

Abstract

Evaluating the impact of the Living Goods entrepreneurial model of community health delivery in Uganda: A cluster-randomized controlled trial

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Background Despite improvements in under-five child mortality, an estimated 6.9 million children die from preventable diseases worldwide every year. A majority of these deaths occur in the poorest countries in the world, in areas within countries of underserved populations with inadequate access to basic health services. An increasingly common approach to reach these populations has been Community Health Worker (CHW) programs. However, a systematic review of the evidence indicates that this approach has largely been ineffective in reducing child mortality. Weak incentives for CHWs to deliver timely and appropriate services are believed to be a key factor limiting the effectiveness of CHW programs. Whether alternative, financially sustainable, delivery models where CHWs earn a margin on product sales and small performance-based incentives can provide a solution is an open question. This study assesses the impact of such a non-profit entrepreneurial model of community health delivery.

Method A cluster-randomized controlled trial from 214 rural villages in 10 districts in Uganda. In treatment villages, Living Goods and BRAC Community Health Promoters conducting home visits, educating households on essential health behaviors and selling preventive and curative health products at 20-30% below prevailing retail prices were deployed over a three-year period (2011-2013). On average, around 38 households were surveyed per village at the end of 2013, for a total sample size of 8119 households. The primary study outcome is under-five child mortality rate. We report differences in mean outcomes across assignment groups, adjusting for stratification, and the standard errors are clustered at the village to account for intra-cluster correlation.

Findings The intervention reduced under-five mortality rate by 25%. The effects are of the same order of magnitude for infant mortality (< 1 year) and neonatal mortality (< 1 month), although the effect is less precisely estimated for neonatal mortality. The Community Health Promoter program could affect mortality through a number of channels, including improved access to treatment and health services, improved quality of treatment and health services, better access and knowledge of prevention, and by influencing other actors to improve the quality of services and products that they provide/sell. We find evidence supporting all these channels, including a 17% increase in treatment of diarrhea with ORS and zinc; an 54% increase, albeit starting from low levels, in follow-up visits for under-five children falling sick with malaria, ARI or diarrhea and an 72% increase, again starting from a low level, in home visits in the first seven postnatal days. While the likelihood of treatment with ACTs and antibiotics are similar across assignment arms, households in treatment villages are significantly more likely to purchase ACTs, antibiotics, and ORS/zinc from CHPs. Earlier research has shown that the quality of health products such as ACTs is low in many local markets, so the changed consumption pattern, and/or the increased competition as a result of the entry of the CHPs, most likely increased the quality of curative treatment of treatment households.

Interpretation The results indicate that entrepreneurial models of community health service delivery can result in a sustainable and effective reduction in under-five child mortality. It would however be advisable to replicate such an intervention in other settings.

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