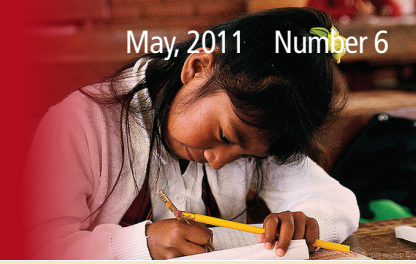




# from EVIDENCE to POLICY



a note series on learning what works, from the Human Development Network

## Can Bonus Payments Improve the Quality of Health Care?

Ensuring that women and children receive quality health care is a key to alleviating poverty, but in many developing countries, access to appropriate medical care is limited. In recent years, policymakers and health experts have promoted the use of performance-based bonuses to motivate health-care workers to follow best practices and ensure that patients receive key medical services. As part of this, the international research community is working to measure when and how such pay-for-performance programs are most effective. Among other things, researchers want to know whether bonus payments can have a positive impact on the type and quality of care provided by health centers and how, in turn, this affects health outcomes.

The World Bank supports programs to boost healthy outcomes, part of the United Nations Millennium Development Goals that include reducing childhood mortality and cutting the risk of death for pregnant women. To help build a body of evidence on how to encourage and support quality healthcare, the World Bank supported a study of government-run and faith-based health clinics in Rwanda. The 23-month evaluation, the first rigorous one of its kind in a low-income country, found that performance-based bonuses helped raise the quality and use of health services for women and children. While more work needs to be done in evaluating how best to apply pay-for-performance in different settings, this study gives policymakers and health experts a look at how limited resources may be used for maximum impact in healthcare.

### Case Study Rwanda

Rwanda, which was forced to rebuild its institutions after the 1994 civil war and genocide, began piloting programs in 2001 to give health clinics cash bonuses for meeting certain healthcare objectives, such as immunizing children, and for encouraging people to utilize medical services, such as having pregnant women deliver in a medical facility. Rwanda's health outcomes in the areas of mother-child healthcare ranked among the worst for countries in eastern and southern Africa and the pro-

grams were an attempt to ensure that people, especially women and children, could get the care they needed to stay healthy. In 2005, the government decided to expand nationwide pay-for-performance in the healthcare sector and requested support from the World Bank to evaluate the impact of the program.

More than one-third of Rwanda's 401 health centers were incorporated into the Bank-supported study, which randomly assigned districts to one of two groups. Eighty clinics were assigned to a "treatment" group and these clinics received bonus payments based on how well they met indicators related to the quality and use of medical care. The goal was to see whether linking bonus payments to performance had a positive effect. To separate out the financial effect of more money coming into a clinic from the incentive effect of linking the payments to performance standards, 86 clinics were assigned to a "control" group and they received an equivalent amount of money in block grants, regardless of their performance. On aver-

#### Did You Know...

In sub-Saharan Africa, almost half of births are at home...

Assisted by women without professional training...

And that a woman living in sub-Saharan Africa has a 1 in 16 chance of dying in pregnancy, compared with a 1 in 3,700 risk for a woman from North America.

Source: CGAP-Consultative Group to Assist the Poor/UNICEF

age, health centers that qualified for performance-based payments used 77 percent of the cash bonuses to supplement health workers' salaries, which effectively boosted wages by 38 percent. Health centers that received block grants used 73 percent of the money to supplement salaries.

A baseline survey in January 2006 and a follow-up survey in April 2008 were conducted for each of the 166

facilities in the study. Surveys were also done for a random sample of 13 households with children under the age of six in the catchment area of each facility. Information on utilization and quality of the medical care was collected through household interviews and with patients as they exited the health centers.

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## The Findings

### **The likelihood that a woman would give birth in a health center—instead of at home—increased among women served by facilities that could qualify for performance-based bonus payments.**

The program increased the likelihood that a woman would deliver in a health center by 8.1 percentage points, when compared with women served by health centers that received grants regardless of performance.

### **Offering bonuses also raised the quality of prenatal care.**

The likelihood that a pregnant woman received a tetanus vaccine was 5.1 percentage points higher than the rate at which pregnant women treated in control clinics were vaccinated against tetanus.

### **Women living in these areas also were more likely to bring in their babies for preventive care.**

The likelihood that an infant or baby up to two years old was brought to a health center for a preventive care visit increased by 11.9 percentage points over that of children in districts where there was no pay-for-performance pro-

gram. For children aged 25 months through 59 months, the increase was 11.1 percentage points.

### **But bonus payments did not have an impact on the likelihood that a pregnant woman would get prenatal care in the first place—or finish the recommended course of at least four prenatal visits.**

The baseline study found that 95 percent of pregnant women made at least one prenatal visit, and that most women in Rwanda do not make their first visit until they are five to six months pregnant. The payment rates for prenatal visits (\$0.09 for the first visit and \$0.37 for completing four visits) may have been too low to encourage providers to take special measures to find the small percentage of women who never have a prenatal

#### Why Health Matters...

Mothers who receive proper prenatal care will have healthier babies. Children who get regular check-ups and immunizations are more likely to survive childhood, attend school, build positive relationships and go on to lead productive lives. For adults, a healthy life gives them a better chance at economic security and the ability to provide for their families....



visit or to expend energy to ensure women received the recommended number of visits.

**Nor did bonuses boost the chance that a toddler was fully immunized.**

There was no significant impact on the likelihood that a child between the ages of 12-23 months was fully immunized. Researchers hypothesize this could be because Rwanda already had a relatively strong immunization rate of 65 percent when the study began and started a separate, national immunization campaign during the same time period.

**It turned out that bonus payments were most effective for services that were more in the control of the provider...**

When the decision to provide the care depended on the health worker, such as giving a tetanus shot during a prenatal visit, improving the quality of medical attention, or referring a malnourished child for special care, then the bonus had a real impact.

**and were less effective when they were being paid out for services dependent on the patient...**

Providers could suggest patients come for prenatal visits, but ultimately, the decision rested with the mother. This made the bonuses less effective, because they rewarded health centers, not patients.

**There was a strong link between the size of the bonus payment and the use and quality of care for pregnant women.**

For each woman who gave birth in the health center (or who were transferred to a hospital due for emergency delivery) providers received \$4.59. This bonus rate, the highest among the 14 indicators, spurred health centers to be proactive in finding and informing women about delivery options. Anecdotal evidence suggests that providers not only used prenatal visits to encourage women to come to the health center to deliver, but they also conducted outreach to find pregnant women and tell them about the importance of giving birth in a health center.

**Utilization of health services for children was also correlated to the size of the bonus payment.**

Similarly, the rate of increase in preventive child visits can be explained by the bonus size. While health centers received a relatively low payment of \$0.18 per child preventive visit, they received \$1.83 for identifying a malnourished child and sending the child on for treatment. With the malnourishment rate among Rwandan children around 45 percent, bringing more kids in for preventive child-care visits was certain to raise the rate at which malnourished kids were identified, in turn raising the payments a health center received.

**Sample bonus payments for different maternal/child indicators**

**Visit and Outreach Indicators: Number of...**

first prenatal care visits	\$0.09
women who completed 4 prenatal care visits	\$0.37
deliveries in the facility	\$4.59

**Content of care indicators: Number of...**

women who received appropriate tetanus vaccine during prenatal care	\$0.46
at risk pregnancies referred to hospital for delivery during prenatal care	\$1.83
emergency transfers to hospital for obstetric care during delivery	\$4.59
malnourished children referred for treatment during preventive care visit	\$1.83

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## Conclusion Making policy from evidence

Offering bonus payments to providers who meet certain quality of care measures, including those related to how often patients use medical services, is considered a potential tool to help people get better care, especially in poor countries. Using bonus payments is not limited to healthcare – education is another field where researchers are evaluating the effectiveness of financial rewards linked to the quality of education a student receives. With pay-for-performance programs popular in both developing and developed countries, what is key now is testing when and how these programs help providers, be they health clinics or schools, deliver the best results

The Rwanda study tested the use of bonuses for indicators related to healthcare for women and children, often the most vulnerable populations in poor countries. The study showed that pay-for-performance can work, and that it worked best when payments rates are substan-

tial and when the recipient of the payments (in this case the health center) has greater control over the service being provided. For example, the study did not see any real boost in women completing the recommended course of four prenatal visits, which was worth \$0.37 to the health center but depended on the woman making the appointment and turning up. But for women who did come in for prenatal visits, the likelihood that they would receive a tetanus shot, for example, increased. One recommendation for future programs would be to also reward patients with cash payments, to better encourage them to come to health clinic and use services offered.

The Rwanda study makes an important contribution to understanding how pay-for-performance can help women and children obtain the care they need to reduce the risk of death and protect and improve their health.

The Human Development Network, part of the World Bank Group, supports and disseminates research evaluating the impact of development projects to help alleviate poverty. **The goal is to collect and build empirical evidence that can help governments and development organizations design and implement the most appropriate and effective policies for better educational, health and job opportunities for people in developing countries.** For more information about who we are and what we do, go to: <http://www.worldbank.org/hdchiefeconomist>

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