The impact of contracting-out on health system performance: A conceptual framework

Xingzhu Liu\textsuperscript{a,}\textsuperscript{*}, David R. Hotchkiss\textsuperscript{b}, Sujata Bose\textsuperscript{a}

\textsuperscript{a} Abt Associates Inc., 4800 Montgomery Lane, Bethesda, MD 20817, USA
\textsuperscript{b} Tulane University School of Public Health and Tropical Medicine, 1440 Canal Street, New Orleans, LA 70112, USA

Abstract

Despite the increased popularity of contracting-out of health services in developing countries, its effectiveness on overall health system performance is not yet conclusive. Except for substantial evidence of contracting-out’s positive effect on access to health services and some evidence on improved equity in access, there is little evidence of contracting-out’s impact on quality and efficiency. Most studies on the subject evaluate specific contracting-out projects against narrowly specified project objectives, not against more broadly defined health system goals. For this reason, conclusions of positive effects pertaining to project level may not hold at system level.

This paper presents a conceptual framework that is expected to facilitate comprehensive, rigorous, and standardized evaluation of contracting-out at health system level. Specifically, this framework supports: full and standardized description of contracting-out interventions, study of the determinants of effectiveness, examination of provider and purchaser responses, assessment of the impact of contracting-out on all dimensions of health system performance, and cross-project analyses.

© 2006 Elsevier Ireland Ltd. All rights reserved.

Keywords: Contracting-out; Health system performance; Evaluation framework

1. Introduction

In response to perceived inefficiencies or/and insufficient capacity of government health care delivery systems, many developing countries have contracted out health services to private providers [1]. Advocates of contracting-out health services claim that it will improve service delivery performance by stimulating competition among providers and providing economic incentives for improved performance by linking payment to provider performance [2–5]. Other justifications may include lack of availability and responsiveness of public providers, people’s preference for private providers, and frustration with command and control management of traditional public sector.

Numerous contracting-out projects have been evaluated, and a number of authors [5–8] have reviewed literature on the effectiveness of contracting-out. Evidence and conclusions on contracting-out’s effectiveness have been inconsistent. While most of the project level evaluations and literature review...
by Loevinsohn and Harding [7] concluded that contracting-out was effective, other literature reviews addressing both intended and unintended effects at system level provided limited evidence of contracting-out’s success. Except for substantial evidence of contracting-out’s positive effect on access to health services and some evidence on improved equity in access, there is little evidence of contracting-out’s impact on quality and efficiency [8]. Even if a contracting-out project was effective in achieving its project-specific objectives, it was not necessarily effective in improving overall health system performance, possibly because contracting-out may improve one dimension of health system performance at the expense of others. For example, rapid increases in service coverage may be achieved at costs higher than public provision, and/or lead to reduced equity in access, a reduction in government costs may result in costs shifting to patients and reduced use of services, and improved NGO capacity may result in reduced public provider productivity.

The implication of this observation is that evaluation of contracting-out projects should cover all dimensions of health system performance, and consider both internal or project-specific and external or spillover effects which are often beyond project-specific objectives, in order to assess whether contracting-out improves overall health system performance. Unfortunately, most evaluations of contracting-out projects have been insufficiently comprehensive and do not provide substantial evidence to answer this broader question.

Besides limitations in the comprehensiveness of previous evaluation studies, there are two additional problems. First, the specific design and characteristics of contracting-out interventions, as well as the environment in which they operate, are considered key determinants of contracting-out’s effectiveness, but they are often inadequately described in current evaluation studies. Most studies inform readers about the successes and failures of the contracting initiative in question, but provide very little detail about the conditions under which the results were generated [9]. Because these characteristics and environmental factors vary across projects and countries, it would be misleading to conclude that contracting-out is effective or ineffective without specifying under what conditions.

Second, findings on the effectiveness of contracting-out need cross-project or even cross-country analysis. Such analysis relies on standardized documentation of both the dependent variables (effectiveness measures), and the independent variables (determinants of contracting-out effectiveness, including both contracting-out characteristics and environmental factors). Unfortunately, most evaluation studies are based on individual case/country studies, and cross-project and cross-country comparative analyses are rare.

The major objective of this paper is to propose a conceptual framework that can be used in evaluation practice to overcome the above-stated problems. Since the context of contracting-out projects varies, the evaluation designs and specific indicators for measuring process and impact are different. Rather than over-ambitiously proposing methods and specific indicators for evaluation, the intention of this framework is to conceptualize the evaluation practice and stimulate discussion for better evaluations. This proposed framework (see Fig. 1) includes four broad and mutually interactive types of information that should be considered in the evaluation of contracting-out reforms: (1) features of 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; (4) the impact of the contracting intervention. Addressing all four domains of variables in evaluation studies is necessary to answer the question of whether contracting-out is attaining its intended health system goals, and assure its effectiveness.

2. The intervention

2.1. Purchasers and their capacity

As depicted in Fig. 1, two parties are involved in the contractual relationship. One party is the government, serving as a principle or purchaser. The major functions of the government purchaser in the contracting arrangement are financing and oversight, with the overall objective of improving health system performance.

The type of government purchaser and its capacity (both financial and managerial) are likely to determine the effects of contracting-out [10]. Government purchasers can be classified according to the level of government (central versus local), the nature of
government involvement (through government agencies versus government providers), and existence or absence of donor support.

Contracting-out projects implemented by the central government represents higher level political commitment and are likely to be transformed into national health policy. Compared to government providers that may purchase services from private providers to provide services to the population in the catchment areas, government agencies (such as health authorities and social health insurance funds) may be more accountable for private provider performance, making contracting more likely to achieve its desired effect. International donors often play an essential role in driving contracting initiatives in developing countries [11]. Donors provide financial resources to help finance initiatives and provide technical assistance to manage the process. However, once the donor withdraws, the program may collapse due to lack of funds and the technical capacity of the government purchaser. The effectiveness of donor supported contracting-out programs may be different from those that are self-initiated by country governments.

Both financial and managerial capacity of the government purchaser is likely to affect the effectiveness of contracting-out. Financial capacity includes sufficiency and sustainability of financing, financial management capacity, and timely payment to providers. Managerial capacity consists of procurement, oversight, performance assessment, and design, and implementation of payment systems.

2.2. Providers and their capacity

The other party in the contracting-out relationship is the agent/provider, which can either be private providers (for-profit or NGO) or public providers with financial autonomy. 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 to maximize profits (if they are for-profit providers). The provider’s public or private status may impact the effectiveness of contracting-out initiatives. The key question here is whether public–private status is a key determinant of provider productivity. Other factors that should be considered in the evaluation may include the capacity of contracted providers in delivering the specified services, the level of autonomy of individual providers, contract management capacity, and motivation and capacity of the providers to implement performance self-monitoring.

2.3. Characteristics of the contractual relationship

The effects of contracting-out are likely to be influenced by the characteristics of the contractual relationship between the government purchaser and contracted providers. Several characteristics that may be important to consider are: (1) the type of services covered by the contract, (2) the formality of the contract, (3) the duration of the contract, (4) provider selection, (4) the specification of performance requirements, and (5) payment mechanisms.

2.3.1. Type of services

The characteristics of the services covered by the contract are important because some types of services may be better suited for contracting-out than other types [10]. While the evaluators may classify services according to the levels (primary, secondary, and tertiary) and functions (preventive versus curative), we stress the importance of service contractibility. Contractibility includes measurability, monitorability, and contestability. Measurability concerns whether the quantity and quality of services 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 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 guidelines, technically simple services, and services where there is a close correlation with health outcomes are more likely to be contractible. Interventions that focus on these types of services may be more likely to achieve their desired effects.

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

2.3.2. Contract formality

Contract formality refers to the extent to which the contract is explicit and legally binding. At one extreme, purchasers and providers can enter into a
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 providers are observable and can be monitored at an acceptable cost, and disputes can be resolved through the legal process. At the other extreme, contractors and providers can enter into an agreement specified by a relational, incomplete, and non-legal “contract” in which the types, quantity, and quality of services are difficult to specify; the behaviors of providers are difficult and costly to monitor and the agreement is based more on mutual trust and cooperation than on a legally binding agreement, and where disputes can be resolved only through communication and non-legal arbitration. Between these two extremes, there are many other types of contracts classified according to their formality.

Evaluators can divide contracts into at least three types: classical/legal, intermediate, and relational. The type of contract partly depends on the types of services to be contracted out, the effectiveness of the legal system, and decision makers’ preferences. Contract formality may affect the effectiveness of contracting.

2.3.3. Contract duration

Contract duration, namely the time period in which the contract is effective, varies across programs, and is usually between 1 and 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 the purchasers and providers, and the type of contract (classical versus relational). If the contract duration is too short, it may be difficult to build the needed trust between purchasers and provider, 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, the purchaser and the provider may be locked into an unpleasant relationship, which may prohibit both parties from achieving their objectives.

2.3.4. Provider selection

Provider selection based on competitive bidding is a factor that can help assure 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, 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. Examples include:

- providers are selected according to individual preferences of key staff of the government purchaser, rather then through the joint decision of a selection committee;
- providers are selected based on personal relationships, rather then on institutional trust;
- decisions on provider selection are not transparent;
- provider selection is influenced by bribery.

However, competitive selection is often not feasible because of the lack of private providers in a market. This could be due either to private providers being concentrated in urban areas or to a shortage of such providers in the country. Under these circumstances, sole source recruitment or provider selection with limited competition is the only option.

2.3.5. Specification of performance requirements

Performance requirements refer to the targets of performance measures on process, output and/or outcome that must be achieved by the provider. Performance requirements are important to assure the effectiveness of contracting-out. Most programs have some requirements, but the comprehensiveness and specificity of performance requirements vary considerably. Ideally, purchasers should explicitly issue specific requirements, set performance targets at a level that is challenging but still possible to achieve, and consider the following in establishing targets:

- Process: How should providers deliver services? Purchasers may require providers to follow standards, guidelines, or protocols during service delivery in order to manage provider behavior and assure that service provision is carried out consistent with program objectives. Purchasers can leave the provider to manage operations as they see fit.
- Outputs: What and how many services should providers deliver? The measure may be either absolute (e.g. the number of health education posters)
or relative, such as increases in immunization and antenatal care coverage to specified percents. Usually, quantities are specified for well-defined target populations.

- **Outcomes**: What should the provider achieve? Outcomes are a further consequence of outputs. They include, but are not limited to target populations’ reflection of provider’s responsiveness for providing contracted services, knowledge and awareness, lifestyle and behavior, and ultimately, health status, and health-related quality of life.

### 2.3.6. Payment mechanisms

Payment mechanisms refer to 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 powerful incentives for providers, and as a result, have important effects on health system performance [12]. 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, 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, withholding, and the existence and level of user-fee. 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 of contracting-out initiatives. It is important to note that the prevention of perverse incentives associated with performance requirement and payment mechanisms is of key importance for performance assurance. For example, fee-for-service payment and inappropriate emphasis on the quantity of services may result in over-provision of services which are unnecessary and the use of capitation may lead to under provision of necessary health services.

### 3. External environment

The external environment refers to characteristics of the health sector, the financial sector, and political and legal conditions. These factors make up the environment surrounding the contracting-out intervention. 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 contracting-out intervention.

The structure of the health sector itself can also create external factors that might influence the effectiveness of 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. Legal, regulatory, and banking systems are major components of the contracting environment [9]. 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 potency of the contract. The lack of a regulatory environment can influence the government 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 affects the possibility of effective financial audit and the financial accountability of contracting practice. Weak legal and financial systems together provide an opportunity for corruption, which can potentially thwart contract management. The effectiveness of contracting-out is also likely to be influenced by the political factors, such as the level of transparency/corruption in decision-making and resource allocation, the motivation of the government to improve health system performance, and the policy-makers’ willingness to involve private sector in the provision of services that are traditionally provided by public sector.

### 4. The response

The effectiveness of contracting-out on health system performance depends on how providers and purchasers – operating both within and outside the contracting-out scheme – respond to the intervention. Within the intervention, key responses that are depicted in Fig. 1 are the actions of the provider to manage
inputs, outputs, and outcomes, and the actions of both the purchaser and providers to monitor performance. The responses outside the scheme include those occurring within the private market, and responses affecting government services delivered outside the contracting-out intervention. The changes in provider and purchaser behavior are the intermediate result of contracting-out interventions. The examination of these changes can help not only with understanding of the mechanisms through which contracting-out affects health system performance, but also by predicting the effects of contracting-out.

4.1. Input management

Input management refers to the provider’s actions to purchase and use inputs in order to achieve the performance requirements specified by the contract [13]. Relevant inputs include human resources, equipment, drugs and supplies, and infrastructure. Provider actions may include:

- purchasing inputs with sufficient quality at lowest prices;
- pursuing the least costly input mix to provide the contracted services that meet purchasers’ requirements;
- improving the utilization of inputs, measured by utilization rate or idle capacity of resources, especially for human resources and capital items.

There are a number of ways in which the above-stated actions 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 at the least cost. Of course, contracts that fail to carefully specify performance requirements, or that cover services not well suited for contracting-out, may not lead to adjustments of the input mix. Second, the provider payment mechanism is expected to influence provider behavior through influence on the provider’s economic incentives. Paying the provider 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 how providers manage their inputs.

4.2. Output management

Output management refers to the actions of the provider to maximize service outputs for achieving the performance targets (e.g. those related to utilization, coverage, and access) of the contract with the available resources. These actions influence the numerator of the output/input ratio. Should contracting-out produce a desirable effect on health system performance, contracted providers should be able to use the acquired and minimized inputs to produce the types and amounts of services at specified quality [14]. Beside the examination of the possible change in provider’s productivity, the evaluator may observe the development and implementation of innovations in quantity assurance strategies, among which there are better planning and target setting related to what to produce, how to produce, and how much to produce, and at what quality. The evaluator may assess the development and implementation of both financial and non-financial mechanisms designed to help motivate staff to achieve the set goals and targets.

4.3. Outcome management

Outcome management refers to the actions taken by the provider to produce the maximum level of health and client satisfaction with a given level of resources. Particularly important here are medical management and quality assurance activities used to manage the quality of services [15,16] that are contracted out. While the expected impact of contracting-out is the improvement of both health outcomes and non-health-related satisfaction of the clients, the immediate responses of the provider may include:

- strengthened organization of quality assurance activities;
- development and implementation of quality assurance strategies;
- increased use of medical practice guidelines;
- improvement in patient–provider relationship and communications.

Clinical practice guidelines are documented procedures and pathways to follow by medical practitioners.
for prevention, diagnosis, and treatment of diseases. Evidence shows that the use of guidelines is essential for providing quality health care services [17]. 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 providers.

4.4. Performance monitoring

Monitoring the performance of contracted providers is thought to be among the most important factors in ensuring that the contractor is held accountable to program objectives [1]. Performance monitoring refers to the actions carried out to systematically assess service delivery 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.

Performance monitoring is usually carried out by both the purchaser and provider, and the results of monitoring will be disclosed and shared between the two parties so that each party can provide feedback to the other. To fulfill contract requirements, providers often respond to the intervention by introducing or strengthening their own health information systems to fit with data needs associated with contract performance monitoring. Collecting and analyzing information could serve as a much-valued tool for self-assessment and for improving the quality management of service delivery. This could also serve the financial interests of the provider to assure they get paid if the performance targets of the contract are met.

The formulation of variables that constitute monitoring should consider: (1) comprehensiveness—to what extent performance requirements and targets are quantified and covered by monitoring; (2) intensiveness—whether monitoring is conducted routinely (e.g. incorporated into routine information systems), or quarterly, or annually; (3) neutrality—whether monitoring is conducted by the providers themselves, by the purchasers, or by third parties; (4) linkage—whether and how the monitoring results are linked with provider payment, and effective communication with providers.

4.5. Private market

As mentioned earlier, the objective of contracting-out of health services is not simply to improve the provision of services from the providers, but is more broadly to improve the performance of the entire health system. As such, the behavioral responses of providers and purchasers outside of the contracting-out intervention also must be taken into account. Responses within the private provider market are difficult to predict. The influence of the intervention on existing for-profit or not-for-profit providers who are not awarded contracts is potentially an incentive to improve their performance and reputation in order to place themselves in a more advantageous position to compete for the next round of the contract. Introducing contracting-out interventions that are favorable to the providers 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.

4.6. Public service provision

Most, if not all, developing countries still rely predominantly on the public sector to provide essential health services. It is important to understand how contracting interventions influence public services outside of contracting-out schemes, and to consider these potential influences when evaluating the impact of contracting-out.

Contracting-out with private providers may have two potential negative influences on the public sector. One is the tie-up of resources to contracted services due to the legal nature of a contract. If the contracted services are relatively cost-ineffective, there is a potential problem of reduced overall efficiency of the health system. 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 [18]. 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.
Another possible influence is the reduction of productivity in the public sector due to potential decrease in service outputs with rigid inputs in public sector. When the salaries of public provider staff are paid by the government, the shift of service provisions workload to the private sector due to contracting may result in reduced efficiency among public providers.

It is important to note that the significance of the influence depends on:

- The share of resources used for contracting. If the resources used for contracting are marginal, and are primarily to fill public sector delivery gaps, the influence is likely to be minimal.
- The comparative size of public sector in contracting regions.
- The level of public provider autonomy. If public providers have full autonomy, including the authority to hire, fire, and apply for bankruptcy/closure, they will be more able to adapt to the changed market and be more tolerable to the influence of contracting with private providers. However, the closure of providers will negatively affect the access to care if the private providers are not sufficient in the market.

5. Impact

Relevant to national health policy, the overriding objective of evaluating contracting-out is to assess its impact on the performance of the health system. As indicated on the right-hand side of Fig. 1, we propose four dimensions of the impact on health system performance: access, quality, equity, and efficiency. These dimensions were chosen based on the commonly used indicators for evaluation of contracting health services. They are slightly different, but capture the health system performance measures used by the World Health Organization [19]. Assessing the changes in all four dimensions is important in producing evidence that can be used to provide a comprehensive understanding of how the contracting-out initiative influences the health system. Below, we briefly discuss each of these dimensions.

5.1. Access

Access refers to the presence or absence of barriers (physical, economic, and cultural) that individuals 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 [20]. Cultural barriers are related to language, gender, and ethnic groups. A number 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, the availability of specified services and products, service utilization and coverage rates, and the average out-of-pocket payment as the percent of income.

One of the common objectives of contracting-out of health services is to improve physical access to those 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 improve if health care is produced more efficiently than in the situation prior to the introduction of the intervention and if services are provided in areas not previously covered by the government-run health system.

The influence of contracting-out on economic access depends on whether the provider 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 provider with managerial autonomy to set the level of user fees for contracted health 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.

5.2. Quality

Quality of care is a multi-dimensional concept on which there is not a consensus definition [21]. However, one widely accepted perspective among experts in the field of quality of care is that proposed by Donabedian [22], who defines quality of care in terms of structure, process, and outcomes. Accordingly, quality measurements consist of three groups: structure indicators measuring the attributes of providers (e.g. the availability of specified inputs and services), process
indicators (e.g. compliance of health workers to clinical guidelines, whether referrals are made in compliance with national guidelines), and outcome indicators (e.g. improvements in anthropometry, morbidity, mortality, and responsiveness).

Improving the quality of health care services is a frequently mentioned objective for introducing contracting-out reforms. There are a number of potential linkages between the contracting-out intervention and improved quality of care. First, purchasers specify requirements for providers to be eligible to participate in the provider selection process—an initial quality assurance measure to exclude providers that cannot meet structural quality requirements. Second, perhaps the most potentially important factor is the prespecification of the process of service delivery in the contract. Service provision with contractual specifications regarding the medical standards or guidelines to be followed by providers is expected to lead to quality improvement. Third, the contract can specify health outcome targets for services directly correlated with health. Fourth and finally, the incentives built into the contract for the providers to improve the performance through linking performance with pay is an important promoter for quality.

5.3. Equity

Equity here refers to fairness in the distribution of health care access and health outcomes across individuals or groups with different levels of socio-economic status [23]. Equity can be measured by comparing access and health outcome indicators between socio-economic groups (e.g. by income, location, gender, and race). A frequently cited objective of contracting-out interventions is to improve service access to the poor and other vulnerable groups, namely improving equity in access to care.

Improvements in equity may be achieved by three different contractual strategies [18]: (1) 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); (3) contracting-out services of most benefit to the poor and underserved. 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 provider responds to the intervention.

5.4. Efficiency

Efficiency refers to the relationships between resource inputs and outputs. Two types of efficiency can be affected by contracting-out interventions: technical efficiency and allocative efficiency [24]. Technical efficiency refers to the physical relationship between a given mix of physical inputs and outputs. A production process is technically efficient if it produces the maximum outputs (i.e. quantity of health services, and level of health) with a given level and mix of physical inputs. Inputs include human resources, equipment, drugs and supplies, and infrastructure. The concept of allocative efficiency refers to the relationship between input mix and output. Allocative efficiency is achieved if the best input mix is used for the production of a given amount of outputs.

Two issues are relevant here. First, the production of health consists of two steps: one is to use resource inputs for the production of health services; the other is to use health services (as inputs for health) for the production of health. The concepts of technical and allocative efficiency apply to both steps. Second, at the health system level, the concern becomes how much a country spends for the production of health services, and population health. The efficiency at system level requires both technical and allocative efficiency for both steps of health production. Measurements of efficiency range from highly complicated, such as frontier analysis [25], to simple, such as variety of output/input ratios.

One of the principle rationales cited by advocates of contracting-out interventions is that the traditional public health care delivery system is not efficient because of a lack of both financial accountability and motivation to improve performance. Contracting-out interventions shift the provision function to accountable and motivated providers (both private and autonomized public providers) so that the access, quality, and health goals can be achieved at the least costs.

6. Implications

Motivated by its strong potential to improve the performance of health service delivery and for positive
impact on health system performance, contracting-out for health services has been increasingly implemented in many developing countries. However, it appears that its increased popularity is based more on its theoretical advantages rather than on evidence of its effectiveness. Except for the substantial evidence on the effect of contracting-out on access and the desirable effect on equity to the contracted health services, there is little evidence of its effects on quality and efficiency. This finding implies that more rigorous evaluations of contracting-out interventions are necessary.

The proposed evaluation framework has several methodological implications for the evaluation of contracting-out interventions. First, this framework can be used to more fully describe contracting-out interventions. The full description of the intervention is necessary because a health policy tool, which is different from a treatment for a disease, has multiple attributes that are needed to capture the essence and the contents of the intervention. Contracting-out varies substantially depending on the type of purchaser, the type of provider, and the characteristic of contractual relationship (such as the type of services, contract formality, contract duration, and payment mechanisms, etc.). Full description of contracting-out interventions is important for two reasons. First, it helps the researcher and the audience understand the full picture of the interventions and their effectiveness. Evaluation results mean little if provided with little description of the intervention. Second, it allows for cross-program evaluations through either large cross-program comparisons based on data collected from the field or meta-analysis based on data collected from reports and publications these types of cross-program evaluations can identify the types of contracting-out initiatives that work and those that do not, and what type of contracting-out interventions are more likely to be effective than others. Previously published evaluations have generally failed to provide a full description of the contracting-out program in question in a consistent and standardized way, and do not enable cross-program analysis, which is considered necessary for generalizing scientific evidence using data from a sample of contracting-out programs, and which would otherwise be feasible given the number of contracting-out initiatives and studies in various countries.

Second, evaluation studies should capture not only the impacts, but the intermediate results (response of providers and purchasers) as well. While the former (impacts) has been addressed at least in part by all studies, few studies have addressed the behavioral responses of both providers (contracted and not-contracted) and purchasers. The intermediate results are prerequisites for the generation of ultimate observable impacts, more immediate and direct effects, and more observable. The analysis of these intermediate results can help with interpretation of the changes or non-changes in impact indicators and in performing attributional analysis of contracting-out’s impact on health system performance.

Third, external environmental factors are considered important factors in the success or failure of contracting-out interventions. Explicit analysis of these factors is necessary for providing recommendations on how to promote the effectiveness of contracting-out.

Fourth, evaluations should be conducted not only at the project level but system level as well. The focus of program level evaluation is to answer the question of whether the providers have fulfilled the performance specifications as they are written in the contracting agreement, so that the purchaser can decide the level of reimbursement to the contracted providers. The focus of system level evaluation is to answer the question of whether contracting-out can be adopted as a national policy for the improvement of the health system performance. Often, to answer the latter question, evaluation studies will need multiple health system performance indicators. While the stakeholder that is mostly interested in the former is the purchaser, those interested in the latter are mostly health policy-makers. The methods and indicators of evaluation study at these two levels may overlap, but the system level evaluation must address all dimensions of performance, and include impacts upon the provider market outside of the contractual relationship. The generalization of evidence on the impact on the health system performance will need cross-site analysis. If data are available from multiple sites (with variations in contracting-out interventions) of one contracting-out program, or from multiple programs of one or more countries, comparative analysis can be performed to examine the relationship of the factors (including contracting-out interventions) with impact indicators. In particular, if the sample size is big enough, multivariate analysis will be an ideal approach to isolate confounding factors, and attribute the effects to particular characteristics of the contracting interventions.
Fifth and last, the framework can be used to guide the development of indicators or the measurements for both dependent and independent variables, which should cover each component of the framework, although specific indicators may vary depending on the specific contracting-out interventions. While detailed explanation and the development of the measurements or indicators for each of variables are beyond the scope of this paper, we provided concepts for each category of the variables. The users of the framework will need to develop specific measurements for these concepts.

Acknowledgments

The paper is prepared based on the initial work on monitoring and evaluation of health reforms supported by USAID through its Partnerships for Health Reform plus (PHRplus) project. The preparation of this paper is sponsored by a D&D Grant from Abt Associates Inc. The authors are grateful for the comments provided by Sara Bennett, Ricardo Bitran, Charlotte Leighton, Kara Hanson, and Anne Mills.

References