INCENTIVIZING MIDWIFE RETENTION IN NIGERIAN PRIMARY HEALTH CENTRES

Context

Midwife attrition is a major challenge in rural areas of Nigeria; even though there are very few statistics to measure the trend, many midwives leave their jobs after only a short period of time. This attrition reduces the supply of qualified health professionals to assist with prenatal care, labor and deliveries. The Government of Nigeria and its development partners have witnessed this phenomenon over the years of implementing maternal and child health programs, and consider midwife attrition a major problem.

Nigeria has a critical need for innovative and effective programs that can reduce midwife attrition and affect other factors that contribute to maternal and neonatal health. While maternal mortality decreased from 1,100 to 545 maternal deaths per 100,000 live births between 1990 and 2008, the country still accounts for some 15% of global maternal deaths despite having only 2% of the world's population. Lack of access to health care is considered a major contributor to these high levels of maternal mortality and to the fact that 61% of childbirths take place with no trained assistance.

From 2012 to 2015, the Government of Nigeria launched the Subsidy Reinvestment and Empowerment Program Maternal and Child Health Project (SURE-P MCH). This program was implemented nationally, funded by reductions in fuel subsidies, and it sought to improve the health of mothers and babies in underserved communities. An important focus of SURE-P MCH was increasing the supply of health care in these communities by deploying 1,285 midwives as well as additional clinical staff to 500 governmental primary health care facilities (PHCs) in all of Nigeria's 36 states in the first phase. This approach was then expanded to more PHCs in subsequent phases. Despite these efforts, a survey conducted about one year after the start of SURE-P MCH found that only 5% of supported PHCs had the recommended four midwives on staff, and 11% had no midwives at all.

Key Points

- Findings from this experimental impact evaluation show that, on average, economically meaningful incentives can serve to reduce midwife attrition.
- Incentives are, however, less effective for highly intrinsically motivated persons.
- Together, this suggests that the effectiveness of incentives depends both on the design of the incentive and on the characteristics of the person that receives it.

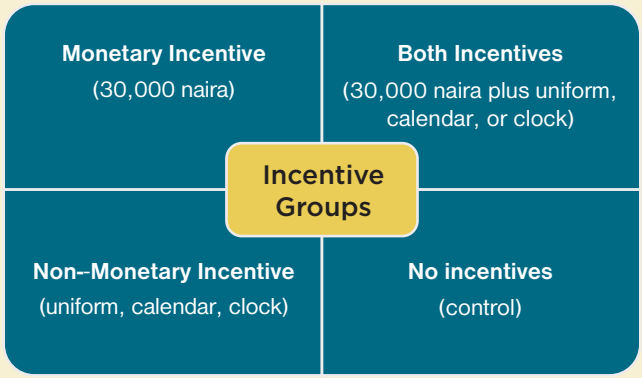
Intervention

As part of SURE-P MCH, the government of Nigeria included an impact evaluation (IE) to investigate strategies for reducing midwife attrition in governmental PHCs. This study used a cluster-randomized controlled trial design, and analyzed the impact of monetary and non-monetary incentives

provided to encourage consistent attendance of midwifes at their assigned PHC. The IE was led by the World Bank's Development Impact Evaluation (DIME), the Imperial College London, and the University College London, with support from the Bill & Melinda Gates Foundation and the Strategic Impact Evaluation Fund.

Midwives were enrolled in this study and corresponding intervention through a baseline survey conducted at all 500 Phase I SURE-P MCH-supported facilities between September and December 2013. It should be noted that these incentives were not known to the midwives when they applied for work. They became aware of them only after the first round of data collection, at the end of 2013. The schemes did not have an official end-date, however but practical budgetary restrictions forced the suspension of incentives (both monetary and non-monetary) after October 2014. Thus, only three rounds of incentives were provided to the midwives.

125 clusters of midwives were randomly assigned to one of the four study groups, with all midwives working within the same SURE-P MCH cluster of four PHCs always assigned to the same study group. One group was eligible to receive a quarterly non-monetary incentive that conveyed appreciation such as a uniform, calendar with the photos of the midwives, or clock for their consistent work attendance. Another group of midwives was eligible to receive a quarterly monetary incentive of 30,000 naira, a value approximately equal to 25% of their monthly salary from the Federal Government over the same period. The third group of midwives was eligible to receive both the monetary and non-monetary incentives together each quarter. The final group of midwives was not informed of the intervention; these midwives served as a control group for the impact evaluation.



SURE-P MCH project staff evaluated midwife attendance on monthly basis. Any midwife who was recorded as absent for one month became ineligible for future incentive distributions.

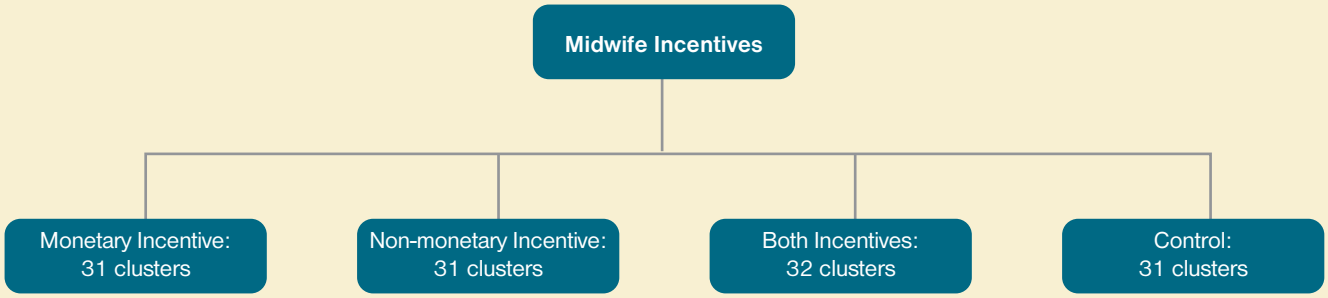
Impact Evaluation

The intervention was implemented as a cluster-randomized controlled trial. All 1,285 midwives were administered a structured questionnaire between September and December 2013, which included modules covering personal and family history, education, burnout, work conditions, assets and other revenues, motivation, and other key issues. Midwives also took part in lab-in-the-field games, designed to measure their image motivation, as well as social norms on attrition.

A follow-up round of data was collected from all of the midwives, including those who had stopped working for SURE-P MCH between December 2014 and February 2015. In addition, attendance data was recorded by SURE-P MCH project staff during the intervention.

Study Questions

The randomized control trial sought to answer three primary research questions:



1. Does providing an incentive to SURE-P MCH midwives (either money, goods, or both) to reward attendance reduce their rates of attrition?
2. Are monetary and non-monetary incentives substitutes or complements? Is their impact increased when they are provided in combination, rather than separately?
3. What are the behavioral mechanisms through which incentives work, or fail to work?

This impact evaluation innovated in several ways. First, it provided widely needed evidence on the relative effects of monetary vs. non-monetary incentives in the field, and it looked at whether they function as complements or substitutes. Second, the study rewarded one of the basic components of the subjects' critical and challenging work, and not a voluntary activity. Finally, a rich data collection coupled with lab-in-the field games insured that we can learn what are the behavioral mechanisms at play.

Data Analysis

The data was analyzed using a linear probability model that included pre-specified covariates to improve the precision of the estimates. Further analysis was carried out to test the validity of the behavioral mechanisms, which are thought to make incentives work or fail, namely crowding out of intrinsic motivation, image motivation, and change in the social norms associated with attrition.

Key Findings and Policy Implications

The findings presented here are based on an analysis of the likelihood that a midwife would drop out within nine months of the incentive scheme being launched in December 2013.

- Midwives in the control group who were not eligible for any incentive had a nine-month dropout rate of 31%.
- Eligibility to receive the quarterly non-monetary incentive (either alone, or together with a monetary incentive) had no effect on reducing attrition.
- Midwives eligible to receive the quarterly monetary incentive (either alone, or together with a non-monetary incentive) were 6 percentage points less likely to drop out. This is equivalent to a reduction in midwife attrition of 20%.
- Midwives that received both the monetary and non-monetary incentive together were 6.4 percentage points less likely to drop out over a period of nine months, which is very similar and statistically indistinguishable from the effect of monetary incentive alone.

It is important to understand not only whether incentives work, but also ***why*** they work (or fail to do so). One reason incentives may fail to work is that they "crowd out" image motivation (in which case their effect on attrition would be limited). In fact, for midwives with high levels of image motivation (as measured in a behavioral game) receiving monetary

incentives has no effect on the likelihood that they will drop out over a nine-month period. And for highly image motivated midwives eligibility to receive non-monetary incentives actually leads to an increased likelihood of drop-out.

These findings show that there is important variation that is hidden by the average impact, and that the effect on any individual may be related to their individual characteristics.

Incentives may change outcomes through behavior change. Incentivised midwives may feel more supported by their employer and reciprocate by staying longer at the job (and/or improving performance). The estimated effects indicate that the eligibility for monetary incentives (given alone or together with non-monetary ones) caused a strong and statistically significant positive effect on the probability of midwives feeling supported by the their employer (relative to midwives in the control group). Furthermore, the announcement that midwives were eligible for nonmonetary incentives did not cause them to feel more supported by their employer. This is a contributing factor for the overall success of monetary incentives in promoting retention, and also for the lack of an effect of non-monetary incentives.

Also, incentives may change outcomes through changing the social norms on when it is socially acceptable for a midwife to drop out. The social norm on socially acceptable tenure (elicited through

incentivized experimental games) increased by around 1.3 months for those midwives that were allocated to the monetary arm, as well as those allocated to both types of incentives. On the contrary, the non-monetary arm alone did not shift the social norms.

Together, the results suggest that the relative effectiveness of different incentives depends not only on their design but also on the characteristics of the person receiving the incentive. Incentives can be a powerful tool to support midwives and other public sector works operating in challenging environments, but designing an effective incentive scheme will require detailed knowledge of the workforce and some degree of customization to account for individuals' varying motivations and preferences.

This impact evaluation was implemented as a collaboration between the Nigerian Ministry of Health, the World Bank Development Impact (DIME) team, University College London and Imperial College London Business School. For more details on these results, please contact DIME (*dime@worldbank.org*).

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