



# OPTIMIZING FOOD-ASSISTANCE PROGRAMS

## Food Assistance Improves Child Growth in Burundi

Tracy Brown and Jef Leroy

Food assistance can help to solve hunger and associated problems such as poverty and malnutrition. But what type of assistance makes the greatest impact and when?

### STRENGTHENING THE EVIDENCE BASE

Food-assisted maternal and child health and nutrition (FA-MCHN) programs have long been used to address hunger and hunger-related problems. Traditionally, such programs targeted families with underweight children younger than five. But a landmark [IFPRI study](#) in Haiti showed that preventive interventions—those that target all mothers during pregnancy and the first 6 months of lactation as well as children between 6 and 24 months old (the first 1,000 days)—are more effective than traditional *recuperative* interventions.

To build on the findings of the groundbreaking Haiti study, the United States Agency for International Development's Office of Food for Peace commissioned two rigorous evaluations of FA-MCHN programs—one in Guatemala focusing on the optimal quantity and composition of food rations, and the other, detailed below, in Burundi to assess the optimal timing and duration of FA-MCHN programs for preventing malnutrition in children under two.

### THE TUBARAMURE PROGRAM

Ranked near the bottom of the Human Development Index (184 out of 188 countries), Burundi suffers from high levels of hunger and low levels of education. The nutrition situation in the country is dire. Anemia is prevalent among pregnant women and children under the age of five (31 percent and 47 percent, respectively, in 2011), and recent surveys show that 60 percent of children under five are stunted.

To address these challenges, a consortium of nongovernmental organizations led by Catholic Relief Services launched a large-scale FA-MCHN program called Tubaramure ("let's help them grow" in Kirundi) in eastern Burundi. The program, which lasted from 2009 to 2014, included three key components: 1) the distribution of food rations; 2) activities to strengthen the quality and promote the use of health services; and 3) a behavior change communication (BCC) strategy aimed at improving health, hygiene, and nutrition practices. All pregnant women and mothers with children under 6 months old were invited to participate. They were encouraged to stay in the program until their children were 24 months old.

To determine Tubaramure's impact on child linear growth as well as the differential effect on linear growth of varying the timing and duration of food rations, IFPRI researchers Jef Leroy, Deanna Olney, Marie Ruel, and colleagues [carried out a cluster-randomized controlled trial](#). Sixty *collines* (an official administrative unit in Burundi) meeting the study criteria were randomized into one of four treatment arms: 1) The "T24" arm provided all program benefits from pregnancy until the child was 24 months old; 2) "T18" provided all benefits from pregnancy, but ended food rations when the child reached 18 months; 3) "TNFP" provided all benefits except for food rations during pregnancy, with rations beginning at the child's birth and all benefits ending when the child turned 24 months old; and 4) a control group.

Program impacts were measured through three repeated cross-sectional surveys: the 2010 baseline and follow-ups in 2012 and 2014. IFPRI also evaluated whether program impacts varied by socioeconomic or sociodemographic characteristics.

# THE IMPACT OF TUBARAMURE

## EFFECTS ON CHILD STUNTING

The Tubaramure program had a positive impact on the prevalence of stunting. During the study period, stunting did not rise among participants in the three treatment arms, while rising considerably—from 68 percent to 75 percent—in the control area. The prevalence of stunting in the full treatment arm (T24) was 7.4 percentage points lower than in the control arm.

The program had the greatest impact on children in better-off households (with greater assets, literate mothers, and parents with some education). As participation did not vary across socioeconomic groups, this was not the result of differential program participation. Rather, lack of literacy or education may have limited the impact of BCC sessions on the knowledge and practices of mothers; resource constraints may have inhibited the implementation of improved health, hygiene, and feeding practices; the program “dosage” may have been too low for the most-stunted children to biologically respond; or poor health could have inhibited significant effects on stunting in these children.



## OPTIMAL DURATION OF FOOD ASSISTANCE

While the difference in impact between the treatment arms was not statistically significant, the largest impact on stunting was experienced by those who received food assistance throughout the entire period of the first 1,000 days, from conception to a child’s second birthday. This finding suggests that to maximize impacts on linear growth, nutrition interventions should target this whole period.



## KEY FINDINGS

- » Preventive FA-MCHN programs during the first 1,000 days of life can produce large reductions in stunting.
- » These programs can mitigate health and economic shocks among mothers and children in vulnerable areas.
- » Resource constraints and low levels of education and literacy may limit program effectiveness, indicating a need to understand how to better support children from the most disadvantaged backgrounds.

Photos: Megan Parker

This project note is an output of “Impact and Cost-Effectiveness of the Preventing Malnutrition in Children under 2 Approach,” a research project in Guatemala and Burundi. The research project and this brief were made possible by the generous support of the American people through the support of the Office of Health, Infectious Disease, and Nutrition, Bureau for Global Health and the Office of Food for Peace, Bureau for Democracy, Conflict and Humanitarian Assistance, United States Agency for International Development (USAID), under terms of Cooperative Agreement No. AID-OAA-A-12-00005, through the Food and Nutrition Technical Assistance III Project (FANTA), managed by FHI 360. Support was also received from the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH), led by the International Food Policy Research Institute. This project note synthesizes the main findings on the impact of the Burundi program on child linear growth. Complete results appear in the open-access article “[Tubaramure, a Food-Assisted Integrated Health and Nutrition Program, Reduces Child Stunting in Burundi: A Cluster-Randomized Controlled Intervention Trial](#)” in the March 2018 issue of the *Journal of Nutrition*. Any opinions stated herein are those of the author(s) and are not necessarily representative of or endorsed by the International Food Policy Research Institute, FHI360, USAID, or the United States Government.

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

*A world free of hunger and malnutrition*

1201 Eye Street, NW, Washington, DC 20005 USA | T. +1-202-862-5600 | F. +1-202-862-5606 | Email: [ifpri@cgiar.org](mailto:ifpri@cgiar.org) | [www.ifpri.org](http://www.ifpri.org)

© 2018 International Food Policy Research Institute (IFPRI). This publication is licensed for use under a Creative Commons Attribution 4.0 International License (CC BY 4.0), <https://creativecommons.org/licenses/by/4.0/>.