



**Prevention or Cure?  
Comparing Preventive and  
Recuperative Approaches to  
Targeting Maternal and Child  
Health and Nutrition Programs  
in Rural Haiti**

**Executive Summary of the  
Evaluation Report**

December 2007

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FOOD AND  
NUTRITION  
TECHNICAL  
ASSISTANCE

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## EXECUTIVE SUMMARY

### Background

Food-assisted maternal and child health and nutrition (MCHN) programs have traditionally targeted children less than 5 years of age who were identified as undernourished through growth monitoring activities. Scientific evidence, however, shows that children under 2 are more at risk of becoming undernourished and more responsive to nutrition interventions than older children. Research findings consistently show that the earlier and the longer food supplementation is provided before the child reaches 2 years of age, the greater the benefits not only on growth in early life, but also on long-term physical, cognitive and reproductive performance. Thus, investing in the first two years of life provides benefits way beyond childhood and is an essential element of development strategies and human capital formation interventions.

Although the benefits of intervening early in life are unequivocal, nutrition-focused programs globally have been hesitant to adopt the universal targeting of children under two because of the lack of evidence of the effectiveness of the approach in large-scale programs. In order to fill this knowledge gap, researchers from the International Food Policy Research Institute and Cornell University undertook a study commissioned by the Food and Nutrition Technical Assistance (FANTA) Project at HJ K582 to compare the "ghgevkxpguu"cpf "equv ghgevkxpguu"qh'c"ör t'gxgpvkxgö approach, which targets all children under 4. 'y kj "y g'vcf k'kqpcn'öt gewr gtcvkxgö"cr r tqcej. 'y j lej " targets children under 5 years of age once they have become undernourished. The project was carried out in collaboration with World Vision-Haiti (WV-Haiti) in the context of their PL 480 Title II food-assisted MCHN program in the Central Plateau.

### Study Objectives

The main objective of the study was to compare, under programmatic conditions, the impact on childhood undernutrition of targeting food assistance and behavior change communication (BCC) in the context of a Title II MCHN program to all children 6-24 months of age (preventive approach), versus to undernourished children less than 5 years of age (recuperative approach). We also compared the cost and cost-effectiveness of the two program approaches, as well as their impact on a variety of intermediate outcomes, such as food security, maternal nutrition knowledge and infant feeding practices.

### Intervention Packages

The preventive and recuperative packages of nutrition services were designed based on the best available biological evidence about the efficacy of supplementation as well as formative research to develop the BCC strategy that would accompany a monthly food assistance ration. The composition and size of the monthly food ration were identical for both program approaches, but the programs differed in the following three aspects: (1) the eligibility criterion (undernutrition among under-5 children for recuperative and age 6-24 months for preventive); (2) the focus, timing, sequencing and number of sessions of BCC (see below); and (3) the timing and duration of eligibility to receive the food and BCC intervention (nine months from time child is identified

as being undernourished for recuperative – as decided by WV-Haiti for this approach; the whole 18-month period when children are between 6 and 24 months for preventive). Severely malnourished children (weight-for-age Z-scores < -3) 24 months or older in the preventive approach were also eligible to participate in the program for nine months. Both program approaches targeted pregnant and lactating women, who were eligible to receive a monthly food ration until the sixth month of lactation.

Receipt of the food ration was conditional on regular monthly attendance at other program health services, including the Rally Posts (which provide preventive health care services), pre- and postnatal consultations (for pregnant and lactating women only) and Mothers' Clubs (MCs), which are small peer group education sessions. The MCs were the mainstay of the BCC strategy used by both program approaches. Although the content of the MC sessions was largely similar in both program approaches, the approaches differed in the sequencing of the sessions and the number of sessions offered. The sequencing of MC sessions was age-based in the preventive approach and mothers attended a maximum of 18 monthly sessions, while in the recuperative approach, the session topics were chosen to be relevant for mothers of malnourished children, and nine monthly sessions were offered (as per original design of WV-Haiti's recuperative approach). A total of 12 MC sessions were offered for pregnant and lactating women, six in pregnancy and six during the first six months of lactation. Health staff who facilitated the MCs were trained in the technical content of the MC sessions as well as in adult education-based communication and facilitation skills.

## **Evaluation Design**

The evaluation used a community-level, cluster-randomized pre-post design, whereby 10 paired clusters of communities were randomly assigned to either the preventive or the recuperative program group. Cross-sectional surveys were conducted to assess the prevalence and severity of undernutrition among children 12-41 months of age at baseline and three years later, and statistical methods for analyzing group randomized designs were applied to evaluate impact. The baseline survey was conducted between May and September 2002 and the post-evaluation survey was conducted exactly three years later, between May and September 2005, to minimize seasonal variations. All components of the intervention packages, except the newly developed BCC strategy, were implemented immediately following the baseline survey, i.e., in August-September 2002. The full BCC package, however, was implemented several months later (in May 2003) due to delays in material development, staff training and field implementation.

In addition to data on the anthropometric outcomes, information was also gathered on a variety of intermediate outcomes relating to the use of the program services, household food security and assets, caregiver nutrition knowledge, physical and mental well-being, and infant feeding and care practices. The surveys were designed with the UNICEF conceptual framework in mind, so as to be comprehensive in their assessment of the resources available for care at the household and caregiver level.

The evaluation activities included a two-stage operations research process in addition to the surveys. The first stage, conducted a few months after the full intervention package was implemented in 2003, assessed the quality of program implementation and discussed the results

with WV-Haiti to improve the quality of implementation. The second stage re-assessed the quality of implementation in 2004 and compared the quality of implementation between the two program approaches. No major implementation differences were seen, and implementation was of high quality, which suggested that both program approaches were operating largely as designed.

## Results

At baseline, the two groups of communities (preventive and recuperative) were similar in all the main outcomes of the study as well as other major determinants of infant feeding and nutritional outcomes, such as food security, household socioeconomic status, maternal education, work patterns, social status, and physical and mental well-being.

### Impact on Child Nutritional Status

The key finding of the study is that in communities randomly allocated to receive a *preventive* approach of Title II-MCHN program, the prevalence of stunting, underweight and wasting respectively was 4, 6 and 4 percentage points lower after three years of operation compared to communities exposed to the *recuperative* program approach. The adjusted prevalence of stunting, underweight and wasting among children 12-41 months in preventive areas was 33.9 percent, 14.8 percent and 3.7 percent respectively, whereas in recuperative communities, it was 38.2 percent, 20.8 percent and 7.4 percent respectively (using WHO reference standards (WHO 2006)). Mean height-for-age, weight-for-age and weight-for-height Z-scores were also significantly higher in the preventive compared to the recuperative program communities. The differences (adjusted for child age and gender and clustering effect) in favor of the preventive group were + 0.14 for HAZ, + 0.24 for WAZ, and + 0.24 for WHZ. At baseline, there were no differences between program groups in any of the anthropometric indicators.

The magnitude of differences in favor of the preventive group for mean anthropometric indicators is comparable to other effectiveness trials aimed at reducing undernutrition through improved complementary feeding (Caulfield, Huffman and Piwoz 1999) and to the average impact of USAID Title II MCHN programs documented by Swindale and collaborators (2004). Although the studies included in these reviews, which used before/after or post-intervention designs with a control group, are not directly comparable to our study design (which compared two food-assisted MCHN program approaches), they are indicative of a range of effect that may be expected from this type of intervention. If we assume that our recuperative approach had some impact on reducing undernutrition (as suggested by the review of USAID food-assisted MCHN programs), then the larger impact of the preventive approach must be viewed as additional to that of the recuperative approach.

*Plausibility of impact:* The results of the main impact analysis are also supported by the fact that children who were exposed to the preventive program for the whole period of greatest nutritional vulnerability (i.e., from 6-23 months of age) benefited more from the intervention than children who were exposed only partially during this time period. Also, there was no difference between program approaches among younger siblings (i.e., infants 0-11 months of age) of our sample of



12- to 41-month-old children, which was expected, given that they received the same program services during pregnancy and the first six months of lactation.

When compared to baseline, children's nutritional status appears to have deteriorated among the recuperative group, especially with regards to the prevalence of underweight and wasting, which increased from 17.8 percent to 20.8 percent (underweight) and from 4.3 percent to 7.4 percent (wasting). Stunting increased by 0.5 percentage point in the recuperative group, while it decreased by 3.8 percentage points in preventive areas. Underweight also declined by 2.9 percentage points in the preventive areas, while wasting decreased marginally. These results suggest that the preventive approach may have helped mitigate the deleterious effects on childhood malnutrition of the economic and political crisis that occurred in Haiti during the study period.

### **Relative Costs and Cost-Effectiveness**

The *total* direct costs for the two program approaches are the same, but the total variable/outside costs of the preventive approach, as designed and implemented in the evaluation area, are much higher than the costs of the recuperative approach. When examining costs *per beneficiary month*, rather than total costs, we find that the direct program costs per beneficiary-month are higher in the recuperative than in the preventive approach (\$21 versus \$15). The outside program costs (which include the costs of the food and health care supplies) are the same in both groups – \$12 per beneficiary month.

The differences in costs (both total and per beneficiary month) is due to the much larger number of beneficiary-months in the preventive compared to the recuperative approach, owing to the design features of the preventive approach, as well as the differential participation rates for the two program approaches. Specifically, (1) *There is a larger number of eligible children in preventive compared to recuperative areas* because the prevalence of underweight children among the under-5s is less than the proportion of children 6-24 months among children less than 59 months); (2) *The duration of eligibility is longer, by design, in the preventive compared to the recuperative approach*: Children in the recuperative approach were enrolled in the program for nine months, as determined in WV-Haiti's development assistance program plan, while children in the preventive approach would be eligible to remain in the program for the entire period between six and 24 months, i.e., for up to 18 months. Thus the duration of intervention, by design, was double in the preventive approach; (3) *The rates of program uptake are higher in the preventive compared to the recuperative areas*: our analysis of program uptake (see below) suggests that the preventive approach seemed to elicit higher participation rates among eligible children than the recuperative approach, thereby further increasing the number of beneficiary-months in the preventive approach.

In sum, the larger cost of the preventive compared to the recuperative approach is due to the larger number of beneficiary-months, which, in turn, is due to a combination of factors including design, undernutrition prevalence and program uptake patterns. The relative cost and relative cost-effectiveness of the preventive approach over the recuperative approach can, therefore, differ from context to context.

## **Pathways of Impact**

The impact of the program is dependent on good service delivery, as well as good participation in the program services by eligible beneficiaries, and finally, by appropriate use of the program inputs (food and BCC) by program beneficiaries, which then lead to the intended intermediate impacts on food security, maternal knowledge, and child care and feeding practices.

As noted above, there were no implementation differences between the program approaches, and the program was implemented in all evaluation communities. Thus, differences between program approaches on child nutrition outcomes may have been achieved through differences in program participation and uptake. Other potential explanations for differences between program approaches include differences in impacts on the care environment at the household and caregiver levels, and/or differences in biological vulnerability (under 2 years versus older children). In addition, the substantially higher proportion of children exposed to the fortified foods in the preventive group also likely contributed to the differences in outcome.

We briefly review the different steps in the pathways of impact below.

### *Program Participation and Uptake*

The enrollment rates in the food assistance and BCC package among pregnant and lactating women were similar in both program communities. Enrollment among children was different and was true to the design (as intended). Overall, more children in the preventive communities had ever been enrolled in the program (73 percent) than in the recuperative communities (28 percent).

Around 75 percent of eligible children in the preventive program (6-23 months of age) were receiving food assistance at the time of the final survey. In the recuperative group, only 29 percent of children 6-59 months who were underweight at the time of the final survey were enrolled, most likely because a smaller proportion of eligible children were brought to the Rally Posts—the main entry point into the program. Targeting was excellent in preventive communities, with 93 percent of enrolled children meeting the age eligibility criteria; in the recuperative group, around 57 percent of currently enrolled children were underweight. Thus, program uptake in the two approaches was quite different, most likely because of differences in population understanding of the targeting mechanisms in the two approaches.

### *Impact on Household Care Context and Resources*

At final survey, households in preventive communities had statistically significantly lower food insecurity than households in recuperative areas, but differences were small. More meaningful differences were observed between current participants and non-participants in both program groups, suggesting a positive short-term impact of food assistance on household food security. Compared to baseline, overall food insecurity did not improve over the three-year duration of the study and continues to be severe in the program area. There was thus no evidence of a long-term effect of the program on food security; the same was true for asset ownership, which had not improved since baseline and was not different between program communities or between

participants and non-participants. Thus, overall, the program seems to have had a positive impact on food security in the short term, suggesting that the slightly greater impact on households in preventive compared to recuperative communities is due to their longer eligibility to receive food assistance. There was, however, no evidence that the program had a longer-term impact on food insecurity (i.e., beyond the period of receipt of food assistance), which is most likely due to the severe economic constraints faced by poor households in Haiti at the time of the study. It is possible that more sustained impacts of such a program could be obtained in less constrained times.

### *Impact on Maternal Context and Resources*

We did not find any differences between program groups on maternal resources such as education, social support and autonomy in decision making either at baseline or at the final survey. Impacts on other resources are discussed below.

*Maternal knowledge:* Maternal knowledge of several topics related to infant and young child feeding and general health and nutrition topics was higher among the preventive compared to the recuperative group at final survey, but differences were generally small. Larger differences were found between mothers who had ever participated in the program, compared to those who had never participated. Maternal knowledge also significantly improved from baseline to final survey in both program groups, suggesting that overall, the BCC strategy was successful in improving overall maternal knowledge of health and nutrition in the program communities. However, the longer duration of exposure to the BCC in the preventive compared to the recuperative group and the more age-specific and timely delivery of messages resulted in only small differences in knowledge between groups.

*Physical and mental well-being:* At baseline, we found that food insecurity was strongly associated with all measures of women's well-being, particularly mental well-being. At final survey, respondents in the preventive communities were better off than those in the recuperative communities on four of the women's well-being measures – self-rated health, mental stress and two measures of life satisfaction. *Current participants* in preventive communities also had better self-rated health, lower mental stress and lower time stress than non-participants. Thus, it appears that the program's short-term impact on food security had positive benefits on women's mental well-being; and given that women in preventive communities received food assistance for longer periods of time (for up to 30 months if they were enrolled in the program during pregnancy and the first two months of lactation), they benefited more in terms of improved mental well-being than women in recuperative communities. Again, there was no evidence of long-term benefits of the program on these aspects, as reflected by the lack of difference in well-being between mothers who had *ever participated* and those who had not.

### *Impact on Child Feeding and Care Practices*

#### Awareness, Trial and Adoption of Recommended Practices

The final survey included an assessment of the awareness, trial and adoption of seven key practices recommended by the program. For most key practices, respondents in preventive program areas were more likely to report awareness, trial and adoption than were respondents in

recuperative areas. In most cases, however, differences between program areas were of relatively small magnitude, while differences between those *ever* exposed to the program and those *never* exposed were large. Thus participation in either program approach had a beneficial effect on awareness, trial and adoption of recommended child feeding and care practices, with mothers in preventive communities doing slightly better on these aspects than women from recuperative communities, probably as a result of their longer exposure to the BCC intervention and the more timely delivery of the messages (i.e., at the age when knowledge and adoption of specific practices was most relevant). However, the reported reasons for non-trial and adoption of practices suggest that overall, practices that required few material resources to try and adopt were more likely to have improved with exposure to the program.

### Infant and Young Child Feeding Practices

*Breastfeeding:* There were no differences between program groups in early feeding practices or in the timing of introduction of liquids and complementary foods. This was expected since the two program approaches offered exactly the same services until the child reached 6 months of age. Large improvements in these practices were seen since baseline, however, and equally large differences were observed between participants and non-participants for both program approaches. Breastfeeding duration was the same in both program groups at baseline and at final survey and ranged from 18 to 24 months of age.

*Complementary feeding practices, including consumption of the donated food:* There were few differences between program groups in complementary feeding practices at final survey, with the exception of diet quality and the consumption of animal source foods, which were slightly higher in the preventive group. The infant and young child feeding indicator – which combines information on breastfeeding, number of meals/day and household dietary diversity – also showed a statistically significant but modest difference in favor of the preventive compared to the recuperative communities. As with maternal knowledge, differences in many of the feeding practices were larger between ever-participants and never-participants than between program groups. These include meal frequency, use of baby bottles, vitamin A supplement consumption and consumption of fortified donated food (wheat-soy blend, or WSB), the latter being expected. Several practices had markedly improved since baseline; these included a reduction in the use of baby bottles (which was halved since baseline) and increases in vitamin A supplementation and in appropriate feeding during and after diarrhea. The overall consumption of animal-source foods, however, was lower at final survey than at baseline, probably a reflection of the economic crisis and related price increases in Haiti over the study period.

The proportion of children consuming food made with WSB was not different between current participants in the program groups. However, since there is a larger *number* of program beneficiaries receiving WSB and other fortified foods in the preventive group, particularly among the younger children, it can be assumed that the fortified food contribute more to nutrient intake among children in the preventive approach than in the recuperative approach.

### Preventive and Curative Care-Seeking and Hygiene

Immunization rates were not different between groups at baseline or final surveys, but they had improved from a very low 11 percent of children fully immunized at baseline to approximately 30 percent at final survey. Patterns of attendance at Rally Posts were similar between groups for children during the first year, which explains the lack of difference in immunization rates between groups. The low immunization coverage seemed to be largely due to poor supply as opposed to low demand, as suggested by our operations research results. Care-seeking for fever, cough, fast breathing and diarrhea were not different between program groups at baseline or at the final survey and were not different between participants and non-participants. However, care-seeking rates were lower at the final survey when compared to the baseline survey, possibly due to decreased severity of illness and/or better home management of illness. Use of oral rehydration salts (ORS) and sugar-salt solutions (SSS) were higher since baseline, suggesting improved home care for diarrhea as a result of the program. There were no differences in markers of hygiene practices between program groups either at baseline or final surveys, but there was a slight decrease in hygiene scores since baseline. There were also no meaningful differences in markers of hygiene practices between participants and non-participants.

### *Conclusions on the Pathways of Impact*

Our findings suggest that the pathways of impact, which led to better child nutritional outcomes among preventive communities, operated mainly through the changes in the child care context resulting from participation in the program and through greater availability of the fortified food to children in the preventive approach. More specifically, participants in preventive communities had greater food security while in the program, which positively affected the caregivers' mental well-being; this, combined with better knowledge, awareness, trial and adoption of several recommended feeding and care practices, likely resulted in a generally more supportive care environment, which, in turn, could have had a greater impact on the preventive approach compared to the recuperative approach on child nutrition outcomes. Furthermore, a larger number of children in the preventive approach received fortified food in preventive approach than in the recuperative approach. Since consumption of the fortified food is high among those who receive them, this is also a potential pathway of impact.

It is important to note that in general, differences between the preventive and recuperative approaches in the different aspects of the child care context were relatively small. This was somewhat surprising, given the much longer duration of exposure to program inputs among participants in the preventive approach, the higher participation rates and the explicit effort to deliver the BCC intervention in the most timely fashion in the preventive approach compared to the recuperative approach. The results thus suggest that it may be the cumulative effect of relatively small differences in the multiple aspects that comprise the care environment, which are responsible for the larger benefits of the preventive compared to the recuperative approach in improving child nutritional status in our study.

Our results also showed that the two program approaches were operating equally well and that none of the program implementation and staff-related factors differed between the two approaches. This allows us to conclude with certainty that the greater nutritional impact observed in preventive communities was truly due to a more effective program approach.

## Implications for Programs and Policies

This section briefly summarizes the overall lessons learned from this evaluation and their implications for programs and policies.

*A preventive approach to addressing childhood undernutrition is more effective than a curative approach.* The direct implications of our results are that in order to improve effectiveness, food-assisted MCHN programs should target all children under the age of 2 years, as opposed to malnourished children under 5, and continue to target pregnant and lactating women. Severely malnourished children up to 5 years of age should continue to be screened and receive appropriate care.

*Focusing on the under-2s is both feasible and successful in a programmatic context.* There is renewed global attention around this critical age group, but few examples exist of feasible, successful and effective programs. This evaluation provides an example of the feasibility and effectiveness of this approach, in a programmatic context, as well as an example of *how* such programs can be developed, strengthened and monitored under real programmatic conditions. Our work thus provides programmatic evidence for current policy to focus nutrition interventions on the under-2s.

*A well-designed and well-implemented behavior change strategy can improve infant feeding practices regardless of whether a preventive or recuperative approach is used for targeting.* This evaluation provides an example of an approach and a specific set of tools that were used for developing and implementing a locally relevant, programmatically feasible BCC strategy for improving child feeding and care practices among children under 2 years of age.

*Variable cost per beneficiary-month is approximately the same for the two programs, but total costs are higher for preventive approach as designed in this study.* The implications of these findings are that programs should carefully review their program design, geographic priority areas and targeting mechanisms based on their resources and target number of beneficiary-months. Programs can also attempt to balance or reduce the costs of the preventive approach by changing the age range for targeting, the duration for which children are enrolled in the program and/or even the amount of the food assistance provided. The impact of making any of these changes to the preventive approach, however, should be rigorously tested to ensure that these modifications do not result in losses in effectiveness and nutritional impact of the program.

*Investing in formative and operations research is important for program success.* This evaluation provides strong evidence that investing in formative research can help design effective BCC programs that are grounded in the sociocultural context, locally relevant and programmatically appropriate. The study also provides evidence that operations research provides critical insights regarding the quality of implementation and service delivery for evaluators and program implementers.

## **Recommendations for Future Research**

*Evaluation of the preventive approach in other settings, preferably using a control group.* Future evaluations of the preventive approach should include a control group, so that the magnitude of the absolute effect of the preventive approach could be assessed. Evaluations in other contexts should also pay adequate attention to program theory so as to generate knowledge and consensus on developing and implementing programmatic approaches for delivering food-assisted MCHN services to the critical under-2 age group.

*Separating contributions of food assistance and BCC components.* Since the food component contributes the majority of the cost of the program approach, it would be useful to conduct evaluations that allow separating the contributions and cost of food assistance from the BCC component. At the same time, the role of limited food and economic resources in dampening the potential impact of BCC programs in impoverished contexts should be kept in mind. Research should also assess the long-term impact of both program approaches and determine whether short-term benefits in nutritional status are maintained over time.

*Testing alternative designs for a preventive approach.* Future evaluations should test different delivery systems for the preventive approach and compare the cost of alternative designs such as modifying the age of eligibility, reducing the duration of eligibility or the size of the food assistance package. These evaluations should include a control group so that the cost-effectiveness of the different approaches could be assessed.

## **Lessons for Program Evaluations**

*Using program theory to develop evaluations.* The approach to this evaluation was based on program theory that considered the full pathway of expected impacts. Developing the evaluation activities based on this framework was useful not only for the measurement of the different program inputs and outcomes but also to help identify bottlenecks that could influence the program's impact.

We paid careful attention to the design of the preventive approach in particular because it was important to ensure that the approach was truly preventive in nature. This attention to design is important to consider in all evaluations, because evaluating a program that is not designed to be true to the concept behind it is inefficient and does not allow appropriate interpretation of the results of an evaluation.

*Documenting implementation quality and program utilization.* Attention to the quality of implementation of the intervention package as well as utilization of the intervention by intended users is critical in any impact evaluation. As with the design, a poorly implemented and poorly utilized intervention is not likely to yield the expected impact. Thus, attention to design and to implementation quality, as well as patterns of utilization, are both essential to draw conclusions about the effectiveness of interventions.

*Age of intervention versus age of expected impact.* Finally, we suggest that it is extremely important that evaluations focusing on child growth outcomes pay attention to the age at which

an intervention to improve growth is delivered versus the age at which impact is expected. Outcome assessments should be conducted within the age group that is most likely to show impact, which is not necessarily the same as the age of targeting of interventions.

## **Conclusions**

This evaluation shows that a preventive approach to a Title-II MCHN program is more effective than the traditional, recuperative approach at reducing childhood undernutrition among children aged 12-41 months. The variable costs of both the program approaches was approximately the same on a beneficiary-per-month basis but the preventive approach was more expensive in the Haiti setting because of differences in design and participation rates between the two approaches. Moreover, the relatively low levels of undernutrition in this population (compared to other equally poor countries) results in a larger number of children under 2 years of age, compared to underweight children, and thus more beneficiary-months in the preventive approach. Both programs also had a significant impact on improving maternal knowledge and feeding practices compared to baseline, showing that a well-designed and well-implemented BCC strategy integrated within a Title-II MCHN program can be highly effective. These benefits were obtained with two carefully designed and implemented program approaches operating under particularly difficult field conditions in rural Haiti.

We believe the findings of this study are generalizable, given the remarkably similar patterns of child growth globally and the similar prevalence of undernutrition in Haiti and other countries in the world. We conclude by suggesting that there are four conditions for the results of this study to be replicable: (1) good program design based on sound formative research, (2) effective implementation and service delivery monitored with regular operations research, (3) good incentive structure and high staff motivation monitored and fostered by effective supervision, and (4) similar or higher levels of undernutrition than in Haiti (e.g., 25 percent-30 percent). Although a similar preventive program could be effective in a population with lower levels of undernutrition than in Haiti, the cost per case of undernutrition prevented would be higher. However, most poor countries in Africa and Asia, and even some countries of Latin America, currently have a higher prevalence of undernutrition than Haiti. For these countries, a preventive approach is strongly justified for MCHN programs.