

Contracting for Primary Health Services: Evidence on Its Effects and a Framework for Evaluation

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Abstract

In response to perceived inefficiencies of government health care delivery systems, many health sector decision makers have been drawn to public management reforms to improve the accessibility, equity, efficiency, and quality of health care. These reforms include the contracting out of primary health care services, which typically involves government agencies contracting out specific health care services either to the private sector or to autonomized public providers. Advocates of the contracting of primary health care services claim that it will improve service delivery by stimulating competition among providers and by providing economic incentives for improved performance. Unfortunately, there is a paucity of evaluation research that has investigated whether contracting-out interventions have led to their desired objectives.

To encourage more research on the impact of contracting out and to stimulate the discussion on its long-term impacts, this paper presents a conceptual framework and a set of indicators for monitoring and evaluating contracting-out interventions at both the program and system levels. The framework focuses on four types of factors: the attributes of the contracting-out intervention, the external environment, responses of providers and purchasers both within and outside the intervention, and health system performance. The report also includes a literature review of studies that have investigated the impact contracting out has had on program and health system performance, and recommendations regarding the design and implementation of evaluation research studies on this topic.

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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
DFID	Department for International Development (U.K. governmental agency)
DOTS	Directly Observed Treatment Short Course
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IEC	Information, Education, and Communication
M&E	Monitoring and Evaluation
NGO	Nongovernmental Organization
NHS	National Health Services
OECD	Organization for Economic Cooperation and Development
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
PHR<i>plus</i>	Partners for Health Reform <i>plus</i>
RH	Reproductive Health
TB	Tuberculosis
UNAIDS	Joint United Nations Program on HIV/AIDS
UNDP	United Nations Development Program
USAID	United States Agency for International Development
WHO	World Health Organization

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Executive Summary

In recent years, the contracting out of health services has gained increasing favor among donor agencies and national governments. Contracting out has largely been motivated by perceived inefficiencies of public health care delivery systems. Typically, under contractual arrangements, public agencies contract out specific health care services to the private sector or, less commonly, to autonomized public entities. Only limited evidence exists, however, on the impact contracting out has had on access, equity, efficiency, and quality of primary health care services.

The primary purpose of this paper is to propose a conceptual framework and indicators for the monitoring and evaluation of contracting-out initiatives in order to encourage and facilitate further research. The report's intended audience is health system professionals with varied levels of training and experience in monitoring and evaluation, including country-level health policymakers and health system planners, country-level monitoring and evaluation specialists and policy analysts, and international donor agency personnel. The report has five sections: an introduction; an overview of contracting out (including a definition and a short history of contracting out, and a discussion of its perceived advantages and potential pitfalls); a review of the literature on the impact of contracting out; a proposed conceptual framework for monitoring and evaluation of contracting-out initiatives; and a summary of the paper's main methodological implications.

Definition, History, and Theoretical Foundations

Contracting out in the health sector is generally defined as the development and implementation of a documented agreement by which one party (the principle, purchaser, or contractor) provides compensation to another party (the agent, provider, or contractee) in exchange for a defined set of health services for a defined target population (England 2000). Contracts may specify the types, quantity, and quality of services that the provider is to deliver. A contract can also specify the intended health outcomes associated with the delivery of the contracted services.

The practice of contracting out began in industrialized countries outside the health sector. Specifically, member countries of the Organization for Economic Cooperation and Development started contracting services in the transportation, public utilities (water, gas, and electricity), and municipal sanitation sectors, only later extending contracting to the education and health sectors. The contracting out of health care services spread to developing countries in the mid 1990s, largely influenced by an ideological (and corresponding programmatic) shift on the part of multilateral and bilateral donor agencies towards contracting out. Currently, governments in as many as 30 to 40 developing countries have contracted out some type of health care service.

Contracting out has gained popularity because of several hypothesized advantages it has over direct public sector provision and because of perceived public sector shortcomings; many believe that contracted providers can provide health care more efficiently than the public sector and that contracted providers may be held to a higher level of accountability, as governments are likely to be more objective in evaluating the work of contracted providers than in evaluating their own. Supporters of contracting out also believe that a contract allows the government to shift its role from the provision of health care to

tasks that may better reflect its core strengths, such as financing health care and monitoring provider performance. Additionally, a number of authors have documented improvements in access, equity, efficiency, and quality of health care under contractual arrangements. Detractors of contracting out argue that it may incur high transaction costs, it could result in an adversarial relationship between purchasers and providers, and it may not be effective because health care itself has low contractibility.

Evidence of Effects

Scant literature has been published on the impact contracting has had on access, equity, quality, and efficiency of health care services delivery. More extensive and rigorous research is needed before one can draw firm conclusions about contracting out's short- and long-term impact on these dimensions. Donor agencies sponsor most developing country contracting activities and, correspondingly, most of the literature on contracting is in the form of donor-sponsored papers and reports. Typically, purchasers in these situations are national governments who receive donor support for purchasing contracted health care services, while contractees are usually private providers (including nongovernmental organizations, private hospitals, and individual health workers). The goal of most contracting-out initiatives is to improve the target population's access to specified basic health care services.

Evidence from a range of sources suggests that contracting out can improve access to health care services by increasing the provision, utilization, and coverage of these services. Most monitoring and evaluation efforts focus on this particular outcome more than on measuring contracting's impact on health care equity, quality, and/or efficiency, an imbalance that requires rectification. It appears that contracting out can improve equity in health services delivery if programs are appropriately targeted. Improvements in equity can be achieved by three different strategies (England 2004): (1) establishing contractual arrangements that specifically encourage providers to serve the poor and underserved; (2) contracting with private providers in areas where predominantly poor or underserved populations live (geographic targeting); and (3) contracting out services that would be of most benefit to the poor and underserved. It is still unclear, however, whether contracted services are more effective in addressing equity than direct public sector provision would be. In terms of the impact contracting has had on the quality of health care services, contracting-out projects are more likely to improve quality of care if (1) quality is operationally defined and indicators associated with quality are well developed; (2) quality indicators correspond to the service delivery processes specified in the contract; and (3) quality indicators (e.g., health outcomes) have an established association with utilization of contracted services. It was not possible to ascertain whether contracting out improves quality of care when compared with direct public provision, as quality has been either undefined or inconsistently defined across projects and generally there have been no control groups included in evaluations. It is also unclear what impact contracting out has on efficiency. While some studies suggest that contracted providers can deliver services at a lower cost than public providers, it remains unclear whether contracting lowers the overall cost of service delivery to the purchaser. It has also not been possible to demonstrate that contracting out increases the efficiency of the overall health system.

Conceptual Framework

This framework was developed with the intention of facilitating further research evaluating the impact of contracting out. The framework delineates four types of information that should be included to effectively evaluate contracting-out reforms. The first is information on the contracting-out intervention itself. One should consider several characteristics of the intervention: the types of services the contract covers, the contract's formality, the contract's duration, the selection of the contractee, the specification of performance requirements, and contract payment mechanisms. The second type of information to be

considered involves the external environment; this includes characteristics of the overall health sector, as well as of the financial and legal settings in which the intervention takes place. The third type of information required is the response of providers and purchasers both within and outside the contracting-out scheme. This includes information on how the contractee manages inputs, outputs, and outcomes, and the actions of the contractor and contractee to monitor performance. It also requires data on responses that occur outside the intervention, such as responses in the provider market, and responses affecting other government health services. Finally, it is necessary to collect information on the impact of the contracting-out intervention. Impact can be measured in terms of the intervention's effect on access, equity, quality, and efficiency of health services.

Toward an Improved Evidence Base

The framework provided in this paper has several methodological implications for monitoring and evaluating contracting-out initiatives. First, the evaluation of contracting-out initiatives should involve full descriptions of the intervention. This makes in-depth program evaluation, as well as cross-program comparisons, more feasible. Second, monitoring and evaluation should address not only the impacts, but the intermediate results (responses of providers and purchasers) and the environmental determinants of interventions as well. Few studies have concerned themselves with these aspects. Third, monitoring and evaluation should be conducted at both program and system levels. Finally, the framework presented in this paper should be used to guide the development of indicators, which should cover each component of the framework, although specific indicators may vary depending on the specific contracting-out interventions. To facilitate this process, the authors present a list of optional indicators that can be used as they are, or adapted to particular circumstances. Specific methodological recommendations include using external evaluation whenever possible, predetermining relevant and comprehensive indicators, using experimental and quasi-experimental research designs, attributing changes in indicators only after careful and comprehensive analysis, and encouraging indirect evaluation approaches and qualitative studies to further assess the impact of contracting-out programs. Ultimately, the authors hope that the framework and indicators presented in this paper will encourage further and more rigorous research on this increasingly popular health care reform, which will add to the body of knowledge concerning its impact.

1. Introduction

In response to perceived inefficiencies of government health care delivery systems, many health sector decision makers have been drawn to public management reforms that can potentially result in improved accessibility, equity, efficiency, and quality of health care. Such reforms include the contracting of primary health care services in the public sector between government agencies and the private sector and/or with autonomized public providers. Typically, under such contractual arrangements, public agencies contract out specific health care services either to the private sector, effectively transferring responsibility for the delivery of these services to the private sector, or to autonomized public sector entities. Advocates claim that the contracting of primary health care services will improve service delivery performance by stimulating competition among providers and providing economic incentives for improved performance by linking payment to provider performance. Critics argue, however, that, in many developing country contexts, contracting out is unlikely to achieve its intended objectives because the costs of administering contracting-out initiatives are high and the market assumptions regarding the number of private providers to compete for contracts are unrealistic. Unfortunately, there has not been much rigorous evaluation of the effects of contracting-out initiatives on health system performance.

In order to encourage more research on the effects of contracting out and to stimulate discussion on its long-term impact, the primary purpose of this report is to propose a conceptual framework and a set of indicators for evaluating contracting out at the system level. The report also includes a literature review summarizing what little is known about the effect of contracting out primary health services. This literature review helps to highlight gaps in the current body of knowledge about contracting out, and may help suggest areas that merit further monitoring and evaluation (M&E). The intended audience is health system professionals with varied levels of training and experience in M&E, including country-level health policymakers and health system planners, country-level M&E specialists and policy analysts, and international donor agency personnel. The report assumes some training or experience in evaluation research techniques; it does not review basic procedures for data collection and analysis.

There are a number of reasons why health system decision makers are likely to benefit from more systematic M&E efforts. Two types of M&E are relevant here: (1) routine monitoring and (2) evaluation research. The first type, routine monitoring, is intended to provide information that the purchaser (typically a government ministry or agency, or a social insurance fund) can use to assess the performance of contracted providers. While it is generally recommended that routine monitoring be a key component of contracting-out interventions, there are many examples in which contracting out has been implemented without a routine monitoring system in place, and as a result, private providers have not been held accountable for their performance, creating a situation in which governments have reimbursed providers for documented expenditures without assessing the quality and volume of health care services provided. In the absence of routine monitoring, providers are more motivated to focus on securing funds than on improving efficiency or the quality of care (Eichler, Auxila, and Pollock 2002).

The second type of M&E, and the primary focus of this report, is evaluation research. There is a paucity of evaluation research that has investigated whether contracting-out interventions have led to improvements in access, equity, efficiency, and quality of health care. Improving the evidence base on the effectiveness of contracting-out initiatives is essential to help answer a number of important questions at both the programmatic and policy levels, including the following: 1) How can the design of contracting-

out interventions be improved so that they lead to improved access, equity, efficiency, and quality? 2)
How can contracting-out interventions complement traditional public sector service delivery programs? 3)
Should piloted contracting-out activities be expanded and adopted as a national health policy?

This report is organized into five sections. Following this introduction, section 2 provides an overview of contracting out, including a definition of the term, a typology of different models of contracting, a short history of contracting, a discussion of the rationales and perceived advantages that have driven the increased popularity of contracting out within the health sector, and the potential pitfalls that may prevent contracting from achieving its intended aims. Section 3 reviews the small amount of existing literature and summarizes the available evidence on the impact the contracting out of primary health care services has had on service access, equity, quality, and efficiency. Section 4 provides a conceptual framework for evaluating the effectiveness of contracting-out initiatives. Affiliated with this framework is a set of indicators that can be used for routine M&E research. Finally, section 5 summarizes the implications of the literature review and the conceptual framework on the design of evaluation research studies, presents a set of alternative indicators, and recommends methodological improvements, key for improving the evidence base on the effectiveness of contracting out.

2. An Overview

2.1 Definition and Typology

Contracting out in the health sector is generally defined as the development and implementation of a documented agreement by which one party (the principle or purchaser or contractor) provides compensation to another party (the agent or provider or contractee) in exchange for a defined set of health services for a defined target population (England 2000). Contracts may also specify the types, quantity, and quality of services that the provider is to deliver. Some contracts will specify the intended health outcomes associated with the delivery of the contracted services.

The types of contracting out vary, depending on a range of factors, including the following:

- ▲ Who are the principles or purchasers: governments, donors, public insurers, or private insurers?
- ▲ Who are the agents or providers: public providers vs. private providers, for-profit providers vs. not-for-profit providers, institutions (hospitals) vs. individual (physicians and health workers)?
- ▲ What services are contracted out: clinical services vs. nonclinical services, inpatient services vs. outpatient services, preventive vs. curative services?
- ▲ How are the providers paid: input-based or cost-based, output-based, outcome-based, or performance-based?
- ▲ What are the objectives of contracting out: to increase efficiency and productivity, to promote access to health care, to improve quality of care, to save costs, to improve health outcomes, or to improve the performance of health care delivery (the latter can include more than one specific objective)?

As the list above shows, there is wide variation in the types of contracting-out arrangements. For the purposes of focusing the discussion, the authors limit the emphasis within this paper to contracting-out

arrangements where the government pays private or autonomous public providers¹ on an output, outcome, or performance basis in exchange for a well-defined package of primary health services.

2.2 A Brief History

The origins of contracting out within the public sector lie outside the health sector. Specifically, public service reforms that included a range of contracting-out arrangements started in the Organization for Economic Cooperation and Development (OECD) in the transportation, public utilities (water, gas, and electricity), and municipal sanitation sectors, and were later diffused to the education and health sectors (Kitchen 1992, McDavid and Clemens 1995, Domberger and Hall 1996, Ohlsson 1996).

Contracting out in the health sector has since been common in a number of countries, particularly among OECD members (Sherman 1985, Cairns 1993, Rowling 1994, Jerome-Forget et al. 1995). Within the health sector, contracting was originally used to cover nonclinical services, such areas as food preparation, laundry, and housekeeping, and only later extended to clinical care, public mental health services, and clinical preventive services (Hu, Cuffel, and Masland 1996, Chapin and Fetter 2002, Bartlett and Harrison 1993, Rehnberg 1995, Ham 1996). Contracting private physicians to provide primary care has been a long-standing practice in European countries (Mills and Broomberg 1998). More recently, countries that have National Health Services (NHS), such as the United Kingdom, Australia, and New Zealand, utilize contractual relationships between governments and autonomized public providers.

In the United States, contracting across a range of sectors became popular in the 1990s, and the trend towards contracting out in the health sector has correspondingly been gathering steam. Currently, there is an increasing tendency for government-run Medicaid programs to contract with private managed care companies to provide health care for Medicaid beneficiaries (Wooldridge and Hoag 2000). Also, two-thirds of local health departments were contracting out public health services by 2000, services they had traditionally both financed and provided themselves. Services that have been contracted out include personal health services, maternal health care, pediatric care, communicable disease services, family planning, and environmental health services (Keane, Marx, and Ricci 2001).

Today the impetus towards increased contracting of health services is no longer confined to industrialized nations. Contracting out of health services spread to developing countries by the mid 1990s. Governments on all continents of the world, and in as many as 30 to 40 developing countries, have contracted out some type of health care service.

In developing countries, the movement toward contracting out of health services has been influenced by the evolution of health care reform ideologies and related efforts by multilateral and bilateral agencies (such as the World Bank and developed country donor agencies) (Mills 1998). These agencies and reforms support new paradigms about the role of the state in health care provision. Specifically, they

¹ With the move towards increased privatization and autonomization in recent years, public providers have undergone substantial transformations in many developing countries. The characteristics of pre-reform public provision systems typically included the following: (1) health staff (doctors and nurses or others) working in the public sector as government employees; (2) public institutions (e.g., hospitals or health centers) that do not have the full right to hire and fire; (3) public providers that are financed by the government (including donor support through the government); (4) health services that are provided to users free of charge. Over the past three decades, many countries have embarked on ambitious health reform agendas that are aimed to increase both the autonomy public providers and the role of the private sector. Specific reforms include (1) changing the status of health workers such that they are no longer government employees; (2) allowing public sector managers the authority to hire and fire; and (3) shrinking direct government financing and increasing in financing from public and private insurance entities, and directly from private users. These reforms may directly affect the efficiency of public providers, and indirectly affect the comparative effectiveness of contracting out with private providers.

emphasize the state's role as a catalyst for competition among providers and as a force that encourages greater utilization of private providers, rather than promoting the state as the dispenser of services itself.

The drive towards such reforms has been influenced by several underlying assumptions about developing country health care systems (Livesey 1998). The current public systems of health services provision are generally considered grossly inefficient (World Bank 1993). Public providers are widely perceived to have low productivity and to lack responsiveness and financial accountability. Thus, developing countries and the international development community have been struggling to determine how to deliver and target public services in ways that improve access and quality, promote efficiency, and increase accountability for performance.

Concurrently, many believe that inefficiencies and other perceived shortcomings of the public system can be overcome by shifting the government's role from providing care to financing care and stimulating competition between providers (World Bank 1993). For these reasons – encouragement by donors and perceptions of increased efficiency – developing countries increasingly are seeking to provide health services to their populations through contractual arrangements.

In addition, one of the most frequently discussed strategies for “scaling up” primary health care interventions is contracting with the private sector. In fact, many of the new global health initiatives, such as the Global Fund for HIV/AIDS, Tuberculosis, and Malaria, explicitly encourage private sector participation as an effective means to scaling up rapidly. Given the substantial resources that international donors are investing in these initiatives, it is likely that the scale and scope of contracting-out initiatives is expanding quickly.

2.3 Rationales and Advantages

This section discusses in greater detail some of the theoretical rationales that have driven the interest in contracting out. There are two theoretical rationales that support the contracting out of health services. The first is property right theory, which contends that the main source of inefficiency in the public sector is the weakening of property rights, where government workers feel little or no ownership of the resources at their disposal. Under such circumstances, decision makers face few incentives to use resources efficiently and to deliver services productively. This suggests that the delivery of services may be better left to nonpublic hands (or to autonomous players within the public sector), as the incentives facing private entrepreneurs is quite different.

The second is public choice theory, which states that politicians and bureaucrats cannot be assumed to act in the public interest, since they may be likely to serve their own interests or those of powerful interest groups. By contrast, contractual arrangements may encourage greater objectivity and more systematic evaluation of outcomes to verify appropriate use of resources, potentially encouraging better performance. Concurrent with these two theories is the perception held by some that the traditional organizational form of the public sector, with its hierarchical bureaucracy, is inherently inefficient, and that the introduction of various market mechanisms (such as increased competition between providers) can substantially enhance the efficiency of public services delivery (Mills and Broomberg 1998).

Concurrently, the experience of OECD countries points to potential benefits from contracting out of public sector services, with some evidence suggesting that contracting may result in cost savings, improved productivity, and improved quality of care. Evidence from a wide range of countries and sectors also shows that transferring significant commercial risk to the private sector typically improves the efficiency of service delivery and increases service availability. Contracting may also result in greater innovation and responsiveness, while simultaneously allowing governments greater freedom to focus on

their core responsibilities. Additionally, a number of authors (Loevinsohn and Harding 2004; Barron et al. 2000; Paulson 1988; England 2000; Mintz, Forgia, and Savedoff 2001; Barnett, Connor, and Putney 2001; Rosen 2000) have documented the potential advantages, as follows.

- ▲ Contracting out of health services can improve the performance of service delivery by increasing access to underserved populations (addressing issues of equity), improving quality of care (including health outcomes), reducing costs (while maintaining quality), increasing productivity, and increasing efficiency. Improvement of the performance of service delivery can be achieved through (1) stimulating competition among providers; (2) establishing agreements between purchasers and contracted providers on the level of performance providers are to achieve; (3) monitoring and evaluating provider performance; and (4) providing economic incentives for improved performance by linking payment to provider performance.
- ▲ Contracting helps clarify the roles, responsibilities, and relationships between purchasers and providers, with the former bearing responsibility for financing and macro-allocation of health resources, and the latter for provision and micro-allocation of health resources. This arrangement allows governments to focus less on service delivery and more on other roles that they are uniquely placed to carry out, such as large-scale planning, standard setting, financing, and regulation.
- ▲ Contracting encourages planning, by incorporating this element into the contractual process. Contracts can ‘force’ institutions to undergo a more thorough planning process through which a project’s aims, objectives, resource inputs, outputs, and outcomes are more clearly defined.
- ▲ Contracting encourages adherence to plans and priorities. Contracts that are based on well-developed plans can help to ensure that both purchasers and providers follow, and persist with, stated strategies and objectives.
- ▲ Contracting encourages M&E. Because purchasers have a vested interest in measuring provider performance, they are more likely to set in place systems to collect the data necessary for systematic M&E efforts.
- ▲ Contracting can strengthen the health services delivery capacity of the private sector (e.g., nongovernmental organizations (NGOs)) by involving them more directly and frequently in health services provision.
- ▲ Contracting can fill the gaps in governmental capacity to deliver health services by augmenting it with private sector contributions.

As a result of these perceived advantages, contracting out has been increasingly used as a policy tool that has the potential to increase access, equity, quality, and efficiency of health care.

Contracting-out supporters believe that the practice is more likely to work under certain circumstances than others. In theory, services with a higher level of contractibility are more suitable for contracting out and more likely to achieve desired results. Contractibility has three dimensions: measurability, monitorability, and contestability. Measurability concerns whether the quantity and quality of services being considered for contracting out can be easily specified; monitorability concerns whether the quantity and quality of services can be observed at a low cost; and contestability refers to the likelihood that new providers can enter into the market to compete with existing providers for the

provision of the contracted services. Table 1 provides a typology of health care services by their level of contractibility. In summary, single services or services dealing with one specific disease, services where there is a clear level of need, services with practice standards, technically simple services, services where there is a close correlation with health outcome, and cost-effective services are more likely to be contractible. Interventions that focus on these types of services may be more likely to achieve their desired effects.

Table 1. Types of services by their level of contractibility

Type of Services	More Contractible	Less Contractible
Single services vs. multiple services	Single service (e.g., educating mother for preparation of ORT in Bangladesh), and services for the prevention and treatment of single diseases (e.g., HIV/AIDS in Brazil)	Multiple services dealing with multiple diseases, especially when the services and disease are not specified
Services with clear or unclear level of need	Services for which the needed quantity can be well defined (e.g., immunizations, cancer screening, antenatal care, growth monitoring)	Services for which the needed quantity cannot be defined (e.g., outpatient visits and drug therapy for treatment of hypertension and arthritis)
Services the utilization of which has or has no close correlation with outcomes	Services for which there is a close association between observable outcomes (e.g., education of mother for the preparation of ORT)	Services for which both actual delivery and the outcome of delivery are difficult to be observed
Services for the prevention and treatment of a disease with or without practice guidelines	Services with clear and standardized protocol for provision (e.g., TB treatment with DOTS) are more contractible	Services without clear and standardized protocol for provision due to either variation in severity or too many acceptable options
Technical complexity of services (simple or complex)	Services that are technically simple are more contractible because of their high contestability	Services that are technically complex are less contractible because of their low contestability

2.4 Potential Pitfalls

Contracting out also has a number of potential pitfalls (Vining and Globerman 1999, Ashton 1997, Mintz, Forgia, and Savedoff 2001, Barron et al. 2000). The pitfalls critics have cited can be grouped into three major categories: high transaction costs, low contractibility of health care, and the possible adversarial relationship between purchasers and providers.

Transaction costs are costs incurred for establishing contracts, including acquiring information necessary to field and establish contracts, designing monitoring plans, enforcing contracts, and avoiding and resolving conflicts. Some of these costs are incurred even before contracts become operational. The magnitude of transaction costs is associated with three factors (Williamson 1986): asset specificity, uncertainty, and contestability.

- ▲ *Asset specificity* concerns the extent to which the resources (e.g., equipment and staff) required to implement a specific contract are deployable to some alternative use. Highly specific assets represent sunk costs after the contract ends, because they have little or no value elsewhere.

- ▲ *Uncertainty* applies to a range of issues pertinent to the contracting process. There may be uncertainty about the linkage between interventions and health outcomes, information asymmetry between contractors and contractees, or uncertainty about the measurability of different aspects of performance (such as quality). Transaction costs will be high when uncertainty is high. Relational contracts that are based on intimacy and trust between contractors and contractees are probably the only documented way to reduce some of the transaction costs associated with uncertainty.
- ▲ *Contestability* concerns response within the market. A contestable market is one where only a few providers are immediately available to provide any given service, but many providers would quickly become available if the price paid by the purchasers exceeded the average cost incurred by the providers. The degree of contestability may, in some cases, be more important than the number of providers actually providing the service. While contestability is theoretically favorable for purchasers because it means greater competition among providers, it may increase transaction costs because increased contestability may reduce the likelihood that contracts with current providers will be renewed. This will increase the costs of infrastructure, as it will become necessary to make capital investments periodically, rather than continuing work with the infrastructure established during a project's first iteration. Essentially, transaction costs will be high for occasional contracts and low for recurrent contracts.

It has been argued that transaction costs are high because the health sector is characterized by high asset specificity and high levels of uncertainty. It is possible that increases in transaction costs resulting from contracting out may outweigh decreases in costs of service provision.

The second major pitfall of contracting out is concerned with the low contractibility of health services. The main factors contributing to low contractibility are the relative lack of competition among health care providers, the complexity of health care, the asymmetry of information between purchasers and providers, and asset specificity. The following provides further explanation:

- ▲ In many circumstances there is limited competition among providers, or a shortage of qualified providers, which limits purchasers' options and leaves them vulnerable to providers' opportunistic behaviors.
- ▲ The complexity of health care makes it difficult for contractors to purchase such services. There is no simple way to purchase health services based on quality of care and health outcomes, firstly because of the uncertain linkage between health services and health outcomes, and secondly because of the information asymmetry between purchasers and providers. Contractual incompleteness is an inherent feature of health care.
- ▲ The health sector has high asset specificity, which creates conditions and incentives for parties to act opportunistically, especially where there are few providers. Providers have a strong interest in seeing their contracts renewed, and purchasers may be locked into an unsatisfactory contractual relationship with the provider, particularly if there are no alternative choices for providers with the necessary assets for the provision of contracted services.

The third major pitfall is the possibility of an adversarial relationship between purchasers and providers. The argument is that the assurance of the performance of health care delivery requires coordination and collaboration among policymakers, health care purchasers, providers, and consumers. The contractual relationship may undermine the coordination and collaboration needed between players.

3. Evidence of Effects

3.1 Description of the Literature

In this section, the authors review the available evidence on the impact contracting out has had in developing countries. While the number of journal publications on the implementation and evaluation of contracting out in developing countries is limited, the following discussion does provide a basis to evaluate the claims made in the previous section about the advantages and pitfalls of contracting out. Table 2 lists the relevant papers that the authors located on the contracting out of health services in developing countries, showing where and with what objectives the contracting was performed, and also providing some commentary on the rigor and level of M&E involved.

The literature shows that most contracting-out programs in developing countries are donor-sponsored activities, where the purchasers are usually national governments that have financial support from international development agencies, such as the World Bank, other regional investment banks, USAID, and the Department for International Development (DFID). Correspondingly, most of the literature is in the form of donor-sponsored papers and reports, and, generally, these rarely describe specific design and implementation features in detail. Contractees are mainly private providers, including NGOs, private hospitals, and individual health workers. The types of services contracted vary depending on the program. In general, they can be categorized as follows:

- ▲ Specific services for defined health conditions – HIV/AIDS prevention and treatment (Barnett, Connor, and Putney 2001; Barnett and Putney 2000), ORS for treatment of childhood diarrhea (Chowdhury 2002), child nutrition services (Marek et al. 1999)
- ▲ Packaged and specified basic health services – maternal and child health services (Eichler, Auxila and Pollock 2002), family planning services (Eichler, Auxila and Pollock 2002), nutritional services for children and women (Loevinsohn 2002), and others
- ▲ Unspecified primary health care (Vladescu and Radulescu 2002)
- ▲ Unspecified hospital care (Mills, Hongoro and Broomberg 1997)

Table 2. Country profile of contracting out: purchasers, providers, services, objectives, performance indicators, and effects

Country and authors	Contractor (purchaser)	Contractee (provider)	Services	Objectives	Performance indicators	Evaluation and effects
Brazil (Connor 2000, Barnett, Connor, and Putney 2001)	Government (Ministry of Health, with the financial support from the World Bank)	NGO providers	HIV/AIDS prevention and treatment	Improve access and quality of prevention and treatment of HIV/AIDS Strengthen public and private institutions for AIDS control	Quantity indicators (e.g., IEC campaigns launched; condoms distributed; testing and counseling centers implemented) NGO contracts signed and implemented Reference laboratories established Sentinel surveillance sites established	Not rigorously evaluated Assured service quantity and coverage
Guatemala (Barnett, Connor, and Putney 2001, Barnett and Putney 2000)	Government with support from UNAIDS, UNDP, WHO, World Bank, etc.)	NGO providers	HIV/AIDS prevention and treatment	Improve access and quality of prevention and treatment of HIV/AIDS	Not available	Not rigorously evaluated Assured service quantity and coverage
Haiti (Eichler, Auxila, and Pollock 2002)	Government with support from USAID	NGO providers	Maternal and child health services Family planning services	Strengthen the capacity of NGO providers Improve performance of NGOs in providing maternal and child health	Percentage of women using ORT to treat diarrhea in children Immunization coverage Coverage of three prenatal visits Discontinuation rate for oral and injectable contraceptives Percentage of clinics with at least four modern methods of family planning Waiting time	Before and after comparison Improvement in some indicators (e.g., immunization coverage, and availability of modern contraceptive method) Weak improvement in others
Romania (Vladescu and Radulescu 2002)	Government (District health authorities)	Individual health providers (general practitioners)	Primary health care (both preventive and curative care)	Improve allocative efficiency (more spending on preventive services) Improve access to primary health care Improve quality of care (patient satisfaction)	Immunization coverage The number of consultations The number of patients registered The share of patients getting pre- and post-national check-ups The number of home visits.	Higher patient satisfaction More preventive care for patients, No changes in use of hospital services Increase output (the number of consultations) Weak regulatory and monitoring capacity No proven improvement in access to the underserved

Table 2. Country profile of contracting out: purchasers, providers, services, objectives, performance indicators, and effects

Country and authors	Contractor (purchaser)	Contractee (provider)	Services	Objectives	Performance indicators	Evaluation and effects
Bangladesh (Karim et al. 2003, Loevinsohn 2002)	Government with financial support from the World Bank	NGOs (female community nutrition promoters)	Growth monitoring Nutritional support for pregnant and lactating women and children	Improve nutritional status of children and women	Percentage of underweight Percentage of women who attended antenatal checkup Percentage of children who received vitamin A capsule Percentage of children initiated breastfeeding immediately after birth	Rigorously evaluated (before and after comparison with a control group) Significant improvement in coverage rates of antenatal checkup and vitamin A capsule, and increase in breastfeeding rate
Bangladesh (Mahmud et al. 2002, Loevinsohn 2002)	Government with financial support from the Asian Development Bank	NGO providers	Primary care (immunization, prenatal and obstetric care, family planning, health communications, disease treatments)	Improve access to primary health care in urban areas, especially for the urban poor	Percentage of health centers providing immunization Percentage of health centers providing family planning method Percentage of health centers providing laboratory (hemoglobin) tests Percentage of prescriptions provided with a specific diagnosis Percentage of clients saying that waiting times were acceptable	Controlled before and after evaluation Contracted NGOs did much better than public sector for the specified indicators even with the same amount of resources Improved access to primary care by the urban poor
Guatemala (Nieves and La Forgia 2000)	Government (Ministry of Health, with financial support from international donors)	NGO providers	Basic health services	Improve access to basic health services by the poor	Immunization coverage Prenatal care coverage Nutritional support Treatment selected diseases	Before and after comparison Increase in coverage of basic health care, such as immunization Increase in access to basic health care by the under-served poor Weak in quality assurance, and in M&E
Cambodia (Loevinsohn 2001)	Government (Ministry of Health, financially supported by the Asian Development Bank)	NGO providers	Basic health services (immunization, family planning, antenatal care, provision of micronutrients and other nutritional support, and simple curative care for diarrhea, acute respiratory tract infections, and tuberculosis, etc.)	Improve access to and quality of basic health care	Coverage of antenatal care Utilization of facility by the poor Immunization coverage Coverage of birth spacing Quality of care (score) Annual per capita expenditure Percentage of out-of-pocket payment by the poor.	Represent the most sophisticated evaluation – randomized, controlled, before and after comparison Minor improvement in quality of care, and significant improvement in other indicators

Table 2. Country profile of contracting out: purchasers, providers, services, objectives, performance indicators, and effects

Country and authors	Contractor (purchaser)	Contractee (provider)	Services	Objectives	Performance indicators	Evaluation and effects
Madagascar (Marek et al. 1999)	Government	NGO	Monthly growth monitoring for children, weekly education of women Referral to health services for unvaccinated and malnourished children, and sick beneficiaries, Food supplement for malnourished children Improved access to water standpipes	Improve access to nutritional services	Percentage of children weighted monthly in the cohort of beneficiaries Percentage of women attending the weekly health and nutrition education sessions Percentage of children malnourished in cohort	Before and after comparison Project is large scale Community is highly involved Service coverage increased Malnutrition rate decreased
Bangladesh (Chowdhury 2002)	NGO (Bangladesh Rural Advancement Committee) with financial support from international donors	Private rural health workers	Educating mother in knowledge of diarrhea, and skill in preparing self-treatment solution	Improve mother's knowledge Improve mother's skill for preparing solution Reduce diarrhea diseases and deaths	Performance-based contracting: mother's knowledge score, percentage of mothers who can prepare the solution	Increased mothers' knowledge Improved mothers' skill for preparing the solution Reduced childhood mortality (but cannot test the net effect)
South Africa (Mills, Hongoro, and Broomberg 1997)	Government	For-profit hospitals	Hospital services	Improve quality Reduce cost	Many quality indicators covering structure, process and outcomes, mean length of stay, cost per admission, bed occupancy rate, and number of admissions	Comparison between public and contracted hospitals No major difference noted in quality of care provided, but at lower costs
Zimbabwe (Mills, Hongoro, and Broomberg 1997)	Government	NGO hospitals	Hospital services	Improve quality Reduce cost	Mean length of stay Cost per admission Bed occupancy rate Number of admissions	Comparison between public and contracted NGO hospitals No major difference noted in quality of care provided, but at lower costs
Costa Rica (Abramson 2001)	Government (Social Security Fund)	NGO providers	Primary health care	Increase access to primary health care Improve quality of care Increase efficiency	Coverage of growth monitoring, Immunization coverage RH consulting for adolescents Waiting time Application of user satisfaction instrument	Quality indicators are superficial Not conclusive if contracting improved performance

Table 2. Country profile of contracting out: purchasers, providers, services, objectives, performance indicators, and effects

Country and authors	Contractor (purchaser)	Contractee (provider)	Services	Objectives	Performance indicators	Evaluation and effects
Bolivia (Lavadenz et al. 2001)	Government	NGO providers	Primary health care focusing on maternal and child health	Expand birth delivery (increase access) Improve quality of care	No. of birth deliveries Bed occupancy rate No. of outpatient visits	Before and after comparison with a control group Data with unknown accuracy Too few indicators, which does not match with objectives
India (Murthy KJ et al. 2001)	Government	NGO hospitals and their contracted practitioners	Implementation of DOTS strategy for the control of tuberculosis	To improve the quality of DOTS strategy in detection and treatment of TB	No. of TB cases detected per year Treatment success rate (%) Cost/successfully treated patient Public sector cost/patient treated Private provider cost/patient treated Patient cost	Lack of baseline information Found that private providers could achieve better detection and treatment results at lower cost than public providers
India (Loevinsohn and Harding 2004)	Government	NGO providers	Treatment of childhood illness according to WHO guidelines	To improve quality of care for ill children	Percentage of diagnoses using watch or timer to measure respiratory rate Percentage of treatment recommending ORS for diarrhea cases Percentage of diagnoses asking about history of illness Percentage of diagnoses touching child as part of examination	Lack of control group Intervention time too short Significant increase in indicators
Senegal (Marek et al. 1999)	Government	NGOs	Monthly growth monitoring for children, weekly education of women Referral to health services for unvaccinated and malnourished children, and sick beneficiaries, Food supplement for malnourished children Improved access to water standpipes	To improve access to nutritional services To decrease malnutrition rate	Percentage of children weighted monthly in the cohort of beneficiaries Percentage of women attending the weekly health and nutrition education sessions Percentage of children malnourished in cohort	Before and after comparison Project is large scale Community is highly involved Service coverage increased Malnutrition rate decreased

Georgia (England 2004)	Government	NGO	Cardiac surgery for congenital abnormalities	To provide cardiac surgery for children from poor families	<p>Overall utilization of services by age group</p> <p>Number and types of conditions (case mix) treated</p> <p>Actual cost per case</p> <p>Number of eligible children (aged 3-14) who received treatment and their share in overall patient load</p> <p>Treatment outcomes per case and by age groups</p>	<p>Billing process allowed NGO to monitor indicators</p> <p>Utilization of services by the poor in the 3-14 year age group was significant</p> <p>Utilization by this age group increased from 55% of total operations in 1999 to 93% in 2000, and 82% in 2001</p>
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The dominant majority of the contracting-out initiatives described in Table 2 have had the stated goal of improving access to specified basic health services for the target population, with the assumption that the increase in cost-effective health services to underserved populations will increase equity in terms of access and health outcomes, and improve the overall allocative efficiency of limited health resources. Specific program objectives have included strengthening NGO capacity to deliver health care (Eichler, Auxila, and Pollock 2002), improving the health status of children and women (Loevinsohn 2002), and improving quality of health services delivery (Mills, Hongoro, and Broomberg 1997).

All the contracting-out projects have developed some performance indicators to monitor and evaluate contract performance specific to their objectives. These performance indicators can be categorized into several different types, including the following:

- ▲ Quantity of services provided
- ▲ Percentage of target population receiving specified services
- ▲ Quality of service (examples include waiting time, user satisfaction, and composite quality scores)
- ▲ Utilization of contracted services by target populations
- ▲ Hospital care indicators (e.g., length of stay, cost per admission, bed occupancy rate, number of admissions)
- ▲ Health status (e.g., percentage of children with malnutrition)

For more details, see Table 2 for the specific indicators used across a range of programs:

3.2 Evidence of Effects

This section reviews the implementation of contracting-out initiatives within the health sector, including any evidence of its impact on access, equity, quality, and efficiency. When possible, it includes a review of the factors that determine the effects of contracting out if the literature addresses them.

3.2.1 Access

Most of the contracting-out projects the authors reviewed have a clear objective to improve access to contracted services. There is substantial evidence that contracting out of primary health care services can increase access to these services by increasing their provision, utilization, and coverage. In most M&E efforts, this dimension was found to be the most commonly measured aspect of performance. Indicators of access include measures of the quantity of services provided, population coverage, and the availability of interventions.

Evidence comes from a broad range of sources. In a major review of contracting out for the World Bank, Loevinsohn and Harding (2004) compared contractor performance with government provision of the same services in a sample of six studies. They found that contractors were consistently more effective in terms of improving access to health care services. Of the four more-rigorous studies contained in the review, which looked at this dimension, all found that contracting yielded positive results. In addition, the authors found the more rigorous the study, the larger the demonstrated impact. The net effect of

contracting out across the four studies on the coverage rate of contracted services ranged from 9 to 26 percentage points.

Other literature reinforces this theme; consistently, contracting-out programs whose objectives included increasing access to specified services, coverage rates, availability of services, and quantity of services provided have shown improvement. Of the 18 contracting-out projects reviewed in this report (Table 2), 12 were implemented with the explicit objective of improving access to contracted health services. Of these 12, 10 projects reported significant positive results in increasing access to contracted health services as measured by the three types of indicators mentioned above (provision, coverage, utilization). Overall, the literature supports the premise that contracting out can improve accessibility to health care.

3.2.2 Equity

Equity, or bettering the situation of the poor or marginalized, has different dimensions, such as equity in access, financing, and health outcomes. The authors found studies that examined equity in access and financial equity, or studies that looked at decreasing the geographic and economic barriers to health care for the poor and underserved. Improvements in equity can be achieved by three different strategies (England 2004): (1) establishing contractual arrangements that specifically encourage providers to serve the poor and underserved; (2) contracting with private providers in areas that are predominantly poor (geographic targeting); and (3) contracting out services that are of most benefit to the poor and underserved.

The number of studies that directly evaluate the effects of contracting out on equity is limited. Of the 18 projects reviewed, only three had the clear objective of improving the poor's access to basic health care (Bangladesh: Mahmud et al. 2002, Loevinsohn 2002; Guatemala: Nieves and La Forgia 2000; Cambodia: Loevinsohn 2001). Overall, all three of these projects were rigorously evaluated and showed significant improvement in access by the targeted poor, indicating improvement in equity in access. England (2004) reviewed the literature and found that "while there are various examples of contracting for health services in low and middle income countries, and there is a growing body of literature, there are few evaluations that look specifically at how and how well the contracting arrangements serve the poor." In his paper, England reviewed two cases: (1) a contract to provide pediatric cardiac surgery in Georgia and (2) a pilot program of contracting for basic health services in Cambodia mentioned above (Loevinsohn 2001).

In Georgia (Gotsadze and Levan 2003), the state social health insurance program contracted with an NGO provider to provide cardiac surgeries for children ages 3–14 from poor families with no co-payment, and costs were covered by the social insurance organization's Program for the Vulnerable. The evaluation results showed a significant increase in utilization of the services by the poor in the 3–14 year-old age group. While the number of operations of this age group accounted for 55 percent of total operations in 1999, it increased to 82 percent in 2001. This case study indicates that it is feasible to set up a contract for specified services and to target the poor with a larger subsidy than for the nonpoor.

In Cambodia (England 2004, Loevinsohn 2001), the contracting-out project explicitly addressed the issue of equity. It found that when contracts explicitly included targets for reaching the poor, the providers were able to significantly improve health services for the poor. This study also showed that contractors were considerably better able than the government to reduce inequities in access to contracted services (Loevinsohn and Harding 2004). In addition, the Cambodia experience showed contracting out can be a feasible policy tool to improve equity in financing. Evidence from Cambodia suggested that contracting out reduced out-of-pocket payments by more than 70 percent, compared with only a 5 percent

reduction among the control group that utilized public services. It was concluded from this study that contracting out, if properly managed, can deliver health care in a way that has positive implications for equity in both access and financing.

Contracting out has also been used effectively to target economically deprived populations in Senegal, Madagascar (Marek et al. 1999), and Bangladesh. In the former two countries, projects contracting nutritional services directly reach tens of thousands of malnourished children and their mothers, and the programs fill a niche that the public sector had not met effectively. According to the study by Marek et al., 79 percent of the funding for the Community Nutrition Project in Senegal is spent in poor target neighborhoods. It also points out that this achievement is more striking given other evidence that indicates that, in many African countries, the richest tend to benefit more than the poorest from public spending on health. The Urban Primary Health Care Project in Bangladesh (Mahmud et al. 2002, Loevinsohn 2002), which contracted with NGOs to provide primary health care for the urban slums, significantly improved the urban poor's access to health care, indicating improvement in equity.

It is important to note that because the poor have lower levels of access to basic health care than the rich in almost all low- and middle income countries, any contracting-out initiatives that seek to improve overall access to primary or basic health care will theoretically also positively effect socioeconomic equity in access to services. Unfortunately, this has never been rigorously analyzed in the literature.

Based on limited literature, the authors concluded that contracting out has the potential to improve equity in both access to care and financing if the poor and the services that mostly benefit the poor are well targeted in the contracting-out initiative. However, because of a lack of sufficient evidence from comparative studies, the authors of this report were not able to determine whether contracted private providers could be more successful in improving equity than public providers.

3.2.3 Quality

In the authors' review of the literature (see Table 2), 15 of the 18 contracting-out projects addressed quality of care explicitly (by stating that improving quality was a program objective) or implicitly (by positing improvements in patient satisfaction, patient waiting time, or health status – all different dimensions of quality – as project goals). These studies can be divided into four categories:

Category 1: Studies without well-developed quality measurements

Four of the 18 projects (Brazil: Connor 2000, Barnett, Connor, and Putney 2001; Guatemala: Barnett, Connor, and Putney 2001, Barnett and Putney 2000; Costa Rica: Abramson 2001; and Bolivia: Lavadenz et al. 2001) had explicitly stated quality improvement objectives, but lacked well-developed quality indicators. As a result, researchers were not able to determine through the project's M&E efforts whether contracting out improved the quality of health care.

A typical case is the World Bank AIDS Project in Brazil (Connor 2000), where improving quality of care was a project objective. In this broad-ranging program, most services were delivered through NGOs, and included a variety of activities, ranging from testing and counseling to information, education, and communication (IEC) campaigns. However, while the project expended significant effort collecting information on indicators related to service provision (access), there were deficits in measuring provider performance and quality, with the project failing to specify indicators related to quality. For example, there were no indicators assessing the quality of provider performance or the accuracy of data collected through hotlines. As a result, while the project was rated successfully in terms of the quantity of services it delivered, the quality of services remains largely unknown. Although there has been no glaring

evidence of quality problems, there has been no objective verification of the level of quality. This tendency for project M&E to focus on quantity and access, instead of quality, is common. While this clearly makes it difficult to measure changes in quality, Connor (2000) points out that it also creates another problem: When there is no linkage between payment to contractors and the quality of their performance, providers have little incentive to improve quality.

Abramson (2001), writing about the project in Costa Rica, describes a situation where indicators were developed to assess the quality of care, but they were inadequate, making it difficult to gauge whether substantive improvements in quality occurred. In this particular contracting initiative, criteria were developed for the quality of each of the services delivered, based on observation of clinical protocols. For example, the indicator for the coverage of prenatal care included a minimum of five prenatal visits for a full-term pregnancy and the identification of pregnant women in their first trimester of pregnancy. These indicators were rated with either a ‘yes’ or ‘no’ response, based on a percentage for attainment. Abramson believes that such yes/no scoring tells evaluators very little about progress in quality, while a lack of baseline information also makes it difficult to draw meaningful conclusions. Basically, in her view, this program assessed whether quality of care processes were in place, but did not delve into an examination of quality in a more substantive way.

Category 2: Studies with uni-dimensional process indicators

Four of the 18 projects (Romania: Vladescu and Radulescu 2002; Bangladesh: Mahmud et al. 2002, Loevinsohn 2002; Haiti: Eichler, Auxila, and Pollock 2002; India: Loevinsohn and Harding 2004) included uni-dimensional process indicators, such as patient satisfaction, patient waiting time, and the percentage of disease treatment interventions following standardized medical practice guidelines, which map different aspects of quality. M&E results were positive in all four cases. This may be largely due to the narrow dimensions of quality measured in each case, making it easier to measure change and to produce changes.

In Romania (Vladulescu and Radulescu 2002), an output-based contracting project, with an emphasis on rural areas, set higher patient satisfaction as one of its objectives, alongside helping providers to become more attuned to client needs. In this study, doctors notably increased their output and provided emergency and weekend coverage in higher percentages. At the same time, patient surveys revealed that family doctors had become more client oriented and that the contracting-out interventions had led to higher levels of client satisfaction.

In Haiti, a contracting initiative with NGOs (Eichler, Auxila, and Pollack 2000) included only one client-based measure of quality: the percentage reduction in waiting time for childcare. Project M&E documented an improvement in this dimension of quality.

In India, a contracting initiative designed to improve the management of childhood illness by private practitioners incorporated indicators with a more clinical orientation to measure quality of care: the percentage of disease treatment interventions that followed standardized medical practice guidelines. A program evaluation (Loevinsohn and Harding 2004) demonstrated improvements ranging from 25 percent to 75 percent on selected indicators. For example, the percentage of doctors who used a watch or timer to measure respiratory rate improved from 14 percent before the intervention to 71 percent after. Similarly, the percentage of doctors recommending oral rehydration salts (ORS) for diarrhea improved from 16 percent to 48 percent. However, it should be noted that these changes were measured a short time – seven months – after implementation, making it difficult to tell whether such changes were maintainable.

In Bangladesh, the contracting-out project that provided primary health care for the urban poor used “the percentage of clients saying waiting time was acceptable” as an indicator of quality. Study results revealed that NGO providers performed better in this regard than public providers.

Category 3: Studies with health outcome indicators

Four of the 18 projects (Madagascar: Marek et al. 1999; Senegal: Marek et al. 1999; Bangladesh: Chowdhury 2002; India: Murthy et al. 2001) used health outcomes as indicators of quality. The common feature of these projects is that the contracted health services had to be for the control of specific diseases or health conditions. Therefore, the indicators for measuring health outcomes are also disease/condition specific and, as a result, are more likely to reflect the effect of interventions because of the established link between the interventions and the health outcomes. All four projects reported improvement in health outcomes. It is also worth mentioning that three of these four projects address nutrition.

The contracting out of nutritional services in Senegal and Madagascar (Marek et al. 1999) used “percentage of children malnourished in the cohort” as a quality indicator. The authors found that the indicator rapidly declined, ostensibly demonstrating diminished malnutrition among the children the projects reached. In Senegal, a community-based study in one city confirmed, with two cross-sectional surveys, that malnutrition rates decreased in entire neighborhoods that benefited from the project. The study showed that, after 17 months of project implementation, severe malnutrition disappeared among children 6–11 months of age, decreasing from 6 percent to 0 percent, while moderate malnutrition declined among those aged 6–35 months, from 28 percent to 24 percent. Marek et al., seem fairly confident that such impact was directly linked to the project because there were no significant changes in socioeconomic characteristics between the baseline and the impact studies. Additionally, the study showed that malnutrition rates were lower among children who had benefited in the past from the project compared with those who never took part. Specifically, 23 percent of children 12–17 months who had taken part in the project experienced low weight, compared to 30 percent among those children who had never taken part.

A nutrition education intervention (using community workers to educate mothers about nutrition and skills for preparation of ORS to reduce child diarrhea diseases) in Bangladesh also addressed the question of the linkage between contracting and health outcomes (Chowdhury 2002). The study found an association between the utilization of contracted health education workers and a reduction in childhood mortality from diarrhea. However, this study had one major shortcoming: it did not make an explicit comparison with noncontracted services.

The only evidence of improvement in health outcomes from a nonnutrition project comes from India (Loevinsohn and Harding 2004), where a contract was given to a domestic NGO to perform tuberculosis case detection and the implementation of the Directly Observed Treatment Short Course (DOTS) strategy. Performance comparisons were made with a control (public) provider. The contracted NGO provider experienced a 94 percent treatment success rate, and the public provider, an 80 percent success rate.

Category 4: Studies with multidimensional measures

Three of the 18 reviewed projects (Cambodia: Loevinsohn 2001; South Africa: Mills, Hongoro, and Broomberg 1997; and Zimbabwe: Mills, Hongoro, and Broomberg 1997) used multidimensional measures – indicators covering two or more dimensions of structure, process, and outcomes – to monitor and evaluate quality of care.

In two case studies of hospital service contracting by Mills et al., in South Africa and Zimbabwe (Mills, Hongoro, and Broomberg, 1997), the authors reported that health care quality was measured by

multiple indicators including structure, process, and outcome indicators. M&E results did not report any significant differences in quality between contracted and noncontracted hospital services along these dimensions. In South Africa, some aspects of structural quality were superior at contracted hospitals, such as cleanliness and building maintenance, but there were no major differences in process or outcome quality, with both public and contracted hospitals adjudged to perform poorly against widely accepted clinical standards.

In the Cambodian contracting-out project, quality of primary health care was measured at both health center and referral hospital levels mainly by structural and process indicators (England 2004). Quality of care at health centers was measured through direct observation of the following elements in a structured questionnaire:

- ▲ Immunization: equipment, supplies, and recordkeeping
- ▲ Antenatal care: equipment, supplies, and recordkeeping
- ▲ Birth spacing: equipment, supplies, and recordkeeping
- ▲ Deliveries: equipment, supplies, and recordkeeping
- ▲ Consultation: equipment, supplies, and recordkeeping
- ▲ Presence of functioning health center (10 points for each health center)
- ▲ Presence of a documented referral system (up to 10 points for each health center)

Quality of care at referral hospitals was measured through direct observation of the following elements in a structured questionnaire:

- ▲ Presence of assigned staff
- ▲ Drugs, equipment, and supplies
- ▲ Hygiene/infection control
- ▲ Utilization for maternity
- ▲ Utilization by children under five years of age
- ▲ Utilization for tuberculosis
- ▲ Charting – adult, pediatric, TB, and maternity wards
- ▲ Correct medical and nursing treatment of pediatric diarrhea
- ▲ Correct medical and nursing treatment of pediatric respiratory infections
- ▲ Correct medical and nursing care during labor and delivery
- ▲ Management systems for quality control: mortality reviews, medical rounds, nursing shift reports, etc.

▲ Presence of referral system

To conduct an analysis, evaluators constructed a health care quality score. They found that the quality score for contracted providers was slightly better than public providers (the findings did achieve statistical significance).

Conclusion

In general, contracting-out projects are more likely to improve quality of care if (1) quality is operationally defined and indicators associated with quality are well developed; (2) quality indicators capture the required processes of service delivery specified in the contract; and (3) quality indicators (e.g., health outcomes) have an established association with utilization of contracted services. It is difficult to ascertain whether contracting out improves quality of care compared with direct public provision, first because quality has been either undefined or inconsistently defined across different contracting-out projects, and secondly because there have usually been no control groups in evaluations. For the few studies with a control group, the number of cases (or providers) was too small to produce reliable results.

3.2.4 Efficiency

Despite the growing experience with contracting out in developing countries, very little evidence exists on the impact these initiatives have on efficiency (Mills and Broomberg 1998). This is all the more surprising given that one of the reasons there has been a movement toward contracting is its perceived potential for greater efficiency when compared with direct public sector provision. Yet, only two of the 18 projects explicitly stated that efficiency improvement was an objective (Romania: Vladescu and Radulescu 2002; Costa Rica: Abramson 2001). Correspondingly, there were few studies that looked directly at efficiency, as the bulk of M&E efforts focus on measuring improvements in access.

Nonetheless, some studies have demonstrated that contracted providers can deliver services at lower unit costs than their public sector counterparts, while maintaining quality – indicating improvement in efficiency at the provider level. These include the studies on contracting out of hospital care in southern Africa (Mills, Hongoro, and Broomberg 1997) – in South Africa and Zimbabwe – mentioned earlier. In South Africa, evaluators compared the performance of three contracted hospitals with three government-run hospitals and showed that the contracted hospitals provided similar care at significantly lower unit cost. The Zimbabwean study compared the performance of two government district hospitals with two not-for-profit hospitals. Similar to the South African case, results showed that the two contracted hospitals delivered services similar to those of the government hospitals, but at substantially lower unit costs. Further analysis demonstrated that these cost reductions were the result of maintaining lower staffing levels and higher productivity.

Other research has also suggested that contractors can deliver health services more effectively than public institutions given a similar level of resources, or with lower levels of spending. In Loevinsohn and Harding's (2004) meta-analysis for the World Bank, the authors found four studies that provided an opportunity to examine the cost of contracting versus the cost of government provision. These were in Pakistan, Bangladesh, India, and Cambodia. In all four cases, the authors found that nongovernmental entities performed better than public institutions with similar amounts of financial input. For example, in the Indian case, which was a TB detection and treatment program in one of the southern cities, a contracted organization was able to achieve better treatment success rates than the public sector at a cost of US\$20 less per successfully treated patient. Research from Ghana and Tanzania found no systematic differences in cost between contracted private providers and public hospitals, while contracted (church) hospitals distinguished themselves in quantity and quality of care (Gilson et al. 1997).

Some of the literature suggests, however, that contracted services can sometimes be more expensive than direct provision. In Bangladesh, with the Rural Nutrition Services Project (Loevinsohn and Harding 2004), analysis suggested that the positive health outcomes of the project were achieved at a relatively high cost, casting the cost-effectiveness of this program into doubt.

One problem with the studies described above is that either they only include operational costs at the level of the provider or they do not clarify whether they include other costs, such as procurement and administrative costs of the purchaser. This leaves unanswered the question of whether contracting out is ultimately less expensive to the purchaser than direct provision if one includes the costs of contract management and contract M&E. It is possible that contracting out does not save the purchaser money if one factors in these other expenses. For example, in the southern Africa study, the authors (Mills, Hongoro, and Broomberg 1997) found generally lower production costs at contracted hospitals, but the benefits in terms of financial savings accrued almost entirely to the contracted hospitals themselves, not to the government, because of increased governmental spending on transaction costs. Ultimately, this question will be answered by what will interest purchasers most, and it will require further investigation before sound conclusions can be drawn.

Few studies even provide information about the actual costs of managing contracted services. Marek et al. (1999), looking at contracted nutrition services in Senegal and Madagascar, estimated the cost of executing and monitoring a contract at 13–17 percent of overall project budget. Specifically, the authors mentioned that 17 percent was the amount charged by a Senegalese NGO that acted as a management unit to contract other NGOs to deliver nutrition services. In Madagascar, the costs of technical coordination and project management were 13 percent of the project costs. Such figures will probably vary depending on the context and the health intervention in question, but this study does at least provide estimates of transaction costs.

In addition to the dearth of information on the total costs of contracting, there is little effort to conduct rigorous efficiency analysis (e.g., cost-effectiveness analysis) of contracting-out initiatives, constituting a major barrier in assessing the economic desirability of contracting out compared with public provision. Program data collection systems are often not designed to enable such analyses. Although the study's authors (Marek et al. 1999) reported that the contracting out of nutritional services in Madagascar and Senegal was cost-effective, this assessment was based on before and after comparisons, and there was no control group, limiting their ability to draw strong conclusions about programs' cost-effectiveness.

A related issue is whether there is evidence of one of the key theoretical assumptions of contracting out – that public providers are not as efficient as private providers. Limited evidence is available on the relative efficiency of the public vs. private sector in developing countries. The comparative studies most frequently reported are from the United States, and the results are mixed. As stated by Sloan (2000), although some studies find that performance differs between public and private providers, the evidence is far from conclusive. With respect to comparative efficiency between for-profit and nonprofit providers, the literature review found that most experts indicate that two decades of research has failed to provide definitive empirical evidence on the differences between for-profit and nonprofit health care facilities and on the social consequences of changes in ownership (Blumenthal and Weissman 2000). Overall, the evidence suggests that for-profit and not-for-profit hospitals are far more alike than different (Sloan 2000). The comparative efficiency of public and private providers is fundamentally important, and evidence is still to be generated in developing countries. Other important factors to consider are the level of social capital in the community, which can determine the level of trusts between purchasers, providers, and the community.

In conclusion, studies suggest that contracting health services to private providers has the potential to lower production costs for similar services. It remains unclear, however, whether contracting lowers the

overall cost of health service delivery, including costs to the purchaser for contract management and M&E. It has also not been possible to demonstrate that contracting out increases the efficiency of the overall health system.

3.3 Summary of Evidence and Discussion

There is substantial evidence that contracting out can increase access to contracted services by increasing provision, utilization, and coverage of health services. This is particularly true in underserved areas where public providers are not available or are less available, as contracting can motivate private providers to deliver services to populations that otherwise cannot be served. Contracting out also appears to have the potential to improve equity in both access and financing if services are well targeted. It is uncertain whether contracting out can improve quality of care, but it appears that contracted initiatives are more likely to result in improved quality if quality indicators are well and clearly developed and there is an established link between quality indicators and service provision. It may also be possible that quality is easier to improve where objectives are more narrowly defined. While contracting appears to lower unit and production costs, it has not been possible to demonstrate that contracting increases the efficiency of the overall health system, or lowers overall costs to purchasers.

Overall, despite the growing experience with contracting out of health services in developing countries, little evidence exists on the impact these programs have had on equity, quality, and efficiency. In this regard, the situation has changed little compared to five years ago (Mills and Broomberg 1998). Additionally, problems and flaws with the methodologies of studies (Table 2) cloud the validity of findings and generally prohibit generalization of results. The first such problem has to do with measurement of provider performance. There are two issues here – one is that performance measures at the program level are not necessarily consistent with national level health system objectives. For example, many programs use “quantity of services” as a proxy of system performance. This measure would only be valuable at the system level if the services provided are necessary and are not being provided excessively. Another issue is that aggregate performance measures, such as infant mortality, are not specific to contracting out, and the change in such performance measures cannot necessarily be attributed to interventions associated with contracted services. The most widely used provider performance indicators are quantity of specified services provided, coverage (percentage of population receiving specified services), and availability of interventions. However, further analyses such as equity, quality, and efficiency are rarely performed.

The second technical problem common to most programs is the inappropriate design of program evaluation, due to a lack of baseline data and/or data from a control group necessary for estimating program effects.

A third problem is the lack of studies on the determinants of program effects. In particular, the association between the characteristics of the contract and the effects on provider performance needs to be examined across a significant number of projects. It seems that this type of broader evaluation has not been implemented and that most M&E research currently is done on an individual program basis.

The fourth problem is the potential for both providers (contractees) and implementation agencies (contractors) receiving donor support to overestimate their performance, because a provider’s positive performance is associated with compensation and the renewal of the program managed by the implementing agency. This is more likely to be the case if M&E is conducted internally rather than by external, independent evaluation agencies.

The fifth and final problem is that there has been a lack of an overall M&E framework that guides the evaluation of contracting-out projects and the assessment of whether contracting out should be adopted as a national policy for improving health system performance. Except for a few cases, M&E is mostly conducted at program level, and rarely tackles the impact contracting has on health systems performance.

4. Conceptual Framework

In this section, the authors propose a conceptual framework for monitoring and evaluating primary health care contracting-out interventions. Figure 1 presents a diagram of the conceptual framework.² Four broad and mutually interactive types of information should be considered in the evaluation of contracting-out reforms: (1) the intervention, including the characteristics of the contractor, the provider, and the contractual relationship; (2) the external environment; (3) the response of providers and purchasers both within and outside the contracting-out scheme; and (4) the impact of the intervention. Collecting and analyzing information on all four dimensions is necessary to investigate whether contracting out is achieving its intended objectives and the factors that determine its effectiveness.

4.1 The Intervention

As depicted in Figure 1, two parties are involved in the contractual relationship. One party is the government, serving as a purchaser or contractor for health care services. Its major function in the contracting arrangement is financing, with the overall objective of improving health system performance. The financial and managerial capacity of the contractor is likely to affect the effectiveness of contracting. The ability of the contractor to pay the provider in a timely manner is likely to be important. Obviously, this means that contracting may be problematic in resource-starved environments where it is difficult to pay providers in a timely manner. Moreover, because the contract obligates resources, it may negatively influence the government's ability to deliver services of acceptable quality outside the contracting-out initiative. The capacity of the contractor to manage the contract is also likely to be important. Critical management functions include procurement, oversight, performance assessment, and payment.

International donors often play an essential role in enhancing the contractor's financial and managerial capacity by providing resources to finance the initiative and/or by providing technical assistance in managing the process. Once the donor withdraws, however, the program may collapse due to lack of funds and the contractor's inability to handle the technical aspects. Thus, the effectiveness of donor-supported contracting-out programs may differ from those that are self-initiated by country governments.

The other relevant party is the provider or contractee. The contractee can either be a private provider (for-profit or NGO) or an autonomized public provider. The provider's major function is health service provision, and its general objective is to either financially break even (if they are not-for-profit NGOs) or maximize profits (if they are for-profit providers). The public-private status of the provider may impact the effectiveness of contracting out if the provider's objective is affected by whether they are public or private. While it has been assumed that private providers are more productive and better motivated than public providers, there is little empirical evidence to support this premise. The key question here is whether public-private status and the level of autonomy are key determinants of provider productivity, and how these characteristics influence the effectiveness of contracting-out interventions.

² The generic typology used in the conceptual framework is based on that used by Over and Watanabe (2003), which presents an approach for evaluating the impact of organization reforms in hospitals.

The effects of contracting out on primary health care service delivery are likely to be influenced by the characteristics of the contractual relationship between the contractor and the contractee. Several characteristics that may be important to consider in the evaluation are (1) the type of services covered by the contract, (2) the formality of the contract, (3) the duration of the contract, (4) the selection of the contractee, (4) the specification of performance requirements, and (5) the payment mechanisms.

4.1.1 Type of services

In Figure 1, primary health care services are the output of the contracting process. The purchaser/contractor is responsible for specifying the type of services the provider/contractee should deliver. The characteristics of the services covered by the contract are important because some types of services may be better suited for contracting out than others. Moreover, some types of services are not easy to specify. For example, defining the types of services in too ambiguous terms, such as “primary services,” “outpatient services,” and “inpatient services,” leaves too much room for provider manipulation, and as a result, may decrease the likelihood that the intervention achieves its intended objectives.

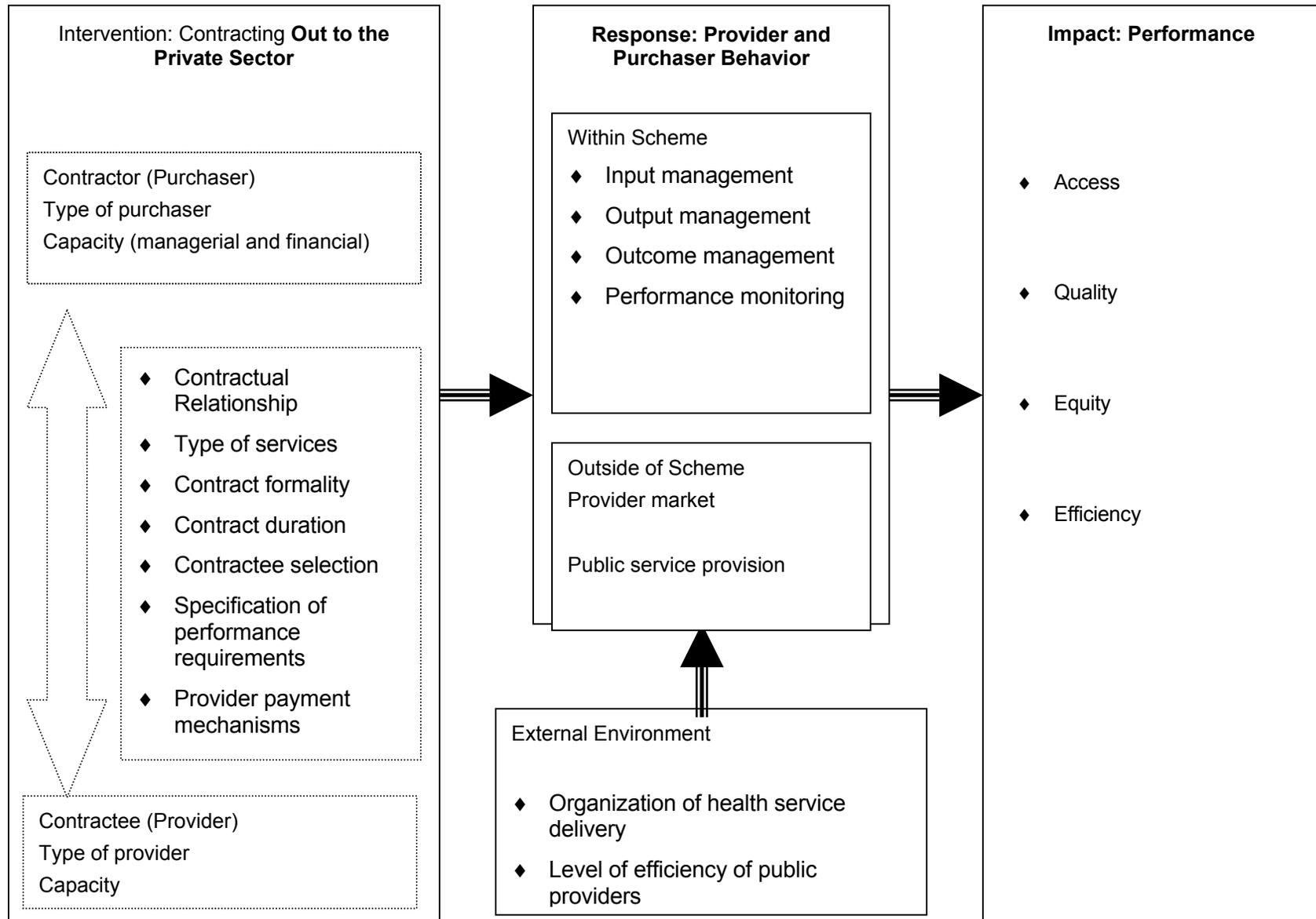
4.1.2 Contract formality

Contract formality refers to the extent to which the contract is explicit and legally binding. At one extreme, contractors and providers can enter into a legal contractual relationship specified by a classical, complete, and legal contract in which the types, quantity, and quality of contracted services are easy to specify; the behaviors of the contractees are observable and can be monitored at an acceptable cost; and disputes can be resolved through legal process. At the other extreme, contractors and providers can enter into an agreement specified by a relational, incomplete, and nonlegal “contract” in which the types, quantity, and quality of services are difficult to specify; the behaviors of contractees are difficult and costly to monitor; and the agreement is based more on mutual trust and cooperation than on a binding agreement; and where disputes can be resolved only through communication and nonlegal arbitration. The type of contract used partly depends on the types of services to be contracted, the effectiveness of the legal system, and decision makers’ preferences.

4.1.3 Contract duration

Contract duration refers to the length of time of the contract. Contract duration varies across programs, and is usually between 1–5 years. The duration of the contract may be a factor that influences the effectiveness of contracting out. The determination of contract duration may depend on the availability of providers, asset specificity, the level of trust between contractors and contractees, and the type of contract (classical vs. relational). If the contract duration is too short, it may be difficult to build the needed trust between contractors and contractees, and it may result in high transaction costs due to wasted assets and increased costs of contract management. If the contract duration is too long, contractors and contractees may be locked into an unpleasant relationship, which may prohibit both parties from achieving their objectives.

Figure 1. Framework for Evaluating Primary Health Care “Contracting-out” Initiatives



4.1.4 Contractee selection

Contractee selection refers to the procedures the contractor uses to award the contract. Provider selection based on competitive bidding has been described as a factor that can help ensure the effectiveness of contracting out. Contractors can issue selection requirements in the request for proposals, and only those who meet these basic requirements should be eligible for bidding participation. The requirement may include, but not be limited to, the capacity to deliver contracted services, existing and planned inputs in human and physical resources, experience in working with the public sector, and evidence of reputation. Factors that might negatively affect the integrity of the selection process are an absence of procumbent transparency and corruption. Examples include the following:

- ▲ Providers are selected according to individual preferences of key contractor staff, rather than through the joint decision of a selection committee.
- ▲ Providers are selected based on personal relationships, rather than on institutional trust.
- ▲ Decisions on provider selection are not transparent.
- ▲ Provider selection is influenced by bribery.

Competitive selection is often not feasible, however, because of the lack of private providers in a market. This could be due to either private providers' concentration in urban areas or a shortage of such providers in the country. Under these circumstances, sole source recruitment or provider selection with limited competition are the only options.

4.1.5 Specification of performance requirements

Performance requirements refer to the process, output, and/or outcome targets that must be achieved by the contractee. Performance requirements are important to ensure the effectiveness of contracting out. Most programs have some requirements, but the comprehensiveness and specificity of performance requirements vary considerably. Ideally, contractors should explicitly issue the requirements listed below to ensure that contractees achieve the objectives of the contracting-out intervention, but they should leave contractees with the autonomy on how to achieve them. Performance targets can also be established for each of the following dimensions; these should be balanced so that they are reasonably challenging, yet still possible to achieve.

Process: How should contractees deliver services? Contractors can require contractees to follow standards, guidelines, or protocols during service delivery in order to manage contractee behavior and ensure that service provision is carried out consistent with program objectives, or contractors can leave the provider to manage their operations as they see fit.

Outputs: What and how many services should contractees provide? These are specifications of the quantity of each type of service that contractees should deliver. The quantity measure can be either absolute (e.g., the number of health education posters) or relative, such as increases in immunization and antenatal care coverage. Usually quantities are specified for well-defined target populations.

Outcomes: What should contractees achieve? Outcomes are a further consequence of outputs. They include, but are not limited to, target populations' satisfaction with contracted services, knowledge and awareness, lifestyle and behavior, and ultimately, health status.

4.1.6 Payment mechanisms

Payment systems refer to the methods specified in the contract for paying providers. Payment systems are likely to be among the most important determinants of the effectiveness of contracting-out initiatives because they can produce very different incentives for providers, and as a result, have important effects on service standards, cost-effectiveness, the costs to the contractor, and the quantity of services delivered. The most commonly reported types of payment systems used in contracting-out programs include fee-for-service, capitation, per diem payment, case payment, global budget, salary, block contract, cost and volume contract, cost-based payment, output-based payment, and performance-related pay. Other characteristics associated with the description of the payment systems include up-front payment, delayed payment, and withholding. Categorizations, definitions, and detailed discussion of available payment systems are beyond the scope of this paper, but what should be noted is that evaluators of contracting out must pay close attention to measuring the characteristics of the provider payment mechanism in order to assess its effectiveness on program performance. Evaluation of the linkages between provider payment mechanisms and program performance can provide important information guiding design and implementation decisions that can be used to improve the effectiveness of contracting-out programs.

4.2 External Environment

The external environment refers to a number of characteristics of the health sector and the financial and legal environments. These factors make up the environment surrounding the contracting-out intervention, and while most of these external factors are unlikely to be influenced in the short-run by health sector policy, they can potentially be key determinants of the success or failure of the intervention.

Legal, regulatory, and banking systems are major components of the contracting environment. In countries where the legal system is weak, agreements between contractors and providers are less likely to be bound by a legal contract, reducing the contract's potency of the contract. The lack of a regulatory environment can influence governmental ability both to monitor the quality of care provided and to place sanctions on those providers not meeting minimal standards. The absence of a sophisticated banking system provides an opportunity for corruption, which can potentially thwart contract management.

The structure of the health sector itself can also create external factors that influence contracting-out initiatives. Features to consider include the level of autonomy of public providers, the availability of private providers, and the level of competition within the provider market. All these are likely to impact the effectiveness of contracting out.

4.3 The Response

The effectiveness of contracting on health systems performance depends on how providers and purchasers – operating both within and outside the contracting-out intervention – respond to the intervention. Within the intervention, key responses that are depicted in Figure 1 as influencing health systems performance are the actions of the contractee to manage inputs, outputs, and outcomes, and the actions of the contractor and contractee to monitor performance. However, sufficiently understanding the influence contracting out has on health system performance – which is the primary albeit sweeping objective of evaluation research – also requires understanding the responses that occur outside the scheme. These responses include those occurring within the provider market and responses affecting government services delivered outside the contracting-out intervention.

4.3.1 Input management of contractee

- ▲ Input management refers to the contractee’s actions related to the purchase and use of inputs in order to achieve the contract’s performance requirements. Relevant inputs include the following:
 - ▲ Human resources: the number and types of staff the contractee employs, including doctors, nurses, medical assistants, administrators, and others
 - ▲ Equipment and supplies: the equipment used to provide contracted services. This includes both clinical equipment and supplies, as well as administrative equipment and supplies
 - ▲ Drugs: the pharmaceuticals used to provide curative and preventive health care services (e.g., vaccination doses)
 - ▲ Infrastructure: buildings, transportation vehicles, and other types of infrastructure

There are a number of ways in which the actions regarding the input mix among contracted providers are likely to be influenced by the contracting-out intervention. First, the specification of performance requirements is intended to lead to improvements in service quality and production efficiency. As such, contracted providers may respond to this component of the intervention by adjusting the input mix such that they are more likely to meet the targets defined by the contract. This may include levels of volume and coverage, adherence to clinical guidelines, and improved client satisfaction. Of course, contracts that fail to carefully specify performance requirements, or that cover services not well suited for contracting out, may not be expected to lead to adjustments of the input mix. Second, the provider payment mechanism is expected to influence provider behavior through influence on the economic incentives of the contractee. Paying the contractee according to the services provided (fee-for-service) versus the number of individuals in the catchment area (capitation) is likely to have differential effects on the mix of inputs contractees purchase and use.

4.3.2 Output management of contractee

Output management refers to the actions of the contractee to achieve the performance targets of the contract with the available resources. The actions include program planning, administration, and finance; hiring and procurement practices; and client satisfaction systems. In terms of program planning, administration, and finance, managers must take on many roles, including determining which services to produce and how many to produce, monitoring and supervising staff, overseeing the development and use of budgets and financial statements, paying vendors, setting prices, and conducting long-term financial management. Hiring practices refers to the set of formal and informal administrative rules for selecting and deploying health staff, and how well the provider adheres to these rules. Procurement refers to purchasing procedures for equipment and medical supplies that the contractee needs to provide the contracted services. Client satisfaction systems refer to the systems used to assess the client’s perspective on the quality of services, service amenities (e.g., the appearance of the facilities), and the price charged for services. Given that contracting-out reforms are typically designed to improve the efficiency and quality of health care, the degree to which contractees adopt these business management practices depends on many attributes of the intervention, including the types of services contracted, the degree to which performance targets are well specified, target levels (e.g., levels of quality and volume), and the type of payment mechanism used.

In addition to the contractee, the contractor also has an important role to play after the contract has been drawn up and signed. Among the contractor's responsibilities are making sure that the provider is paid according to the provisions set by the contract, overseeing contractee performance, and responding to queries regarding problems the contractee encounters. The degree to which the contractor carries out these responsibilities depends on staff capacity and motivation, which are key determinants of the impact of the intervention.

4.3.3 Outcome management of contractee

Outcome management refers to the actions the contractee takes to produce the maximum level of health within a given level of service inputs. Particularly important here are medical management and quality assurance activities used to manage the quality of services that are contracted out. Clinical practice guidelines and standards are thought to be essential for providing quality health care services. Such guidelines and standards typically consist of guidance on diagnosis (in the case of curative services), need (in the case of family planning and preventive services), and procedures to be followed for service delivery and referral. If such standards have been introduced prior to or in association with the contracting-out intervention, one of the responses generated by the intervention may be greater adherence to such standards, particularly if service quality indicators play a role in the performance evaluation and the remuneration of the contractee.

4.3.4 Performance monitoring

Monitoring the performance of the contractor is thought to be one of the most important factors in ensuring that the contractor is held accountable to program objectives (Rosen 2000). Performance monitoring refers to the actions carried out by both the contractor and the contractee to systematically assess the contractee's performance against agreed-upon requirements and targets, as required by the contract. The results of performance monitoring are used to ensure that the contracted activities are performed well, and to determine compensation and financial rewards. There are three dimensions for the formulation of variables that make up monitoring: (1) comprehensiveness – to what extent the performance requirements and targets are quantified and covered by monitoring; (2) intensiveness – whether monitoring is conducted routinely (e.g., incorporated into routine information systems), quarterly, or annually; and (3) neutrality – whether monitoring is conducted by contractees themselves, by the contractors, or by third parties.

In addition to performance monitoring by the contractor, the contractees may respond to the intervention by introducing or strengthening their own health information systems. Data that could be important to collect include the demographic characteristics of the client, the client's symptoms or the reason for the visit, the amount of time the visit took, the diagnosis, the treatment provided, and whether the client was referred to another provider. Collecting and analyzing such information could serve as a much-valued tool for self-assessment and for improving the quality management of service delivery practices. This could also serve the financial interests of the contractees if it improves their ability to meet the targets established by the contract.

4.3.5 Provider market

As mentioned earlier, the objective of contracting primary health care services is not simply to improve the provision of services from contractees, but to improve the performance of the entire primary health care system. As such, the behavioral responses of primary health care providers and purchasers

outside of the contracting-out intervention also must be taken into account. Among providers, the responses occurring within the private market are difficult to predict. The intervention may provide a greater incentive for existing for-profit or not-for-profit providers who have not been awarded contracts to improve their performance and reputation in order to have a better advantage in competing for the next round of the contract. Introducing contracting-out interventions that are favorable to the contractee may also lead to additional providers entering the market, thereby increasing competition and choice. On the other hand, the issuance of large contracts may negatively affect the provider market by undermining the sustainability of private providers not awarded contracts, resulting in greater market concentration and increased problems with contracting in the future.

4.3.6 Public service provision

If a country does not rely exclusively on contracting for the provision of primary health care services, then it's important to understand how the intervention influences public services outside of the contracting-out scheme. The legal nature of a contract may tie up substantial resources in services that are not cost-effective or a high priority. For example, in Georgia, contracting for coronary care for the poor may improve equity in the access to this service, but perhaps at the expense of improving equity in the access of more cost-effective services. This is just one example of how increasing reliance on contracting-out initiatives could influence the availability of resources devoted to services, groups, or areas not targeted by the intervention.

4.4 Impact

The overriding objective of evaluating contracting out is to assess the impact of alternative types of interventions on the primary health care system's performance. As indicated on the right-hand side of Figure 1, performance is defined in four dimensions: access, quality, equity, and efficiency. Assessing the changes in all four dimensions as a result of contracting out is important in producing evidence that can be used to provide a comprehensive understanding of how the initiative influences the primary health care system. Each of these dimensions is briefly discussed below.

4.4.1 Access

Access refers to the presence or absence of physical or economic barriers that people face in using health care services when needed. Physical barriers are typically interpreted to mean those related to the general supply and availability of health care services and the distance or travel time necessary to use health care facilities. Economic barriers are usually interpreted to mean those related to the out-of-pocket cost of seeking and obtaining health care (Knowles, Leighton, and Stinson 1997).

One of the principle objectives of contracting out for primary health care services is to improve physical access to health care services. By introducing a financial incentive to achieve performance targets, contracting is designed to influence the provider's and the market's behavior, thereby improving access to health care services. Access would be expected to particularly improve if health care is produced more efficiently than it had been prior to the introduction of the intervention and if services are provided in areas not previously covered by the government-run health system. Depending on the types of services covered, contracting out can improve accessibility to a basic package of primary health care services and/or improve use of other selected services (e.g., HIV screening and treatment, modern contraceptive methods, TB treatment).

The influence contracting out has on economic access depends on whether the contractee adopts user fees for the services covered by the contract, the magnitude of these fees, and whether and how the poor receive waivers. In some cases, contracts provide the contractee with managerial autonomy to set prices for contracted health care services. While revenue generated by user fees can be used to improve the quality of services, user fees have the potential to limit service access to the poor and other vulnerable groups.

It's likely that certain characteristics of the contractual relationship may be important in influencing access to services that are contracted out. For example, it's possible that providers may provide more services if they are paid on a fee-for-service basis than on a capitation basis, or if standards for performance are better defined.

A number of types of indicators can be used to measure access. Among the most important aspects of access are the percent of the population residing within a certain distance to a health care facility, service utilization and coverage rates, and the average cost of using services compared to monthly per capita income.

4.4.2 Quality

Quality of care is a multidimensional concept on which there is not a consensus definition (Friedman 1995). However, one widely accepted perspective among experts in the field of quality of care is that proposed by Donabedian (1966), who defines quality of care in terms of “structure,” “process,” and “outcomes.” Structure refers to the attributes of health care services that are thought to influence quality of health care. These can include the number and types of providers within a facility, the availability of equipment and supplies, and the management and financing system. Process refers to all the actions that occur in the interaction between the provider and the client, including interpersonal aspects of care delivery and the clinical aspects of care that affect how well the patient is treated. Outcome refers to the changes in the health status of the patient that are attributable to the health care received.

Improving the quality of health care services is a frequently mentioned rationale for introducing contracting-out reforms. There are a number of potential linkages between the contracting-out intervention and improved quality of health care. Perhaps the most potentially important factors are whether and how the process of delivering services is specified in the performance requirements of the contract, the extent to which monitoring systems are established in order to assess the quality of care, whether data from these monitoring systems are analyzed and used in the management process, and how attained quality benchmarks are used to remunerate the provider. Interventions that do not have any contractual specifications regarding the medical standards or guidelines that providers must follow may lead to situations in which service access is improving, but health outcomes are not improving because services are delivered at an unacceptable level of quality. At the same time, contracts that focus too much on how services are to be produced, how resources are allocated between the various inputs to production, and how inputs are procured may lead to a situation in which the other aspects of program performance – accessibility, efficiency, and equity – are hampered.

Among the indicators that can be used to measure quality are structural indicators, such as the availability of equipment and supplies and the existence of standards regarding the qualifications of health care staff, diagnosis and health care delivery, and the cleanliness of the health care facility; process indicators, such as compliance of health care workers to clinical guidelines, whether referrals are made in compliance with national guidelines, and client satisfaction; and outcome indicators, such as improvements in anthropometry, morbidity, and mortality.

4.4.3 Equity

Equity refers to the fairness in the allocation of health care access, service utilization, or health outcomes across individuals or groups with different levels of socioeconomic status (vertical equity). The concept of equity is very much related to that of access, as both concern the existence of physical or economic barriers to utilizing health care services, but equity is included here as a separate concept because a frequently cited objective of contracting-out interventions is to improve service access to the poor and other vulnerable groups. Of particular concern to health sector decision makers is whether this is indeed happening, or whether contracting out is adversely affecting the poor. The extent to which service access or utilization among the poor changes as a result of contracting-out interventions may be influenced by the characteristics of the contract and how the contractor responds to the intervention. For example, the extent to which the contract includes performance requirements for serving the poor (a characteristic of the intervention) or whether the provider charges fees for services (a response of the provider) may be important. If the reform is designed such that providers who are awarded contracts are not explicitly directed to improve availability of services to the poor, then it's possible that the government complements the intervention with other program components in order to serve the poor (e.g., through means-tested fee waivers in noncontracted facilities or through free services provided by public noncontracted providers).

It's important to also consider the linkages between efficiency and equity when evaluating contracting-out reforms. If contracting-out is successful in improving the technical efficiency in delivering contracted services, then allocative efficiency at the system level may improve, thereby leading to improved vertical equity in the utilization of primary health care services that are not contracted out. As a result, changes in equity should be measured at both the program and at system levels.

The indicators that can be used to measure equity include the percentage of poor vs. nonpoor residing within a certain distance to a health care facility, service utilization and coverage rates of the poor and nonpoor, the average cost of using services as compared to monthly per capita income among the poor and nonpoor, and health outcomes of the poor vs. the nonpoor.

4.4.4 Efficiency

Efficiency refers to the relationships between program resources, inputs, and outputs. Two types of efficiency can be affected by contracting-out interventions: technical efficiency and allocative efficiency.

Technical efficiency refers to the physical relationship between a given mix of inputs and outputs. A production process is technically efficient if it produces the maximum physical output (e.g., number of health care services or visits) with a given level of inputs. For primary health care programs, the relevant inputs include labor resources (e.g., doctors, nurses, and other health care staff), equipment, supplies, and infrastructure (e.g., buildings, water, electricity). One of the principal rationales cited by advocates of contracting-out interventions is that the traditional public health care delivery system is not technically efficient because of a lack of health worker motivation and failures in management and supervision. Contracting out can improve technical efficiency by shifting the responsibility of health care provision to providers who are held accountable for the number and quality of the services they provide. It should be noted that providers might be either private or public, and that even if public providers are not able to compete for contracts, or are able to compete but are not selected, their technical efficiency might improve as part of a strategy to position themselves to compete in a subsequent round of contracting.

The concept of allocative efficiency refers to the relationship between resource allocation and the social value of health care services. Unlike technical efficiency, which refers solely to the production

process, the concept of allocative efficiency incorporates the relative value of the resources and outputs that are part of the primary health care production process. Allocative efficiency is achieved when the most socially desirable level of output is achieved with a given level of resources. Assessing allocative efficiency depends on which types of health care services have a greater impact on social welfare. For example, immunizations have what economists call positive externalities, as immunizations benefit not only those who receive the service, but the community as a whole. As such, immunizations are thought to be more beneficial to society than other types of health care services that do not have positive externalities (e.g., the treatment of a headache). As implied by the definition, in order to measure the allocative efficiency of primary health care programs, one must consider not only those health care services that are part of the contracting-out intervention, but all types of primary health care services. For example, an intervention that involves contracting family planning services to NGOs may improve allocative efficiency if it leads to an improved allocation of resources not only within the government-run family planning program but also within the entire primary health care program.

There are a number of widely used indicators to measure efficiency. Indicators of technical efficiency include unit cost measures, such as the number of outpatient visits per hour, per physician, or per nurse, and the cost per outpatient. These indicators of technical efficiency can be compared in areas in which contracting out have been implemented to comparable control areas.

5. Towards an Improved Evidence Base

In this final section, the authors will discuss the implications of the key points presented in previous sections, describe the selection and uses of listed indicators, and recommend methodological improvements that are necessary to generate more rigorous evidence from evaluation research.

5.1 Implications

Although contracting out has a number of potential pitfalls, its potential to improve health care service delivery has resulted in its more frequent implementation in many developing countries. Its appeal, however, appears to be based more on preconceptions regarding its effectiveness rather than on actual empirical evidence. While a number of studies suggest that contracting can improve access to primary health care services, scant evidence exists regarding its impact on quality, equity, and efficiency. This implies that more rigorous evaluations of contracting-out interventions (including program level and cross-program evaluations) are necessary. To achieve this, the flaws of previous evaluation studies (as pointed out in the third section of this document) should be overcome. To serve this purpose, there is a clear need for (1) an overall conceptual framework that guides the M&E process, (2) guidance on the indicators that should be used to track changes at both the program and system levels, and (3) methodological guidance to improve the quality of evaluation research.

The framework described in the previous section has several methodological implications for the evaluation of contracting-out interventions. The first implication is that evaluation research studies should include a full description of the interventions that were implemented. This is frequently omitted in descriptions of research findings. Yet, contracting out is a complex health policy tool, varying substantially depending on the type of contractor, the type of contractee, and the characteristics of the contractual relationship (such as the type of services provided, contract formality, contract duration, and payment mechanisms). The full description of contracting-out interventions is important for two reasons. First, it provides the reader with more comprehensive information that can be used to form judgments about the potential effectiveness of interventions. If the specific interventions are not well reported or well understood, the results of evaluation research can be ambiguous. Second, it can allow for evaluation research on the relative effectiveness of different forms of contracting out, either through cross-program comparisons based on data collected from the field or through meta-analysis based on data collected from reports and publications. These types of cross-program evaluations can determine which types of contracting work and which do not work, as well as what factors make contracting-out interventions more effective. Previously published evaluation research studies have generally failed to provide a full description of the contracting-out program in a consistent and standardized way, making such cross-program analysis difficult to interpret. Such analysis would otherwise be feasible given the number of contracting-out initiatives and studies in various countries.

The second implication of the conceptual framework is that evaluation research should address not only the impacts, but also the intermediate results (the responses of providers and purchasers) and environmental determinants. While most studies address the impacts, few have incorporated measures of the behavioral responses of both providers (contracted and not contracted) and purchasers (intermediate results), nor have they addressed the environmental factors that may influence the impacts of the

intervention. Not only are changes in the intermediate results a prerequisite for contracting out to improve its intended objectives, they are also more immediate, more directly, and more easily observed. Collecting and analyzing data on these intermediate results can prove extremely valuable in the endeavor of providing answers on whether and how contracting out interventions improve performance at both the program and system levels. In addition, external environmental factors are likely to be key conditions for the success or failure of contracting-out interventions. Explicit analysis of these factors is necessary not only to account for all of the potential determinants of the effectiveness of the intervention, but also to provide insights on the preconditions that are necessary for contracting out to succeed.

The third implication of the framework is that M&E should be conducted at both the program and system levels. The focus of program level M&E efforts is to answer the question of whether the contractees (providers) have fulfilled their contractual requirements and the performance specifications, so that the contractor (purchaser) can decide the level of provider reimbursement. The focus of system level M&E efforts is to provide insights on whether contracting-out interventions have led to their desired objectives and whether contracting out should be “rolled out” to the national level. To answer these questions, multiple health system performance indicators will be needed. While the primary stakeholder for program M&E is the contractor (purchaser), the audience for system evaluation research is much broader, consisting of mostly country-level health policymakers. The methods and indicators of M&E at these two levels may to a large extent overlap, but their purpose may not be the same. In order to fulfill the requirements of program managers and health policymakers, M&E of contracting out should be designed and implemented to answer both sets of questions.

The fourth implication is that the conceptual framework should guide the selection of indicators to be tracked. Consistent with this implication, optional indicators are presented and explained in the following paragraphs.

5.2 Optional Indicators

The purpose of this section is to provide a menu of indicators of use to researchers designing evaluation studies on contracting out. The selection of these indicators was based on a review of indicators that various contracting-out initiatives had used, as reported in Table 1, and an examination of indicators that measure results of health sector reform (Knowles, Leighton, and Stinson 1997). The list of recommended indicators, provided in Annex 1, is divided into the four categories of the afore-described conceptual framework: the attributes of the contracting-out intervention, the external environment, provider and purchaser responses, and health system performance. While a detailed explanation of each of these indicators is beyond the scope of this document, the following caveats are necessary.

- ▲ The recommended indicators consist of two types: continuous indicators (e.g., infant mortality) and discrete indicators (e.g., the type of provider, previous experience in contracting out).
- ▲ The authors did not specify the sources of data for each of the indicators because data sources vary not only between indicators, but also across specific contracting-out programs. Users will need to specify data sources once the indicators for M&E of a particular contracting-out program have been identified.
- ▲ The indicators provided here are by no means exhaustive. Given the complexity of contracting-out interventions and the variation in the types of services contracted, it is impossible to provide a list of indicators suitable for all contracting-out programs. The addition of two types of indicators is always possible: (1) intervention-specific indicators

(e.g., coverage of condom use by sex workers, if the objective of the contracting-out interventions is to promote condom use by sex workers); and (2) indicators generated from qualitative and subjective assessment (e.g., the percentage of respondents who agreed that the contracting-out program improved the quality of health care).

- ▲ The indicators listed in Annex 1 are all optional. Of course, the selection of indicators should be well suited to the intervention being evaluated. Depending on the intervention, it is suggested that users of the indicator list develop their own core set of indicators by selecting, modifying, or even adding indicators. The core set of indicators should fit with the conceptual framework, cover all indicator categories, and be relevant to the user's own contracting-out interventions. In selecting indicators, the user may consider (1) the nature of contracted services (e.g., contracting for nutritional services may include use of vitamin A supplements and/or prevalence of anemia, but contracting for HIV/AIDS services will use different indicators); (2) the objectives of the contracting-out initiative (e.g., contracting out with an objective to strengthen NGO capacity will have to add NGO capacity indicators); (3) the time lag between initiation of interventions and their observable effects; (4) data availability; and (5) budget constraints.

5.3 Methodological Recommendations

In addition to the implications of the conceptual framework and the presentation of alternative indicators, several methodological recommendations are offered to improve future studies investigating the impact of contracting-out programs. These recommendations cover only the main problems that are believed to have affected the quality of contracting out M&E (as identified throughout this report). The provision of comprehensive guidelines for carrying out evaluation research investigations is beyond this document's objectives.

Recommendation 1: External evaluation research should be greatly encouraged. Developing a richer evidence base on the effectiveness of contracting-out initiatives requires carrying out rigorous and unbiased evaluation research efforts in conjunction with more interventions. Generating greater demand for evidence among decision makers at the country and international agency levels and building in-country evaluation research capacity can play critical roles in ensuring that more interventions are evaluated. In addition, to increase the neutrality and rigorousness of evaluation research, external evaluation research is clearly necessary to complement the routine monitoring conducted by purchasers and providers. This can help reduce the likelihood of biased results that could potentially result from a collusion of interests from providers and purchasers, who may have incentives to demonstrate the success of contracting-out programs.

Recommendation 2: M&E indicators should be predetermined, relevant, and comprehensive. The selection of M&E indicators should be determined as soon as the objectives and the design of the contracting-out reforms are clear. Delays in determining indicators will result in delayed or missed opportunities for collecting baseline data, or inconsistencies in baseline and follow-up indicators. Indicators should be relevant – namely, they should be able to measure the achievements of the objectives of the contracting-out interventions. Indicators should be comprehensive; they should cover all the key components of the conceptual framework, and also address the four types of outcomes: impacts on access, equity, quality, and efficiency. Within these dimensions of impact, the indicators should also map issues specific to each type of outcomes. For example; indicators of equity should be subdivided into indicators of equity in access, equity in financing, and equity in health outcomes; the assessment of efficiency should consider both provider achievement and costs (including transaction costs).

Recommendation 3: Experimental and quasi-experimental research designs should be greatly encouraged. From an impact evaluation perspective, the gold standard for assessing the effectiveness of contracting out is to randomly assign communities into experimental and control groups and to collect data both before and after the contracting-out intervention has been implemented. This allows for unbiased estimates of program impact. Unfortunately, such controlled experiments are often not feasible, either for political reasons or because program implementation considerations outweigh the need for evaluation. If this is the case, it is recommended that several quasi-experimental research designs be used to make comparisons between areas with and without contracting-out programs (Rossi, Freeman, and Lipsey 1999). While a full description of these research methodologies is beyond the scope of this paper, each methodology involves the collection of data both before and after the intervention has been introduced from experimental and control groups. Baseline data collection efforts should focus on measuring provider and purchaser responses, performance indicators, the health care supply environment, the organizing and financing of services to be contracted out, and the external environment, and control groups should be selected such that they are as similar as possible to the experimental groups.

Recommendation 4: Attribution of changes in performance indicators should be based on careful and comprehensive analysis. Causal relationships are difficult to establish, as a wide range of factors influence performance, and their impact is often difficult to isolate. Performance improvement over time, as measured by the comparison of end-of-project information with baseline information, may be related to changes (e.g., increase in income, other health care reforms) other than those introduced by the contracting-out interventions. Therefore, in assessing program impact, evaluators should try to isolate the influence of the intervention's impact from the influence of nonintervention factors, such as environmental factors, the characteristics of individuals and households, and other ongoing health reform schemes. Efforts to isolate program impact should generally rely on multivariate statistical procedures such as multiple regression analysis.

Recommendation 5: Indirect approaches and qualitative study designs should also be encouraged. Beside the use of sophisticated quantitative research methods, such as experimental and quasi-experimental survey designs, other research techniques can offer valuable insights and perspectives on the effectiveness of contracting out. For example, in view of the methodological problems related to the establishment of causal relationships between program intervention and performance results, some researchers have chosen an indirect qualitative approach, whereby a theoretical framework on the effect of an intervention is built to predict its outcome (Rosen, 2000). Such an approach is based on the premise that if the program meets the right conditions, then it can be inferred that it is successful. This type of approach involves listing the enabling factors that are necessary for success and empirically assessing the presence of these enabling factors.³ In addition, quantitative analysis can be complemented by qualitative analyses, including key informant interviews and focus groups on their subjective assessments of program effectiveness. Stakeholder analysis can be used to identify groups that have been affected by the contracting-out initiative. In addition to contactors and contractees, these groups can include consumers, community groups, insurers, and public facility providers and managers. The results of qualitative analysis can provide rich insights into the results of quantitative analysis.

³ For example, Mills and Broomberg (1998) specified the performance criteria – productive efficiency, extension of consumer choice, responsiveness to user wants and needs, and equity – and then stated that to meet these criteria, several conditions were necessary, including a market structure that was competitive, the existence of adequate information on both costs and quality of services, low transaction costs, motivation of purchasers and providers to provide market signals, and no opportunity for purchaser or provider to cream skim by serving only individuals who tend to be healthier and not as likely to use health care services.

In summary, a whole spectrum of methods is available to evaluate program impact. It is often advisable to use a combination of approaches to enhance the robustness of results. The selection of a specific method of impact evaluation will depend to a great extent on the resources and the type and quality of information available.

Annex A. Indicators for Monitoring and Evaluating Contracting Out for Primary Health Services

1. Specification of Contracting-out Interventions

1.1 Type of purchaser

- ▲ Self-financed government initiative
- ▲ Donor-sponsored government program
- ▲ Government-operated health insurance program

1.2 Capacity of purchaser

- ▲ Previous experience in contracting management
- ▲ Ability to provide technical assistance in designing and managing contracting-out initiative
- ▲ Financing sufficiency for contracted services (the difference between cost and need)
- ▲ Stability (fluctuation) of financing over years

1.3 Type of provider

- ▲ Not-for-profit organization
- ▲ For-profit organization
- ▲ Autonomized public provider
- ▲ Domestic vs. international provider

1.4 Capacity of provider

- ▲ Experience in contracting with government
- ▲ Financial health prior to contracting
- ▲ Capacity for provision of contracted services at the right location to the right people prior to contracting

- ▲ Presence of information systems allowing for M&E and performance management
- ▲ Level of entrepreneurship of upper management

1.5 Type of contracted services

- ▲ Curative vs. preventive services
- ▲ Single service vs. multiple services
- ▲ Services with clear or unclear level of need
- ▲ Established vs. unestablished relationship between use of the contracted services and health outcomes
- ▲ Technical complexity of contracted services

1.6 Contract formality

- ▲ Legal contract vs. nonlegal agreement (full spectrum in between)

1.7 Contract duration

1.8. Contract selection

- ▲ Competitive bidding vs. sole source recruitment
- ▲ Number of providers bidding for the contract
- ▲ Open application or selective calls for application
- ▲ Level of transparency of application review and selection
- ▲ Specification of performance requirements
- ▲ Specification of service provision process
- ▲ Specification of service outputs
- ▲ Specification of outcomes (satisfaction, knowledge and behavior changes, and health status)

1.9 Provider payment mechanisms

- ▲ Cost-based payment
- ▲ Quantity-based payment
- ▲ Performance-based payment
- ▲ Capitation, Fee-For-Service, and other forms

1.10 Level of trust and cooperation

- ▲ Level of conflict
- ▲ Delayed payment
- ▲ Use of legal arbitration in conflict settlement

2. Provider and Purchaser Response

2.1 Input management

- ▲ Quantity of staff and staff mix
- ▲ Quantity of equipment, equipment mix
- ▲ Drug availability and mix (e.g., the share of generic drugs)
- ▲ Location of facilities (e.g., at underserved areas)
- ▲ Expenditure mix by type of physical input (labor, drugs, office consumables, other supplies, new capital investment, and capital maintenance, etc.)

2.2 Output management

- ▲ Quantities of services and their mix
- ▲ Existence of monitoring mechanisms for staff performance
- ▲ Presence of staff motivation schemes
- ▲ Existence of longitudinal financial situation analysis

2.3 Outcome management

- ▲ Existence of quality assurance mechanisms
- ▲ Percent of doctors using medical practice guidelines for specified diseases

2.4 Performance monitoring

- ▲ Existence of information system allowing for monitoring program performance
- ▲ Existence and comprehensiveness of indicators for monitoring program performance
- ▲ Existence of performance targets against which M&E is performed
- ▲ Frequency of M&E observation
- ▲ Internal vs. external evaluation

- ▲ Linkages between the results of performance monitoring and reimbursement

2.5 Primary health care market

- ▲ Number of providers who can compete for the contract
- ▲ Number of new providers entering the market
- ▲ Number of providers withdrawing from the market
- ▲ Percent of eligible providers bidding for next round of contract
- ▲ Percentage change (increase or decrease) in government budget to publicly-owned primary health care facilities
- ▲ Percentage change (increase or decrease) in total revenue of publicly-owned primary care facilities

3. External Environment

- 3.1 Level of financial autonomy of public providers
- 3.2 Level of staffing autonomy of public providers
- 3.3 Percent of government budget (direct government financing) out of total public provider revenue
- 3.4 Charge/cost ratio of publicly provided service by service type
- 3.5 Financial health of both public and private providers (total revenue/total cost)
- 3.6 Percentage share of private medical market (quantities of institutions, staff, and services)
- 3.7 Sophistication of banking systems
- 3.8 Sophistication of legal systems
- 3.9 Level of corruption (e.g., corruption perceptions index)

4. Access

- 4.1 Population per doctor
- 4.2 Population per nurse
- 4.3 Population per hospital bed
- 4.4 Number of essential drugs available at the nearest health center
- 4.5 Availability of other specified services at the nearest health center (e.g., HIV test, specified

lab test, immunization, growth monitoring, prenatal care, family planning services and products)

- 4.6 Percentage of those ill expressing need for service but not accessing it
- 4.7 Coverage rate of contracted services (immunization, prenatal care, disease screening, HIV tests and counseling, smoking counseling, contraception prevalence, etc.)
- 4.8 Rate of delivery attendance by a trained health professional (doctor, nurse, or midwife)
- 4.9 Average number of prenatal visits for each full-term pregnancy
- 4.10 Percentage of children with diarrhea who used ORT (ORS, RHF, or increased liquids)
- 4.11 Average number of outpatient visits
- 4.12 Percentage of population residing within X kilometers of a health facility
- 4.13 Percentage of population residing within X kilometers of a health facility providing a package of basic health services
- 4.14 Percentage of population residing within X kilometers of a health facility staffed by a doctor
- 4.15 Percentage of population residing within X kilometers of a pharmacy
- 4.16 Percentage of population residing within X kilometers of a hospital
- 4.17 Percentage of population residing within X kilometers of a hospital providing 24-hour emergency (obstetric) care
- 4.18 Percentage of population served by 24-hour ambulance services
- 4.19 Percentage of population residing more than X kilometers from a health facility who are covered by outreach services
- 4.20 Percentage of population covered by a health insurance scheme
- 4.21 Percentage of outpatients that have to pay at the point of service
- 4.22 Percentage of inpatients that pay at the point of service
- 4.23 Percentage of medication costs that has to be paid by patients at the point of service
- 4.24 Annual out-of-pocket medical expense as percentage of annual income
- 4.25 Percentage of costs for contracted services paid by the users at the point of service
- 4.26 Distribution of reasons given by those ill but not accessing services (seeking care is unnecessary, financial barriers, distance, lack of supply).

5. Quality

- 5.1 Percentage of primary health facilities with tap water
- 5.2 Percentage of primary health facilities with hygienic toilets
- 5.3 Percentage of primary health facilities equipped with telephones
- 5.4 Percentage of primary health facilities with complete stock of required essential drugs at the time of observation or in a specified period of time
- 5.5 Percentage of primary health facilities with vaccine stock-outs in a specified period of time
- 5.6 Existence of standards for professional qualifications of health manpower, including enforcement mechanisms
- 5.7 Proportion of health workers possessing basic professional qualifications, including skills for specific primary health care services
- 5.8 Existence of facility standards, including enforcement mechanisms
- 5.9 Proportion of health facilities meeting basic structural standards, based on the services to be provided
- 5.10 Proportion of facilities in which current diagnostic and treatment guidelines are available in writing
- 5.11 Presence of a quality assurance program, including trained staff and established procedures for quality design, monitoring, and improvement
- 5.12 Number of doctors per 1000 population
- 5.13 Number of nurses per 1000 population
- 5.14 Percentage of women of reproductive age (15–49) who receive at least one antenatal care visit during pregnancy
- 5.15 Percentage of children with growth monitored for a specified period of time
- 5.16 Average patient waiting time
- 5.17 Percentage of mothers who breastfed their infants at hospital discharge
- 5.18 Percentage of children of 0–5 (6?) months old with exclusive breastfeeding
- 5.19 Percentage of 6–59 month olds receiving vitamin A capsule in past 6 months
- 5.20 Percentage of doctors using medical guidelines in treating specified diseases (malaria, acute respiratory diseases, diarrhea, etc.)
- 5.21 Proportion of health workers receiving appropriately timed and effectively conducted

supervision, per national policy

- 5.22 Proportion of patient contacts in which treatment received is consistent with national diagnostic and treatment protocols, including guidelines for client-provider interaction
- 5.23 Proportion of referrals made and consummated in accordance with national guidelines and standards
- 5.24 Proportion of patients with specific conditions who received relevant health education materials
- 5.25 Proportion of patients with specified conditions who follow through to completion of recommended treatments (e.g., TB, DOTS)
- 5.26 Proportion of residents with complete medical records
- 5.27 Infant mortality (the number of deaths in children under 12 months per thousand live
- 5.28 Disease-specific mortality
- 5.29 Incidence of specified diseases (e.g., immunizable diseases)
- 5.30 Prevalence of specified diseases (e.g., malnutrition and anemia)
- 5.31 Perception of quality by respondents for selected services (bad, acceptable, good, excellent)

6. Equity

- 6.1 Difference in access indicators between locations (rural vs. urban), income groups (household income quintile), and ethnic groups (as they are relevant)
- 6.2 Difference in quality indicators between locations (rural vs. urban), income groups (household income quintile), and ethnic groups (as they are relevant)

7. Efficiency

- 7.1 Number of visits per doctor
- 7.2 Number of visits per health worker
- 7.3 Number of hospital days per doctor
- 7.4 Bed occupancy rate
- 7.5 Full cost for contracting, provision, and use of contracted services per beneficiary
- 7.6 Cost of contracted services per beneficiary
- 7.7 Cost per pap smear test

- 7.8 Cost per ARI treatment episode
- 7.9 Cost per diarrhea treatment episode
- 7.10 Cost per fully immunized child
- 7.11 Cost per completed DOTS treatment
- 7.12 Cost per outpatient visit
- 7.13 Cost per hospital day
- 7.14 Cost per hospital discharge
- 7.15 Services mix by level of cost-effectiveness
- 7.16 Share of expenditure between preventive and curative services
- 7.17 Changes in costs holding health outcomes constant
- 7.18 Cost per DALY saved
- 7.19 Cost mix (cost for service provision, transaction costs, loss indirect cost, costs for patients' transportation)
- 7.20 Efficiency index based on production frontier analysis

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