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Focus :

Pay-for-performance for health providers: does it improve health outcomes?

The World Health Organization estimates that global life expectancy at birth in 2016 was 61.2 years in the African Region whereas 77.5 years in the European Region. Most of this gap is due to child mortality: about one child in 13 born on the African continent dies before reaching the age of five. Moreover, most of child mortality is due to diseases that are cheap and easy to prevent or treat in many parts of the world. One of the biggest development challenges is therefore to make basic health and medical solutions available to everyone.

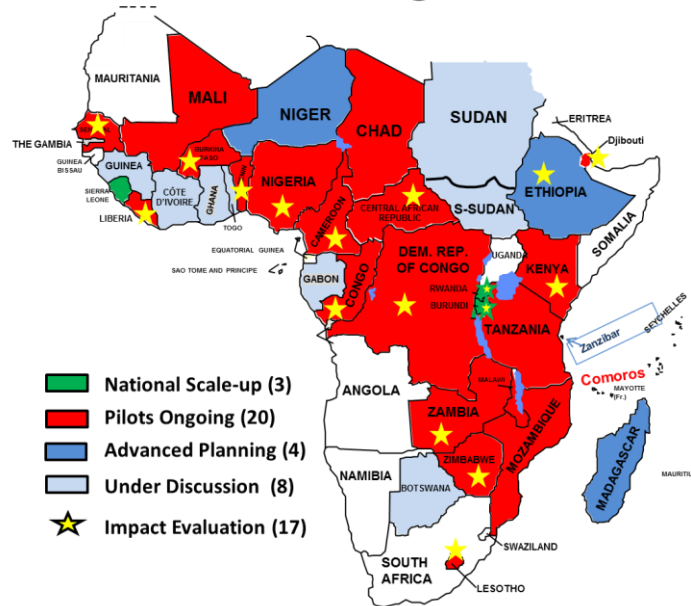
In recent years many governments in Sub-Saharan Africa have attempted to tackle this challenge by providing service providers with financial incentives as a tool to increase the level of effort and output of health providers. The details of these financial incentive schemes vary, but the general principle is to tie payments to health facilities to the volume and/or quality of services provided (these financing models are called “Performance-based payments”, or “Result-based financing”, or “Pay-for-performance” —hereafter, P4P). Rather than paying providers whether or not they show up at the facility, and whether or not they treat some patients, doesn't it make sense to pay them—at least in part—according to what they do? As shown of the map below, most of African countries have answered YES to this question and engaged in one form of P4P scheme in the health sector.

However, the evidence on the impacts of financial incentives for health providers is limited. Several studies advocate that P4P schemes improve service delivery (see Eichler and Levine, 2009, for an overview). However, the presence of confounding factors makes the question largely unanswered (Christianson et al. 2008; Eldridge and Palmer 2009). Three rigorous studies provide evidence that financial rewards do motivate health workers, but did not lead to any change in ultimate health outcomes (Banerjee and Duflo, 2008; Peabody et al., 2011; Olken et al. 2014). On the other hand, a performance-based financing scheme in Rwanda was efficient at increasing utilization of some targeted services as well as worker productivity, and at improving some targeted health outcomes (Basinga et al. 2011; De Walque et al. 2013; Gertler and Vermeesch 2013).



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Why such heterogeneous impacts? The impact of P4P may be positive under two conditions: first, it should encourage greater effort from the workers by rewarding and reinforcing health workers' willingness to undertake desirable actions. Second, greater effort should translate into higher performances, e.g. a higher take-up for health care services by the population and improved health outcomes. On the other hand, financial incentives could also have negative impacts if, for example, health workers focus on providing a set of targeted services and reduce their effort in non-targeted services. Similarly, providing rewards might deter the intrinsic motivation of the health workers. Finally, if performance targets are difficult to meet, service providers may feel stressed or discouraged after investing additional effort but not being rewarded in the end. Rigorous research is thus needed to better understand how and when pay-for-performance models can improve health outcomes.

The Pay-for-Performance Scheme in the DRC

In the DRC, the government is primarily concerned about substantial proportions of the population not using health services like immunization, prenatal services, attended delivery, or curative services. The government thus aimed at improving health outcomes by increasing service utilization. In order to increase service utilization further, the government designed a payment scheme providing health workers with incentives to increase service utilization: instead of a fixed payment to each health facility, the government allocates the same total budget to facilities based on levels of service utilization. Therefore, payments to each health facility are linked to a simple performance criterion, namely the volume of patients in this facility relative to other facilities for a number of pre-determined services. This incentive scheme, similar to fee-for-service payments within a constrained budget, introduces competition among health facilities in access to public funds, with the hope that competition would encourage health workers to develop appropriate strategies to increase supplier-induced demand.

We tested the efficiency of this incentive scheme compared to fixed payments (Huillery and Seban, 2018). As the two payment schemes are based on equal total budget, resource effect is neutralized and we evaluate the pure incentive effect. A field experiment was conducted in the Haut-Katanga district,

where the 96 health areas of Haut-Katanga district were randomly assigned to either fee-for-service payments or fixed payments from June 2010 to September 2012.

Impacts

We find that, relative to fixed payments, the incentive scheme led to an overall slightly smaller utilization of health services by the population. Incentivized health workers thus failed at achieving on the performance criterion. We also find a slight deterioration in newborn health outcomes. In incentivized facilities, revenue was found 42% lower (even though they received the same average amount from the government), and worker income 34% lower, than in the fixed payment facilities. The lower revenue came along with lower quantity and quality of equipment and infrastructure than in the fixed payment group.

Interestingly, the lower performances in incentivized health areas relative to fixed payment areas do not result from lower worker efforts. On the contrary, fee-for-service spurred health workers into greater effort to attract patients than fixed payments: (1) they were more present in facilities; (2) they organized more information sessions at facilities and outreach activities; (3) and they offered significantly lower user fees for targeted services (which, together with lower utilization, explain the large negative impact on facility revenue). Equally important, their effort to attract patients was focused on *targeted* services with no substitution away from *non-targeted* services. We also find that the reward did not induce significant score manipulation, nor significant free-riding among health workers. The only adverse effect that can be observed is a change in workers' structure of motivation: the incentive scheme increased the weight of extrinsic (material, self-interested) motives relative to intrinsic (non-material, altruistic) motives compared with fixed payments.

Why did the set of strategies implemented by the health workers to increase service utilization led to counterproductive effects? In incentivized health areas, we find a higher proportion of individuals who do not use health services because they don't see the benefit than in non-incentivized areas. Very few individuals declare that the service is too expensive. These results indicate that the population perceives a lower benefit from using health services in incentivized areas than in non-incentivized areas. The combination of intense direct selling and reduced user fees may have signaled lower quality of the health services.

To make financial incentives work, it may be necessary to provide the population with a better understanding of health service benefits, a strategy that was not picked up by the incentivized health workers. Our results echo the theoretical literature on the signaling value of prices and advertising (see Bagwell, 2007, for an overview): when consumers cannot pin down the value of a product, higher prices are associated with higher perceived-value. Besides, lower quantity and quality of equipment and infrastructure resulting from the loss in facilities' revenue due to lower service prices may have created (or amplified) the negative signal on service quality. Finally, the change in worker attitude may have been perceptible and amplified further the negative impact on service utilization.

Policy Implications

Financial incentives to health providers may lead to disappointing results in terms of public health. In fact, our study shows that financial incentives can generate misplaced effort and that incentivized workers are not always more productive. Presumably workers were not trained on how to increase demand for health services, which points to the potential mismatch between incentive approaches and workers skills.

The key policy implication is that financial incentives to service providers should be used with caution whenever performance is not easy to observe, or the rewarded task requires complex strategies and workers do not understand well the demand curve for health care. Financial incentives may be more appropriate where the rewarded task is easy and in connection with worker skills.

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References

- Banerjee A., E. Duflo and R. Glennester, 2008. "Putting a Band-Aid on a Corpse: Incentives for Nurses in the Indian Public Health Care System", *The Journal of European Economic Association*, 6(2-3), 487-500.
- Basinga P., P. Gertler, A. Binagwaho, A.s Soucat, J. Sturdy, C. Vermeersch, 2011. "Effect on Maternal and Child Health Services in Rwanda of Payment to Primary Health-Care Providers for Performance: an Impact Evaluation", *The Lancet*, 377(9775): 1421 - 1428.
- Christianson, J.B., S. Leatherman and K. Sutherland. 2008. "Lessons from Evaluations of Purchaser Pay-for-Performance Programs: A Review of the Evidence", *Medical Care Research and Review*, 65(6supp): 5S-35S.
- De Walque, D., Gertler P., Baitista-Arredondo S., Kwan A., Vermeesch C., de Dieu Bizimina J., Binagwaho A., Condo J. 2013. "Using Provider Performance Rewards to Increase HIV testing and Counseling Services in Rwanda", World Bank Policy Research Working Paper n° 6364, Impact Evaluation Series 84, Washington DC: The World Bank.
- Eichler, R. and R. Levine. 2009. "Performance Incentives for Global Health: Potential and Pitfalls." Washington DC: Center for Global Development.
- Eldridge C. and N. Palmer, 2009. "Performance-based payment: some reflections on the discourse evidence and unanswered questions", *Health Policy and Planning*, 24:160–166.
- Gertler P. and C. Vermeesch, 2013. "Using Performance Incentives to Improve Medical Care Productivity and Health Outcomes", unpublished manuscript.
- Huillery, E. and J. Seban (2018), "Financial Incentives, Efforts, and Performances in the Health Sector: Experimental Evidence from the Democratic Republic of Congo", conditionally accepted at forthcoming in *Economic Development and Cultural Change*.
- Peabody JW, Shimkhada R, Quimbo S, Florentino J, Bacate MF, McCulloch C, Solon O., 2011. "Financial Incentives and Measurement Improved Physicians' Quality of Care in the Philippines." , *Health Affairs*, 10 (4) 773-81.
- Olken Ben, Junko Onishi and Susan Wong, 2014. "Should Aid Reward Performance? Evidence From a Field Experiment on Health and Education in Indonesia", *American Economic Journal: Applied Economics*, 6(4): 1-34.