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Montagu, Dominic
Yamey, Gavin M

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Pay-for-performance and the Millennium Development Goals

Dominic Montagu, Gavin Yamey

Only 23 countries are on course to reach Millennium Development Goal (MDG) 5: to reduce the maternal mortality ratio by 75% by 2015.¹ One reason for this slow progress is that, in many low-income and middle-income countries, most poor women deliver at home without skilled attendance, and thus face a high rate of obstetric complications. Our recent analysis, for example, found that in sub-Saharan Africa, from 2003 to the present, 78% of births among the poorest women occurred at home, of which 56% were unattended.² Reasons for this high rate of unattended home births include poor availability of health facilities, and social and cultural preferences for home delivery.^{2,3} Increasing the proportion of poor women receiving skilled obstetric care is a complex public health challenge that defies easy solutions. Innovative approaches are desperately needed.

One approach that is gaining support among the global health community is pay-for-performance, in which patients, individual providers, or health organizations are rewarded with money or material goods if they take certain actions.⁴ By contrast with traditional global health funding, in which governments and donors pay for inputs (e.g., salaries), pay-for-performance pays for outputs (e.g., the number of facility-based births).⁵

Turning the business-as-usual approach to global health on its head, by paying for results, is intuitively appealing. However, a synthesis of 12 systematic reviews found limited evidence on whether pay-for-performance could help to achieve the MDGs.⁴ The synthesis found that financial incentives aimed at patients and individual providers are effective over the short term for “simple and distinct, well-defined behavioral goals.”⁴ But there have been few randomized trials of pay-for-performance in low-income and middle-income countries, and there is little evidence on its cost-effectiveness. Pay-for-performance, say Andrew Oxman and colleagues, is an example of “the widespread use of a health system arrangement with uncertain effects and inadequate impact evaluation.”⁶

In view of these limitations in the evidence base, including the dominance of uncontrolled case studies,^{7,8} a new randomized study from Rwanda in *The Lancet*, by Paulin Basinga and colleagues,⁹ is an important advance. Survey data from 2005 show that only 16% of women in the poorest quintile in Rwanda deliver in government facilities (figure); 82·7% deliver at home.² On the basis of the success of pay-for-performance pilots in increasing the number of facility-based deliveries and improving other health outputs in two districts,¹¹ in 2005 the Rwandan Government decided to expand a pay-for-performance scheme nationwide. The scheme involves direct payments to health facilities for achieving 14 maternal and child health outputs, such as a payment of US\$4·59 for each additional facility-based delivery.⁹

Basinga and colleagues evaluated this expansion, randomly assigning 80 facilities to pay-for-performance funding and 86 facilities to traditional input-based financing. The primary outcomes were a subset of the 14 outputs; follow-up was 23 months. To ensure that overall financial resources were equivalent in the intervention and control groups, the input-based budget of the control facilities was increased every 3 months to match the performance bonuses paid to the intervention facilities. This matching allowed the researchers to specifically assess the effect of the incentive. Pay-for-performance was associated with a significant increase (23%) in the probability of a woman delivering in a facility and of a child visiting a facility for preventive care (56% for children aged 23 months or younger, 132% for children aged 24–59 months). The intervention had no effect on the number of prenatal care visits or children fully immunized.

Previous pay-for-performance programs have often occurred in the context of large changes in health-system funding and structure, making it difficult to assess the effect of the incentive.⁷ Basinga and colleagues' study is therefore important not only for being based in a low-income country, and for including a credible control group, but for the way in which it isolated the effect of a payment reward. The study also offers valuable clues on why incentives succeed or fail: for example, larger cash incentives were associated with larger effects.

But several concerns about pay-for-performance remain unanswered by the study. First, because the study measured process outcomes, not health outcomes, it remains possible that pay-for-performance incentivized increased service provision without reducing maternal and child mortality. Second, it is unclear whether pay-for-performance had a pro-poor effect because the study does not indicate whether there was an increase in facility-based birth in women in the poorest quintile. Third, previous impact evaluations have found that the benefits of incentives dissipate over time.¹² Longer follow-up of Rwanda's program will be needed to assess whether the effects of cash payments are sustained. Fourth, it remains unclear whether the results would be replicable beyond Rwanda, a small country with a strong, engaged government that provides almost all clinical services and that receives large amounts of flexible donor-financing for health.

Performance incentives “are by no means a panacea.”⁵ But Basinga and colleagues' study provides a welcome piece of good news, showing that pay-for-performance can increase the uptake of maternal and child health services. If this uptake is sustained in the long run and translates into reduced mortality rates, particularly in the most vulnerable populations, pay-for-performance will surely take its place as an important tool for accelerating progress towards the MDGs.

***Dominic Montagu** (montagud@globalhealth.ucsf.edu), **Gavin Yamey** (yameyg@globalhealth.ucsf.edu)
Global Health Group, University of California, San Francisco, CA 94105, USA

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Place of Delivery in Rwanda

By Wealth Quintile

Figure: Place of delivery in Rwanda by wealth quintile

N=8540 women reporting births in Rwanda from 2005 DHS Survey.¹⁰

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