estimate for total spending the estimated elasticity was 1.43. The equation stands as:

$$Y = 6.93 + 1.43\ \beta_i + \qquad t = 11.31,\ R^2 = 0.88$$

Total public sector expenditure on health (PSEH) as Proportion of Total Public Expenditure

The aim and use of this indicator is compare the health sector's share of public expenditure with that of other sectors (education, defense, agriculture etc.). The trend can provide an indication of the past policy of the government in allocating funds. Unless there has been a change in the policy, this may also indicate the level of funding that can be expected from government in the future (Mach & A. Smith, 1983).

As can be seen n Table 5.3, the proportion of budgetary allocation (both revenue and development) in health sector during 1977-84 was less than 2% of the total public expenditure. This share slightly increased during 1984-90, less than 2.5% on an average, and remained in between 3.4% during 1991-97, implying that the share of the national budget to health has not witnessed any visible change over the entire span of time. Furthermore, the share of revenue expenditures showed a declining trend from 1995 onward albeit increased in nominal terms. The percentage share of revenue expenditures declined from 52% while the proportion of development expenditures was showing an increasing trend. Needless to reiterate, development funds in health sector of Bangladesh are heavily donor financed, accounting for as much as one half of the total figure (BANHA, 1998).

However, the over all share of the national budget to health is also low compared to the standards in other developing countries (in Asia) with similar setting to Bangladesh. For example, Pakistan, India, Nepal and Sri Lanka spend 5%, 6%, 6.5% and above 7% respectively of the total public expenditures on health care sector in 1996 (UNDP, 1997).

Total Public Sector Health Expenditure versus private sector expenditure

Private financing is the predominant funding mechanism in Bangladesh's health system. Private sector funding consists almost completely of direct payments by households, which was 63% of total national health expenditures in 1996-97. Household expenditures are estimated to be Taka 34440 million in 1996-97, equivalent to 2.5% of GDP.

The largest proportion of household spending is devoted to purchasing drugs and medicines (73%). These consist of both modern medicines as well as traditional and homeopathic products, and are purchased from pharmacies, shops, and other retail outlets.

A study by Khan (1997) found that a large part of household medical expenditure in spent on qualified allopaths (61.6%), followed by unqualified allopaths (11.2%), government health centers (9%), untrained allopaths (5.4%), homeopaths (3.3%) and spiritual healers (0.2%). The same study also observed a striking difference in the pattern of health expenditure between rural and urban areas. While qualified modern doctors account for 76.6% of the total health expenditures in the urban areas, it is only 53% in the rural areas.

In contrast, the share of unqualified doctors is much larger in the rural areas than in urban areas. This indicates that the population still does not regard government providers and private providers as inherently superior in terms of efficacy to the other non-qualified or non-modern providers.

An analysis of the public sector expenditure on health reveals that of the expenditures were spent personal health services (hospital services etc.). For example, during 1980-90, urban-based curative hospital services received the highest amount of money (43%) of the total MOHFW funding. However, in recent years, expenditure for health care in rural areas has significantly increased. For example, the proportion of allocation on thana / rural health centers to total health budget (revenue) increased from a meager 9.4% in 1978 (Khan, 1997) to about 40% in 1997 (BNHA, 1998). During 1991-97, development programmes spent more than half of its funds on disease prevention and health promotion including family planning.

Share of PSEH Devoted to Primary, Secondary, and Tertiary Sectors

This indicator is often used to examine whether they have been in accordance with policy objectives. It can also be used to form the basis of plans for the relative role of there sectors in the future (WHO, 1983).

An examination of expenditure data on Bangladesh by these three categories between 1991 and 1997 indicates that the allocation for primary care (thana and union levels facilities) was the highest during the period. The MOHFW expenditures on primary health facilities increased from Taka 3414 million to Taka 4804 million in real terms, but the percentage share declined from 46% to 38%. The second highest receiver was the tertiary sector, consisting of medical college hospitals and specialized hospitals. During the same period, an average of 25% of total health sector expenditures spent on tertiary level facilities. The secondary sector, mainly the district levels hospitals spent on an average of 10% of the health budget. A significant percentage (9 - 11%) of health budget spent on Research and Training and its share has steadily been increasing (see Table - 8 of BNHA, 1998).

Share of PSEH Devoted to Particular Income Group

To assess how equitably public resources are distributed amongst the various income groups of the population, this indicator is widely used. Table 5.5 has shown us that the top 3 deciles in Bangladesh benefited from 53% of public expenditure compared to 14% going to the lowest three deciles (Column 6). The experts argue that if around 30 - 40% of public expenditures were targeted to the poor through expenditure sectors, which generate a higher incidence of benefits for the poor, this may have had a significant impact of poverty alleviation. Macro-modeling exercises have also established that investment in education and health has the most positive effect on poverty alleviation in Bangladesh (OECD, 1998).

Primary health care in Bangladesh has largely been the responsibility of the GOB. Over the last 10 years, such public health services provided only 15% of the rural population with rudimentary health care, but the quality of services does not encourage confidence in the system (Khan, 1997). Although the principal users of the public health care facilities always the poorer classes, but even if we look at the lowest 3 income deciles of the households (Table 5.5) 78-86% of a household's expenditure on health care is spent on private service providers. Because of poor quality of care, public services emerge as institutions of last resort, even though Primary Health Centers are undoubtedly the best equipped and staffed medical facilities on offer in the rural community. Table 5.5 also shows that public expenditures on health are not equitably distributed among the various income deciles.

Distribution of Public Expenditure by Region

Administratively, Bangladesh is divided into six divisions, namely, Dhaka, Chittagong, Rajshahi, Khulna, Barisal and Sylhet. The latter two division were created in the mid 90s. Prior that Barisal was within Dhaka division and Sylhet was within Chittagong division. And as such data for the two newly created divisions are not available.

Table 5.6 shows that there exist significant inequalities to public health resources distribution among the 4 divisions. Dhaka division which contains "academic hospitals" has the highest receiver (more than 50% of the public health expenditures) of the public

funds which serves only 15% of the country's total population. Academic hospitals /institutions at Dhaka often provide specialized services for a wider population than residents of the particular division in which they are based. In addition, Dhaka based hospital train health professionals who may work in other divisions once qualified. Perhaps, for this reason, there exist significant disparities between Dhaka and other divisions.

Even if we exclude Dhaka division, there exists significant maldistribution of health care resources. For example, Chittagong division received the second highest amount of public money throughout the period under study except in 1990 and 1995, perhaps due to the establishment of two medical colleges and hospitals in the country during the mentioned years. Rajshahi, one of the oldest divisions, which serve the same population as Dhaka, received a small percentage of public money across the time. Thus, the allocative efficiency of public sector health care resource by geographical distribution was always uneven across time and is more skewed within rural-urban of the same region.

Improvement of Health in Bangladesh

Around the world, the past thirty years has been starting improvement in health, particularly with respect to guiding targets of Alma-Ata. Globally, life expectancy at birth has increased, on average, by 7 years from 59 in 1975 to 66 years in 1997. In the developing countries, the increase was about 6 years, from 52 years in 1975 to 58 years in 1997 (WHO, 1998). Under five mortality rate (U5MR) decreased from 121 per 1000 live births in 1975 to 78 in 1997 - a decrease of about 36% between the period. Infant Mortality Rates (IMR) fell from 90 per 1000 live births in 1975 to 59 per 1000 in 1997 - a decrease of 43%.

The developing world experienced a decline in the IMR of 36% during 1975-1997. Overall, nearly 3.8 billion people lived in at least 106 countries that had reached the target values of Alma-Ata in 1997. In 1975, there were at least 1.2 billion living in 69 countries had the values below the guiding targets (WHO, 1998).

In Bangladesh, there has been some progress in the field of health since the Alma-Ata. Over the past forty years, life expectance at birth has improved more than during the entire previous span of human history. For example, in 1960, life expectancy at birth was forty years; by 1997 it had increased to fifty-nine years - an improvement of 19 years. In 1975, about 17% of the country's population were living below the guiding target of Alma-Ata; by 1997 it has increased to 44% of the total population. Between the period 1978 and 1997, life expectancy at birth increased by about 8 years. The improvement of Infant Mortality Rate (IMR) is also spectacular. The IMR had declined from 112 to 83 per live births during the period 1975-1997, although it is still below the standard target of the Alma-Ata (below 50 per live births). With respect to under - 5 mortality (U5MR), the progress is dramatic. The U5MR decreased from 242 per 1000 live births in 1960 to 147 in 1975, and to 112 per 1000 in 1997 - a decrease of 41% between 1960 and 1975, and about 24% between 1975 and 1997 (Table 5.8). However, Bangladesh could not achieve any of the targets of Alma-Ata within 30 years. It has been estimated that it will take another 14 years to achieve all the targets of Alma-Ata if the existing rate of progress in health continues.

Table 5. 1: Estimates of Income Elasticities of Health Care Expenditure:

Author(s)q	Study year	No. of Sample Country	Income Elasticity
Kleiman	1974	16	+ 214
New house	1997	13	+ 1.35
Summers	1085	34	+ 1.46
Leu	1986	19	+ 1.18
Parkin et. al.	1988	18	+ 0.90 (1.18)
Gerdhtam & Jonsson	1991	22	+ 1.43 (1.23)
Gerdham et. al.	1992	19	+ 1.33
Hitivis and Posnett	1992	16	+ 1.03
Murthy	1992	22	+ 1.25
Murillo et. al.	1993	18	+ 1.25 to 1.83
World Bank	1992	11	+ 1.18 to 1.31

Table 5. 2: Public Sector Health Financing in Bangladesh, as % of Real GDP (1984-85) price).

Year	Real GDP (Million Taka)	Growth Rate of Real GDP (%)	Health Expenditure (Million Taka)	Health as % of Real GDP
1980-81	34310	12.6	134	0.03
1981-82	363210	5.8	150	0.04
1982-83	365090	0.5	170	0.05
1983-84	388800	6.4	183	0.05
1984-85	407160	4.7	216	0.05
1985-86	423800	4.0	283	0.07
1986-87	441970	4.2	319	0.07
1987-88	410450	- 7.1	382	0.09
1988-89	467800	13.9	405	0.09
1989-90	498360	6.6	472	0.09
1990-91	514440	3.2	523	0.10
1991-92	536180	4.2	602	0.11
1992-93	560220	4.5	739	0.13
1993-94	583840	4.2	871	0.15
1994-95	608790	4.4	1013	0.16
1995-96	642440	5.3	1098	0.17
1996-97	663180	3.2	1326	0.19

Sources: Compiled and calculated from Bangladesh Health Bulletins And Statistical Year Books of Bangladesh.

Table 5. 3: Budget Allocation in Health Sector of GOB (Figure in Million Taka)

Year	Total Public Sector Expenditure	% of Health in total public sector	Revenue as % of total health budget	Development as % of total health budget
1977-1978	84.01	1.8	3.7	1.2
1988-1979	101.42	2.0	4.1	1.1
1979-1980	130.69	1.9	4.0	1.3
1980-1981	133.85	1.7	4.1	1.1
1981-1982	150.00	1.8	3.7	1.1
1982-1983	170.49	1.8	3.7	1.1
1983-1984	215.40	2.0	1.8	2.2
1984-1985	282.30	2.3	2.6	1.8
1985-1986	282.30	2.3	2.6	1.8
1986-1987	319.30	2.4	2.6	2.1
1987-1988	371.20	2.6	2.8	2.1
1988-1989	404.60	2.6	2.6	2.4
1989-1990	472.07	2.5	4.3	2.7
1990-1991	522.79	3.1	4.4	2.5
1991-1992	602.00	3.8	4.5	2.9
1992-1993	738.33	4.3	5.9	2.6
1993-1994	870.27	4.5	6.0	3.1
1994-1995	1012.80	4.8	6.2	3.4
1995-1996	1097.99	3.7	3.5	4.0
1996-1997	1325.96	4.0	3.4	4.9

Source: Bangladesh Health Bulletins, DGHS, Dhaka, 1998.

Table 5. 4: Proportion of Revenue Expenditure on Health by GOB.

Year	Pay and Allowance (%)	Contingency Diet (%)	Medical Service Requisite (%)
1980-1981	48	23	28
1981-1982	51	23	26
1982-1983	54	24	22
1983-1984	64	23	24
1984-1985	60	19	22
1985-1986	65	15	20
1986-1987	66	17	17
1987-1988	66	15	17
1988-1989	65	17	18
1989-1990	67	17	15
1990-1991	64	16	20
1991-1992	67	16	17
1992-1993	68	15	17
1993-1994	64	20	17
1994-1995	61	24	15
1995-1996	69	15	16
1996-1997	49	10	18

Source: Bangladesh Health Bulletin, DGHS, Dhaka, 1998.

Table - 5.5: Status of Public Expenditure on Health (Rural Areas)

Income Decile	Per capita income (Tk.)	Health Expenditure per Capita		Distribution of public expenditure on Health (%)	Share of Public Expenditure on Health in per capita income (%)	Share of Public expenditure on health in total per capita health expenditure
1	1694	174	49	12.8	2.9	21.9
2	2911	203	34	8.8	1.2	14.2
3	3679	208	46	12.2	1.3	18.1
4	4457	171	14	3.7	0.3	7.5
5	5361	188	68	17.8	1.3	26.4
6	6353	206	31	8.1	0.5	13.0
7	7930	196	33	8.6	0.4	14.3
8	9988	251	26	8.8	0.3	9.3
9	14292	298	28	7.0	0.2	8.4
10	26916	627	52	13.0	0.2	7.6
All	8318	252	38	100.00	0.5	13.1

Source: OECD, Development Centre Technical Pager No. 143, Paris, 1998.

Table 5.6 : Region-wise Distribution of Public Sector Health Expenditure Percentage)

Divisions	**1980**	**1985**	**1990**	**1995**	**1998**
Dhaka	68	64	58	73	51
Chittagong	29	31	11	03	40
Rajshahi	03	04	03	02	06
Khulna	n.a.	n.a.	n.a.	n.a.	n.a.
Total (Tk. Million)	**13.6**	**18.1**	**43.8**	**84.7**	**172.3**

Source: Bangladesh National Health Accounts, 1998 and Bangladesh Health Bulletin, 1998.

Table 5.7: Key Human Development Indicators of Bangladesh.

Indicator	Year		Change	LDC Average (1997)
	1974	1978		
Life expectancy (years)	51	59.8	8.8	63
Infant Mortality Rate (000)	143	70.0	73.0	53
U-5MR (000)	219	112.0	107.0	96
Access to Health Care Facilities	33	45.0	12.0	80
Access to Sanitation (%)	27.6	48.07	20.47	N.A.
Access to Safe Water	31	81.0	50.0	85
No. of People per Doctor	11350	12900	1550	5760
Malnourished Children (%)	34.0	69.0	35.0	39.0
Caloric Intake / day (% of requirement)	88.0	94.0	6.0	98.0
Adult Literacy Rate	26.0	43.0	17.0	63
GDP Spent in Health Sector (%)	0.3	1.06	0.76	2.4%

Sources: 1. Data for Bangladesh, same source as Table 2.
2. Data for LDCs, UNDP Human Development Report, 1997.

CHAPTER-VI

Health insurance Schemes: Performance of Grameen Bank (GB) and Ganasysta Kendra (GK)

Performance of Grameen Health Insurance Scheme

The Grameen Bank (GB) is a specialized financial institution in Bangladesh that provides group based credit to the landless and assetless poor. The clients of Grameen Bank are rural landless people. They own less than half an acre of land and the total value of their possessions and property is below the price of one acre of medium quality land. They consist of some of the poorest people in Bangladesh, and come from the bottom 50% of the population. The Grameen Bank has been providing credit facilities (in the form of loans) without requiring collateral for this section of people since 1976. The recovery of loans is done through bank workers' collection of weekly installments from the borrowers.

Grameen Bank has 3 million members of which 94% are women. The bank covers almost half of the villages of the country through 1,421 branches. It currently disburses $ 30 - 40 million a month. Since its beginning in 1983, it has loaned out more than US $ two billion. The average size of the loan has been $ 75, and over 97% of loans have been repaid with interest in one year. Grameen Bank borrowers' income increases, on average, by some 59% over three years and, after eight loans, about half of all borrowers graduate totally out of the poverty cycle. Their spending on food and essential non-food items, as well as education, increases.

From the beginning of the bank's operation, it was realized that ill health would be a major obstacle to borrowers succeeding in their loan activities, repaying their loans and breaking out of the poverty cycle. A number of special funds have been set up to protect members against external shocks. One of them is the emergency fund. The members pay a fixed charge that amounts to taka 5 per thousand for loans in excess of one thousand Taka. This fund is utilized when a member dies, so that his / her

nominee is provided with a sum of money determined by the other group members. In 1999, Grameen Bank distributed 5.73 million Taka among 5,050 borrowers from the emergency funds in this sector. Nonetheless, ill health continues to be a curse of Grameen Bank members and their families. A recent study shows that ill health is the single largest cause of loan default. Among one sample of older borrowers, it was the reason for 44% of the defaults. On the other hand, improved health contributes to economic growth in many ways (HEU, 1998).

With active participation of the community, a quality primary health care system can combat community diseases, which account for 70% of the total disease burden, and provide a productive life to the people (HEU, 1998). Despite public sector's commitment and development of infrastructures, health care services are yet to reach poor people. Health services of private sector are either unaffordable or of inferior quality, or both. The prevalence of diseases among the poor, combined with the severe deficiencies of the public and private health care services in Bangladesh, is thus one of the greatest threats to Grameen Bank members in their struggle to break out of the poverty cycle. As such, it is also a threat to the long-term viability of the Bank itself.

It is within this context, that Grameen Bank initiated the Grameen Health Program (GHP) for GB members as well as non-members living within the same operational area. The program provides the entire gamut of Primary Health Care services, with special emphasis on preventive and promotional health services rather than curative services, at a cost that the poor can afford.

The goal of the Grameen Health Program, as with all primary health care, is to promote health, and prevent illness and premature death. Its main objective, as stated earlier, is to deliver quality primary health care services, developed and administered with the active participation of the community, at a cost which the community can afford and which will enable the program to sustain itself in the long run.

The Grameen Health Program acts like an insurer and it provides health services. A Grameen Health Center is attached to a Grameen Bank branch. Each Center is headed

by a Center Director (a Doctor), and is staffed with a Laboratory Technician, a Paramedic, and an Office Manager. Its operational area corresponds to that of a Grameen Bank branch. There are three Sub-Centers under each Health Center. Sub-Centers are staffed by a Paramedic and two Health Workers. While the health workers provide door-to-door services on prevention of diseases and promotion of health, paramedics provide treatment of minor ailments, and refer patients to the health center. In the Health Center, the doctor sees patients on an outpatient's basis, provides treatment, conducts routine pathological tests, and sells medicine at set prices.

Before its implementation, the Grameen Pre-paid Health Plan (and the Health Program as a whole) was discussed with the members of the GB credit program in all the 10 GB operational areas where it was to be established. In each local Grameen Bank center, consisting of about 40 families (there are 60 to 70 centers in one operational area), a group decision had to be reached by consensus to become a member of the Health Plan. At the end of the negotiation process all the local centers within the 10 areas agreed to subscribe.

The Grameen Bank Health Plan aims at covering all households in its operational areas, whether a GB member or not. On average there are 1.5 non-GB - member families for 1 GB member family, and 2,000 GB families per area. In an operational area of GB, seventy percent are considered 'poor', and of the total population about one-third are GB member families.

In an operational area of Grameen Health Center, almost all Grameen Bank members (borrowers) are enrolled in the pre-paid health plan. Fifty two percent of households in the operational area were also subscribers to the Health Plan at the end of 1999. The subscription rates per socio-economic group were high for the group of poor families (74.4%) and very low for the group of non-poor families (1.8%). Amongst the poor non-GB families, only 1.5% subscribed to the plan. In other words, 98.5% of the insured people under the plan were the GB members and their dependents. In 1999, the health plan covered about 25,935 families with a population of about 143,000 (GB-Annual Report 2001).

Currently the Grameen Health Program is operating three different kinds of pricing scheme with corresponding service package. However, the health plan is providing free preventive services, family planning and health education to all, irrespective of family subscription to the health insurance scheme.

During 1998-99, seven health centers operated under a structure Taka 50 premium (US $ 1.25) per family (maximum of 10 members) per year. Service package offered in lieu of this prepayment includes consultation of a doctor with a copayment of Taka 2 (5 cents). This consultation can be utilized as many times as the family needs. 75% subsidy in basic pathological tests, free annual health check up, provision of quality medicines at price lower than the market and domiciliary maternal and child health care.

During 1999, five health centers were set up (one converted from old centers) charging annual premium Taka 120 (US $ 3.00) per family (maximum of 8 members). One service package offered in lieu of this prepayment includes consultation of a doctor with a copayment of Taka 2 (5 cents), 50% subsidy in basic and extended pathological tests, free annual health check up, provision of 15 essential medicines at 50% of the market price and all other medicines at the buying price of the health program, provision of specialists' consultation and sophisticated investigation with copayment of 50% price in referral hospital, and cash subsidy of Taka 500 - 1,000 (US $ 12.5 - 25) in cases of hospitalization (approximately 10% of total hospitalization cost), and domiciliary maternal and child health care.

Enrolled members of two health centers who were enjoying services under the Taka 50-health plan scheme bargained with the health program, and opted for the additional services under the scheme of Taka 100 per family per year. Service package includes all of the above except the hospitalization benefits.

Revision in the pricing scheme and benefit package were brought in to accommodate comments and suggestions of the members, which were given at the Implementation Committee Meetings and while investigating reasons for non-renewal of subscription,

and with the anticipation that these supplementary coverage would attract more subscriptions from non-GB families.

The Grameen Health Program uses a form of sliding scales in its fee structure: Non-GB poor and Non-poor pay a little more than the GB members' rate for premium and renewal. However, no distinction is made in terms of service and benefits once they are enrolled in the health plan irrespective of their membership in the GB credit program.

For non-insured people, walk-in services are available at the local market price. However, the levels of fee - for - service for the poor non - GB, non - insured families are determined on a case - by - case basis by the Grameen health professionals. As the GB Branch staff knows the non-GB member population as well as the GB member population, the determination of a family's level of poverty does not seem to pose major problems and is usually accepted by the population. In the GB operational areas, the use rate for subscribers to the Health Plan was 0.17 visits per person per year, and for non-insured 0.04 visits.

The program's policy makers expect that the Grameen Health Program will reach the break-even point within six years of operation. However, the expectation is limited within revenue recovery of revenue expenditures that include all costs except capital and development costs.

	1996	1997	1998	1999
Health centers	7	7	10	11
Total Population	150,000	150,000	213,750	235,000
Patients' visits	10,782	21,952	24,688	34,933
GB members	91.87%	83.65%	84.37%	91%
Non-GB	8.13%	16.35%	15.63%	9%
Expenditure	18,55,353	27,07,930	25,91,691	64,91,979
Revenue	11,44,160	11,76,896	9,75,640	24,71,096
Cost Recovery	62%	43%	38%	38%

Revenue expenditure comprises about 60% of the total expenditure of the GHP. Of this, 60% was spent on personnel, and about 30% on purchase of drugs and small medical supplies. All received and receivable income from the community combined represented 66% of total expenditures, the remaining 34% being covered by a long-term loan from the Grameen Bank. Of the total revenue income, about 70% were from the insured, out of which 55% was covered by income from annual premiums.

There are several reasons that may explain the highest cost recovery rate. As it was the first year of operation, people enrolled in the plan with enthusiasms, and the staffing was incomplete which caused low expenditure and high cost recovery. Non-renewal syndrome started in the second year of operation that caused less cost recovery. In 1999, seven health centers started performing with new pricing scheme in the later half of the year. None of them fulfilled their center specific calendar year; consequently, their actual cost recovery could not be reflected as of December 31, 1999. On completion of their calendar year, it was expected that each of these centers would recover 60 - 70% of their revenue costs.

In Bangladesh, public medical care is, theoretically, free. In context of free culture of medical care, it is difficult to implement a health plan which stresses on cost recovery for sustainability. Willingness to pay is greatly influenced by this free medical care culture despite people's ability to pay per their socio-economic conditions. Free medical care culture is one of the important reasons of very low participation of non-Grameen and non-poor people in the Grameen Health Program besides inadequate marketing and communication.

Families receiving GB credit are identified as 'GB member-families' and they affiliate to the BG Health Plan through a process of group decision. However, all of them do not use the health facility in one insured year. It was observed that those families who did not use the facility showed their reluctance (almost one-third) to renew their policies. In an attempt to stimulate renewal, the Grameen Health Program decided that all insured individuals should benefit from an annual health check-up.

While the strategy worked, it was criticized that the health program attempted to solve the problem by 'medicalizing' the issue as opposed to popularizing the principle of risk sharing or cross subsidization. The other, and perhaps the most important, reason was extreme poverty, for which the family did not consider it worth to invest in risk as the savings might well be used to cater to some other needs like food and cloths. Moreover, the ultra poor section of the community usually did not come forward to utilize health center's services mainly because of price although concession was made to them on a case to case to basis. This phenomenon is considered more as an inherent problem of the microcredit program than the design of the health program.

In order to ensure community participation in the GB areas, Health Center level committees, consisting of heads of the local credit centers and the GB branch manager and two other staff, have been established. Conceived as committees to implement the insurance scheme, they so far essentially channeled views of the users of the GB Health Program up to the level of the Program managers. However, one may criticize that there is no active involvement of the subscribers in decision-making about the organization and functioning of the schemes. All relevant decisions (e.g., decisions on premium and co-payment levels, or on how to increase subscription rates) are taken by the managers of the schemes, based on routine data and on findings from specific surveys.

Service providers of the Grameen Health Program understand that severe illness cases are not only priority needs in health care delivery terms, but also the priority risks to be covered in health insurance schemes than basic care needs. However, it is the basic care that gets priority over catastrophic illness by the clients because of rarity of such kind of illness. In order to ensure community participation, service providers compromise with popular demand of the community and dilute the essence of risk sharing in insurance. Popularizing the concept of risk sharing along with ensuring community participation come out as a potential challenge to the service providers of Grameen.

Moreover, the Grameen Health Program does not charge for preventive health services and purposefully does selection that is a contrast in attaining financial

sustainability of the program. Thus, by design default, social goals of the program bring about adverse effect on sustainability. Finally, while distinct parallelism of the program to the public health system is visible, the program translates the cost of creating public goods as its capital cost and seeks support for it from the government or development partners. From a policy perspective, it is the absence of a coherent national government policy in the area of health care delivery planning which is the root cause of such service duplication. Influencing the national policy makers to provide support to such an initiative and coordinate at the service delivery level in order to avoid duplication remains as another challenge to the program.

Performance of Health Insurance of Gonosasthya Kendra (GK)

The Gonosasthya Kendra (GK) health care system in Savar, an off-spring of the independence of Bangladesh in 1971, has since gradually been expanded and currently covers about 165,000 inhabitants in a rapidly industrializing area situated at 40 km away from Dhaka. The health care system consists of two tiers. Each of the four static sub centers (covering each 25,000 to 30,000 inhabitants) is managed by a team of 8 to 10 paramedics headed by a senior paramedic, who also perform door-to-door visits (600 to 700 families or 3,000 to 3,500 individuals per paramedic) where preventive and simple curative care and health education are delivered. At the sub center, curative care is provided to the patients referred during the door-to-door visits.

A doctor visits the sub center twice a week to see the patients referred by the paramedics. A 70 - bed Referral Hospital receives patients referred or not by the sub centers. Its outpatient department operates as sub center for the surrounding 50,000 to 60,000 inhabitants. The system uses resources in a rational way, i.e. containing costs while assuring integrated, continuous and comprehensive care of a technically justified quality. In 1975, GK established a health insurance scheme. It particularly aimed at increasing access for the poor to the health care system, and at recovering the majority of the recurrent costs of health care delivery. GK also has vocational training programs for women and handicapped, and provides small loans to over 2,000 poor families mainly through women identified by GK health workers, and gathered in cooperative groups of 5 to 10 individuals. Furthermore, immediately after the

country's independence in 1971, GK could benefit from an overall participatory mood in the community. However, quite quickly the rural elite managed to turn this participation into the traditional power structure of rural Bangladesh, resulting in conflicts of interest between the rural elite on the one hand, and the rest of the community and GK on the other hand. This led to the assassination of two GK health workers. Consequently, GK eventually scaled down its interaction with the community to the family and individual level. This phenomenon of power struggle is by no means particular to GK as far as Bangladesh is concerned, nor to Bangladesh as far as developing countries are concerned.

GK Health Insurance Scheme is essentially provider-driven. Enrollment in the GK Scheme is voluntary per household and based on the signing of a contract between GK and the household, after scrutiny of the socio-economic data provided in an enrollment form. Coverage starts immediately for clinic attendance, but only after one week for hospitalization.

The population intended to be covered by the GK Health Insurance Scheme is the total population of the area of responsibility of the GK health care system, i.e., 37,183 households or 165,964 individuals. Since 1974 a classification into socio-economic groups is updated every 5 years. Overall, the poor (group A) and middle-income households (group B) represent about one third and 58% of the total household population respectively, the lowest group (the destitute) less than 1% and the richest group 9%.

At the end of 1999, 32.5% of the households in the GK area of responsibility were subscribers to the GK Health Insurance scheme. The subscription rates per socio-economic group were by far the highest for the lowest two groups (groups O and A), 80% and 46% respectively. They were only20% and 10% respectively for the two highest groups. In addition, the subscription rate appears to the related to the distance to the GK hospital for the two lowest socio-economic groups, with rates of up to 90% for nearby villages, and 35% for distant villages. Households from outside the GK area of responsibility can also subscribe to the insurance scheme and are automatically affiliated in group C.

GK is providing preventive services, family planning and health education, free for all, irrespective of family subscription to the health insurance scheme. Community-based (as opposed to hospital-based) care is covered (essentially consultation, basic pathological tests and medicines) in the scheme. In the GK scheme, costs of referral cases are also covered.

The fee structure of the GK health care system is characterized by sliding scales of premiums, renewal fees and itemized co-payments for the insured households, and, for the uninsured households, by flat fee-for-service. The scales are based upon the above described socio-economic groups, with near symbolic amounts for the lowest group. For premiums and renewal fees the difference between the lowest and highest groups is a factor 10. For hospital procedures, particularly surgical interventions, the difference is much greater. For instance, while the fee for a caesarean section in the 'destitute' group is almost symbolic (Taka 50), it is 10 times higher for group A, 30 times for group B, and 60 times for group C or taka 3,000, and for the uninsured 'only' taka 3,500. However, compared to the latter figure, user costs in other available health care facilities are more than twice as high.

In GK, new cases seen at *clinics* from the insured decreased with increasing socio-economic level from group 0 (1.74 per person per year) to group B (0.60). Only a fraction of the clinic attendance (1.5%) was from uninsured families, which corresponds to a use rate for uninsured of 0.004 per person per year, and none were from outside the GK area of responsibility. In contrast, rates for *hospital admission* and *surgical cases* showed an opposite trend for the insured, with again substantially lower figures for the non-insured. However, the hospital is also extensively used by patients from outside the GK area (32% of hospital admissions, 40% of surgical cases).

Total annual recurrent expenditure (activity year 1998-99) of the GK health care system (for all services combined, i.e. curative and preventive care, family planning, and health education) was taka 8,448,530, or Taka 51 per capita (i.e. US $ 1.24). The cost recovery rate was about 36% when all income from the GK community was considered, the remaining 64% being covered by subsidies from GK commercial

ventures (14%) and international solidarity (50%). Sixty-four percent of the income from the community was from the insured population. About 12% of the income of the health insurance scheme came from premiums and subscription renewal.

Affiliation to the GK health insurance scheme is voluntary and open to all households in GK's area of responsibility. However, the affiliation rate amongst the 2,000 families engaged in the GK credit program (they had been identified by the health worker as 'poor') is very high (about 80%). During the meetings of the credit family groups, the advantages of subscription to the health insurance scheme and how to affiliate to it are explained by workers of the credit scheme and by health workers. Individual households are free to decide as to whether to affiliate or not, although the group meetings may help to convince households to do so. Receiving credit from GK does not label families as 'GK - member families', nor does it give them any advantage in the GK health insurance scheme.

There is no active involvement of the subscribers to the scheme in decision-making about the organization and functioning of the schemes. All relevant decisions (e.g. on premium and co-payment levels, or on how to increase subscription rates) are taken by the managers of schemes, based on routine data and on findings from specific surveys. As per accepted principles in social movements, the schemes are run on a not-for-profit basis.

As mentioned above, the GK managers deliberately chose to get as many households as possible classified as 'poor' to subscribe to the Health Insurance Scheme. In the lowest socio-economic groups (i.e. O and A), the subscription rates are indeed substantially higher than in the other groups. However, after more than 15 years of the scheme's operation, still 20% and more than half of the households in the O and A group respectively, were not subscribing to the scheme at the end of 1999. In routine surveys, the scheme's levels of premium and co-payment were the single most frequently reported reason for non-subscription in nearby villages. A review of the current fee structure compared to what the different groups, particularly the poor (groups A and partially B), can afford to pay, is thus required.

Furthermore, in distant villages, the main reasons for non-subscription were the fact that subscription was not needed, most probably related to the second reason, i.e. lack of transport to reach GK health facilities. Consequently, for distant villages, increasing access to GK facilities, including the sub centers (e.g. by decentralizing activities and / or facilities), should be another main objective.

Performance of Gonosasthya Urban Hospital (GKUH) in Dhaka

Effective in 1993, GK started its urban hospital in Dhaka as a separate establishment from the rural health insurance scheme. Currently, it provides outpatients, inpatients, emergency, diagnosis and specialist services with 100 bed facilities. According to the plan, it will be a 250 - bed tertiary care hospital within next two years.

GK Urban Hospital offers family health insurance. Insured families are required to seek services from the GK Urban Hospital. GK's definition of family allows including one servant or maid among family members. GK allowed this inclusion from the observation that most of the middle class families in Dhaka have one housemaid and usually their health needs are neglected. Annual premiums are set on a sliding fee scale according to socio-economic conditions. GK has identified six classes among the urban dwellers. The terminal classes are separated by a factor of close to 100, i.e. the annual premium for a destitute family is Taka 30 while it is Taka 2,500 for a rich family. Smokers are charged a higher rate than the non-smokers in all classes. Insurance coverage is provided one week after the receipt of application, and includes servants or maids. According to the structure, co-payment is required for seeking services. Again, the higher the socio-economic status of the insured family, the higher rates of co-payment are charged. About 1,500 families have been enrolled so far under the urban health insurance of Gk.

GK Urban Hospital offers its services to anyone whether they buy insurance or not. It also caters the referral needs of urban primary health care program of GK urban PHC program and PHC programs of a few other NGO's like Action Aid. It also acts as a third party service provider. Grameen Health Insurance Program made an agreement with GK Urban Hospital and uses its services as referral hospital. Six Grameen Health Centers send their patients for diagnostics, specialists and hospital services and pay their portion later.

As GK Urban Hospital is a new establishment, its capacity is yet to be fully utilized. GK's vigilance over rational prescription and low cost treatment will benefit its users. In cases of insurance, GKUH is willing to negotiate with the premium rates in cases of groups of formal sector, and also ready to serve as third party provider. However, an assessment of 'perceived quality' of services should be conducted during exploration and negotiation with GKUH.

Benefit Packages of the Two Community Health Insurance Schemes

Services covered	GHP[a]	GK
Preventive Care	Free	Free
Family Planning	Free	Free
Community-based Care		
Consultation	2 taka	3 - 10 taka
Pathological test	50%	
Drugs	50% of 15 ED[b], 15% of MRP[c] for other drugs	0 - 75% based on SES[d]
Deliveries	Not covered	50 - 3000 based on SES
Referrals		
Specialists	50%	GK sliding reimburse Ratio
Medical test	50%	
Hospitalization	Reimbursed 500 -1000 (about 10% of total costs)	

a. Benefit packages vary among the health center. b. Essential Drugs. c. Minimum Retail Prices. d. Socioeconomic status.

Fee Schedules for GK and GB 1999

	Gonoshasthaya Kendra					Grameen Health Program		
	Insured				NI	Insured		NI
Groups	O	A	B	C		GB	Non-GB	
Premium	5	15	40	50		120	150	
Renewal Fee	3	10	25	40		120	150	
Consultant Fee	3	5	10	10	20	2	2	20
Drugs	Free	Free	25%	75%	0%	50%	0%	0%
Pathology Test						50%	50%	0%

All numbers are in Taka
NI = Non-insured.
a. A monthly rate.

Common features of Two Health Insurance Schemes

Common features of two health insurance schemes of Bangladesh have been summarized below.

* Schemes are voluntary as opposed to definitional requirement of SHI.
* After several years of marketing efforts, schemes cover about one-third of the population.
* NGOs act as service provider as well as insurer, thereby contain costs.
* Schemes do adverse selection on purpose.
* Coverage of the schemes mostly started with low cost high frequency events as opposed to high cost low frequency events as started in the western world.
* Moral hazards is not visible because of design strength of the schemes e.g. copayment.
* Schemes recover 40 - 50% of the recurrent expenditures.
* Rural poor people mostly used Services.

It may be concluded that Bangladesh experiences in community health insurance schemes are very much local products, which reflect the needs and the socio-economic environment in local communities. They often have stronger community ownership than other types of insurance. They provide a mechanism to mobilize and involve in communities in managing health care provision and financing.

Experience of the NGOs in Bangladesh also suggests that an insurance plan that covers only catastrophic events is not very attractive because the occurrence of such events is rare and people are willing to take such risk in order to meet many other basic needs. This reduces the opportunity of sharing risk between healthy and sick people. On the other hand, an insurance plan that covers only simple primary health care services is less effective. Such insurance is less attractive to better off people, because the risk covered by the insurance is low and they can manage to pay for low cost care without help from the insurance. This reduces the opportunity of sharing risk between the rich and poor. A saving may serve better for covering the expense for such predictable events.

NGO schemes mostly cover "low cost-high frequency" events while from the stand point of poverty alleviation and social protection it would be critical to provide coverage to "high cost-low frequency" events.

In most cases NGOs do not have inpatients facilities. So, a combination of NGO / private facility with public facility may fulfill the needs of the potential clients where NGO / private facilities will serve the first level of outpatients level and the rest will be supported by public facilities.

By enrolling more members other than members of micro-credit programs in the scheme RSHI may try to maximize risk sharing. It will require vigorous development marketing and behavior change communication.

Organizational experience suggests that only one third of the population may get enrolled in RSHI after several years of operations. A combination of development marketing efforts and BCC will yield more members enrolled in RSHI and maximize risk pooling within the community, within poor and affluent, and within sick and healthy.

Since sole objective of health insurance is not limited to cost recovery and in alternate financing, it may purposefully do adverse selection to serve its social purpose. It has been observed in the cases of NGO experiences that when coverage is provided to family level it includes people like senior citizens and housemaids who would not have been covered in any other schemes. Because of the social purpose, NGOs preferred to provide coverage at this level. Thus whatever adverse selection has been made by the NGOs it has been made on purpose and for social causes.

Conclusion

Bangladesh is in a very primitive stage in terms of health insurance. Even in the formal sector, due to the absence of organizations and culture of solidarity and mutuality, concepts of social security and social health insurance could not plant their roots. Serious marketing efforts and competition are yet to be seen in the private for-profit health insurance sector. A few NGO's are trying out health insurance on trial and error basis. All of them are performing dual role of insurer and service provider. They are skilled in providing services, however, their skills in managing insurance plan require improvement. With very limited experience in actuarial analysis, cost analysis, price setting, marketing, paying professionals, and contracting out, etc., health NGO's may find it difficult to perform with excellence in managing an insurance scheme without adequate training and technical assistance.

Experiences of the NGO's indicate the critical importance of involving the beneficiaries from the very beginning of the planning of the scheme. Grameen Health Program had changed its premium and benefit packages two times within a short period of three years upon receiving opinions of their beneficiaries. Extensive consultation with the beneficiaries at the launching phase as well as continuous dialogue among the service providers and clients cannot be overemphasized.

Experiences of the NGO's suggest that renewal of health insurance policy will face much more challenges than its initial launching. Therefore, popularizing the concept of 'insurance' should be considered as the initial task than program design and launching. Aggressive marketing and communication may help internalize the concept. A marketing and communication expert should be included in the design team.

Misuse of medical benefits in the formal sector e.g. banking sector in the 1970s should be remembered and reviewed during the design phase of any scheme for the formal sector. Adequate gate-keeping mechanism should be established in order to reduce administrative cost and misuse of the system. Although PHI provides coverage primarily to the individuals, experiences of NGO's suggest that family should be the unit of coverage in cases of SHI.

CHAPTER-VII

MODELING THE DEMAND FOR HEALTH INSURANCE

The scarcity of resources for health care in Bangladesh is a primarily cause of concern. Introduction of user fees in the form of health insurance for medical care is considered by many a desirable and feasible alternative to government financing.

The feasibility and desirability of raising revenue from patients depend on the price sensitivity of the demand for medical care. There are three issues. First, how price elastic is the demand for medical care in general? Second, is the demand for medical care more or less price sensitive for some groups than for others? Finally, the desirability of expanding the utilization of medical care depends on the extent to which its use improves health. In this study we take as given the notion that medical care is efficacious. In some cases, however, quality is so low that this assumption could be suspect.

The Welfare Analysis of Medical Care Demand:

In an analysis of economic welfare, the starting point is a decision making unit that, given limited resources and other constraints, tries to maximize its own welfare. This unit is usually an individual or a household, but the general theory can be applied equally well to a government, a firm or a hospital. In this study unit is defined as a household. Households are assumed to choose the bundle of goods and services that maximizes their welfare. The constraint they face is their command over limited resources. Furthermore, they are guided in their choices by the relative prices of the available goods and services. The analyst observes the household's consumption, the household's total income, and the prices in the market. Following from Gertler and Gaag (1990), we will denote a vector of k goods and services as $x = (x_1, x_2, \ldots, x_k)$. Their respective prices are $p = (p_1, p_2, \ldots, p_k)$, and household's total income is Y. Households are assumed to maximize a utility function U defined over a bundle of goods and services x, when prices are p and income is Y. In formula:

(1) $$\max_{x} U = U(x_1, x_2, \ldots, x_k)$$

$$\text{subject to } Y = \Sigma\ pi\ xi$$

The budget constraint says that total expenditures cannot exceed total income.

(2) $x^o_1 = x_1 (Y, p_1, p_2, \ldots\ldots, P_k)$

$x^o_1 = xi (Y, p1, p2, \ldots\ldots, P_k)$

$x^o_k = x_k (Y, p_1, p_2, \ldots\ldots, P_k).$

where x^o_i denotes the optimal quantify of consumption item i.

Substituting (2) into the utility function (1) yields a so-called indirect utility function.

(3) $U^o = U^o (Y, p_1, p_2, \ldots\ldots, p_k).$

This function shows the maximum welfare level U^o that can be reached with income Y, when prices are p. The most useful tool for welfare analysis is the inverse of this function:

(4) $Y = C(U^o, p_1, p_2, \ldots\ldots, p_k).$

Before the price change the cost function reads:

(5) $Y^o = C(U^o, p_1, p_2, \ldots, p^o_i, \ldots\ldots, p_k)$

After the price change we have

(6) $Y^1 = C(U^o, p_1, p_2, \ldots\ldots, p^1_i, \ldots\ldots, p_k).$

Let p_f be the fee for obtaining medical care and p_t be the sum of all other costs (travel time, waiting time, travel costs, and so on). Then

(7) $P_m = p_f + p_t.$

where p_m is thee total cost of medical care

The willingness to pay for health insurance should be distinguished from the ability to pay. The idea of ability to pay is sometimes used regarding the consumption of other goods, mostly luxuries such as alcohol and theater tickets. As long as a person's expenditures on such luxuries exceed the expected costs of medical care, it is judged that he or she is able to pay for medical care. Of course, many other factors other than income and price influence the demand for goods and services. If we denote all such intervening variables by $h = (h_1, h_2, \ldots, h_l)$, we can write the vector of demand equation as:

(8) $x = x(Y, p; h)$.

These demand equations can then be used to calculate price elasticities that show how price sensitive consumers are and how price sensitivity differs among consumer groups. Given this empirical evidence, the tools of welfare economics can be used to quantify the implications for welfare and the budget of various policy scenarios.

The Model

In this chapter we derive a discrete choice specification of the demand for medical care from a utility - maximizing theoretical model. In our model we focus on the decision to seek care and the choice of provider. In studies on the utilization of medical care in industrial countries, most notably the Rand Corporation's health insurance experiments (Manning and others 1987) researchers focus on the determinants of how much medical care individuals choose to consume, given that they seek care, as well as the decision to seek care at all. Manning and others find that price affects the decision to seek care In this chapter we review the literature on the demand for medical care, derive a theoretical model of choice of medical care provider, and specify that model's empirical counterpart.

Evidence from the Literature

The literature on the demand for medical care (also the demand for health insurance) in developing countries contains conflicting messages. One camp suggests that prices are not important determinants of utilization of medical care. Akin and others (1984, 1986); Birdsall and (Bhuban (1986); and Heller (1982) report very small and sometimes positive price effects, most of which are statistically insignificant. Another body of work - by among others, Mwabu (1986, 1988), Gerler, Locay, and Sanderson 1987), Alderman and Gertler (1988) and Cretin and others (1988) includes that prices are important. All of these studies, except for Crein others, employ discrete choice provider models. The study by Cretin and others examined household medical expenditures in China and reported that differences in coinsurance rates explain one third of the variation in expenditures on medical care. The empirical evidence shows that the demand for medical care is more income elastic in the poorer developing countries than in the richer industrial countries.

Engel curve estimates for medical care in Birdsall and Chuhan (1986) and Musgrove (1983) report income elasticities close to unity, whereas income elasticies between 0.2 and 0.3 are typically found for industrial countries (see, for example, Van de Venand vander Caag 1982, Heoltmand and Clsen 1978, Colle and Grossman 1978, Goldman and Grossman 1978, Phelps 1975 and others 1987). In most developing countries, the price of medical care at government-run facilities is small or, in many cases, zeros. Hence it is not surprising that prices do not ration the market. Acton (1975) and others have shown that when monetary prices are small the price of time (that is, the opportunity cost of time used in obtaining the good) rations the market. Time prices could be expected, therefore, to ration the market in developing countries.

The Behavioral Model

Our framework is a model in which utility depends on health and on the consumption of goods other than medical care. If an illness is individuals decide whether to seek medical care. The consuming medical care is an expected improvements cost of medical care is reduced consumption of other goods services.

Individuals have to decide not only whether to seek care but also what type of care. They are able to choose from a finite set of alternative providers, one of, which is self-treatment. Each provider offers an expected improvement in health (efficacy) for a price. Let us define the quality of an alternative provider as the expected improvement in health as result of that provider's medical care. The price of an alternative includes both monetary outlays and private access costs such as the opportunity cost of travel time. Taking into account this information and their incomes, individuals choose the alternative that yields the highest expected utility.

Formally, let the expected utility condition receiving care from provider j be given by where H_j is the expected health status after receiving treatment from provider j and C_j is consumption net of the cost of obtaining care from provider j.

(1) $$U_j = H(H_j, C_j),$$

The medical care purchased from provider j is invested in health. The quality of provider j's medical care is defined as the expected improvements in health over the health status that an individual would enjoy if he or she treated him or herself. In

essence, quality is defined as an expected marginal product. Let H_o be the expected health status without professional medical care (with self - treatment). Then the quality of provider j's care is $Q_j = Hj - H_o$, which yields an expected health care production function of the form.

(2) $H_j = Q_j + H_o$.

As specified in (2), quality varies by provider and may in fact also vary by individual characteristics such as severity of illness and the educational attainment, age, and sex of the individual.

The health production function assumes a simple form for the self-care alternatives. Since $H_j = H_o$, we have $Q_o = 0$. This implicitly normalizes the health care production function so that the quality of a particular provider's care is measured relative to the efficacy of self-care.

Consumption expenditures (net of expenditures on medical care) are derived from the budget constraint. The total price of medical care includes both the direct payment to the provider and the indirect cost of access (for example, the opportunity cost of travel time). Let P_j be the total price of provided j's care and Y be income, so that the budget constraint is

(3) $C_j + P_j^* = Y$

with $C_j > 0$ required for the jth alternative to be feasible. Substitution of (3) into (1) for C_j yields the conditional indirect utility function.

(4) $U_j = U (H_j, Y - P_j^*)$

Notice that income affects utility through the consumption term and that the price of medical care is forgone consumption.

The time spent obtaining care could, in principle, come at the expense of work in the market place, production work at home, or leisure. In that case income Y and net consumption Cj should incorporate the value of the three activities. In an economy that is only partially monetized, such as the one in rural Bangladesh, non-traded home production is a principal source of income. We capture this by including the value of

home production consumed by the household in the measure of income. Adding the value of leisure, however, would greatly complicate the model and is left for future work. Hence we implicitly assume that lost time comes at the expense of work or home production and not at the expense of leisure.

We are now ready to specify the utility maximization problem. Suppose the individual has J + 1 feasible alternatives (with the J = 0 alternative being self-care). The unconditional utility maximization problem is

(5) $U = \max U_o, U_j, \ldots U_j)$.

where U a maximum utility. The solution to (5) gives the alternative that is chosen and, when there are random terms in the model, the probability that each alternative is chosen. The probability an alternative is chosen can be interpreted as the demand function in a discrete choice model. These demand functions, then, can be used to solve for the unconditional indirect utility functions and the expenditures or cost functions. The unconditional functions can be used to assess the effect of policy changes on welfare.

In summary, individuals who experience an accident or illness are faced with a choice of obtaining treatment from one of several available providers or caring for themselves. Each alternative provider offers an expected improvement in health (quality) for a price that reduces income available for the consumption of non-medical goods. The individual chooses the provider whose combination of quality and price offers the highest quality, where utility is derived from health and the consumption of all goods and services other than medical care.

Empirical Specifications

The solution to equation (5) yields a system of demand functions whose forms are probabilities that the alternatives are chosen. The probability that a particular alternative is chosen equals the probability that this choice yields the highest utility among all the alternatives. The functional form of the demand function depends on the functional form of the conditional utility function and the distribution of the stochastic variables.

Gerler, Locay, and Sanderson (1987) show that income can influence the choice of provider only if the conditional utility function allows for a nonconstant marginal rate of substitution of health for consumption. This point is easily demonstrated by an example in which two alternatives are available. Suppose that the individual has the choice between self-care and doctor-provided care and that the conditional utility self-care and doctor-provided care and that the conditional utility function is linear, which imposes a constant marginal rate of substitution. Thus the utility from doctor-provided care (denoted by subscript *d*) is and the utility from self-care (subscript *s*) is

$$U_d = \alpha_0 Hd + \alpha_1 (Y - Ps)$$

And the utility from self-care (subscript s is:

$$U_s = \alpha_0 Hs + \alpha_1 Y$$

Then the individual chooses doctor - provided care if

$$(5) \qquad Ud - U_s = \alpha_0 (Hd - H_0) - \alpha_1 P_d -> 0.$$

If the alternative of doctor-provided care is chosen, the individual experiences an improvement in health of (Hd - Hs) and a reduction in nonmedical consumption of P_d. If the individual chooses doctor provided care, he or she gets an increase in utility of α_0 (H_1 - H_0) from improved health and a reduction in utility of α_1 P_d from reduced consumption. The decision rule in (5) says that the individual will choose doctor care if the net change in utility is positive. Equation (5) also shows that if the marginal utility of health and the marginal utility of consumption are constant for all levels of income (that is, if there is a constant marginal rate of substitution between health and income), then income does not contribute to which alternative is chosen. This is indicated by the fact that Y differences out of (5).

Some studies on the choice of health care provider try to include income in the model by specifying linear utility functions with alternative specific coefficients on income (Akin and Others 1984, Birdsall and Chuhan 1986; Dor and van der Gaag 1987; and Mwabu 1986). This specification is inconsistent with stable utility maximization. For instance, consider our earlier example, with the exception that the coefficients on consumption vary by alternative.

$$Ud = \alpha_o Hd + \alpha_{1d} (Y - P_d)$$

and

$$Us = \alpha_o H_o + \alpha_{1s} Y.$$

Notice that the marginal utility of consumption is constant but varies by alternative. In this case, doctor - provided care is chosen if

$$Ud - Us = \alpha o (Hd - Hs) - \alpha_{1d} Pd + (\alpha_{1d} - \alpha_{1s}) Y > 0.$$

In this specification income does not difference out of the decision rule and therefore influences the choice. The identifying restriction, though, is that the coefficient on consumption must be different in the two alternatives. In other words, the marginal utility of consumption must be different for the two alternatives even when evaluated at the same level of consumption. This implies that two alternatives that provide the same improvement in health for the same price must yield different levels of utility to the same individual. If this is true, then preferences are not ordered and transitive, and stable utility functions, therefore, do not exist.

Alternatively, if the functional form does not impose a constant marginal rate of substitution on the conditional utility function, income will influence the choice. To make this point we generalize our example so that the decision rule in (5) is

$$Ud - Us = U (H_d, Y - P_d) - U (H_o, Y)$$

The income effect is found by the partial derivative.

$$(6) \qquad \frac{\partial (U_d - U_s)}{\partial Y} = \frac{\partial U(H_d, Y - P_d)}{\partial C} - \frac{\partial U(H_o, Y)}{\partial C}$$

If the derivative of the conditional utility function with respect to consumption, $\partial U/\partial C$, is constant (that is, $\partial^2 U/\partial C^2$ and $\partial^2 U/\partial C \partial H$ are zero), then (6) is zero and income does not influence the choice. When $\partial U/\partial C$ is nonconstant, (6) is nonzero and income does influence the choice. Also, the marginal rate of substitution, $(\partial U/\partial H)/(\partial U/\partial C)$, is nonconstant when $\partial U/\partial C$ is nonconstant.

Another implication of the model is that if health is a normal good the effect price is smaller for larger incomes. This point requires the reasonable assumption that $\partial U^2 / \partial C \partial H \geq 0$ (that is, that the marginal utility of consumption increases with improved health). For health to be a normal good, (6) must be positive $\partial 2U/\partial C^2$. For (6) to be positive $\partial 2U/\partial C^2$ must be negative that is, the conditional utility function must be concave in consumption. Now we use this information to show that the effect of price diminishes with increases in income. The price effect is

$$\frac{\partial(Ud - U_s)}{\partial P} = - \frac{\partial U(H_d, Y - P_d)}{\partial C}$$

Thus an increase in income influences the price effect by

$$\frac{\partial^2(Ud - Us)}{\partial P \partial Y} = - \frac{\partial U^2(H_d, Y - P_d)}{\partial C^2}$$

Hence an increase in income reduces the negative effect of price if $\partial^2 U/\partial C^2$ is negative. Therefore, if health is a normal good (that is, $\partial^2 U/\partial C^2 < 0$), the effect of price on the choice diminishes with income.

A parsimonious functional form for the conditional utility function that does not impose a constant marginal rate of substitution and is consistent with stable utility maximization is the semi-quadratic, which is linear in health and quadratic in consumption. Specifically, let the conditional utility function be

(8) $\quad U_j = \alpha o\, H_j + \alpha_1 C_j + \alpha_2 C^2 + \varepsilon_{js}$

where ε_j is a zero mean random taste disturbance with finite variance and is uncorrelated across individuals and alternatives.

Consumption (that is, income net of the cost of obtaining care from provider is derived from the budget constraint in (3). Specifically, $C_j = Y - P_j$. The full price of medical care is the direct payment to the provider plus the value of time spent in obtaining the care. Consumption, then is

(9) $C_j = Y - (P_j + wT_j)$,

where P_j is the direct payment to provider j, w is the opportunity cost of time, and T_j is the time spent obtaining care from provider j. Substitution of (9) into (8) yields -

(10) $U_j = \alpha_o H_j + \alpha_1 [Y - (P_j + wT_j)] + \alpha_2 [Y - (P_j + wT_j)^2 + \varepsilon_j$.

Since Po = Ho = 0, the conditional utility function for the self-care alternative is

(11) $Uo = \alpha_o H_o + \alpha_1 Y + \alpha_2 Y^2 + \varepsilon_o$.

Finally, a simple transformation of the conditional utility function illuminates the role of prices and income in the model. Since the decision rule involves comparing utility levels across alternatives, the conditional utility functions can be normalized relative to one of the alternatives without loss of generality. To illustrate the role of prices and income, we normalize the utility from the self - treatment alternative to zero by subtracting (11) from (10). In this case (5) becomes:

$$U_j - U\alpha = \alpha_o Q_j - \alpha_1 P_j + \alpha_2 (P_j)^2 - 2 YP_j) + \varepsilon_j - \varepsilon_o$$

Notice that income has differenced out of the consumption term but not out of the consumption-squared term. The linear consumption term represents only price, whereas the consumption squared term includes both a price income interaction term and a squared price term. Thus our specification includes a price term and price income interaction. Therefore, if α_2 is not significantly different from zero, income does not influence the choice (that is, the utility function exhibits a constant marginal rate of substitution of health for consumption). Prices do not influence the choice if both α_2 are not significantly different from zero.

The remaining issue in the specification of the conditional utility function is the measurement of the expected efficacy (quality) of each alternative. Substitution of the health production function (2) into the conditional utility function (10) yields:

(12) $U_j = \alpha_2 H_o + \alpha_o Q_j + \alpha_1 (Y - P_j - w T_j)$
$+ \alpha_2 (Y - P_j + wT_j)^2 + \varepsilon_j$

Since $Q_o = 0$, the conditional utility function in (13) for the self care alternative reduces to

(13) $U_o = \alpha_o H_o + \alpha_2 Y + \alpha_2 Y^2 + \varepsilon_o$.

The $\alpha_o H_o$ term appears in all of the conditional utility functions, and its value is constant across alternatives. Since only differences in utility matter, these terms can be ignored.

The basic determinants of both the quality household production function and the marginal utility of quality are demographic variables. Pollak and Wachter (1975) argue that the distinct effects of demographic variables in the household production function and in the marginal utility of quality cannot be identified separately. Therefore, we specify a reduced form model that shows how utilities derived from quality. Formally, let this function be given by

(14) $\alpha_o Q_j = \beta_{oj} + \beta_{1j} X + \pi_{1j}$

where X is a vector of the determinants of quality and utility from quality, and π_j is a zero mean random disturbance with finite variance.

Substituting (14) into the conditional utility functions in (12) and ignoring the α_o to term, which appears in all of the conditional utility functions, give:

(15) $U_j = V_j + \eta_j + \varepsilon_j$,

Where,

(16) $V_j = \beta_{oj} + \beta_{1j} X + \alpha_1 (Y - P_j - \omega T_j) + \alpha_2 (Y - P_j + \omega T)^2$.

This completes the specification of the indirect conditional utility functions. Notice that the intercept and coefficients on the demographic variables vary by alternative, whereas the coefficients on the economic variables are constant across alternatives. Further, the disturbances in the non self-care conditional utility functions are correlated with each other, but, since $Q_o = 0$, they are uncorrelated with the disturbance in the self-care conditional utility function.

Most of the previous studies on the demand for medical care in developing countries have assumed that these demand functions take on a multinomial logit (MNL) form. As discussed in McFadden (1981), the MNL suffers from the assumption of the independence of irrelevant alternatives. This assumption is equivalent to assuming that stochastic portions of the conditional utility functions are uncorrelated across alternatives, and it imposes the restriction that the cross -price elasticities are the same across all alternatives.

A computationally feasible generalization of the MNL is the nested multinomial logit (NMNL), which was introduced by McFadden (1981). The NMNL allows for correlation across subgroups of alternatives and, therefore, nonconstant cross-price elasticities. The NMNL allows the grouping of more similar alternatives (close substitutes) so that the cross-price elasticities are more elastic within groups than across groups. The NMNL also provides a specification test for groupings. The NMNL relates the assumption of the independence of irrelevant alternatives across groups but not with groups. Furthermore, the NMNL is a generalization of the MNL, since the MNL is nested within it.

DESCRIPTION OF FIELD DATA & INFORMATION

Study Sites

The study was conducted in two upazilas – Savar under Manikganj district and Kalahari under Tangail district, where health insurance schemes of Grameen and Ganasysta have been operating. Two unions from each upazila were selected as the study sites. Unions were selected on the basis of number of beneficiaries of health insurance schemes.

Sample Respondents and Data Collection Instruments

Sample Size

From the supply side, all the program managers and service providers of the two health insurance schemes in selected upazilas were interviewed. From the category of service recipients, a total of 130 beneficiaries of the health insurance programs were selected -60 respondents were selected from the Grameen and 70 from the Ganasysta health insurance scheme- for this study. The list of the beneficiaries was collected from the concerned organizations. Respondents were selected using a simple random technique. About 23% covered from the Grameen Health Insurance Program, while from the Ganasysta it was 18 percent.

Variables, Sources and Means of Verification of Information

Considering the objectives of the study, we have identified variables that have been investigated, sources of information and means of verifying the information. This is presented in the following table:

Table 7.1: Variables, Sources and Means of Verification of Information

Variables	Sources of Information	Means of Verification
Demographic	A. Upazila and below managers and service providers	Age, Sex Marital status Household size (adult, youth and minor)
Socioeconomic	A, B, C	Religion, Education, Occupation, Income, Assets
Health and FP services	A, B, C	Diseases : Mortality/morbidity FP methods : CPR/CAR/CDR Immunization coverage
Organisational link	A, B	Organogram Job descriptions
Infrastructural facilities	B, C	Roads, Rail, River, Distance, Electricity, Telephone, Institutions
Satisfactions	A, B, C	Effect of health insurance programs on services delivery
Cost-effectiveness	A, B, C	Service statistics on Service kits and suppliers Service charges
Sustainability	A, B, C	Relations of Service Provider Opinion of Service Provider
Problem, Achievement and prospects	A, B, C	Relationship of personnel and Quality of services offered and received before and after

Implementation

The study was carried out in three broad steps – pre-data collection activities, activities during data collection, and post-data collection activities. The major activities by steps are shown below:

Steps	Activities
Step 1 : Pre-data Collection	- Collection of relevant literature/documents - Review of literature - Discussion with officials of two programs - Discussion with knowledgeable persons - Development and training of research and field staffs - Pre-testing of questionnaires
Step 2 : Data Collection	- Deployment of field force - Supervision and monitoring of field work - Development of tabulation and data analysis plans
Step 3 : Post-data Collection	- Collection and registration of filled-in questionnaires - Development of code manuals - Coding, Code Verification, Editing and edit verification of data - Data entry into computer - Analysis of frequency tables - Preparation of tables in line with tabulation plan - Analysis of tables - Preparation of final tables - Analysis of data

All the data collection instruments were prepared in English, and based on the pre-testing, those were translated into Bangla. The draft questionnaires were pre-tested in Tongi. The pre-test results were analyzed and accordingly necessary revisions of the data collection instruments were made. The field data collection was done during May-June 2002.

DESCRIPTION OF STUDY UPAZILAS

A brief description about the study upazilas is presented below. The social, economic, demographic and community characteristics of the study upazilas are shown in Table 5.1.

Savar Upazila is situated at a distance of 14 km of Mannikganj district. According to 2001 population census, a total of 284481 population of this upazila is spread over 8 unions. Over 50 percent of the population is male and 49 percent female. Only 21 percent of the roads are *pucca or semi-pucca*. The literacy rate is 43 percent for males and 26 percent for females. About 88 percent of the total population are muslims. There are 77 primary schools (excluding the mardarasahs), 13 secondary schools and 2 collages in the upazila. In total, there are 15 women's' group (including mothers' clubs) and 18 registered youth clubs. About 77 percent of the cultivable land are irrigated.

The contraceptive acceptance rate (as on July 2001) was 53 percent. The estimated mortality rates (per 1000 live births) were 24 for neonates, 59 for infants, 12 for child, 57 for under-five, and 3.5 maternal. Health facilities and personnel available in the upazila include following: 4 FWCs, 5 RDs, 9 MBBS doctors, 4 Paramedics, 17 rural practitioners, 115 TTBAs 28 pharmacy/medicine shops and 57 FP (Family Planning), FW (Field Workers) units. Many government FP and health personnel posts were found vacant; 9 field staff posts and 2 union level clinic staff posts. The approximate average distance between unions and UHC is 6 km and that between unions and district hospital is 16 km.

Kalihati Upazila is located at a distance of 20 km from Tangail district. It is a relatively less populous upazila than the Savar upazila with 173191 population (according to 2001 population census) spread over 5 unions. Just over 51 percent population is male and 49 percent female. Over 18 percent road communication

network is connected through pucca or semi-pucca roads. The Muslims constitute 86 percent of the total population. The literacy rate is 38 percent for males and 31 percent for females. There are 101 primary schools, 30 secondary schools and 8 collages in the upazila. In total, there are 7 women's group and 6 registered youth clubs. The landless and marginal households comprise of 15 percent of the total households and a high of 88 percent of the total cultivable land is under irrigation.

The contraceptive acceptance rate is high at about 61 percent. The estimated mortality rates (per 1000 live births) are as follows: 16 for neonates, 47 for infant, 9.5 for child, 41 for under-five and 3.5 for maternal deaths. The health facilities and associated personnel available in Kalihati upazila include following: 5 FWCs, 2 RDs, 7 MBBS doctors, 21 Paramedics, 38 rural practitioners, 105 TTBAs, 1 private clinic, 32 pharmacy/medicine shops and 44 FPFW units. Many government sanctioned health-FP posts were reported vacant in the upazila, including 20 field staff 3 union-level clinic staff. The average distance between unions and UHC is 10 km, and that between unions and the district hospital is about 24 km.

With respect to various socio economic indicators, it thus appears that Savar Upazila performs comparatively better than the Kalihati Upazila. The high performing Savar Upazila is better placed compared to the relatively low performing Kalihati upazila in terms of the following indicators:

- higher overall literacy rates, especially among women;
- better communication network in terms of proportion of *pucca* and semi-pucca roads;
- economically better-off due to less pronounced landless;
- higher availability of outside-government health facilities in terms of rural practitioners, paramedics, pharmacies and medicine shops, and
- much lower mortality rates-neonatal, infant, child, under-five and maternal deaths.

DESCRIPTION OF SAMPLE RESPONDENTS

The pertinent information on socio-economic and demographic characteristics of the respondents have been presented in Table 7.2

Age Structure and Marital Status of the Respondents

Since age misrepresentation can affect the age distribution of such a small sample size, only 3 broad groups are presented. A smooth tapering of the age distribution of both males and females of the survey population, unlike the census age distribution indicates the superiority in the age reporting in the survey. A lower proportion of the sample population indicates that fertility has been declining and the decline has been more spectacular in Savar Upazila. Marital status of the population or more precisely age at marriage is one of the primary determinants of fertility. An increasing age at marriage contributes to reducing the fertility. The Table 6.1 indicates a pronounced higher trend of age at marriage in both Upazilas (21 years on average) unlike the census (2001) figure of 20 years. This pattern is clearly reflected in the age of last living child, the number of children given birth and the size of the household.

Educational Level

The education is a key dimension of "human resources" which has important implications for access to a whole range of other resources including work opportunities, access to information, access to services including health care and so on. It is observed from the Table 6.1 the women in the nearest village are slightly bettered educated than those in the distant village. Educational attainment is however, much better in Savar than the Kalihati Upazila. The presence of many non-government organizations and religious composition of the population may contribute to a large extent for higher years of schooling in Savar Upazila.

Occupation

Economic activity of population is an index of the type of economy and the level of its development. From Table 6.1, it can be seen that more than 95 percent of the women are engaged in "unpaid family activities" (housewife). A remarkable feature of husband's occupation is the concentration in non-agricultural activities, mainly in the "trade and "service". Because of the increased landlessness and increased economic

opportunity opened up for non-farm activities in recent years, the shifting pattern of labor force from agricultural to non-agricultural activities is possible.

Household Income and Perceived Economic Conditions

The yearly per capita income ($350 in Savar and $300 in Kalihati) in our survey is somewhat higher than the national estimate of per capita GDP of Bangladesh at US $280 in 1999. However, marked difference is observed in Kaliahati Upazila. Nearly 90 percent of the respondents in both Upazilas reported that their economic status has remained the same over the last five years. In Savar, about 7 percent of respondents reported to have improved their economic conditions over the years.

Total Land Owned and Operational Land Size

Land ownership refers to total land including fallow and homestead land owned. Operational land size refers to the size of land, under the cultivation by the household head, gained through ownership/mortgaged in/leased in. Land owned by a household head acts as a proxy of his major wealth. In both upazilas, size of owned land and operational land is same. As can be seen from Table 6.1 that over 20% of the household in Savar Upazila have no land at all. Another observation is that the proportion of households having higher land group is somewhat greater in the distant villages compared to that in the nearest villages. This is commensurate with the income pattern in the villages and indicates that income from agricultural sources is higher in the distant villages than in the nearest villages. Overall, the distribution of cultivable land appears to be more egalitarian in nature.

Household Asset Ownership

The ownership of several types of household asset was found to significantly associated with income level, as measured by a simple binary variable, below or above a poverty line of Tk. 1000. The access to safe drinking water (tubewell water) is much less in Kalihati Upazila than to Savar. In the remote union, nearly 50 percent of the households use non-tubewell water for drinking purposes. On the contrary, more than two-thirds of the sample household in both upazilas have sanitary toilets.

There is some evidence to suggest that men who participate in "Samity" (member of any organization) activities are more likely to be working than those who do not. No

association was apparent for women. The direction of causality is not immediately obvious in this relationship. Being a member of an organization may provide access to credit, social contacts and other resources, which facilitate employment.

Mobility of the Women

Women's mobility was simply measured by the single factor " permission needed to go outside home". Table 6.1 vividly shows that even to visit health and family planning centre, which is very close to their residences, requires prior permission either from their husband or father/mother-in-law. The picture is almost identical in both upazilas with marginally exception in Savar Upazila. This suggests drawing the conclusion that despite better education and higher income of the households' head; women in study areas are still considered as "birds in the cages".

Disease Pattern in the Study Sites

Over 87 per cent of the morbidity in Bangladesh are caused by the following eleven major types of disease: (i) diarrhoeal including dysentery and cholera, (ii) respiratory including cold, cough, asthma, (iii) fevers of all types (iv) cardio-vascular diseases (v) ulcer/gastric, (vi) skin diseases, (vii) jaundice (viii)eye problems, (ix) rheumatism, (x) malnutrition, and (xi) old age sufferings (Khan, 1997)

The disease pattern in the study areas followed broadly the national pattern. According to the opinion of Upazila Health Administrator, diarrhoea, respiratory problems, and fever of all types account for 70 per cent of sicknesses in Savar Upazila, as against of 77 per cent in Kalihati Upazila. The children specific diseases like measles, whooping cough and worms are more prevalent in both upazilas. The desegregation of the incidence of diseases by age, sex and land ownership groups did not show much difference. The infants suffer mainly from diarrhoeal diseases, fevers, intestinal worms and whooping cough. As is expected, female mainly suffers from female diseases. However, the incidence of respiratory diseases, jaundice, malaria etc. is lower with the rich households and problems like gastric/ulcer are more with them. Poor environmental and sanitary conditions such as potable water facilities and disposal of human waste is the prime cause of diarrhoeal diseases as reported by the Health Administrator of both the upazilas.

Table 7.4: Morbidity Situation by Upazila as Perceived by the Respondents

(Percent)

Type of Disease	Savar	Kalihati	Total
Normal fever	98.3	98.3	98.3
Viral fever	83.3	56.7	70.0
Kala-Zar	11.7	16.7	14.2
Typhoid	48.3	30.0	39.2
Diabetics	31.7	28.3	30.0
Arsenic	10.0	3.3	6.7
Diphtheria	6.7	3.3	5.0
Night-blind	48.3	31.7	40.0
Tetanus	40.0	18.3	29.2
Anemia	51.7	-	25.8
Tuberculosis	18.3	31.7	25.0
Dysentery	93.3	95.0	94.2
STD/HIV	3.3	1.7	2.5
Headache	98.3	100.0	99.2
Jaundice	76.7	85.0	80.8
Measles	91.7	85.0	88.3
Diarrhea	91.7	88.3	90.0
Blood pressure	68.3	85.0	76.7
Skin disease	68.3	40.0	54.2
Gastric	95.0	95.0	95.0
Goitre	18.3	36.7	27.5
Polio	20.0	13.3	16.7
Whooping cough	46.7	43.3	45.0
Malaria	20.0	36.7	28.3
Chicken pox	10.0	48.3	29.2
Leprosy	3.3	18.3	10.8
Dizziness	96.7	98.3	97.0
Intestinal worm	100.0	100.0	100.0

Results of the Field Data & Information

The models are estimated with data collected from two rural villages where health insurance programs are functioning. Researchers collected detailed information on individuals' illnesses and utilization of medical care over the four weeks immediately preceding the interview, in addition to many socio-economic variables relevant to the demand for medical care, such as income, family structure, and education.

In rural villages of Bangladesh private health care is insignificant. The vast majority of individuals who experience an illness or accident seek care initially from a government hospital or clinic, or they do not obtain any professional medical treatment at all. Traditional healers do exist, but less than 3 percent of the people report obtaining traditional care. Finally, only a handful of people in rural areas travels the very long distance to an urban area to go to a private doctor or to a pharmacy.

Income is calculated as the average monthly value of total household consumption. Household consumption is a better measure of permanent income than reported income because it is less sensitive to temporary fluctuations (such as the seasonality of work) and because it includes the value of home production. In developing countries like Bangladesh non-market activities such as home production are major sources of income. Purchasing medical care reduces not only the monetary resources available for other consumption but also the time available for home production and other work.

Since the government facilities had no user fees, the price of care was the opportunity cost of time spent in obtaining care. The variation in travel time is sufficient to identify all the parameters of the demand functions, thus allowing calculation of price elasticities and measures of willingness to pay. The opportunity cost of time is calculated as the product of the round trip travel time and the individual's wage rate.

The NMNL models of provider choice in rural villages were estimated by full information maximum likelihood. The estimated value of standard deviation is 0.34 for Savar and 0 .41 for Kalihati Upazila. The estimates are both significantly different from zero and significantly different from 1. Therefore, the model is consistent with

utility maximization and rejects the MNL specification in favour of the NMNL. The result that standard deviation is less than 1 also implies that hospital and clinic cares are closer substitutes for one another than a hospital and self-care or clinic and self-care.

In the model the coefficients on the consumption and its square are significantly different zero. The signs of the coefficients indicate that the conditional utility function is concave in consumption. In other words, the marginal utility of consumption is diminishing but does not become negative in the relevant range. Prices enter the model via the consumption terms. The fact that these coefficients are significant implies that the relative prices of the alternatives are relevant to the choice of the provider. Prices and income enter the model in a highly non-linear fashion through the consumption terms, making it hard to judge the order of magnitude of their effects.

Table 7.5: Descriptive Statistics for Surveyed Villages

Variables	Taskur-Savar		Rajabari-Kalihati	
	Mean	Standard Deviation	Mean	Standard Deviation
Clinic (Grameen & Ganasysta)	0.24	0.49	0.30	0.55
Hospital	0.15	0.38	0.14	0.37
Clinic travel time	1.18	1.32	0.92	1.16
Hospital travel time	1.90	0.92	1.56	1.60
Monthly family income(Taka)	1385.45	8.19	1288.41	9.66
Hourly wage	75.48	28.54	74.89	26.42
Age (years)	44.85	17.12	46.33	3.64
Male	0.46	0.50	0.51	0.50
Education (years of schooling)	5.85	2.16	5.01	0.88
Healthy days in past four weeks	18.60	9.94	22.34	7.24
Number of adults in household	3.57	2.96	3.62	3.01
Number of children in household	2.86	2.44	2.97	2.77
Sample size	70		60	

Respondents seem to reduce utilization of medical care over the life span, other things being equal. The coefficients indicate that all individuals between the ages of sixteen and forty are equally likely to seek medical care for the treatment of an accident or illness.

Table 7.6: NMNL Model of Provider Choice Estimates for Two surveyed villages.

Variable	Taskur-Savar		Rajabari-Kalihati	
	Coefficient	t-statistic	Coefficient	t - statistic
Consumption	10.04	5.44	14.43	5.65
Consumption squared	-0.02	3.30	-0.01	2.14
Sigma	0.34	3.54	0.41	4.37
Hospital				
Constant	1.64	1.20	2.68	2.54
Age	-0.10	2.82	-0.04	0.64
Education	-0.05	0.45	-0.05	0.13
Male	0.73	1.68	0.05	0.13
Children	0.17	2.17	0.21	2.44
Adults	-0.15	1.69	-0.19	2.06
Healthy days	-0.13	3.32	-0.09	2.71
Clinic (GK & GS)				
Constant	0.69	0.51	2.50	2.51
Age	-0.10	2.60	0.04	0.76
Education	-0.03	0.31	0.00	0.50
Male	-0.07	0.16	0.17	0.46
Children	0.15	1.89	0.18	2.28
Adults	-0.16	1.78	-0.21	2.30
Healthy days	-0.10	2.45	-0.06	2.05
Sample size	70		60	
Log likelihood	-886		-679	

NMNL - nested multinomial logit.

One explanation for this unusual pattern of utilization of medical care over the life span may be derived from human capital theory. Families may prefer to invest scarce resources in the health of members for whom the return is higher. For the same improvement in health, the economic return, measured by family income, is higher from investing in the younger, more productive members of a family than from investing in the elderly. A second reason may be that the available medical care is best suited to addressing the acute health problems common to adults in their prime rather than the more complex, chronic problems of the aged. Hence the available medical care is less productive (efficacious) in treating the elderly than in treating prime-age adults, which results in lower rates of utilization by the prime-age group.

Education does not seem to affect provider choice or the decision to seek formal care. The negligible effect of education most likely results from the small variation in education in the sample. The average length of schooling is less than two year. Therefore, the estimated coefficient is probably not a true measure of the influence of education on utilization of medical care.

We find that males who experience an accident or illness are more likely to seek care, and in particular hospital care, than are females. This is again consistent with the theory that households will invest in their more productive members, or at least in the members who are considered to be more productive. It could also be a sign of gender bias that warrants more scrutiny than can be given in this study.

The coefficients on the family structure variables indicate that individuals in households with fewer adults and more children are more likely to seek care from both hospitals and clinics. This is consistent with the hypothesis that having more adults in the household allows more time to better care for sick individuals at home, and having more children results in having less time to take care of the ill.

Finally, and not surprisingly, reductions in the severity of illness, as indicated by the number of healthy days, substantially reduce the probability of an adult seeking medical care, but it does not affect which alternative is chosen. This finding is common to almost all studies of utilization of medical care in both industrial and developing countries. One caveat is that the number of days an individual was healthy may be endogenous in a model of demand for medical care.

Price Elasticities

Since prices and income enter the demand functions in a highly nonlinear fashion, it is hard to assess the direction and magnitude of their effect on demand directly from the estimation results. To facilitate this, we estimate arc price elasticities of the demand for clinic and hospital care by income quarties. The are price elasticity is constructed by dividing the average percentage change in the sum of the probabilities by the average percentage change in the price. Thus an are price elasticity of say, - 0.50 implies that a 10 percent increased in price will result in a 5 percent reduction in demand.

The results show that the price elasticity of demand falls with income. Indeed, the demand for both clinic and hospital care is more elastic at lower income levels than at the highest income levels. Furthermore, user fees can, however, generate substantial revenue without adverse effects on utilization in relatively better off communities. Implicit in the calculations of these price elasticities is the effect of travel time on utilization, working through the opportunity cost of time. To investigate the rationing effects of the location of facilities, we calculate travel time elasticities. To estimate how travel time affects demand across income groups, we use the average agricultural wage rate. Arc travel time elasticities of the demand for clinic care and the demand for hospital care were calculated for four ranges of one hour each, covering zero to four hours.

The magnitude of the estimates of travel time elasticity is very similar to that of the estimates of price elasticity. This is not surprising since the opportunity cost of time is currently the whole price of medical care; thus time prices ration the market. The estimates of elasticity show individuals in the bottom three fourths of the income distribution to be much more sensitive to the opportunity cost of time than richer individuals (those in the top quarter). One interesting result is that demand becomes slightly more time elastic as income rises over the bottom three income quartiles. This reflects the increase in wage rates (the opportunity cost of time) over these income groups.

These results imply that the opportunity cost of time is a bigger barrier to health care for poorer individuals than it is for richer individuals. Poorer individuals can less afford to lose productive time than can the rich. The lower income groups in our sample consist of subsistence farmers who obtain a good portion of their income in the form of self-produced food. Moreover, little income is available to purchase processed goods, which in turn implies that many hours must be spent in home production activities such as gathering wood and fetching water. Our results clearly underscore that poor people are not just money poor; they are also time poor. Therefore, increasing the supply of health care facilities in poor areas is a sine qua non for improving access. In other words, if improving the poor's access to medical care is a primary goal of social policy, providing the care free of charge is simply not enough.

Table 7.7: Arc Price Elasticities for Respondents in Savar Upazila.

Fee	Income Quartile				Total
	1	2	3	4	
Health Center					
0-10	-0.57	-0.38	-0.16	-0.01	-0.26
10-20	-0.96	-0.64	-0.26	-0.02	0.39
20-30	-1.36	-0.91	-0.37	-0.04	-0.50
Clinic (GB & GS)					
0-10	-0.31	-0.21	-0.08	-0.00	-0.15
10-20	-0.61	0.40	-0.15	-0.01	-0.27
20-30	-0.95	-0.61	-0.23	-0.02	-0.39

Table 7.8: Arc Price Elasticities for Respondents in Kalihati Upazila.

Fee	Income Quartile				Total
	1	2	3	4	
Health Complex					
0-10	-0.67	-0.48	-0.22	-0.03	-0.41
10-20	-1.18	-0.83	-0.38	-0.05	-0.64
20-30	-1.72	-1.20	-0.54	-0.09	-0.81
Clinic (GB & GS)					
0-10	-0.76	-0.53	-0.24	0.03	-0.46
10-20	-1.28	-0.89	-0.41	-0.06	-0.68
20-30	-1.80	-1.26	-0.57	-0.10	-0.83

Table 7.9: Arc Travel Time Elasticities for Respondents in Savar Upazila

Hours of Travel Time	Income Quartile				Total
	1	2	3	4	
Health Complex					
0-1	-0.03	-0.02	-0.01	-0.00	
1-2	-0.04	-0.03	-0.02	-0.00	-0.02
2-3	-0.06	-0.05	-0.03	-0.01	-0.04
3-4	-0.09	-0.06	-0.04	-0.01	-0.05
Clinic (GB & GS)					
0-1	-0.03	-0.02	-0.01	-0.00	-0.02
1-2	-0.07	-0.04	-0.01	-0.00	-0.03
2-3	-0.06	-0.05	-0.02	-0.01	-0.04
3-4	-0.09	-0.06	-0.03	-0.01	-0.05

Table 7.10: Arc Travel Time Elasticities for Respondents in Kalihati Upazila

Hours of Travel Time	Income Quartile				Total
	1	2	3	4	
Health Complex					
0-1	-0.04	-0.02	-0.01	-0.00	-0.02
1-2	-0.06	-0.03	-0.01	-0.00	-0.03
2-3	-0.09	-0.05	-0.02	-0.01	-0.04
3-4	-0.11	-0.06	-0.02	-0.01	-0.05
Clinic (GB & GS)					
0-1	-0.03	-0.01	-0.01	-0.00	-0.01
1-2	-0.04	-0.02	-0.02	-0.00	-0.02
2-3	-0.06	-0.03	-0.02	-0.01	-0.03
3-4	-0.09	-0.04	-0.03	-0.01	-0.04

Summary

Our primary purpose in estimating models of medical care provider choice is to evaluate the effect of charging user fees by private health insurance schemes for medical care. In evaluating the effect of user fees, cost recovery must be balanced against the potential effect on utilization. Indeed, one of the rationales for providing free care is to reduce barriers to access and increase utilization. If poorer individuals' decisions to use medical care are more price elastic than richer individuals', user fees will be regressive in that they will reduce poorer individuals' utilization by more than that of richer individuals.

Our estimates show that price is an important determinant of the decision to use medical care. In addition, we find that the price elasticity of demand falls in absolute value with income. More specifically, we find that demand is very elastic for individuals in the lowest income groups and quite inelastic for individuals in the highest income groups.

Table 7.2: Social, Economic, Demographic and Community Characteristics of Study Upazilas.

Characteristics		Manikganj District	Tangail District
		Savar Upazila	Kalihati Upazila
A. Administrative/geographic/communication			
1. Total area (sq. km)		239	243
2. Numbers of unions		8	5
4. Distance to District HQs (km)		14	20
5. % *pucca & semi-pucca* roads		21	18
B. Social			
1. Literacy rate	Male	43	38
	Female	26	31
2. Religion	% muslim	88	86
	% non-muslim	12	14
3. Number of Education institutions	College	2	8
	Secondary School	13	30
	Primary	77	101
4. Number of Mosques		214	131
5. Number of women's group (including mothers' club)		15	7
6. Number of registered youth clubs		18	6
C. Agriculture and economy			
1. Total cultivable land (acre)		45,695	56,590
2. % irrigated land		76.35	88.16
3. % landless and marginal households		19	15
D. Demographic			
1. Total population (1991)		284481	173,191
2. Total households		43,854	28,668
3. Gender	% Male	50.32	51.45
	% Female	49.68	48.55

Cont.....

Characteristics		Manikganj District	Tangail District
		Savar Upazila	Kalihati Upazila
4. Number of eligible couple		40,209	26,579
5. Contraceptive Acceptance Rate (2000)		53	61
6. Number of pregnant women (1999)		1248	1963
7. Mortality (per 1000 live births)	Neonatal	24	16
	Infant	59	47
	Child	12	9.5
	U5MR	57	41
	Maternal	3.5	3.0
E. Health Facilities and Personnel			
1. Number of FWCs		4	5
2. Number of RDs		5	2
3. Average distances (in Km.)	Union to UHC	6	10
	Union to district hospital	16	24
4. Personnel working(No.)	MBBS doctors	3	4
	Paramedics	4	21
	Rural practitioners	17	38
	TTBAs	115	105
5. Number of clinics (private)		Nil	1
6. Number of pharmacy/medicine shops		28	32
7. Number of FWA units (FP)		57	44
8. Number of vacant posts	Field staff (FWA, FPI, HA, AHI)	9	30
	Union clinic staff (FWV, MA, SACMO)	2	3

Notes: *Prepared based on information obtained from the following officials of each Upazila Nirbahi Officer, Healths and Family Planning Officer, Family Planning Officer, Social Welfare Officer, Women Affairs Officer, Education Officer, Statistics Officer, Executive Engineer, Health Inspector.*

Table 7.3 : Socio-economic and Demographic Characteristics of the Respondents

Characteristics	Savar Upazila		Kalihati Upazila	
	Savar Proper	Sample Village	Kalihati proper	Sample Village
1. Religious status (Percent)				
Muslim	83.30	93.00	88.60	83.30
Non-Muslim	16.70	07.00	11.40	16.60
2. Age of Female (Percent)				
15 – 19 years	3.30	13.80	04.60	05.00
20 – 29 years	46.70	51.70	57.10	30.00
30 + years	50.00	34.50	38.30	65.00
3. Age of Husband (Percent)				
20 – 29 years	3.30	17.20	6.90	6.70
30 – 39 years	50.00	51.70	41.40	40.00
40 – 49 years	36.07	27.50	37.90	43.30
50 + years	10.00	3.40	13.80	10.00
4. Mean Age at Female Marriage (Year)				
Mean	21.90	21.10	19.80	21.00
5. Age of Last Living Child (Years)				
Less than 1 year	16.70	28.60	6.90	20.0
1 – 2 years	16.70	10.70	6.90	13.30
2 – 3 years	-	7.10	6.90	20.0
3 – 4 years	23.30	17.90	27.60	3.30
4 – 5 years	-	10.70	3.40	-
5 + years	43.30	25.0	48.30	43.30

Cont.....

Characteristics		Savar Upazila		Kalihati Upazila	
		Savar proper	Sample Village	Kalihati proper	Sample Village
6.	**No. of Children Given Birth (Percent)**				
Son	1 child	43.50	65.20	36.0	31.0
	2 children	43.50	17.40	40.0	24.10
	3 children	4.30	13.0	12.0	31.0
	4 children	4.30	4.30	4.0	6.90
	5 + children	4.30	-	8.0	6.90
Daughter	1 child	61.90	44.40	45.80	46.20
	2 children	33.30	27.80	29.20	15.40
	3 children	4.80	16.70	20.80	30.80
	4 children	-	5.60	4.20	7.70
	5 + children	-	5.60	-	-
7.	**Household Size (No.)**				
	Average	5.0	5.8	5.7	5.1
8.	**Average Year of Schooling**				
	Female Respondents	6.03	5.38	5.31	3.10
	Male Respondents	9.63	8.72	7.93	4.43
9.	**Average School Going Children**				
	Primary level	0.03	0.52	1.17	1.03
	Secondary level	0.50	0.24	0.60	0.53
	H. Secondary level	0.93	0.31	-	0.10
	College level	0.03	-	-	-
	Other	-	-	-	-

Cont.....

Characteristics	Savar Upazila		Kalihati Upazila	
	Savar proper	Sample Village	Kalihati Proper	Sample Village
10. Occupation of the Respondents (Female)				
Housewife	93.30	100.0	96.60	100.0
Agri-labor	-	-	-	-
Non-agri labor	-	-	-	-
Trade and Business	3.30	-	-	-
Cottage	3.30	-	3.40	-
Service holders	-	-	-	-
Other	-	-	-	-
11. Occupation of the Husband				
Farming	3.30	55.20	31.0	16.70
Agri labor	16.70	6.90	-	13.30
Non-agri labor	3.30	-	3.40	-
Trade and Business	63.30	13.80	24.10	40.0
Transport	6.70	3.40	3.40	6.70
Service	6.70	20.60	24.10	10.0
Other	16.70	6.90	13.70	13.30
12. Yearly Household Income (Percent)				
<Tk. 2000	3.40	-	-	10.30
Tk. 2001 – 4000	3.40	-	3.60	-
Tk. 4001 – 6000	6.90	7.10	17.90	10.33
Tk. 6001 – 8000	-	-	3.60	10.30
Tk. 8001 – 10000	3.40	-	-	3.40
Tk. 10001 +	82.80	92.90	75.0	65.50

Cont.....

Characteristics		Savar Upazila		Kalihati Upazila	
		Savar proper	Sample Village	Kalihati proper	Sample Village
13. Member of Any Organization (Percent)					
Female	Yes	40.0	37.90	24.10	16.70
	No	60.0	62.10	75.90	83.30
Male	Yes	23.30	6.90	10.30	3.30
	No	76.70	93.10	89.70	96.70
14. Have Electricity (Percent)					
In Home	Yes	50.0	20.70	55.20	56.60
	No	50.0	79.30	44.80	43.30
15. Women's Mobility (Need Permission to Go Outside Home (Percent)					
Cinema hall	Husband	70.0	79.30	65.50	83.30
	Father/mother-in-law	26.70	17.20	20.60	3.30
	Own	3.30	-	13.80	13.30
Market	Husband	67.70	79.30	72.40	80.0
	Father/mother-in-law	29.0	20.70	13.80	6.70
	Own	3.20	-	13.80	13.30
H & FP Centre	Husband	70.0	72.40	51.70	76.70
	Father/mother-in-law	26.70	27.60	6.90	6.70
	Own	3.30	-	41.40	16.70
Hospital	Husband	66.70	72.40	51.70	86.70
	Father/mother-in-law	30.0	27.60	10.30	3.30
	Own	3.30	-	37.90	10.0

Cont.....

Characteristics		Savar Upazila		Kalihati Upazila	
		Savar Proper	Sample Village	Kalihati Proper	Sample Village
School/College	Husband	63.30	75.90	58.60	83.30
	Father/mother-in-law	36.60	24.10	6.90	-
	Own	-	-	34.50	16.7
See relative	Husband	63.30	75.90	62.10	80.0
	Father/mother-in-law	33.30	24.10	10.30	10.0
	Own	3.30	-	6.90	23.30
16. Total Land Owned (Percent)					
Landless		3.60	-	6.90	23.30
<0.05 acre		50.0	44.80	44.80	33.30
0.51 – 1.0 acre		32.10	13.80	3.40	6.70
1.01 – 2.50 acre		7.10	17.20	13.80	23.30
2.51 – 5.0 acre		-	13.80	13.80	10.0
5.01 + acre		7.10	10.0	17.20	3.30
17. Have at Home (Percent)					
Television	Yes	20.0	13.80	27.60	13.30
	No	80.0	86.20	72.40	86.70
Radio	Yes	43.30	34.50	48.30	23.30
	No	56.70	65.50	51.70	76.70
Hand tubewell	Yes	66.70	51.70	82.80	50.0
	No	33.30	48.30	17.20	50.0
Pacca/pit latrine	Yes	86.70	93.10	79.30	56.70
	No	13.30	6.90	20.70	43.30

Cont.....

Characteristics	Savar Upazila		Kalihati Upazila	
	Savar Proper	Sample Village	Kalihati Proper	Sample Village
18. Respondents' Perceived Economic Status (Percent)				
Improved	10.90	13.80	33.80	17.10
Same as before	76.20	86.20	66.20	82.90
Deteriorated	6.90	-	-	-
19. Perceived Infrastructural Development				
Improved	90.0	55.20	65.50	66.70
Same as before	10.0	41.40	34.50	30.0
Deteriorated	-	3.40	-	3.30

CHAPTER-VIII

Potentialities of Introducing Health Insurance Program in Bangladesh

In Bangladesh, population growth will continue to increase demand for health and family planning services. This will increase the requirements of resources. The resources available as government allocations from the Government and assistance for donors, even if remain the same, will not be sufficient to finance the programs in the light of the increasing needs for the services. Therefore, financial sustainability has now evolved as a critical concern for the health and family planning programs.

The Government of Bangladesh (GoB) faces pressure from within the government and from the international agencies and the International Monetary Fund (recommending structural adjustments) to recover some part of it costs, either so as to allow expansion of its services or as to make a smaller demands on the budget. Bangladesh, as many developing countries, is currently undergoing reforms in its health care system and experimenting with various mechanisms for financing health care, such as charging user fees, introducing drug revolving fund and prepayment / insurance schemes, etc.

The Health and Population Sector Program (HPSP) has been formed the health and population sector so as to provide a package of essential health care services (ESP) for the people of Bangladesh and to slow population growth. These service should be responsive to clients needs especially those of children, women and the poor, and achieve quality of care with adequate delivery capacity and financial sustainability.

The amount of finance provided by the GoB for the health sector is not sufficient to maintain the health services at an acceptable level The proportion of central government expenditure going to health sector has been low, only 6.3% in 1999/2002. Nevertheless, policy for the health sector emphasizes on, *inter alia,* improvement of health status of the population particularly mother and children, and strengthen the coverage of primary health care through universal access for the people to essential health services of acceptable quality and to further slow down population growth [MOFW, HPSP, 1998].

There are various options for generating financial resources. Each of these options has their strengths and weakness with respect to the cost of implementation, technical and political feasibility, efficiency and equity considerations. The various financing mechanism that are available can be classified as either public or private [Hoare and Mills 1986, Zschock 1979]. Public sources may include i) increased support from general tax or hypothecated tax revenues, ii) deficit financing, iii) introduction of social insurance.

Public Sources:

Increased support from general tax revenue

General tax revenue is used to finance certain components of health care and tend to be an important source of health care financing in the country. The extent of support for health care from general tax revenues can be increased: by increasing the proportion of tax revenue that is allocated to the health sector by diverting resources from elsewhere; by increasing the tax ration generally and maintaining the health sector's share; by increasing the tax ratio and the proportion of the general tax.

In Bangladesh, only about 6.8% of the total national revenue budget of the government go to the health and family planning sector. The possibility of increasing the tax ratio largely depends on the development and progress of the economy and the tax base. In Bangladesh the total tax revenue as percentage of GDP is only 12%. Besides it also depends on the political will to increase the tax burden.

Duties on imports and exports are important component of general tax revenue. The possibility of increasing export duties is not feasible for the country where export is even now largely composed of agricultural products having weaker demand in the world market. Moreover, general tax revenue is not the most stable or reliable source in developing country like Bangladesh because of the uncertain relationship between budgeted funds and their actual availability and disbursement. Cyclical changes in economic conditions often resulting from uncertain natural disaster in a developing country like Bangladesh also causes uncertainty in the disbursement of funds for the sector.

Earmarked tax

The state or local government may be authorized taxes on the sale of particular products and the revenue may be 'earmarked' for the health services or can be assigned to a certain activities or programs. Its application largely depends on well-developed and managed taxation system and collection mechanism. Such measures are often difficult to administer, may be potentially unacceptable or may even be regressive.

Deficit financing

The general tax revenue can be supplemented through borrowing domestically (from savings, issue of bonds etc.) or internationally. The cost of these funds is the interest that would be paid on the loan in the future. Borrowing can help expand health care facilities more quickly and thus provide a broader base service. Borrowing from savings to increase health care expenditure may be politically more acceptable or simply a more expedient way of raising additional revenue than by increasing the general tax ratio. Bangladesh, like many other low income countries, has a low rate of savings (11% of GDP) and so the scope for domestic borrowing (which has to come from domestic savings) is limited and not a promising source.

The other major source of deficit financing is bilateral and multilateral aid loans. Aid loans have provided a useful support to projects to expand health care infrastructure in the country. Excessive reliance on it in the past, not only for the health sector but also for other sector, has burdened the country with debt repayment problem at present. This is about 25% of the total export earnings. Besides, the foreseeable prospects for a significant increase in health resources from foreign aid sources is poor, because the donors are unlikely to increase significantly their level of assistance.

Health Insurance

Before the Second World War, private health insurance and social security in developing countries was mainly confined to some Latin American countries. Under such a system the employed workers are required to make a compulsory insurance

payment as a percentage of their wages and the employer pay a similar or somewhat higher pay roll tax. This system covers only workers employed in the modern or formal sector. This system has been introduced in a number of developing countries and it is likely to be adopted by other. By the 1980s, all the 20 Latin American countries as well as 2 Caribbean, 14 African and 12 Asian countries (i.e. 48 out of 90 developing countries) have introduced some form of medical care coverage under some form of insurance system [Zschock 1982].

Following a survey of 28 African countries in 1990, the ILO classified five countries (Cape Verde, Gabon, Kenya, Tunisia and Egypt) as having "public service health services" combined with classical social insurance; "Social Security / Social Partnership intervention in the health care sector in Africa ranges, in terms of population coverage, from virtually zero in countries like Ghana or relatively small-scale intervention of employer-based systems like in Nigeria to a population coverage of almost 50 percent in Tunisia. Gabon and Kenya have reached an intermediate level of population coverage of 25 percent" [ILO 1993].

Vogel (1990), in another study identified six forms of government insurance in Sub-Saharan Africa, ranging from free care for citizens (as in Tanzania) and government employee health insurance funds to mandated employer coverage of employees (Zaire). This study found that formal health insurance was available in only seven of 23 countries considered and private sector voluntary insurance had a secure position in only five: Cote d'Ivoire Ethiopia, Kenya, Nigeria and Zimbabwe. This study further found that in Zimbabwe, where the private insurance market is relatively well established, private insurance only covered 4.6% of the total population, and in Zambia public health insurance schemes covered 6.1% of the total population. One important conclusion was from the available data was that the schemes covered primarily those employed in the formal sector effectively those who constitute the relatively small upper and middle classes in these countries.

Although some African countries are contemplating increasing the role of risk sharing mechanisms in the financing of health care, in some the emphasis on the introduction of various forms of "national health insurance". (Although called "national health

insurance", unlike national social insurance schemes in Europe, these proposed schemes are designed to cover only some sections of the population such as formal sector employees and members of agriculture cooperatives, and mayor may not be operated by the government). These countries include Ghana, Nigeria and Zimbabwe.

A strong argument against national insurance and one in favor of "co-financing by households, namely community financing of health care is the inadequacy of the administrative network for collecting premiums on a national basis and the limited coverage attainable using pay - roll based contributions.

Social insurance are either organized by 'direct system' where salaried professionals with usually their own hospitals and health centers or by 'indirect method' where health insurance funds contract all services paying private doctors and hospitals on the basis of different available contractual payments. The indirect system requires well-developed private sector facilities and has the tendency to lead to cost inflation. The direct system makes the providers isolated from other health care system and have no monetary incentives to provide quality care and sufficient services [Zschock, 1982].

Insurance provides the means by which risks, or uncertain events, are shared between many people. Premiums are paid to insurance institution, which compensates any insured victim in the event of for any financial loss that may result from the event. Insurance therefore helps to lessen and spread risk, and relies on the fact that what is unpredictable for an individual is highly predictable for large number of individuals. It follows that for insurance to be feasible there must be enough individuals insured to spread the risks widely, and uncertain vents; though in practice, a prepayment element for health care exists since certain types of utilization are highly predictable. For health insurance scheme to be cost covering, the levels of its premium needs to be related to the statistical frequency with which the population require care and to the average cost of claims, plus allowance for administrative costs and profit margin (for commercial organization). Insurance has redistributive effect, the nature and extent of its effect will depend on financing schemes and the method of premium are assessed.

Advantages of social insurance

a) It taps source of funds that would be otherwise not being spent on health care. In terms of gross yields, the social insurance programs and non-profit group insurance companies are likely to have higher net yields than profit oriented private insurance companies selling individual coverage.

b) It does not compete for the revenue but rather increases the overall proportion of national income spent on health care.

c) It efficiently distributes risk among the covered population.

d) It is equitable in so far as it provides workers and their families with health care that they would not otherwise be able to afford in the same quantity and quality [Roemer, 1969]. Horizontal equity is achieved through insurance schemes that equalize risk.

e) This system offers a reliable and stable source of finance and is not subject to political allocation process. It is also important to note that the social insurance system has high administrative costs.

Private source

It includes private health insurance, employer financed scheme, charity and voluntary contribution and community financing and user charges. *Private health insurance, community financing and user charges are considered here.*

Private health insurance

Private health insurance schemes are practiced more in developed countries than in developing countries. Problems associated with this form of finance include low coverage due to high cost of premium and often available to urban population engaged in working the formal sectors. The risk groups are often excluded for adverse selection. The poor and low-income group cannot afford to pay for private insurance. Unless strong administrative organization likes Health Management Organization, such system of financing would not acceptable on equity consideration. However,

private health insurance system is reliable and stable source of financing and is not subject to political allocation process. There are very limited health insurance scheme offered by the insurance companies in Bangladesh.

Community Financing

This means of financing involves mobilization and effective application of under utilized national and local resources (e.g. manpower skills, manpower and cash). It may be contribution by individual or family beneficiaries, community groups to support part of the cost of the health services.

Great reliance on community financing has been advocated in most developing countries for several reasons [Abel-Smith and Dua 1988]. These are

(i) it helps to the resources that already devoted for purchasing both modern and traditional health care from the private sector;

(ii) it can attract resources otherwise not exploited (example labor, land and contribution in kind);

(iii) it is a tangible demonstration of community participation where people co-operate to create and to maintain services;

(iv) it gives the community the right to ensure quality services that respond to the priorities judged by the community;

(v) it can complement formal social security scheme by mobilizing contribution from the self employed, particularly in the rural communities;

(vi) it helps strengthen services for the rural populations and may reduce the pressure on secondary / tertiary care levels through upgrading of primary level services; and

(vii) it may help to generate enough revenue to subsidize out-reach programs and quality improvements. Most of the above reasoning makes community financing an efficient alternative form of financing.

In Bangladesh, village level community institution and individual philanthropist have been traditionally active in rural development activity. People are contributing labor and other material resources to health promotion activities in rural areas. The country

can utilize the already developed community based health and family planning committees to stimulate the community participation. Local level mobilization of resources and manpower requires a strong political commitment for which the local government needs to take active part in it.

Community participation has been important aspect for the community financing under the Bamako Initiative and potentials for high rate of coverage of non-salary recurrent cost existed [McPake *et al* 1993)]. A large number of countries in Africa have had some early success with community financing as part of the Bamako Initiative led by UNICEF and WHO (World Bank 1993).

The community financing system, can be one of the potential methods of financing the family health services. In this regards it is important noted that community financing may not always generate sufficient resources by itself to meet country health needs, and should be seen as complementary to rather

User charges

User charges as an option are within the control of the health sector. To introduce user charges, the most important issue that need to determined is who can afford to pay for health services, the willingness to pay and level of charges that would be acceptable. Besides it is also important to determine that whether the resources generated through introduction of user fee is worthwhile and cover the administration cost.

User charges are often found to be regressive and are not acceptable. Measures need to be taken to minimize the regressively. A policy of price discrimination by facility, geographical area and services is the most practical way of trying to counter the problem of regressitivity (McPake, 1993).

Stanton and Clemens 91989) in their study on the impact on user charges in Bangladesh, noted that there is substantial reason for concern that the health care of those who cannot or will not pay for health care at the government facilities in the country, but who are current user this system, would be jeopardize by the imposition of user fees. The imposition of user fees may be serious deterrent to proper health seeking behaviour and would impede access of the most needy to medical care. Apart

from such social considerations, political considerations are serious obstacles to the introduction of user fees.

In Bangladesh, all rural health services including cost of hospitalization are free. In the district hospitals, teaching hospitals, and other specialized institutes at the district level about 60% of beds are free. For the remaining amount of paying beds the charges are nominal. No fee is charged for outpatient consultation in government hospitals. Available medicines are also given free of charge.

Several studies and reports indicate that there is need for far greater resource mobilization in the health and population sector for implementing the Health and Population Sector Strategy (HPSS). By all stretches of imagination, public expenditures in health and population have to be substantially increased in order to achieve the GOB health goals. However, forecasting future revenue earnings from tax and non-tax sources including receipts from commodity and food aids, and different projections conclude that GOB will face substantial shortfall of resources required to sustain its future health and population programs. The pertinent issue is thus how to meet the sizable resource gap of the future. Researchers and experts to bridge the potential resource gap suggest several strategies. These are:

i) Mobilization of additional resources from GOB sources through reallocation from other economic sectors.
ii) Improvement in the efficiency of public sector inputs and services.
iii) Mobilization of resources from non- GOB sources.

Each of these resource mobilization strategies is discussed below to highlight the possibilities for meeting potential resource gaps.

Mobilization of Additional GOB Resources

This strategy would require GOB to reallocate additional resources to the health and population sectors and also to EPS within the health sector. However, given the limited resource base, such large reallocations may be difficult for the GOB. It will also involve a significant opportunity cost in terms of GOB activities in other competing sectors i.e. increased food production and better sanitation. These issues may be resolved through efficient planning and rational decisions of the proposed inter-sectoral reallocations.

Improvement in the Efficiency of Utilization of Public Sector inputs and Services

In order to ensure improved efficiency of recurrent public sector expenditure in the health and population sector, a thorough reorganization of the existing service delivery structure, and proper balance has to be redressed between different heads of allocations. A high level committee was formed by MOH is working in this field.

Mobilization of Resources from Non GOB Sources

This option involves the strategies of raising revenues from donor sources and from the domestic households through imposition of "User-Fees".

As far as the donors are concerned, it may be considered as a difficult proposition given the fiscal austerity faced by the aid programs in many western countries. Further, excessive reliance on external assistance may be temporary relief and not a permanent solution to financial constraints facing GOB. In addition, it would also undermine future sustainability of the health sector programs and weaken GOB's desire of achieving increasing self-reliance.

Alternatively, GOB may turn to the domestic household sector as part of its efforts to mobilize additional resources for the health sector. Introduction of user-fees in particular, is being considered by many governments in many developing countries as a possible option to mobilize resources.

There is evidence that households might be willing to pay for services offered from GOB facilities if better quality could be ensured. More research is needed to examine how user-fees and protection of the poor can be achieved simultaneously under the given socio-economic realities in Bangladesh.

The largest single source of this fund was household expenditures comprising about 65% of the total market followed by GOB (16%), and donors and NGOs (11%). While the average out of pocket expenditure by the private individuals on health and population services worked out to be US $ 3.4 per capita, it was concentrated in the

richest 25% of the population who were found to spend 95% of their resources in buying private curative care using very little funds to purchase public sector services.

However, if the private households can be motivated to invest in the public sector health facilities, especially in the rural areas (i.e. Upazila level and below) large amount of resources can be mobilized and effective community participation in government health care system through cost - sharing can be ensured.

The Program Implementation Plan for the Health and Population Sector Program (HPSP) recognizes the health insurance schemes as an alternative approach to user fee for financing of health care. It mentioned that "Health insurance schemes constitute and alternative approach for financing of health care. In the case of social health insurance, not-for-profit providers should combine this with provision of subsidized health care. In Bangladesh, considerable experience exists already with the provision of social health insurance by NGOs and community hospitals. Total coverage of such schemes has, however, remained limited. HPSP will therefore support further pilots with social health insurance in rural Bangladesh, with a view towards increased coverage".

In Bangladesh, the challenge remains that almost all kinds of health services are available free of charge, at least theoretically. The state assumes the role of provider, drawing the necessary resources from its general revenue base. Theoretically, and to some extent practically, when all services are free at the point of delivery, and every citizen is covered, there would be no point in encouraging or promoting the creation of groups practicing solidarity to meet their health care needs, simply because the need has already been met. Unfortunately, such an ideal situation does not exist.

A free public health care system exists but coverage is limited. Another major challenge that waits in the health care sector is increasing the access of the poor to health services. Government documents suggest that less than 40% of the people have such access. Micro level data suggests that the access of the rural population is restricted to 12 percent only (Sharifa Begum, 1996). These rates have remained static over the years since mid eighties. Even within this limited access there are serious

biases at work, which discriminate against rural areas and against the poor. Patients from the richest quintile are more than five times as likely to be admitted to inpatient - expensive - care than patients from the poorest quintile, and patients from urban areas are more than twice as likely to be admitted than rural patients (MOH, 1998).

The challenge of increasing access to the poor is even more important since studies show that one of the major factors causing a push back into poverty is the prevalence of illnesses and the subsequent income erosion and sale of assets stemming from this. In fact this may be a reason why, in spite of the proliferation of micro credit programs, the net impact on poverty reduction at the aggregate level has been marginal (Binayak Sen, 1997).

The problem of poor access to health services is compounded by the poor utilization of services. Treatment of acute illnesses in rural areas by the public sector has declined to 12 percent in 1994 from the level of 20 percent in 1984 (Sharifa Begum, 1996). Abul Barkat (1998) cites unacceptable quality of health care due to the non availability of trained personnel, sub-standard diagnostic and physical facilities, absence of drugs and supplies, and general discontent amongst health care functionaries, as the major reason behind such declining use of health care facilities. Specific assessments of quality of care in family planning services (Barkat et al, 1994; Hashemi et al, 1996) confirm this dismal situation. Therefore, improving the quality of care and deep rooting good governance in the public health system pose another challenge that needs to be confronted.

Public health care system suffers from serious problems in ineffective management, resource misallocation, low staff morale, operational inefficiencies, bureaucratic rigidity, and wide spread practice of informal payment. These are the immediate features of immediate context in which the NGOs responded by developing community health insurance scheme. In the inception paper of Grameen Health Program it was stated that ill health continued to be a curse of Grameen Bank members and their families. A recent study showed that ill health is the single largest cause of loan default. Among one sample of older borrowers, it was the reason for

44% of the defaults. On the other hand, improved health contributes to economic growth in many ways (MOH, 1998).

With active participation of the community, a quality primary health care system can combat communicate diseases which accounts for 70% of the total disease burden, and provide a productive life to the people (HEU, 1998). Despite public sector commitment and development of infrastructures, health care services are yet to reach poor people. Health services of private sector are either unaffordable or of inferior quality, or both. The prevalence of diseases among the poor, combined with the severe deficiencies of the public and private health care services in Bangladesh, is thus one of the greatest threats to Grameen Bank members in their struggle to break out of the poverty cycle. As such, it is also a threat to the long-term viability of the Bank itself. It is within this context, that Grameen Bank initiated the Grameen Health Program (GHP) for GB members as well as non-members living within the same operational area.

The above context describes that social health insurance (SHI) in Bangladesh did not stem out of the argument that government often lacks fund to provide free health care services to all its population. However, SHI may not be found in Bangladesh according to its literally definition. In other words, there is no SHI, which is compulsory in nature in Bangladesh. All the schemes are community health insurance schemes lead by NGOs. Community involvement in health care financing and health care delivery emerges as one of the ways to increase access and improve overall welfare of the population in the communities through an empowering process.

An ILO publication (1990) "Health insurance in developing countries: The social security approach" had a comment about Bangladesh that "A major problem in promoting health insurance is the high proportion of the population existing below the subsistence level which would not be able to afford the contributions". What has been described as the major challenge, which indicates why health insurance is critical in Bangladesh. It also generates discussion on the definition and purpose of social health insurance in a developing country.

Recent findings of the National Health Accounts suggest that "high proportion of the population existing below the subsistence level" contribute to almost 60% of the health care market in Bangladesh. The size of the pie for the public sector is 16% and 12% for the donors. Considering that 80% population lives in rural areas and 80% of the rural areas live below poverty line, it can be said that it is mostly the poor people who contribute to almost half of the total expenditure of health sector. Given the magnitude of the contribution, it can be assumed that had their contributions be pooled together in a risk sharing mechanism, they would have been better spend and the health outcome could have been better. Therefore, what has been described as the major challenge towards health insurance that actually indicates a tremendous potential of SHI. In fact, all the community health insurance scheme of the NGOs stemmed around this population.

Ministry of Health and Family Welfare recently undertook an initiative to introduce health insurance for the civil servants. Similarly, the Ministry of Labor also undertook another initiative to introduce health insurance for formal sector employees. In other words, both the ministries plan to introduce health insurance system based on the employment of formal sector. The most obvious reason for this intent is to minimize the management costs of scheme by ensuring smooth premium collection and reimbursement through payroll or some other mechanism. Besides, it will be easy to organize formal sector employees and negotiate with them within a system. Also, other country experiences suggest that it is doable and countries have progressed towards greater coverage starting from health insurance for the formal sector employees gradually.

However, public health professionals of Bangladesh are in opinion that the most organized formal sector is the public sector and they enjoy multiple medical benefits including several risk coverage. Research Note 11 of Health Economics Unit listed out those benefits. The major challenge is to extend similar or comparable coverage to the rural populations who are about 80% of the total population.

There are several problems in introducing SHI for the rural communities. First of all, most of the rural people are in the informal sector. There is no guild or society structure in the rural communities such as peasant's society, or blacksmith guild, etc. which could be used as platform for SHI. Low income, income disparity and

seasonality of income of the most of the rural population may make such schemes vulnerable.

While all the arguments are valid, one important observation should not be oversighted. Bangladesh is the pioneer country in micro-credit movement and has rich experience in it. The major actors in micro-credit program are the Grameen Bank, three big NGOs namely BRAC, Proshika and ASA, and 141 small and medium size NGOs known as partner organizations of Palli Karma Sahayak Foundation (PKSF) and a number of other organizations affiliated Credit Development Forum. BRDB, the largest development agency of the government also has credit programs. Altogether, these micro-credit organizations serve more than Five Million members all over rural Bangladesh. Almost 90% of them are enrolled with the major actors like Grameen, BRAC, Proshika, ASA and BRDB (MOH, 1998). Because of micro-credit discipline, these five million members maintain social groups, which can be considered as a kind of formal structure, and also be termed as quasi formal sector in rural set-up. If 700,000 employees of the public sector make them lucrative case of SHI, then these 5,000,000 members enrolled with the organizations should make themselves lucrative case for SHI as well.

There are however, certain prerequisites, which must be fulfilled before initiating a government sponsored rural health insurance scheme. These are:

a) Till this point, private and community health insurance schemes are running without any legal framework. Any health insurance scheme should run under a broad health insurance policy. Therefore, a legal framework or act or ordinance should be formulated or at least the process should be started before launching health insurance program (HIP).

b) Services of the public sector must be charged before initiating HIP. Despite informal fees, in presence of free services it will be difficult to introduce and popularize HIP. Policy wise, when all services are free at the point of delivery, and every citizen is covered theoretically, there would be no point in encouraging or promoting HIP to meet people's health care needs, simply because the need has already been met, at least theoretically. Therefore,

charges should be introduced for the services of the public sector before introducing HIP. If it is difficult to charge in general, then charges should be introduced at least in the pilot areas, starting from the community level structure to secondary (district) and tertiary care hospitals.

c) Along the side of introducing charges, safety net should be extended to the poorest of the poor section. As a rule of thumb, 15% of the population should be considered "indigent". Identification of indigent should be done meticulously either by socioeconomic survey, or by wealth ranking in the community or by setting some criteria like female headed household, VGF cardholders, etc. Provision of self-selection can be kept as well. The insurance agency should be entrusted to conduct the survey or their methodology so long that deem reasonable. Only a token fee should be charged to the indigent.

d) Focal points should be set-up at MOHFW and DGHS for smooth function and progress of the pilot. They should posses enough authority to ensure cooperation from the Thana Health Complexes and District and Tertiary Care Hospitals.

e) The design of the pilot scheme should take into account that it should be replicable to any part of the country and does not depend on any particular organizational structure, which is unique.

e) Because of predominance of self-employment and informality in rural areas, HIP will have to rely on Micro Credit Programs (MCP) for the initial or take-off phase. Therefore, a major actor of MCP will have to be chosen for the sake of smooth take off and replication.

Health insurance program will have to depend on public sector's secondary and tertiary level hospitals. At the primary level there are abundance of private or NGO service providers along with public sector. However, quality of services of public sector at the primary level is of questionable quality. Moreover, in order to be replicable everywhere, HIP's service providers should not be limited to any particular

organization. Therefore, a combination of public and private / NGO sector should act as service provider.

As expected majority of the intended beneficiaries will be rural poor. Hence they may find it difficult to perceive the benefit of having a health insurance than not having health insurance. Moreover, the opportunity cost that they will have to forgo to avail this insurance will also be high. These are challenges that NGOs already faced. Therefore, expectation of high cost recovery from HIP should not the prime goal of the scheme. In other words, elements of subsidy will have to be there. Based on disease profile, cost implications at the household level and experience of the schemes following three premiums and benefit packages are recommended. However, for the sake of simplicity, it is recommended that only one package should be applied in one setting.

It is critical that at the initial stage of operation, vigorous marketing efforts will be required to popularize the concept of health insurance program. Technical resources, familiar to popularize products or services in rural set-up will have to be obtained. Traditional insurance schemes utilize local people as commission agent. Here, in HIP similar change agent can be employed with broader mission who will not only ensure business also ensures healthy behaviour change.

CHAPTER-IX

SUMMARY AND CONCLUSION

Bangladesh is faced with an array of health care financing problems that leave its health systems far from achieving the objectives of good health status, equity, efficiency, acceptability, and sustainability. The principal problem is simply a shortage of government budgetary resources for health cares relative to an increasing demand and need for care. One manifestation of the budgetary shortfall is deterioration in the quality and effectiveness of publicly provided health services. As a result, an increasing share of the burden of financing health services has been shifted to private individuals and households.

In addition to an absolute shortage of resources going into the health sector, patterns of spending cause or reflect an inequitable and inefficient allocation of inputs and services. The clearest example of this is the concentration of government resources in large urban hospitals. On average, persons living in urban areas have higher incomes than those in rural areas, yet the urban bias in government health spending means that the costs of gaining access to good quality care are highest for the most remote (and usually poorest) groups of the population.

Evidence from several countries indicates that non-poor persons tend to consume more publicly financed hospital care per capita than do poor persons, implying that they receive a disproportionate share of government subsidies. This pattern of government resource allocation may also be inefficient because the most cost-effective clinical interventions that health systems can provide are those which are most appropriately delivered in a health center or other non-hospital setting.

High levels of waste and other forms of technical inefficiency also plague health systems in Bangladesh. These problems are a threat to any gains that might be achieved through reforms that improve potential cost-effectiveness and equity by reallocating resources (World Bank 1994).

Expanding the role of insurance in health systems provides a potentially useful tool for policy makers to address the problems just described to some extent. The need to mobilize additional non-governmental sources of funds is the main impetus for a focus on developing or expanding health insurance schemes as a policy option. But insurance can also be a means to expand access to care (by reducing financial barriers to access at the time of illness) and to change the *pattern* of spending hopefully in a way that improves the efficiency of resource allocation and use.

Indeed, in many industrialized countries and some middle-income countries, the principal motivation for reforms of health insurance systems are not to mobilize additional resources but to control the rapid growth in government (and private) health spending. In these countries, the focus has been on changing incentives within health financing schemes (usually through changes in methods of paying service providers) to slow down the growth rate of expenditure. Another objective has been improving technical efficiency and consumer satisfaction through the introduction of structured (managed) competitive mechanisms into the health sector.

Important objectives of health insurance for providers are to raise their income levels and to increase their access to new technologies, which could enable them to improve quality of care. For the initial group of insured persons, an important objective is to consolidate and expand *their* benefits, including greater choice and shorter waiting times, while trying to minimize the amount that they have to contribute to the scheme. Employers may be interested in providing good health benefits for their workers, but they also wish to keep their premium contributions as low as possible so that their overall costs of production are minimized. In this respect, they may be important strategic allies of government health policy makers. Understanding the interests of key stakeholders is essential if government is to have a chance of successfully achieving its aims.

Bangladesh, as many developing countries, is currently undergoing reforms in its health care system and experimenting with various mechanisms to recover some part of its costs, such as charging user fees, introducing drugs revolving fund and prepayment/insurance schemes, etc. All these reforms are a reflection of critical

concern-the financial sustainability for the health and family planning programs. Available literature suggests for two principal options for generating additional fund for health care: direct payment or user charges and insurance system

User charges however, are often found to be regressive and are not acceptable. Stanton and Clemens (1989) in their study on the impact on user charges in Bangladesh opined that the imposition of user charges were serious deterrent to proper health seeking behaviour and would impede access of the most of the needy to medical care. Apart from such social considerations, political considerations are also serious obstacles to the introduction of user fees.

In contrast, existing literature suggests that the some insurance systems developed by NGOs have achieved some success in certain areas in Bangladesh (Desmet et. al. 1999; Ensor, 2000; Bennett et. al.1998; Islam, 1999). However, what is lacking in the existing literature is that of comprehensive and systematic evaluative studies on the practice and performance of the health insurance schemes of the NGOs. The present study is an attempt to fill this gap.

The study is consisted of eight chapters. Following from the introductory chapter, Chapter two discusses the historical route and concepts of health insurance. Chapter three reviews the health insurance schemes with special reference to developing countries. Chapter four discusses the health facilities and health status of the population of Bangladesh. Chapter five discusses the public-sector health care financing system in Bangladesh. Chapter six describes the methods and materials of the study. Chapter seven documents the performance of the two-selected health insurance programs of Bangladesh. Chapter eight assesses the potentialities of introducing health insurance program in Bangladesh. Chapter nine concludes the study.

Health Insurance: Historical Route and Concepts

Many developing countries including Bangladesh (see, HPSP document of GOB) are currently considering the possibility of introducing health insurance schemes. One reason is to attract more resources to the health sector. A second reason is dissatisfaction with existing services in which staff motivation is poor, resources are not used to best advantage and patients are not treated with sufficient courtesy and respect.

Chapter two describes the historical experience of the developed countries in introducing and steadily expanding the coverage of health insurance and describes the different forms which health insurance can take. The aim is to bring the advantages and disadvantages of different approaches from this experience

Historically, health insurance was developed to solve the problem of access to an income to replace earnings when sick, and generally later to secure the provision of an acceptable standard of health care (Abel-Smith 1992). Those originally covered from the early nineteenth century were the more skilled workers and not too poor farmers (Abel-Smith 1989). These groups had too low an income to be able to afford to pay private health professionals for their services when they became ill, and could not afford to use hospitals (public or private) which charged their patients. Often the only alternative services available were of low quality and designated for the poor.

This chapter also identifies the range of complex issues, which need to be addressed when introducing a health insurance system. It is not just a matter of securing insurance. Indeed, no country uses private profit-making insurers for its national health insurance. Where different non-profit insurers are used, they become highly regulated by the central government. Establishing a central mechanism for collecting the money does not rule out consumer choice between suppliers, to help generate efficiency. Alternatively, people can be allowed to choose their insurer, but insurers will still need tight regulation if risk - rating is to be avoided.

Rural Health Insurance: Review of Literature

Chapter three focuses upon analyzing the health insurance schemes operating in different countries. It aims to deepen understanding of the diversity of such schemes and to indicate which design features work best in which contexts.

The study reviewed over 80 health insurance schemes. The 82 schemes are in no way representative of the totality of experience of rural and urban non-formal health insurance. Inclusion in the review was based on whether adequate documentation was available.

Debate about the potential for health insurance for the rural poor has encouraged the adoption of quite extreme positions. The diversity of the schemes and experience observed during this review means that many of these positions could be supported. Thus while some schemes have operated with extremely complex administrative structures, the reverse has been true of others. Some schemes have had substantial problems with adverse selection; others have avoided them almost completely.

Some schemes have successfully devised incentives to promote efficient use of the health care system but others have probably increased inefficiencies in the system. However, in order to pursue evidence-based discussions about the role that health insurance for the non-formal sector can play, and as part of a broader strategy of health care financing and delivery, more precise terms must be found.

The schemes reviewed in this study were largely voluntary, hospital, community or NGO -owned schemes. Cooperative and mutual insurance organizations might be thought to offer other possibilities too, particularly since they have formed the foundations of social health insurance systems in many Western European countries and Japan. This review unearthed little information on their operation in developing countries, however, perhaps suggesting that their transferability to these countries is limited. Many of the schemes examined had been poorly designed and had encountered a range of problems as a result. Wide distribution of the basic principles of scheme design and the lessons learned from experience could prevent many such problems in future.

Well-designed insurance schemes may have even greater potential for improving health system performance, particularly quality and efficiency, than for raising substantial additional finance. This is particularly likely in poor communities where considerable additional money may simply not be available. Indeed, individuals often already spend substantial amounts of money on health care. But by combining these individual contributions and pooling funds, health insurance schemes may help to regularize expenditure, develop a significant purchasing power and facilitate expenditure on prevention rather than treatment. A well-designed and managed health insurance scheme may thus offer considerable advantages over a straightforward user-fee system, even if it does not raise significantly more money.

Organizational changes, such as tighter referral control, implementation of contracting arrangements between purchasers and providers, accreditation and improvement of service quality improvement, and performance-related pay can all be introduced into the health system as part of a shift towards health insurance. In particular, schemes in which there is a purchaser - provider split such as SEWA and UMASIDA appear more likely to develop active purchasing roles than schemes in which the purchaser and provider are more closely integrated, such as Nkoranza and Chogoria.

Several features of the schemes revealed by the view suggest that the schemes are unlikely to be suitable for widespread "self-financing" of health care:

* the population coverage of schemes in low-income countries is generally limited.
* cost recovery rates under the schemes tend to be low.
* membership of schemes is often most limited among the poorest groups.

Insurance should thus be seen as a supporting strategy rather than as an exclusive "financing alternative". In other words, if insurance is considered as a financing alternative, other options are likely to be closed off. Moreover, neither user fees nor voluntary prepayment strategies deal adequately with the needs of the poorest people. Some schemes therefore combine several elements. The Bwamanda and CAM schemes, for instance, combine prepayment, subsidy and fee-for-service. Specially, subsidy from government tax revenue can help offset intra-and inter-scheme inequities and ensure broader risk pooling within the health care system.

Evidently then, health insurance for those outside the formal sector has to operate within a broader health financing policy framework. More thought should be given to how local insurance initiatives can best be integrated with a risk-pooling function for the system as a whole. The appropriate roles of local-level schemes and national government should take account of the local context and community preferences. For example, while in some instances it appears that people prefer to pay for primary care out of pocket and demand proper risk pooling for secondary level care only, elsewhere insurance schemes have only proved successful if they include coverage of primary care services. The two greatest challenges ahead will be how to put existing knowledge into practice and how to ensure that the types of small-scale schemes reviewed here contribute to the equity, efficiency and quality of health systems.

Health Facilities & Health Status of the Population of Bangladesh

Bangladesh has a dynamic and innovative health sector. The experience with operation research concerning health and family planning services of Bangladesh is one of the most extensive in the world (Perry, 1999). During the last three decades, Bangladesh has achieved considerable success in the area of health and family planning services.

The medical facilities have rapidly grown in Bangladesh. During 1978-1999 the number of hospitals, both government and private taken together, has more than doubled, the number of beds has also doubled, and the number of registered doctors has increased more than three times. During the same period, the number of medical colleges has increased from 8 to 16, and the number of post-graduate medical institutes from increased from 3 to 6. The growth of health facilities at lower levels of service delivery is also spectacular. However, the rate of increase in the number of health facilities, compared to population, is quite low and it is definitely much lower than required in a society where the health status of the population is miserably low.

Public health and family welfare service network of Bangladesh is quite well organized as compared to many developing countries. Primary health care in Bangladesh has largely been the responsibility of the GOB which, has set up 4403

primary health care centers (PHC) at the union level. These centers feed 397 Upazila Health Complex (UHC) and hospitals at the district level through a referral system, but the UHC and hospitals also have their own the primary intake.

In each ward, there is one Health Assistant (HA) and one Family Welfare Assistant. There are currently 22795 FWAs and 19524 HAs posted in the wards of the country (BHB, 1999). All HAs and FWAs provide door-step health and family planning services to each households they visit every 4-8 weeks. Under the guidance of HA and FWA, there are some volunteers or independent health workers such as Village Health Volunteers (VHV) and trained birth attendants (TBA) providing limited health services at the village level.

A Union Sub-centre (USC) or Health and Family welfare centre (HFWC) is set up in each of the 4403 unions to provide static health and family planning services to the population in the Union. One graduate doctor with other health and support staffs usually manages a USC. About 15 health and family planning personnel are posted at this level to manage the static health facilities. Although there is a Population Committee at each union, in most cases, the Committee is not functioning effectively (BHB, 1999).

397 Upazila Health Complex (UHC) provide the first level referral services to the population in the upazila. Usually 9 graduate doctors are posted in each upazila health complex. They include three specialists-medical officers (medicine, surgery and gynecology), one medical officer for maternal and child health (MCH) and one dental surgeon. Their co-workers are 5 nurses as well as para-medical and non-medical personnel. Besides, there is one family planning officer in a Upazila who is supported by a number of para-medical and non-medical staff. Their offices may or may not be located in the UHC. Every upazila has a 31-bed in-patient department, an outpatient department and a family planning unit, which together provide promotive, preventive and limited curative services to the upazila population.

Although Bangladesh still lags far behind in achieving the required target of HFA, nonetheless, the improvements in IMR, U5 MR and LEB are spectacular taking into accounts its limited resource endowment. The life expectancy at birth has increased by

about 8 years during 1975-1998, reaching to 59.6 years in 1998. This increase is expected to be 9 years between 1998 and 2025 when life expectancy for Bangladesh population will reach 65 years (WHO, 1998).

The IMR has declined from 140 to 73 per 1000 live births during 1980-1998 which is still well below the standard target of HFA. Under-5 mortality rate has decreased from 147 in 1975 to 112 per 1000 live births in 1998. One estimate reckoned that annual 9% decline of U5MR is required for Bangladesh to reach the level of 70 per 1000 live births between 1998 and 2025 (UNICEF, 1999).

The other health indicators, such as, crude birthrate, crude death rate, maternal mortality rate, fertility rate etc. are improving persistently (Table 1.2). This improvement has been acknowledged by the World Health Organization (WHO). In its latest report, Bangladesh has been placed 88th in overall health system performance among 191 nations after Sri Lanka (WHO, 2000).

While the progress was satisfactory with respect to IMR, U5MR, CBR, CDR and CPR to some extent, progress was inadequate in many other aspects. Rate of malnutrition, for example, in Bangladesh, is among the highest in the world. More than one-third of the 3.33 million infants born annually weight less than 2.5 kg at birth and are classified as having low birth weight. Each year, about 30,000 Bangladeshi children were going completely blind from vitamin "A" deficiency. The average daily caloric intake nationally is only 88% of the recommended level of 2120 calories, and in 27% of rural households, the average daily consumption is still less than 1800 calories (BBS, 1998). Each year, approximately 250,000 death among children under five years of age can be attributed to malnutrition (Perry, 1999). The maternal mortality rate is one of the highest in the world (4.5 deaths per 1000 live births). Ninety-five percent of all deliveries still take place in the home (Mitra et. al. 1998).

Curative health care for the poor in both the rural and urban areas remains in the most dismal state. The access of rural population to public health care is extremely limited, being restricted to 12% of rural households. This portion has remained remarkably stable during the period since the mid- eighties.

Inadequate health care places the rural households at a (even) greater risk of slippage into the down ward spiral of poverty. For example, the hard cove poor households (lowest two income deciles) spend 7-10% of their income to cover private health expenditures, which is a sizable burden by any reckoning. If this burden can be relieved through greater targeting and provision of public health care, this would have a substantial poverty alleviating effect (CPD-UPL 1996).

Relative proportion of public and private health expenditures indicates that benefits through public health still cover a small part of the health care demand. The amount of "gross" benefits derived from public health spending represents only 0.5% of average rural household income. The pattern of the distribution of public health spending does, however, show a certain degree of progressively. Benefits from the latter source, as a proportion of income, is highest for the poorest (2.9%) which declines almost secularly to 0.2%, in case of the top two deciles. This shows the potential redistribution benefits associated with an effective expansion of public health program in rural areas.

Health Care Financing Pattern in Bangladesh

The financing of health care is both an important determinants of the success of health care systems as well as an indicator of status and change. An understanding of the financial dimensions of health care systems is increasingly recognized as an important contribution to health policy development. In recent years, developing countries including Bangladesh are increasingly concerned about the financial dimensions of the health sector as well. Abel-Smith (1967), under WHO auspices carried - out the first major international comparative studies of health expenditures. With growing international interest in economic issues in the health sector, researchers and governments began carrying - out country assessments of health expenditures more frequently. Despite recognition, little effort is devoted to the collection and analysis of the most basic financial information needed for health policy reform: how much is spent on health care, by whom and what for (Berman, 1997).

The above statement is equally true for Bangladesh. There are few reliable and comprehensive studies on national health expenditure in Bangladesh, except the Bangladesh National Health Accounts, 1996-97, published in 1998, although quality

and reliability of data presented in the report are not free from criticism. In spite of this limitation, this is a praise-worthy attempt of GOB.

In chapter five an attempt has been made to examine the public sector health care financing pattern of Bangladesh and analyses the data echoing the similar guidelines of WHO (1983). However, it is not possible to list all the possible analyses that could be undertaken for particular policy purpose, nor is it suggested that any one study should attempt all or nearly all of the types of analysis listed in WHO guidelines. Owning to, partly lack of data and partly for time constraints, some useful indicators have been chosen for this study.

If the government spends relatively little, individuals will compensate by spending relatively more - which is the ***defacto*** the case of Bangladesh. Public sector health expenditure as percentage of real GDP is about 0.19 in 1997 compared to 2.18 percent of households and private sector. If the donor funding is subtracted, per capita public sector spending in real term must be stagnated if not declined, despite increasing concern for improving the health status of Bangladesh over the last three decades. Public sector allocation to health in Bangladesh is even lower compared to countries with similar settings, such as India, Pakistan, Nepal, though GOB's official statistics contradicts with above facts.

One of the major fundamental flaws of GOB's health care financing was that a high proportion of the expenditure had traditionally been spent on medical teaching colleges and attached hospitals, and for urban based curative health services. Fortunately, this trend is first changing, particularly after the 1980s and more resources are investing towards rural - based primary preventive health care services. Public sector financial allocation is inadequate to meet the increased operational cost requirements generated by development efforts in the construction of primary health care centers. Allocation for drugs and other medico-surgical requirements is extremely low. All these problems stem from lack of a proper financial planning and, possibly over dependence on donor support. Improvement in health, whatever achieved by Bangladesh since Alma-Ata is partly due to GOB's sincere effects and partly due to NGO's targeted programmes on health and education, and their awareness raising campaigns across the country.

Performance of two health insurance schemes

Bangladesh is in a very primitive stage in terms of health insurance. Even in the formal sector, due to the absence of organizations and culture of solidarity and mutuality, concepts of social security and social health insurance could not plant their roots. Serious marketing efforts and competition are yet to be seen in the private for-profit health insurance sector. A few NGO's are trying out health insurance on trial and error basis. All of them are performing dual role of insurer and service provider. They are skilled in providing services, however, their skills in managing insurance plan require improvement. With very limited experience in actuarial analysis, cost analysis, price setting, marketing, paying professionals, and contracting out, etc., health NGO's may find it difficult to perform with excellence in managing an insurance scheme without adequate training and technical assistance.

Experiences of the NGO's indicate the critical importance of involving the beneficiaries from the very beginning of the planning of the scheme. Grameen Health Program had changed its premium and benefit packages two times within a short period of three years upon receiving opinions of their beneficiaries. Extensive consultation with the beneficiaries at the launching phase as well as continuous dialogue among the service providers and clients cannot be overemphasized.

Experiences of the NGO's suggest that renewal of health insurance policy will face much more challenges than its initial launching. Therefore, popularizing the concept of 'insurance' should be considered as the initial task than program design and launching. Aggressive marketing and communication may help internalize the concept. A marketing and communication expert should be included in the design team.

Common Features of Health Insurance Schemes of Bangladesh

Common features of two health insurance schemes of Bangladesh have been summarized below.

* Schemes are voluntary as opposed to definitional requirement of social health insurance (SHI).

* After several years of marketing efforts, schemes cover about one-third of the population.
* NGOs act as service provider as well as insurer, thereby contain costs.
* Schemes do adverse selection on purpose.
* Coverage of the schemes mostly started with low cost high frequency events as opposed to high cost low frequency events as started in the western world.
* Moral hazards is not visible because of design strength of the schemes e.g. copayment.
* Schemes recover 40 - 50% of the recurrent expenditures.
* Rural poor people mostly used services.

It may be concluded that Bangladesh experiences in community health insurance schemes are very much local products, which reflect the needs and the socio-economic environment in local communities. They often have stronger community ownership than other types of insurance. They provide a mechanism to mobilize and involve in communities in managing health care provision and financing.

Experience of the NGOs in Bangladesh suggests that an insurance plan that covers only catastrophic events is not very attractive because the occurrence of such events is rare and people are willing to take such risk in order to meet many other basic needs. This reduces the opportunity of sharing risk between healthy and sick people. On the other hand, an insurance plan that covers only simple primary health care services is less effective. Such insurance is less attractive to better off people, because the risk covered by the insurance is low and they can manage to pay for low cost care without help from the insurance. This reduces the opportunity of sharing risk between the rich and poor. A saving may serve better for covering the expense for such predictable events.

All the NGO schemes in Bangladesh mostly covers "low cost-high frequency" events while from the stand point of poverty alleviation and social protection it would be critical to provide coverage to "high cost-low frequency" events. In most cases NGOs do not have inpatients facilities. So, a combination of NGO / private facility with

public facility may fulfill the needs of the potential clients where NGO / private facilities will serve the first level of outpatients level and the rest will be supported by public facilities.

By enrolling more members other than members of micro-credit programs in the scheme Social health insurance (SHI) may try to maximize risk sharing. It will however, require vigorous development marketing and behavior change communication. Several organizational experiences suggest that only one third of the population may get enrolled in SHI after several years of operations. A combination of development marketing efforts and BCC will yield more members enrolled in SHI and maximize risk pooling within the community, within poor and affluent, and within sick and healthy.

Since SHI's sole objective is not limited to cost recovery and in alternate financing, it may purposefully do adverse selection to serve its social purpose. It has been observed in the cases of NGO experiences that when coverage is provided to family level it includes people like senior citizens and housemaids who would not have been covered in any other schemes. Because of the social purpose, NGOs preferred to provide coverage at this level. Thus whatever adverse selection has been made by the NGOs it has been made on purpose and for social causes.

There should be sliding scale in setting charges. GK's experience suggests the sliding scale can be introduced in a community with fair precision if a socioeconomic survey is conducted before hand. Such a survey is being conducted by community volunteers and health workers, and does not require any high level skills.

NGO experiences suggested that by incorporating copayment they have successfully managed the problems of moral hazards. Service utilization rate in the schemes of GK and GB suggests predominant under-utilization rather than over-utilization. It may indicate that copayment successfully discouraged client to over-utilize the services. However, copayment should not be prohibitive so that it discourages clients to utilize services at the time of their needs.

Empirical Results

The NMNL models of provider choice in rural villages were estimated by full information maximum likelihood. The estimated value of standard deviation is 0.34 for Savar and 0 .41 for Kalihati Upazila. The estimates are both significantly different from zero and significantly different from 1. Therefore, the model is consistent with utility maximization and rejects the MNL specification in favour of the NMNL. The result that standard deviation is less than 1 also implies that hospital and clinic cares are closer substitutes for one another than a hospital and self-care or clinic and self-care.

In the model the coefficients on the consumption and its square are significantly different zero. The signs of the coefficients indicate that the conditional utility function is concave in consumption. In other words, the marginal utility of consumption is diminishing but does not become negative in the relevant range. Prices enter the model via the consumption terms. The fact that these coefficients are significant implies that the relative prices of the alternatives are relevant to the choice of the provider.

Respondents seem to reduce utilization of medical care over the life span, other things being equal. The coefficients indicate that all individuals between the ages of sixteen and forty are equally likely to seek medical care for the treatment of an accident or illness.

One explanation for this unusual pattern of utilization of medical care over the life span may be derived from human capital theory. Families may prefer to invest scarce resources in the health of members for whom the return is higher. For the same improvement in health, the economic return, measured by family income, is higher from investing in the younger, more productive members of a family than from investing in the elderly. A second reason may be that the available medical care is best suited to addressing the acute health problems common to adults in their prime rather than the more complex, chronic problems of the aged. Hence the available medical care is less productive (efficacious) in treating the elderly than in treating prime-age adults, which results in lower rates of utilization by the prime-age group.

Education does not seem to affect provider choice or the decision to seek formal care. The negligible effect of education most likely results from the small variation in education in the sample. The average length of schooling is less than two year. Therefore, the estimated coefficient is probably not a true measure of the influence of education on utilization of medical care.

We find that males who experience an accident or illness are more likely to seek care, and in particular hospital care, than are females. This is again consistent with the theory that households will invest in their more productive members, or at least in the members who are considered to be more productive. It could also be a sign of gender bias that warrants more scrutiny than can be given in this study.

The coefficients on the family structure variables indicate that individuals in households with fewer adults and more children are more likely to seek care from both hospitals and clinics. This is consistent with the hypothesis that having more adults in the household allows more time to better care for sick individuals at home, and having more children results in having less time to take care of the ill.

Finally, and not surprisingly, reductions in the severity of illness, as indicated by the number of healthy days, substantially reduce the probability of an adult seeking medical care, but it does not affect which alternative is chosen. This finding is common to almost all studies of utilization of medical care in both industrial and developing countries. One caveat is that the number of days an individual was healthy may be endogenous in a model of demand for medical care.

With respect to price elasticity of medical care the results show that the price elasticity of demand falls with income. Indeed, the demand for both clinic and hospital care is more elastic at lower income levels than at the highest income levels. Furthermore, user fees can, however, generate substantial revenue without adverse effects on utilization in relatively better off communities. Implicit in the calculations of these price elasticities is the effect of travel time on utilization, working through the opportunity cost of time. To investigate the rationing effects of the location of facilities, we calculate travel time elasticities. To estimate how travel time affects

demand across income groups, we use the average agricultural wage rate. Arc travel time elasticities of the demand for clinic care and the demand for hospital care were calculated for four ranges of one hour each, covering zero to four hours.

The magnitude of the estimates of travel time elasticity is very similar to that of the estimates of price elasticity. This is not surprising since the opportunity cost of time is currently the whole price of medical care; thus time prices ration the market. The estimates of elasticity show individuals in the bottom three fourths of the income distribution to be much more sensitive to the opportunity cost of time than richer individuals (those in the top quarter). One interesting result is that demand becomes slightly more time elastic as income rises over the bottom three income quartiles. This reflects the increase in wage rates (the opportunity cost of time) over these income groups.

These results imply that the opportunity cost of time is a bigger barrier to health care for poorer individuals than it is for richer individuals. Poorer individuals can less afford to lose productive time than can the rich. The lower income groups in our sample consist of subsistence farmers who obtain a good portion of their income in the form of self-produced food. Moreover, little income is available to purchase processed goods, which in turn implies that many hours must be spent in home production activities such as gathering wood and fetching water. Our results clearly underscore that poor people are not just money poor; they are also time poor. Therefore, increasing the supply of health care facilities in poor areas is a sine qua non for improving access. In other words, if improving the poor's access to medical care is a primary goal of social policy, providing the care free of charge is simply not enough.

Potentials for Health Insurance in Bangladesh

The Program Implementation Plan for the Health and Population Sector Program (HPSP) recognizes the health insurance schemes as an alternative approach to user fee for financing of health care. It mentioned that "Health insurance schemes constitute and alternative approach for financing of health care. In the case of social health insurance, not-for-profit providers should combine this with provision of subsidized

health care. In Bangladesh, considerable experience exists already with the provision of social health insurance by NGOs and community hospitals. Total coverage of such schemes has, however, remained limited. HPSP will therefore support further pilots with social health insurance in rural Bangladesh, with a view towards increased coverage".

In Bangladesh, the challenge remains that almost all kinds of health services are available free of charge, at least theoretically. The state assumes the role of provider, drawing the necessary resources from its general revenue base. Theoretically, and to some extent practically, when all services are free at the point of delivery, and every citizen is covered, there would be no point in encouraging or promoting the creation of groups practicing solidarity to meet their health care needs, simply because the need has already been met. Unfortunately, such an ideal situation does not exist.

A free public health care system exists but coverage is limited. Another major challenge that waits in the health care sector is increasing the access of the poor to health services. Government documents suggest that less than 40% of the people have such access. Micro level data suggests that the access of the rural population is restricted to 12 percent only (Sharifa Begum, 1996). These rates have remained static over the years since mid eighties. Even within this limited access there are serious biases at work, which discriminate against rural areas and against the poor. Patients from the richest quintile are more than five times as likely to be admitted to inpatient - expensive - care than patients from the poorest quintile, and patients from urban areas are more than twice as likely to be admitted than rural patients (MOH, 1998).

The challenge of increasing access to the poor is even more important since studies show that one of the major factors causing a push back into poverty is the prevalence of illnesses and the subsequent income erosion and sale of assets stemming from this. In fact this may be a reason why, in spite of the proliferation of micro credit programs, the net impact on poverty reduction at the aggregate level has been marginal (Binayak Sen, 1997).

The problem of poor access to health services is compounded by the poor utilization of services. Treatment of acute illnesses in rural areas by the public sector has

declined to 12 percent in 1994 from the level of 20 percent in 1984 (Sharifa Begum, 1996). Abul Barkat (1998) cites unacceptable quality of health care due to the non availability of trained personnel, sub-standard diagnostic and physical facilities, absence of drugs and supplies, and general discontent amongst health care functionaries, as the major reason behind such declining use of health care facilities. Specific assessments of quality of care in family planning services (Barkat et al, 1994; Hashemi et al, 1996) confirm this dismal situation. Therefore, improving the quality of care and deep rooting good governance in the public health system pose another challenge that needs to be confronted.

Public health care system suffers from serious problems in ineffective management, resource misallocation, low staff morale, operational inefficiencies, bureaucratic rigidity, and wide spread practice of informal payment. These are the immediate features of immediate context in which the NGOs responded by developing community health insurance scheme. In the inception paper of Grameen Health Program it was stated that ill health continued to be a curse of Grameen Bank members and their families. A recent study showed that ill health is the single largest cause of loan default. Among one sample of older borrowers, it was the reason for 44% of the defaults. On the other hand, improved health contributes to economic growth in many ways (MOH, 1998).

With active participation of the community, a quality primary health care system can combat communicate diseases which accounts for 70% of the total disease burden, and provide a productive life to the people (HEU, 1998). Despite public sector commitment and development of infrastructures, health care services are yet to reach poor people. Health services of private sector are either unaffordable or of inferior quality, or both. The prevalence of diseases among the poor, combined with the severe deficiencies of the public and private health care services in Bangladesh, is thus one of the greatest threats to Grameen Bank members in their struggle to break out of the poverty cycle. As such, it is also a threat to the long-term viability of the Bank itself. It is within this context, that Grameen Bank initiated the Grameen Health Program (GHP) for GB members as well as non-members living within the same operational area.

The above context describes that social health insurance (SHI) in Bangladesh did not stem out of the argument that government often lacks fund to provide free health care services to all its population. However, SHI may not be found in Bangladesh according to its literally definition. In other words, there is no SHI, which is compulsory in nature in Bangladesh. All the schemes are community health insurance schemes lead by NGOs. Community involvement in health care financing and health care delivery emerges as one of the ways to increase access and improve overall welfare of the population in the communities through an empowering process.

An ILO publication (1990) "Health insurance in developing countries: The social security approach" had a comment about Bangladesh that "A major problem in promoting health insurance is the high proportion of the population existing below the subsistence level which would not be able to afford the contributions". What has been described as the major challenge, which indicates why health insurance is critical in Bangladesh. It also generates discussion on the definition and purpose of social health insurance in a developing country.

Recent findings of the National Health Accounts suggest that "high proportion of the population existing below the subsistence level" contribute to almost 60% of the health care market in Bangladesh. The size of the pie for the public sector is 16% and 12% for the donors. Considering that 80% population lives in rural areas and 80% of the rural areas live below poverty line, it can be said that it is mostly the poor people who contribute to almost half of the total expenditure of health sector. Given the magnitude of the contribution, it can be assumed that had their contributions be pooled together in a risk sharing mechanism, they would have been better spend and the health outcome could have been better. Therefore, what has been described as the major challenge towards health insurance that actually indicates a tremendous potential of SHI. In fact, all the community health insurance scheme of the NGOs stemmed around this population.

Ministry of Health and Family Welfare recently undertook an initiative to introduce health insurance for the civil servants. Similarly, the Ministry of Labor also undertook another initiative to introduce health insurance for formal sector employees. In other words, both the ministries plan to introduce health insurance system based on the employment of formal sector. The most obvious reason for this intent is to minimize

the management costs of scheme by ensuring smooth premium collection and reimbursement through payroll or some other mechanism. Besides, it will be easy to organize formal sector employees and negotiate with them within a system. Also, other country experiences suggest that it is doable and countries have progressed towards greater coverage starting from health insurance for the formal sector employees gradually.

However, public health professionals of Bangladesh are in opinion that the most organized formal sector is the public sector and they enjoy multiple medical benefits including several risk coverage. Research Note 11 of Health Economics Unit listed out those benefits. The major challenge is to extend similar or comparable coverage to the rural populations who are about 80% of the total population.

There are several problems in introducing SHI for the rural communities. First of all, most of the rural people are in the informal sector. There is no guild or society structure in the rural communities such as peasant's society, or blacksmith guild, etc. which could be used as platform for SHI. Low income, income disparity and seasonality of income of the most of the rural population may make such schemes vulnerable.

While all the arguments are valid, one important observation should not be oversighted. Bangladesh is the pioneer country in micro-credit movement and has rich experience in it. The major actors in micro-credit program are the Grameen Bank, three big NGOs namely BRAC, Proshika and ASA, and 141 small and medium size NGOs known as partner organizations of Palli Karma Sahayak Foundation (PKSF) and a number of other organizations affiliated Credit Development Forum. BRDB, the largest development agency of the government also has credit programs. Altogether, these micro-credit organizations serve more than Five Million members all over rural Bangladesh. Almost 90% of them are enrolled with the major actors like Grameen, BRAC, Proshika, ASA and BRDB (MOH, 1998). Because of micro-credit discipline, these five million members maintain social groups, which can be considered as a kind of formal structure, and also be termed as quasi formal sector in rural set-up. If 700,000 employees of the public sector make them lucrative case of SHI, then these 5,000,000 members enrolled with the organizations should make themselves lucrative case for SHI as well.

There are however, certain prerequisites, which must be fulfilled before initiating a government sponsored rural health insurance scheme. These are:

a) Till this point, private and community health insurance schemes are running without any legal framework. Any health insurance scheme should run under a broad health insurance policy. Therefore, a legal framework or act or ordinance should be formulated or at least the process should be started before launching health insurance program (HIP).

b) Services of the public sector must be charged before initiating HIP. Despite informal fees, in presence of free services it will be difficult to introduce and popularize HIP. Policy wise, when all services are free at the point of delivery, and every citizen is covered theoretically, there would be no point in encouraging or promoting HIP to meet people's health care needs, simply because the need has already been met, at least theoretically. Therefore, charges should be introduced for the services of the public sector before introducing HIP. If it is difficult to charge in general, then charges should be introduced at least in the pilot areas, starting from the community level structure to secondary (district) and tertiary care hospitals.

c) Along the side of introducing charges, safety net should be extended to the poorest of the poor section. As a rule of thumb, 15% of the population should be considered "indigent". Identification of indigent should be done meticulously either by socioeconomic survey, or by wealth ranking in the community or by setting some criteria like female headed household, VGF cardholders, etc. Provision of self-selection can be kept as well. The insurance agency should be entrusted to conduct the survey or their methodology so long that deem reasonable. Only a token fee should be charged to the indigent.

d) Focal points should be set-up at MOHFW and DGHS for smooth function and progress of the pilot. They should posses enough authority to ensure cooperation from the Thana Health Complexes and District and Tertiary Care Hospitals.

e) The design of the pilot scheme should take into account that it should be replicable to any part of the country and does not depend on any particular organizational structure, which is unique.

f) Because of predominance of self-employment and informality in rural areas, HIP will have to rely on Micro Credit Programs (MCP) for the initial or take-off phase. Therefore, a major actor of MCP will have to be chosen for the sake of smooth take off and replication.

Health insurance program will have to depend on public sector's secondary and tertiary level hospitals. At the primary level there are abundance of private or NGO service providers along with public sector. However, quality of services of public sector at the primary level is of questionable quality. Moreover, in order to be replicable everywhere, HIP's service providers should not be limited to any particular organization. Therefore, a combination of public and private / NGO sector should act as service provider.

As expected majority of the intended beneficiaries will be rural poor. Hence they may find it difficult to perceive the benefit of having a health insurance than not having health insurance. Moreover, the opportunity cost that they will have to forgo to avail this insurance will also be high. These are challenges that NGOs already faced. Therefore, expectation of high cost recovery from HIP should not the prime goal of the scheme. In other words, elements of subsidy will have to be there. Based on disease profile, cost implications at the household level and experience of the schemes following three premium and benefit packages are recommended. However, for the sake of simplicity, it is recommended that only one package should be applied in one setting.

It is critical that at the initial stage of operation, vigorous marketing efforts will be required to popularize the concept of health insurance program. Technical resources, familiar to popularize products or services in rural set-up will have to be obtained. Traditional insurance schemes utilize local people as commission agent. Here, in HIP similar change agent can be employed with broader mission who will not only ensure business also ensures healthy behaviour change.

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Glossary of Selected Health Insurance Terminology

Actuarial: applied to calculation of insurance risks and premiums.

Adverse Selection: phenomenon associated with voluntary enrolment of individuals into health insurance schemes. It occurs when a disproportionate number of persons with a high probability of incurring high medical costs is covered by a scheme. Such adverse selection can jeopardize a scheme's financial viability.

Allocative Efficiency: in standard economic theory, allocative efficiency occurs when resources are allocated in such a way that any change -- which might be beneficial to some -- to the amounts or types of outputs, services or products currently being produced would be detrimental to others.

Beneficiaries: the individuals covered within a health care plan. In a publicly funded system, the beneficiaries are residents of a jurisdiction; in a private plan, they are enrollees of the insurance plan.

Benefit Package: services and the means of accessing services that are covered by the insurance scheme.

Budget: periodic allocation of funds to (or on behalf of) health facilities. The total amount of the allocation is determined in advance (i.e. prospectively).

Capitation : fixed payment to providers per person enrolled in the insurance scheme. Providers paid by capitation bear the financial risk of providing a defined package of services to the beneficiary population.

Case-based reimbursement: retrospective payment of an administratively predetermined amount per case of episode of illness. Individual services are bundled into distinct case categories that are fairly homogeneous with respect to resource cost, and providers are reimbursed a fixed amount per case in each category.

Catastrophic cost: cost arising from treatment of an illness that is extremely high relative to individual or household income. Usually associated with expensive referral hospital care.

Community rating: a situation in which all members of an insurance pool are charged the same premium, irrespective of their risk status.

Co-payment: flat amount that covered individuals must pay out - of - pocket for each service used.

Coverage: the beneficiary population. This could refer to the percentage of persons who are covered by insurance, or to defined population groups (e.g. employees and dependants) who are covered.

Equity: fairness in the allocation of resources or treatments among different individuals or groups.

Fund: the institution responsible for accumulating and spending the (prepaid) contributions for insurance. Funds are usually third party payers (public or private) but can also be providers. In the latter case, some functions of insurer and provider are integrated in a single institution.

Gatekeeper: the institution or individual responsible for determining access to referral services. The gatekeeper function is usually the responsibility of the provider of first-contact primary care.

Moral Hazard: impact on an individual's demand for care of an out-of-pocket payment that is less than the cost of providing that care. Since insurance (including centrally tax-funded services) covers some or all of the costs of service use, individuals tend to use more services when insured than when uninsured when they must pay the full cost of care.

Opportunity cost: the opportunity cost of a product or service is the value of the best alternative use to which those resources could have been put, the value of the productive opportunities foregone by the decision to use them in producing that commodity or service.

Outside formal sector employment: used in this paper to refer to a number of distinct groups, including those working in the informal labor market, persons engaged in small-scale agricultural production and certain vulnerable population groups such as widows, orphans, the landless and the unsupported elderly.

Provider payment: the mechanism by which resources are allocated from the insurance fund(s) (or national health service) to institutional (e.g. hospitals) or individual service providers (e.g. doctors). Options include: budgets / salaries,

capitation, fee-for-service reimbursement; case-based reimbursement, and different combinations of these options.

Purchaser: the institution responsible for purchasing health services from providers. This always includes the insurance fund itself, but some schemes involve additional purchasers as well, including entities that are also service providers.

Regressivity: this occurs when the poor pay a larger fraction of their income than the rich for a product or service.

Risk Pool: group of people covered by the same insurance scheme.

Risk Pooling (Insurance): broadly speaking, may be defined as the reduction or "elimination of the uncertain risk + of loss for the individual or household by combining a larger number of similarly exposed individuals or households who are included in a common fund that makes good the loss caused to any one member" (ILO, 1996).

Salaries: similar to budgets, but applied especially to health workers. Salaries are prospectively determined allocations.

Social (Health) Insurance: system of financing care through contributions to an insurance fund operating within a tight framework of government regulations. Social insurance usually involves mandatory, earnings-related contributions by employers and employees.

Sustainability: capacity to maintain at length without interruption, weakening or loss in power or quality.

Technical Efficiency: for any given amount of output, the amount of input required is minimized.

Utilization: the amount of health can services actually consumed. Utilization reflects the interaction of demand of patients, recommendations of providers and supplies of the services in question.