

Researchers

Martina Björkman Nyqvist
Stockholm School of Economics

Andrea Guariso
Trinity College Dublin

Jakob Svensson
Stockholm University

David Yanagizawa-Drott
University of Zurich

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Reducing Child Mortality in the Last Mile: Experimental Evidence on Community Health Promoters in Uganda

By MARTINA BJÖRKMAN NYQVIST, ANDREA GUARISO,
JAKOB SVENSSON, AND DAVID YANAGIZAWA-DROTT

The delivery of basic health products and services remains abysmal in many parts of the world where child mortality is high. This paper shows the results from a large-scale randomized evaluation of a novel approach to health care delivery. In randomly selected villages, a sales agent was locally recruited and incentivized to conduct home visits, educate households on essential health behaviors, provide medical advice and referrals, and sell preventive and curative health products. Results after 3 years show substantial health impact: under 5-years child mortality was reduced by 27 percent at an estimated average cost of \$68 per life-year saved. (JEL: I2, I18, J13, O15, O18)

Despite significant reductions in child and infant mortality over the last few decades, about 1 in 13 children in sub-Saharan Africa still die before his or her fifth birthday (WHO 2017). Many, if not most, of these deaths can be avoided through simple preventative care and through simple, low cost treatments delivered at home. This means that an effective response to reduce child deaths is not out of reach. While health outcomes can be tied to a host of factors, both on the demand and supply side, there is limited evidence on effective and scalable solutions to the

*BjörkmanNyqvist: Department of Economics, Stockholm School of Economics, PO Box 6501, S-16121, Stockholm, SE, 110 33 Stockholm, and CEPR (email: Martina.Bjorkman.Nyqvist@hhs.se). Guariso: Department of Economics, Trinity College Dublin, Arts Building, Dublin 2, Ireland, and IZA (email: guariso@trinity.ie). Svensson: Institute for International Economic Studies, Stockholm University, 106 91 Stockholm, Sweden, and CEPR (email: jakob.svensson@ies.su.se). Yanagizawa-Drott: Department of Economics, University of Zurich, Säulberggasse 1, 8001 Zurich, Switzerland (email: Drott_David_Yanagizawa-Drott@econ.uzh.ch). Bengtsson-Olsson was cofounder for this article. An earlier version of this paper has been circulated under the title "Effect of a micro-entrepreneur based community health delivery program on under-five mortality in Uganda: a cluster-randomized controlled trial." The trial was approved by the ethics committee of Fondazione ICRIS (D2791986), by the Harvard IRB (protocol P2014-01), by the Uganda National Council for Science and Technology (UNCST) (NS0195), and by the IRB Office of the Joint Clinical Research Center (JCRC) in Uganda. The trial was registered in the Pan-African Clinical Trials Registry (PACTRI16000000711) and in the American Economic Association's registry for randomized controlled trials (AARECTR-000059). We gratefully acknowledge two anonymous referees for many valuable comments and suggestions. We appreciate comments on an earlier draft from May Sudhinaraset, Jimmy Liu, Dominic Montagu, and Rebecca Weinstein. We thank Arlette Donald and Charles White for help during different phases of the evaluation, and the IHS, Uganda health staff, specifically Jeff Akumu, Ezra Bwalya, Zuber Mwanuzi, Readdy Mugale, and Douglas Kaites. We thank Molly Christensen, Joe Speckler, Chuck Slaughter at Living Goods, as well as Sherrin Sheff and a number of staff at the IRAC-Uganda office for insightful discussions over the years about the CIP program, and Anne Hvidtby and Amy Mayberry at the Children Investment Fund Foundation for support throughout the study. Financial support from the Children Investment Fund Foundation and the Swedish Research Council (421,2013, 1524 and 2016-08625) is gratefully appreciated.

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Reducing Child Mortality with Community Health Promoters in Uganda

Abstract

Incentive-based community health worker model reaches millions.

“IPA recently completed a large-scale randomized study for Living Goods showing the model is reducing child deaths by a staggering 27 percent. The result has been nothing short of transformational. The power and quality of research has persuaded policymakers, replication partners, and major funders to back a rapid scale up of the approach. As a result, Living Goods’ reach has tripled to 5 million people served. Proof positive that IPA’s research can lead to disruptive change for those most in need.”

-Chuck Slaughter, Founder of Living Goods

The Challenge

Despite improvements in under-five child mortality, an estimated 5.9 million children worldwide died in 2015. More than half of those deaths were due to conditions that could have been prevented or treated with simple, affordable interventions.¹ A majority of these deaths occur in the poorest countries in the world, among families with inadequate access to basic health services. An increasingly common approach to reaching these populations is through community health worker programs, which recruit and train members of a community to provide basic health and medical care to their community. However, existing community health systems—often comprised of unpaid, volunteer workers—have had mixed results in reducing child mortality.² Weak incentives for community health workers to deliver timely and appropriate services may be factors limiting the effectiveness of these programs.³

The Evidence

An IPA study found that a social entrepreneurship community health worker model in Uganda, called Living Goods Community Health Promoters (CHP), substantially reduced child mortality, improved health knowledge and preventative care measures, and increased the number of visits that CHPs paid to households.

Living Goods, a U.S.-based non-profit organization, created the CHP program with the aim of improving access to and adoption of simple, proven health interventions in rural and peri-urban areas in Uganda.⁴ The program is carried out in partnership with the Bangladesh-based non-profit BRAC. Living Goods and BRAC entrepreneurial CHPs go door-to-door educating their community about ways to improve their health, diagnosing and treating illnesses, supporting pregnant women and newborns, and earning a small income from performance-based incentives and sales of impactful health products.



The three-year evaluation of the program found that it reduced under-5 mortality by 27 percent and infant (under-1) mortality by 33 percent.⁵ It also reduced neonatal mortality by 27 percent, on a base of 27.8 deaths during the first month of life per 1,000 live births.

The CHP program also improved health knowledge and people in program villages reported taking more preventative health measures than those in the comparison group. In addition, households with newborns in program villages were significantly more likely to have received follow-up visits, in relation to households in comparison villages that didn't receive the program.

The Impact

The findings have persuaded policymakers and funders to scale up the model, enabling Living Goods to expand the program to reach millions across Uganda and to bring the successful model to Kenya and provides promising insight into strengthening community health systems. IPA is currently evaluating this program at scale to see if the same impacts persist when the program is brought to scale. We are also exploring evaluating the approach in other contexts to validate the model, and are currently engaging in conversations with researchers and funders to this end.

Read more about how the program works in this [blog post](#) by the researchers, and more

about the methods and results in the [project summary](#).

The founder of Living Goods is a financial supporter of IPA. IPA conducts evaluations independently in the field, led by external, unaffiliated researchers. Neither partners nor funders influence results.

Watch a video where researcher Nava Ashraf talks about the importance of self-selection of public sector workers and what her research found in Zambia.

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Sources

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[2] Lewin, Simon, Susan Munabi-Babigumira, Claire Glenton, Karen Daniels, Xavier Bosch-Capblanch, Brian E. van Wyk, Jan Odgaard-Jensen et al. "Lay health workers in primary and community health care for maternal and child health and the management of infectious diseases." *Cochrane Database Syst Rev* 3 (2010).

[3] "Community and Formal Health System Support for Enhanced Community Health Worker Performance: A U.S. Government Evidence Summit" USAID Final Report 2012.

[4] The founder of Living Goods is a financial supporter of IPA. IPA conducts evaluations independently in the field, led by external, unaffiliated researchers. Neither partners nor funders influence results.

[5] Researchers measured under-5 and infant (under-1) mortality as mortality rate per 1000 years of exposure to the risk of death during the evaluation. The number of months of exposure is defined as the difference between the birth date of the child, or the start date of the trial if the child was born before that date, and the date that the child turned five (one for infant mortality) if that occurred during the trial period, or the date of the endline household survey if the child was less than five (one) years old at that time, or the date of the death of the child.