

The Impact of Text-Message Reminders and Small Rewards on Timely Vaccination Coverage in Northern Ghana



Despite major global progress in vaccination coverage, many children and young infants are vaccinated late, leaving them susceptible to life threatening, preventable illnesses. In Ghana, researchers are conducting a cluster randomized evaluation to investigate the impact of mobile-phone based reminders and an incentive system on early vaccination coverage.

Policy Issue

Despite major progress globally in child vaccination coverage overall, many children and young infants are vaccinated late, leaving them susceptible to experiencing life threatening, preventable disease. [Previous research](#) suggests that mobile-phone based reminders can increase medication adherence and attendance at health care appointments, but evidence on the impact of such reminders on accessing preventive services is more limited. Incentive and small reward systems for households or individuals, and for health care workers, have also been effective in improving immunization coverage. For example, results from a [study in India](#) suggest that even small rewards can result in substantial increases in vaccination uptake. The research in Ghana builds on this evidence to evaluate a novel intervention approach in communities in northern Ghana.

Evaluation Context

In Ghana, 97 percent of children receive the Bacillus Calmette-Guérin (BCG) vaccine to provide protection against tuberculosis within the first year of life, and 79 percent of children receive the first dose of the polio vaccination, typically given at birth.¹ But coverage of early vaccinations varies considerably by setting, and is lower in regions where women often deliver at home, as is the case in Ghana's Northern region. Only 58 percent of children in the Northern region receive the first dose of the polio vaccine.² In rural areas of Ghana, only 63 percent of births are registered with civil authorities, and thus estimates of vaccination coverage lack accurate population-level



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denominators. Preventive and early child health services including post-natal and vaccination services are widely available in rural communities via community-based clinics and outreach services. However, women often lack information about when and where services are available. Without a strong birth registration system, health care workers lack information about possible clients in the communities where they work. Recent research conducted in this region shows that the large majority of households have access to mobile phones, even in the most rural areas. This project will use mobile phone technology to address two of the biggest bottlenecks in vaccine delivery: documentation of births, and late vaccination.

Details of the Intervention

Researchers are conducting a pilot cluster randomized evaluation to investigate the extent to which mobile-phone based reminders and reward systems can increase early vaccination coverage and timely documentation of births.

Researchers are randomly assigning 15 rural communities (approximately 300 new mothers total) in Northern Ghana to one of three intervention groups: mobile-phone based reminders about vaccinations, small incentives for community volunteers and mothers for on-time vaccination, or standard practice. In the 10 treatment group communities, women are eligible for the intervention if they have given birth to a live newborn in the previous week. In intervention communities, a community volunteer will be appointed to document and report all births in the community to a central phone hotline. The volunteer will receive a small reward for each birth reported. The three groups are as follows:

1. **Reminder-only group:** Participating mothers receive a voice call highlighting the importance of early vaccinations, encouraging them to get their newborns vaccinated and informing them of available opportunities in their communities to receive vaccination for their infants. *(five villages, approximately 100 women)*
2. **Reward group:** Participating mothers receive encouragement from the community-appointed volunteer to complete recommended vaccinations in-person or via phone, voice message, or text message. If the vaccinations are successfully completed on time, mothers and community volunteers each receive a small reward. *(five villages, approximately 100 women)*
3. **Comparison group:** No active intervention is provided. *(five villages, approximately 100 women)*

Researchers will conduct a population-based household survey in all three study arms after the intervention period to compare the coverage of on-time receipt of recommended early-infant vaccinations, and the proportion of births documented in each group.

Results and Policy Lessons

Study ongoing; results forthcoming.

Sources

¹Ghana Demographic and Health Survey. 2014. Ghana Statistical Service, Ghana Health Service, and ICF International. <https://dhsprogram.com/pubs/pdf/fr307/fr307.pdf>

²Ibid.

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