Draft for Comment

What is Known About Demand and Other Related Interventions to Improve Access and Strengthen Health Care Systems in Low and Middle Income Countries?

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Executive Summary

Despite significant increases in national health spending and donor aid going to health care in Low and Middle Income Countries (LMICs), the literature suggests that the impact of this surge in spending on health outcomes and the performance of health care systems has been minor. Part of the problem is the historical tendency for spending to favor supply-side resource development including medical training, facility construction, technical capacity building, staffing operations support, and the like. And, there is growing consensus that more money alone, however spent, will not permit health objectives to be met until important constraints on care seeking, on provider behavior, on governance, and on other aspects of the health system environment are resolved (Hanson et al., 2003). However, there is no consensus to be found on the kinds of specific interventions that need to be implemented to strengthen health system performance, or about in what sequence or balance these interventions should be implemented.

Demand-side approaches to addressing the problem of underutilization are a subject of increasing interest to governments as well as aid and development agencies. The unsatisfactory performance of supply-based policies and increasing concern about getting services to the poor have created interest in understanding the role of ‘demand’ factors in explaining inadequate utilization of formal services and products. The poor face high out-of-pocket expenditures in most LMICs and even when fees are waived, patients frequently pay "informal fees" to receive care and often incur high costs due to the inconveniences of travel. Substitute services, such as traditional care from informal caregivers or self care may also decrease demand for effective care. Furthermore, preferences for care are likely to be influenced by the poor quality and inefficiency of care in much of the developing world.

Demand-side approaches build purchasing power, awareness, information and trust of individuals in need of health care. Demand side interventions can be strategic and aimed at health system strengthening or they may be narrow and aimed at creating better access and utilization for a smaller set of services or products. The former, which might be called system strengthening or ‘core’ investments, might include risk pooling and insurance programs, or creating voice for consumers Core investments typically aim at strengthening one or more of the basic health system functions including stewardship, resources, delivery system, and financing. The more narrow application of demand incentives might be called ‘issue specific’ interventions, and this category might include vouchers (subsidies for specific services), waivers or other subsidies of user fees, information for consumers, and behavioral incentives such as conditional cash transfers (CCTs) among others. Core investments are critical to raising the performance of the health system, but are more expensive and require a longer time commitment. Issue specific investments are dedicated to accomplishing more targeted outcomes, such as vaccinating children or distributing malaria nets.

In this report we examine the available research evidence on the impacts of particular interventions for improving health. Specifically, we are concerned about the effectiveness of interventions that “create
demand” and those that may alter provider behavior and practices, such as provider payment incentives. The main questions we ask of the literature are: can interventions on the supply- or demand-side produce sufficient behavior changes at the point of service to encourage higher rates of utilization and better access in LMICs? And what are the known barriers and limitations to the effectiveness of these types of interventions in these countries?

In the last section we illustrate how demand-side interventions can be applied in particular country situations, and the kinds of supply-side policies that might be good complements. For this part of our work, we use a general framework for considering a wide range of interventions, both core and issue specific, that have been employed to enhance the performance of health systems. The framework acknowledges the importance of governance and other “core” health system capabilities in determining performance and determining suitability for particular interventions. Using the framework, we define four distinct scenarios, each based upon core health system capabilities and governance capabilities. For each level of governance and core capability level we consider the types of demand side “core” investments and “issue specific” interventions that make the most sense.

Overall, we found that the literature on the effectiveness of various interventions is weak, lacking rigor, and very limiting in analytic scope. Research is often descriptive, or uses simple pre/post comparisons that are a poor basis for impact estimates. Where used, controls are usually inadequate. These problems cause impact estimates to be generally unreliable, and almost all studies employ intervention sites that are subject to selection issues when trying to generalize. Equally limiting, the literature contains no evidence of comparative effectiveness of the supply- and demand-side interventions we discuss. Therefore, it is not possible to say, for example, whether in some situations the impact of using community health workers is smaller or larger than a demand-side financial intervention such as a conditional cash transfer. Nor is it possible to ascertain whether the impacts of payment incentives to providers are more effective in stimulating utilization than, for example, a community based health insurance scheme. This lack of comparative effectiveness evidence is a major limitation in making health policy choices.

Another problem with the research literature is confounding. As part of health reform programs, complementary interventions are often implemented simultaneously, and disentangling the effects of the interventions ex-post is virtually impossible. This is a particular problem for separating the effects of provider payment incentives and ‘contracting-out with private providers.’ This is also a problem in the research on demand-side pay-for-performance (conditional cash transfer), where sometimes supply-side payment incentives are also used (as in Nicaragua) with no way to disentangle the partial contribution of each kind of incentive. These problems are reinforced by the bias of investigators to be more inclined to publish or write about their successes than their failures. Finally, we note that much of the perceptions about particular interventions are the subjective opinions of experienced analysts drawn from broad multi country experience.

While the literature offers little consensus on what works best in particular situations, the framework and scenarios we offer do provide a guide for developing appropriate candidate interventions and the parameters needed to tailor them to particular country situations.
Findings from the Literature about Selected Supply Interventions:

Many interventions for strengthening health systems attempt to improve the amounts and effectiveness of resources for delivering health products and services. These supply side improvements fall into four general categories:

- Improving Management
- Reorganizing Health Delivery
- Creating Provider Payment Incentives
- Investments in Human and Physical Capital

We focus our review on the first three categories of supply side interventions in as much as they are most often complements (or in some cases substitutes) for demand interventions. A summary of the research evidence on these interventions is provided here.

Management Improvements. The first three types of supply-side interventions form a continuum in the way they attempt to deal with the agency problem facing those who govern the health system. When government (or a private system) owns and operates the resources of the health delivery system, the easiest and least aggressive “fixes” to performance problems are interventions that attempt to improve the management capabilities of facility and responsible government managers. Management training can be supplemented by redressing the information deficits of managers who direct the behavior of professionals. This can be done in two general ways: through some form of Health Information System (HIS), or through the use of professional norms and standards to help and guide managers and health professionals. Evidence on the impacts of HIS interventions is mixed. There is evidence that such interventions may also require substantial investments in management skills and analytical thinking (in addition to the usual kinds of training and support needs) in order to create substantial benefits. From a provider perspective, there are still barriers to implementation and participation in data collection.

Using information in the form of professional benchmarks and norms is widespread, and has had mixed results. Evidence about the use of utilization review, essential drug lists and formularies is not supportive of using these kinds of expert data. There is nothing other than anecdotal or controversial evidence of impacts of this set of activities to modify or control medical decision-making. Medical practice guidelines and related process improvements, on the other hand, have also been tried, and there is evidence that this kind of decision guidance has reduced cost, improved quality, and reduced the utilization of inappropriate interventions (Liu, 2003). In a review of the limited literature on primary care quality in LMICs, the authors conclude that “focusing on improving the quality of care through Quality Assurance (QA) is the most promising avenue to improve quality of care in these countries” (Reebink and Sauerborn, 1996).

We conclude that holding facilities to external quality standards in the form of accreditation guidelines in LMICs have not yet been shown to improve outcomes of care, though they may be useful in
improving procedures and compliance with externally imposed structural and process standards. Giving providers comparative feedback information (about their practice patterns) has been encouraging in Egypt and other places, but not yet demonstrated as a way to create impacts on quality or efficiency in LMICs.

**Provider Payment Incentives.** If “management improvement” is not sufficient to resolve the alignment problem of agency, then provider payment tools can be used. Sometimes these provider payment arrangements are used to control the behavior of providers who are employed by the government, and sometimes these incentives are used to control the behavior of providers who are private parties; the latter are referred to as contracting arrangements. The incentives given to providers have been demonstrated in the United States and other countries to create strong and predictable impacts on the quantity and quality of services consumed. Because providers often control treatment decisions of patients, these supply side incentives can have strong consequences on access and utilization and can function in lieu of user fees or other demand side incentives.

Impacts of payment reforms in LMICs on efficiency and other outcomes have been rarely studied and are weak methodologically. When reported, results are often subjective assessments of trends (and uncontrolled pre-post methods) and quantitative studies are often confounded by parallel use of contracting and other types of reform. There appears to be significant and growing global interest in using provider payment technologies in both organized health systems and in contracting activities. These trends favor the use of capitation methods for primary care, global budgets for hospitals, and P4P bonuses (for physicians and clinics) for achieving target service volumes. The reported impacts of these provider payment reforms tend to be weaker and less consistent than we would expect from the experience in developed countries. Authors attribute weak and inconsistent pattern of impacts to the existence of critical barriers (constraints) to these incentives being effective in LMICs. Important barriers appear to be management incompetence and lack of autonomy, inadequate information systems, and conflicting health system incentives. This finding supports the idea that specific interventions must be tied to how well the health system is performing.

Provider payment and bonusing incentives (P4P) are being combined with demand policies, with encouraging results. Strong payment incentives in Columbia were used in conjunction with a program of extending insurance benefits to the poor. Encouragingly, the risk protection benefits were considerable, but without much evidence of (expected) large utilization increases due to moral hazard.(Miller, 2009) Possibly one of the more encouraging possibilities about payment incentives relates to the success of performance contracting with NGO providers in Bangladesh, where half of the excess revenues generated (from higher user fees and from provider payment incentives) are contributed to a health equity fund for payment of user fees by the very poor. With increased utilization of both the paying and poor customers, the cross subsidy situation is being sustained. Using the proceeds of efficiency incentives to locally fund better access for the poor is an encouraging extension of P4P and provider payment incentives.
Reorganizing the Delivery System. There are other, more radical, approaches to addressing the alignment problem. Reorganizing the structure of the delivery system may, among other things, achieve better access and responsiveness. The reorganization alternatives we examine include decentralization, privatization, and the use of community health workers to assist isolated populations.

Decentralizing to lower levels of government (e.g. from central to municipal) may help efficiency, responsiveness, and even financing by putting management closer to the point-of-service. The research suggests that decentralization has been associated with some improvement in the technical efficiency of services. But, in general, effects on the quality, equity and allocative efficiency of services are mixed and anecdotal. And there may be risks: without the necessary resources, management expertise and proper incentives, adverse consequences may arise for both efficiency and equity.

Even more forceful an approach to reorganization is privatization, where assets of provider organizations like hospitals and clinics are given or sold to private parties. The idea is to create strong incentives by allowing private economic gain for owners by threatening survival. Evaluations of the privatization activities of health care facilities have not been done in LMICs, and effectiveness insights can only be observed from studies of other industries in developing countries. And there is insufficient and inconsistent evidence in this literature to conclude whether selling (or giving) health sector assets owned by the government to the private sector improves delivery system performance.

A final category of reorganization is that of deploying Community Health Workers (CHWs). CHWs are often seen as a ‘core’ resource, needed for delivering basic information and some primary care services to rural and isolated populations. Some of the successful demand side interventions have been implemented as complements to preexisting CHW programs (see Bhat, 2006). However, they are not a panacea for countries with weak health systems. The success of CHW programs has been mixed, often due to underestimating costs and management needs, overestimating the efficacy of CHWs in certain situations, and poor program design.

Findings from the Literature about Selected Demand Interventions.

A group of interventions for improving the outcomes or equity of health systems were implemented in LMICs. These improvements fall into five general categories:

- Introducing or changing user fee policy
- Protection policies against user fees such as Health Equity Funds (HEF)
- Behavioral Demand Incentives (sometimes referred to as ‘token’ economy systems) including Conditional Cash Transfers (CCT)
- Insurance schemes and other risk pooling strategies
- Information and voice for consumers

A summary of the research evidence on these interventions is provided here.
**User Fee Policy.** User fees are controversial demand side instruments that introduce consumer cost-sharing into care seeking decisions aiming to promote efficiency and financial sustainability. Our review of the literature showed mixed results. User fees are shown as mechanisms for achieving revenue generation for providers and for improved quality and accessibility of services and drugs. Research on user fees also shows that they are associated with problems of equity and access by the poor.

What the literature suggests is that user fee policy should not be seen solely as a means for revenue generation. Instead, the real merits are in improving the efficiency of allocation of scarce resources in such a way that encourages the utilization of cost-effective services and rationalizes the utilization of other services. In theory, user fees can provide efficiency in the scope and scale of care, providers’ financial viability, enhanced quality and availability of drugs and services, improved accountability and responsiveness, increased competition and choice, reduction in corruption, and more. Appropriate cost sharing arrangements, when designed and implemented based on pricing principles and are accompanied with protection policies like HEFs, can effectively improve the efficiency of resource allocation without jeopardizing equity in access by the poor.

**Protection policies against user fees.** The introduction of user fees was a source of serious debate because of the risk of negative effects on access and utilization for those who cannot bear the burden of payments at the point of service. Instead of eliminating user fees altogether, other demand side protection mechanisms can be employed to avoid equity problems. The goal of these policies is to protect the poor from the burden of payment while letting the market achieve its allocative efficiency goals.

Many countries employ fee exemption arrangements to mitigate financial barriers to the poor imposed by user fees. But, in practice, exemption strategies are prone to fail due to the difficulty of implementing and monitoring the kinds of targeting strategies that are required. A demonstrably more effective alternative is the use of a Health Equity Fund (HEF) which pays user fees for the poor. Although in theory the sliding fees, exemptions and waiver programs should work, the empirical literature frequently reports the difficulties in implementation of exemption and fee waiver programs. HEFs, on the other hand, have shown some promising results in developing countries. One reason is that there is no distortion or double-standard in fees and everybody faces the same price schedule. The HEF then reimburses the payments on behalf of poor. HEF implementation does require a sophisticated design and a careful implementation with ongoing financial and institutional support by government or donors.

Some other demand side interventions exist that have the intent of increasing the purchasing power of the poor and mitigating the user fee problem for the poor. These tools target poor families and provide them with vouchers or health cards to be used (instead of cash) at the point of the services. In general, health cards and vouchers have been shown to be effective in improving the utilization of eligible population groups.
In almost all protection policies the success of the targeting system employed was a critical element to the overall success of the intervention. In the absence of efficient targeting mechanisms, inclusion and exclusion errors undermine expected goals or dramatically increase the cost of implementation. Investment in targeting is therefore deemed to be one of the most crucial core investments as recommended by the literature.

**Insurance schemes and other risk pooling strategies.** If administrative costs can be controlled, voluntary health insurance schemes are feasible in LMICs, despite the low level of household incomes. A handful of empirical studies in Africa and Asia suggest that community financing (CF) risk pooling schemes are feasible, and if properly structured, can improve efficiency, reduce the cost of health care, improve quality, and improve health outcomes. The limitation, however, is that CF schemes have only a modest ability to increase the total amount of funds available for health care. This is because target populations consist of largely low-income households whose ability to pay is constrained. The major value added by such schemes is their organization of what households and government are already spending, and their influence on what services the money is spent on (through the design of the benefit package). Another serious concern about CF schemes is that they are not easily implemented in the poorest and the most remote communities.

The literature suggests that properly designed and supported CF schemes can have modest administrative costs. These plans can include very poor communities, and can be consolidated and reinsured to mitigate bankruptcy risks. The literature also shows that these financing arrangements can be linked with other formal insurance plans, which may be the most reliable pathway towards universal coverage in developing world. Although the pathway begins with voluntarily initiatives in these micro insurance pools, the crucial precondition to the ambitious goal of universal coverage is committed and competent stewardship at the country level.

**Behavioral Demand Incentives (‘token’ economy systems).** Token economy systems are behavior modification programs designed to encourage desirable consumer (patient) behavior and discourage undesirable behavior with the use of incentives. These programs are also known as pay-for-performance on the demand side of the market. In the health and education sectors, conditional cash transfer programs (CCT) are receiving attention following a series of successful initiatives in Central and Latin America. Here, consumption incentives for households produced favorable changes in health-seeking and education-seeking behaviors among underserved populations. The best studies indicate that CCT programs increased the utilization and positive health outcomes in almost all countries that were studied.

Contingency Management (CM) programs, another approach to incentives for consumers, are being extensively used in substance abuse treatment to change the behavior of patients. The programs’ evaluation studies have frequently reported positive results in terms of changing health seeking behavior. These CM programs seem to be effective demand-side strategies in changing the health
seeking behavior of hard-to-reach populations and encouraging the utilization of critical services and new technologies.

These behavioral change (or demand side P4P) programs for consumers have been shown to be more effective if coupled with provider incentives (P4P on the supply side). The supply side incentives (provider payment incentives) can incentivize the providers to achieve certain utilization or quality objectives, in addition to utilization and access. In Nicaragua for example the double-sided P4P programs resulted in very promising results although the partial effect of each side was not clearly disentangled. Another example (India) used a double-sided P4P for improving access for a hard-to-reach population and encouraging community health workers and other providers to enhance outreach and more effective referral.

**Information and Voice**

Asymmetric information at the point of service in health care (favoring providers) has created widely known problems in health care markets. Activities to redress these problems have included providing information or knowledge to consumers in order to improve choices that consumers must make about care seeking, selecting providers, buying insurance, and more. Also, these problems have been approached by strengthening the role of consumers, particularly women, in advising and giving feedback to providers, including roles of consumer boards and ombudsmen in the governance structures of provider organizations. Some of these activities are ideal for issue specific applications in building awareness and doing ‘social marketing’ to promote specific health results or actions. Many of these interventions are core investments, aimed at achieving a better health system by strengthening the consumer’s role and the demand side of the market in general.

The literature on these kinds of interventions is promising, though understudied in LMICs. Increasing the level of general education, particularly for girls, and other information solutions are known to be powerful influences on levels of family health outcomes. Some of the interventions, particularly the use of consumers to build scorecards with their feedback to clinics, have had promising effects on levels of service quality. Information and empowerment of the consumer seems to strengthen the role of the demand side of the marketplace and create impacts much like we would expect from competitive influences by redressing the imbalance of information and the role of consumer.

**Findings about Implementing Interventions in Particular Country Situations**

The research literature sometimes remarks about the applicability of particular demand interventions in particular situations. This stems from the fact that some interventions require more effective administration and better data than others. To organize this research about “what works best in what
situation” we define fours scenarios based on the adequacy of health system stewardship, financing, resource creation, and service provision. For each scenario we identify demand interventions for strengthening the health system (core investments) and for narrower objectives of promoting better access and utilization for particular health services and products (issue specific investments). For each scenario we also discuss the complementary supply-side interventions that might be used to better balance supply and demand.

**Scenario I:** Countries where stewardship functions relatively well and where financing has already moved from out-of-pocket payments to prepayments via micro risk pooling schemes at the community level or community-driven prepayment scheme attached to social insurance or government-run systems. Countries that seem to fit this model are Thailand (Thai Health Card), Indonesia (ASKES), and Rwanda (mutuelles).

For issue specific interventions, we would recommend introducing new critical services and/or products into pre-established benefit packages and providing financial support to such schemes, where needed.

For the core, or system strengthening investments, demand side policies might include strengthening the development of micro insurance initiatives, employing targeted premium subsidies for poor, expanding risk pools, increasing linkages to reinsurance and consolidation of pools, optimizing and balancing benefit packages, and assisting consumer education and information about insurance.

On the supply side, complementary policies might consist of investing in information systems to support better management and control, providing technical support for managerial skills, and improving provider reimbursement arrangements.

**Scenario II:** Countries that have invested in substantial resource creation and service provision and effective government stewardship. However, there is still a reliance on user fees and there is very limited or non-existent risk pooling for the provision of effective risk protection for rural residents, low-income families and self-employed or informal sector employees. Countries that might fall into this scenario are China, India, and Egypt.

Important demand side policies to support issue-specific interventions would include: adjusted fee schedules for the new products or services, additional subsidies for the poor to increase uptake (sliding fees), and vouchers or health cards for the poor and underserved if sliding fee schedules are difficult to administer. On the supply side, complementary policies might include provider performance-based payments for new services, and incentivizing health workers and community workers.

For strengthening the health system, ‘core’ demand-side investments might include: optimizing user fees toward increasing efficiency, implementing protection-for-the-poor policies such as HEF, and supporting and piloting community based micro insurance schemes. Here, the supply side needs these core investments in areas like financial decentralization to insure revenue retention at local levels,
contractual arrangements and provider incentives to improve rural services, and quality improvement programs with emphasis on patient-centered evaluations and voice.

**Scenario III:** These are poor countries (or regions within a country) where there are inadequate numbers and distributions of health care providers. Though stewardship is generally adequate, government has limited revenue production and government providers face serious budget constraints. Inadequate distribution of government facilities creates long distances and limited access to health facilities for isolated and rural populations. When available, private delivery systems (hospitals, doctors and pharmacies) are preferred over poor quality and inaccessible public providers. Countries that fall into this category might be Nicaragua, Bangladesh, and Cambodia.

For issue specific interventions on demand side, token economy systems are possibly best to support the use of services or products. If a CCT program is administratively difficult or beyond the health budget, then CM programs could be implemented instead. Policies should work more effectively when complemented with empowerment, trust building, and consumer information and voice programs. On the supply side, complementary programs might include CHW for facilitating the delivery of non-complex services, and as referral agents for more complex care.

For core investments in this scenario, demand side policies might include voice and choice interventions plus information interventions to help with empowerment and lack of trust and cultural barriers. The other priority would be supporting and piloting community based micro insurance schemes. An important supply side intervention would be developing a regulatory program for the emerging private providers.

**Scenario IV:** This group of countries represents the weakest health systems among LMICs, where government accountability and provider professionalism have broken down. In these countries or sub-regions, stewardship and oversight is so weak that the other three health system functions (creating resources, service provision and financing) cannot be strengthened until the stewardship function is improved and corruption is eliminated. Under such conditions, providers are often underpaid and provide low quality services while often charging informal fees to patients. And, government officials seek to exploit existing programs and donor funding for their own use, or use by their family and friends. Scenario IV countries might include Nigeria, Myanmar, Haiti and Afghanistan.

For issue specific interventions, supportive demand side policies are limited. Contingency management programs can change the health seeking behavior of hard-to-reach populations, and can be even more effective when CHWs are involved to boost outreach in remote areas. Since delivery networks are severely underdeveloped, supply side vertical programs may be the only viable choice to insure utilization of critical services by otherwise underserved populations.

The priorities for core investments are in the areas of stewardship and financing. The fact that supply and stewardship and leadership are so weak makes core investments in demand a dubious choice. Core
supply investments are likely needed in infrastructure, vector control programs, and human and physical capital. In all investments, however, the level of care and geographical distribution of resources should be a core element in prioritizing investment projects.
Summary Findings

The most important findings we reach about the use of demand-policies are listed here.

- **Demand side policies are effective in increasing use**

Financial incentives for consumers are beginning to be used successfully to manage care seeking and utilization in LMICs, providing more of a balance in policy between creating supply and strengthening the willingness to seek or buy..

- **There is a wide range of demand interventions**

Some of the demand interventions that have been used in LMICs include user fee mediation tools like health equity funds and waivers, conditional cash transfers or other motivational incentive programs, vouchers, health cards, social marketing and knowledge interventions, voice and empowerment building, and information interventions.

- **Supply side incentives can be powerful and a good complement to demand incentives in some situations**

Provider incentives to manage utilization can be used to create more efficiency in delivery. Provider payment incentives can also be useful to compensate for problems with demand incentives; for example, when insurance creates incentives for consumers to over-utilize services, some evidence suggests that supply incentives may be an alternative to policies that might threaten equity for the poorest of families.

- **Demand side interventions must be tailored to the specific situation**

Choosing among demand interventions, particularly for “issue specific” interventions must be very situation specific because one size does not fit all. The choice of demand policy will depend on types of market constraints, available capacities and delivery system capabilities.

- **Effective governance and leadership is essential to successful incentive policies**

Effective government and leadership, is a critical requirement of successfully using incentive policies. Unfortunately, countries with weak stewardship are unlikely to only use demand incentives to stimulate access and utilization for new products and services, though these incentives may be useful within a vertical program of service delivery.
• **Incentives will play an increasingly large role in health sector policy in the future**

The level of sophistication in the use of incentives to achieve program objectives is increasing, even in LMICs. As more attention is being paid to demand side incentives, and with refinements in supply incentives for providers, it seems clear that incentives are going to play a larger role in health sector policy in the future.

• **Necessary targeting of demand side interventions to vulnerable populations requires strengthened capacity**

Using demand side interventions effectively will likely necessitate building the capacity to do targeting. Demand policies (providing purchasing power or information) can be, and often needs to be, precisely targeted interventions aimed at vulnerable population segments. This requires special tools and skills.

• **Findings lack strong evidence**

The existing studies are methodologically weak, their results are inconsistent and there are no studies of comparative effectiveness.
Section I:

Introduction

Background

The Commission on Macroeconomics and Health (CMH) and many other advocates have recommended that a significant expansion in health sector funding by governments and by donors is needed in order to achieve better health in Low and Middle Income Countries (LMIC’s). This has occurred. On the donor side the increase has been substantial. Foreign aid disbursements for health have surged from $2 B in 1990 to $4.5 B in 2002 and up to about $10.5 B in 2007. Consequently, over the same period, the health share of total official development assistance (ODA) has increased disproportionately.

Most country and donor spending to strengthen health systems has been oriented toward the supply-side. Essentially, this has entailed the purchasing and placing of increased resources in order to strengthen the systems that deliver health services and products to people. Much of this supply-side spending has been for long-term health system capital investment, both physical capital and human capital. These investments include health professions training, technical assistance, facilities infrastructure, quality improvement initiatives, strategic and policy planning support, research and data collection activities, health information systems, and general budget support to the Ministries of Health. Funds are also used to top off salaries, support bonuses, or provide commodities for relief efforts. The recent expansions in funding have also created large programs of purchasing commodities and drugs, and the systems to deliver them to people in need. We categorize these kinds of interventions as ‘supply-side’ because they are designed to expand, improve and/or strengthen health care delivery systems.1

But, despite these significant increases, both in funding and health resources, the foreign aid effectiveness literature suggests that the impact on health outcomes has been minor (Scheiber, 2007). There is now broad agreement that money alone will not solve the problem (following the documentation of weaknesses, problems and barriers to health system effectiveness W.H.O. 2000, Hanson 3003, Hsiao 2007). But, there is not yet any agreement about what kinds of mechanisms or interventions need to be initiated first, and in what sequence, or in what balance. Can the effectiveness of investments in health system strengthening and health improvement be improved by changing the kinds of things that are being done? Over the past decade, alternative strategies have evolved from various economic, political and sociological disciplines, leading to a range of suggestions for interventions for reform. Political and sociological reforms require much longer time frames and greater levels of support. Given the limited time frame of most

1 Why has there been such a supply-side bias of health reform initiatives? There are possibly many reasons: country politics prefer visible supply side infrastructure spending, and professional training programs; Governments are often large delivery systems themselves, and supply-side investments are a natural bias of program and facility directors; Donors also prefer to work through governments, and sometimes prefer giving general budget support money to the governments to do what they think is best (Gottret and Scheiber, 2006).
donors and their need for expedient results, we will focus on the economic strategies that have been introduced. These often require shorter time periods to achieve outcomes and lower levels of funding, but must be done within the political and social culture of a country.

The unsatisfactory performance of supply-based policies and increasing concern about getting services to the poor have created new interest in understanding the role of ‘demand’ factors in explaining inadequate utilization of formal services and products. The poor face high out-of-pocket expenditures in most LMICs and even when fees are waived, patients frequently pay "informal fees", or kickbacks, to receive care (O'Donnell, 2007). Substitute services, such as traditional care from informal caregivers and self treatment, may also decrease demand for effective care. Furthermore, preferences for care are likely to be influenced by the poor quality and inefficiency of primary care in much of the developing world. (O'Donnell, 2007; Eichler, 2006).

Demand-side approaches to addressing the problem of underutilization are a subject of increasing interest in aid and development agencies. These approaches include systemic, or ‘core,’ reforms in the use of pooling and insurance programs, as well as ‘issue specific’ demand interventions such as vouchers (subsidies for specific services), waivers or other subsidies of user fees, unconditional income support, information for consumers, and conditional cash transfers (CCTs) among others. Several recent reviews have summarized the theory and empirical evidence of demand-side interventions (O'Donnell 2007; Eichler, 2006; Ensor, 2003; Chapman, 2006). These incentives that promote access and use from the demand side must be balanced by supply.

One way of visualizing the problem of long term health system performance and core system strengthening strategy is observing it through the lens of principal-agent theory. Here, we have two principals, patients and governance structures, each engaging the providers of health care services and products as an agent2. All operate in their own self-interest in an environment of asymmetric information, which favors the providers (as the experts). On one side the providers (suppliers) are viewed as “agents” of the principals (households, individuals) that engage them. Here, the situation of balance becomes one of better aligning the interests of the principals with those of the providers. This alignment requires attention to not only “demand side” incentives and information for consumers to achieve alignment, but also to creating supplier incentives that directly relate to access3. Some of the tactics that might be used to better align incentives are care seeking incentives, as well as consumer education, information, and empowerment.

Governments provide stewardship by putting in place governance structures that engage providers as agents to deliver services through employment arrangements or contracting. Various types of management strengthening, payment incentives and information system

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2 Another principal-agent concern in the literature is where governance structures are the principal and the donors are agents. This situation of information asymmetry creates alignment problems that are also subject to redress, but are not part of the scope of this report.

3 Supply incentives can be used to achieve a variety of health system objectives in addition to access and utilization. Efficiency and quality are examples. Both demand and supply incentives are useful in achieving objectives relating to utilization and overall spending.
interventions can help to remedy the alignment problem of the providers and the agents that employ them. Through governance structures, providers are (or could be) held accountable for performance. Figure 1 depicts the position and connection of providers within the chain of supply and demand.

Figure 1

**Purpose of This Report**

In this report we examine the available evidence on the impacts of potential alignment interventions for improving the performance of health systems in LMICs. We focus most heavily on interventions associated with creating access to care. Specifically, we are concerned about the effectiveness of interventions that “create demand” and those that may alter supply side or provider behavior and practices, such as provider incentives that ‘pay more to those who do more,’ in order to achieve more utilization. The main questions we ask of the literature: can interventions on the supply- or demand-side produce sufficient behavior changes at the point of service to encourage higher rates of utilization and better access in LMICs? And what are the known barriers and limitations to the effectiveness of these types of interventions in these countries? Upon examination of the answers, we illustrate how a balance of supply- and demand-side interventions can be applied in particular country situations for improved access to health services. For this part of our work, we use a general framework for considering a wide range of interventions, both core and issue specific, that have been employed to enhance the performance of the health systems.

We found that the literature on the effectiveness of various interventions is weak, lacking rigor, and very limited in scope. Research is often descriptive, or uses simple pre/post comparisons that are a poor basis for impact estimates. Where used, controls are usually inadequate. These problems cause impact estimates to be generally unreliable, and almost all studies employ intervention sites that are subject to selection issues when trying to generalize. Equally limiting, the literature contains no evidence of comparative effectiveness of the supply- and demand-side interventions we discuss. Therefore, it is not possible to say, for example, whether in some situations the impact of using a Community Health Worker is smaller or larger than a demand-side financial intervention such as a conditional cash transfer. Nor is it possible to ascertain whether the impacts of payment incentives to providers are more effective in stimulating utilization than, for example, a community based health insurance scheme. This lack of
comparative effectiveness evidence is a major limitation in making health policy choices.

Most reform programs also make research difficult because of the complementary interventions that were implemented, many of which were selected because of specific situations necessitating particular interventions. These limitations create serious problems in measuring impact without bias attributing measured effects to the interventions themselves, and generalizing results to other situations. These problems are reinforced by the bias of investigators to be more inclined to publish or write about their successes than their failures. Finally, we note that much of the perceptions about particular interventions are subjective opinions of experienced analysts drawn from broad multi country experience.

While the literature offers little consensus on what works best in particular situations, the framework and scenarios we offer provide a first step in developing candidate interventions and tailoring them to particular country situations.

Summarizing, we find that:

1. Financial incentives can work to create higher utilization rates and promote access. Both demand incentives and provider (supply-side) incentives have been shown to be effective in stimulating use.
2. Demand interventions of many types have potential for promoting access for new technologies, particularly for isolated or underserved populations, but have generally been underutilized, particularly for issue-specific applications.
3. Balance between supply- and demand-side factors is needed to stimulate access and utilization.
4. Using demand side interventions effectively will necessitate the ability to effectively target incentives on population groups of interest, and this has been a problem in some countries.
5. Impacts of particular interventions are often weaker or less consistent in LMICs than in other countries, possibly because of management weaknesses, lack of information for design and monitoring, and other constraints.
6. Choosing among demand interventions must be very situation specific (country or region of country specific) because of the dependence on constraints and available capacities (supply)

Data on Health System Support by Donors

We begin with a review of the available donor spending data. From these data it is hard to know what the level of investment has been in supply- and demand-side interventions. The available data on historic patterns of donor investments maintained by OECD/DAC does not separate disbursements in terms of demand and supply interventions. Rather, it uses a framework that is programmatic in nature. This inability to separate disbursements into supply- and demand-side activities makes it impossible to directly analyze the importance of market balance in development of the health sector. Table 1-1 shows the yearly trends in donor disbursements in constant 2006 US dollars.
Table 1-1: Disbursements by Donors 2002-2007 in millions of constant 2006 USD

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer/Health Education</td>
<td>53</td>
<td>41</td>
<td>36</td>
<td>33</td>
<td>264 (0.14%)</td>
</tr>
<tr>
<td>Possibly Include Some Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disease and Service Programs</td>
<td>2,232</td>
<td>3,528</td>
<td>5,911</td>
<td>7,254</td>
<td>27,451 (60.6%)</td>
</tr>
<tr>
<td>Supply Only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic Health Infrastructure</td>
<td>139</td>
<td>143</td>
<td>367</td>
<td>347</td>
<td>1,782 (3.9%)</td>
</tr>
<tr>
<td>Medical Personnel Training</td>
<td>63</td>
<td>94</td>
<td>79</td>
<td>121</td>
<td>545 (1.2%)</td>
</tr>
<tr>
<td>Administration &amp; Policy</td>
<td>882</td>
<td>1,304</td>
<td>1,363</td>
<td>1,175</td>
<td>7,254 (16.0%)</td>
</tr>
<tr>
<td>Medical &amp; Basic Services</td>
<td>1,025</td>
<td>986</td>
<td>1,403</td>
<td>1,482</td>
<td>6,834 (15.1%)</td>
</tr>
<tr>
<td>Medical Research</td>
<td>35</td>
<td>240</td>
<td>398</td>
<td>215</td>
<td>1,182 (2.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>4,429</td>
<td>6,336</td>
<td>9,557</td>
<td>10,627</td>
<td>45,302 (100%)</td>
</tr>
</tbody>
</table>

Source: Calculated based on OECD/DAC data (accessed March 27, 2009)

The data do not allow a breakdown by supply-side and demand-side project support. Rather, the programmatic data only permit a crude breakdown by program category. The only category that clearly constitutes ‘demand side’ support is “Health Education”, which represents approximately less than 1% of donor aid. The large and growing category of disease specific program aid, representing about 60% of donor aid, may contain demand-side support. Categories of support that seem certainly supply-side spending represent about 40% of total aid. One can conclude that most donor support has been focused on the “supply side.”

Background on Balance Issues and a Framework for Analysis

The general market paradigm reminds us that the quantity of services or products consumed will depend on both some expression of demand and some available supply of whatever it is that consumers want. Without sufficient demand (due to problems with awareness, knowledge, trust, travel time, or ability to pay) there will be constraints on consumption regardless of supply. Similarly, lack of available commodities, trained staff, functioning management systems, suitable facilities, accountable governance structures or effective stewardship will place constraints on consumption, even if demand exists. A balance between both determinants of utilization (demand and supply) is required to promote usage (consumption).

Historically, supply investments have been favored by governments and donors for various reasons. Health facilities and health professionals are visible, tangible and lasting contributions to health system improvements to a country health system.. These kinds of investments in
supply policies consumed enormous budgets in many needy countries, but have not led to substantial improvements in health status in many cases (Scheiber, 2007). In many instances, these supply investments have led to inequitable service delivery, as funds are concentrated in particular geographical areas (often urban centers), often aimed at providing tertiary care, and generally used disproportionately by those with higher incomes (O'Donnell, 2007). Another drawback of supply-side solutions is that in LMICs, the populations with the greatest health needs frequently lack any connection to the suppliers of health services. In addition, lacking trust, the model of "provider as agent", where the patient relies on the provider to make an informed medical choice on his or her behalf, is not applicable. For policy interventions to be successful, the poor must be motivated to seek health care. We see from the reform literature that many interventions fail because certain assumptions, such as ‘build the supply of services and individuals will come’ and complementary policies, are not compatible in balancing supply side interventions with demand side programs. More attention is needed in pursuit of strategies that give more market power to consumers (e.g. rebalance demand and supply) to direct resource flows.

Hanson’s work for the CMH (2003) focused on the underlying barriers to increasing the utilization of priority interventions for improving health in LMICs. His framework of constraints is particularly helpful here in thinking about the necessary balance of factors in order to achieve good health system performance and in specifying what accounts for the lack of effectiveness in health sector spending in LMICs. Hanson et al contend that these ‘constraints’ create a “limited absorptive capacity” for donor aid in recipient LMICs. They identify constraint of several types: an absolute lack of resources, hindered access to health interventions by various problems of demand, weak service delivery systems, policies at the health and cross-sectoral levels, and constraints related to governance, corruption and geography. Effective health interventions can only be possible when these constraints are not present.

These constraints are classified into five levels, shown in Table 1-2: community and household level, health service delivery level, health sector policy and strategic management level, public policy level, and environmental and contextual level. The level refers to the location of the constraint, and presumably the target of remedial solutions. The first level constraint in the Hanson typology relates to the absence of demand for health interventions by households and communities. These demand constraints may be due to factors such as lack of knowledge or trust, lack of purchasing power, or inconvenience (time burden). These demand factors can constrain health system performance regardless of the level of available resources and the structure of the health system. The second level constraint, that of health services delivery includes, among other problems, inadequate incentives for providers to work efficiently and effectively. Other supply constraints relate to higher level health system or environmental problems that can limit the effectiveness of interventions. These other constraints have historically been related to the supply factors of various kinds including limitations of effective governance, and stewardship of the health sector and in the country overall. However, they may have contributed to the lack of demand activities, and need to be considered in evaluating the potential of demand side interventions.
While all levels of constraint need to be removed in order to achieve good results, we will focus mainly on interventions aimed at the first and second levels in the Hanson taxonomy: improving household/community demand incentives, and incentives relating to service delivery. We do not argue that relieving these constraints is paramount, but we agree with Hanson that other interventions cannot be effective unless demand-at-the-point-of-service is assured through appropriate incentives for using and delivering products and services. Furthermore, we also agree with Hanson that success of demand and supply side incentives depends on larger system issues such as building effective governance structures and promoting effective stewardship. We will return to this in Section 4 when we evaluate the potential of different interventions according to the level of effective core system capability and governance.

Achieving an appropriate health system balance between supply and demand is necessary, and there are various financing policy and incentives through which to do so. As Hsiao (2007) reminds us, financing is not just getting money to where it is needed, but involves using “financial power to reform health delivery organizations and to provide incentives to providers to deliver efficient and effective health care. A country’s health care financing method holds the key to achieve equitable and efficient health care for all” (Hsiao p 960). Public or donor funds may be channeled into creating incentives for consumers to seek services or products. This may
require financial incentives in the form of subsidized insurance premiums, subsidized or waived user fees, redeemable vouchers, and more. Or, these funds could be used for incentive programs for providers or program contractors (bonuses, P4P incentives, fee schedule payment systems, etc.) that encourage providers to seek and better serve their customers. While some of these ‘balance’ decisions will follow from broader (core) decisions about health system structure, some choices will be made based on particular interventions in particular circumstances.

Exploring the effectiveness of the various methods of financing is a critical step in deciding how to achieve a better balance between demand and supply.

**Strategic Choices about Investments in Health**

The allocation of investments for improved health is not limited to balance issues between ‘demand’ versus ‘supply’ choices, or choices between relieving higher level (demand) or lower level (supply) constraints, or even choices between demand and supply-side financial incentives. Interventions can be focused narrowly on one aspect of health or morbidity, or more broadly on relieving many kinds of health problems in the population. The latter requires “*core investments*” to strengthen health systems by improving stewardship, or the quantities and types of health resources, or the way service delivery is organized, or the manner of financing the system. These types of investments might take decades to materialize in LMICs. To achieve more focused and faster relief of absorptive capacity constraints, it is possible to devise “*issue specific interventions.*” which are aimed at particular populations or particular health problems.

**Elevating System Strength by Core Investments in Governance or other Health System Capacities.** “Core” investments in the health system create long term and systemic improvements in the performance of the health system. Generally, core investments involve strengthening the entire system, and elevate the platform for dealing with any and all health problems. Core investments may be very broad, aiming to improve the level of governance in the country, or they may relate to the health sector only, elevating capacities of health system resources, improving the overall system, and/or improving access and financial fairness. Core investments in strengthening health systems may be made in the areas of delivery system financing or ownership, pooling design, public education, or the management and payment of providers. Investments required to relieve higher level Hanson constraints (Environmental, Government policy, Health policy, Delivery System) can certainly be called “core” because they create a stronger and more effective platform for applying resources to the health problems of a country. To clarify the types of ‘core’ or system strengthening investments we offer the following possibilities:

- **Investments to improve overall country Governance** – government and the process of governing are inextricably related to how the health system is structured, how effectively it works, how fair it is to all population segments, whether people trust providers, among other things. Hansen’s levels IV and V correspond to this type of core investment category. Improvements in way government works will enable health policies, programs, and markets
work more effectively.  

- **Investments in Stewardship within the health sector** – specific policies of government relating to how the health system should be working are fundamental to health system performance. How system performance is monitored, how/if environmental and other health risks are managed, how accountable is MOH for improved system functioning, how effectively are public and private sectors functioning together, and how budget priorities are set and reset and developed into action ---- are all strategically important in enabling the health system to work well. These investments may be embodied in effective laws and regulations, appropriate health policy, and effective health sector leadership. Investments in improving stewardship are ‘core’ investments, and they correspond to Hansen’s level III barriers.

- **Investments in Infrastructure and other Resources within the health sector** – the last category of ‘core’ investments in the health sector relates to infrastructure for delivering a broad set of health and public health services to broad segments of the population. This infrastructure includes physical capital, human capital, public education and health knowledge, functioning risk pooling mechanisms, appropriate incentive systems for managers and providers, professional skills and experience, financial capacity, effective information and communication networks and other investment objectives that will provide lasting benefits as a platform for dealing with any and all health sector requirements in years to come. Hansen captures some of these ‘core’ elements of infrastructure in level II constraints.

**Targeting Improvements through Issue Specific Interventions:** “Issue specific” interventions deal with a narrow or specific health sector problem. Much of the health sector budget programming and donor spending tends to be associated with “issue interventions” such as HIV/AIDS, or in a narrow problem area such as vaccine acceptance, or a health issue for a specific population group such as maternal health. These narrow interventions may be pursued by special programming and funding within the existing health system (HIV testing and ART delivery through existing health facilities) or by vertical programming using dedicated resources (a network of special MCH clinics for delivering program services, or a cash incentive program for encouraging DPT vaccinations). Issue specific interventions can focus on either demand or supply creation (or both) and they may be horizontal (implemented within the system) or vertical (independently implemented). Their defining nature is their narrow or special programming focus.

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4 Governance relates to the way society makes and implements public policy, including all levels of decision making from central to regional, to local and to households. “(Good Governance should ) provide fiscal responsibility, remove barriers to competition, ensure a legal framework, for property rights and regulatory oversight, and ensure transparency of the law and policies”. (U.N. 2007). A growing literature using indicators of governance documents the importance of good governance in resolving poverty, growing incomes, and creating good health, among other important social and economic outcomes as evidenced by the inclusion of governance components of the MDGs.
Figure 1-1 describes the relationship between health system outcomes, the level of issue interventions and spending, and level of ‘core’ capability of the country health system. The production functions (1,2,3,4) show the relationship between inputs (e.g. spending on health) with health outcomes. Their shape reflects the limiting factor of the capability of the health system, which eventually reaches a point where ‘absorptive capacity’ limits the yield of adding more inputs. For example, interventions to address HIV/AIDS may work for a while on their own, but they eventually hit barriers of various kinds as the program is scaled up (such as limitations on human resources, management, and information systems) that can only be addressed by strengthening the health system itself (Ooms, 2008).

As the core capability or absorptive capacity of the health system of a country is higher, the level of outcomes are higher for a given level of inputs (current spending). This is shown as an upward shift (1,2,3,4) in the production function as the level of core health system capital is higher. Shifting up from one curve to the next is achieved by eliminating constraints in the health system.

Can the “absorptive capacity” of the health systems be so low as to discourage anything except vertical programs? Is the level of the core performance of a country so low (the Hanson constraints so pervasive) that it jeopardizes the payoff of anything other than setting up narrow vertical programs for delivery of issue specific interventions. Investing in the core itself (vertical shifts through core investments) is the alternative to continued investments in issue specific programs, including vertical programs. The choice would depend on relative cost effectiveness of core and issue investments. There are two questions to answer about a proposed investment bundle (say, $10 M): how large would the shift in outcomes be if we invested this amount in relieving ‘core’ capacity constraints? And, second, how large would the gain in outcomes be if we invested the money in ‘issue specific’ activities. Looked at independently, this calculus may be biased in undervaluing the ‘core’ alternative.

We hypothesize that shift in ‘core’ capacity actually has two benefits: creating better outcomes given any level of resources (the size of the shift), and creating higher payoffs for incremental issue specific interventions or increments in spending (the slope of the production function is steeper at any input level). Essentially, core investments can produce higher level technology platforms on which to make issue specific investments. This is consistent with the view of “diagonal” approaches to system strengthening (Ooms et al, 2008), where purely issue specific (vertical) programming may create “islands of excellence in seas of under provision” (Buse and Waxman, 2001). Our view, supported by some of the literature, is that the level of core investments influences not only the health outcome level for LIMCs, but also increases the marginal payoff for issue specific investments. That is, the effect on health of a dollar spent on a mosquito net program in country X or an Immunization program in country Y would be higher, the higher the level of core capacity. There is some empirical support for this framework, demonstrating both types of benefits:

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5 We state the question in a way that ignores the stream of benefits for both alternatives. More properly, the present value of the stream of outcomes should be compared relative to the present value of the stream of expenditures including the $10M.
(1) higher levels of core performance and generally stronger health systems lead to better outcomes and
(2) higher levels of core performance and generally stronger health systems can increase the payoff for issue specific investments by donors or government.

The first proposition, corresponding to the shifts in the issue specific health production function in Figure 1, is not hard to support (see Hansen, 2003 for example). The second proposition is more difficult. This evidence comes from a rather unique natural experiment in India, where a uniform federal MCH initiative was implemented in all states, across which the level of health system strength and governance capabilities varied. The results are clear: similar investments in health care programming yield better health results when health systems are judged to be stronger.

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6 The literature attempting to link health spending differences (or donor spending) to outcomes, as a way of testing this hypothesis, can be more problematic. Studies using spending have mixed results regarding a positive slope for the production function in Figure 1-1. This literature is reviewed below.
In 1995, the government of India rolled out its National Social Assistance Program (NSAP) to promote equity by targeting the poor for social assistance. A large component of the NSAP was the National Maternity Benefit Scheme (NMBS) in which mothers over the age of 19 years whose family income was below the poverty line received a maternity benefit of Rs. 500 for up to the first two live births (Department of Rural Development, India). Within a few years, the NMBS program began to undergo a series of modifications and, in 2005, this program had been substantially revised and renamed “Janani Suraksha Yojana” (JSY). The main modifications include linking the cash payment with antenatal care and institutional delivery, broadening the
eligibility criteria and increasing the cash support. The goals of JSY are to reduce maternal and infant mortality and increase institutional delivery.

We examine the effect of the level of core health system performance on the level of achievements made through this program based on three outcome indicators: infant mortality rates, percentage of deliveries at health facilities and percentage of assisted deliveries by state were obtained from the National Family Health Surveys conducted in 1992-93 (pre) and 2005-06 (post). We constructed a core system performance variable based on (1) percentage of women aged 15 to 49 who are literate; (2) percentage of fully immunized children; and (3) a measure of barriers to entrepreneurship in each state. The summed scores for the three components ranged from 3 to 15 across the 18 states, as indicated in Table 1-2 below.

Using this ordinal score, states were put into one of three groups: high ‘core’ system performance (15 to 13), middle performance (12 to 8) and low performance (7 to 3), and the average improvements in program outcomes were calculated for each group. Achievement on the outcomes were measured in terms of the percentage of the gap that was closed for each outcome measure between the pre period 1992-93 and the follow up period 2005-06. As seen in Table 1-2, there is a clear relationship between the level of governance quality and the percentage of the gaps that were closed in this time period. Differences between individual state averages and the governance group averages are all statistically significant. These data support the notion that similar investments produce varying levels of improvements depending on the level of core performance (which we called ‘governance’), with higher level of core performance leading to higher achievements for the money. This result points to the importance of raising the capacity of governance by improving governance tools such as management and information systems.

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7 For each governance attribute, states were ranked based on their score and then given a rank score from 1 to 5 with 5 being the best score. The three rank score columns were summed for each state, giving a range of final scores between 3 (the lowest) and 15 (the highest).

8 Possible level of attainment was set at 0 for IMR and at 100% for Delivery in Health Facility and Skilled Assisted Delivery. Absolute changes in achievement over time follow the same pattern, where the high governance group consistently out performs the low governance group.

9 The measure is (post - pre / potential - pre). This method was employed because some states, such as Kerala and Goa were already close to their ceiling in 1992-93, whereas states such as Uttar Pradesh and Bihar were at a very low level. With such large gaps to close, the lower ranked states had the mathematical possibility of achieving much higher absolute numbers.

10 Infant Mortality Ratio, \( r = .66, p < .01 \), Birth at Health Facility, \( r = .61, p < .01 \), and Assisted Delivery, \( r = .58, p < .05 \).

11 Infant Mortality Ratio, \( F = 4.67, p < .05 \), Birth at Health Facility, \( F = 6.33, p < .05 \), Assisted Delivery, \( F = 6.43, p < .01 \).
Table 1-2: ‘Core’ Health System Capability and the Effectiveness of Health Sector Programming for India

<table>
<thead>
<tr>
<th>Governance Level</th>
<th>Infant Mortality Ratio</th>
<th>Birth at Health Facility</th>
<th>Assisted Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Governance score</td>
<td>Percent of gap closed</td>
<td>Group Average</td>
</tr>
<tr>
<td>High Governance</td>
<td>Gau               15</td>
<td>52%</td>
<td>42%</td>
</tr>
<tr>
<td></td>
<td>Delhi              13</td>
<td>39%</td>
<td>26%</td>
</tr>
<tr>
<td></td>
<td>Himachal Pradesh   13</td>
<td>36%</td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td>Punjab             13</td>
<td>22%</td>
<td>35%</td>
</tr>
<tr>
<td></td>
<td>Kerala             13</td>
<td>36%</td>
<td>94%</td>
</tr>
<tr>
<td></td>
<td>Tamil Nadu         13</td>
<td>55%</td>
<td>67%</td>
</tr>
<tr>
<td>Middle Governance</td>
<td>Haryana            12</td>
<td>43%</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td>Maharashtra        12</td>
<td>26%</td>
<td>37%</td>
</tr>
<tr>
<td></td>
<td>Karnataka          11</td>
<td>34%</td>
<td>44%</td>
</tr>
<tr>
<td></td>
<td>Orissa             9</td>
<td>42%</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>West Bengal        9</td>
<td>36%</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>Gujarat            8</td>
<td>28%</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>Andhra Pradesh     8</td>
<td>34%</td>
<td>47%</td>
</tr>
<tr>
<td>Low Governance</td>
<td>Assam              7</td>
<td>25%</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>Madhya Pradesh     6</td>
<td>18%</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>Uttar Pradesh      6</td>
<td>27%</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>Bihar              4</td>
<td>31%</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td>Rajasthan          3</td>
<td>10%</td>
<td>20%</td>
</tr>
</tbody>
</table>


**Note:** Governance score was constructed by combining percent of fully immunized children and percent literacy from NFHS and Indicator for Barriers to Entrepreneurship from CONVEY & Herd, 2008

There is other evidence. Preliminary results from a study by Farag (2009)\textsuperscript{12} show the relationship between health outcomes with health spending and two measures of government effectiveness, including models that interact health spending with the indicators of government effectiveness to examine the question of whether level of the ‘core’ system strength is positively associated with the impact of health spending on health outcomes. One measure of health system core effectiveness is the Hanson et al quartiles representing the strength of the barriers to health system effectiveness (Hanson 2003b). They rated about 75 countries into quartiles on this measure. The second measure of health system core effectiveness is the World Bank indicator of country government effectiveness. Farag uses panel data sets (3 to 4 years data on 75 to 150 countries, depending on model) and random effects models on infant mortality rates as the outcome. Total health spending per capita and GDP per capita and year dummies are also in the models. All continuous measures are in log form.

The results confirm the importance of health system ‘core’ strength and government effectiveness in increasing health (cet par). Models with interaction terms (health spending*\textsuperscript{core system strength or government effectiveness}) also confirm that the marginal effect of health

\textsuperscript{12} Farag, M. (2009). Impact of Health Spending and Income on Health in Developing Countries, correspondence with author based on preliminary research, Brandeis University.
system spending is higher when ‘core’ health system strength and government effectiveness are better. These results are based on statistically significant coefficients, and are robust with respect to model content and choice of measure of ‘core’ system strength. The Hanson measure of health system strength (levels 1-4) is modeled in two ways, both as a continuous measure and as a set of dummies. Both yield the same result; countries with fewer health system constraints having better health cet par.

The Indian example and the preliminary results from Farag (2009) both support the ideas of the framework suggested by Figure 1-1. The level of ‘core’ system strength (as proxied by barriers or by government effectiveness) is very important in its own right in determining health outcomes, and important also in determining how effective ‘issue specific’ interventions will be. Later, in Section 4, we use scenarios suggesting four different levels of ‘core’ system capability and demonstrate how these systemic differences also suggest different possibilities for the types of health system interventions that may be appropriate for the situation.

1.5 Guide to the Following Sections
Section 2 of this report examines the research findings on the impacts of various supply interventions, which are grouped into chapters. Section 3 examines the findings on the demand interventions.

Each chapter begins with a definition and description of the specific intervention, followed by a description of intended or expected effects. Following this theoretical summary, we review the literature about what is known about the impacts of the intervention in LMICs. Each chapter includes findings of impact on utilization, access, equity, quality and efficiency. Finally, each chapter summarizes what is known about the barriers and constraints on the effectiveness of the intervention, as implemented.

Section 4 discusses the implications of these literatures for applying interventions in particular situations. This is done by creating a set of prototype scenarios about country situations, which are then used to illustrate the kinds of demand-side interventions that might be used to stimulate access and other objectives. These illustrations also note the types of supply-side interventions that might support or enable the demand side interventions. Separate discussions are used to describe the interventions for promoting objectives for “issue-specific” problems, and for use in creating “core” improvements in strengthening health systems.

A brief description of the interventions we examine is offered below.

Supply-Side Interventions

There is little literature attempting to evaluate the supply side investments in health system reform. The impacts of some of the supply side interventions have been studied, such as:
1. Accreditation and credentialing activities and related regulations
2. Provider Payment interventions
3. Management and Information System Strengthening
4. Decentralization and other system reorganization activities like privatization and community health worker mobilization

These are discussed in Section 2. These are among the smallest of the investment categories on the supply side, supported largely by donor technical assistance.

The largest investments in health delivery system capacities are not studied here, and may not be capable of being evaluated. These include:

5. Health Professional Training
6. All forms of Technical Assistance
7. Infrastructure investment in health facilities and technology
8. Policy Planning Activities including Research and Data Collection

Both lists of supply interventions are mainly thought of as ‘core’ investments in capacity of the delivery system, and as such, influence the quantities, qualities and distributions of health services and resources in the country. Some, however, can be used to complement (or even substitute for) demand incentives in building access and utilization as issue specific interventions. This is true for the kinds of supply activities listed on the first list, which we examine in more detail in Section 2 below.

It is not possible to know how effective these kinds of supply side investments have been. It is difficult to imagine trying to create a research design for measuring the impact of these large-scale, system wide interventions. How would the impact be estimated for the new construction of 50 clinics or a new children’s cancer hospital? What would the research approach be for estimating the impact of training regional planning officials in strategic and capital budget planning? What would the impact be for sending 100 doctors to London to get master’s degrees in public health or for a large investment in a national health information system? Some research could be done of course. Estimating the impact of a new clinic by comparing to control areas without clinics is possible. Studying the benefits of a new cancer hospital is possible, but difficult, and the counterfactual nearly impossible to estimate (what would have happened to cancer care had the hospital not been built). The absence of impact literature on these kinds of supply investments is evidence of how challenging it would be to do such research.

In the aggregate, the considerable (though unknown level of) investments in these forms of health system resources have not been sufficient to avert the crisis we now face. There is a considerable body of opinion that on the whole, health reform activities to date have not been effective enough (Gottret, 2006), but it is impossible to know what would have been the situation in the absence of country and donor investment on these things. The MDGs, the Paris Declaration, and the considerable increase in donor spending on health in the last decade are responses to this consensus view.
Research showing positive health impacts of supply side policies (increasing health care resource capacity) on health system results is not fully consistent. Several kinds of research have been done to try to document the input-output relationships underlying supply based health system strengthening policies.

- Production function estimates, directly estimating health input-output relationships using the Grossman (1972) theory.
- Estimating the relationship between health system spending and health system outcomes (where health system spending is the amount of payment made to deploy all the resources used in the health system or the value of all resources purchased by government).
- Estimating the relationship between donor spending and health system outcomes.
- Estimating the effects on outcomes of particular supply interventions.

The research projects of the last type are discussed in the subsequent sections of this chapter.

Health spending and production function estimates have been tried in developing countries, with small and inconsistent results relating resource endowments to health outcomes. One recent study in Sub-Saharan Africa (Fayissa and Gutema, 2005) the factors contributing to the country level life expectancy at birth (using a 2 way random effects model) include literacy, per capita income, and food availability. Health spending relative to GDP is not significant. Health spending in Africa was also studied in Africa by Filmer and Pritchett (1999). Using child and infant mortality in a cross sectional study, these authors find that government health spending effects are tiny and almost always insignificant (differences in health spending across countries explain less than $1/10$ of $1\%$ of the differences in mortality). The significant determinants of mortality include income, inequality of income, female education level, ethnic fragmentation and religion. These disheartening effects of spending on health are the norm (see Wagstaff, 2002) but are inconsistent with a recent study by Bokhari et al (2007). Using two mortality outcomes a cross section of countries, and a method featuring instrumental variables (largely to unmask the effects of government health spending from the strong effects of income on health), they find a substantial additive effect of government health spending beyond the effects of income alone. So, the literature on the effect of resource spending on health is a bit mixed at this point.

Research relating donor spending on health is similarly unproductive. Williamson (2008) fails to find a relationship between health sector aid and health outcomes. This result confirms a large set of studies (see Easterlin 2001 and Filmer et al 2000). Williamson concludes, "just like general aid, which is shown to have an insignificant effect on economic development, aid used specifically for health goals has an insignificant effect on human development" (p15).

There are several well documented reasons why adding capacity or funds aimed at building capacity may not generate improvements in results. (1) adding system capacity may not overcome (demand side) barriers to usage, and (2) the benefits of supply improvements may fall
mainly on population groups where levels of preventable adverse outcomes are low. Both phenomena are well known and often documented. Hansen (2003) in the well known paper mentioned above documents the types of barriers that need to be overcome to get poor populations to use formal services. Supply increases are not helpful if these barriers are not overcome. A second and related problem with supply policies in promoting better health stems from the fact that many supply policies (improving the areas of hospital care and specialty practice, particularly in urban areas) do not make material improvements in health for those poorest populations in society, where preventable death and morbidity are most common. Work by Castro-Leal et al (2000) supports this commonly held view, finding that spending on curative services are not well suited or targeted to the poor segments of African society where the bulk of preventable mortality is found. In addition, the problem of “fungibility” of donor aid (not deploying aid intended for health care to that sector, but diverting it to other uses) will contribute to weak associations of health aid with health results.

**Demand Side Interventions**

The alternative kind of investment is on the ‘demand-side’ and would support households and communities directly to increase the usage of health system services and products. These activities could promote demand by several means including building consumer awareness and trust, giving consumers voice and empowerment in the marketplace with providers, and increasing consumer purchasing power at the point of sale through insurance programs and other forms of purchasing subsidies (like vouchers and conditional cash transfers). These demand-side interventions include:

1. **Risk Pooling Interventions**
   - Social insurance
   - Private insurance and community financing schemes
2. **User Fees and related protection policies:**
   - User fee policies
   - Fee waivers, exemptions, and sliding fees
   - Health cards and vouchers
   - Health equity funds
3. **Behavioral demand incentives** (sometimes called token economy and negative user fee Models, also known as P4P in demand side):
   - Conditional cash transfer (CCT)
   - Contingency management (CM)
4. **Information and education of consumers**
5. **Consumer voice interventions**
6. **Other demand or purchasing power type interventions**

In our review we have tried to objectively evaluate what is known about these interventions, including their impacts and the circumstances that have limited their effectiveness. While much
of the existing research lacks rigor, there is considerable evidence supporting the potential value of these demand tools to stimulate access and utilization as issue specific interventions. Some of these interventions can also be system strengthening investments.
Section II

Review of Selected Supply Side Interventions

Many interventions for strengthening health systems attempt to improve the amounts and effectiveness of resources used for delivering health products and services. These improvements can be viewed generally as attempts to better align the objectives of those that govern or administer the health system (the principals) with the performance of the delivery systems at the point of service (e.g. the way providers, or agents, behave). These improvements fall into four general categories:

- Management and Information systems Interventions
- Organizational Interventions
- Provider Payment Incentives
- Investments in Human and Physical Capital

The last category of investments has benefits that are slower to develop and possibly longer lasting than the others. The impacts of these kinds of things, like building hospitals, training doctors, and acquiring technical assistance from donors are difficult to evaluate, and they are not solutions for ‘issue specific” problems with health systems.

The other three supply-side interventions form a continuum in the way they attempt to deal with the problems facing those who govern the health system. When government (or a private system) owns and operates the resources of the health delivery system, the easiest and least aggressive “fixes” to the agency problem are interventions that attempt to improve the management capabilities of facility and government managers. Management training can be supplemented by redressing the information deficits of managers who direct the behavior of professionals. This can be done in two ways: through some form of Health Information System (HIS), or through professional norms and standards to select and manage organizations of professionals. Programs of outsourcing particular services or administrative functions can also help focus managerial attention and improve results.

If “management improvement” is not sufficient to resolve the alignment problem of agency, then provider payment tools can be used. These include hospital and physician payment schemes that “pay more to those who do more”, and also includes supplemental payment schemes that pay bonuses for achieving particular objectives (pay for performance, also known as ‘P4P”). Sometimes these provider payment arrangements are used to control the behaviors of providers who are employed/owned by the government, and sometimes these incentives are used to control the behavior of providers who are private parties; the latter are referred to as contracting arrangements. But, this approach to supplier alignment requires the government (or payer) to yield autonomy to the point-of-service providers in order to respond to the incentives. These providers are operating under the terms of a set of rules over how much they get paid (e.g. a contract) that determines their financial success. The incentives given to providers can create strong impacts on the quantity and quality of services consumed.

There are other, more radical, approaches to addressing supply problems. Reorganizing the structure of the delivery system may, among other things, achieve better access and responsiveness. This could
entail decentralizing the ownership rights of providers to lower levels of government (e.g. from central to municipal), presumably to redress the asymmetric information problem by putting governance closer to the point-of-service. Even more forceful an approach is the concept of privatization, where assets of provider organizations like hospitals and clinics are given or sold to private parties. The idea is to create strong incentives by allowing private economic gain for owners by threatening survival. Another category of reorganization is that of the use of Community Health Workers (CHWs) in the health system. Potentially transformative, CHWs may provide better information and delivery of basic services into otherwise inaccessible health delivery system situations for rural and isolated populations. Often, this entails the substitution highly trained health professionals by minimally trained health workers.

This section is divided into several chapters. The first examines Management Interventions. The second section deals with Provider Payment Incentives. And, the third section deals with Reorganization of the Health System (including Privatization, Decentralization and CHWs).
Chapter 1: Management Strengthening Interventions

Managers are the implementing agents of the policies, programs and regulations established at the stewardship (top) level of the health system. Within their scope of authority at the district, community or facility level, they are responsible for leadership, decision making and the performance of health programs. Managers may respond to new ideas and technologies and they make decisions based on emerging evidence. They are expected to follow instructions guidelines, implement programs and supervise staff according to policy and regulations, oversee budgets and staff training, and ensure that information about patient care, health services and program performance is channeled up to the stewardship level.

Health care delivery systems in LMICs are often characterized by management ineffectiveness. This is observed in many ways; (1) in terms of inefficiency (excess capacity of facilities and low workforce productivity), (2) observable lack of financial and management controls (corruption, absenteeism, patronage), and (3) lack of accountability to patients (unresolved service quality problems, resistance to change). Much of this stems from budget difficulties, exacerbated by the emergence of private sector health care sought by middle and upper classes. Also, managers in the health care system are typically not given much autonomy to manage resources, so they may see themselves as prestigious caretakers rather than managers (Gaumer, 2007a).

These problems have often been targeted by health system strengthening activities. Some analysts believe that these management difficulties arise because of the paucity of good data on which to base management and policy decisions (asymmetric information, favoring professionals). Consequently a number of countries have sought to upgrade health care information systems using modem communications and computing technologies. Other initiatives have focused on training national, regional and facility managers on strategic and operational planning concepts, including rightsizing (resource rationalization) methods. A third area of considerable activity is replacing old command-control management structures with performance based financial incentives, to reward better facility (or regional) performance. A fourth area of remedy is manager training, which can encompass development of leadership skills, investment in local capacity to deliver certificates or degrees to facility managers, or short courses in key managerial skill areas (budgeting, human resource management, performance measurement, etc.). A final area of management strengthening is regulation that sets limits or controls on managerial action within the health care system based upon information and standards developed by experts. Medical guidelines and accreditation standards are prominent examples of this.

Very little evidence is available on the impacts of these sorts of supply-side interventions. Provider payment reforms and information systems interventions are the exceptions here, and we discuss them separately below. Studies on the impacts of management training programs and support is an area of particular weakness in the literature, with some literature tending to highlight the futility of training programs, such as in the Gambia (Conn et al, 1996). A well done side-by-side comparison of three alternatives showed that contracting with NGOs (using incentive contracts) outperformed an alternative with just management strengthening. But, the management strengthening was able to outperform the control situation. (Palmer et al, 2004). It is not clear in all these types of comparisons if the skills or autonomy afforded contractors is more important than the differences in the financial incentives between contractors and salaried professionals. But, in general, there is inadequate literature on the efficacy of management strengthening in the literature.
Health Information Systems

Health information systems (HIS) provide information for managing patients, institutions and policy. There is broad agreement that the HIS in LMICs are inadequate and many believe that considerable investments need to be made (WHO, 2008). Indeed, the size of the literature advocating such investments is considerably larger than the literature demonstrating benefits. The literature contains many references to the problems of inadequate and underutilized information (Chambers 1994) and the emerging needs for increased and improved HIS to deal with new health threats, the needs of evidence-based decision making, general improvement of health outcomes, and meeting the MDG goals (WHO, 2008). This is the impetus behind the WHO’s Health Metrics Network (HMN) and the ongoing financing by the World Bank of major HIS initiatives in many LMICs (Streveler and Sherlock 2004).

There is widespread opinion about initiatives such as the HMN, National Health Accounts (NHA) and other data initiatives as sources of considerable benefits for policy-planning purposes. Among other longstanding data collection activities in developing countries are surveys done by donors and international groups like the DHS, WHS, and LSMS. Considerable investments by donors and international organizations have also been made to develop population census capacities and disease reporting systems. All of these activities continue to attract large amounts of donor and country support. However, the impacts of these data collection initiatives individually and collectively cannot be studied.

Like these longstanding data initiatives, some observers believe that the “initial benefits (of HIS) are vast for developing countries” (Streveler and Sherlock, 2004). Yet, there is very little impact evidence about such investments. One reason for lack of such evidence is the complementary relationship between management information with other long-term reform interventions (decentralization and other reorganizations, risk pooling systems, etc.), which makes it difficult to isolate the benefits of HIS interventions. In the West, there are some studies of the value of HIS interventions for managing populations, delivery of primary care services (DeLusignan and van Weel, 2006) and for community health and epidemiology (Jordan et al, 2007). In LMICs the experience of the Mosoriot medical record system in Kenya is well known, providing evidence of time savings and reductions in length of stay in Kenya (Rotich, et al, 2003). An impressive literature review by Stansfield, et al (2003) describes positive impacts of health information investments on the accountability of government health programs (New Guinea), increased hospital use (Bolivia), fewer pharmaceutical stock-outs (east cape South Africa) and improved evidence-based health planning to focus on disease priorities (Tanzania). These benefits are impressive, though not generalizable, but not overwhelming in view of the size of the investments made.

There has also been a significant volume of commentary and research, pointing to the underperformance or failure of many HIS activities in LMICs. Reasons include many organizational, planning and strategy issues (Gladwin, 1999 and Gladwin et al 2003) as well as design complexities that create excessive burdens on providers, who must collect the data (Loevinsohn, 1994 Loomis, 2002 and Gaumer, 2007). Loevinsohn (1994) also noted that the most basic management reports from IT systems were not effectively used by managers; fewer than 50% of the central managers studied were not able to read the management reports comparing districts and identify the best and worst performers. Generally, there is growing evidence that access to information is a necessary but insufficient condition for improving health care (Godlee, 2004, and Haines 2002).
We would conclude that HIS system interventions in support of better governance and management are not yet demonstrated, and are not able to be evaluated as a ‘core’ investment. These kinds of interventions may also require substantial parallel investments in management skills and analytic thinking (in addition to the usual kinds of training and support needs) in order to create substantial benefits. From a provider perspective, there are still barriers to implementation and data collection. Here, HIS systems appear as public goods, and investment benefits to health care providers (who may be asked to invest in some instances, and who must always incur the time cost to collect the data) are often less than the private costs (Hillestad, 2005).

Building Strategic Planning and Resource Rationalization Capacities

Many health reform projects are dedicated to building capacity for planning designed to resize and redistribute health system resources to promote more equity and efficiency. In Egypt, for example, the PHR and PHRplus health reform projects (and now the 20/20 project) have attempted to build analytic capabilities that would help policy makers see the inequities and inefficiencies in the way hospital beds and the health workforce are distributed relative to needs. These kinds of activities in Egypt and in many other countries that have involved capacity building have not been studied.

Using Information from Professional Standards to Credential and Manage

Better management at many levels of health care (facility management, patient care management) is increasingly supported by information resources in the form of best practice standards and guidelines. These kinds of ‘external’ types of information take forms such as practice guidelines, accreditation standards, performance benchmarks, and more. Common in industrialized countries, and increasingly so in developing country environments, these kinds of information supports are intended to help managers achieve better performance. While quality of care is often the explicit objective of these kinds of information standards, theoretical benefits include improved general organizational performance, improved efficiency, and elimination of unproductive variations in practice patterns and other processes (Berwick, 1989, IOM 2001).

LMICs face numerous management challenges relating to patient care processes and outcomes, though there is limited data indicating great variations in clinical processes, inappropriate treatment, inadequate facilities and equipment, and failure to provide information to patients. In a seven-country study, for example, researchers who directly observed clinical practice found that 75 percent of cases were not adequately diagnosed, treated or monitored and 61 percent of cases did not get appropriate treatment with antibiotics, feeding or oxygen (Nolan 2001). Sauerbom and his colleagues analyzed maternal and child health services in a rural district of Burkina Faso. They reported that rates of screening for risk factors in both under fives’ and antenatal clinics were far below standards, and that communication in these clinics was poor. Only five percent of mothers who brought their children to under fives' clinics received some kind of counseling during their visits (Sauerbom 1989). Similar problems have been documented in the U.S based on careful record review methods that found that the typical hospitalized patient has only a slightly better than 50% chance to receive scientifically appropriate care. This is widely known to be a problem with management deficiencies in health care institutions (Shortell, 2007).
Simply adding more resources and emphasizing individual professional responsibilities do not always eliminate these kinds of deficiencies and achieve the desired improvements in healthcare services. The answers lie in the systems and processes through which care is delivered and in the way people organize their work. (IOM 2001) The system problems which contribute to poor quality in developing countries include lack of monitoring by statutory authorities, outdated and inadequate standards and legislation, and the inability of government to enforce existing regulations (Nandraj 2001).
Medical Guidelines, Essential Drug lists, and Formularies

There have been efforts to impose regulations in many LMICs over medical decision-making using professional standards information. Utilization review (of the decision to do surgery or admit to the hospital) has been tried, as have lists of essential interventions. The pharmaceutical sector has been a common focus for many of these health reform initiatives, with countries developing essential drug lists and formularies to help rationalize spending and prescribing activities to promote efficiency and quality of care. Unfortunately, in the opinion of the W.H.O. report that reviews these kinds of interventions, there is nothing other than anecdotal or controversial evidence of impacts of this set of activities to modify or control medical decision-making. (Liu, 2003)

Medical practice guidelines and related process improvements have also been tried. There is evidence that this kind of decision guidance has reduced cost, improved quality, and reduced the utilization of inappropriate interventions (Liu, 2003). In a review of the limited literature on primary care quality in LMICs, the authors conclude that “focusing on improving the quality of care through Quality Assurance (QA) is the most promising avenue to improve quality of care in these countries” (Reebink and Sauerborn, 1996).

Feedback to providers (about their practice patterns) has been shown to have the same kinds of cost-reducing and quality enhancing impacts on unwarranted variations in practice patterns as medical guidelines (Eisenberg and Williams, 1981, Billi, 1992, Cave and Geehr, 1994) and there have been promising anecdotal reports about feedback applications in LMICs (Gaumer, 2007).

Facility Accreditation, Licensure, and Credentialing

Accreditation, certification and licensure have been accepted as the three primary approaches to the standards-based evaluation of healthcare quality, and promoted in order to improve quality of care (Rooney 1999). Licensure and credentialing (including medical practice acts) have not been studied in developing countries, though in the West have generally been shown to increase salaries and medical care prices without any evidence of improvements in quality (Gaumer, 1981).

Accreditation has been a popular reform intervention, aimed at using professional standards information for improving organizational performance. Accreditation is "a formal process by which a recognized body, usually a non-governmental organization, assesses and recognizes that a healthcare organization meets applicable pre-defined and published standards" (Rooney 1999). An accreditation decision about a specific healthcare organization is made following a periodic on-site evaluation by a survey team, typically conducted every three years. Unlike standards used for licensure, which are most typically set at a minimum level to ensure that the organization has the basic capacity to deliver health services in an environment with minimum risk to health and safety, accreditation standards are usually set at an optimal and achievable level to stimulate improvement over time (Scrivens 1995; Rooney 1999; Bukonda 2000). Besides, licensure is generally not time limited, while accreditation is time restricted. The organization must be re-evaluated periodically to ensure that it continues to meet the standards for accreditation. Therefore, accreditation not only encourages improvement, but also requires a process for continuous quality improvement (Schwark 2005).
Accreditation as a tool for improving healthcare systems and service quality has a long history. The first accreditation program was established in the United States. In 1917 the American College of Surgeons Committee on Hospital Standardization (forerunner of the Joint Commission) started to develop standards for hospitals and to conduct regular hospital surveys (Mallon 2000). By 2004, nearly 60 countries either had or were in the process of developing national healthcare accreditation programs (Shaw 2004). The majority of accreditation programs in developing countries have been initiated by the Ministry of Health with or without support from the WHO or USAID. The most notable examples are from Malaysia, Zambia and Egypt. In Malaysia the Ministry of Health initiated development of the Malaysian Society for Quality in Health (MSQH) and it was registered as a legal entity in 1997. The MSQH has worked with a WHO consultant to adapt Australian standards to Malaysia (Montagu 2003). In Zambia, at the request of the Zambian Ministry of Health, USAID supported the Quality Assurance Project (QAP) to assist in developing hospital standards and a national accreditation program for the 77 public and 3 private hospitals beginning in 1997. An advisory board, the Zambia Health Accreditation Council (ZHAC) was formed with participation from a wide range of professions. The council served an advisory role to the Zambian Central Board of Health and the Ministry of Health in the development of accreditation standards, a hospital survey process, and accreditation policies and procedures (Rooney 1999). In Egypt, with support from the USAID-supported Quality Improvement Project (QIP), the Egyptian Ministry of Health and Population created a series of 'centers of excellence' among the government family planning clinics. Clinics are evaluated by the Ministry, and those that meet quality standards are certified as 'Gold Star'. The Gold Star system has been duplicated in a number of countries (Montagu 2003).

Evaluations of accreditation programs have been rare. Greenfield and Braithwaite conducted a review of accreditation literature, identified 66 studies (mainly qualitative and case studies), and examined the impact or effectiveness of accreditation from ten categories (Greenfield 2008). Their review revealed mixed results. Consistent findings were only found in two categories – accreditation promoted change and professional development. Inconsistent findings were identified in five categories, namely professional attitudes to accreditation, organizational impact, financial impact, quality measures and program assessment. There were not enough studies in the remaining three categories, consumer views or patient satisfaction, public disclosure and surveyor issues, to draw any conclusions. Very few studies explored quantitative evidence with respect to the impact of accreditation.

To date, empirical studies have not consistently demonstrated that healthcare accreditation programs are linked to improvements in healthcare processes and outcomes in either developing or developed countries. Most of these impact studies have been conducted in the United States and one has been implemented in South Africa. All of these studies have taken place in hospital settings. The study from South Africa measured the effects of the COHSASA hospital accreditation program on eight indicators of hospital quality of care. The results suggested that the hospital accreditation program was only successful in increasing hospitals' compliance with standards and further studies are needed to determine if improvements in standards result in improved outcomes. The studies from the United States revealed similar results.

We conclude that accreditation activities in LMICs have not yet been shown to improve outcomes of care, though they may be useful in improving procedures and compliance with externally imposed structural and process standards.
One other international study was located: a survey of 1048 nurses from 59 accredited Lebanese hospitals to study the impact of hospital accreditation on perception of nurses towards quality of care (El-Jardali 2008). The result suggested that nurses perceived improvement in quality as a result of accreditation. The indicators were nurse perceptions of quality, patient satisfaction, patient medication education, accessibility and completeness of medical records, quality of peri-operative notes, hospital sanitation, and labeling of ward stocks. The investigators compared the performance of the ten hospitals participating in the accreditation program (intervention hospitals) with the ten not yet participating (control hospitals). The study found that intervention hospitals significantly improved their compliance with accreditation standards from 38 percent to 76 percent, while control hospitals did not (from 37 percent to 38 percent). However, the improved compliance with accreditation standards had little or no effect on clinical indicator performance (Salmon 2003).

Chapter 2: Provider Payment Reforms

The way health care institutions and health professionals are paid is a very important aspect of health systems. Provider payment policies are supply side mechanisms for distributing financial resources across the delivery system. In addition to this allocation, they also establish what must be done by doctors and hospitals to achieve greater incomes. The rules guiding the distribution of payments determine the “incentives” which influence provider behavior and subsequently how responsive the health system is to patient needs. And, because providers often decide for, or advise patients about their choices, how providers are paid can also have large impacts on care seeking patterns and overall health system utilization and costs, and in some cases, can be substituted for demand incentives.

Provider payment reforms usually refer to alternatives to allocating resources based on budgets (for hospitals and other institutions) and paying salaries (for physicians and other professionals). These kinds of reforms have been popular in developing countries, and significant resources have been expended by countries and donors to design and implement them. There are two main reasons for this popularity: (1) the success of such reforms in the west (U.S. and W. Europe) in changing provider behaviors to encourage efficiency and reduce intensity of care; and (2) the rapid growth of private sector health care in the LMIC countries, and the need to find better ways of contracting and paying for this care. Donors have been very instrumental in spreading this reform technology and the knowledge base that supports it.

This paper examines what is known about the impacts of provider payment reforms in LMICs. The LMIC literature is very sparse in the area of impact evaluation, with most analysis based on observation of trends for available indicators (admissions, LOS, spending). We conclude that the impacts of new provider payment methods are generally less consistent and weaker than expected based on experience of payment incentive effects in the west. Following the review of evidence, we offer some analysis of possible barriers to effectiveness of provider payment reforms in LMICs.

Background

Generally speaking, provider payment can be used as a tool of health reforms to ‘align’ the incentives facing providers with the overall health system objectives (efficiency, quality, etc.). Providers (doctors
or other service providers) are generally perceived to be unusually important in helping patients make decisions about treatment patterns. Consequently, the kinds of payment incentives faced by providers will help determine health system utilization and overall resource consumption (Eggleston and Hsieh, 2004). And, since incentives can be formed by payment policy, the specific objectives of reform (improved efficiency, reduction of unnecessary hospitalization, promotion of better patient outcomes, etc.) can be promoted through the tailoring of the incentives. Often, the government implements incentive payment schemes for its own facilities by changing the rules for budgeting or compensation in order to create incentives. But, sometimes the provider payment reforms are narrower, such as when they are part of a ‘private provider contracting scheme’, whereby the government arranges for some type of care to be delivered by private providers, or when a private insurer establishes arrangements for reimbursement of private providers. Another narrow application is when incentives are established to supplement salaries or budgets in the form of bonuses that may or may not be paid based upon pre-set performance goals. ‘Pay for performance’ payment policies (P4P) are often schemes based on bonuses, designed to supplement salaries or budget allocations.

Provider payment reforms are generally any form of “contingent compensation”, as an alternative to salaries (for health professionals) or line item budgeting (for institutions). Sometimes the contingencies are prospective, such as when a patient is admitted for a procedure, and the payment will be set at X. The ‘contingencies’ can also be set after a procedure in some P4P programs, and if a desirable result is achieved, then the bonus will be Y. The contingencies in payment rules tell the provider what will increase and decrease payment. Hence, incentives are designed to induce providers to do more of those things for which there is higher payment, and to do fewer things leading to lower payment.

Unlike traditional forms of ‘line item budgets’ and ‘salaries,’ all payment arrangements that involve a fee schedule or some other payment schedule (like capitation), there will be explicit efficiency incentives (downside risks), and also explicit possibilities for capturing increases in revenues (upside risks). Upside potential exists because the payment schedule pays a fixed amount per procedure, per day or per visit. Whatever the ‘unit of payment’ is, the provider can earn more revenue by doing more of it. In this sense, incentive payment approaches emulate competitive market mechanisms by ‘paying more to providers who do more’. If consumers have free choice of providers, then this incentive on volumes may also create incentives to upgrade ‘service quality’ as providers actually compete for patients in order to expand service volumes. As has been the experience in many countries (Langenbrunner and Wiley, 2002) these volume incentives of fee schedules can be so strong as to promote rapid growth in health expenditures, leading to further reforms to control volumes through budgeting the service package.

Prospective fee schedules may also create provider incentives to reduce costs in ways that prove detrimental to patient care. This consequence of incentives always poses a risk, and may result from deliberate choices, or be the result of poor management within the facility. In all cases, payers need to monitor providers for the possible risk of under service in incentive systems. This type of vigilance often requires data and analytical skills unavailable in poor countries, making it difficult to consider provider payment reforms. This issue is reconsidered in the last section of the paper.

The scope of the incentives to change provider practice patterns is related to the scope of the services included in the fixed payment amount: the larger the bundle of services paid by the payment rate, the more the potential for economies and the greater the tendencies to under serve the patients. To
understand the scope of incentives we refer to the risk factors whose variation can contribute to overall cost of health care:

- Efficiency: resource cost per unit of service. Contributing factors include prices paid for inputs, as well as number and mix of inputs per unit of service.
- Intensity: ancillary service utilization including testing rates, special service utilization (ICU, CCU). Length of stay.
- Case-mix: care needs of the different kinds of patients usually associated with age, diagnosis, and level of function.
- Volume: according to the unit of payment and the number of patients, visits, and days.
- Referrals: cost associated with sending the patient to another provider.
- Epidemiological risks: factors that affect disease occurrence rates in a population like random factors as well as epidemics, flu outbreaks, etc.

Salaries and line item budgets do not give any authority over resource allocation to the provider. Here there are still strong incentives: for replacing work with leisure, for supplementing income with moonlighting or informal fees, and for under-investing in management skills. Fee schedule reforms, on the other hand, cause the provider and the payer to share the (constant sum of) risk. The more services that are bundled into the single unit of payment, the more risk is imposed on the provider, and the less is borne by the payer. Under a per diem approach for hospitals, for example, the provider is at risk for all matters that affect the cost per diem, and the payer is at risk for all factors that influence the number of days of care. Under a capitation arrangement, providers who are paid a fixed per person rate are essentially at full risk. The trend in policy regarding provider payment policy appears to be to shift more and more risk to providers, thereby encouraging stronger efficiency incentives (Quinn, 2003). Table 1.2 shows the risk sharing agreements between payer and provider for various payment approaches.
Table 1.2: Provider Payment Methods and Risk Sharing by Payer and Provider

<table>
<thead>
<tr>
<th>Payment Policy</th>
<th>Contracted Provider at risk for:</th>
<th>Payer at risk for:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hospitals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line item budget</td>
<td>Efficiency, intensity, casemix, Volumes, epidemiological</td>
<td>Volumes, epidemiological</td>
</tr>
<tr>
<td>Fee schedule Per diem</td>
<td>Efficiency, some aspects of intensity, casemix, Volumes, epidemiological</td>
<td>Some aspects of intensity, casemix, volume and referrals, Casemix, volume and referrals, epidemiological</td>
</tr>
<tr>
<td>Per case (DRG)</td>
<td>Efficiency, intensity</td>
<td>Some aspects of intensity, casemix, volume and referrals, Casemix, volume and referrals, epidemiological</td>
</tr>
<tr>
<td>Global Budget (with volume and casemix adjustments subject to a limit)</td>
<td>Efficiency, intensity, and the portion of casemix and volume changes above the limit</td>
<td>Casemix and volume up to a limit and referral care (to other organizations), epidemiological</td>
</tr>
<tr>
<td><strong>Physicians</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salary</td>
<td>Nothing</td>
<td>Efficiency, intensity, referrals, volume, epidemiological</td>
</tr>
<tr>
<td>Fee Schedule (FFS)</td>
<td>Efficiency</td>
<td>Intensity, case mix, referrals, volume, epidemiological</td>
</tr>
<tr>
<td>Bundled Fee Schedule</td>
<td>Efficiency, some aspects of intensity</td>
<td>Some aspects of intensity, case mix, referrals, volume, epidemiological</td>
</tr>
<tr>
<td><strong>Fund-holding</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>By primary physician/clinic</td>
<td>Efficiency, intensity, casemix, some aspects of referrals, volumes per enrollee</td>
<td>Some aspects of referrals, epidemiological</td>
</tr>
<tr>
<td>Full Capitation—payment per person per year</td>
<td>Efficiency, intensity, casemix, volume, referrals, epidemiological</td>
<td>Nothing</td>
</tr>
</tbody>
</table>

The strength of incentives (to do things that will generate more profit for the provider) also depends, in part, on the dynamic aspect of the payment formula: e.g. how does the rate (or budget) set in one year relate to the rate or budget in the subsequent year? If the new rate is set based on how much profit was made by the provider, then the incentives will be weak. If the new rate is blind to the amount of profit made by the provider in the prior year, then the incentives will be sharper. To illustrate, consider the case of the provider that, in the prior year, successfully reduces costs and earns a nice profit. If the rate
formula sets the new rate lower, in consideration of the now lower costs, then the provider (and others) will be discouraged from becoming more efficient, since the next year’s rate will punish them for becoming more efficient. The alternative dynamic policy is to set the new rate based on the prior year’s rate, blind to how efficient the provider has (or has not) become. This sort of policy will continue to encourage efficiency by allowing the provider to keep any surpluses they earn.

The volume and practice pattern incentives facing providers can be especially powerful because providers are known to be able to “induce” consumers to follow their expert advice about needed services. This power can be exploited through payment incentives to achieve policy objectives. This possibility is important for policy since care seeking (demand) can be managed, in part, from the supply-side of the marketplace. (Ellis and McGuire, 1993). Using payment incentives, physicians can be put at full or partial financial risk for the resource consumption of patients (e.g. the practice pattern). These payment policies will influence higher or lower utilization of services depending on the nature of the incentives. This self-interested provider behavior may be stronger for some services than others. (Robinson, 2005). This supply-side policy can complement or substitute for demand-side interventions aimed at influencing access and utilization. For example, it is theoretically possible to control the excessive utilization stemming from moral hazard that accompanies health insurance by supply side cost sharing by physicians rather than imposing large user fees (which can have adverse equity consequences) (Ellis and McGuire, 1993). It is also possible to stimulate access for merit goods (vaccinations, other preventative services) by paying providers for these services in a way that has strong service volume incentives, such as fee for service. Mixed provider payment schemes (capitation for primary care, augmented by FFS incentives for important merit services) are frequently used in the U.K. (LeGrande, 1999) and in other places such as Romania (Vladescu and Radulescu, 2002).

A recent study in Columbia (Miller, 2009) demonstrates the power of supply side policies to moderate what otherwise would have been strong utilization effects of introducing health insurance. The authors claim this project is “the first major developing country effort to expand health insurance (and risk protection) without sacrificing efficiency in medical care consumption.” (Miller, p2). Here, health insurance contracting on the supply side was established (embedding power incentives on utilization control). In 1993 the Columbian authorities established the possibility of extending fully subsidized insurance for poor people (Regimen Subsidiado). Insurers were empowered, as part of the program, to use strong incentives to pay providers to improve quality and to lower costs, including denial of inefficient services altogether. The supply side incentives include capitation payments for primary care, and ability to deny coverage of specialty services (which is paid with fee for service). They find the results are (1) catastrophic protection, (2) no substantial increase in utilization, (some evidence of health improvement. The authors conclude: “Reliance on supply-side incentives circumvent the otherwise unavoidable trade-off between risk protection and efficient consumer incentives and shifts the decision-making authority to clinicians with superior information about treatment efficacy” (p2).

Provider payment technologies to stimulate particular incentives were largely developed in the United States and Western Europe in the 1970s and 80s. In the U.S., the Medicare program initiated payment reforms for hospitals in order to contain program spending by enlisting new provider incentives to promote efficiency. Specifically, the idea was to shift some of the risks of untoward events (high prices paid for inputs, high ancillary testing rates, unnecessary length of stay) to the provider, motivating them to develop ways to control those risks. The adoption of the DRG (diagnosis related groups) payment methodology for compensating hospitals for inpatient care paid a fixed price per admission, and caused
hospitals to reduce length of stay, eliminate unnecessary tests and reduce other aspects of intensity of care. Prior to this change in 1983, the insurer (Medicare) was at full risk for the consequences of unexpected changes in admission rates, efficiency, intensity, and length of stay. After the changed payment policy, hospitals were at risk for these aspects of cost. The effect of the new fee schedules were dramatic, with striking reductions in the rate of growth of hospital spending, in the share of health spending in hospitals, in length of stay, and in hospital days per capita (Wouters, et al, 1998). There was no evidence that these effects lead to reductions in quality of care or patient outcomes, as political opponents had warned would accompany incentives for cost containing behavior (Coulam and Gaumer, 1991). In the next two decades, Medicare implemented incentive payment policies (fee schedules) for nursing homes, doctors, and other providers.

Other western countries have adopted many of these payment and casemix technologies that were developed in the U.S., often using DRG casemix measures to improve the fairness of their global budgeting schemes. Among OECD countries, where governments own or purchase much of the care, many modern payment schemes for physicians have been developed and refined. Simple, capitation schemes for paying doctors have been replaced by more complex combinations of payment approaches. The incentives for under-serving patients associated with capitation have been modified to create essentially separate payment schemes for particular services in order to optimize the effects of the volume incentives. In the U.K., for example, the capitation arrangements for physicians are not applied to preventative and family planning services. For these services, a fee-for-service payment scheme is used to create incentives for promoting more preventative and family planning services (Liu and O’Dougherty, 2005). In Germany and Canada, where there are explicit limits on the volume of care provided by physicians (e.g. a cap on payments), these limits are waived for prevention services (Davis, 1998). In Japan, FFS prices are deliberately raised for preventative services (Campbell and Ikekami, 1998).

Provider payment reforms have been popular components of health system reform in LMICs. While some of this demand is attributed to donor push, the popularity of such reforms certainly reflects broad belief that payment incentives can be a powerful tool to promote efficiency, alter longstanding mal-distribution of health system resources (too many resources flowing to hospitals, not enough resources flowing to prevention and primary care), to promote better practice patterns, and other objectives. Patterns of payment reforms generally follow a progression, starting with the replacement of line item budgets and salaries with various forms of fee schedules. And, as strong incentives for ‘increasing volumes of care’ have followed, there have been further reforms to stem these volume problems by putting the provider at risk for volumes of care (some global budget designs and capitation Cuimas and Vaidean 2008).

Methods

The purpose here is to do a review of the studies that attempt to estimate the impact of payment reforms. The vast majority of the literature is for hospitals and doctors. Our approach will be to organize the literature along the following lines:

Hospitals and other Institutions
   Global budgets
   Fee Schedules
In the review that follows we focus on the impacts of provider payment reforms. Deliberately broad, we are trying to understand how wide-ranging the policy intentions have been for provider payment reform, as well as how effective reforms have been in changing provider behavior, particularly in LMICs. We are also interested in evidence bearing on the under service or quality risks posed by these reforms.

There are a number of challenges in this literature. The results of almost all studies are not generalizable elsewhere because the choice of intervention in almost all studies stemmed from a policy selection process, not a research selection process (policies were selected when conditions suggest to decision-makers that they would work). The problem of generalizability is a particular concern when reporting on possible side-effects of incentive payment programs. These include under-serving patients, discharging patients too early, failing to admit the most difficult cases, cutting corners on quality, and more. Many of the metrics for evaluating side effects like ‘quality of care’, ‘access’ and ‘cream skimming’ require more sophisticated data than are routinely available in these countries. By and large the literature rarely reports such findings, focusing instead on metrics like volumes of care and expenditures for care. We would be more concerned about these side effects in developing countries than in the West (where there has been little such evidence) because (1) monitoring of side effects is likely less intense in LMICs, (2) ‘slack’ or inefficiency or excess capacity at the onset of the program may not be as prevalent as in the West (there may not be as much provider cushion to help buffer financial problems) and (3) financial incentives may be quite strong in LMICs since the provider may have only one payer.

The validity of impacts of provider payment reforms is also questionable in many instances because these interventions are often confounded by other reforms including management interventions, decentralization and other policies that grant more operating and financial autonomy to providers. Many of the studies of provider payment, particularly in the area of physician capitation and P4P, tend to couple programs of “contracting” with private providers or NGOs with approaches to incentive payment. Measured impacts cannot be attributed to reforms of provider payment or to contracting (to promote competition between providers, and to replace “management” mechanisms with controls via contract terms). And, in the case of physicians, sometimes government salaried physicians are allowed or even encouraged to supplement income by private sector moonlighting (where FFS rates can be charged patients) (Bir and Eggleston 2003). As a result of combining payment reforms with other closely related changes in provider autonomy, more exposure to competitive pressures, privatization, contracting, dual practice arrangements and other factors, it is not possible to know whether results stem from payment policies or other policy changes.

A similar confounding issue arises about coterminous changes in demand incentives, which can confound the apparent influence of provider payment changes. The use of vouchers in India for free obstetric care, for example, created such strong demand incentives as to overwhelm the effects of
capitation used to pay the providers (Bhat, 2006). Attempts to intervene and improve quality of services in Cameroon (Livack and Bodart, 1993) and Nigeria (Akin, 1995) confounded (or neutralized) the impacts of user fees on demand volume, where higher user fees were found to be associated with increases in the volumes of services demanded. A UNICEF report argued that “the trend toward decreased demand for services can be reversed when efforts are made to improve the services before a system of payment is introduced” (UNICEF, 1990).

Evidence from the Literature

The literature on the impacts of payment reforms in LMICs is large, but methodologically relatively weak. It reflects global interest in payment reforms following successes in the U.S. and other OECD countries in the 1980s and 90s. A general assessment of findings is as follows:

- Impacts of payment reforms in LMICs on efficiency and other outcomes is rarely studied, and when reported, tends mainly to be subjective assessments of trends (and uncontrolled pre-post methods).
- There is significant global interest in using provider payment technologies in both organized health systems and in contracting activities and these are trends over time favoring use of capitation methods for primary care, global budgets for hospitals, and P4P bonuses (for physicians and clinics) for achieving target service volumes.
- The reported impacts of provider payment reforms tend to be weaker and less consistent than we would expect from the experience in developed countries.
- Authors attribute weak and inconsistent pattern of impacts to critical barriers (constraints) to their being an effective policy instrument in LMICs.

Hospitals and other Institutions

Fee Schedules. Per visit, per diem and per case payment systems are used to pay for hospital services in many countries. These fee schedules are generally set by payers, and providers are paid fixed amounts with the promise of retaining any surplus that may result from economies they make. These payment policies offer substantial incentives to increase volumes of care (in order to increase provider revenues) and contain incentives to under-serve patients as managers try to economize the costs which they bear in full.

Some of the earliest lessons in structuring incentives for hospitals occurred in the former Soviet Union. During the 1990s, when privatization (of hospitals, health insurance and other sectors) was rampant, much was learned about using fee-for-service payment for hospitals. In the Czech Republic, for example, hospitals were billing several dozen private insurers using about 5000 codes for services. Between 1993 and 1998 volumes of care rose due to the incentives and per capita billings grew by nearly double, and about a third of the insurers went bankrupt (Langenbrunner and Wiley, 2002).

A number of early per diem payment schemes were also used in Europe, Indonesia, Brazil and China (Langenbrunner and Liu, 2005). Significant evidence exists about the volume incentives under such
systems, and they have generally given way to per case, global budgeting, or capitation schemes. In Brazil, for example, admissions tripled over a decade under per diem incentives (Rodrigues, 1989). In Germany when per diem payment was used, the lengths of stay increased (Schulenburg, 1992). Various per diem approaches have been used in Croatia, Slovak Republic, Estonia, Slovenia, and Latvia with evidence of length of stay growth and subsequent use of caps on inpatient spending, and migration to per case payment methods (Langenbrunner and Wiley, 2002).

The experience in the U.S. with per case (DRG) payment system implementation is by far the most studied of the fee schedule approaches to hospital payment. In spite of concerns about possible increases in admission rates, deteriorating quality, skimming and dumping patients, and sicker-but-quicker discharges, the U.S. implementation of DRGs showed reductions in the rate of increase in hospital spending, shortened stays, downsizing of the hospital industry and no real evidence of quality problems (Coulam and Gaumer, 1991). To be sure, there were many anecdotally reported instances of inept hospital managers who overreacted to incentives, and others who did not know how to manage under the changed circumstances of payment. Many hospitals closed because days of care were reduced, and undersized and inefficient facilities could not survive. In other hospitals, many ineffective executives and managers were replaced. But, in general, the implementation situation was characterized by very effective scrutiny of impacts and aggressive processes in hospitals to find solutions and change the behavior of physicians and other health workers.

In Eastern Europe and Central Asia there has been widespread adoption of new incentive payment systems (capped per diem systems, casemix systems, or global budgets) in nearly all of the 26 countries (Langenbrunner et al, 2005). These new per case systems were largely implemented to stem the rapid increases in volumes (and expenditure) that were created by per diem systems following the market reforms in the late 1980s and early 1990s. To be sure, the per case reforms generated extensive descriptive evidence of large reductions in length of stay in the region. But, now, the rising numbers of admissions is again testing the appetites for growing volumes in these systems (Langenbrunner et al, 2005). Poland’s increase in admissions of 30% in one year after implementation of per case hospital payment is an example (Orosz, 2001) and there are also allegations of cream skimming. Structural changes, such as bed elimination and reorganization have not been seen when examined (in Kyrgyzstan for example, O’Dougherty, 1999) though have been seen in other places as in Hungary (Orosz and Hollo, 2001). All of this evidence is descriptive, and provides only weak support for the mixed impacts of per case payment systems in Eastern Europe and Central Asia.

Yip and Eggleston (2001) report on the per case payment system in China. They used a quasi experimental design to study impacts of per case payment reforms, finding some slowing of expenditure growth per admission, and slower growth of spending on expensive drugs and high technology when compared to the prior FFS system. There were reports that some hospitals were fined due to problems related to under-service, but there was no real evidence of patterns of adverse quality side effects (Eggleston and Hsieh, 2004).

Not all hospital experience with administrative fee schedules is for inpatient services. There are reported applications of inclusive rates being used for day surgery (Lebanon) and for outpatient visits

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13 All of the 26 countries use such methods except Azerbaijan, Tajikistan, Moldova, and Turkey where line item budget systems are still used.
In general, the evidence is sparse on the performance of per diem and per case payment systems in hospitals. Almost nothing exists regarding impacts in LMICs, though there is some evidence of mixed findings of the incentives such as strong cost containment incentives, adverse volume effects, and some reports of poor quality, as noted above.

**Global budgets.** Global budgets set limits on spending, usually with *ex post* adjustments for volumes and casemix in order to not discourage admissions, particularly for costly treatments. This payment method has been defined as “an overall spending target or limit that constrains the price and quality of services provided” (Dredge, 2004). Global budgeting for hospitals is very popular in European and other countries with national health systems including Canada, UK., France, Australia, Italy, Spain, Ireland, Portugal, the Nordic countries, and the U.S. Veteran’s health care system.\(^{14}\)

Though varied in design, global budgeting is generally regarded as the strongest approach to encouraging hospital efficiency and for “capping” the overall rate of increase in hospital spending (Liu, 2003). Sometimes, as in most NHS applications, the global budget is a fixed budget allocation to the hospital, which is adjusted *ex post* based on casemix and overall volume of admissions. Other approaches (often used for non governmental hospitals) set a cap on the budget that a hospital may earn in revenue (possibly with an *ex post* adjustment also), and the hospital has to set fees and contract amounts in order to live within this cap. In either case, the incentives promote efficiency, tend to slow the adoption of new technologies, and encourage high capacity utilization. Some western studies have documented these cost containment successes in terms of overall health spending, spending per case and per diem, and shortened waiting times (Wolfe, 1993 and Duckett, 1995, and Redmon and Yakoboski, 1995), although Wolfe (1993) notes that there are only modest amounts of real evidence of effectiveness.

Global budgets for hospitals are popular in various countries in Eastern Europe and Central Asia. To stem the trends in rising volumes of care there is strong interest in global budget systems (or explicit global caps on fee schedule payments) in Albania, Croatia, Czech Republic, Georgia, Romania and Russia (with about seven other countries working on development of such systems). Evaluation efforts are limited for these systems, though there is fairly strong but descriptive evidence that by using such payment systems countries are able to shrink the fraction of health spending being spent on hospitals (Langenbrunner and Wiley, 2002). In pilot districts in Russia, early, very positive evaluation results were reported including fewer admissions, lower unit costs, less specialty referrals, and bed and staff reductions (Langenbrunner and Wiley, 2002).

There is no real literature on the implementation of Global Budgets in other LMIC countries in other regions, though there is mention of global budget schemes in Brazil and Chile (though the latter seems to be a historical budget process, with different incentives).

Evidence of counter-veiling side effects on quality is rare. Documented increases in discretionary

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\(^{14}\) The Clinton health reforms would also have used global budgeting for hospitals, had those reforms been implemented in the U.S.
admissions and deterioration in other quality indicators occurred in Taiwan (Chen et al, 2007), where the authors summarize the findings as “cost containment comes at the expense of health care quality” (Chang and Hung, 2008).

Beyond hospitals, global budgets have been used in countries with national health systems to control national or regional spending levels for physician services (Germany, Canada, U.K., Netherlands) and even for national limits on pharmaceutical spending (Belgium). Even broader applications of spending limits for health plans and geographic regions are extensions of the philosophy of global budgeting (Bishop and Wallack, 1994). In many countries the use of capitation-type formulae are used to create fair allocations of budgets for health services across districts or regions. For example, in Zambia (districts) and South Africa (provinces) such formulae were used to change inequitable allocation policies (Gibson, 2000). But, these uses of budgeting reallocation are not truly provider payment policies.

Pay for Performance Schemes for Hospitals. Pay for performance schemes (P4P) in hospitals are probably too varied in design to attempt to generalize about their effectiveness, even if there was a substantial literature about their impacts. Almost nothing seems to be known about the impacts of schemes to change the behavior of hospitals using financial incentives in an ad hoc manner. Each application provides some financial incentive for achieving a goal (e.g. a quid pro quo).

There is very limited evidence of middle income country applications of hospital bonusing schemes. Two are known in Latin America, namely Costa Rica and Nicaragua. The Costa Rican quality payment scheme was implemented by the Social Security Institute with public hospitals in 2000 which rewarded hospitals for compliance with best practices in care (preventing hospital acquired infections, etc.). In Nicaragua, the Ministry of Health recently put in place a similar concept to create incentives for meeting performance targets in six pilot hospitals. No evaluations have been reported thus far.

The major and recent literature review of this, and all other published evidence on hospital P4P schemes concludes that literature on the effectiveness of this rapidly growing form of payment for meeting explicit quality targets is very small, drawn almost exclusively from the west, and is also very inconclusive about the effectiveness of P4P in achieving intended impacts (Christianson et al 2007).

Physicians and Primary Care

Fee Schedules (FFS and bundled per visit). There have been few efforts to implement physician fee schedules as matter of policy in LMICs, and we are not aware of any attempt to bundle services into a more aggregated fee schedule. Salaries are still popular for paying physicians, since most physicians in these countries tend to work for the government or for a hospital. While many of these countries are experiencing growth in the private physician marketplace, private insurance to pay for private sector medical services is uncommon. Payments made for ambulatory care delivered by private physicians tend to be dominated by fee for service (prices set by the physician) and paid in full out-of-pocket.

Generally, the incentives of prospective fee schedules would be to increase efficiency, and to cause volumes to increase as well. Only several studies are reported about the impacts of FFS impacts in LMICs. In what has become a notorious example, following independence the Czech Republic used
FFS to pay doctors. An overall 40% increase in real health care spending in a two year period was observed following the introduction of FFS. In a related comparison in, private doctors (paid off of a FFS schedule) billed significantly more in every category of service than their salaried counterparts (Ciumas and Vaidean, 2008). After experimenting with various alternative payment schemes they have moved to capitation because of an inability to control the strong volume increases of fee schedules. Brazil implemented the Unified Health System in 1985, which included a set of national fees for physician payment. These rates have seldom been updated since, resulting in falling utilization for primary care (because of failure of physicians to accept these rates for patient care), and poor quality, especially for maternal and prenatal care (Wouters, et al 1998). Rwanda implemented a pilot fixed rate fee schedule program in 19 primary health centers in order to try to increase utilization. The intervention was successful, and they reported large increases in all volume indicators (Eichler, 2006).

Clearly, physicians in these LMICs are responding to the volume incentives of fee schedule payment in predictable ways, increasing the volume of care in order to augment income.

There have been successful attempts in the OECD countries to mobilize fee schedules for particular services which were underutilized (preventative services). In the NHS in U.K., for example, certain services are now paid separately outside the capitation rate (prenatal care, PAP smears, immunization, etc.) (Liu and O’Dougherty, 2005). In Japan, selected services and primary care is encouraged by using high fees relative to the fee schedules for other curative services (Campbell and Ikegami, 1998).

**Fund-holding and Capitation.** Capitation and fund-holding for primary care providers became popular following the Alma Ata resolution (which emphasized more and better primary care) and the poor performance of fee schedule incentives (which tended to be exploited by physicians to augment their own incomes). There were also earlier experiences with capitation and fund-holding in the U.K., including findings of reductions in hospitalization (le Grand 1999, Klein 1998) which captured the attention of many LMICs, since the hospital sector is usually perceived as overbuilt and over-funded. Because of concerns about volume incentives of fee schedules capitation has become a very popular form of payment for primary care services. When this ‘capitation fee’ includes all or a portion of the expected costs of referrals and hospitalization, then we would refer to the payment scheme as ‘fund-holding’ by the primary care physician. If a capitation (per patient per year) fee is set for primary care services only, then the incentives are strong for the primary physician to limit access, under serve, and over-refer. With some ‘fund-holding’ (and a commensurate required payment by the primary physician when a referral/hospitalization is made) then primary physicians have additional incentives to control expensive referrals and hospitalizations.

Many LMICs are now taking steps to implement some form of capitation for primary care services. Some have implemented capitation approaches to paying for primary care by contracting with individuals or groups of providers and other have used capitation to pay district authorities (as part of a decentralization scheme). These payment approaches have been increasingly relied upon in places as diverse as Egypt, Nigeria, Eastern Europe (Hungary, Albania, Kosovo, Macedonia, and Poland), and in Kyrgyzstan, Indonesia, Thailand (Mills, 2000), Chile (Cuiamas and Vaidean, 2008), and most of Latin America (Langenbrunner and Liu, 2005).

Some limited evaluation results exist about capitation and fund-holding in LMICs. The primary care reforms begun in Kyrgyzstan in 1994 have been widely reported to be a successful implementation of
privatized small group practices (composed of a pediatrician, an internist, an OBG, and a business manager) and an open enrollment process. The small group practices, which now number about 700 in the country (Hardison, et al 2007) are paid a capitation rate. There have been a number of evaluations of the overall program, which now includes a strong retraining program in family medicine, concluding increased patient satisfaction (than the old polyclinic system), lower referrals and hospitalizations, improved blood pressure control, and some improved health indicators for the population (Hardison, 2007).

Langenbrunner and Liu (2005) report that in eastern Europe privatization of primary care has resulted in contracting with private physicians using capitation for just their own services (e.g. no fund holding). One study of Croatia and Hungary noted that the capitation program resulted in higher rates of referral than for salaried physicians (Barnum et al, 1995). In a study of contracting within the Croatia capitated program (Hebrang et al. 2003), the authors report that indicators of access were much better for the contracted providers than for the public providers. In Romania, a privatization scheme for private doctors combined fee schedule and capitation program resulted in improved use of prevention, higher patient satisfaction, but no improvement to the access situation of the poor (Vladescu and Radulescu, 2002).

Partial capitation has been tried in India for a bundle of services surrounding the birth episode (Bhat, 2006). In a one year pilot study, poor families in 5 rural districts were provided a voucher that entitled them to free medical and institutional care for delivery and follow-up. The idea was to stimulate demand for inpatient births among persons who otherwise could not afford the care out of pocket, to enlist services from private providers, who dominate in these regions, and to lower high MMR and IMR. Obstetric providers were able to redeem the voucher for a partial capitation fee (fixed payment per episode), which included prenatal, postnatal, and obstetric care, as well as fund-holding for anesthesia and pediatric care for newborns. In an uncontrolled assessment, the program increased the number of institutional deliveries, reducing the C-section rate, and improved both MMR and IMR rates. This pattern of strong impacts on care seeking, suggest that the findings are probably more related to the strong demand incentives (vouchers) than to the provider payment incentives, though the reduction in C-Section rates is probably a consequence of the conditioning of provider behavior by the fixed payment.

In a related but different reform approach, NGOs are sometimes paid capitation rates by the government to deliver all formal services through a contracting arrangement. This approach is essentially a convenient and fast way to reform through delegation of management authority and financial risk to the NGO, which can organize and manage the district/regional health system resources through fee schedules or other means to contract with providers. These schemes can be used when providers are not well organized, or have insufficient management skills, to be contracted with directly. In Guatemala (Danel and LaForgia, 2005), NGOs contractors were paid a capitation rate for delivering a basic package of primary care services to a rural population. Access measures and satisfaction were comparable to the public clinic experience, but the utilization measures were better under a contracting-in alternative (management strengthening). In a large but unstudied capitation program for basic services in Haiti, a capitation rate is also paid to NGOs. Over 50% of the population is covered in this program. NGOs are paid 95% of the capitation rate, with a potential bonus of up to 10% if performance targets are met (Chowdhury, 2001, Eichler et al, 2001). The use of capitation and contracting together makes it impossible to un-bundle the effects of payment incentives from effects of contracting-out. We
attempt to separate the literature according to whether the P4P program is distinctive from the usual capitation program in these instances.

In a widely reported experimental study of two forms of contracting in Cambodia, NGO contractors for district-level maternal and child were paid a capitation rate with a contractually stipulated penalty for not fulfilling contractual obligations. Self-reported immunization levels and attended delivery rates, among other utilization measures obtained from a household survey. These measures were better under capitation incentives than the traditional district delivery system, and better than an alternative where management strengthening was used rather than capitated contracting. The results were clouded by concerns about the comparability of baseline levels of resources in the three models of care being tested. There were some findings of poor effects on quality indicators. Several studies were done of this program, interpreting the impacts very positively (Bhushan et al 2002, Palmer et al, 2004).

In Costa Rica (Cercone et al 2005), a capitated contracting program for primary care services was done, including a penalty for not achieving 85% of contract performance targets. There were mixed indicators of utilization including fewer specialty visits, more general care, and about the same first time and emergency visits as the government clinics. Costs and mortality were no different than the controls. These very limited results are encouraging, particularly in the case of using capitation payments for contracted providers. Clearly, the intent of policy is not only to implement capitation, but is also to build (work with) organizations large enough to assume capitation risk. There are also positive results for individual providers and small groups. The results are not uniformly good and most of the studies do not examine the risks of under-service. There certainly is broad global interest in using capitation incentives to provide primary care fund-holding, even in LMICs.

Quality/Performance Schemes. The literature that examines the impact of physician P4P on explicit quality objectives is small and inconclusive, even for preventative care where these kinds of quid pro quo bonuses are common. This literature is drawn mainly from the West. One literature review was conducted on the impacts of target payment on primary care physician behavior using the Cochrane Effective Practice Registry (mainly North American and Western Europe members). Only two studies meeting the criteria were found, including only 149 practices. There was some evidence of an increase in immunization rates in one study, but not the other (Guiffrida, et al 2008).

Though the numbers of reported ‘P4P projects’ in the West appears to be growing, there are few, relatively indecisive, impact studies. One recent comprehensive literature review of financial incentives on physician practice and quality of care concluded that the evidence to date on impacts is very inconclusive, and more research is needed on this rapidly growing form of physician compensation (Christianson et al 2007).

A number of P4P schemes are reported for LMICs, with examples from many different kinds of ‘quality’ objectives. These include target payments for immunization and prevention services (Czech Republic), the payment of inflated prices for cost effective services (Brazil), and the compensation of DOT vaccine incentives(South Africa). Other examples include the payment of bonuses to private doctors by the local health department upon the curing of patients in Pune, India (reported in Eichler, 2006). In Brazil, municipalities (who operate primary clinics) are given a financial payment when TB patients are cured. In the Congo, eight NGOs contracted to manage district health delivery systems
implemented contracts with local hospitals and doctors that included performance payment schemes. In Bangladesh, NGO field staff was paid on the basis of their client’s knowledge of Oral Rehydration Therapy. In Cambodia a provider incentive program was aimed at increasing basic service utilization of the poor. And, in China doctors and community workers were paid when they referred patients (who tested positive) to a TB dispensary. No evaluation results are available for these programs.

There are, however, several LMIC P4P schemes for which evaluation results have been reported. In Bangladesh, a broad set of MCH and other treatments were included in a contract with NGOs as a supplement to other sources of care for an urban poor population. Performance bonuses in the contract featured access incentives for certain services (immunization, lab testing, and client satisfaction). The results showed that the NGO clinics did better than government clinics in promoting access for the urban poor, with no difference in costs, which could be attributed to the various aspects of the contracting, or the incentives. In Bolivia, contractors were paid incentives for delivering MCH services (Lavadenz, 2001). The incentives were based on process and outcome indicators. The results showed strong effects on utilization in the contracted provider sites including outpatient visits, and percent of institutional deliveries.

In Indonesia, bonus incentives were shown (by simulation) to be potentially cost effective in getting young doctors to relocate to rural areas. The size of the incentive needed to accomplish the change in practice location is reported to be less expensive than the current approach (to pay a “bonus” in the form of free specialty training) and less costly than compulsory approaches. (Chomitz et al 1998). In a study in Kyrgyzstan, clinics were paid more if they served poor patients. Though other results were not studied, a household survey found that the patients were more satisfied with this program (Kutzin, 2003).

In Nicaragua a program was aimed to deliver a range of basic services to poor families. It paid contract providers a per capita payment per household to deliver free services such as growth monitoring, developmental monitoring, vaccinations, anti parasitics, and vitamins all for kids. Later, some other maternal and child and Family Practice services were added. Of the per capita payment, 3% was fixed, and 97% contingent on results where the contingent payment is based on documentation that the services were provided. There was weak evidence of impact. Some positive evidence was shown that the program increased service volumes of growth monitoring, but there was not much effect on immunization. The time series comparisons that were used to evaluate these outcomes were confounded by some demand incentives for households that were also included in the program. But, when the demand incentives were terminated the observed effects of the supply incentives seemed to persist, implying that the provider incentives may have been more important that the demand incentives (Regalia and Castro, 2007).

In both Senegal and Madagascar, contracting programs with NGOs were implemented to deliver community based nutrition services in poor areas. Performance thresholds were set and, in some cases, contracts were terminated due to poor performance. Evidence suggests that utilization increased and malnutrition rates fell in study areas, and among enrolled children (Marek, et al 1999). In Haiti (Eichler, 2001), NGO contractors received as much as a 10% bonus based on performance achievement, increasing access to a certain degree. Immunization and contraceptive coverage improved, but the
volume of prenatal visits, among other measures, did not. There are some studies about P4P activities in Cambodia and Haiti reporting that P4P incentives need to be accompanied by management training and support (Soeters, 2002).

A fund for paying performance bonuses to staff of family medicine clinics has existed in pilot health reform sites in Egypt since the late 1990s (Edmund, 1999). Only informal evaluation evidence is available, suggesting that staff satisfaction and patient satisfaction are higher. The Family Health Fund concept in Egypt was begun in the late 1990s in pilot governorates to pay bonuses to staff of Family Health Clinics. The indicators of performance are derived from a simple patient data capture system and other sources relating to volumes of visits, referral and prescribing rates, and waiting times. These Governorate level Funds now number about 15 throughout Egypt, and are populated with monies from the European Commission and the Egyptian Government. A 2003 ministerial decree granted more authority to Family clinics to generate revenue by raising user fees (on visits and drugs). The role of the FHFs became, at least on paper, extended to subsidizing these fees for the poor. To date, this decree and FHF function has not been implemented. Some evidence exists that these clinics (and the workforce incentives) have increased worker satisfaction and the level of patient satisfaction is higher as well. (WHO, 2009).

In a broad contracting program with NGOs in Bangladesh (National Service Delivery Program--NSDP) some of the dual purpose FHF vision for Egypt are being accomplished in a contracting model. The NGO clinics were given authority to generate more ‘cost recovery’ from paying clients. And, any excess revenues (beyond a target amount), were to be allocated as: 25% to provider bonuses, 25% to NGO projects as they prefer, and 40% to a health equity fund for payment of the (higher) user fees for persons who were very poor. When evaluated the NSDP (Chou, 2006) found that (1) the NGOs had large increases in both paying and non paying clientele, (2) the HEF was essentially self funding the user fees for the poor from excess NGO revenues, (3) the incentives for “NGOs and their workers are motivated to serve more (poor) and to increase cost recovery”(p18). This is clearly a complex program, with supply incentives as well as demand subsidies. The effectiveness of the provider incentives alone cannot be known, though it is very encouraging that complementary demand- and supply-side programs can be used to manage behaviors to resolve access problems at the level of the individual contracted provider (NGO). But, this is a very encouraging, if not complex, approach for combining the yield of better provider incentive directly (through a fund) to achieve better access to care for the poor.

Finally, a reported side effect of a P4P scheme was seen in China, where hospital based physicians were paid bonuses for seeing more patients in a target group. Not only did the hospital-based doctors successfully generate payments for themselves, but their behavior also contributed to higher hospital revenues (Liu and Mills, 2003).

P4P incentives are being widely used in developing countries. Reported evidence is generally positive that the incentives work as expected. There are exceptions, and it is often hard to say whether the incentives or the ‘contracting’ is responsible for effects. Like capitation for primary care, there is promise for these kinds of incentives for physicians, though no clear consensus about the kinds of impacts to be expected in a given situation.
An Endnote on Contracting. There is literature on the effectiveness of contracting-out with private primary care providers. But, unfortunately, it does not separate the effects of private contracting from the effects of “using incentive payment schemes, and instead tends to bundle these interventions together. So, we do not consider “contracting” a form of payment. There is also some literature in the form of case studies on inpatient outsourcing of dialysis and other hospital services (Nikolic, 2006).

The ‘contracting’ concept is predicated on the idea that contractors have better skills in management than the government resources they are replacing. In a review of this literature, some authors conclude that contracting reforms for service delivery has broad empirical support as a way of effectively reorganizing the delivery system to achieve fast improvements in health and utilization (Loevinsohn and Harding 2005). Other more recent reviewers of the literature are less convinced that the evidence is overwhelmingly favorable (Liu, Hotchkiss and Bose 2008), though there is no question that results of contracting to stimulate access are strong and convincing. But, it is unclear whether the results of contracting are due to the use of “private providers” or due to the volume “incentives” that are used to pay the private providers. They conclude that the effects of contracting with private providers for primary care services is a quick way to stimulate access to such services, though the effects on quality, equity and other objectives have not been frequently studied. Generally, they find that the results of the particular contracting program depend on whether the program of contracting was the sole provider (in some cases replacing a government program) and the kind of payment incentives used. Contracting per se for primary care is not found to be intrinsically successful or unsuccessful.

Beyond primary care, health sector contracting with the private sector is widely done. Loevinsohn and Harding (2005), in a review of the evidence, believe that “based on the successes thus far, there should be a significant increase in the amount of contracting undertaken in developing countries as a means of rapidly improving service delivery and achieving MDGs” (p 208). They do not comment on the role of incentive payment programs for contractors in this recommendation, though they do urge autonomy of providers (and exclude line item budgeting as a payment approach for this reason).

In general, the literature on capitation and P4P for Physicians is confounded by the use of contracting so as to make it impossible to say whether the improvements in access and other outcomes is the result of one intervention or the other.

Summary of the Impacts of Provider Payment Incentives

The literature on the impacts of payment reforms in LMICs is sparse, inconclusive and relatively weak methodologically. It reflects global interest in payment reforms following the successes in the U.S. and other western countries in the 1980s and 90s. A general assessment of findings is as follows:

- Impacts of payment reforms in LMICs on efficiency and other outcomes are rarely studied, and when reported, tend mainly to be subjective assessments of trends (uncontrolled pre-post methods).

- In many cases, the reported impacts of provider payment reforms on efficiency tend to be weaker and less consistent than we would expect from the experience in the developed countries.
In other cases, the reported impacts on volumes stemming from unit of payment incentives often tend to be enormous, creating a situation where payment reforms can be a source of rising expenditures, or where payment incentives can be used as supply-side policies for managing access and utilization together with or in lieu of demand side policies.

There has been considerable interest in using capitation and fund-holding for primary care services, though there is only weak and rather scattered impact evidence, and evidence that is confounded by the use of contracting (or even privatization) with payment change.

We can say very little or nothing about what works best under what conditions. The evaluation literatures about impacts or process are simply inadequate.

In the two sections that follow we review the implications of these general findings to two issues pertaining to the applicability of provider payment tools in promoting access and quality services in poor countries. By way of summary, these observations on constraints lead us to conclude that:

Systemic provider payment tools (nationwide systems of physician or hospital payment) are not likely to be successful unless levels of management and other resources are substantial, while some narrower P4P interventions have been workable in low income countries with considerable barriers to health system reform.

Pro Poor Implications of Provider Payment Tools

The pro-poor consequences of provider payment incentives have not examined directly, but only indirectly through reviewing patterns of study results. In the case of capitation, Lundberg and Wang (2006) conclude that the literature supports the view that “(capitation) can increase access to services among the poor (but) must account for variations across communities (since) there is an incentive for cream-skimming and cost-cutting.” Investigating the literature on other forms of provider payment, the same authors conclude that the pro-poor applications of incentive payment “can be positive if incentives are designed and managed carefully, (and) can be used to deliver targeted or subsidized services.” Broomberg (1994) offers a more negative view of provider payment, contracting, and pro market policies; “In the context of developing countries…the conditions required for successful implementation of these reforms are absent in all but a few, richer developing countries, and that the costs of these reforms, particularly in equity terms, are likely to pose substantial problems.”

More targeted applications of payment incentives may be used to meet the needs of the poor. Following a review of the P4P literature, Eichler (2006) concludes that P4P methods can be used to reach constrained and underserved populations: “(P4P) can motivate effort, encourage compliance with recommended clinical practice and inspire innovation in service delivery that includes creative approaches to reaching under served populations” (Eichler, 2006, p.6).

Possibly one of the more encouraging possibilities about payment incentives relates to the success of performance contracting with NGO providers in Bangladesh (Chao, 2006), whereby half of the excess
revenues generated via incentives are contributed to a health equity fund for payment of user fees by the very poor. With increased utilization of both the paying and poor customers, the cross subsidy situation is being sustained. Using proceeds of efficiency incentives to locally fund better access for the poor us an encouraging, if not somewhat complex, possibility and certainly an extension of P4P and provider payment incentives.

P4P and other incentives payment approaches can motivate providers to expand access to hard-to-reach populations through expanding clinic hours and providing remote services. P4P can also go further than other forms of payment in motivating access for disadvantaged populations. Examples include bonuses paid based on numbers of persons assisted from target groups and other incentives for results achieved by such groups. But, by way of conclusion McNamara (2005) writes: “Despite significant operational challenges, quality-based payment has been implemented in developing as well as developed countries, albeit not frequently in either instance. What we do not know---what the literature is nearly silent on ---relates to the sustainability and ultimate impact of alternative payment schemes.”

**Barriers to the Effectiveness of Provider Payment**

Ignoring the selection issues in reporting non-positive results, why might there be such an inconsistent or weak performance of provider payment reforms in LMICs? Most analysts of provider payment programs have remarked on this phenomenon. Lundberg and Wang (2006) offer the suggestion that there may be systematic barriers (or key assumptions) that are simply different, but offer no list of what these factors might be. McPake and Banda (1994) suggest that “such advantages (to reforms like contracting out in ways that emulate competition) may not always be realized.” Some of the earliest writers on this topic warn of the barriers: “Low-income countries should avoid complex payment systems requiring higher levels of institutional development” (Barnam et al 1995).

From this commentary we conclude that weak, inconsistent or even counterproductive patterns of impacts may be due to some critical barriers (constraints) or unmet assumptions that prohibit provider payment reforms from being an effective policy instrument in LMICs. Previously, Hanson et al (2003), in path-breaking work have enumerated a hierarchy of constraints in LMICs that would limit access to new services and other technologies. Jutting (2004) also attempts to enumerate the issues associated with a related and often complementary reform of decentralization, arguing that performance of decentralization interventions have been found to be highly sensitive to organizational and institutional capacity. Poor countries, particularly ones with poor performing management and governance structures in the health system, simply do not allow decentralization reforms to flourish. Among the factors that these authors found to be correlated with successful decentralization in poor countries are:

- Sufficient and stable local finances
- Sufficient local management capacity
- Political commitment at the national level
- Donor support
- Free flow of information
- Accountability
- Policy coherence, particularly between donors and national government”

Langenbrunner and Liu (2005) summarize the reasons for failures of provider payment programs which experience “diluted or neutralized” results:
What follows is an attempt to catalogue the types of constraints that may be preventing provider payment reforms from being effective in LMICs. There seem to be three types of barriers or limitations to success of provider payment programs:

- **Health System Limitations** (primarily conflicting coordination between benefit plans, civil service incentives, and payment incentives)
- **Capacity Limitations** (primarily information and management limitations)
- **Resource Limitations** (making provider payments on time, and level of generosity)

We discuss and illustrate these constraints in the following sections.

**Capacity Limitations**

**Data and Analytic Support.** Many countries do not have sufficient patient and provider data resources to set administrative fee schedules or capitation rates, or to monitor their performance. Provider payment reforms, particularly ones that require monitoring medical necessity, or the risks of under-service, and those that measure casemix in some fashion require considerable payer resources to implement and operate. Very little is reported in the literature about administrative costs of implementation of various types of payment incentives. Wouters et al (1998) report that administrative expenses generally follow the continuum of provider risk, i.e., the more provider risk, the greater the cost of administration. Line item budgets are the least costly, and capitation is the most costly.

Data is needed to set fair base rates, to regularly recalibrate payment rates to keep up with changing practice patterns and technology, to monitor results, and to help provider managers do their job. In the absence of insurance systems (with paid claim records) or computerized patient records, there is no easy way to operate a casemix system or to monitor patient care results. Almost all LMICs have this problem. In Egypt, reforms in primary care were centered on family medicine clinics where provider teams were paid bonuses to achieve objectives relating to service quality (prevention services, waiting time, etc.) The pilot data for measuring and monitoring the program came from computerized patient records for every visit. Though donors funded the pool for paying these bonuses, the rollout to hundreds of new clinics in the pilot scale-up neglected to implement the computer system, so the bonus part of the payment system was not deployed (Gaumer et al, 2008).

Analytic resources are also needed to work with these data and refine and update payment rates and methods. If these investments are not made, impacts can be distorted (uncontrolled volume incentives, obsolete rates, under-service and deteriorating quality) as was the case in Brazil’s physician fee schedule reforms (Wouters et al, 1998). One observer remarks: “Case based reimbursement such as DRGs is, from a technical perspective, an improvement on FFS systems, because it pays for outputs rather than inputs. Such systems require sophisticated and expensive methods to monitor and update
payment rates, and therefore are probably not feasible in poor countries” (Kutzin, 1995).

**Provider Management Capabilities.** Provider payment incentives presume that beyond the obvious ‘dire’ consequences for taking action in response to payment reforms, it is also assumed that managers see the need for change, that the can set the new course, and that they can be effective in getting it done. Deficiencies in these aspects of management effectiveness are common deficits in LMICs. Without these competencies, response to incentives may range from ignoring the need for change, to poor implementation process. These can stem from poor management skills to inadequate data. As discussed early US experiences with per case payment and capitation were accompanied with anecdotal reports of inaction, over-reaction and failure to find a good balance between efficiency and quality. Facilities closed (dire consequences) and managers were replaced with more effective people. Considerable investments continue to be made in information systems by these institutions to support the managerial need for information.

Weaknesses in management buffer the intended incentive effects of payment reforms. One aspect of management that is particularly critical for payment reform to create impacts is management autonomy. This does not mean that it is necessary to have private governance of hospitals or clinics, rather that in responding to incentives, managers must have control over staffing level, staff selection, staff performance expectations, capital strategy, and other spending decisions. This flexibility is needed to respond to incentives and facilitate improved performance of the organization. Without this autonomy there is limited response to the incentives of performance based payment. Examples of contracting in Bolivia and Cambodia and other hospital autonomy reforms suggest that “in instances where management is given only limited autonomy, performance has improved very little” (Harding and Preker (2003).

There are many other examples of attempts to implement incentive payment for providers where the central or regional government retains autonomy over staffing and salary levels, capital and technology spending, purchasing of pharmaceutical supplies, and other matters. In Kosovo, for example, decentralization reforms of primary care with a capitation grant to the municipalities was done to encourage better performance and more accountability than the previous centralized system under the MOH (Gaumer, 2007). But here, facility managers have essentially no authority over their staff and their compensation because of civil service law and other policies. Once the budget is set, the authority to make timely deviations to deal with changing circumstances is not given to the managers. Changing the formula for the block grant to the municipalities (to some form of performance based incentive budget) would not have any effect on clinic behavior. It would be wrong to conclude that there is ‘autonomy’ in any conventional sense of the term. There have been recent discussions in Kosovo about trying to improve performance of government hospitals by means of a per case payment system. But, as is clear from the situation in municipal clinics, hospital directors would need to be able to shift resources, resize facilities and the workforce, and change the internal culture to effect change in response to the incentives of a per case system. None of this is possible now within the policies of the MOH which provide no management autonomy for facility directors.

To support better management actions in response to incentives, data and information systems are also critical. But, sophisticated measurement and monitoring systems will not be valuable until autonomy is available and decision support is needed. Continuing the example, there is no real evidence of demand for more information at any level in the Kosovo system (and in other countries where managers do not
have to ‘manage’ because they have no autonomy). No patient feedback information is sought or collected by facilities. Facility managers who have special computer systems and staff, do not ever request special reports to facilitate ‘management’. At all levels, performance measurement is simply not a priority for managers. Holding facility directors accountable for facility performance would change this, but making them accountable for aspects of performance they cannot control would be futile. Demand for performance information should ultimately follow policies that provide more autonomy for managers to allocate resources and manage staff.

Resource Limitations

A second barrier to effective response is lack of sufficient financing and delayed payments by the payer (usually the government). One important source of inadequacy in paying providers is policy that ties provider payments to the annual government budget, which creates vulnerability in tight budget situations. These ‘tight’ budgets can slow payments and dull the financial incentives of the incentive payment scheme. This happens because of loss of ‘trust’ in the payment rule, and because of the loss of liquidity. Without timely payments based on the payment rule, many payers fall into debt to providers. Subsequently, in the absence of adequate capital market instruments to borrow, providers often ‘borrow’ by slowing down payments to staff and suppliers. In some areas of southeastern Europe this is commonly referred to as a “Balkan financing scheme” due to it’s prevalence in the region. This “debt” situation (however financed) can buffer the effects of payment incentives by eliminating necessary liquidity for investments needed for organizational effectiveness, and by creating dependencies on staff and suppliers who are owed money by the facility. Institutionally, this is resolvable by allowing facilities access to capital markets, or better yet, by creating a health financing fund (for paying providers) that is managed separately from the government budget.

Chronically low budgets may also limit the generosity of payment rates. While the direction of the marginal incentives of the payment policy is not altered by this, the providers may seek other better paying sources of patients. This eventually will buffer the incentives attached to the payment policy, and possibly cause providers to limit access to patients whose services command inadequate payments. This happened in Brazil (Wouters, 1998).

Health System Limitations

Weak or conflicting incentives. In some instances, payment schemes are designed with flaws like weak or conflicting incentives. Conflicting incentives were a serious problem in Croatia, where there was a combination of capitation for primary care physicians, coupled with FFS payment for specialists and hospitals. This encouraged “dumping” or excessive referrals from primary care to higher levels of care creating increases in total spending and the share of spending going to hospitals (Langenbrunner, et al 2005). In other instances hospital payment incentives conflict with incentives for the managers themselves, where they are often salaried at a level that is commensurate with bed-size, creating conflict between the decision to close beds and to be paid more). This is seen in many countries.

There are also situations where the incentives of provider payment are simply too weak to create large impacts. The P4P program in Haiti described earlier, where NGOs are paid 95% of the capitation rate, supplemented by a bonus payment of up to 10% is a fairly modest incentive to meet the performance targets. In the Nicaragua case, to contrast, the NGOs are paid only 3% as a base, with 97% contingent
compensation based on performance.

**Conflicting Benefit Plan and Provider Incentive Policies.** The impacts of the incentives of provider payment depend, in large part, on the consequences to the organization for failing to offer a ‘quality’ product within the parameters of available financing. What happens to providers who fail to do this? What happens to providers who face fee schedules and must compete for consumers who can “vote with feet,” and who fail to attract enough business? In the case of a free market, the answers are simple: they fail and close their doors. This consequence provides very strong incentives for managers to be efficient and offer a quality product with what is available. Less mature markets may buffer those incentives. For example, a provider payment reform for hospitals in isolated circumstances (district hospitals in rural areas, for example) may not work well because the government may not be able to let facilities close if they fail to keep costs in line with revenue.

Hanson et al (2003) offers a good description of many of the problems facing households and communities that also undermine the market forces upon which payment incentives are based. Consumers who lack awareness of options and quality differentials, cannot afford the price at the point of service, are uncertain about the effectiveness of formal care, and face distance/transportation barriers, can mute the operation of competitive incentives. So, if one provider is careful, thorough and offers a good product, then it is possible under these circumstances that they may not be successful in attracting more business from consumers than their competitor. In this kind of household- and community-constrained environment, provider incentives that rely on survival and related market outcomes may not work very well. Provider incentives are muted because being responsive to incentives may bring little reward.

Coordinating provider payment with demand incentives in the benefit package/pooling design is important. Out of pocket payment (or informal payments) in poor countries reduces overall demand for care, and may buffer incentives of the provider payment scheme by reducing the payoff to providers for improving value of their services to the marketplace. For example, if providers are paid more for attracting more patients (a competitive incentive) then anything that reduces the demand for care will detract from (buffer) the impact of the payment incentives. Pressure to have the patients pay more may also accompany payment reforms that put financial pressure on providers. In Eastern Europe, for example, there has been a growing reliance on out of pocket payments in the wake of provider payment reforms (Langenbrunner and Wiley, 2002). When provider payment was established, the providers were, in some instances, given the flexibility to charge user fees. Though the impacts of reforms on hospital efficiency may be positive, the financing system “shift” to out-of-pocket may be an important negative consequence. And, higher price at the point of service may mute the competitive incentives in as much as consumers may lower their demand response to providers who are more effective in responding to the payment incentives.

Any type of coordinated change in the benefit program that has the effect of stimulating demand will increase the apparent effectiveness of provider payment incentives. When options for care exist, efforts to increase the purchasing power of consumers (demand policies) will stimulate utilization and increase the return to search. This complementary stimulation of demand would invigorate the incentives facing providers and increase impact of the payment reform. Insurance schemes, for example, should increase the effectiveness of provider payment reforms by strengthening demand as the point of service price falls. Concurring and coordinated, payment policies and benefit programs should improve (Kutzin,
Even in instances where there is no presumption of competition (such as many of the capitation situations, or some of the global budgeting situations) the absence of dire market consequences may buffer payment incentives. This would follow from failing to punish providers for not doing an adequate job of balancing efficiency and quality. Of course, governments in most LMICs do not want to do things to providers that might discourage access or equity—these systems objectives are (rightly) more important than efficiency (and possibly quality as well). One author writing about New Zealand states: “The effect of introducing market-like incentives into a health system depends upon the particular institutional arrangements that are in place. As long as governments place high priority on ensuring access to services for those in need, incentives for efficiency will inevitably be blunted (Ashton, 2002, p103).”

There may also be higher level institutional conflicts that prohibit effective operation of provider payment systems. The most obvious of these is civil service, which often ties the hands of facility managers, as in Kosovo. This is also mentioned by Langenbrunner, et al (2005). The manners in which civil service can impede or conflict with provider payment incentives are numerous. An obvious situation is created when hospital managers are compensated according to hospital bed-size, which may conflict with incentives to downsize the facility in response to payment incentives.
Chapter 3  Reorganizing Health Delivery for Better Results

Difficulties in achieving better results from management interventions may call for more radical interventions. Among the most dramatic is the restructuring or reorganizing of health delivery systems. These include privatization, decentralization, and the introduction of CHWs. Contracting with providers, which could be viewed as a mechanism of partial privatization, is included within the Provider Payment section of this report (Section 2.3 below).

Privatization

The privatization, or disinvestment, of government owned and operated health businesses is not a commonly used policy for reforming health systems. In general, it means transferring ownership of an enterprise from the public sector to private hands. The concept of privatization is related to other less extreme alternatives available to the central government which may own and operate health facilities, insurance organizations, and employ health professionals. One alternative is to transfer ownership to other more local governmental units like districts and municipalities. A second alternative is to purchase services from private organizations through contracting arrangements (contracting-out). Outsourcing intermediate clinical or administrative services within facilities (billing, laundry, dialysis) is also a related type of contracting activity. We discuss these other interventions in section 2.2.2 (decentralization) and section 2.3 (contracting and outsourcing) below.

‘Privatization’ is a term that is also used to describe a strategy for reform that emphasizes increased reliance on markets and privately owned provider and insurance enterprises. This approach to health sector reform is common, though controversial (see both side of the opinions in Bennett et al, 2004 and Harding and Preker, 2003). We do not attempt to summarize the pros and cons of these kinds of market approaches here, though it is clear that broad attempts to encourage development of private markets in health care such, as was done in many eastern European countries, are not possible to study reliably. Opinions abound about their effectiveness, and some qualitative stakeholder studies have been attempted (Gonzalez-see Rossetti and Bossert, 2000). Some of the components of such reforms have been studied. Public-private partnerships have been effective in some cases (Liu et al 2004). Interventions aimed at regulating emerging private provider markets have also been studied. The results point to the high administrative costs of these efforts and the difficulty of the task under the best of circumstances. The poor are least protected in low-income countries because of their reliance on traditional and unregulated providers (Bennett et al 1997, Mills, 2002).

The idea of privatizing, or converting public assets into private ones, has usually been a last resort for coping with inadequate finances and government budgets. It is viewed as a strategy that will allow more flexible private organizations to succeed where the government has failed (Strazisar, 2006). Generally, the use of privatization in health care policy has been aimed at (1) raising revenues for the state, (2) liberating governments from the cost and political responsibility of failed health care systems (3) shifting accountability for health from the government to private citizens and private shareholders, and (4) improving the efficiency of the health care system (Strazisar, 2006, Mohan, 2005).

Privatization has long been a hotly debated tactic for dealing with industries that are not performing
well. The evidence is ambiguous, and the conditions under which privatization might be expected to make things better are rather narrow in theory (Stiglitz, 1997). Essentially, the payoff to privatization is theoretically expected to occur when there is competition in the industry, including both freedom to fail and freedom to enter/exit (Mohan, 2005).

Some countries like Iraq (in the late 1990s) and China (starting in the late 1970s) have “privatized” their health care facilities in a *de facto* way, eliminating central budget support for health facilities and forcing facilities and doctors to figure out ways to fund themselves. Many eastern European countries (Croatia, Macedonia, Hungary and Georgia) and some others (El Salvador, and Malaysia) have been more deliberate in their use of privatization for hospitals, clinics and physicians in response to shrinking budgets and unrelenting demand. The Georgia privatization program (World Bank, 2008) is underway, transferring public hospitals and public insurance to the private sector. Assets are not being sold, but are gifted to recipients pledging to renovate and update them. In addition to contracting with private providers using capitation for primary health care, the Macedonia privatization program (Nordyke, 2000) is selling public clinics to private groups. In Malaysia, limited outsourcing to private contractors and a shift to private financing have definitely occurred, but, the conversion of government facilities to private owners has been challenged and not implemented (Khoon, 2003). In El Salvador, the attempt by the government to privatize hospitals has resulted in large protests and strikes of hospital workers (Tim, 2007). Other countries, including Turkey and Malaysia, often refer to their reforms as “privatization,” referring to the pursuit of a collection of pro-market policies and now transfers of ownership (Agartan, 2005). None of these programs has been formally evaluated.

Evaluations of the privatization activities of health care facilities have not been done, and effectiveness insights can only be observed from studies of other industries in developing countries. In one well designed study of privatization of water/sanitation services in Argentina, there were significant increases in the use of clean water and reductions in child mortality in municipalities where services were privatized (Galiani et al, 2005). Some authors of multi industry studies of privatization conclude that “the results (of privatization studies) are all over the map” (Galal et al, 1994). In developing economies, the results of privatization research in industries outside of health are no different. Ambiguity alludes to favorable results of private ownership in high and middle-income countries, but this is not the case in Sub Saharan Africa (World Bank, 1994). In Mexico, two studies reach opposite conclusions (LaPorta, 1998, Weiss, 1995), and in a 79 country study the findings were mixed on the merits of public or private ownership (Boubakri and Cosset, 1998). Among the factors that these studies suggest are critical for privatization to outperform public ownership are:

- A pre-existing market friendly macroeconomic environment.
- Ongoing privatization of other competitive (private) enterprises in the sector.

Our conclusion from this rather sparse literature is that there is insufficient evidence to conclude whether selling (or giving) health sector assets owned by the government to the private sector improves delivery system performance.

**Decentralization**

Decentralization of key functions in health systems is one the most important supply side interventions. The goal of the policy is to improve performance of health services by making them more close-to-client (CTC) services through organizational changes. From a political
standpoint, decentralization deemed to bring decision making closer to the people, thereby increasing “democratization”. From an efficiency standpoint, it is seen as a way of bypassing or removing layers of bureaucracy or diseconomies of scale and of incorporating local information into decision-making processes (Gottret and Schieber, 2006). It is also claimed, under specific circumstances, to act as a mean to improve account of voice and choice (Khaleghian 2004). There is also a chance that through CTC service provision equity gains might follow because remote communities can supposedly get their voice heard resulting in narrowing the gap in utilization by rich and the poor.

According to Bossert and Beauvais (2002) decentralization can take several forms:

*Deconcentration* is the transfer of decision-making authority to regional, district, or subdistrict offices within the structure of the ministry of health.

*Devolution* is the transfer of decision-making authority from the central to provincial or municipal governments.

*Delegation* is the transfer of decision-making authority from central government to semiautonomous agencies.

*Privatization* is the transfer of ownership from central, provincial, or municipal governments to private entities.

Some of the key health systems functions that can be decentralized are also identified. These functions are financing (revenue generation, expenditure allocation), service organization and purchasing arrangements (hospital autonomy, payment mechanism, contracts with private sector), human resources (salary setting, hiring and firing, terms of work), access rules (targeting), and governance rules (regulation, monitoring) (Bossert and Beauvais 2002).

Proponents of decentralization argue that it improves health system performance through several channels. First, decentralization is thought to improve technical efficiency by making local governments more cost conscious and allowing more freedom in contracting with providers. Second, improved allocative efficiency can be realized by better aligning the mix of services and expenditures with the preferences of the local community. Third, decentralization is believed to improve equity, as local authorities are better able to target expenditures and services to vulnerable groups. Fourth, it also promotes service delivery innovations through experimentation and adaptation of service and financing models to unique settings. Finally, decentralization is thought to improve quality, transparency, accountability, and legitimacy as community involvement in decisions increases (Gottret and Schieber, 2006).

Many of the proposed virtues of decentralization are grounded on the premise that it brings local decision makers closer to the constituencies they serve. Some crucial assumptions, however, are implicitly made about the nature of information available to local decision makers, the presence of effective channels for the public to express wants and preferences (voice), and the financial and administrative incentives motivating decision makers to respond. Every single assumption leads to specific conclusions regarding the benefits of decentralization; and taken
together, the resulting argument is compelling: local decision makers have access to better information on local circumstances than central authorities, and they use this to tailor services and spending patterns to local needs and preferences; the public provides input to local decision making processes and holds local decision makers accountable for their actions; and administrative autonomy creates space for learning, innovation, community participation and the adaptation of public services to local circumstances (Khaleghian 2004).

Most of these assumptions are open to question, however, especially in developing countries. Local authorities, while advantaged by access to information on local circumstances, may be disadvantaged by a lack of access to technical information or to the expert individuals required to interpret it. Channels for the public to express their wants and preferences may be ineffective—and the institutional capacity and incentives for local decision makers to respond may be weak anyway—so accountability and participation may remain unchanged. And local administrative autonomy, while providing scope for innovation, learning and local adaptation, might just as easily lead to interest group capture of the decision making process (Bardhan and Mookherjee, 1998), inadequate attention to equity, inter-jurisdictional free riding and problems emerging from services with positive externalities (Besley and Coate, 1999), and neglect of public goods (Khaleghian, 2004).

**Impact of decentralization:**

The empirical studies on decentralization in developing countries are not so strong in terms of quality and quantity. Several analysts note the paucity of sound evaluations of decentralization policies and the need for research in several areas. Concerning impact on service delivery Khaleghian (2004) studied the impact of political decentralization on childhood immunization empirically using a time-series data set of 140 low- and middle-income countries from 1980 to 1997. The study suggests that decentralization has different effects in low- and middle-income countries. In the low-income group, decentralized countries have higher coverage rates than centralized ones. In the middle-income group, the reverse effect is observed: Decentralized countries have lower coverage rates than centralized ones. The study also finds that in the low-income group, development assistance by donors reduces the gains from decentralization. This study confirms predictions in the theoretical literature about the negative impact of local political control on services that have public goods characteristics and inter-jurisdictional externalities. Author speculates that the overall difference between low and middle-income countries reflects differences in two relationships: between central and local authorities on the one hand, and between local authorities and the communities they serve on the other.

Conclusion arises as decentralization does not imply a diminution in the role and responsibilities of central government, instead, it calls for a reorientation of the central government’s role, away from one of direct supervision and toward one of environment-setting and general oversight. The second relationship, between local authorities and the communities they serve, is also an important aspect of the decentralization process. Many of the proposed benefits of decentralization are based on a closer relationship between local governments and local communities, and on the information and accountability benefits that are supposed to ensue. This is not true of all public services, however. There is considerable evidence that, when given the choice, communities prefer to focus the attention and resources of their local governments on services other than health, or on curative health services rather than preventive ones Khaleghian (2004).
Gottret and Schieber, (2006) in their review of decentralization experiences in service delivery functions resulted that in Uganda, decentralization provided district governments the freedom to contract with nongovernmental organizations (NGOs) for service provision. The NGOs provided higher-quality care at lower cost in their facilities. Similar findings in Cambodia are reported: NGOs proved more efficient at providing services—both in quality and quantity—than government facilities. In Tanzania, service use per facility was considerably higher in decentralized districts. They suggest that in these cases, decentralization was associated with some improvement in technical efficiency in services. In general observations regarding the effect of decentralization on quality of services provided in public sector are scattered and anecdotal. The few cases that were studied reflected a mixed result (Zambia and Philippines as reported by Bossert and Beauvais (2002)).

The impact of decentralization policies on allocative efficiency is not also very clear. According to Mills, Rasheed, and Tollman (2006), the evaluation results on allocative efficiency was mixed. They believe that evidence on most health system reforms—for example, hospital autonomy reforms and decentralization—is inadequate to draw conclusions about the circumstances under which reforms are likely to improve the efficiency and equity of service delivery. In some cases the decentralization policy did not result in better alignment of health care service provision with the needs of the population (Khaleghian 2004). In the Philippines and Uganda, for example, expenditures were reallocated to curative care and away from primary care at the local level (Bossert and Beauvais 2002). Spending at higher levels of care is very visible and is seen as more politically rewarding for district governments, even though there were indications that primary care services are most needed in several of the developing countries examined.

There are also examples of decentralization leading to improved expenditure allocation across services. In Bolivia, for example, an analysis of expenditure patterns following decentralization showed that local government’s better knowledge of local needs resulted in spending reallocations that improved access to health care services. Similarly decentralization improved equity in Chile and Columbia. In these countries, health care budgets were devolved to provincial or municipal governments on the basis of a per capita formula adjusted for various factors. As an equity indicator the gap in health expenditures across income deciles decreased as a result of decentralization (Gottret and Schieber, 2006).

Although some studies showed some improvement in equity indicators other studies remained skeptical about sufficiency of the policy in addressing inequity issues. The experience with higher level of care showed that equity might remain an issue even after the system of care was decentralized. Without the necessary resources and management expertise and the right incentives, adverse consequences may arise for both efficiency and equity. For example, experience with hospital autonomy in low-capacity settings suggests that making the hospital partially dependent on fees for its revenue will restrict access by the poor to the hospital and also worsen the care they receive when admitted (Castaño et al 2004, Mills et al 2006). One should not expect that autonomy by itself will lead public hospital managers to give priority to serving the poor and other vulnerable groups. As a matter of fact it can have even adverse effects. Unless special mechanisms, such as Health Equity Fund in Cambodia are put in place, providers may
actually limit access by the poor in order to maximize cost recovery from patients who can fully pay the fees. In absence of the Equity Fund, Cambodian poor households could not get the inpatient services from the hospitals that have been authorized to charge fees for sake of financial autonomy. Experience in Zambia also shows that public hospitals want to invest more in high-cost wards on the expectation that they will attract affluent customers and generate additional revenue. Furthermore since public hospitals always face regulated prices that are set below cost, the middle income and affluent patients end up being subsidized by the poor. The adverse effect of the policy on equity was reported in hospital care in case of Peru as well (Castañó et al 2004, Hardeman et al 2004).

With respect to decentralization in hospital industry a key omission in studies is the effect of hospital autonomization on the availability and use of primary care services by the poor. This issue was addressed in the Zambia case, however it was limited to the hospital setting. It could be argued though, that most hospitals in developing countries provide some primary services to the poor, and that these services are not necessarily tertiary-care kind of services. Antenatal care, well-baby clinics, family planning services, and alike, are some common examples. Although there is a theoretical basis to consider that autonomization can lead to improved availability of primary care services and their utilization among poor, the empirical evidence does not support or reject that proposition (Castañó et al 2004).

Concerning financing strategies, revenue generation, and expenditures, Bossert and Beauvais (2002) examine the decentralization experiences, ranging from devolution to delegation, in Ghana, the Philippines, Uganda, and Zambia. They find that in all countries health expenditures increased at the local level and decreased at the central level as a result of the decentralization reforms. However, higher spending at the local level did not result from any significant increase in revenue generation at the level but rather from increased transfers from the central government.

Decentralization increases need to control costs at the local level. The salaries for health care workers account for the lion-share of costs. For example, salaries consume up to 80 percent of government health spending in developing countries. However, efforts at the local level to reduce the costs associated with health care workers’ salaries are mainly restricted by unions, which exert political pressure not to change the terms of work or to hire and fire health care workers (Gottret and Schieber, 2006). Bossert and Beauvais (2002) suggest that continued control from the central level over salary and personnel levels severely limits local fiscal autonomy and hinders cost control efforts. Decentralization of revenue generation to district governments diminishes the ability of central authorities to reallocate expenditures. This has the potential to increase regional inequities in health care spending. For example, many Eastern European countries have devolved revenue generation to regional governments. The evidence indicates that in many of these countries the proportion of regional revenue that is collected and reallocated by the central authority has been inadequate, and regional inequality has increased significantly since decentralization (Gottret and Schieber, 2006).

Discussion
Decentralization is implemented in many health systems based on theoretical considerations and not based on the solid empirical evidence. These theories are based on the premise that
close-to-client (CTC) management practices are advantageous over the centrally run organizations in terms of compatibility of service delivery with the local client needs. The decentralized service delivery systems are also promised to increase the responsiveness and accountability. Free from bureaucratic obstacles, they are believed to provide a quicker response to needs and act more dynamically. Assessment of promised efficiency and responsiveness gains of decentralized systems of care however remains open to empirical investigation. The real impacts of the policy in particular should be more carefully studied in LMICs because the policy per se is still very young. The quantity and quality of evaluation researches among developing world are not satisfactory enough to provide an evidence-based road map for those countries seeking improvement in their centralized delivery systems.

Interestingly, despite the fact that there is no definitive evidence regarding impacts of the policy in intermediate and final outcomes and equity, various forms of decentralization have been widely adopted in organization of health care, perhaps because of their obvious face validity and widespread use in other organizations and industries globally. Decentralization is also being introduced as a component of health sector reform programs advocated by some of the international organizations. Structural Adjustment Programs (SAPs) for example included decentralization of social services in the national reform agenda.

As far as empirical evidence go, decentralization was associated with some improvement in the technical efficiency of services. But, in general, effects on the quality, equity and allocative efficiency of services are mixed and anecdotal. There might also be some risks, as without the necessary resources, management expertise and proper incentives, adverse consequences may arise for both efficiency and equity. The other threat to equity comes from potential restrictions that face minorities and underserved populations due to what is known as elite capture in the absence of central government supervision. This threat can be more serious in culturally diverse regions and can increase inequities in access and utilization of services by unprivileged populations.

It is well documented that the health services are prone to all kinds of market failures. Therefore the organizational theories of decentralization that might work for delivery systems of private and normal goods should be carefully replicated in health service industry. Even though decentralization in theory involves a diminished role of central authorities especially in service delivery, a specific group of activities such as R&D and applications of findings, provision of public and merit goods, critical vector control services, the development and enforcement of standards and regulations, and steps necessary to insure the equity in service delivery are likely to be most efficiently and equitably undertaken by central governments.
Deploying Community Health Workers

Introduction
With the year 2015 fast approaching and the Millennium Development goals still far from attainment, various strategies are being tried to strengthen health systems and expand their reach to all populations. Use of Community Health Workers (CHWs) is a supply-side strategy that has been in existence since the Alma Ata declaration of 1978. Today, this intervention is again gaining in popularity as governments, NGOs and non-profit organizations search for effective and economical solutions to the chronic problem of the limited reach of health systems. Engaging CHWs in the extension of health care to marginalized populations is debated, based on the perceived or estimated comparative effectiveness relative to other possible strategies (actual comparative effectiveness studies have not been done). The core arguments revolve around whether investments should be made in strengthening health facilities or frontline workers, whether it is better to incentivize providers or provide them with more training, and whether down-shifting tasks to minimally qualified persons yields both economic savings and improved health outcomes.

Opponents of the CHW intervention argue in favor of greater financing for health facilities where professional care is provided. However, this approach alone is often not sufficient to increase health coverage because facility based services tend to emphasize curative care over prevention, and poor families are less likely to access health facilities than their wealthier counterparts. Unless barriers to both preventive and curative care are addressed and care is brought closer to patients, vulnerable populations remain at risk for being marginalized. This is where the role of CHW becomes potentially useful. There is some evidence indicating that CHWs can bring life-saving health care interventions to vulnerable populations who lack access to health facilities.

The contribution of CHWs toward achieving universal provision of health services in LMICs should be critically assessed to understand the circumstances (if any) under which this model makes sense and works well. Such inquiry is timely, particularly as many countries are setting out to develop large cadres of CHWs for various health interventions. For example, Ethiopia is training 30,000 community-based female health extension workers (see section on case studies) to focus on Maternal and Neonatal Child Health (MNCH), malaria, and HIV. India, Kenya, Uganda, Ghana, and South Africa are also considering national programs for CHWs, arguing that they preferentially reach the poor who are less likely to use health facilities.

This chapter articulates the concept of CHWs and explores the role they can play as a sustainable supply intervention. After examining the definition of CHW, the intervention strategy will be studied in the context of maternal and neonatal survival, followed by an examination of five case studies, selected to illustrate a broad spectrum of the factors pertaining to CHW programs. The case studies are selected primarily from LMICs in Asia and Africa in the belief that these are the
areas where the need for urgent intervention is apparent. Finally, there will be a discussion of the determinants for the success of sustainable CHW programs, in addition to lessons learned for future improvement in this area.

1. Community Health Workers: a definition
The concept of the community health worker gained firm ground during the 1978 Alma-Ata conference on primary health care, where CHWs were seen as a cornerstone of comprehensive primary healthcare. The definition of what constitutes a CHW has changed over the decades, and has evolved into an umbrella term that covers a whole range of individuals, who, depending on the context in which they are found and the functions they perform, may be referred to by different names. In this respect, CHWs are sometimes called voluntary health workers, community health promoters, community health volunteers, and more. The functions and scope of CHWs also vary, ranging from curative, preventive, supervisory to developmental services. They can be used for specific, single task interventions or to perform multiple roles in a relevant community. Regardless of what they are called and the parameters in which they operate, CHWs are considered to be in a unique position to provide health services to their communities, based on their access to community members through geographic and cultural proximity.

A widely accepted and popular understanding of the CHW was put forward by a WHO study group (Frankel, et al), which states that CHWs are:
- individuals who are members of the community where they work
- individuals who are selected by the communities where they work
- accountable to their communities for their activities
- supported by the health system but not necessarily a part of its organization
- individuals who have a shorter training than professional workers

A recent and slightly more comprehensive definition was put forward by Walt et al in 1998, which defines CHWs as:
“generally local inhabitants given a limited amount of training to provide specific basic health and nutrition services to the mothers of their surrounding communities. They are expected to remain in their home village or neighborhood and usually only work part-time as health workers. They may be volunteers or receive a salary. They are generally not, however, civil servants or professional employees of Ministry of Health.”

Both definitions agree that these individuals are members of the community where they are found, that they should be answerable to the communities for their activities and that they receive a limited amount of training. However, one important distinction found in Walt’s definition is that these individuals may be volunteers or receive a salary (‘salary’ may be in the form of incentives).

CHWs can also be thought of as the ‘street level bureaucrats’ of Michael Lipsky’s analysis of front line practice in public organizations. Lipsky uses the term ‘street level bureaucrat’ to describe front-line workers (FLWs) who play a pivotal role in delivering agency services and “goods,” often through constant direct interaction with public citizens. CHWs are part of a broad spectrum of civil society actors who grapple with real world challenges and the inadequacies of under-funded government systems. These FLWs are considered to have substantial discretion in
the execution of their jobs. Lipsky’s analysis of street level bureaucrats has relevance for the role of CHWs, particularly in examining the problems encountered when executing interventions using the CHW model. This will be addressed in the final section of this chapter.

CHWs are believed to be most effective for the following categories of intervention:
- Behavioral interventions (e.g., hand washing, breastfeeding, counseling)
- Preventive interventions (e.g., micronutrients, immunizations, contraception)
- Case management of childhood illnesses (e.g., malaria, pneumonia, diarrhoea)
- Active involvement in the empowerment of communities (e.g. education)

2. Role of CHWs in maternal and neonatal survival
A closer examination of maternal and neonatal survival helps put the function of CHWs into perspective, particularly because many of the issues in these intervention areas are relevant to other priority areas encompassed by the Millennium Development Goals. We present the causes of maternal mortality first and then describe the ways in which CHWs might be used to address the causes.

Causes of MMR
The global ratio of maternal deaths to live-births, or maternal mortality ratio (MMR) is 400 per 100 000 live-births. Maternal deaths are not uniformly distributed throughout the world, and obstetric risk (probability of dying once a woman is pregnant) is highest in sub-Saharan Africa where the MMR is estimated to be nearly 1000 per 100 000 live-births, nearly 50 times higher than in industrialized countries. Obtaining reliable information on the individual medical causes of maternal mortality is problematic, especially for deaths that occur at home. Reliable trend data are not available for countries with high levels of maternal mortality especially in sub-Saharan Africa. It is clear, however, that inequalities in the risk of maternal death exist everywhere, both between and within countries. In particular, the differences in maternal mortality between urban and rural areas within poor countries are substantial and they directly reflect deficiencies in health systems.

Maternal deaths have conventionally been defined as those occurring up to 42 days postpartum, although recently a new category has been proposed to include late deaths up to 1 year postpartum. However, the majority of maternal deaths occur between the third trimester and the first week after the end of pregnancy. In other words, the critical period during which maternal deaths are recorded are; around labor, delivery, and the immediate postpartum period. This indicates the need for professional and emergency care in health facilities.

While facility based care for labor and delivery is optimal, a large proportion of all maternal deaths take place in hospitals. Scenarios include women who arrive in a moribund state too late to benefit from emergency care, women who arrive with complications whose lives could have been saved if they had received timely and effective interventions and women admitted for normal delivery who subsequently develop serious complications, most notably post partum hemorrhage, and then die with or without having received emergency care. The latter two types of cases raise concerns about the quality of care in health facilities and numerous studies have shown that delays in recognition and treatment of life-threatening complications, as well as substandard practices, contribute directly to maternal deaths.
In a systematic review of studies of maternal mortality by the WHO, severe post partum hemorrhage, hypertensive diseases, and infections were the predominant causes of maternal mortality. Although this pattern is common, under-representation due to data constraints of some causes, e.g., complications of induced abortion or HIV/AIDS, cannot be ruled out. Hemorrhage has long been known to be the “one major cause of maternal mortality in which women were dying needlessly for want of common skills that every midwife and practitioner should possess.” Whether or not a woman dies from bleeding during or after childbirth depends largely on access to timely and competent obstetric care.

Indirect causes are also important. The inclusion or exclusion of causes that are not unique to the pregnancy (e.g., HIV infection) can substantially affect the magnitude of maternal mortality. The indirect causes of obstetric deaths must be separated from the direct causes because the application of intervention strategies varies according to causes of mortality and morbidity. The distinction is especially relevant where these background diseases kill many women of reproductive age, including pregnant women. For example, if deaths due to malaria or HIV/AIDS are not distinguished from direct MMR causes in settings with a high prevalence of malaria or HIV/AIDS, resources or interventions might be misdirected away from primary and secondary prevention strategies, which could have a large effect on maternal mortality. Moreover, some indirect causes such as tuberculosis and anemia are highly preventable or treatable and necessitate collaboration between disease-control and maternal-health programs.

Factors contributing to the reduction of MMR
Historically, there are several factors that have contributed to the reduction of MMR in various countries. Most notable among these are reductions in risk owing to declining fertility, decrease in the virulence of pathogens linked with sepsis, and improved surgical techniques. Further, evidence from several transitional countries suggest that a 75% decline in maternal mortality can be achieved through diverse mechanisms such as the liberalization of abortion laws, control of infectious diseases, assured access to hospital care, and the provision of midwifery care. Understanding the epidemiology of maternal mortality can help inform strategic choices.

Role of CHWs in maternal survival
Unless CHWs are trained to the level of skilled birth attendant, they will not be able to provide most elements of an effective package of interventions to reduce MMR, especially at the time of labor and delivery. When considering CHWs as a means to reduce MMR, the extent and content of their training and the degree to which they are used as multipurpose workers must be carefully matched to the role they are given and expectations of their efficacy.

Many maternal survival experts argue that an ideal or best bet strategy to reduce maternal mortality is for women to have the choice to deliver in health centers, via a health center intrapartum-care strategy. Countries in which this approach has already been implemented have maternal mortality ratios of less than 200 deaths per 100 000 livebirths, with some even lower. The evidence suggests that, without such a strategy, substantial declines in maternal mortality rates are unlikely in the next 10–20 years.
An intrapartum-care strategy using a CHW at home would require large investments in training, supervision and logistical input. These substantial investments present opportunity costs to the alternative, namely professional skilled attendants. Management of CHWs would entail similar resources to those of skilled attendants at home, thus the issue of sustainability remains. Unlike skilled attendants, CHWs often cannot be readily redeployed to health facilities in the longer term. Moreover, home-based intrapartum care, particularly with lay people, traditional birth attendants, and CHWs, places most of the burden of recognizing complications and organizing transportation on families; those least qualified to handle these responsibilities. Nonetheless, if a country already has a cadre of recruited and trained CHWs, pragmatism suggests that they be included in the MMR reduction strategy, particularly as facilitators of transportation to emergency obstetric care. If this alternative strategy is not pre-existing in a community, then authors do not recommend new investments in CHWs to reduce maternal mortality. Instead, they advocate prioritization of all further investment for maternal survival in a health centre intrapartum-care strategy.

For countries already utilizing CHWs to address MMR, complementary strategies could be developed to augment the progress of health center intrapartum care or offer a broader range of support than clinical interventions alone. CHWs could be used for family planning and education, aspects of antenatal and postpartum care and nutritional education. This is similar to what is referred to as family surround care in the U.S.

**Neonatal Survival**

There is a critical link between maternal and neonatal survival, as mother and child outcomes are closely connected. It has been found that interventions aimed at maternal survival invariably increase child survival rates in the long term. Neonatal deaths contribute 38% of deaths in those younger than 5 years, and are the main barrier to attaining MDG4 for child health. Care for neonatal disorders has received little emphasis in public health programs, and only 3–12% of children born at home in five south Asian and sub-Saharan African countries received a visit from a trained health worker within 3 days of birth.

The most radical effects of maternal mortality on child survival are in the pregnancy and neonatal period. Obstetric complications, particularly in labor, are a major source of stillbirths and early neonatal deaths. Intrapartum risk factors increase the risk of perinatal or neonatal death more than pre-pregnancy or antenatal factors. Associations between place of birth (or the presence of a skilled attendant) and neonatal deaths are similar to those for maternal deaths; 90% coverage of facility-based clinical care alone could reduce neonatal mortality by 23–50%. If outreach and family-community care were added and achieved similar coverage, the reduction would be 31–61%. Finally, the repercussions for children who survive the death of their mothers can be staggering. In Nepal, for example, infants of mothers who died during childbirth were six times more likely to die in the first week of life, 12 times more likely between 8 and 28 days, and 52 times more likely to die between 4 and 24 weeks. Whereas many early infant deaths are attributable to obstetric complications, later deaths are often explained by an absence of appropriate childcare and nutrition.

The three biggest causes of neonatal death are preterm delivery, complications of presumptive birth asphyxia, and infection. High coverage of intrapartum care based in health centers would
translate into a qualitative change in labor monitoring and in early care for preterm newborn babies, and subsequently a reduction in early neonatal mortality.

**Role of CHWs in neonatal survival**

In poorly-resourced settings neonatal survival can be increased substantially through community-based initiatives. Skilled attendance is uncommon in many places, and advocates for neonatal care are pessimistic about the likelihood of achieving adequate coverage in the foreseeable future. At the current rate, and without extra resources, average skilled attendant coverage in Africa will be less than 50% by 2015. Those who advocate using CHWs for neonatal care hope to expand effective coverage by using CHWs during the first few days or weeks postpartum. If a particular country already has CHWs present at delivery, they should be used to help mothers and newborns in the last trimester of pregnancy and in the first weeks post partem. They can be used to refer women and infants for appropriate care in an emergency, and they can administer specific treatments to very ill children to treat severe malaria before referral. However, there is still no evidence that such interventions work at scale and investment in CHWs should not reduce the funding of skilled attendants.

3. **CHW case studies: analysis for utilization, access, quality, equity**

In the following section, we present five case studies examining the role of CHWs for a variety of intervention programs. We describe the rationale for using CHWs as well as the results yielded in areas of Access, Quality, Equity and Utilization. The case studies span a range of health goals. We begin with two cases examining the role of CHWs for newborn and child survival in India and Bangladesh. The next examples focus on using CHWs to help provide primary health care in Ethiopia and Nigeria. Finally, we discuss a CHW program to administer vaccinations in Niger.

**Case Study 1: India & the Mitanins**

**Background:** Chhattisgarh, in the large Indian state of Madhya Pradesh, has a poor public health system characterized by a grossly inadequate number of facilities and a dearth of human resources. High rates of illiteracy and poverty have marginalized much of the 18 million rural population. In 2000, Chhattisgarh had a rural IMR of 95 deaths per 1000 live-births, the second highest in India. Poor health education and the prevailing cultural practices of those living in rural areas of Chhattisgarh has also led to high levels of disease and a low utilization of any existing health services. Rural communities require encouragement to address their own health needs by taking part in health programs.

**Intervention:** In 2002, The Madhya Pradesh state government established a cadre of female CHWs called Mitanins. The role of these volunteers evolved over time into a set of activities that focused on child survival and essential care of newborn babies, and into another set of rights-based activities that enabled access to basic public services as fundamental entitlements to be secured through women’s empowerment and community action. The program entails a mix of family-level outreach activities, mainly essential care of newborn babies, nutritional counseling, and case management of childhood illnesses, with community-level social mobilization that made extensive use of different cultural forms of communication to highlight health rights. Mitanins were recruited through the establishment of a state-wide Community Health Volunteer
(CHV) program.

The profile of a typical Mitanin is of a married woman from the same community in which she will work, not necessarily formally educated, but with a background in social work, selected by the community and endorsed by the panchayat (local council). The Mitanin receives 20 days of camp-based training and 30 days of on-the-job training and is supported by a block training team, an Auxiliary Nurse Midwife (ANM) and Anganwadi Worker (AWW). Her primary responsibilities are to provide elementary health education, first aid help and over-the-counter drugs, treatment for minor ailments, prompt referrals, and a central role in community level health by setting up women's committees and helping the panchayats in health initiatives. Mitanins work on a purely volunteer basis. The most important aspect of the Mitanin programme is that it is integrated with the entire range of health sector reforms that aim to strengthen the “supply side” rather than work on “demand generation” and community health aspects in isolation.

Results

- Access & Quality: By the end of 2003, approximately 60,092 Mitanins had been selected and trained in either partial or full capacities. An external evaluation of the program by the Society for Community Health Awareness, Research and Action (SOCHARA), published in December 2005, indicated enhanced health awareness within the community and improvement in various health related practices. Overall, the Mitanin program faces the challenges of evaluating processes of selection, training and community mobilization, particularly because there are no community-level baselines or controls in the program design to measure outcomes. To date, outcomes have been available only by use of indicators in independent surveys of national health and demographics. These surveys show that the rural infant mortality in Chhattisgarh decreased from 85 deaths per 1000 live-births in 2002 to 65 deaths per 1000 live-births in 2005. Estimation of the precise contribution of the Mitanin program to this decrease is difficult, as improvement in child survival in might relate to better health-seeking behavior and child-care practices. The initiation of breastfeeding in the first two hours after birth increased from 24% of live-births to 71% of live-births, and the use of oral rehydration salts in the management of diarrhea in children younger than 3 years increased by 12%. These two interventions substantially affect child survival and were highly monitored and effective Mitanin interventions.

- Equity: Community participation and the empowerment of women has been a prominent effect of the Mitanin program, particularly because the women come from the communities they serve. Many Mitanins have since entered elected office in local governance bodies, and have led several successful community actions against deforestation, alcoholism, and corruption and for the rights to secure tribal livelihoods and childcare facilities – all of which have constituted unintended positive outcomes of the overall program. But in some cases, poor village women were persuaded to join the program through unreal promises of getting government jobs and payment.

- Utilization: There is a need to persuade communities that the Mitanins are worth supporting, and that communities should cooperate and work with Mitanins. Different types of selection of the Mitanin were shown varying degrees of success, as the women selected solely by the ANM/AWW without community input were less successful
because they were not accepted.

Case Study 2: Community Based New-born Intervention study In Bangladesh

Background:
In Bangladesh, neonatal mortality accounts for 63% of deaths in infants and 45% in children aged less than 5 years. Health services in Bangladesh are provided by the government’s ministry of health and family welfare, non-government organizations and private providers. The ratio of health workers to the population being served is grossly insufficient to meet the demands for health care.

Intervention: A community based intervention comparing the effectiveness of two service delivery strategies was studied for 30 months. One strategy was a home care model and the second strategy was a community care model to promote neonatal health in rural Bangladesh. The study was carried out in three rural sub-districts in Sylhet district. Twenty-four clusters (population of 20,000) were randomly assigned in equal numbers to one of the two intervention arms. In the home care arm, female community health workers (one per 4000 population) identified pregnant women, made home visits to promote birth and newborn care preparedness, and made post natal home visits to assess new borns on the first, third and seventh day after birth and referred or treated sick neonates. In the community care arm, the same was promoted solely through group sessions held by female and male community mobilizers. The primary outcome was a reduction in neonatal mortality. Sylhet district was chosen for this study because it has the highest neonatal mortality rates amongst Bangladesh’s six divisions. It has also has very poor access to health care.

Results:
- **Access and Quality:** The home care strategy reduced neonatal mortality by more than a third in the last six months of the 30-month trial through CHWs successfully referring about a third of neonatal cases and treating more than a third in the homes with injection antibiotics. The community care arm demonstrated improvements in care but there was no reduction in mortality. Although it was noted that CHWs attended fewer than 5% of all births due to their high work load and travel distances, efforts were made to improve the quality of services and availability of medications for treatment of the neonatal infections.
- **Equity:** The CHWs increased the reach of the care provided to the community and the standard of care in the district was improved through an increase in the quality of medications in the government hospitals.
- **Utilization:** This study clearly points to the utility of CHWs to increase access. In the district of Sylhet where access to health care is greatly limited and the need for healthcare overwhelming, these workers increased utilization as evidenced by the number of referrals and the number of treated neonatal infections.
Case Study 3: Ethiopia & the Health Extension Program

Background:
Communicable diseases and poor nutrition characterize the poor state of public health in Ethiopia, which has one of the lowest life expectancies in the world. Most people lack access to health services, despite the government’s attempt to provide modern health care services which ultimately only covered about 60% of the population at best and provided little access for most of the rural, nomadic pastoralist and fringe areas. Even limited services are underutilized due to economic and social barriers. The low rate of health care utilization is reflected by the fact that only 30% of pregnant women receive antenatal care and only 10% are attended by a health professional during delivery.

Intervention: In order to improve access and equity through provision of essential health interventions at the village and household level, the Ethiopian government launched the Health Extension Program (HEP) in 2003. With a focus on prevention and awareness, the goal is to achieve universal access to primary health care by 2009. The program pivots on the services of CHWs known as health extension workers (HEW). HEWs undergo a yearlong training course which includes fieldwork before deployment to a village health post. The HEWs are usually women and are supposed to be recruited from the local communities in which they will work. They are salaried and are trained in disease prevention and control, hygiene and sanitation, family health services, and health education.

Results
- **Access:** Coverage of publicly-funded health care rose from 61% in 2003 to 87% in 2007. Total coverage, including services provided by private health facilities, grew from 70% to 98% over the same period. According to the evaluation of the HEP, 82% of the target goal for increasing human resources was realized by 2007, with the training and deployment of the 24534 HEWs. Overall, the HEP was hailed as a success due to the increase in access to health workers.

- **Quality:** The ability of the HEWs to deliver services remained limited due to lack of infrastructure and materials such as health kits, as well as inadequate supervision within the program. The Technical and Vocational Education and Training Institutes (TVETIs) where training was conducted were found to lack adequate facilities such as classrooms, libraries, information technology, water and latrines. This resulted in training which was not considered adequate for the HEWs to address many of the health problems encountered. Furthermore, the interaction between the HEWs and their referral health centers was deemed weak.

- **Equity:** The selection of HEW was flawed, as many were not selected from the rural villages they would be working in. Many HEW trainees did not have adequate orientation on their future job at recruitment. There was considerable disparity between the remuneration of trainees, as some received stipends while others did not. Top-up of salaries were given in some regions but not others and trainers saw their employment status as ambiguous.

- **Utilization:** Female-headed households reported monthly visits by the HEWs and many had received health education on various topics such as housing, food hygiene, waste disposal, immunization, and family planning. Although HEWs had visited them less frequently than planned, participants generally found the program to be helpful, despite
the finding that their basic health knowledge was still quite poor regarding major communicable diseases and their vectors. Participants preferred HEWs over Traditional Birth Attendants for assistance with labor.

Case Study 4: Nigeria and a village Health worker Program

Background:
In a village near Lagos State in Nigeria, the training and performance of village health workers to increase coverage of healthcare at the grassroots was studied. The institute *Child Health and Primary Care* was asked to design a primary Health Care service for the rural population of about 35,000 in 56 villages. The objective was to provide service based on a primary health care centre with outreach to the surrounding villages. However, delays in the building and commissioning of the project caused a change in the idea. It was then decided to base the service in the villages by developing a cadre of voluntary health workers.

Intervention:
In order to increase access to primary health care within the communities, village health workers (VHW) were recruited and trained to provide services for healthcare delivery within the community. They were selected by a village health committee, responsible for the selection of VHW for training in accordance with certain criteria like maturity, permanent residence in the village and a responsible attitude. The three week training covered preventive, curative and promotional activities. The teachers were senior primary health care workers who were trained as trainers. Graduation was a formal ceremony in which certificates and drug kits were handed to the Participants. The kits contain donated essential drugs sufficient for three to six months in the field. The VHWs were advised to sell their drugs to the villagers at a small profit as a means of remuneration. The workers were supervised by visits made by a middle-level primary Health care worker.

Results:

- **Access**: The VHWs were able to see a large number of the villagers monthly and made a lot of referrals to the secondary levels of care. These workers increased the effectiveness of outreach services such as immunization, oral rehydration therapy and growth monitoring.

- **Quality**: The quality of this intervention was poor due to the fact that supervision of the VHWs was not well structured. Also, the manner of selection for the VHW by the village health committees led to the recruitment of many individuals who lacked commitment. There was inadequate service management and poor record keeping. This stems from the fact that these aspects of the program were not stressed during supervision and training.

- **Equity**: Although the guidelines of the program stipulated the value of women as VHWs, a very small number of women were selected to act as VHW. As a result of this, women were not well represented in meetings that involved the elders and this led to their exclusion from training schemes and other activities.
Utilization: These agents were very well utilized within the community. The more active VHWs saw a large number of the villagers. Also, it was found that members of the community such as Traditional Birth Attendants and traditional healers (herbalists) who were incorporated into the program increased the credibility of the service due to their social capital.

Case Study 5: Nigeria and Community Participation in Disease Surveillance

Background: On average, only 30% of Nigerian people have access to health care provided by a system of western medicine. Polio, a highly infectious viral disease that can lead to extensive paralysis and death remains endemic in Nigeria. To halt the transmission of polio in an area, the WHO recommends a three-part vaccination strategy: (i) routine vaccination of infants less than 1 year old with at least three doses of oral polio virus vaccine (OPV); (ii) the administration of supplemental doses of OPV to all children under the age of 5 years during National Immunization Days to decrease the widespread circulation of the polio virus rapidly; and (iii) localized ‘mopping up’ vaccination campaigns to eliminate the last remaining chains of transmission of the polio virus [Centers for Disease Control and Prevention (CDC), 1999a; WHO, 1999; Sutter et al., 2000]. For countries to be certified by WHO as polio-free, they must demonstrate that they have an AFP surveillance system that is sensitive enough to detect any remaining cases of AFP (by obtaining a rate of 1 per 100,000 children 15 years old). The detection and reporting of AFP cases are the critical steps in the process of AFP surveillance. When countries achieve (i) an annual AFP reporting rate of at least 1 case per 100,000 people _15 years of age and (ii) targets for the timeliness and proportion of specimens collected and tested, they demonstrate that their surveillance systems are adequate to detect wild polio virus circulation due to indigenous transmission or virus importation and that they have indeed eradicated polio.

Intervention: The research team conducted community analyses using structured and unstructured interviews on the epidemiologists, health care workers and community members (including public administrators, local traditional healers and clients visiting the health centers) to determine factors that may be limiting the effective surveillance of AFP in the country. The aim of the analyses was to uncover each informant’s view on constraints on AFP surveillance and opportunities for community participation. Also, the research team reviewed reports from AFP cases in a bid to determine the extent to which community involvement contributes to case detection and reporting.

Results:

Access: The research discovered that lack of access to healthcare, community ignorance and awareness were major factors responsible for the low numbers of reported cases. It was then discovered that the surveillance system within the group could be improved greatly through community based participation. Of the 33 AFP cases (54%) that were detected and reported by community agents, 18 were detected and reported by community agents and parents as a result of awareness campaigns sponsored by community agents. The high proportion of cases reported by the parents and community agents indicate that community members contribute significantly to the detection and reporting of cases.
• **Quality:** The quality of surveillance in developing countries could improve through community participation, which involves educating community members to ensure that they notify health care staff of cases of disease in a timely fashion. This intervention saw an increase in the number of cases and a greater number of cases being identified more accurately and in a timely fashion.

• **Equity:** The fact that most of the members of the community are community agents and the parents are also made to report cases of AFP within the community has also led to community participation. In this regard, all community members feel ownership in the health status of their communities.

• **Utilization:** Although the number of cases that were identified by the non-CBS group were high, the cases identified by trained community health agents and parents through community awareness shows that this intervention was readily utilized.

4. **Determinants for success in CHW programs**

Certain factors play a critical role in achieving success and sustainability in a CHW intervention. Program design for community settings should address three requisite areas. These include a careful understanding and analysis of the issues/context in question, identification of the point of intervention, and community engagement and involvement. These three areas mutually reinforce each other and they rely on each other for success. Since CHW programs are dynamic and can evolve rapidly, they require continuous monitoring. Together, these fundamental aspects form a cycle that comprises the foundation of a successful intervention program (depicted in Figure 1.2).
Though research has commonly been limited to relatively short term studies in selected populations, Haines et al argue that the determinants of the success of CHW programs comprise four main interacting categories, the relative importance of which is likely to vary from one setting to another. In broad terms, these are:

A. National socioeconomic and political factors
Examination of differing political and social environments is critical in determining whether CHWs will function as successful community advocates and agents of change. Cultural norms and attitudes must be taken into account, particularly because they have the power to destabilize even the most well-meaning interventions. Social class and caste divisions can obstruct the mobilization and work of CHWs. And in weak political systems that lack central authoritative structures to conduct oversight, the selection of CHWs may be manipulated due to abuse of appointment systems or bias by political dominance by men at the community level which may act against the selection of women as CHWs.

B. Community factors
The mobilization of specific communities, even in the absence of more general popular mobilization, may play an important part in the improvement of maternal and newborn health. Community-based participation involving local women has tremendous potential to effect improved health seeking behavior. Furthermore, location and infrastructure may have profound effects on the impact of CHW programs, as isolated communities, far from health facilities, can pose particular challenges.
C. Health system factors
A key determinant of the effectiveness of a CHW program is its relationship with formal health services. Interactions between programs for CHWs and formal health services can be influenced by the way that programs have been introduced (e.g., the degree of consultation and involvement of local communities and health personnel). There tends to be a wide gulf in the social, economic, and cultural background between CHWs and other health personnel. Many health personnel lack the background and orientation to provide a supportive environment for CHWs. Health professionals usually perceive community workers as lowly aides who should be deployed as assistants within health facilities, sometimes overlooking their health promotion role within communities. Perceived superiority of health personnel can be problematic but may be partly addressed in the education of medical students. There may be opposition from the medical profession ostensibly due to concerns about quality and the ethics of devolving care to health workers with limited training. Rivalry may develop between nurses and CHWs leading to social feuds, with different groups supporting different workers and slowing access to the services offered.

Harassment and other constraints can particularly prevent female health workers from entering and staying in the health workforce. When a hierarchical and paternalistic relationship exists between CHWs and health personnel, communication deteriorates because of distrust and lack of understanding compounded by an increasing lack of respect. Without adequate communication, the knowledge about people’s beliefs, needs, and expectations held by community workers is lost to the health care system. Additionally, CHWs may inadvertently adopt values advocated by health professionals such as selectively valuing curative as opposed to preventive health care, and they may undervalue their own worth. However, when CHWs are unable to provide even simple curative interventions, they may lose face in the community and their capacity for prevention may be undermined. Finally, drugs, equipment and supplies are usually organized through district or regional dispensaries and collected and delivered by CHWs. Therefore the availability of drugs and the cost of travel are important determinants of the effectiveness of CHWs.

D. International factors
Expenditure ceilings and donor and international macroeconomic policies affect overall health expenditure and the equity of access to effective services. Creation of sufficient fiscal space to enable governments to finance health systems has been recognized as a priority for development policy, and the use of CHW interventions can often be subject to a donor’s will rather than to a critical assessment of context.

5. Lessons for improving CHW program performance
By examining the case studies described above and the execution of other programs from the literature, it is possible to tease out certain criteria contributing to the successes and failures of CHW programs. This section will attempt to elucidate and highlight some of these factors, and discuss ways to increase and sustain the quality of CHW programs by addressing various design, implementation and management deficiencies. In trying to put together a sustainable CHW program, identification of system constraints is the first salient factor in improving a CHW intervention, as improvements should address deficiencies already reported in practice. Specific areas for improvement can be divided into the following categories:
I. Preparatory Factors

In many CHW programs, especially in LMICs, those that have had some degree of failure were those that seemed to be products of quick decisions to rectify some healthcare inadequacy. A careful and detailed Needs Assessment should be conducted to assess the appropriateness of CHWs to address the issues and to calculate the financial and opportunity costs of implementation and the chances for sustainability. Some of the programs that failed to achieve the desired outcomes could have been successful had the time been spent in the preparatory stage to critically analyze the issues. This preparatory phase entails proper planning, understanding bureaucratic structures and power dynamics within the communities, outlining expectations and goals for the CHW’s, removal of ambiguous roles from the system and a detailed and well crafted introduction of the program into the community. At the same time, it is not enough to conduct excellent preparation and planning. The way in which the intervention is introduced into the community is also critical. As discussed briefly in the section above, poor introduction of some CHW programs has been responsible for failures of many programs.

II. CHW Supervision & Management

Good supervision and management of CHWs has the potential to improve motivation and provide professional development. The quality of community interventions is strongly influenced by the competence of local management. In general, efforts to improve supervision and management should include the following:

- Guidelines for supervision that include a list of supervisory activities (simple dissemination of written guidelines has often been shown to be ineffective)
- Incorporation of feedback from CHWs ensuring a two-way flow of information
- Supervisors should act as role models, particularly in rural communities where they may provide the only point of contact with the health system
- Clear communication of strategies and procedures between management staff and CHWs
- Peer support, through group meetings, for contribution to morale and motivation
- Supportive management and availability of infrastructure support

III. Partnership

Partnership is fundamental to improving the performance of CHW intervention programs and it is connected to the need for proper introduction of the program discussed above. A CHW program should not exist by itself; it should be developed as part of the structure of the health system. Partnerships between the CHW, the community, the health system and stake holders (such as local traditional healers, nurses etc.) help ensure greater output and results. In programs with poor relationship structures, rivalry and tension between both parties can lead to situations in which the intervention is at the mercy of the stronger faction. The need for a strong partnership, defined by mutual trust and respect between all parties, is vital to the long term survival and better functioning of any such interventions.
IV. Governance and accountability

Issues related to governance and accountability should be considered when improving CHW programs. Determining who will head these programs and where individual players fall within the accountability matrix is important for well structured community health programs. Returning to Lipsky’s analysis, there are problematic aspects of the accountability of street level bureaucrats: in this case, the CHWs as street level bureaucrats are sometimes held accountable to the organization, the consumers, the law, and to the professional norms. Such multiple complex strata make accountability often “virtually impossible to achieve among lower-level workers,” and “may not simply be ineffective but may also lead to an erosion of service quality” (Lipsky, p.159). Furthermore, the CHWs, as implementers of policies, have an understated capacity to decide upon the execution of policies. This makes their combined actions and decisions, as street-level bureaucrats, the chief determinant of the direction of policy, which can ultimately make their duties burdensome. Therefore, properly functioning governance and accountability is important in guiding the equitable treatment of CHWs, the expectations and demands placed upon them and the quality of their output.

V. Retention

Retention has been a main reason cited for most of the failures of CHW programs. Opponents of this intervention strategy commonly cite the high rate of attrition of CHWs as a reason why they are not sustainable. Two tactics to deal with this issue are highlighted below:

a. CHW Incentives
Policymakers should consider using a mix of financial and non-financial incentives tailored to local circumstances, particularly to address high attrition rates, which destabilize programs due to increased training costs of revolving replacement. Job-seeking motivation is often encountered in voluntarism as the costs entailed by lost economic opportunities may be too high for individuals to take on the role of a CHW. Paying CHWs a small salary or an honorarium or remunerating them through some degree of sustained community financing may be financially rewarding to motivate them towards better performance. Non-financial approaches to improving performance could include the use of visual identification (badges, T-shirts etc) that increase sense of importance and/or community status, acquisition of skills, and flexibility in scheduling. These latter non-monetary incentives carry with them the added bonus of diminished potential to distort care compared to fee-for-service payments. There is not one fixed set of guidelines or criteria one can apply to choose between financial or non-financial incentives. Rather, the authors suggest a context-specific analysis of what works best for the CHWs given the cultural, social, economic and geographic conditions.

b. CHW Training
Health personnel need skills to assess community situations, interact and negotiate with people in groups as well as with individuals, and teach using participatory techniques.
Training of CHWs and facility-based health personnel should be harmonized to ensure that there is mutual understanding of roles and responsibilities and that any guidelines for practice are consistent. Training programs should focus on competencies to detect key clinical signs, such as rapid respiratory rate and chest indrawing. Community health workers should be able to identify correctly around 70–80% of children with rapid respiratory rate. Training programs should also consider local symptom terminology and illness beliefs, which can affect the diagnosis of disease.

VI. Research & Cost-effectiveness studies of CHW programs
The implementation of large-scale CHW programs should be complemented by research that demonstrates the anticipated effect and value for money, and documents the reasons behind successes and failures. This could be done by embedding evaluative research for outcomes in initiatives and monitoring indicators of the effectiveness of human resource policies (Haines et al). Currently, there is scant information related to such indicators in most countries, and most CHW programs assess only the process of addressing disease-specific programs. More meta-analyses need to be conducted, such as the community-based trial of the effect of case management of pneumonia on mortality in neonates, infants, and preschool children. This analysis suggested an overall reduction of 24% in mortality.3

Conclusion
CHW programs have the potential to play an important role in the push toward providing universal coverage for health. When utilized appropriately and wisely, the CHW strategy can address issues of equity, limited resources and the need to strengthen and broaden health care systems in LMICs. When CHWs are seen as a panacea for weak and fragmented health systems as a ‘one size fits all’ intervention, they often fail in producing positive health outcomes. Instead, CHWs are best deployed in a facilitative role to boost the state of the existing health care system.

In resource constrained health systems where delivery of basic health care is severely lacking, it is easy to understand why deploying CHWs to provide basic and specific services seems like a reasonable solution. However the comparative effectiveness and cost effectiveness of CHW interventions must be examined before they are chosen. In general, most Health systems in LMICs need to increase and improve facility-based care. In the absence of fulfilling this need, CHWs may be used as to reach populations such as the rural poor, but must be recognized for their lack of training and abilities to provide highly skilled services. And the expectations placed upon them should reflect these limitations. Furthermore, the significant costs associated with training, supervising and monitoring CHWs, and related administrative issues should be taken into account.

CHW programs seem to have the most success when used to administer prevention services and/or specific, relatively simple treatments. Examples include measles vaccination and deployment of insecticide-treated nets, which can be conducted on designated child health days or through community distribution campaigns. For maternal and infant health, there is a need for a continuum of care from pre-pregnancy into childhood and from community to hospital, and there are ways in which CHWs could be embedded within this continuum, especially for
prevention, referrals, education, support and specific, simple treatments.
SECTION III

Review of Demand Side Interventions

Chapter 1: Risk pooling and community financing schemes

Most of the health problems in LMICs are diagnosable and the causes of diseases are often well known. Effective and affordable drugs, surgical procedures, and other interventions also exist. But because of problems related to resource mobilization, risk sharing, resource allocation, and purchasing arrangements, as well as problems in the provision of goods and services to rural and low-income populations, potentially effective policies and programs frequently fail to reach the households and communities that need them the most (Preker and Carrin 2004). These facts indicate that a gap exists in supply and demand sides of the market for health services while the demand suffers more from shortages and that most of the demand side shortages are attributable to problems related to financing such as resource mobilization and lack of risk pooling.

One of the most urgent challenges faced by many LMICs is how to provide health care for the more than 1.3 billion poor people who live in rural areas, work in the informal sector, or who are otherwise socially excluded from quality social services. This population is not a homogeneous group. Their occupations range from farmers, peddlers, day laborers, taxi drivers, and employees of the informal sector to shop owners and self-employed professionals. Yet this heterogeneous group shares the same lack of access to health care due to inadequate health care financing (Hsiao 2004).

As the chapter on user fees will discuss, studies show that higher proportions of women and children than men have to forgo medical treatments. In addition, research has consistently determined that, even when governments provide free or nearly free services, poor households spend a significant part of their income on informal charges. On average, 50 to 60 percent of total health care expenditure in LMICs comes from direct out-of-pocket payment by patients. In extreme cases like India and Vietnam, up to 80% of total health expenditure comes from out-of-pocket payments (Sekhri and Savedoff 2005, Preker and Carrin 2004, Garg and Karen 2005, Pauly 2007). Consequently, health care expenses ranging from inpatient hospital services to costly outpatient drugs, are often major contributors to poverty in many countries (Hsiao 2004).

The problems created by deficits in government funding and direct out-of-pocket payments are well documented. In a study of risk pooling and experience with private voluntary health insurance in LMICs, Preker (2007) suggests three alternative policy options available to LMICs:

First, analysis of household survey data indicates that the willingness and ability to pay for health care, even among the poor, is far greater than the government’s capacity to mobilize revenues through formal taxation mechanisms. As mentioned earlier, in much of Sub-Saharan Africa and South Asia, the relative share of health expenditures financed directly through households is as high as 80 percent of total expenditure.
Second, reviews of community participation in micro insurance programs indicate that households, even poor ones, are insurable. Often, they already benefit from micro loans and savings, crop insurance, burial insurance, and community health insurance. Health insurance involves some transfer of resources from rich to poor, healthy to sick, and employed to unemployed. Households in low-income settings understand the nature of such transfers and are willing to contribute to them. They do believe that outlays today will lead to benefits tomorrow.

Third, if subsidies were given to poor households (demand side) rather than providers (supply side), they would be used on health services that serve the poor rather than the rich. Such subsidy transfers could take the form of vouchers or premium subsidies so that the poor would have access to the same type of health insurance as the rich.

Preker (2007) then discusses two alternative approaches that strengthen recent efforts to expand coverage through insurance-based mechanisms. Under the first approach, health insurance is introduced to a small number of individuals, usually civil servants and formal sector workers, who can afford to pay and from whom employers can collect payroll taxes. In this supply-side model, poor and low-income informal sector workers continue to be supported through access to subsidized public hospitals and ambulatory clinics. However, this option favors the wealthy, because only those that are formally employed and can afford to pay can get proper coverage. Therefore, public money is used to subsidize care for those without sufficient means, necessitating the indirect targeting of the limited government finances available to the ministry of health.

Under a second approach, based on a demand-side policy, health insurance is introduced to a broad segment of the population by means of government payment or subsidization of the premiums of the poor and low-income informal sector workers. The resources obtained from the contributing portion of the population then support the payment of premiums, rather than service providers, allowing rapid expansion of coverage and direct targeting of poor households.

In many developing countries, Voluntary private Health Insurance (VHI) and Community Financing (CF) schemes are evolving under one of these two approaches. These financing modalities have the potential to become critical components of robust health financing systems that include subsidies, insurance, savings, and user fees in order to pool the risk, smooth household incomes and increase equity. In a review of CF schemes in LMICs, Preker and Carrin (2004) have shown that CF has been used to mobilize resources to fund and deliver health care for the poor in rural and urban communities in settings where governments have failed to meet this responsibility through the public sector. Some of these CF schemes have successfully achieved the aforementioned objectives, while others have become primarily income-generating schemes for providers. Nevertheless, policy makers and the international development community often ignore such insurance for ideological reasons or even suppress its development (Preker 2007). Committed and strong stewardship has always been a key precondition to success and more importantly sustainability of CFs in LMICs.

Theories of demand for voluntary health insurance:

Pauly (2007) discusses the economic theory of insurance demand to determine whether a case can be made for voluntary health insurance in LMICs. His argument is grounded on the classic formulation of the value of health insurance for an average risk-averse individual. The value
emerges from a comparison of expected gain associated with protection against financial loss versus the cost of coverage, otherwise known as premium. He argues that the abnormally high out of pocket payments in LMICs provide a prima facie case that insurance is both desirable and “affordable” if it can be offered at relatively moderate administrative cost. He believes that the possible impediments to the emergence of insurance, such as adverse selection, moral hazard, or risk selection, do not present insurmountable obstacles to at least partial coverage of such expenses. Other problems, such as unfamiliarity with insurance or unwillingness to trust insurance organizations, might explain the absence of an insurance market, but they can be solved. Because insurance offers potentially large welfare gains, including protection against unexpected large shocks to consumption or wealth, efforts to furnish it in low-income countries are well justified.

John Nyman (1998) adds another dimension to demand for health insurance. In answering the question “Why do people purchase health insurance?,” Nyman argues that many economists would say that it permits purchasers to avoid risk of financial loss. However he believes that health insurance is also demanded because it represents a mechanism for gaining access to health care that would otherwise be unaffordable. That is to say at least a portion of what is classically called moral hazard would be legitimate when one considers Nyman’s argument for access value of coverage. Interestingly, this view is advocated by researchers of CF in LMICs because of the widespread underutilization and forgone vital cares among poor and informal sector populations.

In contrast to Pauly and Nyman’s view, which implies that the individuals’ financial analysis is the sole determinant for demanding health insurance, William Hsiao (2004) brings social factors into the debate. Hsiao argues that the financial motive to compare the expected value of loss with the coverage cost (premium) is a necessary but not sufficient condition toward formation of voluntary insurance schemes in LMICs. In his view, the “Willingness to Prepay (WTP)” is still the primary determinant, however both economic and social factors influence people’s WTP. From an economic perspective, the expected economic and quality gains have to be equal or greater than the prepayment. Social norms and close relationships, however, may shape people’s preference for prepayment in a way that involves elements of income transfer. In the absence of such a sense of social solidarity, the chance of success or inclusiveness would be lower.

Economic theory suggests that households’ WTP depends on their belief that, by doing so, they will gain economically or in health care or both. In other words, the expected benefits have to be greater than the cost. That could happen in three ways. First, the existing facilities could produce the patient-valued services more efficiently (including reducing corruption) so that the prepayment would buy more than it presently does. Second, the prepayment could purchase something new that is valued by the household, such as risk protection. Third, the government or donors could provide a direct and visible subsidy to motivate community members to join the plan. For example, when the government matches every dollar the community member prepays, members can easily see the economic gain. An additional potential benefit comes from the negotiated discounts of the price that plan members pay for services or drugs.

As for the social characteristics of a community that may influence households’ WTP, Hsiao (2004) hypothesizes that social capital could influence people’s preference to prepay. Prepayment implicitly involves risk-pooling between the healthy and the less healthy, and cross-
subsidizing between the rich and the poor, otherwise known as risk-sharing. Young and healthy people will not enroll if they have to prepay a similar amount as the elderly and less healthy people. But sociologists have long argued that social capital is an important determinant of people’s willingness to cooperate with each other. As evidence, in a set of social experiments in 10 poor rural counties in eight different provinces in China, a regression analysis cited by Hsiao (2004) found a statistically significant association between the social capital variables, people’s WTP and their actual enrollment in CF schemes. It seems that the degree of mutual concern that community members have for each other (social cohesion and solidarity) could have a significant influence on their WTP, even when an individual household is uncertain that the expected benefit will be greater than the amount to be prepaid. The bottom-line conclusion is that the feasibility of establishing CF and the amount the average person is willing to prepay is a function of both expected economic gains and the community’s social capital.

The fundamental assumption behind all classic theories is that the average individual, regardless of her living status, remains risk averse against financial loss. Dyna Arhin (2004) tries to analyze this fundamental assumption and to reshape the theory and its implications in LMICs. As reviewed by Arhin (2004) a group of studies have reported that low-income households are initially reluctant to join insurance schemes because they do not readily accept the idea of “paying” for services they might not use. Interpreting such findings as evidence that these households have risk attitudes non-supportive of insurance (risk neutral or risk-loving attitudes) would predict limited potential for insurance schemes targeting these households. In contrast, three studies in Ghana, Burundi, and Guinea-Bissau suggest that households in rural areas are risk-averse with regard to health care. Such differences in population attitude and WTP for health insurance would theoretically lead to predictable variation in insurance scheme enrollment. Therefore WTP information for a target population would facilitate scheme design and implementation. Currently, limited theoretical constructs and empirical evidence are available to guide WTP studies undertaken in developing countries for the purpose of pricing goods and services that insurance benefit packages might include. For example, pricing inputs for the design of goods supplied might be provided publicly rather than privately. Only a limited number of countries publish data on the demand of population groups for health insurance, as indicated by their willingness and ability to pay premiums.

The literature also suggests that consumer’s information and perception influence the demand for insurance in LMICs. In many developing countries, ensuring the reliability and validity of WTP studies of insurance presents many problems, partly because of the population’s limited experience with insurance policies. Exploratory discussions before introducing a scheme in a rural part of Ghana found that the term “health insurance” was not associated with risk sharing and instead referred to an unfamiliar product purchased mainly by the urban elite. Risk-sharing arrangements that were familiar to the rural communities were described as solidarity groups, associations of people who assist each other when events associated with specific needs occur (Arhin 2004). It is clear that the perception of households about the the way in which prepayment arrangements should be made for future entitlements of probabilistic benefits can seriously shape their decision to join a plan or not. This observation has a clear message for policy makers that strategies of basic education have to be adopted, instead of marketing approaches, to provide information on insurance schemes and build trust among potential members.
Definition of Community Financing

CF mechanisms are playing an increasingly important role in the health systems of many LMICs, as they are expected to reach population groups that government and market-based health-financing arrangements do not. Low-income individuals whose subsistence is based in rural economies or urban informal sectors, and individuals who are socially excluded due to cultural factors, physical or mental disabilities, or chronic illness, are often unable to benefit from government or market-based health-financing arrangements. In this regard, CF has been attracting widespread attention for its potential to provide vulnerable population groups with increased financial protection and access to health care (Jakab and Krishna 2004). An examination of the community based health financing literature indicates that there is no consensus regarding the definition for CF, and that individual researchers define the term according to the contexts of their studies. However, there are certain commonly accepted features that differentiate CF from other types of financing and insurance models like social health insurance, employment based schemes and private commercial plans. Jakab and Krishnan (2004) conducted a broad CF literature review based on 45 published and unpublished reports completed between 1990 and 2001. They concluded that, regardless of the terminology used, the definitions of the term CF agreed on three key descriptors concerning the role of the community, the nature of the beneficiary group, and the social values underlying the design of the schemes.

The first of these important common features of CF is the predominant role of the community in resource mobilization, pooling, allocation of funds through benefit package designs, plan’s management, and even supervision of service delivery activities. Two points are worth mentioning here: firstly, the members of many CF schemes are bound together not only by geographic proximity but also by shared professional and cultural identity. A narrow definition based primarily on geographic parameters would exclude CF schemes where members are not linked geographically but rather are linked through craft, profession, religion or some other kind of affiliation that facilitates their cooperation for financial protection. Secondly, the presence of strong community linkages does not mean that CF mechanisms do not rely on government, donor, or other external support. On the contrary, reviewers of successful community initiatives often point to the role of government stewardship and donor support—both financial and non-financial—as a key determinant of success, and more importantly, of sustainability.

The second common feature of the various CF definitions is the description of the beneficiary group. Typically, it is expected that CF will attract those with no access to financial protection or other special financing arrangements. In other words, the beneficiaries are usually those individuals not employed in the formal sector and thus are not eligible to be part of social insurance schemes; those who cannot take advantage of general tax-financed health services because of geographic access barriers; and those who cannot pay for market-based private health care.

Finally, the third commonality is the combination of social values and principles upon which community-based financing is designed. This includes principles of voluntary participation, built-in solidarity mechanisms, and reciprocity. In many societies, these originate from traditional self-help mechanisms among the poor, which contend with health and other risks that have potentially devastating financial implications.
Four common modalities of Community Financing

Jakab and Krishnan (2004) discuss four commonly encountered and well identifiable modalities of CF:

**Community cost-sharing:** In these types of arrangements, the community participates in mobilizing resources for health care through user fees. Health financing is based on out-of-pocket payment, though the community is involved in setting user fee levels, allocating the collected resources, developing and managing exemption criteria, and participating in general management and oversight. The community may also be involved in management at the primary level of health care, through participatory structures centered on health centers. The most important characteristic distinguishing this type of financing arrangement from the other modalities is the lack of prepayment and risk sharing. According to many studies, such as Hsiao (2004), the community cost-sharing modality is not considered to fall in the category of CF models; subsequently we will also exclude the user-fee modality and review it under a separate section of this chapter. The Bamako Initiative is a good illustration of this kind of health-financing mechanism.

**Community prepayment or mutual health organizations:** These schemes are based on voluntary membership, risk sharing and prepayment of what is usually a one-time annual premium. Some of these schemes cover large benefits, such as hospital care and drug expenditures, while others do not. Typically, these schemes are not intended to generate profit, and the community is strongly involved in their design and management. Prominent examples include the *mutuelles* in Rwanda, the Cooperative Medical System (CMS) in China, the Grameen Health Plan in Bangladesh, and the Boboye District Scheme in Niger.

**Provider-based health insurance:** These schemes are often supported by single provider units, such as a town or city or regional hospital. They are based on voluntary membership, risk sharing, coverage of catastrophic risks and prepayment of what is usually a one-time annual premium. They are frequently initiated by the providers themselves or through donor support and the involvement of the community is often more supervisory than strategic. Prominent examples include the Bwamanda Hospital Insurance Scheme in the Democratic Republic of the Congo and the Nkoranza Community Health-financing Scheme in Ghana.

**Government or social insurance-supported community-driven scheme:** These community-based health financing schemes are attached to formal social insurance arrangements or government-run programs. The community actively participates in running the scheme, but the government, as in the case of the Thai health card scheme, or the social insurance system, contributes a significant amount of the financing. These schemes are not always voluntary, as in the case of Burundi, and some have referred to this category as district or regional health insurance. Often, such financing initiatives are initiated by the government and not the community. A prominent example of this type of scheme is Ecuador’s Seguro Social Campesino.

Table 1.3 summarizes the discussion of the technical design, management, organizational, and institutional characteristics of the three common modalities of CF.
Table 1.3: Characteristics of the three common CF modalities

<table>
<thead>
<tr>
<th></th>
<th>Community prepayment schemes or mutual health organizations</th>
<th>Provider-based community health insurance</th>
<th>Community-driven prepayment scheme attached to social insurance or government-run systems</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Example</strong></td>
<td>✓ mutuelles in Rwanda</td>
<td>✓ Bwamanda in Democratic Republic of Congo</td>
<td>✓ Thai Health Card Scheme</td>
</tr>
<tr>
<td></td>
<td>✓ CMS in China</td>
<td>✓ Nkoranza in Ghana</td>
<td>✓ Seguro Social Campesino in Ecuador</td>
</tr>
<tr>
<td></td>
<td>✓ Grameen Health Plan in Bangladesh</td>
<td></td>
<td>✓ Indonesia ASKES</td>
</tr>
<tr>
<td></td>
<td>✓ Boboye District Scheme in Niger</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Technical design</strong></td>
<td>✓ Prepayment</td>
<td>✓ Prepayment</td>
<td>✓ Prepayment</td>
</tr>
<tr>
<td></td>
<td>✓ Risk sharing</td>
<td>✓ Risk sharing</td>
<td>✓ Risk sharing</td>
</tr>
<tr>
<td></td>
<td>✓ Typically primary care; also some drug and sometimes hospital care</td>
<td>✓ Hospital care</td>
<td>✓ Primary and hospital care</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>✓ Strong community involvement in management and strategy</td>
<td>✓ Community involvement is more informational and supervisory than managerial</td>
<td>✓ Community involvement in decision-making</td>
</tr>
<tr>
<td></td>
<td>✓ Community not necessarily defined in geographic sense but also by professional associations</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Organizational Characteristics</strong></td>
<td>✓ Separated financing and provision</td>
<td>✓ Integrated financing and provision</td>
<td>✓ Durable organizational structures</td>
</tr>
<tr>
<td></td>
<td>✓ Varying degree of linkages between schemes and providers ranging from third-party payment to durable institutionalized relationships</td>
<td>✓ Often poor linkages with primary care if not included</td>
<td>✓ Linkages with social security and government entities</td>
</tr>
<tr>
<td><strong>Institutional characteristics</strong></td>
<td>✓ Often started and supported by donor and government initiatives</td>
<td>✓ Often donor initiated and donor supported</td>
<td>✓ Very strong government involvement (financial, supervisory)</td>
</tr>
</tbody>
</table>

Adapted from: Jakab and Krishnan (2004) based on the review of 45 studies
Impacts of Community Financing

As mentioned earlier, the fundamental theory behind health insurance is that it has two key and direct impacts for coverage: protection against financial loss and increased access to health services. These impacts are taken a step further by community health insurance studies to include resource mobilization and social inclusion as well. According to the Jakab and Krishnan (2004) review of 45 CF studies, community financed schemes have an acceptable record in achieving impact in all the above dimensions.

Resource mobilization capacity

Jakab and Krishnan (2004) conclude that CF arrangements significantly contribute to the resources available to local health care services, such as primary care, drugs, or hospital care. However, they note that with regard to resource mobilization, there is little systematic evidence that would allow an assessment of the overall resource generation capacity of various CF initiatives. It was also difficult to assess how the various modalities fare when compared to each other, as well as when compared with other health-financing instruments. None of the studies reviewed reported the amount of resources raised through CF arrangements as a share of the country’s total health revenues, and in a few cases there were only estimates about the per capita expenditures of the schemes. In the absence of concurrent estimates about the proportion of the population covered, extrapolation to a national level is not possible. Of course, this lack of evidence was not surprising because, in most cases, CF arrangements were not registered. More than half of fifty CF schemes reviewed from Western and Central Africa were not registered with authorities, illustrating the lack of centrally maintained data.

The key factor that undermines the revenue-raising potential of CF schemes is the overarching poverty of the contributing population. Whether in rural or in urban areas, CF schemes incorporate the poorest segments of local populations and, where most members are poor, redistribution within the community takes place within a much limited resource pool. Consequently, the cross-subsidy that is theoretically anticipated often does not take place effectively in CF schemes compared to their common insurance counterparts, which target enrollment from a broader range of socio-economic backgrounds. Furthermore, benefits also tend to be limited in both scope of care and scale of coverage when dealing primarily with very poor populations.

Ultimately, many CF schemes rely on a combination of revenue sources outside of prepaid premiums, such as user charges, government subsidies, and donor funds according to Jakab and Krishnan (2004). For example, in the Kanage Cooperative Scheme in Rwanda, the sum of the premiums collected only covered a fraction of what members spent on care, while remaining expenses were paid by drawing upon hospital revenues. The amount contributed by various sources varies widely among the schemes, but despite large differences in the composition of revenue sources, it appears that CF schemes rarely raise enough resources from prepayments alone. As a result, user charges are often utilized in conjunction with other resources, and most schemes rely on some form of external financing such as government subsidies and/or donor support. Summary findings on resource mobilization are:

- CF arrangements contribute significantly to the resources available for local health care services, such as primary care, drugs, or hospital care.
• Various levels of community involvement result in access to more household resources than would otherwise be available for health care.

• There is large variation in the provision of revenue generated by CF schemes for the total resources of local health systems.

• There is a continued need for rigorous evaluation of the resource mobilization capacity of CF schemes.

**Social inclusion**

An examination of the socioeconomic backgrounds of CF scheme members, leads to findings that consistently indicate that coverage is extended to a large number of people who would otherwise not have financial protection (Jakab and Krishnan 2004). However, there is some doubt as to whether the poorest are included in the benefits of CF. Where data are available, the most frequently cited reason for exclusion from a CF scheme is lack of premium affordability. Another obstacle to enrollment cited in several cases is the physical distance to the scheme hospital. Summary findings in social inclusion are:

• CF is effective in reaching a large number of low-income populations who would otherwise have no financial protection against the cost of illness.

• The poorest and socially excluded groups are not automatically included in CF initiatives.

• High-income groups are frequently underrepresented relative to the entire population, undermining the redistribution of resources from the rich to the poor.

**Financial protection**

The central question is whether CF schemes are effective in providing protection from the impoverishing effects of catastrophic health care events. Jakab and Krishnan (2004) contend that only imperfect measures are available to approximate this question. These indicators are the answers to the questions: what is the level of out-of-pocket payments of members relative to nonmembers? And what is the utilization of health services by CF scheme members relative to nonmembers? However, assessing financial protection based only on point-of-service spending information does not allow delayed or forgone care due to high costs to be factored in.

The authors examined twenty studies presenting evidence of the impact of CF schemes. In thirteen of the studies, scheme members were more likely to use health care services than nonmembers, and in two studies, no difference was reported. In nine cases, members paid less out-of-pocket. These findings did not appear to systematically vary with the modality of the scheme. Summary findings are:

• In general, CF schemes (modalities 2–4) reduced member out-of-pocket spending while increasing utilization of health care services.

In addition to these three broad categories of the impacts of CF, Preker et al. (2004) also examine CF schemes in terms of technical design, management, organizational structure, and institutional environment. The results are the following:
Technical Design Characteristics

Revenue Collection Mechanisms:

• Shift away from point-of-service payment to increasing prepayment and risk sharing

• Flat-rate premium, which facilitates revenue collection, reduces the scope for manipulation, and contributes to low transaction costs

• Contribution payment that accommodates the income-generating patterns of households employed in agriculture and the informal sector; this is often irregular and not necessarily paid in cash

• Pro-poor orientation even at low-income levels through exemptions of premiums and subsidies, despite flat-rate contribution rate

• Some buffering against external shocks through accumulation of reserves, reinsurance, and links to formal financing schemes

Arrangements for Pooling Revenues and Sharing Risks:

• Some transfers from rich to poor, healthy to sick, and gainfully employed to inactive through some pooling of revenues and sharing of risk within community groups

Purchasing and Resource Allocation:

• Most community schemes make a collective decision about who is covered through the scheme; the decision of which coverage will be purchased for is often based on affiliation and direct family kinship

• Many community schemes define the benefit package to be covered in advance; it is pre-determined what will be bought, what form it will take and what will be excluded

• Some community schemes engage in collective negotiations about price and payment mechanisms.
Management

• Most community schemes are established and managed by community leaders. Community involvement in management allows for social controls over the behavior of members and providers that mitigates moral hazard, adverse selection, and induced demand

• Many schemes seek external assistance in strengthening management capacity

• The management culture tends to be consensual, characterized by a high degree of democratic participation

Organizational Structure

• Most community schemes are characterized by organizational configurations that reach deep into the rural and informal sectors.

• Incentive mechanisms include: (a) extensive decision rights, (b) strong internal accountability arrangements to membership or parent community organization, (c) ability to accumulate limited reserves if successful though unsuccessful schemes often ask governments for bailouts, (d) modest market exposure since few overlapping schemes compete with each other in the product market.

• Vertical integration may lead to increased efficiency and quality of services. Schemes that have a durable partnership arrangement or contractual arrangement with providers are able to negotiate preferential rates for their members. This in turn increases the scheme’s attractiveness to the population and contributes to sustainable membership levels.

• Better organized schemes use horizontal referral networks to control costs and vertical links to formal sector to insure sustainability.

Institutional Environment

• Oversight is almost always directed by the local community, not the central government or national health insurance system; this increases the responsiveness of the scheme to local contexts.

• Ownership and governance arrangements, such as management boards or committees are almost always directly linked to parent community schemes; solo and freestanding health insurance schemes are rare.

Study of good and bad practices of CFs can inform the policy formulation in expansion and piloting CF schemes in new communities. Table 2 summarizes the characteristics of CF schemes that determine both successful and unsuccessful practices in two key areas of collection of revenue and financial protection.
Table 2: Determinants of effective revenue collection and financial protection

<table>
<thead>
<tr>
<th>Supporting effective revenue collection and financial protection</th>
<th>Undermining revenue collection and financial protection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical design characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>- Addressing adverse selection through group membership</td>
<td>- Noncompliance, evasion of membership payments</td>
</tr>
<tr>
<td>- Accommodating irregular income stream of members (allow in-kind contributions, flexible revenue collection periods)</td>
<td>- Adverse selection</td>
</tr>
<tr>
<td>- Sliding fee scales and exemptions for the poor make schemes more affordable</td>
<td>- Lack of cash income</td>
</tr>
<tr>
<td>- Sliding fee scales and exemptions for the poor make schemes more affordable</td>
<td>- No cash income at collection time</td>
</tr>
<tr>
<td><strong>Management characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>- Community involvement in management can exert social pressure on member compliance with revenue collection rules</td>
<td>- Provider capture—high salary of providers at the expense of service-quality improvement</td>
</tr>
<tr>
<td>- Extent of capacity building</td>
<td>- Weak supervision structures increase the chance of fraud with membership card</td>
</tr>
<tr>
<td>- Information support</td>
<td>- Poor control over providers and members contributes to moral hazard and cost escalation, and undermines sustainability of the scheme</td>
</tr>
<tr>
<td><strong>Organizational Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>- Linkages with providers to negotiate preferential rates raises attractiveness of schemes and contributes to successful membership</td>
<td>- Fragmentation between inpatient and outpatient care leads to inefficiency and waste ultimately resulting in loss of membership</td>
</tr>
<tr>
<td><strong>Institutional characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>- Government and donor support make the schemes more sustainable and pro-poor.</td>
<td></td>
</tr>
</tbody>
</table>

Source: Jakab and Krishnan (2004) based on the review of 45 studies
CF as a reliable pathway toward Universal Coverage

An important consequence of CF schemes is that they facilitate the progression of LMIC health systems towards universal coverage. Historically, many social insurance systems in various developed countries have evolved from voluntary private insurance schemes based on membership of professional guilds or communities. (Sekhri and Savedoff, 2005)

The research on CF undertaken by the Commission on Macroeconomics and Health (CMH 2002) emphasizes the importance of general tax revenues and payroll tax-based social health insurance contributions to the financing of health care at higher income levels. These methods can be equitable and efficient in mobilizing and utilizing resources. However, most CF schemes take place in settings with severe economic constraints, political instability, and catastrophic out-of-pocket user charges that can lead to impoverishment. These conditions are very different from those enjoyed at higher income levels, in which public-financing instruments have been successful in financing health care.

For years, many LMICs with assistance from donors, have attempted to transition from a complete lack of financing instruments to full reliance on financing through general taxation, social health insurance, or both. Coupled with large rural populations, and low formal labor market participation rates, these attempts at health reform have met with severely limited success. Rather, as the majority of studies indicate, CF should be used as an incremental first step in the transition toward improved financial protection against the cost of illness and better access to priority health services. CF schemes should not be presented as a panacea for financing health care for rural and low-income workers in the informal sector. Instead, they should be regarded as one of several options to be considered by low-income countries in expanding coverage for the poor (Preker and Carrin 2004).

Dyna Arhin (2004) constructs a pathway through which LMICs, with appropriate policies supported by governments and the donor community, could potentially achieve long-term universal coverage. The priority placed on health insurance within national health policy will partly determine the stage of financial protection attained, as illustrated in Figure 1. In the figure, the triangular area represents “total population” health-related financial protection. The area below each of the levels approximates the magnitude of the population effectively protected from the financial risks of ill health as a consequence of the level. For example, at the level of “predominance of out-of-pocket payments” for personal health services, common in low-income Sub-Saharan countries, a very small percentage of the population has protection. Conversely, ideal universal insurance coverage, as in Scandinavian countries, corresponds to virtually “total population” protection.

The appropriateness of launching a given policy thrust to establish health insurance schemes should be determined with socioeconomic context in mind. The roles of national policymakers and donor agencies include establishing the principle of disassociation between utilization or access, and financial contributions. Belief and commitment in such disassociation is the initial condition in paving the way for strategic policies aimed at providing financial protection through insurance schemes. Advocating for such critical belief and commitment is a critical function of stewardship.
Policies supporting the substitution of health insurance for out-of-pocket fees are therefore an initial requirement. Given the socioeconomic diversity among low-income populations, in the short term, contributions into sub-national insurance pools offer the greatest possibility of financial and administrative feasibility. Some researchers believe in HMO-type arrangements, rather than third-party schemes, since the former have the potential to stabilize health care costs and maintain low premiums (Arhin 2004). Nevertheless, in many LMICs, CF schemes will not have the revenue potential to fund all the health service costs for their members. Significant central government funding, through fiscal transfers and budget allocations, must therefore be reinstituted, as in the case of China, or maintained, such as in the case of Ghana. As key stakeholders in many schemes, donors can be instrumental in establishing sub-national schemes by providing start-up funding and reinsurance guarantees, where appropriate. Sub-national insurance schemes, where community organizations form partnerships with providers and meet cost containment and quality requirements, represent an important collaboration with civil society. Policies to support such collaboration must provide the legal, financial, and informational regulatory frameworks (for effective management), and guide interactions with other components of the health system. These policies must allow for the acquisition of appropriate human resources to counteract the “capture” tendencies of health workers by profit-driven private investors, and for the monitoring of financial and social outcomes.

In this vein, the donor community has a significant role to play in capacity building. Where logistical inadequacies hinder the active promotion of progressive contributions, such as in informal sector schemes, the overriding objective should be maximization of enrollment rather than revenue, and the sanctioning of the community-rated premiums that targeted households can afford. These considerations, coupled with the inability to consolidate pools into larger ones, necessitate reinsurance for some sub-national schemes. Donors have crucial roles in assisting CFs to meet the need for reinsurance among other supports (Arhin 2004).
Figure 1.3: Stages of financial protection and supporting policies.

Source: Dyna Arhin (2004)
Challenges facing the formation of CF in LMICs

CF schemes are deemed to provide a superior financing alternative, yet they are not attainable in all communities. Here, some of the challenges in formation of CF are derived from the literature.

Low Risk Aversion and Consumer Information issues

Economic theory identifies low risk aversion, moral hazard, and adverse selection as the primary reasons for lack of demand for insurance or failure in insurance market. We already discussed whether risk aversion differs between LMICs and more developed nations. While the risk aversion debate remains controversial, some researchers add to the equation other issues such as consumer information and cultural believes in LMICs. Pauly (2007) suggests that demand for insurance at the premiums required by insurers may not materialize if consumers have incomplete or incorrect information about the distribution of expected losses. Consumers may underestimate \textit{ex ante} the chance of developing an illness with relatively expensive treatment. If the probability of loss is sufficiently low, it may be rational for consumers to fail to obtain correct information. More generally, culturally conditioned beliefs about the future, or even high interest rates, can lead to myopic view where severe losses are not anticipated by consumers, who subsequently are not insured.

Despite the fact that many individuals in LMICs are aware of the potential harm caused by large out-of-pocket payments, they may not make the connection between this possibility and avoiding it through the purchase of insurance. Insurance marketing should help people understand that insurance constitutes a rational solution to this problem. In contractual agreements, insurers can promise to remove feared risk in exchange for the payment of a premium. Consumers don’t need to fully comprehend economic underpinnings or actuarial calculations to understand the value of trading a “potential bad” for a “sure thing.” When appropriate, insurers will doubtless emphasize the cases in which small premiums return big benefits just when they are needed most. At the very least, consumers will understand the risk transfer, even if they do not fully understand risk pooling (Pauly 2007).

Moral Hazard and Adverse Selection issues

Moral hazard is one of the most common problems with insurance schemes as it will affect the amount and type of insurance demanded. Moral hazard in health insurance can take two forms. The presence of insurance coverage may affect actions that affect an individual’s probability of illness (type-I moral hazard). The presence of insurance may also affect the amount and cost of care once illness has occurred (type-II moral hazard). Because insurance reduces the user price of medical care and because the premium a person pays is usually independent of that person’s use, the person responds to the lower out-of-pocket price by demanding more medical care and possibly, where available, more expensive types of medical care (Pauly 1968). However the bulk of moral hazard for health insurance appears to be type-II.

With regard to CF schemes in LMICs the case of moral hazard is somehow controversial. Some researchers believe that moral hazard is not a troublesome concern. They believe, since the process of obtaining health care in most low-income communities is a “bad” rather than a “good” (often associated with long journeys on foot and relatively expensive and uncomfortable travel
by road, long hours of queuing, and loss of production for most of the day), there is little justification for including measures such as copayments to reduce possible moral hazard (Arhin 2004).

In a similar view Phelps and Newhouse (1974) have discussed the crucial role of time-price in determining coinsurance elasticity. In their theory of demand for insurance they have shown that, for services with proportionally high time-price, the coinsurance policy to address the excessive use of moral hazard may not act effectively. They examined their theory of demand and found that data generally suggest that services with a relatively high time-price, especially physician office visits, exhibit relatively low coverage elasticity. If we add transportation costs, which are significantly big in LMICs particularly in remote rural areas, to time-price in their equation, we expect even less coverage elasticity.

It is also suggested that access value resulting from insurance coverage (hypothesized by Nyman) is highly beneficial to address the underutilization of worse-off socio-economic strata. Therefore, any additional access to health care for the poor will be appreciated rather than judged as moral hazard.

Some researchers also acknowledge the role of participatory actions by communities in controlling moral hazard and adverse selection. They argue that community involvement in management allows social controls over the behavior of members and providers which mitigates moral hazard, adverse selection, and induced demand (Preker et al. 2004).

Pauly (2007), however, insists on his classic view and considers the moral hazard as a big problem facing formation and viability of insurance schemes. Referring to societal values of CF which Pauly believes is especially relevant to LMICs, he points out that one reason that insurance is desirable from a public policy perspective is because it promotes “access to care.” Far from being regarded as a welfare cost, the additional use that follows from insurance may be thought of as achieving social objectives, especially if the use occurs among people with moderate to low incomes. As a matter of fact, he acknowledges the social inclusion aspect of the schemes. But he states policy discussions usually ignore a trade-off indicated by the preceding discussion. If the insurance is voluntary, the greater the extent of increased access, the smaller the willingness of people to pay the insurance premium. Absent a subsidy, the power of insurance to stimulate socially desirable use is constrained.

Concerning the adverse selection problem in CF in LMICs and whether adverse selection pose an insurmountable problem for voluntary insurance markets the evidence is mixed and surely incomplete. The most rigorous recent evidence suggests problems arise only when regulation-required community rating compels insurers to ignore information they have. The possibilities for group insurance and for guaranteed renewability provisions in individual contracts are unknown. Adverse selection will probably not pose an absolute barrier to emergence of a voluntary insurance market, but it could limit the market’s scope. If regulators choose to impose rating limits, markets may disappear (Pauly 2007).

**Size of pool and economy of scale issues**

Country experiences in all regions indicate that most CF schemes are locally designed mechanisms helping communities to cope with the risk of financial loss. This myopic strategy
for risk pooling, like other community initiatives such as funeral funds or tontines, has grown mainly in the absence of public policy for health financing. Most of these needs-based CF arrangements are so small with regard to the size of the pool, that they may not reach the threshold recommended by actuarial calculations. The biggest downside of such small pools is that they are not able to efficiently pool the risks. Furthermore, their ability to reduce administrative costs, a vital determinant for demand, is questionable. Pauly (2007) indicates that, if the loading is “too high” relative to consumers’ degree of risk aversion, few, if any, purchases may occur. Therefore, a voluntary insurance market may fail to exist if markets cannot supply insurance at loadings that are low relative to consumers’ risk aversion.

Additionally, the ability of small pools to take advantage of professional management and build reserves for future viability is very limited. Small pools are also disadvantaged when it comes to strategic purchasing arrangements and negotiation power. Eventually, if they remain small, these plans become vulnerable to financial shocks that negatively impact their member coverage.

As far as cross subsidies are concerned the key factor that undermines the revenue-raising potential of CF is their predominantly poor contributing population. There is little evidence that voluntary prepayment schemes for those outside the formal sector can be ‘self-financing’ for anything other than the short term. For most schemes, the resources collected from the combination of prepayment and user fees do not cover the recurrent costs of the scheme, necessitating a push for external funding (Jakab and Krishnan 2004).

Direct financial support from donors can influence policy in this area and catalyze the introduction of re-insurance mechanisms, the integration of small pools or the linking pools to formal arrangements like social insurance.

**Benefit package design issues: trade off between coverage for frequent basic services and life-threatening rare events**

Experience of CF in rural China (CMS) suggests that the feasibility of CF schemes depends primarily upon its benefit structure. A low benefits package, that would for example only cover cost-effective preventive services, may be affordable but may not meet a rural population’s need for protection from catastrophic medical expenses. On the other hand, a high benefits package, though desirable, may not be feasible because people’s willingness and ability to pay is limited. Illness is unpredictable, and consequently the payoff from participating in CF schemes is also uncertain. Evidence shows that, in rural China, about 11 percent of the population consumed 70 percent of total medical expenditure. This finding illustrates the need for catastrophic insurance and the potential problems of adverse selection and risk selection under a voluntary insurance program. The key issue in designing an appropriate and feasible basic benefits package is the balance among three considerations: the cost-effectiveness of the services covered, people’s desired coverage, and the financial constraints on those paying for the coverage (Hsiao 2004).

Preker and Carrin (2004) interpret such behavior as a critical trade-off. They believe that members like broad coverage that includes basic health services for frequently encountered health problems as well as hospitalization for rarer and more expensive conditions. In the context of extreme resource constraints, this creates a tension or tradeoff between prepayment for basic services and the need for insurance coverage for more expensive, life-threatening events that
may only happen once or twice in a lifetime. This observation is consistent with the experience in other areas of insurance, in which WTP for rare catastrophic events (life insurance) is often significantly reduced compared with coverage for events more likely to happen at a greater frequency (crop insurance). Preker and Carrin (2004) advocate for government intervention to contend with the market failure emerging from limited information and miscalculation by consumers. They recognize that appropriate government policies need to address the market failures affecting voluntary community involvement in health care financing because it is often through hospital expenses that many of the poor become severely impoverished.

Preker and Carrin (2004) call for government intervention to deal with the market failure emerging from limited information and miss-calculation of consumers. They see this type of consumer behavior as a case of market failure because, for community voluntarily initiated insurance schemes, the product that money can buy -- the benefit package -- is not accurately valued. That is to say that consumer’s information on the value of alternative products is not perfect. This imperfection of information ought to be addressed by appropriate government interventions, because while members prioritize frequent events to be reimbursed by an insurance fund, it is precisely during hospital episodes that many of the poor become severely impoverished.

**Perception and Distrust issues**

Consumers often mistrust insurers when there is a history of default. Structures that reassure consumers that they can collect claims without excessive delays and hassles are important in establishing a functioning insurance market. Establishing insurers under the sponsorship of other trusted social institutions, such as hospitals, labor unions, or trade associations, can help (Pauly 2007).

The perception of “paying premiums and getting nothing back” also plays a role in formation and demand for CF in LMICs. The concept of insurance is the expectation that many will pay premiums of a moderate amount but few will collect high benefits. Consumers do not always appreciate this concept and feel cheated when they pay and get nothing back (Pauly 2007).

Hsiao (2004) suggests that perception and trust are not solely based on information or miscalculation. Rather, he believes that acquiring control on management *per se* is a critical determinant. Based on the household interview surveys from various Asian cases, he consistently found that community members were concerned as to whether their funds would be used exclusively for their benefit. Corruption was also a major worry together with excessive spending on staff compensation and services that have less value to the patients. Therefore, in order to be willing to prepay, people must have trust and confidence in the organization that manages their funds. In most low-income countries, the government has not earned this trust and confidence at the village and township levels. In such cases, NGOs that have various degrees of confidence placed in them, must manage the fund. Other managers could include local agricultural cooperatives, churches and mosques, funeral funds, or newly formed community organizations. Consumer confidence and trust in the organization managing the fund is a precondition for the success of most CF schemes.
Role of Government and Donors

Most of the issues discussed above should be addressed through public policy interventions and must have donor support. In the absence of external support, the real merits of community health financing schemes may not take place. Though different researchers recommend varying roles for governments and donors, there is a consensus on what external entities should and should not do pertaining to key issues.

Jakab and Krishnan (2004) emphasize the vital role of stewardship. They maintain that the role of government-level stewardship is a critical determinant of sustainable health financing through community-based schemes. Others argue that government and donor support are critical for successful and sustainable CF. This can be in the form of financial support or support for certain policy environments and the provision of training and information opportunities.

There is also evidence indicating that public policy toward CF should be consistent with other policies such as decentralization. In Thailand, for example, the health card program required decentralization on certain levels. The Thai uninsured households pay for half the price of the insurance card during income-earning seasons, while the other half is subsidized by general tax revenue through the Ministry of Public Health. The Ministry of Public Health decentralized management and decision-making to the provincial level, allowing provinces to define their own policies. The premiums, however, remained the same. Local health card officers also help increase access to the scheme by providing clear information to the community (Jakab and Krishnan 2004).

Preker and Carrin (2004) propose several concrete public policy measures that governments can introduce to strengthen and improve the effectiveness of community involvement in health care financing. These include (a) increased and well-targeted subsidies to pay for the contributions of low-income populations; (b) use of insurance to protect against health care costs and assessment of the feasibility of reinsurance to enlarge the effective size of small risk pools; (c) use of effective prevention and case management techniques to limit expenditure fluctuations; (d) technical support to strengthen the management capacity of local schemes; and (e) establishment and strengthening of links with formal financing and provider networks.

In a review of the experience of African countries Arhin (2004) raises the concern that prospects for achieving significant resource mobilization relative to total health care costs are declining because of decreasing purchasing power in developing countries and the rising incidence of HIV/AIDS, TB, and other infectious diseases. Recognizing that the low income of households in the informal sector will result in WTP insufficient to fund health care costs for scheme members, central government support of these schemes in the form of fiscal transfers and budget allocations will be required. Furthermore, schemes in which solidarity organizations form partnerships with providers create incentives for increased efficiency and accountability and should be supported by national policies through appropriate legal, financial, and informational mechanisms. In the absence of established best practices in the design of schemes, donor-funding procedures and regulations need to be flexible to assist experimentation by communities, local governments, and local NGOs. Schemes operated by NGOs, especially church-related providers or civil society organizations partnering with local authorities, may be
effective and efficient recipients of donor funds in the short term and may provide the basic structure for future national insurance schemes in the medium term.

Hsiao (2004) suggests a number of measures that governments could take to strengthen CF. These include subsidizing the premiums of the poor, providing technical assistance to improve scheme management capacity, and forging links with formal health care networks. His review also highlights several areas of government action that appear to have a negative impact on the function of CF schemes. Top-down interference with scheme design and management appear to have a particularly negative impact on their functioning and sustainability.

Researchers frequently refer to the financial contributions from governments and donors because financial barriers are often the biggest obstacles toward the formation of CF schemes in LMICs. Hsiao (2004) discovered that, when asked about the major reasons for the lack of CF initiatives, 53 percent of community leaders in rural China cited financial difficulties. Interestingly, about two-fifths of these individuals also cited non-financial reasons, such as lack of organizational capacity and lack of policy support from higher levels of government. (See Table 3 for more details)

Table 3: Percentage of 2,236 surveyed community leaders in China citing major reasons for lack of rural CF

<table>
<thead>
<tr>
<th>Barrier to Rural CF formation</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>Inadequate financial resources</td>
<td>53 percent</td>
</tr>
<tr>
<td>Inadequate organizational capacity</td>
<td>22 percent</td>
</tr>
<tr>
<td>Inadequate policy support</td>
<td>12 percent</td>
</tr>
<tr>
<td>No mass support</td>
<td>8 percent</td>
</tr>
</tbody>
</table>

Source: Hsiao (2004)

In the long run, most recommendations are focused on the vital role of public policy in linking different CF schemes with social health insurance or other national plans in the pursuit of universal coverage.

**Discussion**

Economic theory suggests that community health insurance schemes, despite low levels of incomes among rural households and informal sector employees living in LMICs, are feasible. The abnormally high out of pocket payments in LMICs provide a *prima facie* case that insurance is both desirable and “affordable” if it can be offered at relatively moderate administrative cost. Common concerns such as adverse selection, moral hazard, or risk selection, do not present
overwhelming obstacles to at least the partial coverage of health care costs. Other problems, such as lack of information and knowledge or distrust in insurance organizations, might explain the absence of a voluntary insurance market, but these can be solved.

Numerous empirical studies from different regions of the world, from Africa to Asia, suggest that CF schemes are feasible, and if properly structured, can significantly improve efficiency, quality and health outcomes, reduce the cost of health care, and pool risks. However, in LMICs, CF schemes only have a modest ability to increase the total amount of funds for health care because target populations consist primarily of poor and low-income households with limited abilities to prepay. The major value added by such schemes is their organization of what households and government are already spending directly and their use of the funds to buy more and better services.

Presently, most analyses make the case that CF is the most viable pathway toward Social Health Insurance (SHI) and universal coverage in LMICs characterized by large rural and informal sector populations. Much of this literature is focused on the best strategies for the transition period from CF to SHI and universal coverage, with particular emphasis on the role of governments and donors. This emphasis requires a critical paradigm shift in government and donor behavior so that financial support in terms of subsidies for premiums is given to poor households (demand side) rather than to providers (supply side). This paradigm shift has at least two immediate implications: firstly, it results in increased efficiency because the overhead costs and wasting of resources in insurance schemes tend to be much lower than in the public provision of free or subsidized services. And secondly, it results in increased equity, both in terms of finances and access, because funds are used to purchase insurance membership for poor rather than to subsidize services for entire populations. Such subsidy transfers can take the form of affordable health cards or premium subsidies so that the poor have access to the same type of health insurance as the rich.

Donors play a critical role in such programs. They can support subsidizing premiums, and contribute to the technical and organizational designs of CF schemes through recognizing best practices in similar settings and customizing them to specific contexts. As key stakeholders in many schemes, donors can be instrumental in establishing sub-national schemes by providing appropriate start-up funding and reinsurance guarantees. Advocacy, education, and penetration of knowledge and information are also vital for the initiation of CF schemes, particularly in rural areas of LMICs.

There is now a big emphasis placed on getting communities involved in both health financing and management. This should be accompanied by governments and the donor community taking responsibilities for (a) increasing and targeting subsidies to pay for the premiums of low-income populations; (b) supporting CF schemes against health care costs and assessing the feasibility of reinsurance to enlarge the effective size of small risk pools; (c) using effective prevention and case management techniques to limit expenditure fluctuations; (d) providing technical support to strengthen the management capacity of local schemes; and (e) establishing and strengthening links with formal financing and provider networks.
Chapter 2: User fees, pricing strategies and protection mechanisms for public health services

User fees are controversial demand side instruments that introduce consumer cost-sharing into the care seeking decision aiming to promote efficiency by encouraging use of more effective services while controlling use of less effective ones. But at the same time the fees can contribute in financial sustainability because they have ability of revenue generation too. User fees are out-of-pocket payments made at the point of service. When used for sake of revenue generation they represent a means of financing public health care above and beyond contributions through taxes. The fact that user fees prescribe the timing of the contribution relative to the time of health events makes them different from other forms of private contributions toward health such as insurance premiums or taxes. This timing specification evokes market mechanisms that profoundly influence the distribution of health care among potential consumers.

There is a fine line between policies that call for the universal use of user fees as merely a source of revenue generation and policies that better utilize user fees as a means to reallocate resources and improve efficiency in the health system. Because of the extent of disagreement and misunderstanding around the strategy objectives for implementing user fees, we begin with a brief history of the debate followed by an examination of their effectiveness.

Brief history of the user fee debate:

During 1980s and 1990s, implementation of user fees expanded throughout low and middle income countries with most countries introducing or increasing user fees for publicly provided health services. The introduction or expansion of user fees was either required by a country’s own economic reform policies or was mandated through what is known as “conditional lending:” a bilateral agreement between the recipient country and international donors like IMF, the World Bank and USAID. Such agreements were made under a very broad reform policy that was implemented across all economic and social sectors otherwise known as Structural Adjustment Programs (SAPs).

The objective of the SAPs was to enhance economic growth through macroeconomic stability and eliminate market distortions (Breman and Shelton 2001, Gertler et al. 1997, Arhin 2001). As a component of SAPs, user fees were first introduced as a cost-recovery measure to compensate for cutbacks in health expenditures and to promote efficiency and financial sustainability of the health sector. According to Pitt (1993), if a country is facing a budget deficit, it is likely that cutbacks in government expenditure will take place. Cutbacks on health expenditures and infrastructure can adversely affect the level of functioning of the health sector as well as health outcomes.

Proponents of private resource mobilization argue that individuals are willing to pay for medical care and that additional financing will allow governments to expand and improve critical programs. Opponents argue that the poor are unable to pay user fees for medical care and will be worse off if governments expand private resource mobilization (Gertler et al. 1997). There is some empirical support to the notion that individuals are willing to pay at least a share of the cost of improvements in access and quality. However, the wealthy are willing to pay a lot more than the poor. Therefore, if governments charge the “average willingness-to-pay” to finance quality
improvements, utilization of the wealthy will increase and utilization of the poor will fall (Alderman and Lavy 1996, Gertler et al. 1997). When the average willingness-to-pay is the base for fee schedules, in addition to shift in the pattern of utilization in favor of better-off, the risk of catastrophic payments and impoverishment increases as well (Arhin 2001).

Since the advent of SAPs, a range of evidence has emerged in areas of financing and stewardship against the use of user fees as merely a means to generate revenue. User fees do not always raise significant resources, revenue can be difficult to retain particularly when systems are not financially decentralized, and administrative costs can be high. Deficiencies in stewardship can lead to market failure caused by gaps between social and private demand, welfare loss due to greater price elasticity of demand among low-income consumers, and uncertainties around the timing and size of payments at the point of service. Moreover, it is argued that a clear causal relationship between user fees and improvements in quality and access remains unproven (Alderman and Lavy 1996, Creese and Kuznets 1997, Gertler et al. 1997, Arhin 2001).

The early results of the reform programs and drawbacks from user fees have sometimes resulted in extreme proposals for universally abolishing user fees. In a recent document by the Oxfam International (2009) titled “Blind Optimism: Challenging the myths about private health care in poor countries” six recommendations are made to developing country’s governments on how to deal with private financing and provision of care. Two of them are in particular relevant to our discussion: firstly “Resist donor pressure to implement unproven and unworkable market reforms to public health systems and an expansion of private-sector health-service delivery”, secondly “Put resources and expertise into evidence-based strategies to expand public provision of primary and secondary services, including spending at least 15 per cent of government budgets on health, and removing user fees”. Similarly the WHO (2008) provides a few examples for positive outcomes after the abolition of user fees in Uganda and elsewhere.

While a group of the opponents suggest alternative financing strategies with a special focus on community based insurance schemes (Arhin 2001), the feasibility, sustainability, and administrative elements and costs of insurance schemes have been seriously debated in very low income countries at least for the short term. Some of the challenges facing risk pooling and insurance schemes in LMICs in particular where the stewardship at the government level is weak, are discussed in insurance chapter.

It is critical to recognize that user fee policies make a significant difference in health financing, equity and outcomes. Whereas poorly conceptualized policies lead to the misuse of user fees as merely a source of revenue generation with no consideration of equity, well conceived policies take advantage of their ability to reallocate scarce resources and improve efficiency while preserving equity. When the formation of insurance schemes are not feasible in foreseeable future, user fee policy with appropriate complementary protection policy for poor remains the only viable solution insuring efficiency while mitigating the negative consequences in equity. In the following section, we review the empirical evidence from the literature about the impact of user fees on utilization, equity, health outcomes, revenue generation and efficiency to discuss instances in which this policy tool has been employed appropriately or not and to identify the circumstances under which policy makers can best employ the fee mechanisms in the future.
Impact of user fees:

**Access and Quality:** There is some empirical support that individuals are willing to pay at least a share of the cost of improvements in access and quality, especially for drugs (Alderman and Lavy 1996). A few studies of cross-sectional household data (Gertler et al., 1997) show that individuals are willing to pay some of the cost of improving access to medical care as measured by the distance they have to travel to reach the closest public facility. However, willingness to pay is likely to be linked with income, such that user fees may dissuade poor households from accessing care while not substantially decreasing overall demand. There are combinations of prices and quality that tend to be acceptable to the average consumer, yet deemed unaffordable by the poor (Alderman and Lavy 1996, Conrad and Christianson 2004).

The effect of user fees on quality of care is not clear cut. One approach to study the causality relation is to assume that fees are collected by providers. Although as we will see this is a very strict assumption, there is a modest body of literature from the U.S. assessing the effect of explicit financial incentives to physicians for preventive services. Findings are mixed and generally suggest small or statistically insignificant incentive effects on delivery of more or better preventive services (Conrad and Christianson, 2004). Breman and Shelton (2001) undertook a desk review of literature relevant to SAPs in LMICs with a particular focus on user fees and their impact on health systems. Of the 76 relevant studies, 28 presented empirical evidence. Several of those studies used focus groups with health workers and patients to assess the way in which user fee policies affected the quality of healthcare. The overall pattern was a decline in the quality of care.

**Utilization:** Analysis of household surveys suggests that higher prices are associated with lower utilization, but overall own-price elasticities are low and well below unity. Moreover price sensitivity differs among economic and demographic groups. In particular, the poor appear to be more price sensitive than the wealthy, and children’s utilization seems to be more price sensitive than that of adults,’ indicating that an increase in fees may reduce the utilization of the poor and children by more (Gertler et al 1997).

Evidence of increased utilization following a discontinued user fee policy further supports the notion of higher price elasticity among the poor. In 2001, the government of Uganda abolished cost sharing in public facilities at the community level. This led to a marked increase in the utilization of health services by all population groups. For villages near public health centers, the increase was greatest among the poorest groups (Nabyonga et al. 2005, Mills et al. 2006). Before the policy change, user fees were probably a major deterrent to the use of public health services and their removal was especially beneficial to the poor.

Gertler et al (1997) compared utilization before and after fee increases at public facilities. Table 4 presents information from this analysis about decreases in utilization due to new or increased user fees implemented in sub-Saharan African countries.
Table 4: User fees lead to decreased utilization rates

<table>
<thead>
<tr>
<th>Country</th>
<th>Percent Decrease in Utilization</th>
<th>User fee description</th>
<th>Population notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>52%</td>
<td>Fees at government health centers</td>
<td></td>
</tr>
<tr>
<td>Swaziland</td>
<td>32%</td>
<td>Fees at government health centers</td>
<td></td>
</tr>
<tr>
<td>Mozambique</td>
<td>50%</td>
<td>Consultation fees at PHC facilities</td>
<td></td>
</tr>
<tr>
<td>Zambia</td>
<td>64%</td>
<td>Fees at clinics</td>
<td>Greater decreases among facilities in poorer areas</td>
</tr>
<tr>
<td>Lesotho</td>
<td>40-51%</td>
<td>Increased fees at government facilities</td>
<td>Greatest decreases among children</td>
</tr>
</tbody>
</table>

Most of these findings however are not based on solid study designs. There are few studies that are less subject to the selection bias and analytical method criticisms. These studies analyze the effect of experimentally designed fee increases on individual utilization in experimental and control areas. In a study of price elasticities of demand for outpatient services in Indonesia, longitudinal panel data was used. In this study public-sector user fees were varied experimentally in 2 of Indonesia’s 27 provinces. User fees were increased in some districts (treatment areas) but not in others (controls) and in both government health and health subcenters. Study resulted that while price increase significantly lowers utilization, the effect on children was greater than on adults, and the effect on adults was greater than on the elderly. The demand for health center care was more price elastic than for health subcenters. In 1989 and 1990, a longitudinal health insurance study in two rural Chinese counties was conducted in which copayments (another form of user fee) were experimentally varied to estimate price elasticities of demand. As expected, higher coinsurance rates were associated with significantly lower probability of use and significantly lower expenditures for outpatient services (used by about two-thirds of the population each year). For inpatient services (used by only 3 percent of the population each year), the higher coinsurance also led to less utilization and less expenditures, although the decrease was not as strong (Gertler et al 1997).

Similar results were found in the Health Insurance Experiment (HIE) in the U.S. in the late 1970s. Results indicated that prices had more influence on decisions to initiate treatment than to continue treatment and elasticities increased as the co-insurance rate increased. Demand for acute care and inpatient services was less sensitive to price than chronic and outpatient care. Thus, demand for outpatient services appears to be more price elastic than the demand for inpatient services. Since more serious illnesses are treated by inpatient hospitalization, these results are consistent with the hypothesis that the demand for medical care is less price sensitive for more serious illnesses. This is somewhat reassuring because it suggests that reductions in
utilization from price increases are less likely occur for more serious illnesses (Manning et al 1987).

Interestingly, some evidence shows that, when fee revenues are used for quality improvements, utilization increases, in particular by lower income groups. However, other costs, such as transportation, time, opportunity, food, and informal charges may constitute bigger barriers for the poor than the user fees themselves (Hardeman et al 2004).

**Health Outcomes:** Cornia and Stewart (1997) present empirical evidence from 10 countries where adjustment programs have been implemented. The case studies focus on how to implement SAPs in order to protect vulnerable groups and they show both positive and negative health outcomes from SAPs. The authors suggest that the poor and children should be exempted from user fees.

In a review of 76 studies assessing the effects of user fees (Breman and Shelton, 2001), 45% reported negative effects, 8% reported positive effects, 20% were neutral, and 27% had both positive and negative effects. The authors recognized an interesting pattern as they mapped the positive and negative aspects to the types of studies. All of the normative articles were negative, except for one. The theoretical articles were mainly neutral, and discussed possible positive and negative impacts of policy without taking “sides”. The empirical articles mostly found both positive and negative effects of adjustment on health outcomes. While there was no category with a majority of positive articles, a closer examination revealed that all of the positive results were from empirical studies. Additional studies on child and maternal mortality and life expectancy indicated that child mortality tended to be mixed while maternal mortality generally declined. Life expectancy at birth was improving over the period of studies, but the authors noted that it was generally unknown whether or not the rate of improvement had increased or slowed down.

With regard to the regional variations the results are not only mixed but also often contradictory. A cross-country study of 53 adjusting countries showed health expenditures and health outcomes had improved in Asia and Latin America while outcomes deteriorated in Africa and the Middle East – North Africa region (Jayarajah et al 1996). The Breman and Shelton (2001) review did not illustrate the same regional pattern. In Africa and Asia, the vast majority of the studies were negative. In Latin America and Middle East – North Africa, the outcomes were both positive and negative.

**Revenue Generation:** There have been a large number of studies that have tried to estimate the price elasticity of demand for outpatient services using cross-sectional household surveys. While a few early studies with questionable data found completely inelastic demand (i.e. no effect of price on utilization), most report that higher prices are associated with lower utilization, but that overall own price elasticities are low and well below unity. This suggests that increases in fees will mobilize substantial private revenues (Gertler et al 1997).

Arhin (2001) critiques the results and argues that if additional revenue were obtained, it could be used to fund quality improvements. But because net revenue gains are determined by utilization rates and the costs of revenue fee collection, in practice, significant gains have only been realized in a few isolated cases. In a review of the literature on revenue generation effects, Arhin concluded that high fees in Zambia would lead to considerably less revenue generation.
than more moderate pricing of health care. In Ghana, 15% of recurrent cost revenue was not sustained and the typical cost recovery ratios were in the range of 1%-12%, at least in the early periods of the introduction of the policies to the 1990s. Given the low revenue performance of user fees, Arhin argues that development assistance remains the most viable instrument for addressing the resource constraints faced by the health sectors of developing countries.

By the mid 1990s, user fees were common in several developing countries particularly in Africa where, by 1995, 28 out of 37 countries had introduced fee schedules in government health facilities. Much of the literature of the 1990s that recounted the actual or potential merits of introducing user fees in health focused on enhanced cost recovery, especially of non-salary recurrent costs, that they facilitated in the African countries where the Bamako Initiative was launched. Most of these studies highlight the fact that, although the revenue recovery via user fees of total health costs is not very high, it is increasing. Majority of the studies suggested that the share of recurrent non-salary costs (particularly drug costs) may range from 80% to 150%. It is suggested that recurrent non-salary costs typically account for less than 30% of the total cost health sector costs. Moreover, evidence exists of fees encouraging inefficiency through supply-induced demand and poly-pharmacy, particularly when the revenue is retained by the collecting health facility (Arhin 2001).

**Revenue Retention Problems:** An important assumption of the user fee policy is that any revenues raised from private sources are kept in the health sector. If the fee revenue must be returned to the general treasury, then resources effectively are not increased through the fee increase. The same holds for local health units that are forced to return revenues to central Ministries of Health. If this were the case, then it would be as if the government lowered public subsidies by one dollar for every dollar raised privately. Not only does this imply that no resources are mobilized, but there would also be no incentive for the health sector to collect these fees and the health sector would raise substantially less revenue than it could have. This is an important administrative issue in implementing a successful user fee policy (Gertler et al 1997).

There are evidences that while fee revenues are collected at the local level, they are spent at higher levels of government. The worst case scenario, in which fee revenues leave the health sector and are returned to the central or local treasuries, have been documented in Eritrea, Ethiopia, Namibia and Zimbabwe (Creese and Kutzin 1995). More subtle and harder to document cases, in which fee revenues simply displace public subsidies by one dollar for every dollar raised privately. Not only does this imply that no resources are mobilized, but there would also be no incentive for the health sector to collect these fees and the health sector would raise substantially less revenue than it could have. This is an important administrative issue in implementing a successful user fee policy (Gertler et al 1997).

Similarly Alderman and Lavy (1996) concluded that user fees will not reduce utilization if the revenue generated is used to improve quality of services. Conversely, if fees go to general revenue without generating higher quality services, households will shift providers. If cost recovery mechanisms are not accompanied with revenue retention arrangements, and quality improvements and, if no measures are put into place to provide exemptions for the poor, there may be serious consequences for community health.
Administrative and Implementation Issues: As in other areas of the user fee policy, administrative issues cause much debate. A group of researchers believe that the net yield of user fee revenue is so low that the policy is not worth undertaking. For example, Arhin (2001) suggests that a critical criterion in evaluating user fees as a financing method is efficiency measured by the ratio of gross yield (total revenue collected), and the net yield (the actual available revenue for health care delivery). The performance of user fees in this respect is dependent on the flexibility of administrative and accounting procedures. Excessively stringent reporting requirements will increase administrative costs. Restrictions of reallocation of funds among budget headings or expenditures can cause inefficiencies in delivery. This group of researchers argues that, in general, the implementation experiences of user fees have not shown it to be an efficient method of financing.

Administrative costs and welfare losses however should be assessed in face of other alternative strategies for financing. There is compelling evidence of vast inefficiencies for two major alternative financing strategies in LMICs: free care paid for by government subsidies and community based insurance schemes. For example the high administrative costs and the complexity of managing insurance schemes consist of many small and scattered pools are well documented in the literature. There is no solid evidence supporting the hypothesis that the administrative costs of user fee policy are higher than welfare losses resulting from inefficiencies in free care or higher than administrative costs of numerous insulated insurance schemes.

Proposals for setting user fees

The wide range of services and country circumstances makes it impossible to claim that any particular level of user fees or none at all is appropriate in every case. The World Bank (2004) for instance proposes an agenda for setting user fees based on a balanced approach. The agenda states that, as with other public policy decisions, user fees must balance protection of the poor, efficiency in allocation, and the ability to guarantee that services can be implemented and sustained.

Gertler et al (1997) propose four pricing principles that can help governments to achieve the balances in efficiency and equity. In this proposal efficiency goals are not limited to public provision of services rather the role of private sector is also acknowledged in expansion of market for services.

- **Principle I: Services that yield the best health outcomes compared to patients’ alternative sources should be more subsidized.**
  Subsidies should be higher for those services where efficacy and quality of public care is clearly better than private care. Further, if the alternative to public care is a traditional healer of suspicious quality, fees should only be raised with great caution. Empirical studies have demonstrated the likelihood that people will substitute private providers for costly public services. If the alternative is a reasonable private sector, then fees may make more sense.

- **Principle II: Subsidies should be redirected to those services for which total (public and private) demand is most elastic with respect to fees in public facilities.**
  Governments cannot mandate the optimal use of health care. They can only provide incentives for optimal utilization. Subsidies encourage use of a service by lowering the price. The more price elastic demand is, the larger the increase in utilization from a given price
subsidy. However, demand may be more elastic for non-effective services. Therefore, the subsidies should be higher for those services which produce the most health outcome. These services produce the most health because of the combination of efficacy and of the volume of patients generated by the introduction of the subsidy.

- **Principle III: Subsidies should be higher for those individuals whose demand is more price elastic.**
  For similar reasons as in (II), subsidies yield more health for socio-economic groups for whom the subsidy is more likely to encourage utilization. This implies that subsidies should be higher to poor households whose demand is more price elastic. An interesting implication of this pricing principle is that it is optimal to lower prices to the poor even if the government is not concerned with equity or with welfare but is solely concerned with its citizens’ health status.

- **Principle IV: Subsidies should be higher for services and in areas where the scope of competition is limited.**
  Subsidies will produce substantially less health if they only cause individuals to substitute out of the private sector into the public sector. The most health will be produced when subsidies encourage new utilization so that illnesses that would not otherwise have been treated are now treated. This principle reemphasizes that certain types of preventive services and health care services in rural areas should be more heavily subsidized because there are fewer private sector alternatives.

The first three principles argue that price setting for services or for particular groups must balance two competing needs: (1) minimizing the adverse health effect from a reduction in utilization, and (2) mobilizing resources that can be used to subsidize other activities or groups and provide more services. Services or groups for which fees discourage large numbers of individuals from getting treatment should have lower prices. Conversely, when demand is more price inelastic, higher prices mobilize more revenue that can be used to cross-subsidize other beneficial services while affecting health status less. The basic idea in setting prices is to push public subsidies as far as they can go towards achieving health gains. This implies that price subsidies need to be examined in terms of their effect on health outcomes and their impact on the budget, rather than relative to the resource costs of service provision.

The first and last principle point out that a productive interaction between the public and private sectors is critical in user fee policy. If the private sector offers acceptable quality services and patients are willing to pay the private sector price, then the government subsidies are deemed inefficient. All they will do is cause individuals to substitute public-sector care for private sector care. In this case, public providers should not provide the care or at least remove subsidies by raising the price. This is clearly the case for luxury rooms in hospitals since the only group that uses these rooms are the rich and these services are always available in private hospitals.

When the public sector subsidizes its prices and draws patients away from the private sector, it is in fact competing with private providers and their profits decrease. In economics this effect is known as “crowding out” effect. As the public sector raises its prices, however, the competitive constraints on the private sector are eased. As a result, we may see the private sector raise its prices and possibly also expand its entry into the market. However, while private providers respond to some market forces, they are not likely to move to a new area in order to fill
the gap where subsidized public services are not available if they do not deem the area profitable. Nonetheless, supply responses will affect the demand for public- and private-sector services as well as health outcomes and resource mobilization. Therefore, their impacts should be factored into the setting of public sector prices.

A clear message of pricing principles is that the government should subsidize services that the private sector is unlikely to provide. The most obvious candidates are public goods. A pure public good is one for which a private market cannot exist at all because beneficiaries cannot be forced to pay for benefits (non-excludable) and one person’s benefits are not reduced by others’ benefiting as well (non-rivalrous). In the health sector, the best examples are vector control programs (e.g. draining swamps), some forms of sanitation, and the provision of health information and education. Research, epidemiological surveillance, and monitoring food and drug safety are additional examples.

Another area of intervention is market failure due to externalities. A health service has a positive externality if its use generates benefits to society above and beyond the benefit to the private individual. The most common externality in the health sector comes from prevention and the treatment of infectious diseases. For example, in The Gambia, the use of pesticide-treated bed-nets reduced the incidence of malaria even among those who do not use them, suggesting that the societal benefit from bed-nets was greater than the private benefits. When left to decide on their own, individuals will prevent and treat infectious diseases less than is socially optimal. Many individuals are not willing to pay the full cost of immunization because they know that they will be protected if enough other people get immunized.

Moreover, in spite of the worthwhile medical benefits to individuals, fees may impede them from seeking treatment soon enough to prevent the spread to other people or fees may impede their completion of the full course of treatment. The consequence of not completing drug therapies may not only lead to resurgence of the disease, but also to an increase in transmission and the risk of promoting resistance to known drug therapies.

For example, the treatment of Tuberculosis is quite expensive and, when individuals feel better after partial treatment they tend to discontinue treatment before it is completed. Government needs to use subsidies to encourage utilization and reach proper levels of prevention and treatment.

A second message of principles is that governments should not expand resources where a market exists and is functioning well. If the private sector provides an acceptable and affordable alternative to a public service, there is little justification for the public sector to be involved in subsidizing that specific service. The market for outpatient services and drugs for treating non-communicable diseases are two examples. In these cases, the benefits of treatment accrue mostly to the individual and therefore there should be a private market for these services. In a geographical sense, this is a justification to shift more subsidies to rural areas where there are fewer private alternatives.

Governments could play a role in the market for individual (non-public good) health care services such as curative care in which private providers have the market power to set prices above marginal costs and acquire monopoly power. Price-setting by monopolist providers increases private prices above marginal costs such that utilization becomes lower than would be
warranted by the cost of providing the service, causing a loss in economic efficiency. In order to minimize the welfare losses of monopolized markets the government could either try to regulate private sector prices or directly provide them through the public sector priced based on costs.

Prices should be used to redirect individuals to the most efficient treatment facilities. Illnesses and prevention activities that can be efficiently managed at cheaper health clinics should not be treated at tertiary hospitals. Because the demand for the treatment of more serious illnesses is less price elastic, increasing the price of hospital care relative to health center care will help prevent individuals with less serious illnesses from bypassing health centers in favor of hospitals. Governments should not use consultation fees that are the same for each diagnosis and demographic group across the board. The prevention and treatment of illnesses that have large positive externalities and for which demand is most elastic should have lower fees.

In spite of all the criticism against user fee policy, the use of user fees as a component of risk protection has been considerable. The fine tuning of user fees across levels of care could improve cost sharing and result in some protection against financial risk. This suggests that user fees have the potential to adjust the allocation of subsidies to insure consumers against financial risk of severe and expensive illness. The classic reason why most developed countries intervene in health markets is the inherent uncertainty in health status. While most households are able to finance routine care out of their own budgets, most are not able to finance the rare but expensive health events. In fact, in all countries regardless of income level, expenditures on health care are extremely skewed in such a way that a small proportion of the population accounts for a large fraction of total expenditures. Therefore, while most families have only small expenditures in a given year, a relatively small number are faced with very large and unexpected expenditures.

Risk protection principles suggest that the subsidies should go to the services that provide care for the rare, high-cost illness that eat the biggest portion of the household budgets. Given that relatively wealthy citizens disproportionately use hospital services under current systems, there is a distinct trade-off between equity and efficiency in universally subsidized hospital care. This can be mitigated by enforcing strict referral rules requiring very high charges for those entering hospitals directly, with generous exemptions towards risk protection for those who are properly referred (Gertler et al 1997).

Most of the concerns on user fee policy come from the trade-off between efficiency and equity. A companion section of this chapter is dedicated to protection policies that have been implemented as a complement to user fee policies. These protection policies include price-setting based mechanisms as well as third party payer models. There we will discuss how to allow the user fee policy maximizes efficiency and increases the scope of competition based on the price-setting mechanisms while the protection policies implemented outside the market to minimize efficiency-equity tradeoff by securing utilization of health services for poor.
Conclusion:

User fees were first implemented as part of the Structural Adjustment Programs initiated in the 1980s and 90s. In the early years of implementation, a narrow approach was adopted which limited user fee policy for use as an instrument of resource mobilization, also known as cost recovery. The policy’s equally effective utility to re-assess the allocation of public subsidies from the government budget was under-estimated and sometimes ignored and this significantly limited the potential good that user fees can do.

In recent years, user fees have been recognized as a means to address the allocation of public resources across (1) type of services (public goods vs. private goods, services with externalities), (2) level of services (e.g. primary and preventive care vs. tertiary) and (3) socio-demographic strata (e.g. poor and children vs. less vulnerable groups). The principle-based implementation of user fee policy insures higher efficiency for scarce government resources, an increased scope of competition, higher quality of services, (i.e., availability, efficacy and safety), and equitable utilization among income groups.

Nowadays, knowledge about market failure and the solutions to address failures are widespread. Re-allocation of the subsidies is a key levering mechanism of policy by which governments can and should address market failures in health and improve the welfare of society. User fees have profound potential to increase the efficiency of health systems by adjusting and fine-tuning the cost sharing between patients and providers. The downward sloping demand curve suggests that user fees can curtail excessive use of services. This aspect of user fees can be used as a means to reach the optimum level of consumer cost sharing. In this model, consumers share costs at differing levels; lower fees for cost effective preventive and primary care, and higher fees for less cost effective and elective services. If the intrinsic merits of user fees are explained and pricing principles are followed, then the negative view of policy makers about user fees as a forbidden fruit will be changed and the utility of user fees in the absence of other viable financing mechanisms will be realized.

Results from studies evaluating the effects of user fees have raised some concern about implementing the policy, but three observations about these studies are worth mentioning. Firstly some reported mixed results in terms of policy impact on utilization, quality, revenue generation, and equity. Secondly, the quality of evaluation research methods has always been questioned. Thirdly, when complemented by protection policies that insure utilization by poor, user fee policies have increased the efficiency and financial viability of public providers, and controlled the efficiency-equity tradeoff.

Potential barriers and uncertainties around revenue retention by clinics and facilities at the local level and within the health sector at national budget level remain a concern. These barriers can be circumvented through proper legislation to ensure the fulfillment of expectations for the policy. Decentralization or any other legislative mechanism (e.g. earmarking) are to insure revenue retention at the local level when user fee policy is implemented. An adequate level of authority on re-allocation decisions should also be delegated to the proper level of health systems to insure efficiency and equity, of course under a fair stewardship at higher level.
Until other superior viable financial mechanisms (i.e. universal taxed-based financing or insurance based financing with equitable access for all) have sufficiently and equally provided funds for health, user fee policies accompanied by protection policies are a viable solution for financing. Many low income countries are far from achieving universal or insurance based financing for health care, as explained in the Insurance section. For those countries that do not have the luxury of financing their health sector through one of the superior financing mechanisms, nothing can be more harmful than abolishing user fees.

**Protection policies against the user fees**

In the previous section, we provided a detailed review of the user fee policy as one of the most important demand side interventions implemented broadly in LMICs. We enumerated some of the potential merits and drawbacks of user fees from a theoretical and empirical point of view. In theory, user fees can improve quality, reliability, responsiveness and financial sustainability of health providers through acceptable cost recovery ratios. Additionally, competition between providers may increase according to the principle of “money follows patient.” Our review also described some well known success stories of user fee implementation, such as the Bamako Initiative.

Without proper consideration of willingness-to-pay by poor however introduction of user fees can have a serious drawback. One of the strongest arguments against their use is that they may adversely affect access to health care of those who cannot afford to pay the fees. The financial burden of health care costs on individuals is a serious problem not only in LMICs but also in wealthy countries that have not yet reached the level of universal coverage. Financial barriers to access can affect proportionally large segments of populations in low income nations. In particular, children are at higher risk.

The evidence of the negative effects of user fees on utilization has been so widespread and compelling that even the most committed proponents, such as the World Bank and the IMF, have called for policies designed to protect the poor in LMICs from constraints to access due to user fees. Some countries have since reconsidered their position and are phasing out user fees and replacing the lost income with a variety of pooled funds (e.g., government subsidies and contracts, insurance and pre-payment schemes). This has resulted in substantial increases in the use of services, especially by the poor. Some countries went even further and totally abolished the user fees.

However, the majority of LMICs are still relying on user fees as the main source for financing their health system. The dilemma for this group of countries is how to make a system of user fees compatible with the goal of equitable access to services. In overcoming inequity problems different protection polices have been tried. Those which have carefully designed and implemented waiver systems for example thru health cards (e.g., Thailand and Indonesia) have had much greater success in equity goals than countries that have improvised such systems (Ghana, Kenya, Zimbabwe). One of the key determinants of success in all types of protection policies is their financing. Protection policies that compensate providers for the revenue losses from granting exemptions (Thailand, Indonesia, and Cambodia) have been more successful than those who expect the provider to absorb the cost of exemptions (Kenya) (Bitrán and Giedion 2003). As far as the implementation of the policy is concerned, the targeting ability of the health system can severely affect the benefit incidence of the subsidies.
Some of the protection policies that address inequity issues of user fees are reviewed here. The most common demand side protection policies are sliding fees, fee waiver and exemption programs, vouchers, health cards, and a recent initiative known as Health Equity Fund (HEF).

**Sliding fees and fee waivers:**

Fee waivers are a strategy used to target specific services or populations, such as immunizations or children under 5, for exemption from user fees in an effort to maintain equity in access to health care for vulnerable groups. Although the official protection policy in many countries is to exempt the poor from payment, in practice, exemption mechanisms are prone to fail for a variety of reasons, the most common of which is problems with targeting. Many countries have attempted to define groups eligible for exemption according to poverty indicators, but ensuring equity in the implementation of waivers is generally difficult (Islam 2007). Significant challenges can arise in applying an exemption policy on a consistent basis because of varying practices and policies and difficulties in verifying income status of individuals and households. The complication of varying practices and policies can be even more severe in countries with highly decentralized systems of care (Islam 2007).

**Vouchers**

Voucher programs are similar to fee waivers in that they are a demand side intervention that requires targeting. However, they differ because they not only allow for free care, but they are specifically designed to increase the purchasing power of the poor. In these schemes, poor families are targeted and provided with vouchers to be used as cash equivalents at the point of service. Providers can present vouchers in exchange for cash through a predetermined entity and financial support comes from government subsidies or donor funds. Through this mechanism, government subsidies or donor funds for service, are channeled directly to households to enable people to purchase services themselves or through an agency. Where there is a choice of providers allowing “money to follow the patient,” this policy can potentially enable voucher recipients to vote with their feet (Bhatia, Yesudian, Gorter & Thankappan, 2006). Because of these criteria, vouchers can be used not only to address specific financial barriers to access including cost of care and even cost of travel, they also have the potential to change provider behaviors and, hence, increase the scope of competition for better services at reasonable prices.

However, in cases in which access barriers cannot be mitigated by financial interventions, it is less likely that vouchers and cards will stimulate enough demand. In such cases vouchers ought to be accompanied by other interventions, such as information and education strategies and trust building activities. No-name vouchers involve the additional risk of being cashed, sold or given away to non-eligible families, with the intended families receiving less than intended care or no care at all.

Vouchers can be an efficient and cost-effective mechanism to increase the utilization of specific services among needy populations. Nicaragua’s voucher scheme to prevent and treat sexually transmitted infections (STIs) among high-risk groups reported a 40% use of vouchers, with the highest rates of voucher use occurring among the poor female recipients. Among the poorest female sex workers, the prevalence rates for gonorrhea and syphilis decreased by an average of 9.4% and 8.6% per year, respectively (Sandiford, Gorter & Salvietto, 2002). The
competition among clinics to obtain contracts served as a mechanism to ensure a minimum level of quality since contracts could be discontinued based on a poor performance rating.

Another voucher scheme in India was implemented to improve access to institutional delivery by the government of Gujarat (Bhatia, et al., 2006). The “Chiranjeevi Yojana” initiative was begun in 2005 and covered below poverty line (BPL) families who are generally under-represented, suffer limited access to institutional facilities and were considered likely to experience economic and social hardships due to complications during delivery. The scheme used a combination of supply and demand-side financial incentives. A voucher type of system known as BPL cards was designed to enable needy mothers to go to an appropriate health facility to give birth. At the same time, this scheme carried a provider incentive component which employed a capitation payment model in order to prevent induced demand and unnecessary procedures. The panel of preselected private providers was reimbursed at a fixed rate for deliveries. Payments were made for each batch of 100 deliveries to account for case-mix differences and to incentivize providers to keep the costs below the reimbursed amounts. The scheme is operated at the district level and identifies and refers BPL families to private providers, provides follow-up of delivery cases, assesses risk status, ensures service provision, and protects the most vulnerable families from adverse financial burden.

The provision of financial protection through fully subsidized delivery for BPL families in conjunction with the involvement of private providers served to increase the institutional delivery rate and decrease the MMR and IMR substantially among the poor. During the first 10 months of scheme implementation, no maternal deaths and 13 infant deaths were reported in the pilot districts. It is suggested that, in absence of the program, some 70 – 80 mothers and 350 – 450 infants would have died in the districts. During the period of study, institutional deliveries in the five districts have increased from 38% to 59%. Due to packaging of services in the capitated scheme, unnecessary caesarean operations among the BPL expectant mothers sharply declined from 15% to 4.7%.

Overall, the scheme increased BPL access to institutional facilities for maternity care. The cost of seeking delivery in private facilities by BPL families could have been unaffordable but the voucher program entitled them to costless medical and institutional care for delivery and follow-up. It covered both direct and indirect costs of maternal care such as travel and a small payment to an accompanying companion. This pattern of strong impacts on health care seeking behavior by the poor is indicative of the effectiveness of strong demand incentives. Likewise, the capitated fixed rate scheme for provider payment incentives was instrumental in reducing unnecessary caesarean through its effect on provider behavior. Not all voucher programs cover both direct and indirect costs of care, nor do they complement the program with supply side incentives. The result of the protection policies in general can and should be boosted with complementary interventions insuring the quality of care delivered as well as addressing indirect costs and barriers to access such as transportation costs or information issues in consumer side.

Unfortunately, not all voucher schemes work as expected. Tanzania’s campaign to socially market insecticide-treated nets (ITNS) through Maternal and Child Health clinics to pregnant women and women with children under the age of five used a voucher system to provide ITNs at a discount of 17%. After 12-months of the campaign, a cluster sample revealed that, in spite of the 97% attendance rate at MCH clinics, only 44% of mothers had heard about the voucher and
only 13% of those who had heard of it had used it. Yet, there was a 96% voucher return rate within the implementation area. Barriers to reaching the targeted population may have included the inability of the poor to pay even at reduced cost, the possibility that clinic staff may have sold vouchers to non-eligible people, poor marketing, reluctance on the part of clinic staff to distribute vouchers, and refusal of shop-keepers to accept vouchers as part of the payment (Marchant et al 2002).

**Health Cards**

Similar to voucher programs, some governments use health cards in order to address access barriers of the poor. Voucher and health card programs both carry the same pro-poor mission but they have some differences. A health card is usually a pre-paid card issued against contributions to a fund that primarily pools the risk. In the absence of a health card, households must pay the user fees out of their pockets. The card entitles low income families to pay smaller than ordinary premiums while still receiving the same benefits that non poor members receive from the insurance fund. The card, as we will learn from the country experiences, is reasonably subsidized by the government. The other difference between the card and the voucher is that health cards serve a more general purpose meaning that the card holder is not restricted to a certain type of service and the card can be used for whatever service exists in the benefit package of the insurance scheme.

One of the most noteworthy health card programs was implemented in Thailand. Under the Thai health card scheme, the poor were targeted to receive health cards which provided health units redeemable under the Ministry of Public Health via the health center or community hospital. Providers were compensated for the care they provided to health cardholders on a per case basis and they were reimbursed for administrative expenses related to the health card program. The cardholder household contributed half the price of the insurance card during the income-earning season, while the other half was subsidized by general tax revenue through the Ministry of Public Health (MOPH). The MOPH decentralized the management and decision-making to the provincial level, allowing provinces to define their own policies. The premiums, however, remained the same. In order to address non-income barriers, the health card officers helped increase access to the scheme by providing clear information to the community.

Compared to a more traditional scheme in which subsidies flow solely to providers, the Thai health card better facilitated direct government subsidy to individuals and improved access to health services for the poor. Its success seems to come from four factors: (1) patients have to pay high user fees unless they enroll, (2) the government directly and visibly matches the premium paid by the enrollee, (3) patients have free choice among public providers, and (4) most people can readily calculate that the benefits would exceed the premium they pay. The Thai health card program covered three million low income citizens that otherwise would have had to pay full user fees out of their pocket (Preker and Carrin 2004).

In Indonesia the health card program was begun in 1991 as a national initiative to ensure health care access for the indigent. In 1999, the estimated number of participants was 11,096. The health card program is administered by the Municipality Health Office (MHO). Compared to the partial (half) government subsidy in Thai cards, Indonesia fully subsidized the premium and the beneficiaries pay nothing. Primary and preventive services at the health center and certain services in public hospitals are covered by the card. Under this program, the cost containment...
components are included in such a way that payments to the providers (Rp 10,000 per year) are capitated for the designated poor population. The basic funding comes from the Social Protection Sector Development Program (SPSDP) and MHO with the government acting as the steward of this program.

**Health Equity Fund: an organizational response to targeting failures of fee waivers**

Health equity funds (HEF) can be powerful financing devices to accomplish allocation (or equity) objectives such as paying user fees or insurance premiums for the poor. The HEF requires a sophisticated design and careful implementation with ongoing financial and institutional support of government or donors. Even the most sophisticated design and implementation plans toward fee exemption for the poor may not adequately deal with all of the complexities, but some partial solutions are proposed and examined here. As Hardman et al (2004) recommend, any institutional solution really aiming to assist the poor in their access to health care should have at least two basic features. The first feature addresses the budget and resource constraints. There must be an earmarked budget that is aligned with the poverty profile of the covered population. The second feature has to do with specific arrangements that mitigate the exclusion problems emerging from conflicts of interest. To minimize the conflict of interest, the fund must be entrusted to a body whose agenda does not conflict with the mission to organize effective targeting of the poor for exemption. A purchasing body, or third-party payer, able to identify the poor and to pay on their behalf, may be a good solution (Hardman et al 2004).

Health Equity Fund is an innovative demand side intervention that effectively mitigates the negative consequences of user fee policies. The use of a user fee in combination with HEF is a good example of an intervention that is properly balanced between the efficiency and equity goals. To improve access for the poor, an entity is contracted to manage an HEF that identifies the poor and pays user fees on their behalf. Usually such an entity is independent of clinical service providers and, hence, health staff are entirely relieved of the responsibility to identify and finance poor patients.

The biggest advantage of an HEF is that it allows user fee policies to achieve their intrinsic goals without equity concerns. It is worth mentioning that HEF is a compensating mechanism that does not distort or abolish the user fees. While the establishment of HEF will not resolve all of the street-level bureaucracy issues, the targeting is placed in the hands of a dedicated entity with the proper skills and resources and none of the conflict of interest. In technical terms, the Type I (inclusion) and Type II (exclusion) errors will not be fully addressed; rather they are assumed to be reasonably minimized thru HEF.

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16 In Egypt the concept of the Family Health Find (FHF) is part of the health reform model, with potential utility to reallocate funds to effect both demand side equity and supply side incentives. As discussed in the chapter on provider payment, the FHF was to be a governorate level fund that would (be used to (1) provide incentive payments to clinic staff who did more or did it better, and (2) pay user fees for the poor. To date, only the P4P allocations have been paid by the FHF using monies provided by the EU and the Egyptian government.
HEF can be implemented under various organizational arrangements but, in principle, the objective is to mitigate the effects of utilization and financial barriers to the poor that result from the implementation of user fee policies. In terms of the scope of care, it can be implemented for preventive and outpatient services (Bangladesh and Madagascar) or equally for hospital and inpatient care (Cambodia).

It is also worthwhile to say that not all access constraints will be resolved by HEF alone. While examining the effectiveness of HEF in overcoming access barriers in Cambodia, Hardeman et al (2004) recognized four major constraints to access that affect the poor: financial, geographical, informational and intra-household. Hardeman et al concluded that HEF can address the financial barriers but three additional types of constraints may not be directly alleviated by HEF. Because they are not the result of user fees, other interventions should be employed simultaneously to mitigate those barriers as well.

**Organizational arrangement, technical design features, and impact of HEF on access to health care by poor**

In this section, three examples of efforts to combine a policy of user fees with HEF are examined with regard to their effectiveness in addressing access problems of poor. In following three case studies, the impact of programs in access and utilization by poor in various levels of care including primary and preventive care, medicine and pharmaceuticals, and hospitalization services in Madagascar, Bangladesh and Cambodia, are examined.

**HEF in Madagascar**

In Madagascar, user fee policy was broadly implemented in order to insure the adequacy of revenue generation in the health system. In 1998, uniform user fees (Participation Financière des Usagers: PFU) were instituted at all levels of public health care provision until 2002, when the government decided to suspend the user fee policy in spite of its effectiveness in generating revenue. User fees were suspended because some evidence indicated that the uniform user fees imposed a barrier to low-income populations’ access to health and medical services at both the primary health provider and referral hospital levels. At the end of 2003, the Government of Madagascar decided to replace PFU with a cost-recovery system (FANOME) for medicines at the level of its local health facilities known as Centre de Santé de Base (CSB). The new cost recovery system (FANOME) differs from the uniform user fee system (PFU) as it requires each local health facility (CSB) to establish an equity fund in order to reduce the financial burden on the poor. Those who are listed as indigent are exempted from paying for medicines at CSB and the equity fund reimburses the community pharmacy for the costs of their medicines. The equity fund gains some of its financial resources from donations, local contributions and part of the sales revenue of medicines sold at the CSB. In kind donations in the form of medicine are also accepted and their monetary value is calculated and recorded as additional support to the equity fund (Honda 2006).

With regard to organizational structure, each equity fund has a bank account that acts under two co-signatories: the treasurer of the scheme management committee (Comité de Gestion: CoGe) and a representative from the local community (Commune) to CoGe. The equity fund uses a voucher system for reimbursement. After consultation with an indigent patient, the prescriber fills in a voucher called “bons de soins.” The dispenser keeps two copies; one for
dispersing the medicine and the other for refunding the cost from the equity fund. Based on the
details of the voucher, the total price for the medicine delivered to the indigent patient is
deposited into the provider’s bank account from the equity fund account.

Targeting is done with the participation of communities. In some cases, communities already
have a list of poor households that can be used. If the community has not yet developed its own
system for identifying the indigent, the Service de Santé de District (SSD), head of the local
health facility (CSB), and representatives from the Ministry of Population discuss and determine
the size of the beneficiary group, and the community creates a list of indigent community
members. The role of local health officials in determining the size of the beneficiary group is key
because the level of funds available to support the beneficiary group depends on the sales
revenue of medicines at the CSB and the mobilization of local resources in the community
(Honda 2006).

The equity fund model that partially relies upon the health facility’s own revenue generation
can facilitate a cross subsidy from the rich to the poor. In theory, an equity fund may act in a
purely budget neutral fashion, meaning that the poor are subsidized solely through cross
subsidies from better-off users. In budget neutral models, however, there might be some
concerns about the underutilization of services by non-poor who are paying their fair user fees
plus some loadings for poor users. As the proportion of poor users increases, the probability of
underutilization by non-poor contributors also increases. In cases in which equity funds are
sponsored by donors or other external resources, there is little or no cross subsidy in place.

**HEF in Bangladesh**

Similar to the case of Madagascar, the Research Triangle Institute (RTI International), in
conjunction with Pathfinder International, is working in Bangladesh with rural and urban partner
NGOs to identify people who most need primary and preventive care and some curative services.
In this project, the poor are taken care of by a health equity fund while other income groups pay
user fees for services provided by local NGOs. The four-year NGO Services Delivery Project
(NSDP) was funded by the United States Agency for International Development (USAID).
Before the project, NGOs charged too little and did not have a successful record of cost recovery.
In order to overcome the financial deficits, RTI helped introduce a rational pricing system and
incorporated user fees for those able to pay. For the paying users, NGOs are now charging fees
that are competitive, but still lower than commercial clinic fees, in order to recover a bigger
portion of their costs and limit their dependency on donor support. Surplus revenues are devoted
to (1) 25% to performance bonuses for providers, (2) 25% for use by the NGO for programs,
and (3) 50% of the excess revenues go to the NSDP health equity fund. The HEF achieves two
seemingly contradictory goals: providing medical services to the poorest of the poor and
improving their cost-recovery and financial stability. Additionally, the project promotes policy
dialogue and advocacy with the national government and promotes public-private partnerships
(RTI International 2008, Chao, 2006).

As part of the implementation process, RTI designed and introduced a health benefit card
(HBC) that waives fees for free basic health services for the poorest Bangladeshis. The cards are
distributed to families that are classified by both NSDP managers and community leaders as
“least advantaged” (LA), based on whether they meet at least 6 of 10 eligibility criteria, the key
criteria of which are income, property, and house ownership. In Bangladesh, the HEF is a fund
shared by partner NGOs and managed by NSDP. With initial funding from NSDP, the HEF will acquire half of its new revenue from user fees and then reimburse NGOs for each card holding family served, up to the amount paid by regular clients. When user fees are covered by HEF, NGOs can serve as many eligible poor as they can identify and recruit with no reason to hesitate to serve people who cannot afford to pay (RTI International 2008). When evaluated the NSDP (Chou, 2006) found that (1) the NGOs had large increases in both paying and non paying clientele, (2) the HEF was essentially self funding the user fees for the poor from excess NGO revenues, (3) the incentives for “NGOs and their workers are motivated to serve more (poor) and to increase cost recovery” (p18).

**HEF in Cambodia**

Another example of policy that combines user fees with HEF is found in Sotnikum Cambodia where, in contrast with the previous cases, the approach mainly addressed the financial difficulties of the poor in obtaining hospital care. In 1999 in the Sotnikum Operational District of Siem Reap Province, user fees that had previously been collected on an informal basis became official and the proceeds were earmarked to improve the quality of health services. In what was called a “New Deal,” the Ministry of Health, Médecins sans Frontières (MSF) and UNICEF implemented a district level agreement whereby government health staff would receive a pay increase in exchange for better working hours and their commitment to uphold the new regulations. The New Deal also strictly prohibited informal payments or prescriptions for private pharmacies. The expected outcome was a direct and positive effect on the quality of services with additional impacts assumed, such as wages and salary for staff adjusted for fairness, a more professional working environment, and increased investments in training and supervision.

The ‘New Deal’ not only made user fees official, but also increased them, especially at the hospital level, and no exemptions were granted under the policy. As always, the obvious risk was that the poor would be unable to access the improved services. To achieve the goal of financial viability while also protecting equity in access to hospital care, MSF and UNICEF introduced an HEF that was to be managed by a local NGO. The HEF identifies the poor and pays user fees on their behalf. This equity fund supported 16% of hospitalized patients in the region. Because the HEF, as an independent entity, was charged with identifying and financing poor patients, the health staff was entirely relieved of those responsibilities (Hardeman et al 2004). The organizational structure, with its independent targeting and financing component, effectively addressed conflicts of interest between financing and targeting needs and the lack of proficiency in targeting by health staff.

Overall, the impact of HEF on access to hospital care was positive in Cambodia. However, because the poor were initially not aware of the HEF, many people who might have sought care and been deemed eligible for HEF support did not travel to hospitals for care in the first year and so did not benefit. In the second year, there was a steep increase in utilization of hospital care. This was largely the result of information diffused by word of mouth among the poor about the HEF. In the second year, a considerable number of patients had come from poor households who they likely would not have sought hospital care had they not heard of the HEF.

The informational barriers were recognized by the Cambodian Ministry of Health. To improve the information exchange between public providers and the population, the MOH installed volunteer feedback committees at the village level. These committees functioned poorly
because they lacked the time, knowledge and mandate to diffuse information and significantly reduce people’s uncertainties. Moreover, informal private health providers were almost invariably the first contact for villagers in case of illness, but they failed to inform the villagers about the HEF, as this would adversely affect their income.

The HEF had an acceptable targeting record. Most patients, who were hospitalized but could not pay the hospital fees, were identified and financially supported according to need, resulting in a strongly progressive transfer of resources. There was minimal leakage to non-poor patients indicating a reduction in inclusion errors (Hardeman et al 2004).

Another important dimension of the Cambodian study was the examination of the effectiveness of HEF on non-financial constraints to access. Patients who were interviewed raised concerns about four major types of constraints to accessing hospital care: financial, geographical, informational and household-related. These constraints are interrelated and all suppress utilization by the poorest households. In the rural subsistence economy of Sotnikum, the shortage of money turned out to be the principal constraint to access to inpatient care and the effectiveness of HEF in overcoming the financial barrier was quite significant. It apparently contributed to a reduction in inequities in health expenditures in relation to distance. However, by itself, it does not mitigate inequities in utilization resulting from geographical constraints to access. The HEF has no specific provision for households with difficult access to the hospital due to age, gender, family size and structure.

Another interesting feature of the Cambodian case was its organizational arrangement. The contracting of a local NGO to manage the HEF seemed advantageous in many respects. While hospital staff may have conflicting interests and often lack incentives to support the poor, an NGO contracted for this purpose does not face these constraints. It is also argued that NGOs may be more easily replaceable in case of poor performance. Moreover, an independent entity can contribute to voice and choice as well. By operating as an independent social actor in the health system, an NGO has the potential to represent the poor for whom it purchases health care goods and services and to reinforce patient rights towards government staff. Besides improving financial access, through its social and psychological support, the patient’s dignity and confidence can be restored as well. However, one should not overestimate these potential outcomes because not all NGOs are necessarily accountable to the population they serve (Hardeman et al 2004).

**Targeting Challenges**

By definition, an ideal targeting system for fee exemptions should minimize two types of errors simultaneously: Type I error which means inclusion of non poor in exemption and Type II error, exclusion of poor from fee exemption. Most exemption systems in LMICs suffer from at least one of these two errors. Type I (Inclusion) errors, which lead to leakage of resources to better off people, are due to the pressure of authorities and relatives, the absence of clear criteria or the low accountability of the persons granting the exemption.

Two factors cause exclusion errors. First, in a market-oriented setting, health staff may grapple with the conflicting interests of granting exemptions to help the poor and raising revenues to sustain the facility, especially when user fees serve to top up health workers’ incomes. Each exempted patient means a loss of revenue for facilities already experiencing
financial difficulties. Second, health staff usually do not have the expertise or time to objectively assess the patient’s ability to pay. This requires the sophisticated skills of a welfare worker or a dedicated entity (Hardeman et al. 2004).

Exemption mechanisms make sense conceptually but are challenging to implement in a way that promotes efficiency and fairness. In addition to the conflicts of interest and the lack of knowledgeable agents described above, public policy experts cite “Street-Level Bureaucracy” as a common obstacle to success. As Brodkin (2003) Lipsky (1980) and Prottas (1979) argue, lower level bureaucrats effectively make policy when formal statutes are ambiguous or internally contradictory, when policy implementation requires discretionary decision-making at the point of delivery, and when the routine activities of frontline workers can not be fully monitored or controlled.

The agent in charge of targeting exercises a fair amount of discretion, often simply because the rules and guidelines for targeting are unclear and excessive, which makes it necessary for agents to interpret them in their own way. In such cases, targeting agents control the central contingency of the agency’s work, their own work and what the applicant for exemption shall receive. Furthermore, information asymmetry between the poor and targeting agents adds to the complexity of exemption mechanisms. The agents can easily control the flow of information between potentially eligible households and the bureaucracy, and justify the categorization of households. As a matter of fact, the control of necessary information is one of the agent’s primary tools in his fight to maintain a degree of autonomy. The inconsistent demand for public funds imposed through limiting the number of exemptions and other regulations on the supply side, and a steady supply of eligible poor households on the demand side, creates a complex and uncertain environment for the agent and puts more pressure on him or her to use discretion to create a balance (Brodkin 2003, Lipsky 1980, and Prottas 1979).

Among the protection policies reviewed the HEF is less prone to targeting errors due to conflict of interest or lack of knowledge of health staff. The reason is that HEF benefits from a dedicated third party entity to implement the targeting and reimbursement whose interest is separate from those of providers or eligible poor. This advantage is frequently highlighted in the literature by researchers.

Discussion

Introduction and expansion of user fees in health services are a source of serious debate because of the risk of negative effects on access and utilization of health care for those who can not bear the burden of payments at the point of service. In theory, user fees can yield very positive improvements such as efficiency in scope and scale of care, providers’ financial viability, enhanced quality and availability of drugs and services, improved accountability and responsiveness, increased competition and choice, reduction in corruption, and so on. Abolition of user fees is not a proper solution to access drawbacks. Instead, compensating mechanisms on the demand side of market can be employed to allow user fee policies to achieve their intrinsic goals.

A user fee in combination with a fee exemption policy is the first option, and the prevailing practice of many countries to mitigate financial barriers to the poor imposed by user fees. However, in practice, exemption strategies are prone to fail to protect the poor due to the
difficulty of implementing and monitoring targeting strategies and exemption mechanisms. Conflict of interest can also undermine the inclusion of all potential eligible households. A Health Equity Fund that identifies the poor and pays service providers on their behalf may be an alternative to generally ineffective fee exemption policies. As its name reveals, the fund is designed to improve the “Equity” in access to health care.

HEFs effectively address the equity concerns arising from the implementation of user fees. This innovative approach facilitates simultaneous achievements of efficiency and equity goals as it allows the health services market to act more naturally by minimizing any sort of price distortion. By creating a transparent and competitive environment in which market mechanisms allocate resources efficiently and externalities are internalized thru pricing principles and proper service-based subsidies, the population-based subsidies then can be offered through HEF. As a result of such comprehensive approach to user fee policy, the historical trade-off between efficiency and equity goals is more likely to be resolved.

Chapter 3: Behavior Modification Programs (Token Economy Systems)

LMIC’s face many resource constraints and disincentives in their health care services. Barriers such as distance from facilities, lost wages associated with illness, costs of health care, user fees and out of pocket costs discourage the utilization of critical services particularly by poor. Non-financial factors such as lack of information, trust or cultural believes are also well-documented barriers responsible for sub-optimal utilization of services. Combination of these barriers has made the mission of changing the health seeking behavior of poor a very complex one. Supply side of the market can not do that much to address these barriers.

Among the demand side solutions behavioral modification systems (or token economy systems) have been employed to encourage desirable consumer (patient) behavior and discourage undesirable behavior with the use of incentives. These programs are also known as pay-for-performance on the demand side of the market. In health and education sectors the token economy systems are receiving attention following a series of successful programs especially in Central and Latin America. While a full fledged program constitutes education, health and poverty alleviation goals comprehensively, the sector specific versions of the programs are also designed to act within the health sector boundaries. Here we review the literature beginning with the broad version of program that comprehends the various elements of education, health and poverty alleviation. The health sector specific versions of the program are reviewed as well.

Conditional Cash Transfer (CCT)

A departure from traditional approaches to social assistance, Conditional Cash Transfer (CCT) programs represents innovative and increasingly popular channels for the delivery of social services. CCTs serve as investments in youth human capital by providing money to poor families contingent upon certain behaviors such as sending children to school or to health clinics on a predetermined basis. These interventions are designed to address traditional short-term
income gaps as well as to boost the longer-term accumulation of human capital by serving as a demand-side complement to the supply of health and education services.

Since 1997, seven countries in Latin America have implemented and evaluated CCT programs with health and nutrition components. The core of these programs in health arena is to encourage poor mothers to seek preventive health services for themselves and children and obtain health education information by providing them with cash incentives. This healthy behavior and investment in human capital is sometime defined as consumer performance (analogous with provider performance); hence some researchers characterize CCT programs as pay-for-performance strategies on the demand side.

According to frequent evaluation research, much of which is highly reliable, CCT programs are effective in improving intermediate outcome measures of the utilization of preventive health services and nutrition among the poor, with special focus on children and youth. Furthermore, evaluation results from a first generation of CCT programs in Central and Latin America also indicate that they have been successful in addressing many deficiencies of social assistance such as insufficient targeting, disincentive effects, and limited welfare impacts. There is clear evidence of increasing enrollment rates, improved preventive health care and increased overall household consumption, particularly higher quality food consumption (Glassman et al 2007, Gottret and Schieber 2006, Lagarde et al 2007, Rawlings 2004, Rawlings and Rubio 2003, and Regalia and Castro 2007).

In spite of such promising evidence, many concerns about CCT programs have not been addressed. These include their replicability under different conditions, particularly in highly constrained low-income countries, their roles within a broader social protection system, and their long-term effectiveness in preventing inter-generational transmission of poverty. Another major concern is the lack of confidence in the supply-side of the market to catch up with the increase in quantity and quality of services. Besides, the focus of CCT programs is on short-term income support and on longer-term human capital accumulation and not necessarily on strict financial protection against illness shocks (Gottret and Schieber 2006, Lagarde et al 2007, and Rawlings 2004).

There is a crucial need for more research in order to determine whether CCT programs can be an effective means of improving health outcomes and protecting households from illness shocks and whether they can be effectively implemented in low-income country settings.

**Theory of CCT programs**

CCT programs are a new type of social assistance program that represent an innovative approach to the delivery of social services. As the name implies, conditional cash transfers provide money to poor families conditional upon investments in human capital, usually by sending children to school and/or bringing them to health centers on a regular basis (Rawlings 2004). CCT is also claimed to constitute a de facto “negative” user fee because the program transfers cash to the poor (mothers) to ease constraints on health care seeking by reducing out-of-pocket expenditures and opportunity costs (Gottret and Schieber 2006). They are also considered as a type of demand side P4P strategy, because payment to consumers is conditional upon changing behavior through investment in human capital (Eichler 2006, Regalia and Castro 2007).
The programs’ reliance on market principals, using demand-side interventions to directly support beneficiaries, is a marked departure from traditional supply-side mechanisms such as general subsidies or investments in schools, health centers and other providers of social services (Rawlings 2004). There are varying theoretical explanations for this departure. Researchers such as Regalia and Castro (2007) argue that demand for health and education might remain constrained even if supply is enhanced. This could be due to an imperfect knowledge of the returns to human capital investment; high total costs of accessing health and education services; increased risk environment leading to uncertainty about the future and decreasing incentives for investment in human capital, and social exclusion. Demand for preventive health care services of a given level of quality, for example, is influenced by factors that determine whether an individual appreciates their value and is willing and able to seek the care, which in turn depends on the explicit and opportunity costs of accessing the services. Therefore introducing demand side P4P strategies, such as CCTs, that try to align consumer objectives with social goals, has the potential to support care-seeking behavior.

History and background

CCT programs have been established in numerous countries in recent years, particularly in Latin America and the Caribbean, where they were originally developed. The most popular programs include a combination of health, education and nutrition objectives. Examples include initiatives such as Mexico’s Programa de Educación, Salud y Alimentación (PROGRESA) launched in 1997, the first large scale CCT program both regionally and globally; Colombia’s Familias en Acción program (FA); Honduras’ Programa de Asignación Familiar (PRAF); Jamaica’s Program of Advancement through Health and Education (PATH); Nicaragua’s Red de Protección Social (RPS); Bolivia’s Beca Futuro; Ecuador’s Bono de Desarrollo Humano; Chile’s Subsidio Unitario Familiar; and, recently, Brazil’s Bolsa Familia program. Other programs provide education grants only, including Brazil’s established Programa Nacional de Bolsa Escola, the Programa de Erradicação do Trabalho Infantil (PETI), and Agente Joven. A third category of programs with focus on health and nutrition objectives includes Brazil’s Bolsa Alimentação and Cartão Alimentação (Rawlings 2004).

The design of the Nicaragua’s RPS is unique among CCT programs because demand-side incentives are complemented by supply-side incentives aimed at improving the provision of health care. Demand-side incentives, in the form of monetary transfers, are provided to poor households on the condition that their children attend school and visit (preventive) health care providers. At the same time health care providers are paid on the basis of their performance against predetermined targets. Both private and non-profit health care providers are contracted by the government to extend coverage of services to previously underserved areas (Eichler 2006, Regalia and Castro 2007). Similarly, in Honduras, the CCT program provides grants directly to schools and health centers as part of an experiment designed explicitly to compare the effectiveness of three alternative interventions combining demand and supply incentives (Rawlings 2004). Although both countries reported positive results, neither has been able to disentangle the partial effectiveness of supply P4P strategies versus demand side ones.

Impacts of CCT programs
In contrast with most health interventions, many CCT programs have used solid impact evaluations to provide empirical evidence for relatively large-scale social interventions. Evaluation programs were designed to confirm the existence and measure the size of expected impacts, recognize potential unanticipated effects, understand beneficiary and stakeholder perceptions of the CCTs, and verify that program benefits are delivered in a cost-effective manner. In Nicaragua, the Inter-American Development Bank, in the role of donor, was convinced to extend its funds to a CCT program based on evaluation results (Regalia and Castro 2007). To achieve the objectives, the CCT evaluations have experimental (Honduras, Mexico, Nicaragua) or quasi-experimental (Colombia, Ecuador, Jamaica) designs, with repeated observations from large samples of households in treatment and control groups via specially designed surveys conducted pre and post CCT implementation. School and health center surveys or administrative data on supply for program intervention areas are available for Colombia, Honduras and Mexico. Four countries included a qualitative evaluation on some aspects of program operation and effects (Gertler 2000, Glassman et al 2007, Rawlings 2004, and Rawlings and Rubio 2003). Studies based on interrupted time series analysis were also reported by Lagarde et al (2007).

However, a recent systematic review of the literature by Glassman and colleagues (2007) indicated that most of the evaluation researches focused on poverty, consumption, and education process and outcomes, with less attention focused on health indicators. The Colombia, Mexico and Nicaragua programs modeled the effects that the programs were to have on poverty, inequality, consumption and school attendance. Few programs modeled health effects, with the exception of the demand for health services in Honduras and nutrition effects in Mexico and Nicaragua. Glassman et al (2007) argue that the general omission of health impact in the overall evaluation framework could be a result of the lack of linkages between data sets for some types of outcomes such as nutritional status or use of specific types of preventive care. In most cases it seems that health and nutrition objectives were essentially afterthoughts and did not merit more in-depth analysis.

But on the whole the evidence suggests that CCT programs are effective in increasing the use of preventive services, food consumption and enhancing nutritional status, leading to overall improvement in health status.

Utilization

Use of preventive health care is thought to be an important input for overall better child health. In the short-term, the CCT programs are expected to increase preventive and curative health service utilization. Given the incentive to use public health care providers, a decrease in the use of private providers might be expected. All of the programs set utilization of preventive health services as a condition for transfer, using both administrative and household surveys to measure indicators.

Using administrative data, a study of the impact of Mexico’s PROGRESA on visits to public clinics found that after the introduction of the program in 1997, visit rates to clinics in PROGRESA localities were on average higher than in other areas. This differential grew over time as more PROGRESA areas began to provide benefits. Furthermore, CCT programs resulted in a significant increase of public clinic visits for children in Honduras, Nicaragua, and Colombia.
It is also hypothesized that health care seeking behavior vis-à-vis type of provider may change through CCTs by families substituting public for private services. The Mexico study, based on mid-term rural evaluation reports, indicated that the use of public health services increased in the same proportion to the decrease of their private counterparts, possibly pointing to the substitution from private to public health providers. In Honduras, PRAF evaluators also recorded an increase of about 20 percentage points in the number of pregnant women who had at least five prenatal check-ups. Another study evaluated the impact of PRAF on the use of pre-natal care, vaccination and growth monitoring and found that significant effects were found only in the groups that received demand-side transfers and not among households that benefiting only from supply-side interventions.

Unlike the case of PROGRESA, where beneficiary families substituted public for private care, the Nicaragua program provided services to beneficiary families through contracted NGO providers. We mentioned earlier that the Nicaraguan CCT program was unique in simultaneously combining P4P in supply and demand side practices. In this setting, some beneficiary families may have substituted private/NGO care for public care, possibly resulting in an increase in utilization among control households as well, given that control areas are geographically adjacent and beneficiary-related demand for services shifted (Glassman et al 2007, Rawlings 2004, and Rawlings and Rubio 2003).

In Colombia, FA beneficiary children also experienced pronounced increases in growth monitoring visits to health providers: an increase of about 30 percentage points among children under 24 months, and an increase of 50 percentage points for children between 24 and 48 months.

Another important indicator of interest was vaccination rate. Although vaccination was a condition for cash transfers in Honduras and Nicaragua, it was not monitored by the CCT program. Due to poor recording practices, the evaluation of rates, particularly in establishing the date in family-held vaccination cards, was difficult for health providers. Some evaluations consider only one or two “tracer” vaccines, while others attempt to document full vaccination, and many used varying different definitions. The overall contribution of CCT per se to vaccination coverage appears marginal. In spite of apparent program-attributable increases during a pilot implemented during 2000-2001, the Nicaraguan RPS produced an average net increase of 6.1 percentage points (insignificant) in up-to-date vaccination levels between 2000 and 2002. In Honduras, children showed marginally higher rates of DTP/Pentavalent, insignificant and small differences for MMR, and a slight increase in children under age 3 that received their first dose of DPT on time. The Colombia program measured DPT prevalence and found an insignificant difference between program participants versus controls (Glassman et al 2007).

Vaccination is difficult to impose as a condition as it is supply-dependent and if vaccines are not in stock, the intervention will not take place. The Honduras experience, where supply was variable, is an example of this phenomenon where results might have related more to the availability of vaccines at health centers than to a demand effect. However, an indirect effect of the program might be that coordination with the MOH in program areas may generate more vaccine supply (Glassman et al 2007).

Health knowledge and practice
In spite of the inclusion of health education components (health literacy) in all programs, health knowledge and attitudes have generally not been explicit components of the evaluations. Some indirect observations are available indicating change in health knowledge and beneficiary behaviors. PROGRESA evaluators in Mexico found an increase in dietary quality and calorie consumption. Controlling for income associated with increased calorie consumption and increase in consumption of diverse, high nutrition foods indicated that nutrition brought about by health literacy talks may have had an effect. Time of breastfeeding initiation and its duration was another successful example as the lecture-style health talks and peer to peer learning through “community mothers” seemed to have had positive effects in some areas of Mexico and Colombia. In Colombia, the program increased overall household consumption of high quality foods. Similarly in Nicaragua, RPS had a beneficial effect on dietary diversity in terms of both the number and quality of foods purchased. An increased knowledge of family planning methods in both urban and rural areas was also observed in Mexico (Glassman et al 2007, Lagarde et al 2007, Rawlings 2004, and Rawlings and Rubio 2003).
Demand driven supply of health services

In a broad review of theoretical and empirical works, Glassman and colleagues (2007) argue that the CCT program includes two main assumptions related to the supply of health services. The first assumption is that the current supply of preventive services is adequate or that an increase will follow the increase in demand resulting from CCTs. The second assumption is that utilization of preventive services will improve health status, and that the quality of available care is good enough to result in positive health outcomes. While programs in general have administrative data, there is little evidence on demand driven supply, such as the availability and quality of health care services and how supply-side program components affect observed outcomes.

In Mexico, administrative data indicates substantially increased numbers of visits in PROGRESA areas, while qualitative studies confirmed increased staff workloads. In response, some medical staff reported charging program beneficiaries when a medical visit was not related to the program and, though medical staff diagnosed illness during the program mandatory consultation, some beneficiaries were requested to make an additional appointment and charged for “extra consultation”. In terms of physical facilities, an increase in the number of health clinics in program localities and in public budgets for health were reported in Mexico. Urban clinics were built in program areas and included higher-salaried staff, both of which may indicate a supply response to the program (Glassman et al 2007).

The Nicaragua RPS program directly financed and scaled up health supply through NGO providers. Regalia and Castro (2006) report the increase in the number of health care facilities due to RPS, but do not discuss quality issues or the impact of health lectures on behavior and knowledge. Up to this point researchers have been unable to fully separate the effects of the various components of the program, especially the differences between impacts due to the cash transfers versus those due to supply-side improvements. Without determining the changes that occur in the supply of services, it is impossible to conduct such analysis (Regalia and Castro 2006).

Quality

Quality of services is vital for the health center visits. Most of the data on quality comes from small-scale, qualitative studies, so findings cannot be reliably generalized. It is worth noting that while the number of procedures is higher amongst beneficiaries, the results of the interventions are not encouraging, suggesting that supply-side strengthening for quality of care must be a priority. In Mexico, the availability and quality of medicines as an important quality indicator was a major issue. A small-scale facility survey found that public health clinics in a group of Oportunidades localities had insufficient supply of medicines to treat the increased number of patients. Beneficiaries reported that the medicines provided by the public clinics were perceived to be of low quality and that many individuals were choosing to purchase more expensive, higher quality drugs at private pharmacies. It is also noted that delivery of nutritional supplements to program localities in Mexico was sometimes delayed, resulting in inadequate supply and potentially reducing the frequency of consumption (Glassman et al 2007).

A study on the quality of care for Mexico’s Oportunidades diabetic beneficiaries in urban areas, attempts to link quality of care to observed differences between treated and untreated
households and individuals. Results indicate that diagnoses of diabetes have increased, but beneficiaries are not more likely to have the disease properly treated, suggesting that there is much room to improve the quality of health care. It was also confirmed that beneficiaries are more likely to be checked for diabetes, although no significant differences are observed in terms of the effects of treatment. Another rural Mexican study examines the quality of pre-natal and delivery care, finding that beneficiary women on average, received a larger number of procedures. However, the frequency with which the women were informed of their blood groups or were administered syphilis detection test was very low. No significant differences were reported between the groups with respect to births in a medical facility, but a smaller proportion of cesareans were recorded in the intervention group (Glassman et al 2007).

**Equity**

The eligibility criteria for CCT programs are determined with a central focus on poor families and in particular those who have children. With the exception of programs in Mexico (PROGRESA and Oportunidades), CCT programs admit only poor households with young children, school-aged children and pregnant women; all other households are excluded. Categories of eligible children vary depending on (i) the country’s nutrition strategy that sets certain age groups as targets (priority has been shifting from 0-5 to 0-3 years old, 6 year olds are rarely included); (ii) the official starting age for school; and (iii) whether the primary objective of the program is human capital creation or consumption smoothing. A central feature of almost all CCT programs is the use of explicit targeting strategies to determine eligibility for benefits. Almost all combinations of geographic targeting and individual household targeting are used. Mexico, Colombia, and Brazil apply a first round of geographic targeting of localities, followed by the application of proxy means testing or direct income testing to identify individual households eligible to participate in the programs. Targeting increases time and money costs of programs and entails type I (inclusion of non-poor) and type II (exclusion of poor) errors. But it does guarantee that CCT programs are pro-poor, unlike other non-targeted interventions such as general subsidies (Glassman et al 2007, Lagarde et al 2007, and Rawlings 2004).

In the Mexican CCT program, as expected, utilization of conditioned preventive health services increased significantly on average among the poor. The extent of this increase varied in magnitude, but was generally larger in low use baseline settings such as rural areas and among the poorest households (Glassman et al 2007). Similarly, the program effects were larger for poorer households in Nicaragua, where effects were more pronounced for children ages 3-5 years old. (Glassman et al 2007, Rawlings 2004, and Rawlings and Rubio 2003). Other empirical studies also indicate the pro-poor pattern of program effects, though with some variation. Overall, CCT programs have effectively addressed inequity, particularly in utilization of health services, education and nutrition. Targeting and eligibility criteria, however, do not allow CCTs to mitigate income and access inequities affecting the elderly and citizens with disability.

**Financial protection**

The impact question here is whether CCT programs are effective in providing protection from the impoverishing effects of catastrophic health care events. The focus of CCTs is both on short-term income support and on longer-term human capital accumulation and not necessarily on strict financial protection against illness shocks. On the other hand, transfer sizes related to health and nutrition conditions are generally lump sum. It is important to note that lump sum
structures favor smaller families, which may affect programs, and that it is the combined amount of the transfer, representing both schooling and health/nutrition subsidies, that influences the risk protection effect of CCT programs. On average, payment amounts range from 10 to 25 percent of total consumption among beneficiary households, and cash grants can be fairly large, (up to 25 percent of household income in Mexico and 30 percent in Colombia), potentially constituting a buffer against financial shocks due to illness. By considering that there is already a direct effect on incentives to use mandated health care interventions, which in turn lessen the likelihood of some severe and expensive illness, if the transfer share is large enough then it is justifiable be thought of in a shock absorbing role against catastrophic payments for CCTs (Glassman et al 2007, Gertler 2000, and Gottret and Schieber 2006).

**Advantageous key design features of CCT**

CCT programs represent an innovation in the provision of social assistance. The first generation of programs have proven successful in limiting some of the arbitrariness associated with traditional social assistance programs and in achieving concrete advances in human development, as supported by the evaluation results described so far. Rawlings (2004) believes that these advances have been achieved by introducing several key design features explained below.

**Changing accountability relationships:** CCT programs address many of the criticisms associated with traditional social assistance programs by changing the accountability relationships between the national government, service providers in health and education, and poor households. CCT programs can foster “co-responsibility” between the government and families, by requiring families to assume responsibility for schooling, health and the appropriate use of cash grants. On another level, the provision of the grants to mothers in the household, combined with the election of mothers’ local representatives to serve as conduits between beneficiary families and the CCT program, has introduced changes in empowerment dynamics that are playing out in households and communities throughout the region. These have been reported to produce both positive and negative effects. Finally, the conditions imposed by the CCT grants provide an incentive for the poor to use available health and education services, strengthening the link between service providers and poor households.

**Addressing both current and future poverty:** All CCT programs seek to foster human capital accumulation among the youth as a means of breaking the inter-generational cycle of poverty, as well as providing income support for improving consumption in the short-term. Conditionalities provide the primary vehicle aimed at achieving long-term development impacts by addressing market failures and internalizing positive externalities accrued through increased investments in health and education.

**Targeting the poor:** Poverty targeting mechanisms can provide effective channels for reaching the poor, but these efficiencies must be balanced against increased administrative costs and other problems often associated with targeting. For officials, these problems include opportunities for corrupt behavior, and for beneficiaries, they can entail perverse incentives to remain part of the target population, and/or social stigma associated with participation. In assessing this balance, CCT program designers have opted strongly in favor of targeting so that most programs use both geographic and household level targeting to channel scarce resources to poor areas and households.
Providing cash: The use of cash has many advantages over the provision of in-kind transfers, food stamps, vouchers or the use of generalized subsidies. First, it addresses information asymmetries by giving households discretion over how to best allocate the assistance received. It also avoids the creation of secondary markets and price distortions that often arise from the provision of goods, and facilitates targeting since cash transfers allow for less errors of inclusion than other approaches such as generalized subsidies. The transfer of cash is generally more cost-effective since it involves lower transaction costs than other types of transfers, particularly in-kind transfers, and allows benefits to be transferred directly to households, as opposed to being spent on materials. Finally, the use of cash also allows policymakers to more efficiently adjust the level of the transfer over time and across populations.

Fostering synergies in human development: By focusing on health, nutrition and education, most CCT programs recognize and foster the complementary relationships between these elements of human capital development vital to stop the inter-generational transmission of poverty. This direct fostering of synergies reaffirms the evidence concerning the ineffectiveness of certain human capital investments, such as education, without the provision of other basic inputs, such as adequate nutrition.

Using evaluations strategically: Unlike most development initiatives, many CCT programs have used impact evaluations to provide an empirical basis for guiding the introduction of large-scale social interventions.

Challenges facing formation and implementation of CCT programs in LMICs

Despite the advantageous design features of CCTs and their promising results, several concerns have been voiced about these programs, concerns about their replicability, sustainability, and about their prioritization relative to other public investment options. Some of these concerns are discussed here.

Organizational and institutional necessities

In a broad literature review Glassman et al (2007) elaborate the project cycle of CCT programs based on the design and implementation experience of 7 countries in Latin and Central America. In general the project cycle involves the following sequence of activities: (i) selection of program areas (geographic targeting assumed) and coordination with health and education sectors; (ii) identification of beneficiary households (household targeting assumed); (iii) enrollment of beneficiaries, generally involving beneficiary meetings in each community to inform participants of their rights and responsibilities under the program; (iv) organization of supply responses in advance of delivery of demand transfers and delivery of supply transfers where relevant (Honduras, Nicaragua); (v) verification of conditionality involving the distribution, collection and processing of clinic and school attendance records; (vi) delivery of demand transfers, calculating transfers based on compliance levels, informing beneficiaries about scheduled transfers and ensuring that the disbursement and payment of transfers through banks or post offices is conducted in a timely and orderly manner; and (vii) internal monitoring and evaluation, including supervision, spot checks, audits, etc.

Design, implementation and testing of almost all CCT programs has been confined almost exclusively to middle-income countries, many in Central and South America, where the
programs constitute social sector spending on top of existing health spending. In contrast to developing countries, these middle-income countries have a higher per capita income and are able to take advantage of higher levels of institutional capacity. Regalia and Castro (2007) discuss the institutional capacity underlying a successful CCT program in Nicaragua:

“The RPS first phase was designed from scratch and successfully executed by the Emergency Social Investment Fund (ESFI). ESFI’s solid institutional structure, accounting systems and nationwide presence at local level nationwide provided an excellent platform for the development of the RPS program.”

It is worthwhile to look at the cost of program under such exemplary institutional capacity. The Nicaraguan case was that of a combined supply-demand P4P program, where transfers and supply side interventions were initiated at the end of the first year of operation. The first year cost-transfer ratio (CTR i.e. the administration and private costs associated with a one-unit transfer to beneficiaries) was 2.54 that is US$ 2.54, of which US$ 1 was transferred as financial benefits to eligible households either as demand subsidies or health care services. This ratio dropped to .49 and .46 during the second and third years of operation when the RPS coverage reached almost 10,000 households. No precise CTR estimates exist for the second RPS phase during which the program reached 30,000 households in 2004. Using the financial information available from administrative records, the CTR at the beginning of 2005 was approximately .20 (Regalia and Castro 2007).

By considering such examples one can imagine that the cost of programs in a hypothetical country with weak institutional capacity and limited scope of program in terms of population and/or time horizon, would make the economy of scale associated with time and population dimensions unachievable. The potential success and desirability of such programs in highly constrained countries, is under question and merits further investigation (Gottret and Schieber 2006, Lagarde et al 2007). In addition to financial barriers there are other constraints in low-income countries that may jeopardize the possibility of success of CCT programs that require sophisticated levels of design and implementation. Even if the financial barriers are overcome surmounted through donor support, money alone is insufficient to address the constraints facing health systems where a range of factors currently impede the delivery of adequate health services, only some of which are amenable to alleviation through the injection of additional resources (Hanson et al 2003).

Political issues around CCT programs

Political criticism of CCTs posits that though these programs represent a creative approach to providing social assistance, they constitute an ‘end-run’ around the more difficult task of reforming inefficient public services. This is argued in the case of middle-income countries as well. The risk here is that relatively rapid deployment of effective service delivery allows politicians to respond (albeit often effectively) to pressing needs, but ultimately undermines the necessary, difficult and time-consuming efforts of broader public sector reform (Rawlings 2004). As we explained in introduction of the monograph and will again discuss in detail in last section this concern voiced by researchers means that relying upon issue specific type of interventions might result in compromising necessary core investments aimed at health system strengthening. The issue specific interventions are legitimate up to the level that the potential productivities of
the core investments are achieved. In other words they are short to mid-term complementary interventions for core investment and not substitutes.

It is also argued that without greater attention to the provision of quality services, CCT program requirements run the risk of mandating the use of low quality services for the poor, tying them to ineffective service providers and undermining the potential impact of CCT programs on long-term welfare impacts. The issue raised here is a clear example of how the gap between supply and demand no matter which side suffers from the shortage, can undermine the aggregate investments made by governments and donors.

Another political concern is that of the high degree of centralization of CCT programs. To date, CCT programs tend to be implemented by specially created entities linked directly to Presidential offices or other semi-autonomous project executing units. As such, they are institutionally separate from local governments and “line ministries” such as the Ministry of Health. This seems to have contributed to the rapid pace of execution observed in most programs but has also generated institutional and bureaucratic friction among the implementing partners. Although administrative arrangements vary considerably across programs, CCT programs (especially those with highly centralized administration such as Mexico and Colombia) have been accused of undermining local governments’ effectiveness (due to their close-to-client characteristic) by circumventing their authority. This concern has particular resonance in countries where democratically-elected governments are in their infancy, where decentralization efforts are underway to strengthen the capacity and autonomy of local entities, and where central governments have a long tradition of clientelism and paternalism. Strong centralization also limits the program’s ability to answer to recipients’ needs and build in local response mechanisms for basic operational tasks such as targeting, checking compliance with conditions or addressing beneficiaries’ concerns. It may also restrict the programs’ ability to effectively coordinate with health service providers (Glassman et al 2007, Rawlings 2004).

**Household targeting issues**

In addition to the technical difficulties manifested in type I and type II errors there are other cultural and political concerns about targeting. Most of these concerns are not limited to CCT and can be generalized to other demand side policies like vouchers or health cards. Glassman and colleagues, (2007) in a review of the efficiency of different targeting strategies, report that although means tests’ performance vary significantly according to implementation ability, these instruments display the best results in terms of errors of inclusion and exclusion, and can be cost-effective in specific settings. While the Mexican targeting strategy reportedly generated social conflicts related to targeting individual households in poor communities, and there is evidence of beneficiary gaming of the targeting system, the efficiency gains from household targeting appear to be substantial, particularly as programs expanded into more economically heterogeneous settings such as urban areas.

Rawlings (2004) argues that proxy means tests used to target individual households within poor communities as well as targeting of women as the transfer recipients, has been criticized for fostering discord within households and communities. The appropriateness of this method has been questioned in particular situations where indigenous communities engaged in collective decision-making and the provision of group-based benefits are valued. Some observers contend that the selection of beneficiaries is arbitrary where household-level proxy means tests are based
on criteria unknown to potential beneficiaries. Furthermore, certain targeting strategies and
transfer requirements may not be fitting for specific vulnerable groups, such as the disabled or
mobile populations such as migrant workers. Plus, limiting the program to families with children
excludes the elderly poor. Finally, if transfer programs are to be used as safety net mechanisms
for addressing short-term consumption needs during periods of crisis (such as the experience in
Nicaragua during the coffee crisis), the use of a static measure of poverty (proxy means tests)
may not be appropriate. There may be other proper dynamic targeting approaches such as self-
selection in such cases.

**Sustainability and replicability issues**

There are concerns about the long-term sustainability of both the programs and their achieved
welfare impacts. Many of the programs are financed through a combination of general tax
revenues and international lending, with the latter raising questions about the long-term viability
of the programs, particularly as they become an increasingly integral part of countries’ social
assistance strategies.

As an example, Regalia and Castro (2007) discuss their concern about the sustainability of
RPS in Nicaragua:

“Very regrettably, at the time this work is being written, the MOH budgetary allocations have
not prioritized the RPS localities to ensure continuity in the provision of preventive health care
services through contracted private (for or not for profit) providers beyond the five years
originally covered by the second phase Inter-American Development Bank (IADB) loan. For
extremely poor households residing in RPS localities, real access to preventive maternal and
child care services will become once again elusive, as it was before the RPS was launched.”

The question of context also appears as policymakers assess the ability to generalize the initial
successful experience of a handful of programs in the early stages of operation into blueprints
applicable in a variety of circumstances. Certain situations raise questions about the external
validity of the evaluation results. For example: Can these programs function as successful safety
nets in times of crisis; would they need to be adapted to target vulnerable populations affected by
the crisis? Can the programs be successfully replicated in countries where the administrative
infrastructure for successful program implementation (for monitoring compliance, ensuring
timely payments, etc.) may be limited? What about their application in vertical programs? Are
there ways to introduce the programs in geographical areas with limited health and education
supply capacity, perhaps through mobile health clinics and other innovations? Are these
programs appropriate for populations with particular characteristics such as the indigenous or the
disabled? Is it possible to expect positive impacts by encouraging utilization when services are of
2004)

**Does conditionality matter?**

Glassman et al (2007) argue that by conditioning payment upon certain predefined behavior,
it is assumed that the relaxation of the budget constraint brought about by the monetary transfer
will not be sufficient to induce major changes in short term poverty and human capital
investment. Instead, a condition that transforms the income effect into a price effect, for
example, by requiring regular health check-ups, is required. This assumption may not be true, as there could be levels of transfer that would induce the desired behavior without conditioning and its associated monitoring and opportunity costs. Therefore, the relative cost-effectiveness of a conditioned versus non-conditioned transfer scheme should be calculated. A major potential source of inefficiency in CCT programs is paying people for what they were already going to do. In order to reduce this efficiency leakage, program designers should ideally model the likelihood that a given beneficiary will attend the conditioned health services under different transfer scenarios. Thus a key design question relates to identifying the marginal benefit of conditioned over unconditioned transfers.

Little has been studied about overall costs of programs, limiting the scope for assessment of cost-effectiveness or cost-efficiency. As cited by Glassman et al (2007), the share of program costs associated with targeting and conditioning relative to the size of the transfers, was 21 (Nicaraguan RPS) and 27 (Mexican PROGRESA) percent. Monitoring conditionality is costly, therefore it is important to determine whether conditions are necessary and if so, whether enforcement is critical. CCT programs in Honduras (PRAF) and Ecuador (BDH) demonstrate that significant changes in behavior can be achieved without enforcement. In some cases, it is probable that increased income alone is sufficient to achieve results, though not necessarily a maximum level of potential results. This would support the view that poverty is the “entire” problem.

Redefining CCT programs within health sector

CCT programs are classified under the broad umbrella of social protection programs. They are designed inline with modern poverty alleviation strategies that address the short-term basic needs of the poor as well as their long term human capital necessities. Consistent with this broad mission the cash component is always determined in order to fill the poverty gap. In an arguably paternalistic manner, the recipient household is implicitly considered to have suboptimal levels of knowledge, is mandated to pay a portion of the transfer money on health, education and nutrition.

We need to reconcile the definition and arrangement of CCT programs explained above with common donor practices. In general, donors practice two financial support strategies. First, there is national budget support to fill the budget gap of recipient countries in pursuit of a national health policy agenda. CCT programs can be fairly enriched through this type of donor support. The second major category is off-budget financial and technical support allocated for vertical programs, penetration of new technologies, crisis and disaster relief and other short-term interventions. Unlike donor funded national budget support grants and loans, off-budget interventions are usually not aligned with a country’s own social protection programs and the national mid and long term poverty alleviation strategies. Therefore CCT programs might not be well suited for vertical programs and diffusion of new technology, unless their social protection characteristics and requirements are redefined and customized to the time and money horizons and specific objectives of donors.

This customization is especially vital for specialized donors. In general, specialized donors that pursue their own vertical programs and specific objectives, are not willing to periodically transfer big amounts of lump-sum cash to poor families and subsequently require recipients to spend transferred funds on a vaccine or new technology product. The cost-per-vaccine for
example, in such a hypothetical case would be extremely high. If specialized donors decide to
fund CCTs as part of vertical programming, then in general, two necessary deviations from
commonly practiced CCT programs should be made: the size of transfer should be adjusted
downward to cover the limited set of objectives for limited numbers of household members, and
secondly, the conditionality should be accordingly narrowed to ensure utilization of specific
product or service by target members of the target households. A new generation of such
programs will now be reviewed and the principles emerging from best practices in
implementation will be discussed below.

**Contingency Management:** Customized applications of motivational incentives in
health

CCT programs comprehensively address a wide range of short and long term poverty
alleviation goals through the complementary objective of changing health and education seeking
behavior of households. There is, however, a generation of CCT-like programs designed and
customized within the health sector to change the health seeking behavior of individuals and
households. Compared to CCT programs, motivational incentive programs in health are limited
in scope and scale because they do not have the poverty reduction and educational components
of CCT. But the foundation and principles are very similar. Different terms are used for such
programs within the health sector. Contingency Management (CM) is the most popular term,
particularly in behavioral health, but other terms such as motivational incentive or community
reinforcement have also been used. (Higgins et al 2007, Kellogg et al 2007, Petry and Stitzer
2002).

The structuring of consequences to help shape or change behavior has been used throughout
history. Examples include military honors, athletic prizes, progressive educational interventions,
and prison reform. At the same time, while aversive or punitive methods (constituting unpleasant
consequences) have been used in order to reach goals, the systematic use of positive
reinforcements or consequences has been associated with humanistic efforts to improve
problematic individual or social conditions (Kellogg et al 2007).

CM uses a system of incentives to motivate patients. It provides tangible rewards to patients
for reaching concrete target behaviors. The evolution and dissemination of CM programs
especially in the behavioral health industry has been quite impressive thanks to solid research
findings indicating significant change in health seeking behavior in various target populations.
CM interventions are claimed to be perhaps the most exciting development in substance abuse
treatment research in the past ten years, as they have shown to be consistently effective for many
types of patients and many applications (Petry and Stitzer 2002). Based on illustrative case
material, leading researchers presented cogent empirical rationale and practical strategies for
targeting major substance abuse problems and working with specific populations, including
adolescents, pregnant women, and dually diagnosed and homeless individuals (Higgins et al
2007). In 2000, the National Institute on Drug Abuse (NIDA) formed the Clinical Trials
Network. It was a nationwide collaboration between scientific researchers in addiction and com-
munity-based treatment programs. The success of clinical trial studies led to the launch of a
national dissemination effort in collaboration with the network of Addiction Technology
Transfer Centers (ATTC) supported by the Substance Abuse and Mental Health Services
Administration (Kellogg et al 2007).
These findings and other evidence suggest that CM programs are potentially applicable to a wide range of target behaviors and problems, including treatment initiation and retention and compliance with pharmacotherapy, such as retroviral therapies for HIV patients (Petry and Stitzer 2002).

**Incentive and disincentive mechanisms: reinforcement and punishment**

Two types of contingencies or incentives are defined, namely reinforcement and punishment. The goal of reinforcement is to increase the occurrence of a behavior while the goal of punishment is to decrease the occurrence of a behavior. Punishment usually involves the presentation of some kind of aversive stimuli when undesired behavior occurs.

Reinforcements take place in positive and negative forms. Positive reinforcement involves the presentation of a stimulus after a behavior occurs, while negative reinforcement involves the removal of stimuli once a behavior has occurred (Kellogg et al 2007). This classification helps to precisely differentiate CCT programs from CM interventions. A CCT program provides target populations with cash stimuli, and then continuously makes further payments conditional upon reaching behavioral targets. Cutting future CCT payments serves as negative reinforcement while in the case of CM, a positive reinforcement mechanism is used to encourage change in health seeking behavior. Only after a patient fulfilled a treatment procedures or a baby got vaccinated is the reward paid.

Besides the specific differences between positive and negative reinforcement strategies with regard to behavioral responses of recipients, a more obvious difference is the cost. In an identical situation the negative reinforcements (e.g. CCT) are more costly because money is paid to everybody ex-ante, at least at the beginning of the program, even though some participants may drop due to noncompliance. In the case of positive reinforcement, such as in CM programs, the money is paid ex-post. The other source of difference in administrative costs emerges based on the method through which scheduled payments occur. For ex-post payments, patients can pick up their compliance incentive money in health clinics, but ex-ante payments of negative incentives often have to be mailed or wired to recipients’ accounts. The choice between these arrangements can make a considerable difference in cost, particularly for low-income countries or poor neighborhoods with limited institutional capacity.

While various models have been tried in treatment settings, positive reinforcement schedules are increasingly the norm. This is attributed in large part to the fact that these interventions tend to be therapeutic and enjoyable for both patients and providers, whereas negative reinforcements and punishments, though effective at times, are unpleasant and may result in patient dropout (Kellogg et al 2007).

**Seven principles of CM**

The US experience with CMs has provided key implementation lessons to providers seeking positive incentives in order to change target behaviors. Fortunately the details of best practices in CM are well documented and compose a road map for dissemination in other settings and population groups. This road map, also known as “principle-based dissemination” familiarizes providers and administrators with the core principles involved in designing and implementing a
motivational incentives program. Kellogg et al (2007) recommend the following seven principles of CM:

1- **Target Behavior:** by definition the target behavior is typically something that is problematic and has to be changed. It should be observable and measurable. Target behavior is the key element of the behavioral contract as it provides the framework within which incentives can be effectively used. Through the use of such contract, both patients and provider can be clear about what is required to receive an incentive.

2- **Choice of target population:** it might look ideal to provide incentives for all of the people that need a health service, but this may not be feasible as of program budget constraints or so, or even necessary because some patients are well motivated and able to seek the necessary services anyway. The targeting issues already discussed in CCT programs are mostly applicable for CM in health sector as well.

3- **Choice of incentive:** The choice of incentive is a crucial element in the design of motivational incentives programs. Three basic types of incentive programs have been used: (I) contingent access to clinic privileges; (II) on-site prize distribution; and (III) vouchers or other types of tokens. The first type of incentive program involves the utilization of privileges that already exist within a clinic setting. A variant of this approach is to take the goods and services that patients are already receiving on an unconditional basis, and, instead, distribute them on a contingent basis. The advantage of using existing clinic privileges is that the program can be implemented with almost no added cost. However, a privilege-based system may not be sufficiently powerful to help everyone who is having difficulty initiating and maintaining health care. The second type of incentive involves the actual distribution of tangible or material goods when a change in behavior occurs. In an example known as “fishbowl model” after patients have drawn a chit from the fishbowl that denotes a prize, they are allowed to select their incentive reward immediately from the prize cabinet. This can be a powerful and salient way to offer reinforcements while the prizes are chosen according to patients’ taste and desire (Kellogge et al 2007 and Petry and Stitzer 2002). A point system, the third type, can be used for implementation: points can be given for engaging in healthy activities as well as for meeting specific health care plan goals. The points could then be redeemed for goods or privileges. An equivalent model involves the use of vouchers. Vouchers function the same way as money, and they can be used for goods and services. The choice of incentive should not be necessarily constant over time. Anecdotal reports support the idea that desirability of incentives may change over time; that is, prizes or vouchers that are seen as desirable in the initiation stages of the program may seem less so later on. It is legitimate that a program starts with a prize system and then switches to a voucher system or gives the patients a choice as to which they would prefer to use as a reinforcer. In any event the quality or desirability of a reinforcer matters: it is critical to remember that the prizes or vouchers have to be attractive to the patients; they do not need to be attractive to providers and staff. In this regard money is what is known as a universal reinforcer, as it is a reinforcer that is likely to appeal to the vast majority of participants.

4- **Incentive magnitude:** Empirical evidence has frequently shown the importance of size of incentive in reaching program goals: the higher the magnitude of incentives the
higher compliance rate. Additional research demonstrated that there were limits as to how low the reinforcement levels could go before they were no longer effective. However there should be an optimal point in which a program theoretically provides maximum benefits. We will discuss this subject after reviewing all seven principles.

5- **Frequency of incentive distribution:** in addition to choice and magnitude of the incentive the third dimension is the frequency of incentive distribution (also known as the schedule of reinforcement). The decision about schedule is likely to be made according to such factors as the target behavior, the resources available, and the amount of clinical contact desired. It may also be useful to begin by reinforcing patients frequently and then, when the behavior change along with patient and community information are well established, the frequency of incentives can be adjusted downward.

6- **Timing of the incentive:** poor timing can severely undermine even the most well-planned intervention. As a principle the incentive needs to follow the exhibition of the target behavior as closely as possible. It is also argued that giving the reinforcement before the behavior appears will not be reinforcing, nor will giving a reinforcement a week later. In CM programs using points or vouchers, the actual goods and services are delivered at a later date, but the token, point, or voucher is delivered when the target behavior is observed.

7- **Duration of the intervention:** The last factor that must be considered is the duration of the intervention or how long to continue to provide the incentives for desirable behavior. The prizes and vouchers provided in these projects are external contingencies. The duration should be determined according to the notion of specific health care service a patient is supposed to seek. For example in substance abuse treatment the issue of incentive duration is connected to the issue of relapse.

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**Optimal size of incentive in public health**

The literature on principle-based dissemination argues the importance of magnitude of incentive but the subject of interest in our discussion will be how to propose a practical formula that provides donors and other stakeholders with a sense of optimal magnitude in public health interventions like vaccination campaigns or other preventive care services. Such formula needs to take into account the fundamental implementation differences between LMICs and developed nations as well as notion of the basic services relevant to developing nations.

For CCT programs the magnitude of transfer was determined according to a theoretical ground: if the CCT is assumed to overcome poverty then its size should be determined by poverty measures. Accordingly most of the CCTs used poverty gap measures as guidance for magnitude. The same argument should be applied to other to behavioral modification systems as well, meaning that incentive size should be determined according to the program goal.

To discuss the case of preventive care services in LMICs we make an assumption that there is no other income or price adjustment for targeted households (e.g. subsidy, fee waiver and so on), meaning that the motivational incentive plus private contributions are the only financial means in face of market prices for targeted services like prenatal visits. For motivational incentive
program to be effective in behavioral change the size of incentive should fill the gap between private poor households’ willingness to pay and the market prices of the service. Literature has shown that for preventive care the social benefits are higher than private benefits and as a result even the non poor utilize such services sub-optimally. This phenomenon suggests that there should be an incentive to fill the gap, so as to internalize the externality. This additional money applies across the board regardless of income level.

The other major determinant of incentive size is the income level of targeted population. If preventive services through motivational incentive mechanisms are to be effective for the poor, other explicit and implicit costs that constrain the access for poor should be included. The major costs are transportation costs, opportunity costs from leaving the work place (mainly farms) and cost of treatment regimen and drugs. However some particular barriers such as lack of trust or cultural norms should be addressed through other mechanisms because financial incentives might not be appropriate, if not counter productive in such cases.

In the cases the donor’s budget constraint and institutional capacity does not allow for initiating the program with the optimal size of incentives, the evidence suggest suggest f low-cost incentive systems at the beginning. As recommended by Kellogg et al (2007) first, programs with budget constraint could use low-cost incentive systems with the knowledge that they will not improve treatment outcome for all patients, but with the belief that this was a good start and that it might be possible to build on this using psychosocial or pharmacological interventions. Programs are encouraged to do the best they can with what they have, knowing that they will not be universally successful. Adding the health literacy services and advocacy to motivational incentive programs will increase the chance of penetration and behavioral change particularly when the donor/government budget is a key constraint.

Discussion

Conditional cash transfer programs are an example of a paradigm shift resulting from perceived failure of traditional supply-side policies (e.g. publicly owned schools and health clinics) to effectively reach the poor. Compelling evidence exist indicating underutilization of these services by the poor because of unaffordable out of pocket costs, high opportunity costs, access problems, and a lack of incentives for investing in children’s human capital due to information or high social discount rate. CCT programs theoretically provide incentives for using these services in addition to relaxing budget constraints of the poor. They are designed to address short-term income support objectives, as well as to promote the longer-term accumulation of human capital by serving as a demand-side complement to the supply of health and education services.

CCT programs compared to other health interventions have been evaluated more reliably thank to the projects’ impact evaluation components. Evaluation results provide solid evidence that financial incentives work to increase utilization of health services by the poor. The evaluations also indicate that cash transfers, accompanied by health knowledge talks and other health literacy and information activities, can stimulate healthier practices in food consumption and improve children’s nutritional status dramatically, and reduce the incidence of stunting. Their targeting strategies enable the program to act in a pro-poor manner and hence improve equity in income, health and education. Moreover, by targeting poor children, CCT insures that the gains associated with preventive care and schooling brought to the younger cohort of poor
households are irreversible, even if a program must be halted. Based on a review of seven CCT programs by Glassman et al (2007), total program costs generally do not exceed 1% of the GDP, meaning that programs are reasonably affordable in fiscal terms.

Despite this promising evidence, many questions remain unanswered about conditional cash transfer programs. The key concern for international health community is the replicability of their success under different conditions. The project cycles of CCT programs are quite sophisticated requiring a great deal of institutional and organizational capacity along with sustainable commitment from all stakeholders. Financial sustainability is required to insure effectiveness of programs. These preconditions reemphasize the critical role of stewardship in feasibility and success of such programs. Most of the so called “highly constrained” countries in developing world have not met these criteria. This does not necessarily mean that CCT programs are not suitable to those countries, rather it forewarns the ex-ante estimate of costs, time and resources needed for successful implementation. Of course these extra costs are not the CCT program costs, rather they reflect the cost of overcoming various levels of constraints which also make other interventions much more expensive, less cost-effective and impose a great deal of uncertainty to all stakeholders as well as beneficiaries.

From a social protection point of view, role of the CCTs within a broader social protection system is not well studied. One critical question, particularly in the health sector, will be the comparative relevance and likely competition between relatively big CCT programs and subsidized insurance schemes. The inability of CCTs to address financial protection against unpredicted and high health care costs has been discussed by researchers.

As far as the supply side of the market for health services is concerned, CCT programs are not a substitute for the provision of quality supply-side investments nor are they designed to address supply-side issues. The target population, while receiving financial support, probably remains critically dependent upon access to high quality health and education services, and issues of access and quality remain, which CCTs cannot resolve. Therefore quantity and quality prerequisites on the supply side should be ensured during the implementation of a CCT program. The transfer conditioned upon the mandated use of poor quality and ineffective services gives little hope for anticipated welfare impacts, particularly over the long-term. Otherwise there is a critical need for a balanced approach thru which shortages in supply and demand are addressed simultaneously. For example a complimented CCT design, with pay-for-performance on the provider side of the market may address the supply side issues. The Nicaragua RPS program that used pay-for-performance settlements very effectively on both the supply and demand sides of the market proved that expected outcomes can be better achieved when the supply and demand side interventions are implemented in a balanced manner.

The limited versions of CCTs can be implemented in health sector alone. In such programs the change in health seeking behavior is attained through incentives paid mostly in an ex-post manner. These programs have a limited scope of goals than the CCTs and are designed and implemented within the health sector. The motivational incentive programs are well penetrated recently in behavioral health arena and according to rich evaluation research designs the programs have been quite successful in improving targeted behavioral changes. A series of well conducted researches in the US on what is known as Contingency Management also offer the principle-based dissemination strategies insuring the success of motivational incentive programs.
The seven principles provide a road map for applying the idea into other health services including preventive care services and to address a wide variety of target population groups.

When implemented along recommended principles, this last generation of motivational incentive programs are particularly suitable to government and donors who target change in health seeking behaviors among poor, hoping to encourage their usage of specific critical services and new technologies and vaccines.

Chapter 4: Non-financial Interventions

Consumer Health Information Interventions (Health Literacy)

Health Information, or the absence of it, is a major problem in all countries. Health Literacy was defined by the Institute of Medicine as “the degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions” (IOM, 2004). The problems of literacy manifest themselves in many ways: inability to read instructions on prescriptions and over the counter medications, lack of understanding of health education materials, lack of understanding documents that relate to making choices of insurance plans and health care providers, lack of understanding materials pertaining to giving consent to participate in health research, and more.

In the U.S., for example, it is estimated that about half of the adult population cannot competently read newspapers, advertisements or appropriately complete forms (Friedsam and Kindig, 2004). These problems imply that these individuals cannot read health care materials or make optimal health and health care choices, leading to poorer health status and unnecessarily high rates of utilization of medical care (IOM, 2004). Other studies confirm that low literacy is estimated to cost the U.S. health care system between $40 and $73 billion a year (Riggs, 2001). The general field of consumer health information is often now referred to as ‘health literacy’.17

Demand side policies in healthcare have been skeptically viewed, at least by some, as a result of the early work by Arrow (1963) revealing the systematic and untoward results of ignorance in the market for health services. Along with Akerlof (1970) and others, Arrow calculated the ways in which health care markets for services and insurance can and do fail because of asymmetric endowments of information on the supply and demand sides of markets. Ignorant consumers cannot be free to choose rationally, and can be influenced by better-informed supplier preferences. A generation of health policy makers has been persuaded by the literature on asymmetric information, and its sequellae on supply induced demand, small area variations, and managed care, to focus policy on supply and supply regulation.

Only recently, in industrialized countries, with the advent of massive improvements in information through web portals that collect and convey health care information, have the currents of consumerism emerged again (consumer directed high deductible health plans, side by side provider comparisons, etc.). Dozens of web sites now provide (1) side-by-side comparisons of quality for every conceivable kind of health provider in every city, (2) health promotion tips and treatment advice by many prominent providers and professional organizations, (3) for every

17 Harvard, others
disease, therapy and drug, sites containing definitions and understandable research summaries, and (4) customer feedback results for health providers.

In the international health, where markets have taken a back seat in favor of government owned and operated health care, the promotion of health literacy to rebalance the information asymmetry has been more subdued. While not likely to be as powerful as interventions that put purchasing power in the hands of consumers, bringing knowledge about health and health care into the household can create accountability where it did not previously exist, and inform choices about seeking formal care, prevention practices, compliance behaviors and much more. Today, health literacy programs are widespread and are the object of large program initiatives in major universities.

What sort of outcomes are to be expected from ‘health literacy’ interventions? Ultimately, they should seek to improve individual and family health. Intermediate outcomes that might be measured could include:

1. better selection among options for health plans, insurance and providers
2. better compliance with norms for prevention/health promotion
3. better compliance with therapy
4. better decisions about seeking care
5. better self/family advocacy with providers, programs and institutions

To examine the impacts of information interventions for consumers, interventions can be classified according to how general/specific the knowledge is intended to be in terms of influencing the kinds of improved consumer behavior listed above. These are summarized below:

<table>
<thead>
<tr>
<th>Level/type of knowledge</th>
<th>Intended outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>General level of formal education</td>
<td>Increase capacity to learn; increase accountability of households regarding their health seeking behaviors</td>
</tr>
<tr>
<td>Consumer education including community advocacy and confidence building</td>
<td>Change attitudes as consumers and parents; encourage engagement of professionals</td>
</tr>
<tr>
<td>Education about health, public health, nutrition, sanitation, etc</td>
<td>Increase knowledge about key public health drivers of disease prevention</td>
</tr>
</tbody>
</table>

These types of education may be engaged through different modalities, including classroom-based lessons, one-on-one tutoring methods in the household, web sites, etc.

1. **General Education**

The general level of household education is a powerful predictor of health status. (see Berger and Leigh, 1989, and Lleras-Muney, 2002). Leading economists contend (Grossman and Kaestner, 1997) that years of education are the most important social determinant of good health, more so than occupation or income. The World Development Report of 1993 notes that access to education and development of the literacy that precedes it are two critical measures that poor countries should take to improve public health. Similar conclusive results indicating that health is improved by more formal education have also been seen in developing countries like Nicaragua (Behrman and Wolfe, 1989), where there was an additional finding (Wolfe and Behrman, 1987) that when all other things are held constant, a mother’s education does not affect her children’s health. The literature consistently suggests that investments in general education yields higher levels of health when measured by mortality and morbidity.

2. **Adult Consumer and Empowerment Education**

Little evidence is available about the impacts of community based education for consumers in local health care markets. In a literature review of community empowerment programs, Laverack defines community empowerment from the program context as “… a process in which individuals, groups, and communities progress towards more organized and broadly based forms of action” (2006, p. 113).

Examples of such interventions includes a community-based organization in Samoa, Polynesia that addresses the health needs of women at a local level through a self-help organization operated by women’s committees. It utilizes extensive neighborhood support networks, and provides skills training for the organization’s members. Qualitative analyses of the organization demonstrated the women’s improved ability to organize as a group and mobilize resources to build sanitary and health facilities in their communities (Laverack, 2006).

A similar project in Ghana, the Ghana Community-based Health Planning and Services (CHPS) (Nyonator, et al, 2005) mobilized the traditional system of leadership, communication, and governance to increase accessibility to services and enhance accountability of providers. The planning process by the CHPS involved additional stakeholders such as traditional leaders and community health committees in order to insure dialogue between community leaders and residents, and the development of a sense of community ownership of the community health compounds. The results suggest that community participation was increased through the creation of a sense of ownership within the community through

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18 World Bank (1993)
members’ participation in planning and helping to build community facilities. There was no evidence of health impacts.

3. Disease/Service Health Education

An extensive body of literature describes interventions that empower individuals with information about available services, the skills to utilize the services and the knowledge and skills to demand better quality and accountability from public officials. Some community-based interventions tend to focus on fostering consumer knowledge about a particular type of service such as health services, education, or other social services. Research on the effectiveness of such interventions is reviewed in this section.

Much of the research on disease-specific literacy interventions points to the need to improve impact through matching messaging with literacy levels of the target audience (e.g. reducing reading levels). (Berland, 2001, Kalichman, et al 2001)

Studies have also shown that providing consumers with more service-specific information, and guidance on how to put this knowledge into practice (i.e., skills), results in positive community health outcomes. For example, a malaria prevention program in Thailand developed women’s knowledge and skills to prevent malaria while also increasing their self-esteem and confidence to empower others in the community (Geounuppakul, Butraporn, Kunstadter, Leemingsawat, & Pacheun, 2007). Results showed that the ten-session group trainings increased women’s self-esteem and their confidence to develop and implement strategies to control and prevent malaria in their respective communities. The intervention villages significantly increased use of insecticide treated bug nets compared to the control villages.

A similar malaria prevention program in Papua New Guinea empowered village members to take responsibility for the acquisition, distribution and effective use of WHO approved malaria bug nets (Fitzpatrick & Ako, 2007). The authors found that empowering community members increased community knowledge, which resulted in an increase in bed net use and a decrease in malaria-related morbidity and mortality in the community (compared to pre-intervention). Both of these health interventions empowered groups of women with the knowledge, skills and leadership roles to enhance community knowledge about malaria prevention. And the participatory trainings provided the women with both the ‘voice’ and the support to implement strategies to improve community prevention efforts.

Findings from Mozumder and Marathe’s (2007) multi-country analysis also demonstrates the correlation between consumer information, service use and outcomes. They constructed a panel data set of 70 countries to study the correlation between local communication and information networks and the incidence of malaria related deaths. Results showed that the intensity of local communication and information networks was significantly associated with decreased probability of deaths among the malaria-infected population (Mozumder & Marathe, 2007).

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19 A second section below reviews the results of interventions that more broadly build consumer empowerment in the community.
These results demonstrate the importance of collective knowledge about timely care and available services for the treatment of malaria.

Although many of the aforementioned studies have impressive outcomes, they lack evaluation at the level of POS delivery, and thus are not able to conclude that the interventions necessarily increase the accountability of service providers and service quality. They do show that by giving citizens a ‘voice’ to strategize and implement their own initiatives, collective action can have important results - results that would not have occurred in the absence of the ‘voice’ intervention. Interventions to improve the amount and quality of information to increase consumer knowledge about a particular intervention seem to be effective at making the consumer a more savvy, sophisticated and pro-active demander and user of the specified health services. There have been increases in both demand for and proper use of technologies and results have shown improvements in important health indicators. However, these studies have not demonstrated that improvements aimed at increasing consumer knowledge about specific interventions or services have any affect on the quality of services provided.

A group of studies evaluating results at the POS level have found that enhancing community knowledge does result in increased service use. A randomized-controlled trial conducted in India evaluated an intervention informing the resource-poor about their entitled health and education services and village governance requirements (Pandey, Sehgal, Riboud, Levine, & Goyal, 2008). Results showed that the intervention villages significantly increased their utilization of health-related services (prenatal services, tetanus and infant vaccinations, and prenatal supplements), educational services (decreased excess of school fees) and improvements in community governance (increase in village council meetings).

Similarly, another randomized trial in rural Nepal evaluated an intervention where local women’s groups identified local perinatal problems, formulated the appropriate strategies to address the issues, and implemented these strategies in their respective communities (Manandhar et al., 2004). Comparison of intervention to control sites showed a significant decrease in neonatal mortality and maternal mortality where the interventions took place. Women in the intervention villages also utilized more health services such as antenatal care, institutional delivery and trained birth attendants, than their counterparts in the control villages. A literature review by Laverack (2006) argues that women’s participation in groups strengthens their social networks, support groups and increases their interaction with providers. “By participating in support groups, they were better able to define, analyze, and then, through the support of others, articulate and act on their concerns regarding childbirth” (p. 115). Thus, empowering groups of women with increased community knowledge and participation about prenatal services, resulted in positive outcomes for both service utilization and maternal and neonatal mortality rates.

These studies that examine increasing consumer knowledge at the POS show an increase in utilization, which lead to improved health outcomes. There is a little bit of “evidence” suggesting that it may also increase the quality of services provided through consumers’ improved ability to define, analyze, articulate and act on their concerns. This would mean that they might be acquiring the ability to demand better quality of services in addition to demanding any services at all.
Voice Interventions and the Quality and Responsiveness of Public Services in LMICs

Voice interventions are employed as a means to empower consumers of health care to demand higher quality services by speaking out against capture of the system by bureaucrats, corruption, ineffective management and absenteeism. These interventions are aimed at enhancing the service supplier’s accountability to the consumers they serve (rather than making officials more accountable to themselves). Public accountability is defined as the extent to which the systems – and the people that manage and deliver public services – are motivated to deliver the desired types of services in the most appropriate and effective fashion and to seek to improve the level of performance (Paul, 1991, p. 2). Specifically, we focus on evidence pertaining to interventions that empower community stakeholders and customers through enhancing their ‘voice’. Voice “is about poor people expressing their views and interests in an effort to influence government policies and governance processes” (O’Neil, Foresti, & Hudson, 2007, p. v).

1.0 Description of the problem

There is a pervasive problem of poor service quality and general unresponsiveness of public services to community needs in developing countries. Data and anecdotes abound concerning accessibility issues, corruption, ineffective management, disrespectful treatment, absenteeism of professionals, stock outs, flagrant discrimination, unresponsiveness to suggestions and complaints, and other issues. Captive audiences for education, health, housing, pension, and other public services, coupled with recipients’ economic vulnerability and low political status create a situation prone to poor service quality and unresponsiveness to improvement or change over time.

Why is poor service quality so pervasive? One author describes the problem of poor government service quality as a product of the selfish motive of ‘capture’. Paul (1991) defines the concept of capture as a public service manager’s presumed desire to “control the allocation of public services to engage in rent seeking” (iv). He argues that public service managers are essentially a small and organized ‘club’ of public servants who collude to control and redirect the supply of public services for their own use and for the use of others they choose. Paul argues chronic deterioration in customer service quality within public service organizations results from the ‘capture’ of a growing portion of public services by government officials; these officials are motivated to extend their well being at the expense of the larger body of citizens for whom the benefits were originally intended. This capture tendency is especially strong when government is a monopoly provider of services. In addition to the obvious opportunity for corrupt and illegal misappropriations, civil servants in low-income countries often receive preferential shares of public services. Examples of this type of corrupt allocation of services include: health insurance benefits that are not available to others, access to out-of-country health services, admission to the best schools, preferential land purchase rights, special treatment regarding various permits, free utilities, and access to scarce phone lines. These kinds of benefits are made available to public
servants through law, or informal reciprocity agreements. Figure 1.4 depicts the situation prevalent in the public service sector of many developing countries. At the point of service provision (POS) resources are diverted from the intended customers by corruption, ineffective management, capture and other problems.

Figure 1.4: The Problem

Theories focused on quality improvement highlight various determinants of quality and motives for choosing to improve quality within the context of public programs. Examples of relevant institutional or contextual factors include:

1. Specificity and intent of laws that establish the authorities to tax and deliver such services
2. Scope and specificity of the relevant policies and regulations developed by the government
3. Sufficiency of budgets, compensation arrangements, and the other resources that money buys
4. Quality of management, management training, and management support
5. Adequacy of governance structures and monitoring tools
6. Adequacy of the distribution networks for delivery of services to all that qualify for them
7. Clarity of the locus of authority to make changes and adaptations required to meet local needs

These institutional arrangements – along with the site-to-site variance and unexpected situations that arise – represents the volatile context within which point-of-service (POS) managers must deliver services to communities and individuals. While there may not be a formula for improving government provided services in the face of situational disparities, there are certainly various interventions that have aimed to improve the quality of public service provision. Many kinds of interventions, including voice, can motivate public servants to pay more attention to the needs of their customers. They include: (1) creating financial (budget) incentives; (2) improving the responsiveness of management at the point of service through decentralization and increased autonomy; (3) deliberately enhancing choice for consumers by developing alternative supply sources, resulting in competition for government’s monopoly leverage; and (4) empowering customers and community stakeholders to voice concerns and interests, thus increasing management responsiveness. In addition, enhancing consumer knowledge (often through social marketing) is viewed in the literature as an intervention that may promote both choice and voice. These are shown in Figure 2.

**Autonomy.** Managers need to be able to (1) understand the needs of customers, and (2) to be able to make changes in response to market pressures or voice pressures. Decentralization or creating more local authority for managing services may improve aspects of quality through ‘voice’ to the extent that officials with authority (e.g., the municipal manager, the local government director) who live and work locally have access to information about quality problems (through official channels, neighbors, or even family). This may increase the likelihood of remedial action (by a policy change, a resource allocation change, or a management change). Autonomy of the local management structure to make changes and move resources around (hire, fire) is also critical. Bossert refers to this aspect of decision autonomy as “decision space”. It is an enabling factor which will largely determine whether pressure, however applied, can be effective in producing change.

**Incentives.** Direct budget incentives can be a mechanism for improving service quality and for tying the performance of the organization to the interests of customers. Incentives may be effective in instances when reliable measurable performance indicators exist, and where the POS managers have sufficient autonomy to act in response to those incentives. Bonus systems and pay-for-performance incentives require the government to identify the aspects of quality that are most important; these identified determinants of quality are then incentivized (often with cash incentives) to encourage POS managers to improve performance and quality of service delivery.

**Choice.** Interventions that fall within the ‘choice’ category influence POS managers and agencies because they are exposed to more competition with other service providers. Officials who are able to provide better quality services often are able to attract and maintain more customers---and retain or enlarge their span of control and prestige. If customers have options for getting services, then they can “vote with their feet” as a mechanism for voicing their dissatisfaction. Certainly, the power of pressure by Voice will be greater if there is also freedom of choice. Choice may also be a powerful source of pressure on POS managers if their performance appraisal is dependent on volumes of services provided. In many countries the educational and health sectors permit consumers a choice between government
provided services and the private sector. In many situations, the flow of resources to government facilities is not impeded by low capacity utilization. In other cases, POS budgets suffer if the government services do not fare well in competition to the private sector. Mechanisms of policy can create choice: setting up competing private suppliers by means of contracting by the government, or by deregulating or privatization. Vouchers (or portable insurance cards) are also ways of supporting more choice for public service.
Voice. Empowering communities and consumers through ‘voice’ aims to increase service provider accountability through direct pressure from consumers and the community. Individual consumers or community stakeholders may utilize various channels of influence to pressure the POS agents improve quality of services. For example, a community group may petition the local health department to keep the clinic open later on Friday nights – this is the self-identified aspect of “quality” that consumers are “voicing” to health officials.

There are hundreds of published studies of voice interventions, our subject here. Most describe community interventions and offer no more than self-serving expectations of program designers or managers about the intended results. Some offer an attempt at evaluation, but often fall short of providing a service quality impact assessment; such studies generally conclude that
participatory processes involved in the intervention are, by the nature of participation, evidence of a positive outcome. We focus on the literature which attempts to measure the intervention’s impact on service quality, health outcome, or customer satisfaction.

The literature covers a large number of types of voice interventions through which consumers of government services have enhanced their ‘voice’ through participation in various forms: (1) participatory institutions (e.g., partial community ownership, village councils), (2) direct governance in the form of consumer boards, (3) customer evaluation/satisfaction surveys that provide feedback to management, (4) the enlistment of ‘voice’ agents (e.g., consumer rights groups, NGOs, Ombudsmen20), (5) empowerment of consumers through knowledge and training, and (6) consumer rights organizations.

Results

Building Consumer Information and Knowledge about Specific Service Offerings

An extensive body of literature describes interventions that empower individuals with information about available services, the skills to utilize the services themselves (or encourage other community/family members to do so) and the knowledge and skills to demand better quality services and accountability from public officials. Some others, using community-based interventions tend to focus on fostering consumer knowledge about a particular type of service (e.g., health services, education, or other social services). Research on the effectiveness of those interventions is reviewed in this section21.

Studies have shown that providing consumers with more service-specific information—and guidance on how to put the knowledge into practice (i.e., skills)—results in positive community health outcomes. A malaria prevention program in Thailand developed women’s knowledge and skills to prevent malaria while also increasing their self-esteem and confidence to empower others in the community (Geounuppakul, Butraporn, Kunstadter, Leemingsawat, & Pacheun, 2007). Results showed that the ten-session group trainings increased women’s self-esteem and confidence to develop and implement strategies to control and prevent malaria in their respective communities. The villages, in which the group meetings occurred, significantly increased use of insecticide treated bed nets compared to the control villages. A similar malaria prevention program in Papua New Guinea empowered village members to take responsibility for the acquisition, distribution and effective use of WHO approved Malaria nets (Fitzpatrick & Ako, 2007). The authors found that empowering community members increased community knowledge, which resulted in an increase in bed net use and a decrease in Malaria-related morbidity and mortality in the community (compared to pre-intervention). Both of these health interventions empowered groups of women with the knowledge, skills and leadership roles to

20 Ombudsmen are typically persons hired or appointed to represent the interests of citizens or consumers by investigating and resolving complaints.

21 A second section below reviews the results of interventions that more broadly build consumer empowerment in the community.
enhance community knowledge about malaria prevention; the participatory trainings provided the women with both the ‘voice’ and the support to implement strategies to improve community prevention efforts.

Findings from Mozumder and Marathe’s (2007) multi-country work also demonstrate the correlation between consumer information, service use and outcomes. They constructed a panel data set of 70 countries to study the correlation between local communication and information networks and the incidence of malaria related deaths. Results showed that the intensity of local communication and information networks was significantly associated with decreased probability of deaths among the malaria-infected populations (Mozumder & Marathe, 2007). These results demonstrate the importance of collective knowledge about timely care and available services for the treatment of malaria.

Although many of the aforementioned studies have impressive outcomes, they lack evaluation at the level of POS delivery, and thus are not able to conclude that the knowledge interventions necessarily increase the accountability of service providers or change the demand for services. They do show that, by giving citizens a ‘voice’ to strategize and implement their own initiatives, collective action can have important results---results that would not have occurred absent the ‘voice’ intervention. Interventions to improve the amount and quality of information provided to consumers and to increase consumer knowledge about a particular intervention seem to be effective at making the consumer a more savvy, sophisticated and pro-active demander and user of the specified health services. There have been increases in both demand for and proper use of technologies and results have shown improvements in important health indicators. However, these studies have not demonstrated that improvements that are aimed at increasing consumer knowledge about specific interventions or services have any affect on the quality of services provided.

A group of studies evaluating results at the POS level have found that enhancing community knowledge does result in increased service use. A randomized-controlled trial conducted in India evaluated an intervention informing the resource-poor about their entitled health and education services and village governance requirements (Pandey, Sehgal, Riboud, Levine, & Goyal, 2008). Results showed that the intervention villages significantly increased their utilization of health-related services (prenatal services, tetanus and infant vaccinations, and prenatal supplements), educational services (decreased excess of school fees) and improvements in community governance (more reported village council meetings).

Similarly, another randomized trial in rural Nepal evaluated an intervention where local women’s groups had identified local perinatal problems, formulated the appropriate strategies to address the issues, and implemented these strategies in their respective communities (Manandhar et al., 2004). Comparison of intervention to control sites showed a significant decrease in neonatal mortality and maternal mortality where the interventions took place; women in the intervention villages also utilized more health services (e.g., antenatal care, institutional delivery and trained birth attendants) than their counterparts in the control villages.

A literature review by Laverack (2006) generally argues that women’s participation in groups strengthened their social networks, support groups and increased their interaction with providers: “By participating in support groups, they were better able to define, analyze, and then, through the support of others, articulate and act on their concerns regarding childbirth” (p. 115).
Thus, empowering groups of women increased community knowledge and participation about prenatal services, which resulted in positive outcomes for both service utilization and maternal and neonatal mortality rates.

These studies that examined increasing consumer knowledge at the POS show an increase in utilization which led to improved health outcomes. There is a little bit of “evidence” suggesting that it may also increase the quality of services provided through consumers’ improved ability to define, analyze, articulate and act on their concerns – hence they might be acquiring the ability to demand better quality of services in addition to demanding any services at all.

Other studies point to the effectiveness of providing knowledge to the public about particular services and the importance of political accountability. Eckardt (2008) used household survey data to test the hypothesis that increasing public bureaucrat political accountability (through sanctions on non-compliant bureaucrats or providing more transparent information to the public) would create incentives for officials to reduce corruption and improve quality of service delivery. Empirical findings from local governments in Indonesia support the hypothesis that improving political accountability enhances the quantity and quality of public service provision through improved government decision-making, resource distribution and allocation. A similar econometric study in Uganda showed that increasing household knowledge about reporting corruption and unsatisfactory services was associated with reduced citizen participation in bureaucrat corruption (i.e., people were significantly less likely to pay bribes) and improved the overall service quality (Deninger & Mpuga, 2005). The authors found that knowledge about reporting inappropriate bureaucrat behavior and unsatisfactory services was significantly associated with greater satisfaction with service delivery and perceived improvements in education and health services.

In summary, efforts to increase service-specific community knowledge to empower marginalized community members resulted in increased utilization of public services and often had a positive impact on community members that were not direct recipients of the intervention. This suggests that general improvements in information availability and community empowerment programs may have improved public official accountability and the quality of service provision. Sanctions, transparency and ability to report bad behavior have the potential to empower citizens to both hold their government officials and providers accountable and also to behave better themselves. If effective accountability mechanisms are in place to ensure that the accountability system will work for them, citizens may not feel the need to resort to bribes or other bad consumer behaviors.

General Community Knowledge and Empowerment Interventions

While the interventions we reviewed above focus on service specific knowledge and behaviors to improve outcomes in specific domains or for particular services (e.g., health, education, local governance), there are also programs that aim to promote more general community knowledge building and empowerment. In a literature review of community empowerment programs, Laverack defines community empowerment from the program context as “… a process in which individuals, groups, and communities progress towards more organized and broadly based forms of action” (2006, p. 113). He
reviews the literature, identifying various ‘empowerment domains’ that have been shown to impact community health outcomes, including: participation, community-based organizations, local leadership, resource mobilization, asking ‘why’, problem assessment, links with other people and organizations, role of outside agents, and program management.

One example is the case of a community-based organization in Samoa, Polynesia that addresses the health needs of women at a local level. Although the self-help organization is operated through women’s committees and is based on extensive neighborhood support networks, the government supported the development of the organization through resource allocation and capacity building (e.g., skills training) of the organization’s members. Qualitative analyses of the organization demonstrated the women’s improved ability to organize as a group and mobilize resources to build sanitary and health facilities in their communities (Laverack, 2006).

An evaluation of The Ghana Community-based Health Planning and Services (CHPS) found that community participation was one of the key components in the initiative’s success (Nyonator, Awoonor-Williams, Phillips, Jones, & Miller, 2005). The pilot experiment in Ghana mobilized the traditional system of leadership, communication, and governance to increase accessibility to services and enhance accountability of providers. The planning process for CHPS involved additional stakeholders such as traditional leaders and community health committees; community entry involved dialogue with community leaders and residents; and the development of community health compounds required combined community ownership. The results suggest that community participation was increased by mobilizing the traditional community system of leadership to help increase accessibility of services and increase accountability of providers. This was accomplished through the creation of a sense of ownership within the community through members’ participation in planning and helping to build community facilities.

A study from the Development Research Center (DRC) on Citizenship, Participation, and Accountability also suggests that involving people directly in decision-making along with elected representatives can strengthen the state (Eyben & Ladbury, 2006). Research findings from Latin America suggest that it is important to create the opportunities for poor citizens to hold the state accountable for service provision. Both of these studies demonstrate the importance of involving community members as stakeholders in decisions about local service provision, encouraging a sense of joint ownership among the population and greater accountability among service providers.

Mosquera, Zapata, Lee, Arango, and Varela (2001) studied two institutional state mechanisms in Columbia that were designed to channel citizen participation into the health sector: user associations and customer service offices. The analysis revealed various degrees of uncertainty about user participation among both public and private institutions, consumer groups and citizens; although efforts had been made to increase citizen participation, the authors found that health care users still had a very limited role in the decision making process.

Golooba-Mutebi (2004; 2005) found that in Uganda community participation, though popular and enthusiastic in the beginning, does not have the same intensity in a long run due to participation fatigue. Village councils initially established to facilitate community participation atrophied after a decade. The proposed reason for fatigue was that participation exerts a heavy toll on the time and livelihood of an overworked and poor populations (Golooba-Mutebi, 2004).
He also found that in Uganda, the assumption that community members have the motivation and capacity to participate in initiatives did not hold true due to presence of a weak state and inconsistent regulation (Golooba-Mutebi, 2005).

These results suggest that general (not service specific) approaches to knowledge building and empowerment may be useful in creating citizen participation and sense of ‘ownership’ in some instances, but there is no evidence that the result is improvement in service quality. Much of the power behind these initiatives stems from the “group” aspect of organizing and mobilizing. One individual can have a little effect, but the more people who participate, the potentially better the outcome. The ideas and rationale behind these initiatives make sense, but unfortunately, there is not much hard evidence to say anything about effectiveness in improving service quality.

**Community or Customer Performance Reporting**

Another means of holding providers accountable for the quality of customer service is through the use of a community or customer scorecard. Scorecards – often referred to as report cards or performance reports – are composed of information solicited from consumers evaluating the quality of a particular service. The information is generally summarized and either made public or utilized for quality improvement at the POS. The impact of public reporting on bureaucratic or provider behavior has been extensively studied in developed countries, but the study of community scorecards in the developing countries has been limited.

Based on evidence from decentralization efforts in Latin America, Fuhr (2000) suggests that citizen-government (horizontal) relationships have the potential to provide incentives for greater cooperation, accountability, and local performance:

> Recent evidence from Latin America, particularly Colombia, suggests that once local policymakers are held accountable for their actions and made aware that their jobs depend to a large extent on citizens’ assessments of their performance, they tend to be much more concerned with the quality…(Fuhr, p. 30)

Other studies have also shown improvements in POS behavior when consumer assessment information is made available to bureaucrats, providers or more generally to the public.

McNamara (2006) provides a comprehensive assessment of provider-specific report cards, which is based on examples from published and gray literature in developed countries and the review of key informants from the developing countries. The findings suggest that in the developed countries, while the use of report cards encourages the providers to improve their quality of care, they have little impact on consumer selection of providers. McNamara also found that in developing countries, use of report cards shows an increase over time in the satisfaction ratings that consumers give to providers. This

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22 Consumers tend not to utilize report cards when choosing their provider and health plan, because they do not trust the source of the report cards (generally the health plans). Another proposed reason for poor utilization is that most of the consumers have difficulty interpreting the rates in the report cards – i.e., they are not “consumer-friendly”. Most consumers make decisions based on the recommendations from family, friends, or attending physicians, while choosing for health plans or providers (CITE_
suggests that providers improved the quality of their services. Report cards can also increase public awareness of quality.

Findings from the developing countries suggest that use of report cards have positive outcomes for both the providers (improvements in service quality) and for the consumers (awareness and provider selection) (McNamara, 2006). For example, an assessment of the Yellow Star Program in Uganda, Africa indicated that the average service quality score for providers increased. Similarly, in Bangalore, India, use of report cards resulted in increased public awareness and improved quality of public services. However, the literature also cautions the negative effects of provider report cards (undocumented), such as: encouraging physicians to select healthier patients in order to improve their quality ranking and to provide unnecessary services to achieve “target rates” health care interventions (McNamara, 2006).

Balakrishnan and Sekhar’s (2004) study of the Citizen Report Card initiative in Bangalore, India found that report cards resulted in significant improvements in service delivery. Enabling factors seem to be competencies, resources, preparedness of local governments, and capacity of local institutions. The researchers analyzed a sample survey that collected feedback on various service delivery systems (e.g., electricity, water, sewerage, and city government); findings were then disseminated in the public domain and to the service providers. The findings from this initiative suggest that there were substantial improvements in various services. For example, only 6% of the general households were satisfied with the electricity services in 1993, while this figure rose to 47% in 1999, and to 85% in 2003. Similarly, in 1993 only 4% of the general households were satisfied with water and sewerage services, which increased to 42% in 1999, and to 68% in 2003.

The World Bank (2000) conducted a report card survey in collaboration with Social Weather Stations, which was distributed across four regions in Philippines. The survey asked 1,200 poor households about awareness of, access to, use of and satisfaction with public services. The various sectors of public service in the survey included: health care, primary education, housing, water, and subsidized rice distribution. While the responses from this report card survey showed high level of dissatisfaction among the poor Filipinos, it emerged as a powerful tool because the findings were addressed in the subsequent development plans.

Based on these findings, public reporting of quality performance seems to be a powerful tool for encouraging government officials and service providers to increase their accountability for service delivery and quality. The use of scorecards to evaluation performance of bureaucrats and providers creates a demand-side incentive to improve the quality and delivery of services. Report cards that report on quality of services seem to encourage government officials and medical providers to increase their accountability for delivery and quality.

Consumer Representation in Governance

Studies of two aspects of governance are found in the literature; consumer representation on a board of directors, and consumer participation in the budgeting process. The literature is quite sparse on both types of governance interventions.

Only one relevant study was found on citizen boards (e.g. a community board of directors to advise management). A multi-stage sampling scheme in the Philippines sought to analyze the role of local health boards in enhancing community participation and empowerment (Ramiro et al., 2001). Results suggest that the local organizations with functioning health boards had more consultations with
the community, more fund-raising activities for health, and more health-related activities (beyond what was approved by the Department of Health’s core programs) compared to their counterparts. There were also improvements in the use of health services. This is encouraging, but more research is needed to confirm the utility of consumer boards in improving service quality.

Participatory budgeting is another aspect of governance, where consumer voice is represented in the resource allocation (planning) process. Cabannes (2004) considers participatory budgeting as an area of democracy and local development that responds to individual demands. According to his 2004 estimate, participatory budgeting had been applied in 25 cities, mainly in Latin America and in Europe. Merits of participatory budgeting include transparent management, and more access to the municipal processes, acknowledgement of citizen’s right of direct participation, transparency, and some evidence of reallocation of resources across locations. However, there is no evidence of impact on public service quality or customer satisfaction, and some evidence that many projects have been terminated, challenging long-term sustainability. There is also a lack of evidence regarding participation of traditionally excluded social groups (Cabannes, 2004).

Ombudsman

An Ombudsman is an official or employee charged generally with representing consumers and customer interests in resolving complaints, and other duties. There are reported to be 127 countries now using Ombudsmen around the world as agents for citizens who consume public services (Iftekharuzzaman, 2007). In the U.S., the Medicare program has an Ombudsman’s office, as does the NHS in Great Britain. Unfortunately, the literature is very limited and only one citation relates to the impacts of an intervention of ombudsmen in the developing world. Paul (1991) cites a study of Ombudsmen (and help phone lines) in Tanzania. Here, the Ombudsman services were not used by villagers, and primarily served the interests of the elite citizens.

Consumer Rights Organizations

Consumer rights organizations advocate and lobby for consumer rights and protections, and often educate consumers about their rights. Many of these organizations are NGOs, usually founded and populated by consumers, sometimes very disappointed ones. These organizations offer knowledge and experience to others, or bring pressures of voice or choice to bear on governments or suppliers. These organizations are often issue or problem oriented (parents with autistic children, association for improvements in the maternity services, stillborn and neonatal death society). Others formed as a deliberate national attempt to give voice to consumers (Ugandan National Health Users Organization). In Europe these groups are usually formed and unified by common experience or common struggle (Allsop et al 2004). Most health consumer groups rely on collating and disseminating lay knowledge; “most run help lines and produce pamphlets for the general public” and view themselves as “repositories of expertise” (Allsop, et al 2004).

There appear to be official (government sponsored or supported) consumer protection organizations all over the world, though there are no known listings of the countries where such organizations exist. The United Nations publishes guidelines and model legislation for consumer organizations to support a global need for information (U.N. 2003). Donors (like DFID, USAID,
and World Bank) also sponsor activities (like workshops and conferences) to support consumer protection activities in countries and regions (see Goulden and Schulte, 2004). And, there are regional organizations that meet and provide guidance and support for member countries (see Consumers International, 2006).

But, whether NGOs or policy-initiated organizations, virtually nothing is known about the effects of these “rights” groups on government service quality, though many, if not most, find their common purpose to effect change in the delivery of public services23. A particularly strong sector for consumer reform is that of Financial Services. Here, the World Bank and others have actively encouraged transparency and consumer oriented institutions and regulations to promote better market functioning. For the Social Sector, there may be some useful models of assessment and remedy in this sector (World Bank, 2007).

There are several papers that deal generally with the operations and effectiveness of consumer rights organizations. Baggott and Forster (2008) analyzed the role played by health consumer and patients’ organizations in the policy process in Europe. Despite political, cultural and health system variations, the authors found an increasing engagement between these organizations and policy makers and other institutions. Some of the obstacles faced by health consumer and patients’ organizations include lack of capacity and financial resources, fragmentation and dependency on pharmaceutical industry and professionals. Looking across Health Care Patient Organizations (HCPO) in Europe they say “several delegates raised concerns about representativeness, “notably, researchers from the Czech Republic, Spain, and Germany. Even where memberships were reportedly high (in Finland for example) concern was expressed about the ability of HCPOs to represent patients, users and carers effectively” (Baggott, 2008).

A second paper (Allsop, et al 2004) reviews health consumer groups in the UK and their history since the 1980’s. Authors document their increasing leverage, lobbying activity and influence on key policy changes in areas of childbirth care and payment for caregivers. They also note government response to activism in terms of pathways provided for dispute resolution, the value of advocacy of ‘expert patients’.

But, they recognize the limits of their work on understanding the impact of such groups: and the ‘movement’ they represent

“It may simply be that inclusion in the policy process leads to incorporation. That is, health consumer groups could simply be actors in a process that provides enhanced legitimacy to governments as they pursue their own larger agenda. It is useful to bring in health consumer groups to curb the monopoly powers of health professionals and to build public support for particular health policies. Apart from seeking alliances with more powerful interests, health consumer groups, whether acting individually or in combination, have few power resources except possibly through the mobilization of media support…….Nevertheless, ….health care politics have been significantly changed by the presence of a new set of actors within the health policy process” (Allsop, 2004)

23 The most active area of consumer protection policy and research is banking and other financial services. See Benston (2000) for a summary of this area.
“As governments have also increased the opportunities for [citizen] participation, this has the potential for patients and carers [informal caregivers] to shape services in ways more responsive to their needs” (Allsop 2004).

In Uganda, the “Uganda National Health Users’/Consumers’ Organization”, and in South Africa, the “National Consumer Forum” represent national NGOs established to give voice to consumers and patients. Both organizations suffer from under funding and lack of consistent government support. The South African (National Consumer, 2008) organization is a general one, with a credo of “putting consumer issues on the agenda”. It has published a tabloid newspaper, runs consumer fairs, runs advocacy campaigns, and offers consumer tips and other interventions. Annual reports (since 2000) detail activities and self assessed impacts.

The Ugandan health consumer organization is active in three core activities: research, community sensitization at the grassroots and national advocacy. They also claim impacts on improved usage patterns, better practitioner-patient relations, and reduced patient abuse in the five districts in which they operate. The Uganda National Health Users’/Consumers’ Organization helped to foster a health rights dialogue in national policy and are working on developing a patients’ right charter to present to parliamentary committees (Smith, 2005).

There are no studies of effectiveness of these programs, nor any evaluation research on the impacts of these organizations.

The Australian Competition and Consumer Commission (ACCC) is an example of a government sponsored organization to promote and extend consumer rights. It has a broad mandate across many sectors including health, environment, retailing, transportation, education and many others. There are no documented evaluations of the impact of this organization on service quality, but some attributive results are claimed: as an illustration, patient and carer rights in the area of mental health services were said to have improved in the following ways:

1. The establishment of formal entities to represent the interests of consumers of public sector local mental health services
2. The allocation of duns to projects led by consumers and careers in order to strengthen their voice
3. The enactment of amendments to mental health legislation of most states and territories in order to protect the right of people with mental illness
4. The inclusion of careers and consumer in all working groups dealing with national issues
5. The issuing of national standards or the protection of consumer rights in mental health services
6. The creation of a national medial campaign to increase understanding of mental health and reduce stigma

In summary, giving voice to consumers through consumer rights organizations, both private and publicly sponsored, may be effective in pressuring governments to be more accountable and improve service quality. This claim is not supported by a body of research. Summary studies by a couple of groups of authors cited above are cautious about this fact, though the significant popularity of these public and private organizations of consumers and advocates is documented as a vehicle for giving ‘voice’ to consumers and their interests. Clearly,
‘giving voice’ has value to consumers, even if the impact on product and service quality is unknown.

**Discussion**

The literature on ‘voice’ interventions is broad, but very few studies focus on quantitative outcomes that bear on impacts of ‘voice’ interventions on service quality and customer satisfaction. Most of the literature represents case studies relating the design or implementation of projects, and the evaluation work is most concerned with fostering participation. While there is some evidence of these interventions not working at all, the primary finding is that voice may well build citizen participation and some measure of accountability of service providers, but there is little measurable evidence that service quality has improved.

By way of summary, there are some positive findings about voice interventions, all based on a rather sparse literature. Programs that empower consumers by providing knowledge about specific issues and providers seem to be effective in improving service quality and satisfaction. This is less true of more general community empowerment interventions. There is also some indication that governance roles for consumers (boards) might be effective. Ombudsmen and participatory budgeting, despite widespread use of these interventions, offer no evidence to date of effectiveness in improving service quality or customer service. The type of ‘voice’ intervention with the most evidence of effectiveness in improving service quality is ‘customer feedback’ or ‘scorecards’. By systematically telling providers and/or other officials what they experience (via some form of scorecard), customers of public services are clearly able to help change POS activities and attitudes for the better. Implementing broad consumer rights organizations is certainly a popular approach in Europe and elsewhere for creating a countervailing consumer voice to the large corporations and government monopolies. But, here again, there is little evidence of effectiveness in improving accountability in service provision in LMICs.

These findings suggest that the impacts of ‘giving voice to consumers’ as a means to encourage behavior changes at the point of service are well understood, and certainly not uniform across types of voice mechanisms. Generalized community awareness building and empowerment interventions seem less likely to create large impacts on provider behaviors regarding service quality than more pointed feedback (showing poor service quality) on the basis of customer surveys. It is possible that the more pronounced effect of focused feedback is more discernable in the short run than other empowerment and knowledge interventions, which may have less dramatic short term effects on provider behavior. It is also possible that those ‘voice’ interventions that are closest to and most directed to particular service quality problems are more likely to work best in getting the attention of providers.24

The existing research, as limited as it is in terms of quantity, is not very good. The studies do not really permit a comparative effectiveness assessment of different kinds of ‘voice’

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24 The literature on continuing education for health professionals has long recognized the importance of focusing or directing continuing education interventions on those providers who have exhibited a ‘problem’ with performance in that area of practice. To be effective in changing provider behavior, interventions need to be focused on known deficiencies (Gaumer, 1984 p398-400).
interventions, even though the effects appear most pronounced for the ‘scorecards’. None of the studies heeds the careful analysis of Paul (1991), which points to the importance of understanding interactions of voice, extent of choice, and supply incentives. The effects of a ‘voice’ intervention will, according to the theory, be larger if choice is possible (the government provider is not a monopolist), if there are some financial or prestige incentives facing providers, and if providers have autonomy to change things. These factors, among others, need to be measured in impact studies of ‘voice’. A recent literature review highlighted the inadequacy of evaluation activities for citizen voice interventions:

Quantitative methods and statistical analyses are not frequently used to assess effectiveness … the collective knowledge of the donors [about accountability and voice programs] has much more to say about the types of approach that they should be adopting than about the effectiveness of current models, particularly in terms of broader development outcomes. It is difficult for donors to identify their impact beyond the intermediate level. As such, there is a need for donors to give higher priority to evaluation research, and the development of performance measures and systematic monitoring and evaluation (O’Neil, Foresti and Hudson, 2007, p ix).

There is also little direct evidence about how ‘voice’ interventions may work to improve service quality, if they do this at all. These shortcomings in the literature may be related to lack of studies about the value of citizen participation as a means to pressure service providers to change their behaviors. Consequently, we can only tentatively conclude that ‘voice’ may be a useful compliment to broader forms of community education (i.e., social marketing) and to the use of provider incentives to change observed practice patterns.
Section IV

Application of Demand Interventions

Studies of the limited success of the large investments in supply side expansions have concluded that, unless multi level constraints are simultaneously overcome, desired health outcomes will remain unattainable. These investments have been based on the sufficiency assumption that “supply will drive demand,” and this has created an imbalance where consumer preferences and the willingness and ability of households to pay are seriously neglected. There is a clear need for better balance. The principal agent problems that exist between government and providers and between providers and individuals in health care necessitate the demand side consideration should be incorporated into health care interventions.

In this chapter, we emphasize the necessity of a comprehensive approach when deciding upon an intervention. Only when the various levels of constraints, to the extent possible, are taken into consideration, can the recalibrating between supply side shortages and demand side barriers take place.

To overcome the problems of underutilization of existing services and to facilitate the timely incorporation of new cost-effective technologies, health systems need an array of “issue specific interventions” that fill the existing gap between the supply and delivery of services, particularly among the poor. “Core investments”, on the other hand, are aimed at strengthening health systems, and often take decades to accomplish. During this time there is often considerable underutilization of existing facilities, products, and services due to imbalances between the two sides of the market. Compared to core interventions, the scope of “issue specific interventions” is more narrowly focused on specific issues, which are often related to the sub-optimal uptake and utilization of preventive and primary care services. In terms of scale, they are usually smaller than core investments. In terms of time horizon, they are often capable of providing fast, mid-term results. And finally, in terms of population and geography, issue specific interventions often can be targeted to populations that suffer from underutilization in order to correct issues relating to equity.

Core investments typically aim at strengthening one or more of the basic health system functions. According to the WHO (2000), health systems are designed to perform four major functions:
• **Stewardship**: acting as the overall stewards of the resources, powers and expectations entrusted to them. Stewardship occupies a special place because it involves oversight of all the other functions, and has direct or indirect effects on all the outcomes.

• **Creating resources (investment and training)**: investing in people, buildings and equipment.

• **Delivering services (provision)**: delivering personal and non-personal health services.

• **Financing (collecting, pooling and purchasing)**: raising, pooling and allocating the revenues to purchase services.

Some real world examples of such core investments include: reforming existing regulations or proposing new legislation designed to improve overall health system functionality, developing the leadership skills of health policy makers for better stewardship, scaling-up community health insurance initiatives and linking them to well established insurance pools, investing in R&D activities, building and staffing remote clinics, and investing in medical schools. By contrast, issue specific interventions usually focus on specific concerns and barriers to achieving short-term tangible goals, often for individual diseases. Examples include: offering contingent payments for boosting uptake of a new vaccine, organizing female community outreach volunteers to penetrate local communities for the expansion of maternal health services, distributing vouchers to pregnant women to boost in-clinic delivery, and introducing per-case-payment schedules to local practitioners to elevate the uptake of mosquito bed-nets.

By improving the alignment between principals (people) and agents (providers), issue specific interventions have empirically been shown to be effective in increasing the efficiency of core investments by improving the utilization of preventive and primary services particularly among poor, rural, minority and remote populations. Most of these interventions are implemented as a response to deficiencies in the demand side of the market attributed to lack of households’ income, information, trust, transportation and other barriers. In the absence of issue specific interventions, the real return on core investments can remain quite low.
The balance of this chapter examines core and issue specific applications of demand side policies. Our intent is to use the findings from the literature and published expert opinion to answer the question: What demand-side policies work best in particular situations? To do this we create four scenarios that span the situations of LMICs. In previous chapters we described how the effectiveness of particular types of interventions depends on (1) the nature of the health or diffusion problem being solved, (2) country characteristics such as level of constraints and absorption capacity, and (3) the extent to which the solution creates ‘balance’ between supply and demand sides of the market. In this chapter, we illustrate how lessons gleaned from existing literature can inform the selection of the most appropriate health system interventions, both core and issue specific. We create conceptual scenarios on the basis of how well health system functions are being performed based on the W.H.O. definitions (2000) and on the kinds of constraints facing health systems (Hanson et al, 2003).

These scenarios are described first. Following that we describe the kinds of “issue specific” applications of demand policies that seem appropriate for each scenario from the literature. This is followed by a section describing the “core” application of demand-side policies. The last section here is a summary. In describing the applications of demand policies we indicate which supply side policies seem appropriate for complementing the demand side policies in the marketplace.

**Characterizing scenarios**

**Scenario I**

Scenario I is the most mature of the situations we consider for LMICs. It illustrates situations where health financing is organized around some mechanism of risk pooling (between sick and healthy) and risk sharing (between poor and wealthy), resulting in financial protection against the cost of care. These countries do not necessarily need to have high levels of universal coverage or the most comprehensive benefit packages, rather they can be anywhere along the middle stages of insurance coverage shown in Figure 1.

More generally, Scenario I depicts a country that has achieved a transition in financing from out-of-pocket payments at the point of service to prepayment schemes with the ability to pool and share the risk of financial burden. It is worth mentioning that the income of a nation does not facilitate the emergence and growth of widespread community based insurance schemes parallel to formal social insurance. Rather, such maturity in health financing depends on commitment and political willingness at the stewardship level, and social solidarity and trust at the community
Community initiatives backed by support at the stewardship level allows for the establishment of an environment in which protection against financial losses is better insured. Subsequently, donors are more inclined to contribute technical and financial support. And as a result, providers perceive an opportunity to expand the quantity and quality of services, because of the reduced uncertainty in flow of funds resulting from the cooperation between community, government, and donors.

Figure 1: Stages of financial protection

![Figure 1: Stages of financial protection](source: Derived from Figure 4-5 in Dyna Arhin (2004))

Commonly, Scenario I countries are characterized by relatively mature financing functions; therefore collective gains of insurance systems are achievable in this group. Because households are willing to prepay premiums into an organized financing scheme, the insurance fund can pool risks, improve quality and expand the delivery of health care, using more or less the same amount of out-of-pocket payments at the point of services (Hsiao 2004).
In these countries prepaid contributions finance the system via micro risk pooling schemes at the community level or community-driven prepayment scheme attached to social insurance or government-run systems. Countries that seem to fit this model are Thailand (Thai Health Card), Indonesia (ASKES), and Rwanda (mutuelles).

**Contrasting This Scenario with Scenarios II, III, and IV.** The establishment of insurance funds for risk pooling and risk sharing requires a great deal of maturity across all functions of stewardship, financing, resource creation and service delivery. Our review of LMIC health systems revealed that most of these countries, especially the very low income ones, do not benefit from the so-called collective gains of well established insurance schemes because prepayment mechanisms designed to pool and share risk of illness simply do not exist. Instead, user fees, both formal and informal, remain the major source of funding for health services.

Extended periods of economic stagnation have lead to poor bases for tax revenues, so that the possibility of a pure or near-pure tax based system of care is remote. Revenue for health services usually take three forms: (1) premiums paid into formal insurance pools for formal sector and government employees, (2) tax revenues diverted to health through annual budget bills, and (3) out of pocket payments at the point of services by households. This third source usually accounts for more than half of the total health expenditures in most LMICs. When revenue payments at the point of services are so large, they can be quite problematic. However, a wisely designed user fee policy is important prior to transitioning toward more advanced financing strategies. Such policy however requires the fulfillment of critical prerequisites in the stewardship, resource creation, and service delivery functions.

Among the group of countries using combinations of tax and user fee bases, there are examples of cases with relatively organized health systems in terms of adequacy of resources and accessibility of delivery system. This is generally attributed to committed stewardship and government oversight. In such cases (Scenario II), a well-designed user fee policy accompanied by some protective mechanisms can provide an acceptable level of efficiency, quality and even equity.

On the other hand, many countries are characterized by great deficiencies and variations across the four health system functions, so that a universal set of core investment and issue specific interventions are not appropriate. In these cases, unique strategies based upon individual country
context must be designed. While individuals in these countries may bear the financial burden of paying user fees the health system may have sub-standard quality of stewardship and uneven distribution of service delivery networks (Scenario III). Or it may have poor stewardship, paucity of governance, and poorly organized care for populations living in remote areas (Scenario IV).

**Scenario II**

In Scenario II, the biggest challenge facing the health care system is the lack of financial protection against the cost of care because out of pocket payments have been the most important source of financing. In these countries resource creation, service provision and stewardship function at acceptable levels but limited tax revenues are assumed to impose severe budget constraints on the publicly funded services in general, and on health services in particular. To fill this funding gap and improve quality of existing services, governments rely on user fees at the point of service. The assumption is that the average individual is willing to pay (WTP) in exchange for receiving higher quality and timely services.

However, WTP is higher among the wealthy, leading to access constraints for the poor. Another important role of user fees is to increase the efficiency of the health system through market-based redirection of scarce resources to more cost-effective services such as preventive and critical primary services. The combination of resource allocation capabilities with revenue generation capacities has made the user fee policy one of the most important in health systems. However, the policy has been source of much debate because of the inherent disadvantage of decreasing utilization of services by poor. Therefore, the most serious problem for Scenario II cases is that their health systems create equity problem.

In order to improve the equity, governments and donors who make issue specific interventions will need to allocate funds to solutions that overcome the ‘ability to pay’ problem. Because the supply side of the market in Scenario II countries works fairly well and can be improved significantly by market based (demand) strategies, implementing user fee policies can potentially address major demand side problems such as under- and over-use, as well as moral hazard. And putting in place complementary protection policies can address the inequity problems resulting from restricted access to care by poor. Furthermore, the diffusion of critical services and new technologies can be achieved through demand stimulating strategies by heavily subsidizing priority target services relative to non-priority ones, in order to maximize the health benefits.
Additional subsidies for poor and rural residents can be created to insure equity and social goals. Countries that might fall into this scenario are China, India, and Egypt.

**Scenario III**

Scenario III situations are characterized by reliance on user fee financing as well as important supply side resource constraints, including inadequate numbers and distribution of health care providers. In addition to issues stemming from formal and informal user fees, low-income families are limited in their access to health facilities due to geographic barriers such that isolated and rural populations must travel long distances to reach health care service locations.

The major differences between countries that fall in Scenario III and those in Scenario II are deficiencies in resource creation and the concentration of service provision and delivery activities in urban areas. Distance barriers are usually considered a more important barrier to access than household income constraints. For delivery of health care services, private delivery systems (hospitals, doctors and pharmacies) in these situations are usually preferred over poor quality and inaccessible public providers. Typically, these providers are unregulated.

In Scenario III, the weaknesses in resource generation and service provision pose new and expensive challenges for donors. The supply side limitations add to the complexity of intervention design and implementation and ex-ante cost estimation of issue specific interventions. For example, one key concern with regard to issue specific interventions for donors is the distribution of new services or products in certain circumstances. Policymakers need to discern the most efficient and sustainable strategies to fill delivery gaps in underserved areas. Furthermore, they need to determine how to legitimize using new services, even with subsidized or nearly free prices, in the eyes of households who may be reliant on traditional remedies given the misdistribution of formal service delivery sites. However, there are strategies, conditional cash transfers and contingency management programs, that have been shown to be successful in getting households to seek services when financial rewards for such behavior exist and are well implemented. Countries that fall into this category might be Nicaragua, Bangladesh, and Cambodia.
Scenario IV

In Scenario IV, the dependence on user fees and private financing and the supply-side deficiencies noted in Scenario III are complemented by other problems. Accountability and professionalism have broken down. In these countries or sub-regions, stewardship and oversight believed to be the most important function of a health system, is so weak that it leads to widespread malfunctioning in the other three functions, namely creating resources, service provision and financing. Governance and stewardship functions may have been captured by corrupt forces, and do not inspire trust. Here, providers are underpaid, and provide low quality services, while often charging “informal” fees to patients in exchange for faster access and higher level treatments.

Weakness in stewardship, lack of efficient policies and regulations, and inefficiency of public service organizations leads to a highly constrained environment for external aid assistance. Scenario IV is comprised of cases where health outcomes are the worst, and therefore presents the most difficult situation in which to deliver new services and products. Therefore, any yield from issue specific investments will, holding other factors constant, be far less than under the other scenarios.

In scenario IV situations, the traditional supply oriented approach to address these poorly functioning systems has met with very limited success, resulted in a great deal of inefficiency and waste of domestic and donor funds, and has resulted in health outcomes and distributions that are well below accepted norms. In such environments, the demand side of the market is not any stronger than its supply side. Five important factors are responsible for the inadequacy of demand for health care. The household’s budget constraint is the first and most important factor causing limited demand for service. The second barrier emerges from geographical diversity in the country and the cost and discomfort of traveling to obtain health care. The third factor, which significantly distinguishes the demand conditions under Scenario IV, is that uncertainty of political and environmental stability increases risk for households, resulting in a very high social discount rate, so that the expected present value of return on investments over a life span will be highly discounted. Under such circumstances, investments in physical or human capital are believed to be less desirable and the households’ rational choice would be lower than normal level of investment in favor of higher level of consumption. The fourth factor is the low level of the household’s education and information about the potential benefits of the services and, in particular, new technologies, which undermines the so called “value proposition” of products and
services and negatively affects demand for health care in general and new and unknown technologies in particular. And finally, some experts suggest that lack of trust is another factor explaining some of the deficiencies in demand for health care services in these environments.

While preventive and primary health care services, although highly cost effective, are already prone to sub-optimal utilization due to positive externalities in other scenarios, they are intensified in Scenario IV countries. In Scenario IV, income and budget constraints, relatively high social discount rate, and information problems and trust issues, can lead to hazardous levels in the sub-optimality of service utilization. In the absence of aggressive demand side stimulation, these barriers will not be overcome by supply side investments alone. Furthermore, in addition to seeking a balanced set of supply and demand side strategies, health care investments must be cognizant of deficiencies in stewardship. The lack of trust among households, inadequate resources, and the incompetence and corruption of management often compel donors to bypass formal bureaucracies and to contract out vertical interventions to other informal and non-governmental entities in Scenario IV. Here the countries might include Nigeria, Myanmar, Haiti and Afghanistan.

**Summary of Scenarios.** In Figure 2, scenarios are illustrated according to their relative strength in each of the key functions of the health system as well as conditions of demand side of the market for health services. In this illustration the darkness of the bar reflects the strength of the function. For stewardship, although there is a continuous decline across scenarios, it remains fairly reliable in the first two scenarios while needing some support and strengthening in Scenario III. As already discussed, the overall stewardship and leadership functions are virtually broken in the weakest Scenario IV. The other crucial contribution of stewardship to health systems is its role in mitigating inequity in health outcomes among citizens. Good governance is not only about increasing the national average of health and wellbeing of citizens, but is also judged by its contribution to reduce inequities. For example, stewardship may remain insensitive to user fee policies which undermine the access of the poor to health care.

Service provision and delivery function is, in general, weaker than the resource creation function in LMICs, where governments are more likely to spend money on investments such as medical schools and staff training centers, hospitals and health facilities, and equipment. But often, many of these expensive services are poorly functioning or misplaced due to factors that include brain drain or other human resource leakages, misuse of equipment and poor maintenance, unoccupied beds and so on. Another, equally important, dimension is the distribution of services across geographical and socio-economic strata. Governments may do a good job in creating enough resources for health system, but the high concentration of health facilities in urban areas can still lead to poor health outcomes for underserved communities that lack access. Additionally, an unequal distribution of services, lack of respect, compromised privacy, long waiting times, and
lack of responsiveness, exacerbate the sense of exclusion felt by urban poor, rural and minority populations. Even when national averages of health outcomes are within acceptable ranges, the overall performance of such systems requires downward adjustment due to these disparities in service provision and delivery.

Figure 2 along with variation in health system functions illustrates the gradual deterioration in demand for services. The constraints undermining demand are due to combination of factors such as income, distance, information, trust and culture. In the most constrained cases (Scenario IV), poor demand and limitations or inequalities in the supply of critical services have led to poor health outcomes on average, and even worse levels among poor and underserved populations. Until the right blend of policies are made in each scenario, taking into account the balance between supply and demand side interventions equitable health goals are unattainable.

**Figure 2: Scenarios for classification of health systems according to functions**

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<thead>
<tr>
<th>Scenarios</th>
<th>Health System Functions</th>
<th>Demand Conditions</th>
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<td>Stewardship</td>
<td>Resource Creation</td>
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<td>Scenario I</td>
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<td>Scenario IV</td>
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Source: Authors

**Comparing the Scenarios.** Figure 3 depicts the four scenarios, each as a health production trajectory relating resources spent on issue specific interventions to yield in terms of health outcomes. The different health benefits of the four scenarios are shown, with each scenario the
result of previous core investments in the health system. These quantum differences are only presented here in an ordinal manner, and no theory is offered to model the input-output relationship between core investments and health outcomes or the extent of the shift that occurs in the production function.

The health system outcomes in this framework (vertical axis) capture both the level and distribution of real health outcomes. Incorporating the distribution measures of outcomes among socio-economic strata can be judged as important as improving the national average outcomes. Such an inclusive view on investments, core and issue specific, must insure increasing efficiency without compromising the equity of outcomes.

Core investments theoretically change the technology and organization of some of the combinations of the four key functions (stewardship, resource generation, delivery, and financing). A typical core investment acts like investment in education, which increases the household’s productivity. Under the most positive circumstances, these kinds of capital investments have both long-term payoff, and higher risks of no payoff at all. Under these circumstances, we would imagine that structural changes in health systems would occur only with full support, commitments, and concurrence of governments and donors.
Figure 3: Scenarios for health systems and payoff of core investments vs. issue specific interventions

Source: Authors

For example, Scenario III depicts the organization, governance, and financing of care in a particular country situation, and the external constraints on the health system (climate, level of development, etc.). The trajectory curve of Scenario III indicates the input-output relationship that result from specific investments in countries classified under scenario III. Core investments are intended to shift the health production curve up (for example, from III to II), which would
result in a dramatic improvement in health outcomes. While core (structural) reforms have potentially large payoffs, they may take a long time to gain traction.

The investment decisions that occur along the curve are made for issue specific interventions, or investments that attempt to produce better outcomes through marginal changes, but do not entail fundamental structural change in the health system functioning.

**Issue Specific Interventions**

This section of the report describes the issue-specific demand side interventions that correspond to each of the scenarios.

**Scenario I.** Issue specific interventions aim to increase utilization of previously available critical services, or introduce new technologies in preventive and primary care services. These interventions are not intended to change the core functions or functioning of the health system, but instead are designed to address short and mid-term efficiency and equity goals. There are many widespread examples of such programs, highlighting the focus of achieving equity in health. However, there are various barriers that have delayed the introduction and slowed down the uptake of these critical health interventions. In Scenario I situations, where insurance based financing mechanisms are present, issue specific interventions such as new products or services may be accomplished the relatively minor changes in the benefit packages, pooling, cost sharing policies, or program targeting.

Given the financing and stewardship characteristics of a typical Scenario I country, donors may only need to invest an incremental amount to achieve a particular diffusion goal. For example, an established benefit package might only need the addition of a new service or product. While the pooling process generates low out of pocket exposure for services, it can stimulate demand especially among needy beneficiaries of community based insurance funds. It is also predictable and legitimate that convincing the insurance plan stakeholders to include the new products in their existing benefit package requires financial support to cover the costs by donors. In this case, although the price of product might be fully subsidized by donors, the remaining costs of delivery should be reimbursed, preferably through existing insurance schemes.
Although the health systems in Scenario I benefit from insurance based financing mechanisms, our review of the empirical literature revealed that in many countries, insurance schemes are solely designed to protect their members from unexpected costs of hospitalization. This would mean that benefit packages might not include highly used preventive services no matter how vital and cost effective they might be. This is consistent with the theory of insurance that is based on risk-averse individuals’ utility maximization behavior. These individuals are assumed to pay for risk protection premiums, because they would otherwise face big expected financial losses. This view of insurance, or risk protection, has an important implication for most of the issue specific interventions, which seek to expand services outside the hospital. Additionally, the literature suggests that in most insurance based countries, a significant portion of the population falls outside of any type of insurance scheme because insurance premiums are either not affordable, encompass service from providers that are too far away, or are based on catchment areas or other means of social exclusion. Ultimately, these populations bear the cost of services through out of pocket payments. In such cases, policy design should consider new target areas for additional coverage (places, services, populations) if there is no insurance scheme already in place.

**Scenario II.** Achieving target levels of usage for critical services or new technologies can be done through subsidized schedules for pricing (user fees), where fees are set according to ability to pay. Because most critical preventive services, both existing and new, are public (merit) goods with positive externalities they should be priced carefully.

A subsidy that internalizes the positive externalities for specific services like vaccines should be reflected in fee schedules for the average consumer. It should also reflect the method of targeting communities prevailing. If a targeting system already exists, then price discrimination can be implemented more easily. For example, if a health card policy is already chosen to subsidize poor households’ utilization, then the subsidy can go directly into the health card fund.

Proper targeting mechanisms increase the efficiency of interventions through savings provided by price discrimination. However, the efficiency gains from targeting vary significantly among different strategies. Well-organized individual targeting systems (e.g. through means testing) are usually preferred, but are not always available. Self-selection is another option when administrative records on individual income are not readily available. In absence of individual-based targeting, geographical targeting may be used. In the worst case, where targeting systems are unavailable or are difficult and expensive to administer, critical services can be universally subsidized according to the low-income populations’ willingness-to-pay.
Evidence from the literature suggests that adjusted fee schedules plus subsidies, when combined with provider payment incentives, can effectively increase uptake rates. This is particularly true for the diffusion of new technologies where health staff play a critical role in advocating the necessity, efficacy, and safety of products. The successful diffusion of new critical products in less educated, conservative communities may require additional efforts beyond price subsidies, such as performance based incentive payments for providers. This would pose as an additional advantage of encouraging providers to perform services for full courses of and taking the initiative to educate patients and staff.

To overcome the budget constraints of the poor, some countries have successfully implemented two types of programs that have been given high marks for their design and results. These are the use of vouchers and health cards. Both instruments can be employed for issue specific interventions as efficient and cost-effective mechanisms that increase rates of utilization of critical services. They have been used in a wide range of issue specific interventions including those focused on sexually transmitted infections (vouchers in Nicaragua), reproductive and child health services (vouchers in India), improving access to institutional delivery (vouchers in India), and facilitating access for the poor (health cards in Thailand and Indonesia). Implementation of instruments requires a certain levels of institutional capacity in order to conduct a targeted program. More sophisticated programs like Health Equity Funds can play a big role in expanding access for underserved populations. Even though issue specific interventions can rely upon these funds, the establishment of such funds is beyond their scope and fall in the category of core investments, which will be reviewed later under the core investment strategies.

Finally, the major problems encountered by Scenario II countries might best be coordinated by local governments because the diffusion and distribution of activities can be more efficiently implemented in collaboration with local institutional capacities. In general, local governments are better aware of demand side constraints and targeting issues. Collaboration with local authorities through horizontal approaches increases the possibility of targeting subsidies to populations with the greatest financial need, which is much less costly than universally subsidized service provision.

**Scenario III.** In communities that fall into Scenario III, physical distance and remoteness is the major cause of inaccessibility to preventive and primary care networks for rural residents, minorities and even some urban poor. These indirect costs of seeking care are comparable to, and sometimes even higher than the cost of health care services, resulting in even greater underutilization of services among poor and remote communities. These barriers to access usually lead to self-treatment or pursuit of care from low quality private providers and traditional
healers. Until the underdevelopment of these service delivery networks is addressed (a core investment) these populations will continue to be marginalized. In the interim, issue specific interventions have the potential to play a critical role in minimizing the consequences of remoteness.

In these instances, issue-specific interventions should focus primarily on heavily subsidizing the price of products and services. Although fee exemptions will ease access for some, the very poor or those in very remote communities still may not seek critical care, especially for services where indirect costs of travel are comparable to the fees subsidy. The experience of care seeking behavior in very poor communities indicates that subsidizing critical services even up to the level of free or near-free prices simply may not be adequate for encouraging usage by very poor or very remote populations.

There are more aggressive versions of financial incentives. Some programs offer cash payments for using products or services or complying with some regimen of activity. A whole generation of behavioral incentives (“token” economy systems) is being used to overcome financial barriers. These are essentially “negative user fees”. They have been used in LMICs to change consumer behavior and stimulate demand. These incentive based interventions, in principle, are offered to either overcome indirect costs of utilization (like travel time) or to change specific behaviors of consumers who, for whatever reason, are resistant to using products or services. They can also be designed to overcome underutilization that might be due to lack of information, though this is more complicated.

In the literature of demand side interventions, two different modalities for contingent payments were identified. The original modality known as CCT programs, offered a broad social sector approach to using demand side incentives to address both short term and service specific problems facing the poor. The ultimate goal of these programs was to rupture intergenerational poverty cycles through incentives for short-term poverty alleviation as well as incentives for long-term human capital accumulation. In general, these programs have been beyond the capacity and scope of most issue specific interventions, due to their cost per beneficiary and their extensive institutional capacities and resource requirements for implementation and monitoring.

Less comprehensive forms of contingent compensation to influence care-seeking behavior are being used. Donors and governments can modify their objectives and implementation plans in order to use a limited version of CCT programs for exclusively targeted health services.
Contingency Management (CM) programs in the U.S. for behavioral health, and the promotion of maternal care and institutional delivery in India are examples of such modifications. Studies of CM programs suggest that they have the potential to provide exceptional results. The literature on successful CM programs suggests seven recommended principles for such incentive programs. They are: (1) defining the target health seeking behavior that has to be changed, (2) defining the target population that is in greatest need and requires change, (3) properly choosing incentives that have maximum stimulative effect and minimum potential harm, (4) assessing proper size and magnitude of incentives, (5) defining the frequency of incentive payments, (6) understanding the timing of incentives, and (7) clearly defining the duration of the CM intervention.

The literature points to circumstances that can limit the success of behavior incentive systems. Incentives may have to be quite large to compensate not only for poverty and geographical distance, but also subjective factors such as mistrust in providers (especially foreign donors), cultural and religious beliefs, and lack of knowledge about the efficacy or potential harms of care.

The reviews of country experiences have shown that outreach strategies such as the use of community health workers (CHW), can improve utilization of services for things like mass vaccination campaigns, family planning programs, and maternal health services. As long as the scope and level of sophistication of specific critical services does not require major investments in training, CHWs can be effectively used for faster diffusion of services. However given the informal contractual relation between CHWs and formal systems, and the attrition of workers over time, investments in CHWs should be made with caution.

Using behavioral (token) incentive programs in conjunction with CHWs has worked well to build demand for issue specific interventions. CHWs can be the ‘trusted agent’ through which governments and donors could overcome the subjective barriers to successful implementation of CCT or CM programs. Contingent financial incentives on utilization may be necessary for building demand, but they may not be sufficient. Under a combined model, the role of the CHW can be restricted to generating ‘referrals’, limiting training costs. In some cases, not only the patient, but also the CHW herself is rewarded by a performance-based payment in response to referring more eligible enrollees to formal service providers.
**Scenario IV.** Despite the absence of organized public service provision networks and committed stewardship in Scenario IV issue specific activities have been successful for vaccination campaigns, vector control projects for malaria and other issue specific, and sometimes vertical programs. Here we discuss two key subjects relating to issue specific interventions: (1) strategies for overcoming demand side constraints, and (2) the strategic decision about the level of verticality for issue specific interventions.

**Overcoming demand side problems.** Scenario IV health systems are characterized by multidimensional demand constraints such as limited ability to pay (income), relatively high social discount rates, shortcomings in information and education, and broken trust between consumers and public providers. The combination of these constraints leads to vast inequity in access to health care services and under utilization of most preventive services. The extent to which the incentives might work to create demand depends on the size of the required financial incentives to overcome constraints and limits on budgets.

We already discussed advantages of the two major categories of behavioral incentives known as CCT and CM programs. To reiterate, full-fledged CCT programs that provide traditional short-term income support in exchange for behavior insuring longer-term accumulation of human capital are not viable issue specific interventions in Scenario IV countries. Instead, limited versions of incentive programs like CM can be implemented with focus on target services and population subgroups.

The cost of implementation can be high because of the demand barriers in this scenario and the size of the required incentives. Some design features might be used to increase the efficiency of these kinds of interventions. Incentive programs can be customized to address heath seeking behavior such that a greater incentive may be used to bring consumers to the provider for the first time, while more modest incentives can be used thereafter. Social networks inside communities can also be tapped used as vehicles to exponentially spread useful information, so that fewer incentives are needed once the information reaches a critical point. Combining CM programs with CHW programs is one way of combining social networks and incentives.

**Strategic decision about level of verticality.** When performance across the four health system functions is very weak, all issue specific intervention decisions must consider the issue of delivering the intervention using a vertical program or not. A new generation of literature in aid efficiency, calls for revisiting the usage of vertical programs in favor of horizontal activities to better align foreign assistance with country goals of health system strengthening and improving local capacities for health policy making (Gottret and Schieber, 2006 and Paris Declaration for Aid Efficiency). Yet another view is that in practice, the dichotomy between vertical and horizontal programming is not as rigid as it may seem in theory (Cruz et al 2003). In this scenario, where stewardship is weak and corruption and professionalism are issue, the choice about level of verticality is very salient because the delivery intervention must overcome or avoid the critical constraints.
Figure 4 shows the extent of verticality or horizontality of an intervention, ranging from a vertically managed and delivered program such as the EPI to a fully integrated approach of delivery such as PHC.

Figure 4: Continuum in horizontal and vertical programs

<table>
<thead>
<tr>
<th>Polio Eradication Initiative</th>
<th>Expanded Program on Immunization</th>
<th>Integrated Management of Childhood Illness</th>
<th>Comprehensive Primary Health Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertical</td>
<td>Horizontal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Cruz et al, 2003

Based on evidence from LMICs, programs such as the Polio Eradication Initiative (PEI) are considered more vertical than the Expanded Program of Immunization (EPI), which in turn is more vertically designed and implemented than the Bamako initiative. The degrees of verticality or horizontality of issue specific interventions are determined by various factors, such as internal organization and structure of the health system, levels of decentralization, health system institutional capacity, dependence on donor support for funding of basic infrastructure, demographic and epidemiological profiles, and international priorities and politics (Cruz et al 2003).

Vertical programs appear to be most appropriate when the technology of disease control is very sophisticated and very different from common tasks, requiring specific skills that are not quickly available. In general, complex and expensive technologies are judged to be difficult to integrate into other components of PHC because they require skills and equipment not easily managed by local communities and health workers. In other cases the technology may be simple but may require certain skills (e.g. spraying for malaria control) that are not easily available. In both of these examples, technology is not applied directly to people (as is personal curative care) but involves changing the environment in some way. It is thus considered to be less suitable for integration with personal health services (Cruz et al 2003).

In other cases, the vast inefficiency associated with wide spread corruption justifies a certain degree of verticality, such as in situations of “elite capture,” where decentralization policies put power in the hands of local authorities and/or certain ethnic affiliates, which leads to discrimination and inequity of service provision.

**Demand Side Core Investment Strategies**

Issue specific interventions should improve health outcomes and achieve equity goals in the short term, but their impact is constrained because they do not make material improvements in
the four critical health system functions: stewardship, resources, service provision and financing. Core investments are designed to make lasting improvements by improving one or more of these four critical functions. In this section, we examine using the same country scenarios used earlier.

Core investments can be composed of both supply and demand investments. Since we are focusing on demand side core investments, we have chosen to review here the use of supply side core investments that might complement demand side efforts. However, in countries with dysfunctional political systems, namely those that fall into Scenario IV, core investments in demand are relatively futile due to weak stewardship. Therefore, the core investments should be made in supply side investments that promote service delivery infrastructure, the strengthening of stewardship and creation of resources.

Before reviewing the scenarios and recommendations about core demand investments we want to review a common issue with implementing most demand side investments: the need for skills and information to do population targeting such as means testing, asset measurement or other screening techniques. If health sector core investments establish targeting capabilities (or adapt existing approaches used by other public policy areas such as poverty alleviation programs) a wide range of health interventions would stand to benefit.

Ineffective targeting systems have been the justification of many supply side interventions, such as publicly providing goods and services and subsidizing them in a universal fashion. Governments are aware of the cost, inefficiency, and inequity involved in across-the-board subsidies or publicly funded services. Nonetheless, policy makers undertake the second best option which is usually a supply intervention, because targeted demand side interventions are often considered unattainable due to their relative complexity and high administrative costs. Furthermore, political economists acknowledge the role of the elite in perpetuating status quo in considering supply side interventions as a rational choice rather a sub-optimal solution.

Table 1 summarizes the core investments that will be discussed in the remainder of this section.
**Table 1: Core investments in demand and supply sides for each scenario**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Demand side Core Investments</th>
<th>Complementary supply side Core Investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario I</td>
<td>✓ Supporting CF initiatives, targeted premium subsidies, expansion of pools, linkage, reinsurance and consolidation of pools ✓ Optimizing and balancing benefit packages ✓ Education and information towards more enrolment</td>
<td>✓ Information systems to support better management and control ✓ Technical support on managerial skills, premium estimation, and provider payment arrangements</td>
</tr>
<tr>
<td>Scenario II</td>
<td>✓ Optimizing user fees toward increasing efficiency ✓ Revisiting user fees to minimize inequities ✓ Protection policies e.g. HEF ✓ Supporting/piloting CFs</td>
<td>✓ Financial decentralization to insure revenue retention at local levels ✓ Contractual arrangement and provider incentives to improve rural services ✓ Quality improvement programs with emphasis on patient-centered evaluations</td>
</tr>
<tr>
<td>Scenario III</td>
<td>✓ Investment on physical capital and human resources in remote areas ✓ Lack of trust and cultural believes are barriers: Voice and choice interventions and other Information interventions ✓ Supporting/piloting CFs</td>
<td>✓ Organizational improvement thru CHW ✓ Regulations of emerging private providers</td>
</tr>
<tr>
<td>Scenario IV</td>
<td>✓ Stewardship and leadership capabilities ✓ Gov-donor policy alignment ✓ Resource generation: investment on infrastructures + human and physical capital ✓ Geographical resource re-distribution</td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: CF: Community Financing initiatives including Community Based Health Insurance, HEF: Health Equity Fund, CHW: Community Health Worker

Source: Authors

**Scenario I Core Investment Options:** A handful of these LMICs have already improved their health system by replacing out-of-pocket financing by implementing community based insurance
schemes (CF). Scenario I is characterized by community financing initiatives and micro insurance schemes that insure risk pooling through pooled prepaid premiums. A high level of stewardship and adequate resources are also present here. Effective stewardship in these countries is predicated on the notion of government or constitutional mandates for (1) dissociation of financial contribution from the utilization of critical health services by citizens, (2) increasing the share of the health sector from the GDP by mobilizing more resources through viable and sustainable channels and investing them wisely on core elements of health system, and (3) promoting participatory actions for gaining community voice powers over service providers. But in spite of efforts by the government, household contributions are likely to still account for the majority portion of total health expenditures.

Under these Scenario I circumstances, the core investment strategies on the demand side will focus on improving the benefit design, the extension of the insurance pools to new populations, inter-pool subsidies and consolidation policies. Supporting re-insurance models is also an important area for investment. At a higher level of consolidation, the role of stewardship will be to optimize the flow of cross subsidies from high to low-income contributors. The legislative and regulatory actions that guarantee such cross subsidy can and should insure risk sharing. In such a scenario not only is risk pooled between healthy and sick through insurance pools, it is also shared between rich and poor. In other words, core investments start with supporting risk pooling initiatives (pooling the risk of serious illnesses) at earlier stages while moving towards investing in risk sharing policies (sharing cost of the coverage in a fair manner via cross-subsidies) after the consolidation stage.

Legislative actions directed at risk sharing require high income groups to pay their actuarially fair premium plus a loading fee in support of low income members. A careful examination of this type of legislative policies indicates that governments can raise more resources for health through cross subsidies without undertaking tedious legislative processes and political challenges to increase the share of public spending in health sector from national budget tax revenue. In essence, risk sharing legislation applied to consolidated pools facilitates extra tax-like revenues for health sector while totally bypassing national budget constraints.

Exclusion of the very poor or other non-early adopters of voluntary insurance is a big problem, even where CF programs are well disbursed. A premium subsidy is helpful in these cases. Also helpful in extending the program to include non-early adopter households would be investments in information, education, and trust building campaigns, in lieu of standard marketing strategies, advertisements or consumer value proposition models. Low income households living in remote rural areas must be convinced of the worthiness of putting aside a portion of their meager often agriculture-based income to pre-pay for services that might occur. Exploratory discussions before the introduction of a scheme in rural Ghana found that the term health insurance was not associated with risk sharing and instead referred to an unfamiliar product purchased mainly by
the urban elite (Arhin 2004). Reaching a critical level of trust with poorly educated and remote rural populations may not take place through normal marketing strategies.

Balancing, or rebalancing the benefit package is an important improvement in the CF schemes. While the evidence for promoting primary and preventive care is strong, there is competing literature raising concerns about impoverishment due to high health care costs, leading to infrequent use of hospitalization or chronic care, particularly among poor and rural residents. Some experts suggest that the balance in resource allocation between levels of care has to be revisited in order to take into account the social costs associated with shocks of health care costs (WHO 2000, Kawabata et al 2002, Xu et al 2003, Hsiao 2004, Toman 2005, Xu et al 2007). Cost effectiveness studies almost always rank preventive and primary care interventions as the top priority in comparison to investments in financial risk protections against high health care costs. This is because cost-per-QALY measures do not take into account the social consequences of foregone care, impoverishment, and bankruptcy of households. Often, patients pay for inpatient hospital services, which leads directly to family bankruptcy or foregone treatment and increased morbidity and mortality. Studies find that higher proportions of women and children forgo medical treatment, and that in several countries, including China, large medical expenditures (i.e. inpatient hospital services and costly outpatient drugs) are the major cause of poverty (Hsiao 2004).

Because of the impact of catastrophic costs a number of the community financing schemes (Preker 2004, Hardeman 2004) have been established to protect poor and rural populations from the high health care costs of hospitalization and long-term care. The assumption behind prioritizing hospitalization over preventive outpatient care is that low income or informal sector households are able to survive ordinary drug and outpatient care costs, but fail to cope with unexpected high health care costs of inpatient services. Once they are impoverished, it becomes even more difficult and costly for the community to extract them out of poverty. Shift of donor and government subsidies in such cases is usually conducted through benefit package designs for micro insurance schemes in favor of hospitalized care. This view towards the benefit package design is also consistent with the theory of insurance. Risk pooling should cover low frequency events with unpredictable, high costs. Otherwise, pooling the risk of ordinary and predictable events is not an efficient strategy given the administrative overhead costs of insurance and the welfare loss associated with moral hazard.

Along with demand side efforts in the improvement of the functionality of insurance pools, some supply side core investments may improve the effectiveness of those demand investments. Investment in specific managerial skills for micro insurance schemes is important. The expansion of best practices from cases with similar contexts has a critical role in the development of community financing initiatives. In the absence of managerial skills, information
and other technical support, administrative costs of running schemes based on trial and error may undermine the entire scheme.

One potentially important area of investment is in health information systems for improved management and control. The global downward trend in the cost of IT systems is making these types of investments more cost-effective than ever before. Augmenting insurance related management information systems (MIS) with internal facility and hospital MIS increases the benefits of IT investments while sharing in the total costs.

In summary, core investments in scenario I situations should always be balanced on both the supply and demand side. For implementation purposes, they can be deconstructed into the following categories: (a) increased and well-targeted subsidies to pay for the premiums of low-income populations; (b) community financing schemes against health care costs and assessment of the feasibility of reinsurance to enlarge the effective size of small risk pools; (c) use of effective prevention and case management techniques to limit expenditure fluctuations; (d) technical support to strengthen the management capacity of local schemes; (e) establishment and strengthening of links with the formal financing and provider networks (f) strategic and balanced benefit package designs (g) information and trust building activities because marketing strategies deemed to be ineffective in expansion of community financing schemes.

**Scenario II Core Investment Options.** The review in Section 3 earlier suggested that the best solution to out of pocket payment crisis in Scenario II LMICs is the migration to a more advanced system of financing in which risk is effectively pooled (between sick and healthy) and shared (between rich and poor). However the formation of such an ideal system requires a great deal of social solidarity, government commitment and support, institutional capacity and more. Not all countries have the capability for such a big transition in a short time. Here, an alternative would be for the government to take responsibility of financing functions on a tax revenue basis instead of an insurance prepayment basis.

Inequity in access and utilization due to user fees and high out of pocket payments at the point of service is the biggest concern for a majority of LMICs. As a response, a few countries have completely abolished user fees even in situations where governments do not have funds to fill the gap. The majority of countries acknowledge the necessity of well-designed user fees and have been trying to improve implementation practices towards higher efficiency while dealing with access issues for the poor. Some of these countries implemented various compensation policies, which had some variation in their degree of success.

According to theories of finance as well as evidence from a large number of countries, the most viable core investment option in Scenario II would be a comprehensive policy package with the following key elements: (1) retaining a user fee policy as an effective interim financing mechanism until reaching effective and widespread pooling mechanisms or nationalized tax-based health financing; (2) revisiting fee schedules in a theory and evidence-based manner to
ensure the most efficient cost sharing arrangement; (3) improving targeting mechanisms; (4) designing and implementing the most appropriate protection policy in order to address limitations in ability-to-pay by poor, hence mitigating the efficiency-equity trade off.

The implementation of a combined user fee policy plus protection policy(s) should be based on certain principles. Some of the key elements of implementation are reviewed here.

The key approach is to maximize efficiency through a progression in fees based on notion of services. The blind introduction or expansion of user fees solely for the purpose of revenue generation can undermine the real merits of a user fee policy and jeopardize their contribution to the increased efficiency of health systems. Understanding the reactions of the market to different fee schedules is one of the functions of good stewardship and oversight on financing functions, because it goes beyond the financing function of a health system alone. A core element in the design of fee schedules is the careful understanding of the products and services provided, and whether they are accompanied with positive externalities. Positive externalities exist for most preventive and primary care services, and are internalized most efficiently through pricing (fee) mechanisms. The same principle applies for health services that fall in the category of public goods where there is less if any incentive for private providers to provide services. A good user fee policy should set lower fees for this group of services. By setting realistic fees for services, levels of consumption should be optimized. In this sense, fees could be used to control for overuse and moral hazard, while contributing to efficiency in resource allocation. This type of progression in fee setting takes care of market failure for public goods or services with positive externalities.

Policies that improve efficiency of health systems have to prioritize services according to relative cost-effectiveness, but should also maximize efficiency of long-term service utilization. Two separate dimensions of under-utilization should be taken into account when pricing: (1) underutilization of the relatively cost-effective services and (2) underutilization of services whose benefits are spread over a long period of time. By allocating subsidies on the services that critically contribute to future accumulation of human capital or otherwise reduce future harm, policy makers can maximize efficiency of service utilization with regard to the actual time of benefits.

A second consideration is minimizing inequity through progression in fees based on ability to pay. Blind user fee policies can severely hurt the poor, particularly children and women. Here, progression in user fees should be done according to level of income or other broader socio-economic terms. One may see an analogy between fee scheduling based on income and what is known as price discrimination in market. Although both are similar in market models the goal of price discrimination is profit maximization, whereas in fee setting for publicly provided services the objective of policy is to minimize inequity. It is also worth mentioning that implementation of progression in fees based on ability to pay to minimize inequity, is complex, difficult, associated with social tension, politically unpopular, and may be very expensive to accomplish.
A third consideration in redesign of user fees is minimizing distortion in market prices and strengthening competition and considering the role of private providers and the potential for ‘crowding out’ competition. Stewardship over decision-making processes about fee schedules should take into account the potential productive role of private providers in relevant areas. Most preventive and primary care services can be provided by private providers when they are incentivized to do so. Therefore, when allocating subsidies, governments should avoid price wars against qualified private providers.

Once fee schedule setting and targeting strategies are accomplished, the final step in a core investment relating to improving fee schedules is selecting the best strategy for minimizing inequity. The most common choices for overcoming inequity issues of user fees are: (1) sliding user fees, (2) fee exemption and waiver programs, (3) vouchers and health cards for the poor, and (4) health equity funds. Among the policies reviewed, health equity funds (HEF) appeared to be the most promising in countries such as Bangladesh, Cambodia, and Madagascar. As a result, the donor community (e.g. joint ventures by RTI International and USAID) is expanding HEF models over other alternative protection policies. One important advantage of HEF is that there is virtually no need for price distortion in favor of poor, and the market can work without any interference as everybody faces the same market price. HEF models have been successfully used in various levels of primary and secondary care, and hospitalization services. However, few evaluation studies have been made available for policy makers and researchers to judge the generalizability and external validity of HEF results.

Another important core investment is in community financing initiatives, which increase the long-term ability of health systems to begin the transition from out-of-pocket payments toward insurance based financing mechanisms. As an example, the government of Thailand used health cards to facilitate insurance coverage for the poor. Thai cardholders had to pay half the premium, while the government paid the other half. For cost containment, cardholders exclusively received services from predetermined public providers.

Several complementary supply side investments might be used here. In the user fee policy chapter (section 3), we discussed how bureaucratic and government regulations can undermine revenue retention at any of the national, sub-national or facility levels. In some countries legislative mandates require that the user fee revenue be totally taken away from health sector and pooled in the treasury to be reallocated along with other government revenues. This kind of legislative arrangement undermines the intrinsic goals of the user fee policy. Lack of authority in revenue retention can also affect sub-national levels. To combat this possibility, some form of financial decentralization should be implemented prior to raising fees in order to guarantee authority for retention at local or facility levels where revenue should be retained or re-invested for improving the quality and availability of services.

Other necessary supply side core investments such as accreditation, certification and licensure have already been made by governments and donors but have not reached their promised goals.
These policies are often implemented in response to poor quality of services, safety problems, or unacceptable responsiveness of providers. As we found in our reviews of developing countries where regulatory and monitoring systems are weak, accreditation is increasingly used as a major mechanism for improving healthcare quality and patient safety. Nevertheless, it remains little understood with regard to its impact and effectiveness, even by medical professionals. Until now, most accreditation studies are still based on document reviews, interviews, observations, surveys, and case studies. No positive or consistent relationships between accreditation and performance have been found. As the creation of a patient-centered environment increasingly becomes an important goal of healthcare organizations, accreditation programs should integrate the philosophy of patient-centeredness into standard development and survey processes, so that accreditation might emphasize patient and family rights, education, and emotional support.

**Scenario III Core Investment Options.** Understanding the extent and the pattern of disparity is the first step in the design and implementation of core investments here. In addition to geographical remoteness, access barriers may stem from religion, age, race, and ethnicity. Determining whether the cause of inequity in health outcomes comes from disparities in availability of public services or from health seeking behavior of remote communities is vital as it can change the priority and direction of core investments. While availability can be addressed through investment in physical capital and human resources, abnormality in health seeking behavior due to mistrust, culture, and information requires remedy through totally different interventions. Stewardship should include direction toward the acquisition of knowledge and the application of the appropriate methods prior to undertaking long term and expensive supply side investments. In the absence of demand side assessments and the failure of stewardship in recognizing the inequity in service utilization, core investments are prone to elite capture or waste on low priority projects.

In communities where underutilization is the result of mistrust, cultural beliefs, and lack of information, core investment efforts should be partially redirected from investment in physical capital to improvement in voice, choice and information. These have been shown to effectively encourage participatory action and community involvement toward more responsive systems of care. The examples of the Bamako Initiative, community micro-insurance schemes, and Indian experience with water supply and sanitation, are some of the many that have proven the real merits of informed community involvement and voice in aspects such as willingness to pay and prepay, viability of services, responsiveness and quality (World Bank 2004). Almost all of these successful stories have taken place in situations where infrastructure and publicly funded services had been made available, though utilization remained at sub-optimal levels. These results emphasize the benefit of integrated approaches in which supply and demand side conditions are taken into account simultaneously.
On the supply side, the expansion of delivery networks remains the central goal in this scenario. Though a significant portion of this expansion can be undertaken by private providers, the private market for health can lead to imbalances due to some fundamental market failure issues. Therefore, emerging private providers must be regulated, and such regulatory effort becomes another mandate of the stewardship function. Since the role of private providers is crucial in complementing public providers, government regulations should be carefully designed and enforced to be constructive and not restrictive and discouraging.

Penetrating remote communities has always been a major problem in health system delivery. For geographic inequities, re-distribution of physical and human capital resources is important. This could include payment policies for providers. In some contexts, for some particular services, investment in Community Health Workers (CHW) can facilitate penetration and expand outreach. Like other supply side interventions, this type of core investment should be undertaken with considerable planning and implementation since not all underutilization problems can be addressed through investments in CHWs. Though untrained CHWs are unable to provide complex services, investments in trained personnel can be expensive and time consuming. Through task specific training, and continued monitoring and incentivizing, CHWs can be used to insure efficiency, equity, and safety of services being delivered over the certain periods of time. The use of CHWs should take into consideration key factors such as notion and complexity of the services devolved, implementation issues, inevitable discretionary power that workers acquire, potential clash with professional staff in overlapping areas, and the short and long term costs of the employment or expansion of CHWs when compared with other outreach strategies.

Complementary supply side core investments can also include foreign aid to support government core investments in promoting stewardship and re-distribution of resources. To the extent possible, aid should also be aligned between donors and governments in efforts of resource generation and service delivery. This alignment can take the form of budget support or off-budget investments. Harmonizing aid, particularly in cases of committed governments, insures local capacity building, consistency in policies, higher efficiency yield from synergy between stakeholders, sustainability upon donor withdrawal, and more. Internal coordination among aid agencies is also emphasized in particular to reduce overlap and duplication of work by parallel agencies (Gottret and Schieber 2006, and Paris Declaration for Aid Efficiency). Through alignment, donors can help relax access barriers poor and resolve other disparity issues in three crucial stages: firstly, informing policy formulation through joint review of national health policies with government; secondly, filling the gap (budget deficits) of government budgets for public programs; and finally, providing technical support and dissemination of best practices.

In summary, a combination of investment in need assessment studies, consumer voice and choice, and information and education efforts in demand side with proper outreach strategies and constructive regulations in supply side can increase the efficiency and equity of core investments.
under situations characterized in Scenario III. Taken together, these efforts reemphasize the vital role of stewardship in insuring proper supply-demand balance in core investments.

**Scenario IV Core Investment Options.** Core investments to strengthen health systems in this scenario should be made in a series of interventions to improve the functionality of the health system in the areas of stewardship and resource creation.

The strengthening of stewardship should be done through the following ways: (1) ensuring that health sector legislation acquire enough political weight and policy support for the allocation of a fair share of GDP for the health sector; (2) increasing the capacity and knowledge of health sector leadership for the analyses of efficiency and equity (3) constructing efficiency and equity core objectives into consistent short and long term policies at national and regional levels; (4) supporting health sector leadership with investment in implementation skills and monitoring and evaluation techniques; (5) ensuring that health sector policies are consistent with national short and long term poverty alleviation policies; (6) revisiting the way that health system is organized and pursuing decentralization where it supports efficiency and equity.

Core investments in stewardship and strengthening of policy making are consistent with a new generation of reform proposals such as The Paris Declaration on Aid Effectiveness or the recommendations made by the Good Governance components of the MDGs. One important theme in this generation of proposals is the regular joint-review sessions to be held by government and donors in order to periodically reassess national health policies and check that (1) policies are consistent with high priority problems, (2) policies are formulated and implemented in an equitable manner, (2) policies are consistent with internationally experienced and evaluated best practices in similar environments and contexts, and (4) there is necessary alignment between national health policy objectives and those of donors.

Strengthening stewardship also necessitates investment in education for management and leadership. Few LIMCs have strong graduate programs in areas such as health policy or health management, even though medical training programs are often well established. This huge imbalance exists despite the fact that leadership training programs are neither more expensive, nor less effective than most medical training programs. The common phenomenon of appointing top cardiac surgeons or the like to positions in the ministry of or other high-level health policy making positions, is probably the result of historical misinterpretation of job description of stewards or perhaps underestimation of the critical role of stewardship in health system. Isolated and sporadic technical support investments have not been able to address leadership gaps at the systems level, perhaps because the outcome of investment on stewardship is less tangible, at least in the short term, as opposed to bricks and mortars.

The second important area requiring critical core investments in Scenario IV is in the creation of health system resources. Countries in Scenario IV suffer from regional and geographical
disparities with regard to health facilities and professional human resources and pharmaceuticals. In most remote areas, physical infrastructures are underdeveloped, or if they exist, are under-staffed and/or under-supplied. Basic vector control projects also suffer from insufficiency or fluctuations in flows of funds and shortage of staff. Water sanitation infrastructures, vaccination projects, and vector control programs in Malaria prone areas, are examples of highly cost effective yet under-funded projects.

The provision of good stewardship and leadership as well as vector control infrastructures are classified under pure public good categories, and, therefore, this is the government mandate (with donors’ supports) the adequate and equal distribution and provision of services. Market based approaches would fail in ensuring this adequacy due to lack of incentive in public goods for private parties. Although such mandates are clear and unquestionable for foreign aid agencies, in reality, aid efficiency in most areas and modalities across low-income countries has been under criticism. Inefficiencies have been attributed to the allocation of money on imported final products and services and other delivery related activities with unreasonably high administrative costs. They have also been blamed on the misalignment of donor and government policy (Easterly et al 2008, Gottret and Schieber 2006, and Paris Declaration for Aid Efficiency). Donors seeking efficient core investments have to initially attain critical thresholds of core investments in stewardship as well as basic resource creation, before or at least in parallel with further investments in service provision (delivery) and financing.
Conclusion

Efficiency and equity goals of LMICs’ health systems appear more attainable when policy takes into account both the demand and supply forces. Balance is also needed between policies designed to provide access to issue specific interventions and core investments that are aimed at long-term improvement in the health system. The necessary activities for achieving a balance between supply and demand are dependent on the situation of the country.

It is well documented that the health systems in LMICs face multi-level constraints from micro level at the household and community level to health system to macro public policy and environmental level of the country or region (Hanson et al 2003). By categorizing countries according to the level of stewardship, how health care is financed and the development of the health systems, we developed four scenarios for LMICs that dealt with the multi-level constraints. Within each scenario, the issue specific and core investments in demand and supply that seem most appropriate for improving health access equitably were presented. These are shown below in Table 2.

Developing the health system within a country is the first step in assuring the provision of needed care. However, building the capacity and providing the personnel to provide care has not been sufficient to improve utilization or health outcomes. Even when services are free, underutilization among specific population groups and those living in remote communities remains. Thus, there have been an increasing number of attempts to address the constraints at the household or demand side of the market. When demand is underfunded, two consequences appear inevitable: first the average productivity of core investments remain low; and, utilization is distributed unequally, always in favor of high income persons. In this regard, issue specific interventions have a crucial role in fine tuning the health systems in order to attain the maximum productivity promised by core investments (efficiency goals) and to expand the outreach and social inclusion of investments (equity goals).
<table>
<thead>
<tr>
<th>Scenario</th>
<th>Core Investments</th>
<th>Issue Specific Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I</strong></td>
<td></td>
<td>Demand:</td>
</tr>
<tr>
<td></td>
<td>✓ Supporting CF initiatives, targeted premium subsidies, expansion of pools, linkage, reinsurance and consolidation of pools</td>
<td>✓ Introducing critical services into pre-established benefit package</td>
</tr>
<tr>
<td></td>
<td>✓ Optimizing and balancing benefit packages</td>
<td>✓ Financial support of schemes where needed</td>
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<tr>
<td></td>
<td>✓ Education and information towards more enrolment</td>
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<tr>
<td></td>
<td><strong>Demand:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Supply:</strong></td>
<td>✓ Prioritizing issues for intervention according to two elements of (1) cost-effectiveness and (2) ease of diffusion. This principle of prioritizing also applies to other scenarios (II, III and IV).</td>
</tr>
<tr>
<td></td>
<td>✓ Information systems to support better management and control</td>
<td></td>
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<td></td>
<td>✓ Technical support on managerial skills, premium estimations, and provider payment arrangements</td>
<td></td>
</tr>
<tr>
<td><strong>II</strong></td>
<td></td>
<td>Demand:</td>
</tr>
<tr>
<td></td>
<td>✓ Optimizing user fees toward increasing efficiency</td>
<td>✓ Adjusted fee schedules for critical services according to average consumer willingness-to-pay + Additional subsidies for poor to increase uptake (sliding fees)</td>
</tr>
<tr>
<td></td>
<td>✓ Revisiting user fees to minimize inequities</td>
<td>✓ Vouchers and cards for poor and underserved (when sliding fee schedules are difficult)</td>
</tr>
<tr>
<td></td>
<td>✓ Protection policies e.g. HEF</td>
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<tr>
<td></td>
<td>✓ Supporting/piloting CFs</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Supply:</strong></td>
<td>✓ Provider performance-based payments for critical services</td>
</tr>
<tr>
<td></td>
<td>✓ Financial decentralization to insure revenue retention at local levels</td>
<td>✓ Getting staff incentivized to improve consumer value proposition particularly for new technologies</td>
</tr>
<tr>
<td></td>
<td>✓ Contractual arrangement and provider incentives to improve rural services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓ Quality improvement programs with emphasis on patient-centered evaluations</td>
<td></td>
</tr>
<tr>
<td>Scenario</td>
<td>Core Investments</td>
<td>Issue Specific Interventions</td>
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| III      | ✓ Distance is the barrier: Investment on physical capital and human resources in remote areas  
          ✓ Lack of trust and cultural believes are barriers: Voice and choice interventions + Information interventions  
          ✓ Supporting/piloting CFs | ✓ Token economy systems: CCT is preferred if the full fledged program is administratively difficult then CM should be used  
          ✓ Complementing with trust building and consumer information programs |
| Supply: | ✓ Organizational improvement thru CHW  
          ✓ Regulations of emerging private providers | ✓ CHW for delivery purposes in non-complex services and as referral agent in complex care |
| Scenario | Demand: | Demand: |
| IV       | NA; because supply and stewardship are so weak that make core investment in demand a non-starter | ✓ CM programs  
          ✓ CHW + CM: combining social networks and $ incentives |
| Supply: | ✓ Stewardship and leadership capabilities  
          ✓ Gov-donor policy alignment  
          ✓ Resource generation: investment on infrastructures + human and physical capital  
          ✓ Geographical resource re-distribution | ✓ Vertical programs; but only where horizontal approaches via existing facilities seems not to be close-to-client, or the service is too complex |

Abbreviations: CF; Community Financing initiatives including Community Based Health Insurance, HEF; Health Equity Fund, CHW; Community Health Worker, CM; Contingency Management, CCT; Conditional Cash Transfer

Source: Authors
We have seen that the best results occur when both demand and supply are considered together in policy formulations. Reaching a proper balance between supply and demand require knowledge as to which and under what circumstances the demand side interventions might provide the expected results and which supply side interventions are necessary to complement the impact of demand side investments. Limited income is the biggest factor responsible for inadequate demand. However, other constraints such as information, trust and cultural believes contribute to sub-optimal utilization as well. As a result demand side interventions and their supply side complements should be carefully chosen in an evidence-based manner to address the problem effectively and efficiently.

By focusing on demand side options, we can address the most critical problem facing households in LIMCs. The inadequate income to pay for health services is the biggest barrier. Financing alternatives exist, but translating the funding into effective programs requires competent stewardship. In some countries even where the government funds and provides highly subsidized services for rural residents and other underserved populations, the target population is not utilizing those public health services (Hsiao 2004). These investments apparently have not made the system responsive enough to households needs.

Under such circumstances capable stewardship has been shown to make a significant difference. Committed and competent health sector leaders mobilize more resources from all potential domestic and external sources such as earmarked taxes or foreign aid funds. Equally important, they can establish policies that improve the health care system so that it can function more efficiently in a budget neutral fashion. Reaching the proper balance in supply vs. demand specific interventions and core investments requires competent health system stewards. Shifting resources from supporting expensive facilities to demand interventions requires stewards capable of identifying the constraints in demand and addressing them appropriately. If such leadership is not shown, funding will continue to flow to large, well established facilities.

The leadership and critical role of stewardship is most evident as we move from a financing system in which out-pocket payments predominate to one in risks are pooled. Large out-of-pocket payments occur in most LIMCs. This has serious drawbacks. First, there is no risk pooling when the payment takes place at the point of services. Patients also have to pay whatever private practitioners and drug retailers charge. Competition is also limited in non-urban areas because of population size. In addition, the health care market experiences market failures that result in price gouging, poor quality of medical care, and induced demand for drugs sold at a high profit. In such situation, the leadership provided by health stewards can convince households to prepay the amount that they now pay out of pocket into an organized financing scheme. This, in turn, yields multiple advantages: pool risks, pledge more certain and sustainable income for providers, improve quality and expand the delivery of health care; and do all of this using the same amount of money (Hsiao 2004, Arhin 2001). Rwanda exhibited competent and committed stewardship, which has enabled this country to move from paying at the point of
service to supporting “mutuelles”. In Thailand the transition took place through government subsidized Health Cards for poor and uninsured.

The health systems that have had the luxury of such competent and trustworthy stewardship have successfully managed the transition from out-of-pocket payments to organized prepayment-based financing schemes and have achieved most of the collective gains. In other nations with limited or no stewardship, this transition from payment at the point of service to risk pooling has not occurred. As a result, their citizens suffer from financial risks, poor quality and low responsiveness in health system while spending the same resources.

Summary of Findings

1. Financial incentives for consumers are beginning to be used successfully to manage care seeking and utilization in LMICs. Insurance concepts, of course, are being developed to promote access and equity objectives. Other demand-side interventions are also being used to create demand by putting purchasing power in the hands of consumers as well as interventions to overcome demand barriers such as awareness, knowledge and trust in providers. Some of the demand interventions that have been used in LMICs include user fee mediation tools like health equity funds and waivers, conditional cash transfers or other motivational incentive programs, vouchers, health cards, social marketing and knowledge interventions, voice and empowerment building, and information interventions. Though the evidence is not strong, there are indications that such interventions have been used to create demand for products and services like community managed user fees (Bamako Initiative in Africa), HEFs(Cambodia), CCT(Nicaragua) and CF(Rwanda). Demand based policies for encouraging access and utilization of particular services and products (issue specific interventions) are very encouraging.

2. Provider or supply side incentives to manage utilization can also be very powerful. It is well known that providers have substantial influence over consumer decision making regarding health product and services utilization. The evidence of the power of provider financial incentives is well known, though it is somewhat less consistent in LMICs to date. Provider incentives to manage utilization can be used in lieu of demand incentives or to compensate for problems with demand incentives; for example, when insurance creates incentives for consumers to over utilize services. Rather than attempting to use ‘user fees’ to discourage usage, which will disadvantage the poor, provider incentives can be used to limit utilization. This is done by using payment incentives that have incentives to limit unnecessary utilization, such as capitation, global budgeting, or others.
3. The level of sophistication in the use of incentives is increasing in LMICs in order to deal with the complex utilization and equity management issues across the various services in benefit packages and across various population groups; some services for some populations need to be better controlled to reduce unnecessary spending; and care seeking for some services for segments of the population need to be encouraged. Both demand and supply side incentives have been deployed to meet utilization objectives. In general, payment policies have been trending toward those that create incentives for providers to ‘cost share’ (using capitation, global budgeting, and per case payment) in order to discourage unnecessary utilization. At the same time, point-of-service incentives have been used to create incentives for consumers to encourage care seeking and delivery of services. Demand side incentives such as CCT, user fee policies, health cards, and vouchers have all been demonstrated to be useful. On the supply side, provider incentives such as P4P bonuses for delivery of otherwise underused preventative services by both providers and NGO contractors have been effective in stimulating utilization. Also, general payment policies (capitation and others) have encouraged the use of key prevention services by employing fee-for-service incentives for just those components of the benefit package.

4. Using demand side interventions effectively will necessitate building the capacity to do targeting in order to focus on population groups of interest. Demand policies (providing purchasing power or information) can be, and often need to be, precisely targeted interventions. This requires special tools and skills. Sliding scales for user fees, or determining eligibility for vouchers or CCTs are the types of refined policy tools that are required to administer demand interventions. And, the use of such screening and targeting tools require an underlying body of knowledge about demand responsiveness (elasticities) in order to set subsidies and dosages of other interventions. There are, of course, differences in the level of sophistication of these requirements across demand based intervention, with user fee policies probably being the most difficult to administer, and targets programs of CCTs or vouchers being the least burden. Developing the human capacities and required analytical skills and data resources for these kinds of screening and eligibility determination activities can be time consuming and will require technical assistance in support of demand based policies.

5. Effective stewardship is needed to make payment policies effective and equitable and to enable the country health care system to use its resource and financial funds appropriately. Demand side policies for strengthening health systems may be underdeveloped, and the payoff may be big if better balanced against supply investments. Managing and directing this balance requires effective stewardship. One of the most effective but still underused demand side interventions for system strengthening is supporting and expanding micro insurance programs.
With the support and leadership of health stewards households may be willing to prepay the amount that they now pay out of pocket into an organized financing scheme of pooled risks. If this happens, collective gains can be obtained using the same amount of money, elimination of catastrophic risks, higher utilization, more evenly distributed income for providers, and better quality. Widespread adoption of user fees needs to be better balanced and complemented by protection policies to mitigate the problems faced by the poor. This is also something that is not widely used. The most promising program in this regard is the HEF, which needs to be managed in order to yield valuable outcomes.

6. Choosing among demand interventions, particularly for “issue specific” interventions must be very situation specific (country or region of country specific). The dependence on constraints and available capacities and delivery system capabilities will dominate choices. But, there is ample evidence that many demand interventions like CCT, Vouchers and CM tools can bring about the desired outcomes, and that these demand side activities are enhanced by combining them with supply side interventions; for example providing financial incentives along with CHWs to improve access for isolated population. Unfortunately, the countries with weak stewardship are unlikely to use demand side incentives to stimulate access and utilization for new products and services, though they may be useful within a vertical program of service delivery.

7. We need to learn more from implementation of policies employing incentives. Impacts of particular interventions are often weaker or less consistent in LMICs than in other countries. The research on demand interventions (and other incentives) in LMICs is weak, often confounded with other interventions, and is rarely generalizable. And, the measured impacts of particular types of incentive interventions are usually inconsistent. Most important, there are no studies of comparative effectiveness. This means that the patterns of findings we draw here are based largely on the findings from the most rigorous studies, the majority of evidence, and the opinions of other analysts who have written about these same literatures. This suggests two additional findings. More research on demand based interventions in LMIC settings is needed. And this is likely to mean additional use of the tools that are being presently applied, particularly if pilots are attempted with some sort of planned variation in their design. Second, for issue- specific applications the big unanswered question is comparative effectiveness of options for creating access and utilization. Here, we know very little from this weak literature. Are provider-based incentives more effective than demand based ones? Are CHWs a more effective vehicle for creating demand than financial incentives? Would CCTs work better than a mass information campaign? While these kinds of questions might be theoretically addressed from an assessment of the ‘constraints’ in a particular country situation, such a basis for posing answers is not based on evidence of impact. It is clear that the global needs cannot wait for randomized trials, which might take a decade or more, to answer the questions. These comparative questions in particular
situations need different methods that yield reliable results—possibly modeled on commercial market research or rapidly staged pilot tests.
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