CGD Working Paper #121
April 2007

Performance-Based Incentives for Health: Six Years of Results from Supply-Side Programs in Haiti

By Rena Eichler, Paul Auxila, Uder Antoine, Bernateau Desmangles

Abstract

USAID launched a project in 1995 to deliver basic health services in Haiti. The project began by reimbursing contracted NGOs for documented expenditures or inputs. In 1999, payment was changed to being based partly on attaining performance targets or outputs. The project also provided technical assistance to the NGOs, along with opportunities to participate in an NGO network and other cross-fertilization activities. Remarkable improvements in key health indicators have been achieved in the six years since payment for performance was phased in. Although it is difficult to isolate the effects of performance-based payment on these improved indicators from the efforts aimed at strengthening NGOs and other factors, panel regression results suggest that the new payment incentives were responsible for considerable improvements in both immunization coverage and attended deliveries. Results for prenatal and postnatal care were less significant, perhaps suggesting a strong patient behavioral element that is not under the influence of provider actions.

 This paper was made possible in part by funding from the Bill & Melinda Gates Foundation.

Performance-Based Incentives for Health: Six Years of Results from Supply-Side Programs in Haiti

Rena Eichler, Paul Auxila, Uder Antoine, Bernateau Desmangles[*]
April 6, 2007

[*] The authors would like to express appreciation to NGOs in Haiti who are the pioneers in this very promising approach. We would also like to thank the staff of the HS-2007 project with special mention of support provided by Florence Guillaume, Laurence Pierre and Jean Nobert Courtois. Sincere appreciation is expressed to the USAID team in Haiti who has continued to support this innovative approach in the midst of a challenging environment. Gratitude to Harsha Thirumurthy and Carmen Pages for guidance on econometrics and to Jessica Gottlieb for help creating a usable database for analysis. Appreciation is expressed to Stewart Patrick and an anonymous reviewer for helpful comments. We would also like to thank Ruth Levine of the Center for Global Development for having the vision to create this Working Group and for the support provided by Jessica Gottlieb and Aaron Pied. Finally, we would like to thank the Bill & Melinda Gates Foundation for funding this exciting initiative.

1. INTRODUCTION

Paying for performance in Haiti is part of a package of interventions in a USAID – funded bilateral health project that aims to increase coverage and quality of health services. Starting in 1999 with a pilot, payment to 3 contracted NGOs changed from reimbursement for documented expenditures to payment partly determined by whether performance targets are reached. Strong performance suggested that this approach should be expanded to other NGOs with the result that remarkable improvements in key health indicators have been achieved over the six years that payment for performance has been phased in. Now reaching 2.7 million people, NGOs in the project network provide essential services to the Haitian population in the complicated context of violence, poverty, and limited government leadership. This paper contributes to the body of evidence that attempts to understand if paying for results "works" and the design and implementation lessons that are important for others to consider.

This paper presents an evaluation of whether paying for results is effective as well as the many "nuts and bolts" details that can be used to inform others considering implementing performance based incentives. It is a complex, real world, example of a program that evolves and changes as experience is gained and more is learned.

The paper begins with a discussion of the challenge of improving provider performance in developing countries, followed by the background that led to the implementation of performance-based payment in Haiti. Next comes a discussion of the details of a pilot that was implemented with 3 NGOs. After a successful pilot experience, performance based payment was gradually phased in with more NGOs incorporated each year. During the seven contract periods that followed, a series of design changes were introduced, each having lessons for other contexts. Design changes are organized to represent changes in the way NGOs were selected; what indicators were used to assess performance; how performance was measured and validated; and how payment terms changed. Following a discussion of contract phases is a presentation of results and a discussion of the ways a sample of NGOs responded to the changed incentives.

2. Pay for Inputs or Pay for Performance?

Those who pay for health care services in developing countries have not typically required provider institutions to guarantee performance. Public payers typically fund public institutions by paying for inputs, rather than for high-quality services actually delivered to consumers. There is also little evidence that public contracts for services with the private sector include conditions that hold nonprofit and for-profit providers accountable for performance. Donors have tended to adopt practices similar to those of public payers, either providing lump sum grants or reimbursing public providers and NGOs for documented expenditures. Consumers, also important payers, especially for ambulatory care services and drugs, lack the knowledge or purchasing power to hold providers accountable for delivering quality care. Incentives in these payment mechanisms that pay for inputs rather than results are to encourage provider

organizations to devote energy to securing funds rather than to improving efficiency or the quality of care. Even altruistic providers driven to provide quality services must devote attention and resources to justifying inputs rather than producing the outputs that are the ultimate purpose of their work.

Principal-agent theory in the field of economics has motivated consideration of performance-based payment schemes as an alternative method of paying developing-country health care providing institutions (Grossman and Hart 1983, Kreps 1990, Rogerson 1985). According to this theory, the payer is the *principal,* who in health care systems can be the government, donors, or a private payer such as an insurance company. The principal purchases services from an *agent,* a health care providing institution. Because the principal cannot perfectly monitor the activities of the agent, it has less-than-perfect information about what it is purchasing. There may be questions about issues such as whether the agent is providing services of adequate quality, whether the target population is actually being served, or whether funds are being used efficiently. Because intensive monitoring is prohibitively costly, another option is to design a contract that provides incentives to the agent to perform in the way the principal would like because it is in the agent's best interest to do so. Consistent with this theory, performance-based payment establishes indicators of performance that make clear what principals want and that give agents financial incentives for achieving defined performance targets. Unlike the payment schemes that predominate in developing countries, performance-based payment holds the potential of altering incentives so that institutions focus on results such as improving immunization coverage or increasing parents' knowledge of oral rehydration therapy.

Another implication of principal agent theory is that performance-based payment can catalyze changes in health care providing institutions that strengthen their capacity to deliver quality services. Because the payment mechanism rewards results, institutions that provide health services can be expected to examine the ways in which they structure and organize care, motivate and supervise staff, reach out to underserved groups, and use resources. The change in payment policy fosters finding innovative ways to achieve the results for which health care institutions are rewarded.

The new responsibilities assumed by payers and the new capabilities required can also be expected to engender a transformation of payer organizations. Payers must have the capacity to establish performance indicators, measure performance, and implement new contracting processes. Perhaps most challenging is a change in role from passive payer or auditor to active partner. In addition to establishing new payment systems, payers may choose to help recipient institutions attain performance improvements. This may involve providing technical assistance or facilitating the establishment of provider networks so that institutions can learn from each other.

Basing payment on results in developing countries has the potential to be even more effective than in developed countries. The reason for this is that most developing countries have not introduced the spectrum of provider payment mechanisms evidenced in developed countries, offering a relatively "clean slate" on which to introduce new and

powerful incentives. In contrast to salaried physicians in developing countries, general practitioners in some developed countries are paid under different terms by multiple payers that include: negotiated fees for each service, capitation payments, and package payments for a program of services to manage a specific condition. The incentive environment faced by these general practitioners is already extremely complex, making it more challenging to overlay a program that is effective at paying for attainment of results. In addition, because of the history of altering payment mechanisms to reduce total spending, providers in developed countries may be more skeptical and resistant to yet another change than in many developing country environments (Town et al. 2004).

3. BACKGROUND

Haiti is one of the poorest and most vulnerable countries in the world. Eighty percent of the rural population survives on less than $1US per day[†]. Life expectancy at birth is estimated at 53 years, infant mortality is 80/1000 live births, and the maternal mortality rate is 523/100,000 live births[‡]. In contrast to its neighbor, Haiti's maternal mortality rate is seven times higher than in the Dominican Republic. According to the Pan American Health Organization, approximately 40 percent of the population has no access to basic health care services. Chronic malnutrition is estimated to affect 25 percent of children under five and acute respiratory infections and diarrhea cause half of the deaths of young children. Compounding poor child and maternal health is the reality that Haiti has the largest number of people living with HIV/AIDS in the Caribbean, with estimated prevalence between 2.5-11.9 percent of the population between 15 and 49 years.

Concern about assuring that the Haitian population had access to basic health services motivated USAID to fund a project in 1995 to deliver essential services, while strengthening the management of the organizations providing them. When the project began, immediate needs required that the project develop rapid mechanisms to fund NGOs so they could provide critical basic health services, including maternal and child health, reproductive health, and family planning services, to Haiti's population. Initially, NGOs were reimbursed for documented expenditures up to a ceiling that was essentially a negotiated budget. The vision of the project was to develop the capacity of NGOs to eventually receive payment based on services provided (outputs). The challenge was to develop a system that moved toward attainment of project and health system goals without imposing excessively burdensome monitoring and reporting requirements. The strategy to realize this transformation combined technical assistance to NGOs, creation of a learning and exchange network, and a change in payment structure from reimbursement for documented expenditures to payment based partly on whether performance targets were achieved.

Following competitive tenders, USAID awarded management of this 3-phase (Phase I: 1995-1999, Phase II: 2000-2004, Phase III: 2005-2007) project to Management Sciences for Health (MSH), a U.S. based NGO that strengthens health services in developing

[†] Collymore, Yvette. "Haiti's Health Indicators Reflect Its Political and Economic Pains". 2004. Population Reference Bureau. http://www.prb.org.
[‡] Health: A Right for All: The Challenge of Haiti. Pan American Health Organization. www.paho.org/english/d/csu/TheChallengeof**Haiti**.pdf

countries. USAID included a contractual requirement in the initial phase that specified a shift in payment terms to NGOs from expenditure-based reimbursement to what was described as “output-based payment”. This shift in payment was envisioned to occur when NGO capacity was sufficiently enhanced to assure both accountability for results and responsible management of US government funds.

MSH piloted a change in payment that was partly based on performance with 3 NGOs responsible for providing services to roughly half a million people in the final year of the first phase. Promising results from this pilot caused USAID and MSH to integrate payment for results into future phases of the project. Subsequent phases progressively added additional NGOs and experimented with changes in design and implementation. By 2006, all NGOs supported by the program are involved in this strategy, which has also been adapted to fund the public sector. Presented here are six years of experience implementing payment for performance in the challenging Haitian context with lessons learned throughout the process of refining and experimenting with the approach.

Why was improved performance thought to be possible?

A 1997 population-based survey found that performance of the NGOs financed by the project to provide essential services was extremely uneven. For example:

- Vaccination coverage varied widely, with the worst performer reaching only 7% of the target population, whereas a good performer reached 70%.
- One NGO made sure that 80% of mothers knew how to prepare oral rehydration solution, while another educated only 44%.
- Some NGOs achieved contraceptive prevalence rates of 25%, while others achieved rates of less than 7%.
- Some NGOs succeeded in providing a minimum of two prenatal visits to 43% of pregnant women in their regions, while others reached only 21% of this important target group.
- One NGO succeeded in ensuring that trained personnel attended 87% of births, while a worse performing NGO succeeded in attending only 53%.

This wide range in a sample of indicators was not found to be correlated with costs incurred per visit (average costs per patient visit ranged from US$1.35 to US$51.93).

Evidence that some NGOs were achieving adequate performance indicated that considerable improvements were possible in this challenging environment. Project staff hypothesized that part of the reason for poor performance was the payment system that required transparent documentation while not emphasizing enough the need for attainment of results. In response, a decision was made to alter payment from reimbursement for documented expenditures up to a ceiling (essentially a negotiated budget) to payment partially based on attainment of pre-determined performance targets, complemented by an aggressive technical assistance and data validation program.

The Pilot: 3 NGOs were the pioneers (1999): Because project staff believed it would be important for the NGOs to view the payment change as advantageous, HS-2004 adopted a collaborative approach to design, negotiations, and implementation. NGOs that were perceived by project staff to have demonstrated the leadership and institutional capacity to respond to the new system were invited to participate in meetings where they were encouraged to express their views about participation in the pilot. Because these meetings occurred after NGOs had already signed contracts with USAID for the 1999 funding cycle (January – December 1999), NGOs were willing to renegotiate only if the proposed contract had the potential to make them better off. One outcome of the collaborative meetings was agreement on a model that imposed some financial risk but offered the possibility of earning funds that exceeded the amounts in the contracts NGOs had initially signed with USAID.

The three NGOs chosen to participate in the pilot were: Centres pour le Developpement et la Sante (CDS), Comite Bienfaisance de Pignon (CBP), and Save the Children. Together, these NGOs serve approximately 534,000 people.

Participating NGOs agreed to accept a new contract that would pay 95% of the budget established under the existing expenditure-based reimbursement contract. In addition, NGOs had the possibility of earning a bonus that could equal as much as 10% of the historically established budget. This implies that the NGOs were assuming the financial risk associated with the possibility that they might not attain performance targets and lose 5% of the budget they would have received under the original contract. NGOs were willing to assume this risk because they also faced the possibility of earning an additional amount equivalent to 5% of the historical budget.

Seven performance indicators were determined, and achievement of the target increase in each indicator was associated with a defined percentage of the total bonus. Five indicators related to improving health impact, one to increasing consumer satisfaction by reducing waiting time, and one to improving coordination with the Ministry of Health. Each NGO separately negotiated performance targets for each indicator. Table 1 presents the indicators and the relative weights associated with full achievement of each target.

Table 1: Performance Indicators and Relative Weights

Indicator	Target	Relative weight
Percentage of mothers using oral rehydration solution to treat cases of children with diarrhea	15% increase	10% of bonus
Full vaccination coverage for children 0-11 months	10% increase	20% of bonus
At least 3 prenatal visits	20% increase	10% of bonus
Reduction in the level of discontinuation rate for injectable and oral contraceptives	25% reduction	20% of bonus
Number of institutional service delivery points with at least 4 modern methods of family planning and number of outreach points with at least 3 or more modern methods	All institutional service delivery points with 4+, 50% of outreach points with 3+	20% of bonus
Reduction in average waiting time before providing	50% reduction	10% of bonus

attention to a child (in hours and minutes from arrival to beginning of attention)		
Participation in establishment of local community health units (SYLOS) and coordination with the Ministry of Health	Defined by each Local Health Organizing Committee	10% of bonus

Measurement of Performance in the Pilot: To ensure that performance indicators accurately represented performance in each NGO's service area, HS-2004 contracted an independent survey research firm, l'Institut Haitien de l'Enfance (IHE) to measure baseline and end-of-pilot performance. The decision to contract an independent firm to measure results was taken to ensure credibility of the pilot and to offset the incentives NGOs would face to inflate their performance in order to secure the bonus if performance was self-reported.

IHE followed the standard cluster sampling methodology recommended by WHO (WHO 1991) to sample households in each of the NGO service areas to establish baseline measures and results for the number of immunized children. Both immunization cards and reports from caretakers were included. The percentage of women using ORS to treat diarrhea was determined by exit interviews in service delivery institutions with women who brought children to the clinic for reasons other than diarrhea. Coverage of pregnant women with three or more prenatal visits was determined through household interviews and a review of a sample records. Discontinuation rates for oral contraceptives and injectables were determined by review of family planning registers to identify women who had discontinued use, had not chosen another modern method, and had not expressed the desire to have a child. Average waiting time was determined by measuring waiting times in a sample of institutions at different intervals.

Since there had not been a recent census in Haiti, the total population in each service area was estimated using the official projections from the Government of Haiti. This figure is imperfect because of population mobility and urbanization. These estimated population figures for each NGO form the denominator.

Pilot Results: Table 2 presents baseline measures, targets, and results for each participating NGO. The most striking results were the increases in immunization coverage. All three NGOs exceeded the performance targets for immunization coverage substantially. Of the estimated 19,277 children under age one in the NGO service areas, 14,452 were immunized. This represents an increase of 6,143 children in Haiti who were immunized in the pilot year when compared to the baseline year. In two of the three NGO service areas, the proportion of mothers who reported using ORS increased. In two out of three NGO service areas, the proportions of mothers who reported using ORS and did so correctly also increased significantly. Performance in prenatal visits and reducing the discontinuation rates for oral contraceptives and injectables was relatively weak. The availability of modern contraceptive methods increased substantially.

The indicator of waiting time was judged an invalid indicator of quality and was dropped from the scheme. Because people would travel long distances to obtain lab tests, they would choose to wait as long as an entire day for results rather than return home and have to travel a long distance back. The relatively long average waiting time at one NGO was caused by waiting for lab tests and was viewed by the population as an indicator of quality, not poor service.

The bonus associated with the indicator that measured community participation and collaboration with the Ministry of Health was given to all NGOs. While all NGOs agreed that community participation and collaboration were important, a measurable and verifiable indicator of performance was difficult to determine.

Table 2: Results from Performance-Based Payment Pilot in Haiti

		NGO 1			NGO 2			NGO 3	
Indicator	**Baseline 9/99**	**Target**	**Results 4/00**	**Baseline 9/99**	**Target**	**Results 4/00**	**Baseline 9/99**	**Target**	**Results 4/00**
Immunization coverage	40	44	79	49	54	69	35	38	73
3+ prenatal	32	38	36	49	59	44	18	21	16
Family Planning discontinuation	32	24	43	43	32	30	26	20	12
Utilization of ORS	43	50	47	56	64	50	56	64	86
Correct utilization of ORS	71	80	81	53	59	26	61	67	74
Institutions with 4+ modern FP	6	9	9	2	5	5	0	5	5

All the NGOs that participated in the pilot received more revenue than they would have received under the previous expenditure-based reimbursement financing scheme, though none received the bonus for all performance indicators: NGO1 earned 90%; NGO2 earned 70%; and NGO3 earned 80%. Because performance was measured by examining a sample of the population in NGO service areas, confidence intervals made it difficult to determine whether results were statistically significant. When the results attained fell below the target but were within one confidence interval, the NGO was given the bonus. This challenge was one of the reasons the method of measuring performance in subsequent phases was changed.

NGO perceptions: NGOs expressed support for continuing performance-based payment. The shift from justifying expenditures to focusing on results inspired the organizations to question whether their models of service delivery had the greatest positive impact on health and to experiment with changes. They strongly endorsed the expanded managerial and budgeting flexibility, and the increased motivation that staff showed because their organizations could receive bonuses. Participants also noted increased attention on the part of staff to their organization's objectives, and a spirit of innovation about how to achieve those goals. For instance, some reported greater efforts at involving the community in trying to reach health goals. Everyone emphasized the need for good data and information to make management decisions. Over the course of the pilot, modifications were made, and the three NGOs shared what they learned.

To achieve the performance targets, the NGOs realized that they needed a strategy to motivate staff to focus on the results that the organization was responsible for achieving. Two of the three participating NGOs designed and implemented bonus schemes for staff. One NGO implemented a bonus scheme for local organizations with which they collaborated. Another NGO implemented a bonus scheme for community health agents, cutting their salary in half and reserving the rest for bonuses tied to performance. After poor results from transferring this degree of risk to relatively low paid staff, they increased the fixed proportion of payment and reduced the proportion of payment from bonuses. This NGO reported that the existence of a bonus tied to performance was motivating and improved results, but imposing excessive financial risk was demotivating. All NGOs discussed allocating a proportion of the institutional bonus, if earned, to improving their clinic infrastructure.

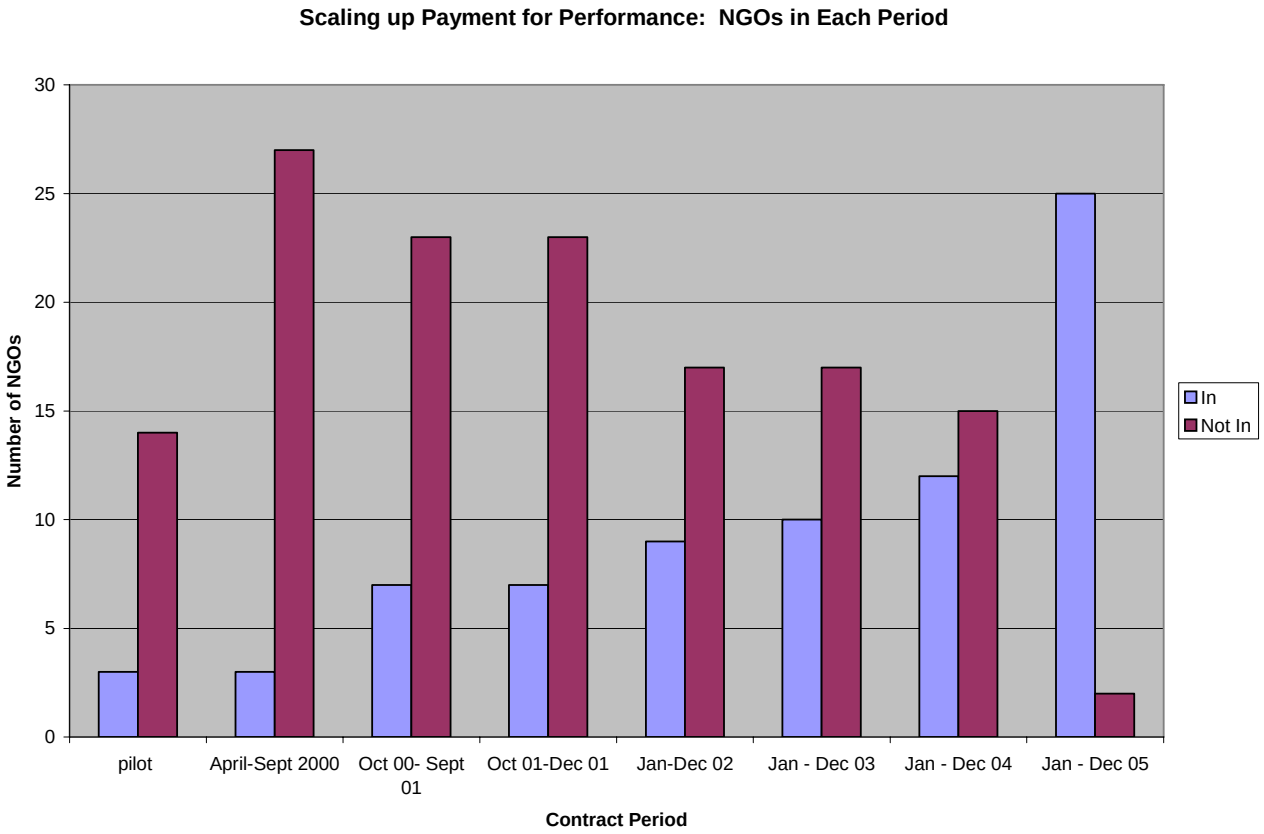
The changes introduced by performance-based payment motivated NGOs to request technical assistance in areas that included strategic planning, cost and revenue analysis, determining client perceptions of the quality of service, models of staff organization and utilization, information systems and human resources management. Project staff perceived that the additional motivation provided by linking part of payment to results created a desire for technical assistance that was more demand driven and therefore more effective at strengthening NGO institutional capacity than the previous more supply driven approach. It also caused the project to be more strategic in its technical assistance program and more cost effective as its support to partners was more directly aligned with results to be achieved.

4. AN EVOLVING APPROACH

An evolving approach: Learning and making changes while scaling up performance based payment

Encouraged by the results achieved in the pilot and by the enthusiastic endorsement of the participating NGOs caused the project team and USAID to adopt performance based payment as a core strategy in 2000. The following chart presents the gradual addition of NGOs into performance-based payment during the eight contract periods of the project that implemented performance based payment beginning with the 1999 pilot year. 2005

shows a radical shift from 12 to 25 NGOs being paid based on performance and a concurrent reduction in the number of NGOs reimbursed based on documented expenditures from 15 to 2. Through the six-year period, there have been changes in design and implementation of performance based payment arising from learning how to do things more effectively as well as from contextual realities such as interpretation of donor regulations and the realization of a national census that resulted in recalculated NGO target populations, impacting on targets and results. By the end of 2005, this project supported delivery of basic health services to 2.7 million people by contracted NGOs with results reaching twice the national average for some indicators.



From "cost based reimbursement" to "fixed price plus award fee": NGOs prefer being paid based on results because contract terms offer more flexibility and impose fewer administrative and financial reporting requirements.

It is important to emphasize that it is not only the opportunity to earn performance bonuses that motivates NGOs to want to "graduate" into performance-based payment. A major motivator is the increased autonomy, flexibility and reduced reporting requirements that come from the changed payment terms. NGOs not under performance-based payment are paid with a cost-based reimbursement contract that specifies an annual maximum budget. To receive payment under cost based reimbursement, NGOs are required to submit monthly reports that document every expenditure. The focus is on

justifying expenditures on inputs. In contrast, NGOs under performance-based payment operate with a fixed price contract plus an "award fee". The fixed price portion of payment is made quarterly according to a specified schedule and does not require documentation of expenditures. The award fee is calculated annually and is based on whether performance targets that were established at the beginning of the contract period are reached. NGOs prefer this form of payment because they have almost[§] complete flexibility with how they spend the money, thus promoting strategic and operational innovation. This new flexibility, however, did not remove responsibility from the institutions to ensure sound financial management and adherence to Generally Accepted Accounting Principles. NGOs that were part of the project network were well aware of the experience of the performance based payment pilot and understood that they would be considered in coming contract periods.

Performance based payment must be considered one of many interventions used by the project to improve results and strengthen the capacity of health providing institutions.

All of the NGOs contracted to provide services under this project receive a package of capacity enhancing interventions aimed at creating strong and sustained institutions that can continue to perform long after the project ends. It is important to emphasize that all NGOs, both those under performance based payment and those under cost based reimbursement, experience a common institutional assessment process and equivalent opportunities to receive technical assistance. What appears to differ, however, is the more strategic choice in technical assistance requested. The attitude of senior management of the NGOs paid based on results differs in that they appear motivated to rapidly apply advisors' recommendations. Specific areas of focus include the desire to strengthen information systems and to stimulate staff interest in using program and financial information to make management decisions. Interestingly, NGOs in performance- based payment are perceived to be more driven to request technical assistance to help to become more efficient. Project staff perceive that this latter difference is driven by the incentives in the payment system that allow the NGOs to keep any revenues they may receive that exceed the costs of delivering services as long as results are achieved.

An NGO Network was created for cross-fertilization and learning: The NGOs that receive funding and support from the project are brought together "as partners" to share information with each other about what they have tried and what works and has failed. In addition, information from the monitoring system on NGO performance is shared across the Network giving NGOs the information to know how they are performing in comparison with the other Network members.

4.1 Four phases with design and implementation changes: what changed and why?

The 7 contract periods that followed the initial pilot cover four distinct phases that each introduced changes in design and implementation of the approach. Phase 1 covers the

[§] NGOs must still comply with some US government procurement regulations such as those that that specify "source and origin" of goods purchased.

period between April 2000 and December 2001. Phase 2 covers the period from January 2002 through December 2003. Phase 3 covers the calendar year 2004 and Phase 4 covers the 2005 calendar year.

During Phase 1, the design of the approach was similar to that used during the pilot phase. An important change was a shift from expensive community-based surveys to statistics reported by the NGOs complemented by data audits by an independent firm to validate performance. Phase 2 saw an expansion of NGOs under performance based payment to 9 and significant changes in the indicators used to assess performance, the ways they were measured, and payment terms. Payment was linked to performance on a randomly selected group of technical output indicators plus indicators of strong management in Phase 2. Concern that the approach to randomly selecting technical output indicators from an expanded list might result in no chosen indicator that covered a key population group motivated the project to define two "packages" of indicators that each included a selection of indicators that served each priority population group in Phase 3. At the end of each contract period one of the two packages was randomly chosen for evaluation. In Phase 4, the number of NGOs paid based on results jumped from 12 to 25 as part of a project strategy that all NGO partners should be "ready" to be paid partially on results. Uniform performance targets were set for all NGOs, regardless of their baselines, and the amount of payment at risk increased.

What follows is a more detailed discussion of how NGOs were selected to be included in performance based payment; the performance indicators used and how performance was evaluated; the payment terms used and the reasons driving the design changes introduced in each phase.

SELECTION: Standardized tools were developed and refined to assess the readiness of NGOs to be paid based on performance. Through 2004, NGOs were selected based on this institutional assessment process.

In ***Phase 1***, the project developed an institutional assessment "Guideline" with the technical assistance of a local subcontractor, Group Croissance to evaluate NGO "readiness" to enter performance-based payment. To be considered, NGOs needed to provide the minimum package of services as defined by the project, have a defined target population, have demonstrated sound technical performance, a record of good audit reports and financial review results, and sufficient, accounting, monitoring, data, and MIS capabilities. In addition, NGOs needed the expressed commitment of senior management to participate under changed terms. Project staff visited each institution and assessed all the NGOs in the network using the Guideline. Results of the reports that were produced from these visits determined the NGOs that were selected. Note that there was no predetermined number of NGOs that would be eligible to be paid based on performance. The number selected was determined by performance in this institutional assessment.

In ***Phases 2 and 3***, the assessment tool developed in Phase 1 was refined and initially renamed the "Service Delivery Assessment Protocol" (SDAP). Additional refinements during this period resulted in the tool being renamed the "Service Delivery and

Management Assessment (SDMA) tool". This tool assessed NGO readiness based on organization and quality of services as well as the strength of their health information system, financial management system, human resources development policies, drug management system, and waste management system. Results of assessments determined NGO "graduation" into performance based payment. As in the previous phase, there was no predetermined number of NGOs that would be eligible to be paid based on performance.

In ***Phase 4***, all NGOs in the project network were paid based on performance resulting in no continued need for an assessment tool to assess institutional readiness.

PERFORMANCE INDICATORS: In addition to technical output indicators, management indictors were added and refined over the phases.

Phase 1 continued with the same technical output indicators as were used during the pilot. The indicator of reduced waiting time for child visits was dropped because of its poor indication of quality and the indicator that specified collaboration with the local public sector was dropped because of difficulty in measurement. The indicators used were viewed as being closely correlated with ultimate improvements in health outcomes and were priorities for the project. Included performance indicators were:

- Full immunization coverage for children under 1.
- 3+ prenatal care visits.
- Reduced discontinuation of modern FP methods (because of side effects).
- Postnatal care visits.
- Assisted deliveries by trained birth attendant.
- Percentage of children who were weighed and enrolled in nutritional recuperation programs, according to guidelines

In addition to technical output indicators, management indicators were added in ***Phase 2***. This addition was motivated by concern that increased attention to short term improvements in outputs resulted in neglect of key management functions and that some investments in needed capacity were not being made by NGOs. NGOs were encouraged to implement a range of self-assessment tools and to develop a plan to strengthen capacities that were identified as being weak. Results of these self assessments, combined with assessments of NGO capacity made by the project team, resulted in a jointly agreed upon program to strengthen management systems in key areas such as: financial management, human resources management, and health management information systems. A plan was developed with specific performance indicators which were evaluated throughout the year and for which awards were made immediately (instead of waiting for end-of-year service assessment). Indicators were jointly determined- they were not imposed. Management indicators related to:

- Strengthening drug and commodities management.
- Timely and correct submission of technical and financial reports.

- Encouraging application or adaptation of Guidelines developed by the project in financial management, human resources management and essentials drugs logistics.
- Ensuring that management audit recommendations were addressed.
- Strengthening organizational structure.
- Promoting the use of the "Cost and Revenue Analysis Tool (CORE)".

In ***Phase 3***, the list of technical indicators expanded to cover more priority services supported by the project and were organized into two "packages". Management indicators were defined as in the previous phase.

To streamline the process of monitoring performance and managing payment, all NGOs were given uniform performance benchmarks in ***Phase 4.*** For example, all NGOs were expected to immunize at least 80% of children in their catchment area and to provide 3 prenatal care visits to 50% of pregnant women. These targets were the same for those starting with a low as well as a high baseline and the financial risk (as well as possible awards) was increased. The project believed that since all NGOs had been receiving considerable technical assistance they should all be ready to perform. Recent results as well as feedback from NGOs on the 2005 experience suggest that the lower performing NGOs were under significant stress, as they had to make significant leaps in order to achieve expected results. On the other hand, some high-performing NGOs only had to coast. Interestingly, the overall results were outstanding. In 2006, the project is revising this approach to use customized performance targets.

PERFORMANCE MEASUREMENT: NGOs report results and random audits validate the performance information.

In ***Phase 1***, technical output indicators were no longer measured by an independent firm as was done in the pilot. Instead, performance was self- reported by NGOs with random audits performed by the project team and an independent firm. The audit process began by comparing the records of performance maintained by each service delivery point in an NGO to summary figures reported to the project. A sample of priority groups (women and children) who were reported by NGOs to have received services were visited in their household to verify whether reported services were actually provided. Results of this verification process are then discussed and validated with the institutions. In addition, a mid-year rapid assessment of the likelihood of success was performed and needs for TA identified and provided. The project team reports that the major cause of discrepancy between what was reported and what was found on the ground during this process of data quality control was a difference in the recorded date when services were delivered. It's worth noting here that while there were concerns that self-reporting would result in increased revenues coming from "results inflation", the opposite proved to be the case.

To encourage NGOs to focus efforts on all the services included in the essential package and to reduce the costs of verifying performance, in ***Phase 2*** the project randomly chose indicators from an expanded list. Once indicators were chosen, measurement of technical performance followed the process described above in Phase I. Performance on

management indicators was assessed by an independent local firm and by the Project team.

To encourage NGOs to focus efforts on improving the quality of all services included in the basic package, one of two packages of indicators was randomly chosen for evaluation in ***Phase 3.*** Each package included performance targets that cover each group of intended beneficiaries of the project. This innovation was an enhancement over the previous phase where random selection from a long list left open the possibility that performance on services provided to a priority group would not be chosen. This decision was made to both reduce the cost of verifying performance and to increase focus on an expanded set of performance targets.

In ***Phase 4***, accuracy of NGO-reported technical indicators were verified through random audits the procedure described in Phase I. Two indicators are common across all NGOs and an additional indicator is randomly chosen from a list of 7. The project team assesses performance on management indicators.

PAYMENT FOR PERFORMANCE CONTRACT TERMS: The payment instrument is a fixed price contract plus an award fee. Types of indicators, the approach to choosing the indicators, and the amount of financial risk imposed on NGOs changed throughout the phases.

In ***Phase 1***, the payment instrument was a fixed price contract plus award fee with roughly 10% of payment "at risk" because it was conditional on achieving predefined performance targets. As described earlier, 95% of a negotiated budget was paid in fixed quarterly sums and an additional 10% (calculated so that institutions faced the possibility of earning less than the negotiated budget if performance was poor as well as up to 5% more if all targets were reached) was conditional on results.

With the addition of management indicators in ***Phase 2***, came a new feature incorporated into the award fee structure. As before, NGOs received fixed quarterly payments equivalent to 95% of a negotiated budget. The change in this period was that 5% of the award fee (referred to as the "withhold") was tied to achieving performance on management indicators and the other 5% of the award fee (now referred to as a "bonus") was linked to performance on technical service outputs. In effect, the amount of money tied to achieving results in terms of health outputs closely correlated with health outcomes was reduced in this period from 10% to 5%. These contract terms were maintained in ***Phase 3*** as well. It is interesting to observe that the potential financial award directly associated with achieving health results was reduced when compared to Phase 1 and, at the same time, uncertainty about which indicators would be chosen was introduced. The reduced money combined with increased uncertainty weakened the incentive associated with the payment approach.

In ***Phase 4***, payments to NGOs were linked to either a specific milestone in program implementation, a contract management function or a service delivery result. Two technical output indicators are constant for all NGOs and, if reached, each represents

1.5% of the negotiated annual budget of the NGO. From the next list of seven indicators, one is randomly chosen, representing 3% of the negotiated annual budget. There is the additional possibility of earning a bonus of 6% if ALL the previous targets are met. Table 3 presents the full list of performance targets used in 2005 as well as the portion of the negotiated budget associated with each indicator.

Table 3: 2005 Performance Benchmarks, Targets, and Payment links

Benchmark	**Percent of annual negotiated budget**
Sign contract	10%
Submit annual action plan	15%
Submit monthly reports	1/12 of 10% of approved budget each month
Recommendations on financial system strengthening applied	No money
Quarterly requests for payment submitted	March 1, 2005: 20% July 1, 2005: 20% October 1, 2005: 13% November 30: 6%
80% of children under 1 completely vaccinated (same target for all NGOs)	1.5%
50% of pregnant women receiving 3 prenatal care visits (same target for all NGOs)	1.5%
Random choice of 1 indicator from the following list:	3%
• 50% of children under 5 weighed according to guidelines	
• 63% of deliveries assisted by a trained attendant	
• 44% of women with new births receive a home postnatal care visit	
• 50% of pregnant women tested for HIV during a prenatal care visit	
• 75% of new positive TB patients also tested for HIV	
• Timely submission of quarterly reports to project	
• Supervision system with specified criteria in place	
Additional bonus of ALL previous targets are met	6%
Maximum possible	**106% of negotiated budget**

4.2 Management of the contracting, monitoring and payment process:

The project has nine staff members that are part of one of three administrative units responsible for finance, contracting, and information monitoring. The following table describes the staffing and functions of these units and how they interact with other units in the project. Note that this structure integrates these administrative functions into the technical strategies of the project. This point is extremely important as paying based on performance is not just a contracting mechanism but a component of a development and capacity building strategy that focuses on accountability, cost effectiveness and results. To be effective, it must necessarily integrate strategies to strengthen individual NGO capacity with the processes used to measure attainment of performance targets and to pay based on them. The project has also learned that NGO performance problems are often identified during the process of performing project administrative functions. Clear links with the team that provides technical assistance facilitates strategic planning of technical assistance interventions and timely support to the NGOs. Table 4 is designed to show that staff of the finance, contract administration and monitoring units interact with the staff that provide technical assistance and are also direct providers of technical assistance.

Table 4: Finance, Contract Administration and Monitoring: Staffing, Functions and Interactions.

	Finance	Contract Administration	Monitoring
Staffing	1.Accounts Payable 2.Financial Analyst 3. Chief Accountant 4. Chief of Finance	1.Contract Administrator 2. Program Assistant	1. Monitoring Unit Chief 2. Data Operator 3. Data Analyst
Functions	1.Process payments. 2.Monitor implementation of audit recommendations. 3. Part of the team to negotiate contract terms.	1.Prepare contract; 2. Request USAID approvals. 3.Authorize payments in accordance with contractual clauses (based on the predefined deliverables). 4. Part of the team to negotiate contract terms.	1.Depending on the weaknesses identified, provide field based TA for data collecting and reporting; 2.Review and validation of the data reporting; 3.Data processing and analysis; 4.Production of information for monitoring for measuring the accomplishment of the objectives.
Interaction	1.Ensure constant availability of funds to process payments requests received 2.Ensure that payment is authorized by Contract Administration	1.Ensure that technical reports are acceptable to the Monitoring Unit. 2. Ensure that payment requests are transferred to the Finance team.	1. After review and acceptance, copy of the technical reports is sent to Contract Administration to process payment.
Technical Assistance: TA is provided on request and based on field visits and assessments made by project technical team – Based on the information generated by M&E Unit on a quarterly basis, meetings are organized with the technical team to discuss results, provide formal feedback to NGOs and to assist NGO to take programmatic decisions to improve performance of the institutions.			

The challenge of establishing performance targets:

Performance targets specify a percentage of a target population that must be reached with a specific service. In contrast with other approaches that pay a fee for each service provided, paying based on attainment of population targets is thought to encourage strategies for population outreach and the achievement of broader public health goals. The “all or nothing” nature of population based performance targets is more likely to encourage long term planning, innovation, and system change.

NGO partners paid under performance based payment come to negotiate the terms of contracts for the coming period armed with information to justify higher budgets and lower targets. To justify higher budgets they try to document the costs of reaching priority populations. Target setting is a critical part of this approach as targets determine whether an NGO does or does not earn the associated award fee. In all cases, the previous period’s result is the next period’s baseline. Targets for the coming year, however, are sometimes set at lower than the baseline for the following reasons:

- The project establishes a maximum performance target for each indicator, which some NGOs may exceed. For example, it is not practical to impose that NGOs reach 95% immunization coverage even though some exceed this.
- Each year implies a new cohort of people to reach- for example, new children under one and newly pregnant women.
- Migration in Haiti implies that some areas gain population and others lose it. It is challenging to define catchment populations in this context. Targets are established with an agreed upon denominator which is a less than perfect measure.
- In addition, a national census had not been performed since 1982. Most NGO catchment populations had been determined by multiplying these dated census figures by the overall population growth rate. In many cases, this process generated far from "perfect" population figures.
- Finally, target setting takes into account externalities not controlled by the project or the NGO, for example political instability, violence, etc.

Negotiation of budgets and performance targets occurs before contracts are signed. Once targets are agreed upon they are fixed. There is no additional negotiation at the end of the performance period.

To address the challenge of imperfect population figures from which to base performance targets, the project piloted a household survey process in 2002 with 2 institutions' catchment areas, which was implemented the following year for 9 additional NGO catchment areas. The result was that the size of the total target population was updated for four institutions in 2004 and five additional NGOs in 2005. This change in target populations makes it difficult to compare performance results across time for these NGOs. A national census was realized in 2003, with results only available in 2006. These results will result in population targets being recalculated for all NGOs.

5. RESULTS

NGOs in the Project network performed considerably better than all of Haiti across a sample of four key public health indicators.

A comparison between 2000 and preliminary 2005 DHS data for Haiti and aggregate performance of the NGOs in the project network during each of the post- pilot contract periods indicates considerably better performance in three indicators and slightly better performance in one indicator as shown in Table 5. Overall project performance is best in 2005 when the majority of NGOs are under performance-based payment.

Table 5: Comparison between Haiti DHS (2000 and preliminary 2005) and Haiti Project results by year (NGOs in and not in performance based payment)

	DHS 2000	April-Sept 2005	Oct 00-Sept 2001	Oct 01 – Dec 2001**	Jan – Dec 2002	Jan – Dec 2003	Jan-Dec 2004	Jan – Dec 2005	*DHS 2005 (preliminary)
Percentage of children under 11 months who are completely vaccinated	34%	63%	80%	87%	65%	91%	92%	100%	41.3%
Percentage of pregnant women receiving at least 3 prenatal care visits	29%	47%	46%	91%	50%	41%	48%	60%	84.5%*
Percentage of deliveries assisted by a trained attendant	58%	56%	65%	99%	64%	57%	63%	77%	60%
Percentage of women receiving a postnatal care visit	9%	N/A	11%	38%	34%	37%	42%	50%	N/A

* 2005 DHS measures percentage of pregnant women receiving at least 1 prenatal care visits.
** note: 2 month contract period

In addition to comparing the collective performance of the project NGOs to performance in the rest of the country, it is important to compare performance differences between NGOs in the network.

Do NGOs in P4P outperform those not paid based on performance in a given contract period?

To attempt to answer this question performance data for the above four indicators were compared for each contract period. NGOs in each contract period were separated into whether they were in performance- based payment or in cost based reimbursement and a mean was calculated to find the average performance of NGOs in each group. Please note that the number of NGOs in each group changes in each period as some NGOs move from being paid for documented expenditures to performance-based payment. This number also varies depending on the indicator, as all NGOs do not provide the full package of services. In 2005, the majority of NGOs are paid based on performance (only 2 are on cost-based reimbursement). The following table shows the number of NGOs in

each group (performance based and cost based reimbursement) in each contract period that are included in the calculations in the charts that follow[**].

Number of NGOs "In" and "Not In" Performance Based Payment by Contract Period used to Calculate Means								
	Immunization		Prenatal Care		Assisted Deliveries		Postnatal care	
	N in	N out	N in	N out	N in	N out	N in	N out
April-Sept 2000	3	9	4	10				
Oct 2000 - Sept 2001	7	10	7	11	6	8	5	7
Oct - Dec 2001	7	10	7	11	6	8	5	9
Jan - Dec 2002	7	9	9	10	8	7	8	12
Jan - Dec 2003	8	11	9	12	8	12	8	15
Jan - Dec 2004	9	12	10	13	9	14	10	15
Jan - Dec 2005	19	2	21	1	22	1	23	1

Before discussing results, it is important to emphasize the limitations of looking at the data in this way. NGOs under cost based reimbursement are not observationally equivalent to those in performance based. This implies that it is not possible to fully attribute performance differences to the payment terms with these data. Readers will recall that in each phase selection criteria changed slightly, but there was an attempt to "graduate" NGOs who were assessed to be ready to succeed in the new payment environment. This would imply that, if the criteria were correct, NGOs under performance based should be better performers because of features that can be observed, suggesting that that some or all of the better performance observed is due to characteristics of the NGOs other than the payment environment.

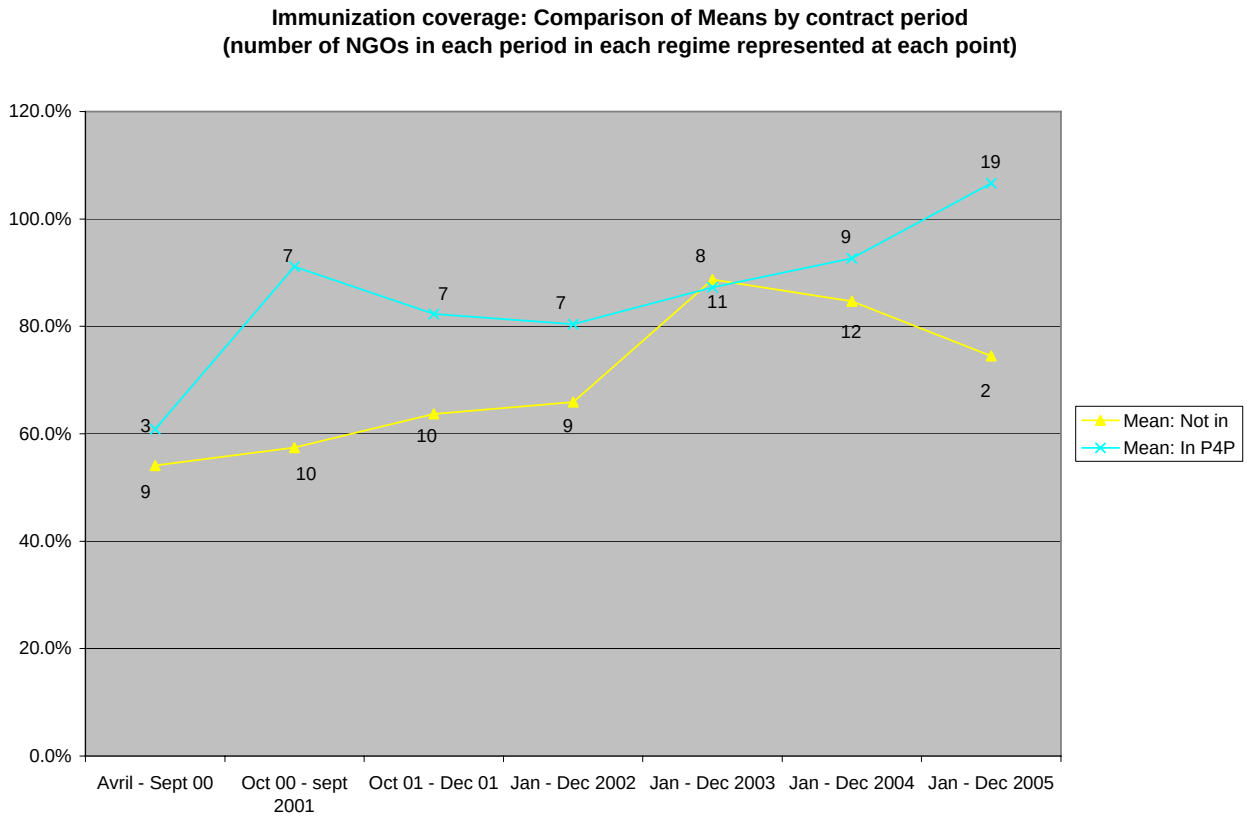
It is also important to emphasize that NGOs under cost based reimbursement do face incentives to show that they are "ready" to graduate into performance based payment the next contract period. These incentives may cause them to devote effort to improving performance on perceived indicators of importance. In addition to the opportunity to earn an award fee, NGOs prefer the budget flexibility that comes from the fixed price contract component.

Readers will recall that population figures that form the denominator of NGO targets and performance results are far from perfect and have changed in some years for some NGOs, implying that performance changes from year to year may partly be driven by a newly calculated NGO catchment area population.

Readers will also recall that targets are strongly negotiated for NGOs under performance-based payment, while negotiations are less formal for setting annual targets in cost-based reimbursement agreements. The quality of data from those under performance- based payment is likely to be more reliable than those under cost based reimbursement because of the audit process used to verify accuracy. Because of the lack of quality control on non-performance-based NGO data, an NGO with results that exceeded the top result for those in performance based (by 20 percentage points) in any given year were dropped from the mean calculation for that indicator.

[**] Not all NGOs are included because they were either not evaluated on the specified indicators, or their reported performance when "not in" performance based payment was more than 20 percentage points higher than the highest performance value recorded for an NGO during a period in performance based payment. These NGOs were dropped because of concerns about data quality in the absence of an audit.

Immunization coverage: NGOs in performance based payment exhibit better performance on immunization coverage, on average, than those under cost-based reimbursement in every contract period except for 2003. It is interesting to note that 2002 and 2003 were the contract periods (phase II) when the proportion of the fee tied to achievement of technical outputs was reduced and indicators were randomly chosen from a longer list. This reduction of potential reward combined with the increased uncertainty about whether a particular indicator would be chosen may have altered the behavior of NGOs under performance based payment resulting in lower performance than may have been observed otherwise. Overall performance increased substantially over the five-year period. Beginning with 3 NGOs in performance based payment in the initial contract period with average immunization coverage of 60%, a considerable improvement is seen with the average performance of the 19 NGOs in performance based payment in 2005 reaching over 100%[††]. While it is not possible to attribute all of this improvement to the



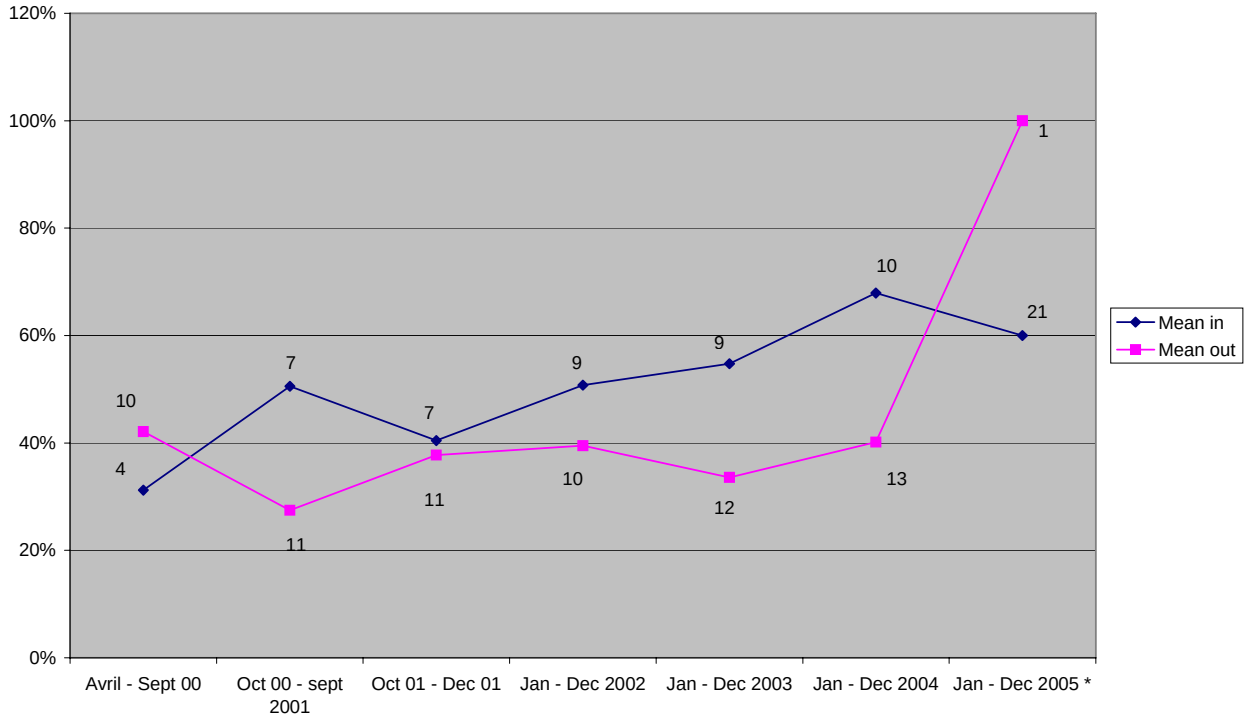
changed incentive environment, it is likely that the focus on performance and the associated award contributed to the results.

Prenatal Care: As with immunization coverage, NGOs under performance based exhibit consistently better results than those not in performance-based except for in the initial contract and final period (though the strong performance for NGOs "not in" represents only 1 NGO while the mean for those "in" represents 21 NGOs). It is important to note

[††] Readers will remember that because of migration and population movements to obtain health services, NGO performance may exceed 100%. The project has begun to track performance for households who reside in the NGO catchment area and those who don't to distinguish between reaching the target population in the NGO service area from those outside.

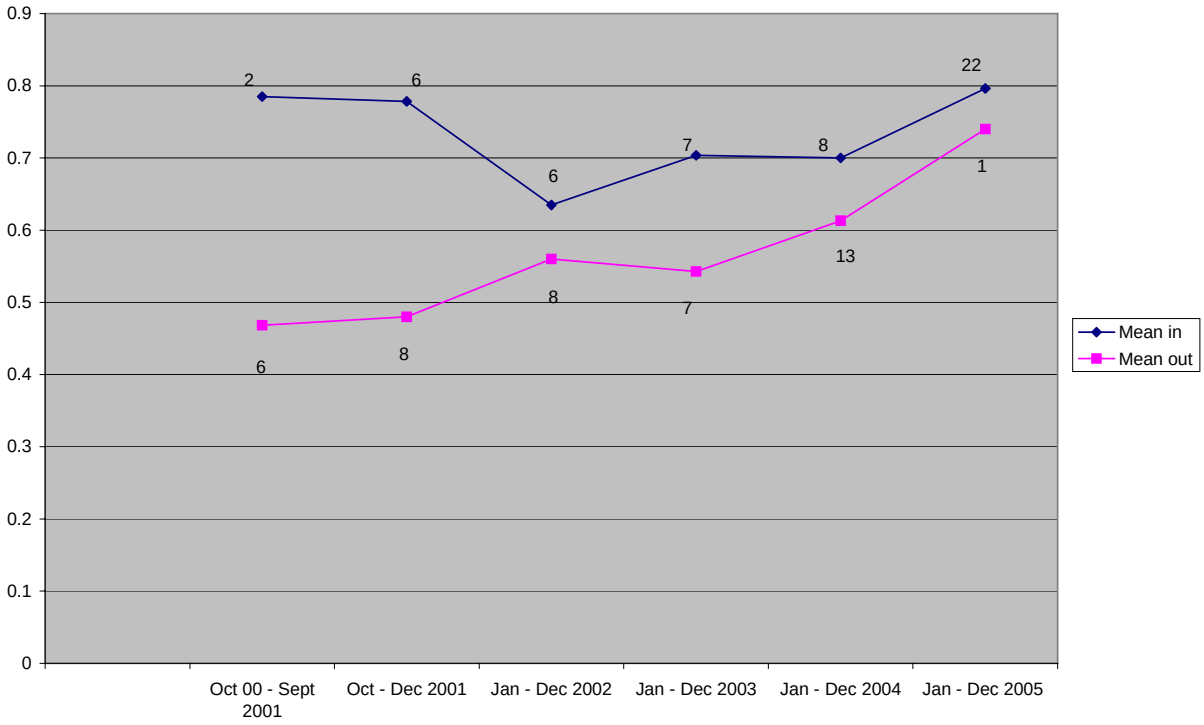
that performance for NGOs in performance-based payment improved substantially, moving from provision of at least 3 prenatal care visits to 31% of pregnant women in the first contract period to an average of 60% in 2005.

Prenatal Care: Comparison of Mean NGO Performance by Contract Period (number of NGOs in each period in each regime represented at each point)



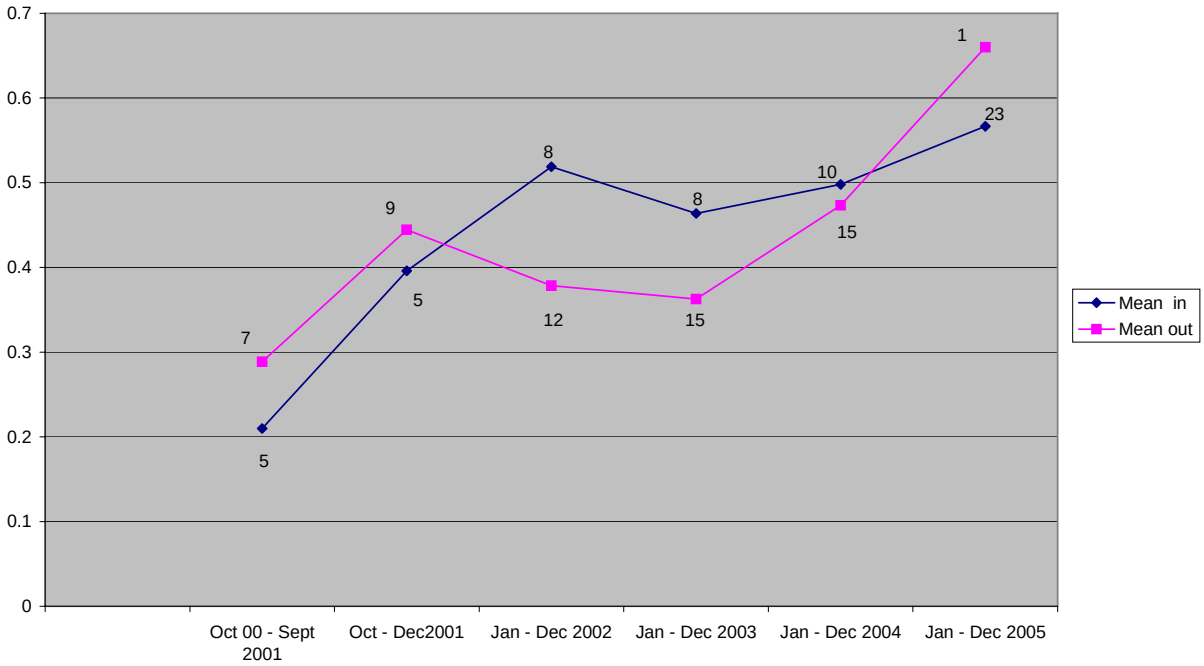
Deliveries Assisted by a Trained Attendant: NGOs in performance-based payment outperformed those paid for documented expenditures in every contract period. Overall performance for those in performance-based payment improved only slightly in the five-year period, however, moving from 78.5% to 80%. This improvement may be viewed as a more striking achievement, however, when readers note that only 6 NGOs were included in the initial period as compared with 22 in the final period.

Assisted Delivery by Trained Attendant: Comparison of Means by Contract Period
(number of NGOs in each regime at each period represented at each point)



Postnatal care: Performance of both groups, those in performance-based and those not in, exhibited a similar trend during the five-year period. Starting with a low of reaching only 21% (n=5) of recent deliveries in the initial contract period, performance improved dramatically so that 57% (n=23) of women were reached in 2005.

Postnatal Care: Comparison of Means by Contract Period
(number of NGOs in each regime at each period represented at each point)



Are the results "caused" by performance-based payment?

The year 2005 offers an interesting opportunity to contrast performance with previous years because almost all NGOs were in performance-based payment. In previous years NGOs were selected based on criteria chosen by the project team as indicators of "readiness". If the results achieved by the group of performance-based NGOs in previous years was better than those not in performance based, one could question whether other characteristics of these organizations were driving the better performance. In 2005, this selection problem no longer exists and performance of the network is even better. While one year of experience is not enough to firmly conclude that financial incentives tied to performance contribute to results, the evidence is supportive.

Another way to explore whether the introduction of performance-based payment is responsible for performance improvements is to compare performance in specific indicators the year before the introduction of performance based payment and in the first year in the new payment scheme. Table 6 presents calculations of the average change in performance of four indicators (immunizations, prenatal care, assisted deliveries, and postnatal care) for the year before and the first year in performance based payment. The year prior and the first year in were selected for each NGO; the performance change was calculated; and the average performance change was calculated for all NGOs for each of the indicators. Since entry into performance based payment occurs in different contract periods for different NGOs, the average performance increase cannot be explained by broad contextual realities that may impact on NGO performance in a given year. The average performance change for NGOs before and after entry into performance-based payment is considerably larger than performance of the project NGOs as a whole. If characteristics of the NGOs combined with technical assistance and other interventions provided to NGOs are the reason for performance improvement, we would expect to see no difference between performance in this "before and after" period and the project as a whole. In contrast, if entrance into performance based payment has an added impact on performance we would expect to see a performance jump between the year prior and the first year in performance based payment. This data exploration also supports the hypothesis that performance based payment contributes to improving performance.

Table 6: Average Performance Changes from the Year Prior to Entrance into Performance Based Payment to the First Year in Performance-Based Payment.

	Immunizations	Prenatal Care	Assisted Deliveries	Postnatal care
Number up	11	10	10	16
Number down	4	6	5	4
Stayed the same	1	1	1	
Total NGOs that exhibited changes*	16	17	16	20
Average performance change of NGOs in the year before prior to and first year in performance based payment**	20%	15%	20%	12%

Average performance change for the project over all contract periods* **	6.2%	2.2%	3%	7.8%

* NGOs under performance-based payment for the entire period were not included.
** For each NGO, performance changes were calculated from the year prior to entrance into performance based payment and the first year in performance based payment. This period differs by NGO and spans all contract periods. For cases when NGOs entered and exited twice the final contract period was used.
*** Project level performance changes between each contract period were calculated and the overall average performance change is presented for comparison.

While the evidence is extremely encouraging, it is not possible to conclude that performance based payment is solely driving performance improvements. It is possible, however, to conclude that the package of interventions that includes the financial incentives as well as technical assistance and participation in the NGO network, does contribute to improved performance. That we see an average jump in performance between the year prior and the first year in performance-based payment suggests that at least part of the performance improvement is driven by the changed payment method. The following regressions attempt to separate both NGO specific effects and year specific effects that may contribute to results.

Regression Results Suggest "Yes":

To further examine whether payment based on performance is associated with higher results, a series of panel regressions were run covering eight contract periods. The impact of being in the performance based payment regime on immunization coverage, prenatal care, attended deliveries, and postnatal care was examined. To adjust for the possibility that performance may be driven by individual characteristics of the NGOs rather than the payment system, regressions adjust for NGO fixed effects (Table 7, columns A-D). To adjust for the possibility that results may be driven by features that are specific to a contract period, a second set of regressions were run that also account for contract period effects (Table 7, columns E-H). In addition to the absolute result, two sets of regressions were run using the difference between the result and the target as the dependent variable (Table 8). The first four columns present results that adjust for NGO fixed effects and the second four columns add the contract period effect.

Results suggest that being paid based on performance is associated with between a 13 and 24 percentage point increase in immunization coverage, implying that between 8,000 and over 15,000 additional children under 1 were fully immunized each year by NGOs that were paid based on performance than would have been immunized under an input based payment regime. Coefficients in all four regressions (columns: A, E, I, M) that look at the impact of being paid based on performance on immunization coverage are highly significant.

Attended deliveries appear to respond well to performance-based payment as suggested by the results of the regressions. The range of results from the 4 regressions that look at "attended deliveries" as the dependent variable suggest that being paid based on results is, on average, responsible for between a 17-27 percentage point increase over not being paid based on results (columns: C, G, K, O). This suggests that between 10,000 and

18,000 additional births were supervised by a trained birth attendant due to the change in payment each year. Coefficients in all four regressions that look at the impact of being paid based on performance on attended deliveries are highly significant.

The effect of being paid based on performance is less consistent for prenatal care and postnatal care. Being paid based on results is associated with a highly significant 11 to 13 percentage point increase in the number of pregnant women obtaining at least 3 prenatal care visits with adjustments for NGO fixed (columns B and J). When contract period effects are added, however, the statistical significance of the coefficients is eroded. Postnatal care exhibits weaker results that are eroded when contract period effects are added. Possible explanations for these results include that returning for a minimum of 3 prenatal care visits is determined less by provider behavior than patient actions. An additional challenge is that postnatal care was not included as an indicator in the first two contract periods.

Table 7: Panel Regressions of Performance Results on "P4P", NGO Fixed Effects with and without Contract Period Effects (Standard Errors)

	A) Full immunization (no contract period effect)	**B) 3+ Prenatal care visits (no contract period effect)**	**C) Attended deliveries (no contract period effect)**	**D) Postnatal Care Visits (no contract period effect)**	**E) Full immunization (with contract period effect)**	**F) 3+ Prenatal care visits (with contract period effect)**	**G) Attended deliveries (with contract period effect)**	**H) Postnatal Care Visits (with contract period effect)**
P4P	.243*** (.053)	.109*** (.042)	.269*** (.057)	.099** (.05)	.132*** (.053)	.034 (.045)	.196*** (.061)	.023 (.052)
constant	.672*** (.033)	.415*** (.025)	.538*** (.036)	.391*** (.031)	.856*** (.049)	.54** (.042)	.651*** (.056)	.51*** (.047)
# obs	138	151	126	126	138	151	126	126
# grps	23	26	24	26	23	26	24	26
R-sq (overall)	.133	.052	.087	.024	.315	.09	.087	.09

*** significant at the 1% level
** significant at the 5% level
* significant at the 10% level

Table 8: Panel Regressions of the Difference Between Performance Results and Targets on "P4P", NGO Fixed Effects with and without Contract Period Effects (Standard Errors)

	I) Full immunization result - target (no contract	**J) 3+ Prenatal care visits result- target (no**	**K) Attended deliveries result - target (no contract**	**L) Postnatal Care Visits (no contract period effect)**	**M) Full immunization result - target (with contract**	**N) 3+ Prenatal care visits result – target (with**	**O) Attended deliveries result - target (with contract**	**P) Postnatal Care Visits result - target (with contract**

	period effect)	contract period effect)	period effect)		period effect)	contract period effect)	period effect)	period effect)
P4P	.218 *** (.052)	.132** (.055)	.218*** (.065)	.081 (.051)	.182*** (.056)	.095 (.061)	.174*** (.069)	.07 (.057)
constant	-.076** (.032)	-.07*** (.034)	-.073* (.043)	.004 (.034)	-.003*** (.051)	-.005 (.056)	.008 (.063)	.021 (.049)
# obs	125	139	115	96	125	139	115	96
# grps	23	26	24	26	23	26	24	26
R-sq (overall)	.120	.035	.033	.014	.179	.052	.047	.026

*** significant at the 1% level
** significant at the 5% level
* significant at the 10% level

6. INSIDE THE "BLACK BOX"

What have recipients done in response to the performance incentives? What do institutions see as the advantages and disadvantages?

While it is clearly important to view trends in data to assess whether performance improves as a result of financial incentives, it is also perhaps equally important to understand what NGOs do in response to the changed incentive environment. Included here is feedback received by three NGOs as part of presentations and discussions in a meeting to review the experience of performance-based payment in May 2005. Two of the three NGOs had been paid based on performance since the initial pilot in 1999 and one had been in the program since 2002.

CDS: CDS has been paid under performance contracts since 1999 and was one of the original three organizations included in the pilot program. CDS is very much in favor of this approach to financing. Pressure to achieve the performance indicators resulted in strategies to motivate staff and strengthen information systems to monitor progress and identify potential problems that needed additional management interventions. The focus on results emphasized the generation and use of reliable data (one health agent was fired for lying about statistics). The reduced burden of financial reporting and increased flexibility in the use of funds is also greatly appreciated as well as the technical assistance received from the project- especially the self-assessment tools. CDS also appreciates that indicators are discussed rather than imposed and that agreed upon targets are reachable.

CDS management holds meetings with staff of all service delivery points and tells them the overall performance goals for the institution and their contribution to the goals. Data are reported and reviewed monthly and meetings are held with staff of each service delivery point to discuss progress toward goals and strategies to improve results throughout the year. Staff are told that 70% of the actual bonus received will be shared with staff in the form of a 14th month of pay. In 2004, CDS did not perform as well as in previous years. In response, the one facility that performed well received the performance bonus but staff in other facilities did not receive anything. CDS agrees that the

performance-based payment approach generates stress but the stress comes from the pressure to change

An additional challenge faced by CDS is that the facilities they manage are staffed with a mix of both public employees and CDS employees. When performance based payment was piloted, public employees received a lower salary than CDS employees. CDS faced the challenge of how to achieve the performance targets while motivating both public and their own employees. CDS responded to this challenge by paying public employees a salary supplement that made their pay comparable to CDS employees. In addition, both public and CDS employees were eligible to receive the same performance award. This motivated individuals and it also motivated people to work in teams.

CBP: CBP is also one of the P4P pioneers having been in the program since the pilot in 1999. CBP likes many aspects of the approach and feels it stimulates performance. Payment for performance is viewed as a catalyst for improved management as it requires regular assessment of progress and evaluation of strategies to achieve objectives. Mobilizing staff to attain performance targets contributes to creating team spirit. CBP also appreciates the reduced burden of financial reporting and the shift in emphasis on regular reporting of results. The partners network has also contributed to learning across organizations. Mentioned as a weakness is the fact that payment for each indicator is "all or nothing". Frustration was expressed about having to lose payment on one indicator that might be a small fraction under the established target. In addition, the fact that they are at risk and could lose was stated as a weakness.

HHF: HHF's 2 years of experience of payment under a performance based contract caused them to conclude that it is a very effective strategy that has contributed to strengthening their organization and to orienting staff so that the focus is on measurable results. When the new payment approach began, the Director of HHF held meetings with all HHF staff to explain that a contract had been signed with a donor that would base payment to the organization on a list of measurable results. The message was that the donor wanted quality services and that the staff needed to contribute to this goal. Staff were also told that a percentage of the performance bonus that would be earned by the organization would be shared with the staff. The other part of the bonus funds would be used to purchase equipment or reinvest in the organization.

Advantages appreciated by HHF of the performance based payment strategy include increased flexibility in the use of funds and reduced burden of financial reporting. They report that the emphasis on results has promoted better collaboration across the organization and has resulted in improved linkages between administrative, technical, and financial staff. The opportunity to earn the award fee has promoted the development and implementation of a range of strategies that have strengthened the performance of the institution and improved results. HHF especially appreciates the technical assistance provided by the project on organizational development, training in program management and training on supervision of family planning. The emphasis on reporting on health indicators has strengthened their health management information system and the use of data for management. The big disadvantage mentioned is the imposition of "institutional

stress" that is generated by the pressure to have to achieve results. This stress comes from having to make organizational changes and for individuals in the organization to have to change the way they work. Mentioned was that they now continue to work during bad weather and challenging conditions because they do not want to lose the bonus. Also difficult is that they are dependent on other institutions for certain commodities and this lack of control can threaten attainment of performance targets.

7. CONCLUSIONS

Paying for performance in Haiti is part of a package of interventions aimed at strengthening service delivery organizations to deliver quality health services to the Haitian population. Remarkable improvements in key health indicators have been achieved over the six years that payment for performance has been phased in. Now reaching 2.7 million people, NGOs in the project network provide essential services to the Haitian population in the complicated context of violence, poverty, and limited government leadership. This paper contributes to the body of evidence that attempts to understand if paying for results "works" and the design and implementation lessons that are important for others to consider.

Because no rigorous impact evaluation was performed that enables the distinct separation of the contribution of the payment incentives to improved performance, it is not possible to unambiguously conclude that performance based payment is responsible for the results achieved in this project or to determine a "portion" of the results that can be attributed to the changed payment method. The challenge is that other interventions were implemented simultaneously such as technical assistance, opportunity to participate in a network and cross-fertilization activities, and increased funding, making it hard to attribute improved performance to the incentive, to other interventions, or to a combination. Panel regressions, however, were able to isolate both NGO specific effects and contract period effects that may contribute to improved results. Results of these regressions suggest that the change in payment from reimbursement for expenditures to payment for results is responsible for considerable improvements in both immunization coverage and attended deliveries. Results were less significant for prenatal and postnatal care.

It also important to point out there are likely complementarities between payment for performance and other interventions. For example, financial incentives tied to results may cause NGOs to increase their appreciation of the value of technical assistance and therefore increase the effectiveness of the technical assistance that is provided. This observation is supported by the feedback received from three NGOs cited in this paper as well as from project staff. This implies that attempting to isolate the contribution of payment for performance without also considering these complementarities will not provide a full picture of the impact.

The big question is: "Does payment for performance generate results?" This project offers a unique opportunity to examine trends over a six year periods with progressively more NGOs "graduating" into performance based payment each year. Performance in all indicators is stronger for the project as a whole than performance on similar indicators for

the entire country as measured by the DHS. On average, NGOs in performance-based payment in each contract period perform better than NGOs who are not in performance based payment in the same period. Before 2005 it is difficult to make the case that the improvement in performance is due to the change in payment terms because NGOs are selected to "graduate" based on assessments of institutional readiness. For this reason, it is not possible to fully know if the better performance is caused by more capable NGOs or by the incentives in the payment system. One interesting observation is that the project team was not able to accurately determine features of institutional readiness, as project data does not confirm that performance under the Performance-Based Payment mechanism correlates with the degree of readiness assessed while under cost-reimbursement.

Since 2005, however, almost all NGOs were placed in performance-based payment and the trend of improved performance continued. Because the selection issue is no longer relevant, this limited evidence from one year provides support for the hypothesis that at least part of the results are driven by the payment incentives. However, the possibility that improved performance was driven by aspects of the Haitian environment in 2005 that affected all NGOs cannot be rejected.

Also supporting the hypothesis that payment for performance drives results is examination of the average improvement in performance demonstrated by NGOs in the first year they enter the new payment scheme. Average improvements in immunization coverage, prenatal care, assisted deliveries, and postnatal care are larger between these periods (the year prior and the first year in performance based payment) than average performance improvements for the entire network.

This project offers the perhaps unique opportunity to examine the performance of a group of NGOs over a six-year period that covers eight contract periods during which progressively more transition into the performance based payment regime. A series of panel regressions that adjust for NGO fixed effects suggest that being paid based on results is associated with a highly significant increase in both immunization coverage and attended deliveries. Regressions suggest that immunization coverage increased between 13 and 24 percentage points, implying that up to an additional 15,000 children were immunized in Haiti each year because of the changed payment regime. Attended deliveries increased from 17 to 27 percentage points and suggest that up to an additional 18,000 women were provided a safer environment in which to deliver their babies annually. Results for prenatal and postnatal care were less significant, perhaps suggesting a strong patient behavioral element that is not under the influence of provider actions.

More than the opportunity to earn a performance bonus drives NGOs to want to be in performance based payment. The change in payment terms from having to document every expenditure (cost based reimbursement) to a fixed price contract with negotiated annual budget, fixed quarterly payments, and an award fee tied to achievement of predetermined performance targets is highly valued. NGOs appreciate the flexibility and autonomy that the fixed price contract brings under performance based payment.

A number of changes in the design and implementation of performance-based payment were made over the six-year period. Separated into four phases that cover seven contract periods include how targets were set, how NGOs were selected, how results were verified, and the terms of payment. While changes were introduced to strengthen the approach, these changes make it more difficult to assess the impact of the payment scheme.

Strong feedback from NGOs and the project team suggests that evaluating performance with performance data reported by NGOs with audits to verify accuracy is a better way to evaluate results than contracting an independent firm to perform community surveys. Evidence from the experience in Haiti is that not only does the "self-reported" approach costs less but, most importantly, it encourages NGOs to strengthen information systems and use information to improve the quality of services being delivered. NGOs report having a strengthened information system and the use of information by management to track performance and to know where to intervene as one of the advantages of performance based payment.

The impact of other design changes are less clear, however. In the second phase the project changed from specified technical output performance targets to random selection from a longer list. This innovation was introduced because of a concern that NGOs were focusing all attention on the services being measured and neglecting other priority services. In the third phase, this approach was again modified to include two "packages", each containing indicators that cover the priority population groups that are the intended beneficiaries of the project. One of the packages was randomly selected at the end of the period for evaluation. The fourth phase introduced a combination of some fixed and some randomly selected indicators and a payment system linked to milestones in program implementation. It is not possible to conclude from available data which approach to selecting indicators generates the largest improvement.

Also not clear is whether conditioning part of the award fee on achievement of management targets contributed to improved performance or the amount of risk that is most motivating. Concern that institutions were not investing appropriately in institutional development caused the project to add management indicators in the second phase and to continue and revise them throughout. The amount of the "award fee" that is tied to technical results has changed from 10% in the pilot and Phase 1 to 5% in Phase 2-3 and to 6% in Phase 4. Performance on management indicators accounted for an additional 5% in Phases 2-3 and 6% in Phase 4.

In addition to the contribution of the performance-based payment strategy to increasing coverage and the quality of health services, anecdotal evidence and results of recent field assessments strongly suggests that this strategy has played an important catalytic role the organizational development of the institutions involved. This is reflected in the changed behavior of managers and service providers at all levels; they are observed to be more proactive, innovative and focused on being more accountable for results. These behavior changes have resulted in improved information systems and the effective use of data for decision making; strategic use of technical assistance; improvements in human capacity

development and management (including training, decentralization, delegation and supervision); strengthened financial management; and increased cost effectiveness. All of these changes will contribute to the likelihood of the long-term viability of the service providing organizations.

The project continues to show improved results over the six years. Future enhancements include introduction of performance-based payment for the public sector as well as more experimentation with incentives tied to both HIV and TB care. Lessons will continue to be learned through future phases of experimentation, innovation, and learning.

BIBLIOGRAPHY:

Bourdeu, Dr. Royneld, Casmir Alfred, and Jean Frenel Vincent. " Haitian Health Foundation Experience in PBF", Powerpoint Presentation, Port-au-Prince, Haiti, May 2005.

Comite Bienfaisance de Pignon, "Experience en Performance Base", Powerpoint Presentation, Port-au-Prince, Haiti, May 2005.

Despagne, Pierre D., Financement Basé sur la Performance: L'expérience des CDS, Powerpoint Presentation, Port-au-Prince, Haiti, May 2005.

Eichler, Rena, Paul Auxila and John Pollock, "Promoting Preventive Health Care: Paying for Performance in Haiti", in *Contracting for Public Services: Output-Based Aid and its Applications.* Edited by Penelope J. Brook and Suzanne Smith, The World Bank, 2001: 65-72 (published in English, Spanish, and French).

Eichler, Rena, Paul Auxila and John Pollock. *Performance Based Payment to Improve Impact: Evidence from Haiti*, World Bank Institute Online Journal, Flagship Program on Health Sector Reform and Sustainable Financing, April 2001.

Eichler, Rena, *Why Pay for Inputs when Better Health Comes from Paying for Results? : Effective Steering through Strategic Purchasing Improves Health Indicators in Haiti.* Published by the World Bank/IDB/PAHO/IESE and used as a case at the 2002 Europe and the Americas Forum on Health Sector Reform: *Managing Health Systems for Better Health: the Stewardship Function of Health Ministries*, February 2002.

Eichler, Rena. *Technical Trip Report for the HS-2007 Project, Management Sciences for Health, Port-au-Prince,* Haiti, May 2005.

Grossman, S. and O. Hart. "An Analysis of the Principal Agent Problem." *Econometrica* 51:7-45, 1983.

Kreps, David M.. *A Course in Microeconomic Theory.* Princeton University Press: Princeton, N.J. 1990. pp. 577-586.

Rogerson, W. "The First Order Approach to Principal-Agent Problems." *Econometrica* 53:1357-68. 1985.

Town, Robert, Douglas R. Wholey, John Kralewski, and Bryan Dowd. "Assessing the Influence of Incentives on Physicians and Medical Groups". *Medical Care and Research Review*, Vol. 61 No. 3 (Supplement to September 2004), 80S-118S.