

Benchmarking a Nutrition Program Against Cash Transfers in Rwanda



How do standard development programs compare to just giving people cash? In Rwanda, researchers conducted a randomized evaluation to shed light on this question. Villages were randomly assigned to one of four groups: they received either a USAID-funded, integrated WASH and nutrition program (with savings and asset transfer components), unconditional cash grants¹ of equal cost to the donor, a larger cash transfer, or no program at the time of study. The transfers were funded by USAID and Google.org.

The evaluation measured impacts on five main health and economic outcomes: household dietary diversity, maternal and child anemia, child growth (height-for-age, weight-for-age, and mid-upper arm circumference), household wealth, and household consumption, as well as other secondary outcomes, such as savings.

Key Findings*

After approximately one year²:

- » The integrated nutrition and WASH program had a positive impact on savings, a secondary outcome, among the eligible population, but did not impact any primary outcomes (household dietary diversity, maternal or child anemia, child growth, household consumption, or wealth) within the period of the study.
- » An equivalent amount of cash (a cost to USAID of \$142 per household) allowed households to pay down debt and boosted productive and consumption assets, but did not impact child health outcomes.
- » A much larger cash transfer—of more than \$500 per household³—had a wide range of benefits: it not only increased consumption, savings, assets, and house values, but improved household dietary diversity and height-for-age, and decreased child mortality.
- » The results suggest that, over the time period of the study, targeted programs focused on changing specific outcomes may be able to do so at lower cost than cash, but that large investments of cash can more rapidly affect some leading indicators of malnutrition.
- » The results also suggest that large cash transfers impact not only the economic measures of consumption and wealth, but also dietary diversity, height-for-age, and child mortality, while small transfers appear to have more limited benefits.

* Results are preliminary and may change after further analysis.

¹ While recipients of the transfers were not conditional on certain behavior, all recipients were required to sign standard USAID prohibited use agreements.

² The study timeline was 13 months long, from Aug. 2016-Sept. 2017. GiveDirectly began implementation of cash transfers shortly after the baseline, and at endline individuals

in that group had experienced about 12 months of that program. The standard bundled program was rolled out more slowly in the first months; in that group households typically experienced 8-9 months of full implementation over the study period.

³ For reference, average Gross National Income in Rwanda is about \$700.

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FUNDERS

Google.org, USAID

COUNTRY

Rwanda

SAMPLE SIZE

248 villages

TIMELINE

August 2016 - September 2017

The Challenge

Rwanda has seen improvements in child nutrition in recent years, but significant challenges remain: 37 percent of children are anemic and 38 percent of children under 5 are stunted, according to a 2014-2015 national report.⁴ Malnutrition rates are much higher in rural areas than in urban areas. To combat these challenges, the Government of Rwanda set ambitious targets for reducing malnutrition among children and women of childbearing age by 2018.

But what is the most effective and scalable way to address these challenges? Existing standards of practice suggest that intensive multi-faceted programming can be effective by addressing multiple challenges at once, on the supply and demand side, with nutrition and water, sanitation, and hygiene (WASH) interventions.

The Programs

Nutrition and WASH program: Gikuriro, meaning ‘well-growing child’ in Kinyarwanda, is an integrated nutrition and WASH program implemented over five years (with the majority of program benefits rolled out in the first year), administered by Catholic Relief Services, in consortium with the Netherlands Development Organization, SNV, and funded by USAID. It aims to promote better nutrition and health in communities through a variety of behavior change activities, including village nutrition schools, community health clubs, growth monitoring and promotion by trained community health workers, and access to improved latrines and hand-washing facilities. In addition, it aims to build livelihoods through Farmer Field Schools and the distribution of seeds and livestock, as well as Savings and Internal Lending Communities. Finally it provides nutrition- and WASH-related capacity development and training to Government of Rwanda district employees and health workers.

Unconditional cash grants: GiveDirectly delivers cash transfers, typically with no conditions on how the money can be spent, to eligible households via mobile money. In

Another possible way may be through cash grants. Recent research⁵ has found that providing cash grants to the poor, without conditions on how the money can be spent, can have important welfare benefits for recipients, and overhead on cash grants is relatively low.

However, little research exists on the relative impact and cost-effectiveness of unconditional cash transfers compared to standard development programs, especially in improving nutrition and health outcomes among vulnerable populations. This study set cash grants as a “benchmark” for a nutrition and WASH program and was designed to provide evidence on the relative cost-effectiveness of these approaches.

this case, some households received a cash grant sized to the anticipated cost of the Gikuriro program, which was substantially lower than the transfer size used by GiveDirectly in other programs.⁶ Other households received a larger transfer, which was sized to be as cost-effective as possible given the costs of administering cash transfers (see ‘Evaluation’ below for details). The cash transfers were funded by USAID and Google.org.

Because of the nutritional focus of the Gikuriro intervention, GiveDirectly incorporated a ‘nudge’ into the way the program was introduced, utilizing a low-cost flyer emphasizing the importance of child nutrition that was left with recipients after program registration.

Both programs were administered to nutritionally vulnerable households, specifically to families with at least one child under five who was malnourished (determined using the Rwandan Ministry of Health standards for malnutrition), and to poor households with children or pregnant or nursing mothers.

The Evaluation

Innovations for Poverty Action - Rwanda worked with researchers to conduct a randomized evaluation of unconditional cash transfers, compared to the standard nutrition and WASH program, on five main outcomes: household dietary diversity, child and maternal anemia, child growth (height-for-age, weight-for-age, and mid-upper arm circumference), value of household wealth (not including land), and household consumption.

Two hundred and forty-eight villages were randomly assigned to one of three groups:

1. **Gikuriro group:** Eligible households in these villages received the full Gikuriro program. The program cost USAID \$142 per beneficiary household. (74 villages)
2. **Cash transfer group:** Eligible households in these villages received unconditional cash grants via mobile

⁴ Rwanda Demographic and Health Survey 2014-2015. Accessed March 22, 2018 at <https://dhsprogram.com/pubs/pdf/FR316/FR316.pdf>

⁵ See, for example, Haushofer, Johannes, and Jeremy Shapiro. “The short-term impact of unconditional cash transfers to the poor: Experimental evidence from Kenya.” *The Quarterly Journal of Economics* 131, no. 4 (2016): 1973-2042.

⁶ For example, the Kenya study cited above evaluated transfer sizes of \$300 and \$1,000. GiveDirectly deploys a wide range of transfer sizes in its programs.

money. Within this group of 100 villages, researchers further randomly assigned villages to four groups. Three groups (of 22 villages each) either received transfers that cost USAID \$66, \$111 or \$145. The 34 remaining villages were assigned to a 'large' GiveDirectly transfer, costing USAID \$566.⁷

While the exact cost of Gikuriro (\$142) was not known prior to implementation, this experimental allocation of different cash amounts enabled researchers to make an exact cost-equivalent comparison of impacts.

Preliminary Results⁸

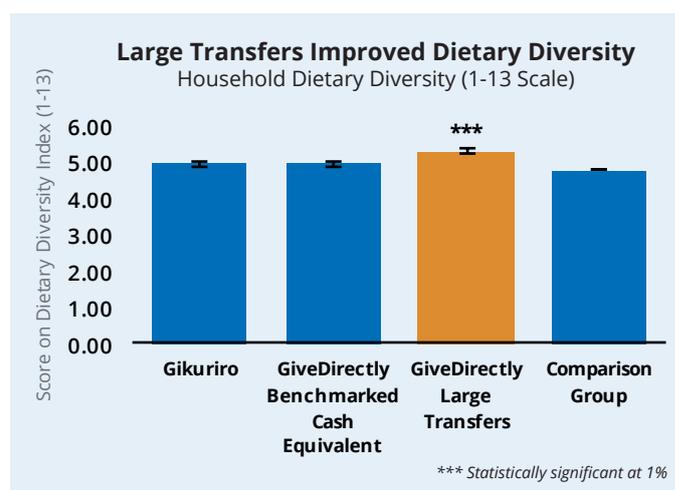
- » **Neither the WASH and nutrition program nor the cost-equivalent cash transfer had an impact on any of the primary outcomes** (child growth, household dietary diversity, maternal or child anemia, household consumption, or wealth) within the period of the study. Gikuriro did have a positive impact on savings among eligibles, a secondary outcome, and cost-equivalent cash had a positive impact on productive and consumption assets among eligibles, also secondary outcomes.⁹
- » **The much larger cash transfer (costing \$567, and transferring \$532 per beneficiary household) led to improvements in consumption, dietary diversity, and height-for-age, and decreased child mortality. It also led to increased house values and large increases in productive and consumption assets.**
 - » Results suggest the large transfer also **improved weight-for-age and mid-upper arm circumference**, though these effects were only marginally statistically significant, and all the anthropometric impacts were small in absolute magnitude (~.1 standard deviation).
 - » In the village overall (not only among beneficiaries), the large transfer led to a **small reduction in savings** and an **increase in vaccination rates**.
- » **The nutrition and WASH program had a positive impact on some secondary outcomes, such as savings, relative to the comparison group.** Household savings increased by 109 percent (consistent with the creation of savings groups).
 - » It also **improved health knowledge and vaccination rates** in villages overall. Given that health knowledge was a major focus of Gikuriro and the WASH/behavior change dimension of the program was broadly provided to the village population, this is an important confirmation for the

3. **Comparison group:** Eligible households in these villages received neither intervention during the study period. (74 villages)

In addition to the main outcomes described above, researchers also measured impacts on borrowing and savings, fertility, health knowledge, sanitation practices, diseases and mortality, household assets, and the quality of housing.

program. These improvements in health knowledge were not experienced by the eligible population, however, and did not translate into improvements in child outcomes over the course of the study.

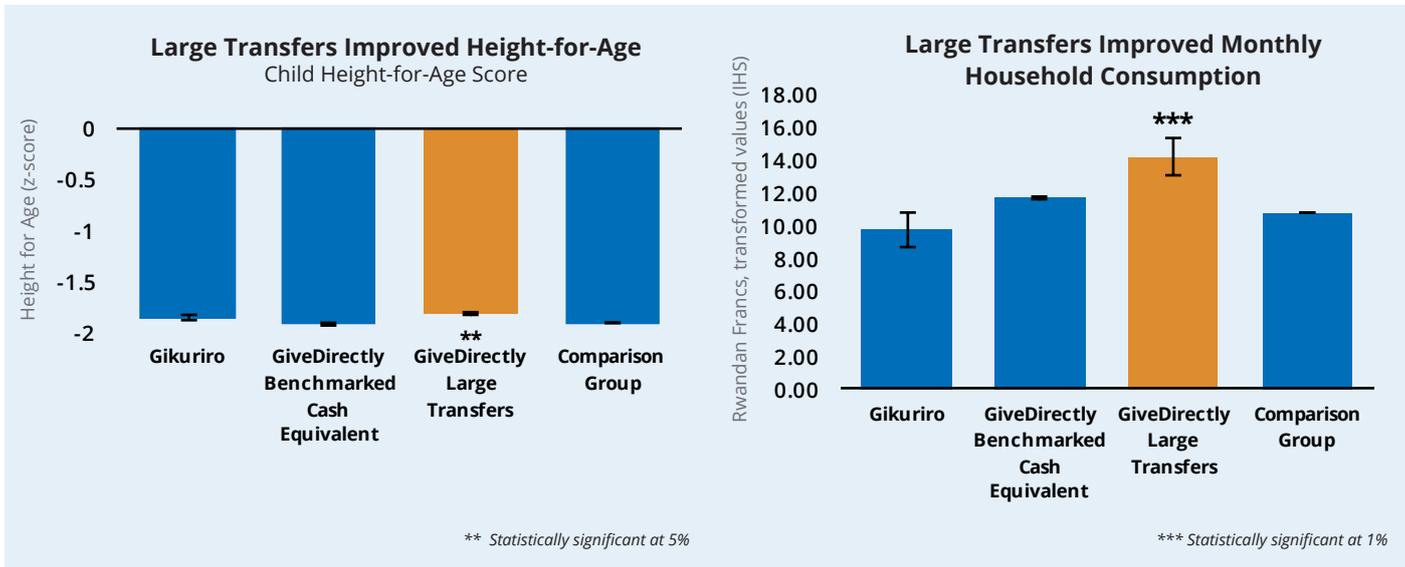
- » **The cost-equivalent cash transfer led to a 30 percent increase in the value of productive assets as well as a 40 percent increase in consumption assets. Recipients used some funds to pay down debt; households reduced debt by 73 percent.**
 - » It also **increased vaccination rates** in the village overall.
- » **When comparing the two groups with the same exact cost to each other (rather than to the comparison group), there were significant differences in the use of savings and borrowing;** when given free choice, the individuals in the cash group paid down debt, while the nutrition and WASH program induced households to save more (a focus of the savings groups). **The cost-equivalent cash was significantly more effective at driving the stock of consumption and productive assets.**



⁷ After administrative costs, beneficiaries received \$41, \$84, \$117 and \$532 respectively. The large transfer amount was selected by GiveDirectly as the amount anticipated to maximize the cost effectiveness of cash, and served as a comparison when evaluating the impact per dollar of different interventions.

⁸ All results reported in this brief are statistically significant at 5% or higher unless specified as "marginally statistically significant," in which case they are significant at 10%. For comparison results between cost-equivalent cash and Gikuriro, results are only reported where the effect is statistically significant relative to the control.

⁹ While this study period is short, other interventions targeted at improving child nutrition have been shown to have an impact on dietary diversity and child growth within a year. See for example, Bastian, Gautam, Markus Goldstein, and Sreelakshmi Papineni. "Are Cash Transfers Better Chunky or Smooth?" (2017); Fink, Günther, Rachel Levenson, Sarah Tembo, and Peter C. Rockers. "Home- and community-based growth monitoring to reduce early life growth faltering: an open-label, cluster-randomized controlled trial." *The American Journal of Clinical Nutrition* 106, no. 4 (2017): 1070-1077.



Conclusion

These results add nuance to the body of evidence on cash transfers and on programs aimed at improving child health, and also contribute some of the first rigorous results on how cash compares to standard development programming.

First, the findings suggest when a program targets its interventions at a certain set of behaviors, it can, at relatively low cost, shift key indicators tied to these behaviors (the strong impact of Gikuriro’s savings groups). If such a program is built on a solid theory of change connecting outcomes such as savings to long-term outcomes, this can be a well-justified use of development assistance.

Second, it supports the notion that the size of a cash grant matters. While cost-equivalent cash had an impact on some economic outcomes, it was transformative when the transfer amount rose. The large cash transfer even delivered benefits on outcomes specifically targeted by the other program.

The WASH and nutrition program was, however, successful at delivering a significant improvement in health knowledge for the overall population of the village while the cash transfer generated benefits that were more localized to beneficiary households.

In addition, these results are in line with recent evidence¹⁰ suggesting that WASH programs, which are common throughout the developing world, are less effective at improving child growth than observational studies have suggested.

Finally, the results contribute to a growing body of evidence¹¹ suggesting that large cash transfers can lead to rapid improvements in diet and children’s physical growth. Particularly in places where families’ inability to afford a nutritious diet is a major factor in malnutrition, unconditional cash transfers may play a quick and effective role in improving children’s nutritional status during a critical window of development.

¹⁰ See, for example, Luby, Stephen P., Mahbubur Rahman, Benjamin F. Arnold, Leanne Unicomb, Sania Ashraf, Peter J. Winch, Christine P. Stewart et al. “Effects of water quality, sanitation, handwashing, and nutritional interventions on diarrhoea and child growth in rural Bangladesh: a cluster randomised controlled trial.” *The Lancet Global Health* 6, no. 3 (2018): e302-e315.; Null, Clair, Christine P. Stewart, Amy J. Pickering, Holly N. Dentz, Benjamin F. Arnold, Charles D. Arnold, Jade Benjamin-Chung et al. “Effects of water

quality, sanitation, handwashing, and nutritional interventions on diarrhoea and child growth in rural Kenya: a cluster-randomised controlled trial.” *The Lancet Global Health* 6, no. 3 (2018): e316-e329.

¹¹ Baird, Sarah, Craig McIntosh, and Berk Ozler. “When the money runs out: do cash transfers have sustained effects on human capital accumulation?.” (2016).



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