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How You Pay Health Workers Matters: A Primer on Health Worker Remuneration Methods

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The way doctors and nurses are paid can provide strong incentives for improving health worker productivity and quality of care—issues that are pertinent in many developing country health systems. In many low-income countries, health workers in the public sector receive most of their compensation in the form of a salary. This note provides a brief overview of some alternative payment schemes and how they affect selected elements of health workforce performance—namely absenteeism, productivity and quality of care.

The Rationale for Performance Based Pay

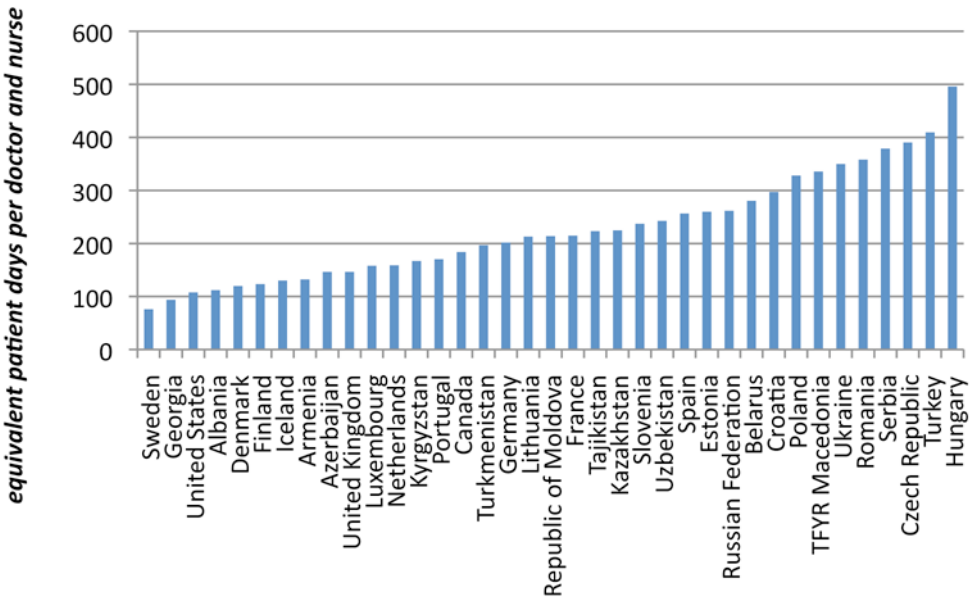
The rationale is well established for why performance based pay compared to salary payments may lead to improved health workforce performance. Health workers respond to incentives. The benefit of performance based pay is that it aligns the incentives and rewards to health workers with the particular objectives of the district or facility where health workers are employed. This motivates staff to work toward achieving the goals in order to obtain the additional compensation when goals are achieved. Theory and evidence shows that carefully designed performance based approaches can align the incentives of the health workers with the societal goals of improving the population's health.

It is important to distinguish performance based pay and performance based contracting from contracting out or purchasing health services. Often, performance based payment for health workers occurs in service delivery units (i.e., districts, facilities) that have been contracted by the public sector to provide services. The service delivery units typically have a very high degree of freedom in selecting staff, hire staff on a short term basis and pay their staff based on performance. Thus, contracting or purchasing health services combines three effects that are likely to have a significant impact on health workforce performance: the ability to hire and fire staff, the ability to hire staff on a short term basis, and the ability to pay staff based on performance. It is important, therefore, to distinguish the impact of performance based pay—the focus of this paper—from the impact of contracting health services in general as they are not the same thing.

There are many potential drawbacks to performance based pay. There is a risk of unnecessary provision of care as health workers increase their activity to a level that is too high relative to patient needs. This is known as supplier-induced demand. Indicators on the appropriateness of the service are often needed to rein in unnecessary provision. There is also the risk of cost escalation if no measures are put in place. A prevailing weakness of performance indicators is that they often fail to address how well targeted the healthcare services are. Bonuses are frequently based on improvements in productivity or quality of care, regardless of who receives the services or whether they actually need them.

This note is based largely on findings from Annex D in *Working in Health: Financing and Managing the Public Sector Health Workforce*. To access this publication please visit www.worldbank.org/hnp.

Figure 1. Health worker productivity in selected countries



Source: Author's calculations based on data from OECD and WHO.

Types of Performance Based Pay

There are several mechanisms through which performance based pay influences health workforce outcomes. But the available evidence focuses on only some of these. Figure 2 lays out different employment arrangements for health workers that are typical in the public sector. Staff may be employed directly by the ministry of health or some other national agency. Staff may be employed by sub-national agencies such as district governments or regional health boards, or staff may be directly employed by facilities. In all cases, staff actually work within a facility. The typical compensation method in the public sector is salary and allowances, few of which are based on performance.

Staff may directly receive performance based payments from the ministry of health or relevant national agency. This arrangement means that payment is based directly on individual level performance. This mechanism is not common in developing countries, but the fee-for-service payment mechanism common in several developed countries is an example. Staff may also be employed by sub-national agencies that have been contracted to provide services and payments to these agencies based on the *performance of the agency*. Similarly, the Ministry of Health or sub-national units can contract directly with facilities and payments to the facility are then based on the *performance of the facility*. This is where the situation becomes a bit more complicated. When facilities or sub-national units are contracted by the central authority and receive funds based on performance, they often—but not always—have some sort of performance based payment mechanism for health workers. There are many examples of this second model in the literature. However, there is very little information on how these facility level bonuses 'trickle down' to health workers and how this influences individual health worker behavior.

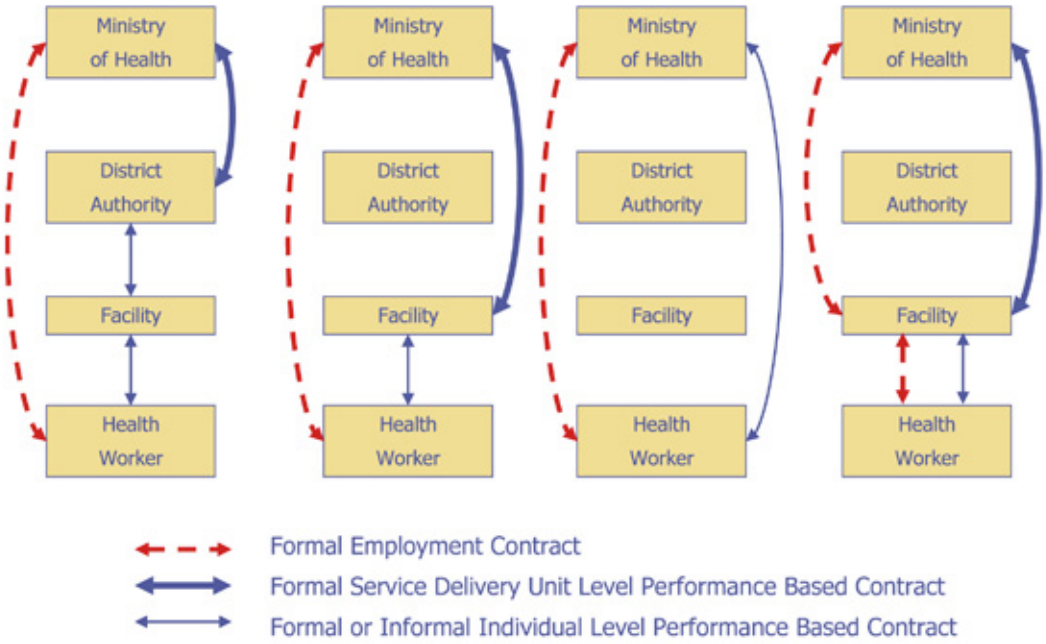
Evidence on the Impact of Performance Based Pay on the Health Workforce

The available evidence tends to focus on the impact of performance based pay on health outcomes and health service delivery outcomes—but not on health workforce outcomes. A main impetus behind performance based pay is to improve health workforce performance (e.g., absenteeism, productivity, quality of care) so as to improve service delivery (e.g., immunization rates, skilled birth attendance) and ultimately, health status. However, the performance based pay literature has focused mainly on the impact on service delivery and health outcomes and much less on the impact on health workforce performance.

The balance of evidence suggests that simply increasing salaries of health workers is not an effective strategy to improve health workforce performance. Salary increases are more effective when tied to performance goals. In low- and middle-income countries, many policymakers assert that extremely low salaries are to blame for the high rates of absenteeism, low productivity and the poor quality of care. While it is true that many health workers are paid well below a living wage, it is not necessarily true that increasing wages will lead to improved performance.[1] Health workers frequently report that low salaries are a barrier to performance but there is little evidence showing that increasing their salaries actually brings about better performance. In Malawi, a 52% salary top-up for health workers did not have the immediate impact on retention or quality that was expected. In Ghana, salary increases from the Additional Duty Hours Allowance (ADHA) policy failed to reduce health worker emigration. Preliminary results from Swaziland, in contrast, suggested that a 60% salary increase led to higher retention of public sector doctors and nurses, but no findings were reported on changes in their motivation or performance. This suggests that if performance is the goal, then the most effective tools will tie financial bonuses to performance outcomes.

Governments can draw from a wide variety of approaches to paying health workers. However, the options that are feasible will depend on the institutional and legal framework. Other than salary payments, health workers in various countries are paid mainly through allowances, fee-for-service, capitation, performance based pay or some mix of methods. A summary of salary, fee-for-service and capitation methods is given in box 1. Governments also need not employ health workers directly at all. They can purchase services from NGOs or private providers, as is done in most developed countries. Changing the compensation method for health workers in the public sector may often require legislative reform if there is not enough legal and institutional flexibility to be able to reform the civil service system. Rwanda, Romania and the city of Curitiba, Brazil, have successfully implemented performance-based pay for health workers within the existing public employee system. More generally, contracting for health services where health workers are employed by service providers (e.g., NGOs) and not the government has been successfully implemented in countries as diverse as Cambodia, Haiti, Uganda and Guatemala. In Brazil, for example, the city of Curitiba developed a performance-based scheme within the existing public employee system whereas the state of São Paulo contracted out to NGOs to deliver healthcare.

Figure 2. Alternative contracting arrangements for health workers in a performance based contracting system



1 Prior to Cambodia's New Deal reforms in 2000, public sector health workers earned one tenth of what is considered the minimum salary needed to maintain basic living standards.

BOX 1 | **FEE-FOR-SERVICE, CAPITATION AND SALARIED SYSTEMS AFFECT HEALTH WORKER PERFORMANCE**

One way to shape health workers' performance is to redesign the provider payment system to incentivize providers to behave according to the goals of the health system. There is strong evidence that the type of payment mechanism can change the incentives and performance of health workers, but the overall health consequences depend on the context and how the policies were designed.

Each type of payment system has its pros and cons. Doctors compensated by fee-for-service (FFS) tend to be more productive (e.g. number of patients seen/month, number of procedures completed/day) and are less likely to be absent than doctors on salary. Similarly, FFS results in more primary care visits, specialist visits, and curative and diagnostic services but fewer hospital referrals than a capitation system. FFS has better compliance with the recommended number of patient visits than capitation, suggesting that it may improve quality as well as quantity. A major drawback of FFS is the over-provision of services, which drive up costs for the health system and for patients. Capitation typically brings unnecessary care under control but it is not clear how capitation or salaried systems affect quality. Preventive services are more common under salaried or capitation systems than FFS, suggesting that quality may be better under these systems.

Depending on the existing problems in a health system, different provider payment approaches can be chosen to shape behavior and address the problem. If under-utilization is common, FFS may be the best tool to expand services. If quality of care is a concern, then capitation or salaried systems may be better. In addition to examining how the payment system will affect providers' incentives, governments also need to evaluate whether they have the capacity and funding to implement a new system.

Source: Moore 2009.

Provider groups such as NGOs that are contracted to provide services often have much more flexible hiring arrangements than in the public sector, making it difficult to distinguish the 'performance based pay' effect from the 'flexible hiring arrangements' effect. Health workers in the public sector are typically employed on secure long term contracts. This often reduces the incentive for good performance at is difficult to dismiss or sanction staff who perform poorly. In non-government agencies, short-term and part-time contracts are used much more extensively. Guyana and Tanzania developed more flexible personnel policies so that retired and part-time workers could re-enter the labor force and reduce the burden on existing health workers. Short-term contracts have also been shown to increase flexibility and accountability of health workers.

The level at which bonuses are paid has an important impact on health worker performance. Individual incentives are the most direct way to promote performance but are also the most burdensome to monitor and therefore less sustainable. Group-based incentives at the facility or sub-national level are easier to administer and they tend to give local managers more autonomy in distributing funds, rewarding individuals and achieving the performance benchmarks. One drawback of group bonuses is that they can dilute incentives for high performers and reward low-performing free riders, thereby undermining overall performance goals. To balance the incentive structure, most performance based pay schemes combine individual and group incentives.

Performance based pay at the individual level is the strongest tool to improve performance but can be difficult to monitor and sustain. Ministries of Health and clinics can pay bonuses to individual health workers for improving their own performance (e.g., absenteeism, meeting attendance, patient visits per day) or improving patient health outcomes (e.g., immunization coverage, disease incidence). The Democratic Republic of the Congo used such bonuses to reward physician and other health workers. An evaluation of the entire scheme has not been completed but evidence from one hospital showed a 242% increase in medical consultations after performance-based contracts were instituted. While unnecessary provision of care is a risk, the findings illustrate that performance-

based pay to individuals can significantly change providers' behavior. In Cambodia, a more rigorous study found that performance contracts with individual health workers successfully reduced absenteeism and informal payments and improved drug provision and transparency. However, the high costs for the new performance-based payment system put a strain on the hospital budget and undermined its sustainability.

Performance based pay at the group level—facility or sub-national unit—can bring about large and rapid improvements in service delivery outcomes. However, the impact on health workforce performance has not been well documented. When government funding is tied to the performance of a hospital or clinic, improvements in productivity, quality of care and health outcomes are often observed. A review of 13 studies on contracting NGOs for healthcare delivery found that 7 programs had performance stipulations in the contracts. Two programs offered bonuses for good performance (urban Bangladesh and Haiti) while the other five withdrew bonuses for poor performance (Bolivia, Cambodia, Costa Rica, Madagascar and Senegal).

Incentives need not be monetary. The field of tuberculosis interventions offers innovative examples of performance-based contracting at the individual level, especially health workers in the private sector. Across many countries, performance based incentives have improved case management and control of tuberculosis (TB). An innovative twist on performance based incentives is the use of non-monetary incentives or 'soft contracts' which exchange goods rather than money for performance. In a review of 15 TB studies that offered publicly provided drugs and training to private providers in exchange for improved TB detection outcomes, 13 of the programs (87%) had treatment success rates greater than 80%.

The way performance based payments to facilities affect individual health worker compensation and behavior is not well understood. Despite numerous success stories of performance-based contracting at the level of the service unit, it is not well understood how they affect individual health workers. Few studies, to our knowledge, have illustrated if and how performance bonuses at the hospital/clinic level reach the individual workers. Some exceptions include the case of Romania where there is some information (see box 2).

In Brazil, contracting with NGOs led to improvements in health worker performance and health outcomes but there was little or no evidence showing that the superior performance in NGO-run hospitals was due to performance pay or other financial incentives to health workers. Instead, hospital managers believed that contracting offered them greater freedom to recruit and hire staff. More research is needed on the mechanisms by which bonuses at the facility level lead to changes in motivation and performance of individual health workers.

The impact of performance-based contracting is closely tied to the outcome indicator upon which performance is judged. Among the countries that used *health workforce performance* outcomes (mainly quality indicators) as an indicator, there were clear improvements in these outcomes. For example, in urban Bangladesh, contracted NGOs had a higher 'percentage of clients saying waiting time was acceptable' than public providers. In Haiti, performance contracts with NGOs were associated with a reduction in waiting time for children's healthcare. Among the countries that used *health outcomes or health service delivery outcomes* as indicators of performance, the results were mixed. In Senegal and Madagascar, where NGOs were contracted to deliver community-based nutrition services, severe and moderate malnutrition declined by 6% and 4%, respectively, in the NGO areas. In Haiti, NGOs could receive bonuses of up to 10% of historical budgets for achieving performance goals. The NGOs with the performance contracts had 13–24 percentage points higher immunization coverage and 17–27 percentage points higher 'attended deliveries' coverage than NGOs without performance stipulations. However, other studies found mixed or no effect. Performance-based reforms in Costa Rica had no effect on infant mortality rates. In Bangladesh, a rigorous impact evaluation found higher rates of prenatal care and vitamin A and iron supplementation coverage in areas with performance contracts but no difference in nutritional status, weight gain during pregnancy or birth weight. The most rigorous evaluation came from Cambodia which showed that NGO-run clinics made larger improvements in immunization coverage, antenatal care and other preventive services than government-run clinics.

More research is needed to show how performance based bonuses paid to facilities or districts are passed down to health workers. This might be an

BOX 2 | **CASE STUDY: PERFORMANCE CONTRACTS WITH PHYSICIANS IN ROMANIA**

In the 1990s, the quality of primary care in Romania was improved in part by reforming the physician contracting system. In the old health system, Romanians did not have confidence in public sector primary care services and usually sought care directly from specialists and hospitals. Healthcare was, in theory, free but most people made 'informal payments' to receive faster or higher quality care. Primary care physicians, whose incomes were based on seniority and length of service, had virtually no incentives to provide preventive care or improve patient satisfaction.

As part of a large health sector reform, Romania introduced *output-based contracts* for primary care physicians in 8 of 40 districts. The scheme aimed to align physicians' incentives with the health sector goals by a) offering financial incentives to physicians, and b) promoting competition. It sought to strike a balance by specifying an adequate yet monitorable number of performance targets, developing a financially sustainable set of bonuses, and encouraging performance without sacrificing too much flexibility to respond to patients' needs.

To receive a contract, physicians were required to have at least 500 registered patients. This was expected to increase productivity and encourage physicians to move to underserved areas. The ideal number of patients was set at 1500 and financial incentives were used to encourage physicians not to exceed this threshold. The payment system was a combination of capitation and fee-for-service (FFS). Capitation (60% of total payments to physicians) incentivized physicians to keep their patients healthy and limit unnecessary tests and services. Fee-for-service (40% of payments) encouraged productivity and was used to promote certain procedures (e.g., preventive care, immunizations, antenatal care).

In the eight pilot districts, the introduction of output-based contracts resulted in improvements in the number of primary care services offered and patient satisfaction. Family doctors provided 21% more consultations and 40% more home visits than before. 87% of doctors were providing emergency coverage at night and on weekends. Patients reported that physicians had become more client-oriented and informal payments had declined. A surprising result was that 80% of physicians saw an increase in their salary (average salary increase of 15%). But the scheme was not successful in getting physicians to move to underserved areas.

The output-based contracting pilot highlighted three important points. First, the health system needs better monitoring systems. It was difficult to assess the quality and monitor the actual provision of services provided by each doctor. Second, a stronger regulatory environment is needed to ensure that good performance is rewarded and contract stipulations are enforced. Several districts, for example, awarded contracts to physicians with less than 500 patients. Third, it was more difficult than expected to recruit doctors to underserved areas. Additional bonuses will be needed if they aim to recruit workers to these areas. When Romania scaled up the output-based contracting to the national level, several revisions were made—providing a more detailed yet simplified set of expectations for care under capitation system, simplifying the FFS payments, offering rewards for *effective* prevention services (bonus for detecting TB), increasing discretion over clinic spending, increasing expected patient lists to 2000 individuals, and doubling the capitation payments to doctors who work in remote/low-income areas. Romania's experiment with contracting continues to be revised to meet the evolving needs of the health system.

important step in explaining successes and failures. In most studies on performance-based pay, health workforce performance is not measured. Few studies explicitly evaluate changes in the health workers' performance outcomes, specifically absenteeism, productivity and quality of services. Such indicators can be measured more quickly and easily than health outcomes, and are more direct tools to evaluate the impact of performance-based contracting. To better understand the mechanism by which contracting approaches affect performance, future studies need to measure health worker outcomes as well as health outputs and outcomes.

Issue in Implementing Performance Based Pay for Health Workers

The evidence suggests several important conditions are necessary in order for performance based pay to be effective. The effectiveness of performance-based contracts must be evaluated within the political, economic and institutional context of where they are being implemented. Case studies point to important conditions for implementing a successful program but there are no 'silver bullets' to ensure that contracting will actually result in the intended performance outcomes. Some important lessons learned from previous experiments with performance-based contracting include:

A supportive legal framework and government flexibility is required. For many low and middle-income countries, performance-based policies fail because of political, legal and institutional barriers to such reforms. It may be politically too difficult to reduce or reorganize the civil service. Governments may also have their hands tied by restrictive laws on hiring and compensating civil servants. In São Paulo, hospital managers argued that their success with contracting was largely due to the autonomy they had in hiring, promoting and firing their employees. Without such flexibility or an enabling legal environment, the options for alternative contracting will be limited.

Adequate management skills are needed at all levels. In fragile states or countries with weak governance, the 'contract and incentivize' approach is recommended over the 'command and control' approach because it requires less institutional capacity at the federal level. Yet it should be underscored that performance-based contracting cannot be implemented in the absence of adequate management skills—especially at the district and local level. Hospitals and clinics need to have sufficient management capacity to motivate and evaluate their employees. The ministries of health also need sufficient capacity to oversee and administer the often complicated contracts. To contract out to NGOs, a strong NGO sector with technical and managerial skills must exist in the country. Performance-based incentives require accountability and credible enforcement. Without them, contracting could inadvertently lead to increased inefficiency, decreased transparency and corruption.

Adequate monitoring capacity is needed. When contracts are linked to performance, 'monitoring must be frequent and effective.' Performance-based contracts—especially those implemented at the individual level—require nontrivial levels of commitment and skill for monitoring and evaluation. Many health systems do not have the databases, measurement tools or human capital in place to do ongoing surveillance of individual health workers' performance. For low skill or resource-constrained settings, contracting at the service unit level may be more feasible.

Appropriately targeted incentives are needed. One of the largest challenges of developing a performance-based contracting scheme is designing incentives that will lead to the socially desirable and intended performance outcomes. A pilot program in Cambodia revealed that the performance-based incentives for individuals were set too low to have a significant effect on staff behavior. In Romania, incentives to encourage doctors to work in rural areas failed because they were too small and inappropriately targeted. Also, poorly planned incentives can lead to socially undesirable outcomes. In China, performance bonuses to doctors appeared to increase the provision of unnecessary services and drugs and, in some cases, reduce productivity. Reforms to improve management in Costa Rica actually led to an increase in absenteeism, in part due to unintended consequences of tweaking the incentive structure. Thus, when designing a performance-based approach, great care is needed to examine the potentially beneficial and perverse consequences. Although the focus of this paper is the health worker, the effects on other stakeholders and other aspects of care (e.g., equity, access) should also be taken into account.

In summary, the balance of evidence shows that pay for performance at both the individual or facility level could be a very effective way of improving health workforce performance in the public sector. When compensation of health workers is tied to performance, significant improvements in health workforce performance and service delivery outcomes can occur. However, performance based pay requires carefully selection of indicators that performance will be measured against, and careful design of incentives so they align health worker behavior with the goals of the health system. Many countries have experimented with performance-based pay and it is clear that monitoring capacity, management capacity and a flexible institutional and legal framework are important factors for success.