ALIVE & THRIVE:  
SCALING UP INFANT AND YOUNG CHILD FEEDING PROGRAMS

Background
Few attempts have been made to scale up infant and young child feeding (IYCF) interventions. The initial mandate of Alive & Thrive (A&T) was to design, implement, and test strategies that could be brought to scale to improve breastfeeding and complementary feeding among children in Bangladesh, Ethiopia, and Vietnam.

Description of Intervention
A&T implements multi-component programs that make strategic use of data to plan, assess, and evaluate program impact to improve child feeding practices. The aim is to disseminate the models and the learnings widely, encouraging adaptation or replication of at-scale implementation in other settings. Each program consists of four components: (a) advocacy, (b) interpersonal communication and community mobilization, (c) mass communication, and (d) strategic use of data. In three countries, A&T set out to create proof of concept that IYCF programs can be delivered at scale, resulting in widespread behavior change.

Design Process
Data were strategically used throughout the lifetime of the program to inform, shape, and refine the design, implementation, messages, and management of each country program. A similar formative research design process was conducted in each country, varying slightly depending on program objectives. Formative research results led the program design in different directions in each country.

For example, formative research methods in Bangladesh were adapted from the ProPAN (Process for the Promotion of Child Feeding) research methodology developed by the Pan American Health Organization/WHO and included surveys, focus group discussions, observations, food attribute exercises to identify perceived benefits and barriers to consuming particular foods, and trials of improved practices (TIPs) to test feasibility of recommended behaviors. The research was conducted with a variety of audiences, including mothers, family and community influencers, and health personnel. The research identified barriers, facilitators, perceptions, practices, and beliefs regarding IYCF. A media audit was also conducted, to understand the media landscape, identify the most popular media outlets, determine which audiences would be best reached through mass media, and identify the most appropriate channels and dissemination plans.
Design Strategies
Interventions in the three countries were designed to respond to the findings of formative research and media audits, including these insights:

- Lack of knowledge, confidence, and support affect breastfeeding practices: Barriers to exclusive breastfeeding and early initiation of breastfeeding include perceptions of insufficient breast milk, lack of knowledge on importance of early breastfeeding and colostrum, and lack of support after delivery.
- Lack of knowledge also hinders appropriate complementary feeding practices: Barriers to appropriate complementary feeding include mothers’ lack of knowledge and understanding of importance, beliefs regarding suitable foods, and practices regarding unhealthy snacks.
- Mothers’ feeding practices are determined by several motivators, including their child’s health/brain development, their child’s acceptance, and the mother’s convenience.
- Close contacts have sway over mothers’ practices: Influencers on mother’s behavior are grandmothers, husbands, and doctors—rarely community health workers.
- TV is key for media outreach campaigns: Media sources are primarily TV programs; collective viewing is popular among those who do not own a TV.

Published research and national surveys were also used to shape program design; rollout was informed by pilot studies, feasibility studies, and implementation research.

Implementation Strategies
Implementation strategies included:

- Use data-driven program design to (a) deliver previously proven nutrition interventions, taking advantage of research data, (b) address suboptimal IYCF practices based on survey data, and (c) promote behaviors that formative research highlighted as acceptable and feasible for mothers to practice.
- Set ambitious, measurable goals to which country teams are held accountable, while being encouraged to innovate and adapt as necessary to get results.
- Prioritize early planning for evaluation, allowing for implementation of a rigorous evaluation of programs.
- Ensure frequent collection of data on service delivery outputs and estimated coverage to understand whether interventions are being delivered as planned and whether they are achieving results.
- Ensure adequate resources for monitoring, learning, and evaluation, ranging from 12–19 percent of in-country costs.

Evidence of Effectiveness
Program evaluation was carried out using a cluster-randomized design at baseline and endline in intervention and comparison areas. Results showed that A&T’s multi-component model achieved behavior change when implemented at scale, as demonstrated by the early results of the process evaluation conducted in 2013 (one year before the endline). The results show a difference of 24 percentage points between exclusive breastfeeding in “intensive” areas (where the interventions included interpersonal communication and mass media) and “non-intensive” or mass media–only areas in Bangladesh, from 2010–2013. Additionally, the percentage of children meeting minimum dietary diversity recommendations in Bangladesh doubled. In Ethiopia, from 2010–2013, there was an 8-percentage-point increase in exclusive breastfeeding in A&T intervention areas. The percentage of children aged 6–23 months consuming four or more food groups (minimum dietary diversity) and the percentage of children aged 6–23 months fed the minimum recommended number of times (minimum meal frequency) doubled. In Vietnam, in areas where only a mass media campaign was used, rates of exclusive breastfeeding increased by 24 percentage points (from 18% to 42%) from 2010–2013. In areas with mass media campaigns and interpersonal counseling through social franchises, rates of exclusive breastfeeding increased by 44 percentage points in three years.

In total, the estimated reach, based on 2013 data, shows that in Bangladesh, 1.7 million mothers of children under two years were counseled on IYCF and 6.5 million were reached by the mass media campaign. In Ethiopia, 2 million mothers of children under two years were reached through interpersonal communication, radio, or both. In Vietnam, 2.3 million mothers of children under two years were reached through interpersonal counseling, mass media, or both. Costing analysis and cost-effectiveness analysis are forthcoming.

1 See http://aliveandthrive.org/ for more detail.
Lessons Learned

• Effective implementation requires frequent data from a variety of sources. Data from scientific literature, nationally representative surveys, formative research, and routine information systems are needed to inform decision making for large-scale programs, enabling them to adapt as needed for maximum impact.

• Timing of data collection matters. Relying on baseline and endline data is not sufficient to inform decision making. Investment in a variety of data is required to make the information available to managers in “real time” or as close to it as possible to encourage strategic use of data.

• Data can wield considerable convening power. Sharing data facilitated discussions with policymakers in Vietnam, helped build consensus about priority IYCF behaviors to promote in Bangladesh, and shaped opinions about the direction of nutrition programming in Ethiopia.

Key Takeaways for Nutrition Social and Behavior Change Communication

• Include investment in outcome monitoring.

• Flexible, rigorous, and continuous monitoring and evaluation can be used to adapt programming as needing.

Organization/Project: Alive & Thrive

Alive & Thrive is an initiative to save lives, prevent illness, and ensure healthy growth and development through improved breastfeeding and complementary feeding practices. Good nutrition in the first 1,000 days is critical to enable all children to lead healthier and more productive lives. In its first five years (2009–2014), Alive & Thrive demonstrated that innovative approaches to improving feeding practices could be delivered with impact and at scale in three contexts: Bangladesh, Ethiopia, and Vietnam. Alive & Thrive is now supporting the scale up of nutrition programs by applying and adapting tested, proven approaches and tools in contexts such as Burkina Faso, India, and Southeast Asia. With its emphasis on learning and innovation, Alive & Thrive is expanding its focus in Bangladesh to maternal nutrition and taking a more multisectoral approach in Ethiopia.

A&T is funded by the Bill & Melinda Gates Foundation and the Governments of Canada and Ireland. Managed by FHI 360, Alive & Thrive builds on lessons learned through its partnership with seven organizations.2

For more information
http://aliveandthrive.org/

2 FHI360, BRAC, GMMB, International Food Policy Research Institute, Save the Children, University of California-Davis, and World Vision.
BADUTA: IMPROVING INFANT FEEDING PRACTICES IN INDONESIA

Background
Sidoarjo in East Java province is a region of Indonesia where overall child nutrition is quite poor. The Global Alliance for Improved Nutrition (GAIN) is implementing an integrated approach to stunting reduction that includes access to nutritious foods and supplements, access to safe drinking water, better hygiene practices, and health systems strengthening, as well as a large behavior change component promoting appropriate feeding practices for children under two years of age and improved maternal nutrition.

Description of Intervention
The intervention uses mass media, including television commercials, and community mobilization through social activities centered on women’s groups. The behavior change component focuses on 3 key feeding behaviors for children below 2 years, using multiple channels: mass and social media, community activation and interpersonal counseling in the health center. The mass media campaign theme is built around a social activity common in the communities, sharing chitchat or gossip. The main characters are (1) the “gossip lady,” a silly but lovable character who always comments on the behavior of other mothers, (2) key authority figures such as grandmothers or midwives, and (3) the good mother, who is targeted by the gossip lady but actually demonstrates the good nutrition-related behaviors that need to be promoted.

Design Process
The intervention design was based on a theoretical framework developed by the London School of Hygiene & Tropical Medicine (LSHTM). The formative research methodology relies in part on extended observation of participants—in the present study this was conducted by video in participants’ homes. This method allowed the capture of participants’ observable behavior as well as their reported actions. Findings identified the need to focus on three key behaviors and use non-conscious motives to help drive change in these behaviors.

Findings on infant and young child feeding and related behavioral insights were used to structure a creative brief for development of a campaign theme, three TV commercials, and a community activation program. A creative marketing agency translated the insights into an aspirational concept, which was pre-tested before the mass media campaign plan was finalized and community intervention begun.

During the creative design process, the GAIN project design team collaborated with the academic team of the LSHTM and the design team of Playgroup, an Indonesian commercial creative agency. This multidisciplinary team—despite posing some challenges—guaranteed a rich, interactive, and imaginative process.
The academic team provided careful scrutiny of proposed storyboards and creative strategies to ensure that behavior change principles were consistently applied and translated into creative solutions. The creative team used their extensive knowledge of the Indonesian culture and context to ensure grounding of formative research insights and behavior change principles in a lively and socially appropriate narrative.

**Design Constraints**

Health professionals often lack the skills, tools, or time to provide nutritional guidance to patients and community members. On the other hand, formula manufacturers use large marketing budgets to wield undue influence and enforcement of national regulations governing the marketing of breast milk substitutes is weak.

**Design Strategies**

The intervention was designed to respond to the findings of formative research, including these insights:

- **Knowledge about nutrition is important but insufficient to lead to change:** Mothers were familiar with the key messages of “breast is best” and “diverse diet.” But they did not necessarily understand or believe the information behind these slogans, nor act on it.

- **Confidence is crucial:** Many mothers lack confidence in their own ability to breast-feed or in the quality or quantity of their breast milk, which leads to the introduction of formula, or in their ability to make the right choices. Their uncertainty means that well-intended advice can lead to undesired behavior such as early introduction of formula and/or complementary foods.

- **Some parents act on a belief that baby knows best:** A parent’s focus on nurturing their baby can turn into an effort to soothe the child rather than provide for nutritional needs. Parents often respond immediately to their children’s demands by pacifying them, providing unhealthy snacks or bottled milk, even close to mealtime. Parents may find unhealthy children’s snacks appealing because they are sold in convenient individual portions that avoid the wasting of food—and mothers don’t need to involve themselves in feeding a child as soon as the child can reach the food and feed itself.

- **Peer influence can have a negative influence:** Family, friends, and neighbors affect child feeding behavior, often offering morsels of food to “help” quiet the baby.

**Implementation Strategies**

- **Focus on building mothers’ confidence and establishing new social norms, by using key authority figures to correct the incorrect behavior and validate the desired behavior**

- **Present strong visual rejection of the incorrect behavior (such as slapping away the feeding bottle) and visual demonstration of the desired behavior (breastfeeding)**

- **Focus on a few clearly defined complementary feeding behaviors instead of knowledge (discourage introduction and use of infant formula; increase dietary quality and diversity on the family meal plate by reducing the proportion of rice (same foods, different portions) \(1 \); and reduce unhealthy snacks before meals.)**

- **Address social norms and the influence of key authority figures on mothers and caregivers**

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1. Note that this is a context-specific recommendation, which may not be appropriate in other contexts.
Evidence of Effectiveness
The behavior change communication component reached 2.5–3 million people through TV commercials and 60,000 people through community mobilization activities. Interpersonal communication reached more than 10,000 mothers with children under two years and an additional 15,000 mothers of children aged two to five years.

Key Takeaways for Nutrition Social and Behavior Change Communication
• Focus on non-conscious motives for behavior: A new theoretical framework and formative research methodologies provided key insights, which also revealed some of the important non-conscious drivers of behavior (eg. status and affiliation)
• Focus on fewer behaviors to achieve greater impact: Formative research, together with stakeholder input, prioritized three feeding behaviors.
• Engage in effective multi-sectoral partnerships: Intervention design development and execution involved a diverse group of experts, including private sector creative talent, academic experts, field researchers, and government representatives.
• Capitalize on local and commercial expertise: This helped shape design principles for the TV commercials:
  • “Keep it real”: Use real-life dialogue, portraying everyday situations and realistic actions, and avoid using a lecturing tone or public health jargon.
  • Use visual demonstration: Show both the incorrect and desired behaviors in action, followed by a reward for the correct behavior in the form of approval by the key authority figure or a smiling baby.
• Confirm a social norm: Make the target behavior appear common across the population.
• Ensure “stickiness” of the TV commercials and key messages: Use attention-grabbing, funny gestures or sounds that are funny or a bit cheeky.

Organizations: GAIN and the London School of Hygiene & Tropical Medicine, Hygiene Centre
GAIN is an international foundation driven by the vision of a world without malnutrition. It acts as a catalyst—building alliances between governments, business, and civil society—to innovate and deliver solutions for impact at scale. The London School of Hygiene & Tropical Medicine is a world-leading center for research and postgraduate education in public and global health. The Hygiene Centre is a multidisciplinary group dedicated to improving hygiene and sanitation.
Background
Between 2005 and 2010, Food for the Hungry (FH) applied the Care Group (CG) model in Sofala, Mozambique, with the aim of reaching more than 1 million pregnant women and women with children 0–23 months to decrease malnutrition in children in this age group. The program focused on nine key behaviors in the areas of maternal and child health, nutrition, WASH, and preventive care.

Description of Intervention
The CG model uses interpersonal communication, in the form of frequent one-on-one and small group meetings with mothers, with the goal of improving child survival and reducing malnutrition in children 0–23 months. In this project in Mozambique, the program aimed to reach every pregnant woman, every mother of children under five, and their influencers in the catchment area.

The CG design ensured that every household with a child under five was consistently visited by a Care Group Volunteer (CGV), also known as a Leader Mother. Using the CG model (Figure 1), paid community health workers (Promoters) created 5–10 groups consisting of 12 volunteers each, called a Care Group. The CGVs were trained by the Promoter every two weeks, for a total of 52 hours of training per year. CGVs were often the elected representative of a group of 12 mothers or families and therefore tended to live in the same area and share the same culture, education, and background as the beneficiary families. After each Care Group training, each CGV shared the information with 12 women, called “neighbor women,” through group meetings and home visits. CGVs targeted neighbor women who were pregnant or had children under two years of age. CGVs visited neighbor women every two weeks, providing 13 hours of training per year. The CGVs used communication tools such as flip charts, stories, and songs to communicate key information.
Implementing at Scale
Reducing Malnutrition and Child Deaths in Mozambique Using Care Groups

Design Process
Before developing the Care Group lesson plan and materials, Food for the Hungry conducted formative research with pregnant women and mothers of children under five years of age. Insights gained were used to identify which behaviors to address, how to design messages for greater impact, and on which behavioral determinants to concentrate to increase adoption of each key behavior. A Local Determinants of Malnutrition Study (a rigorous Positive Deviance inquiry) identified several key behaviors and determinants highly associated with good nutritional status and provided insight into positive deviants (community members who find uncommon ways to strengthen their health using the same resources available to others).

Next, four barrier analysis studies were conducted, focusing on exclusive breastfeeding (EBF), hand washing with soap, oral rehydration solution/zinc, and point-of-use water treatment. The results identified determinants of key behaviors. For example, findings indicated that doers were more likely than non-doers to believe EBF was less expensive, allowed a child to “grow well,” and was more achievable if the mother ate a balanced diet. Focus group discussions with mothers also provided insights on several motivators and barriers to EBF. For example, traditionally, caregivers felt that younger children needed water and daily herbal teas when they were sick, and extra food to grow strong.

Design Strategies
The intervention was designed to respond to the findings of formative research, including these insights:

- Encourage the use of available resources: Key behaviors of positive deviants included encouraging non-hungry children to eat, emptying one breast before switching to the other, taking iron supplements during breast-feeding, and employing point-of-use water treatment.
- Increase knowledge on the link between malnutrition and diarrhea: Diarrhea was present in 29% of malnourished children and 0% of positive deviants.
- Emphasize the importance of specific foods and nutrients: Children consuming specific nutrients (B2, potassium, and magnesium) were more likely to have better nutritional status than children who did not.

Key messages were determined, including the promotion of handwashing with soap, eating foods and recipes rich in specific nutrients, and eating an extra balanced meal daily (for lactating mothers). The messages also emphasized the lower cost of EBF.

FH utilized conceptual frameworks and theoretical models, including social network science, persuasion literature, positive deviance, the Health Belief Model, and the Theory of Reasoned Action, to design the program and evaluate its effectiveness. Insights from formative research were used to develop lesson plans and messaging for communication materials (flip charts). The model also ensured that mothers were continually reached by CGVs, who were chosen by the mothers themselves.
Implementation Strategies

• Create and work within social networks: Use short, bi-weekly interpersonal communication targeted to mothers.

• Mobilize communities: Daughters or other women were often present during home visits. Men and community leaders were reached during quarterly community leader meetings.

• Use systems analysis and engagement: Quarterly health facility assessments were conducted and feedback was provided to health facilities and the MOH. The vital events registry was used to collect and look for trends in data on births, death, and pregnancies of CG beneficiaries. Verbal autopsies were conducted with families. Feedback on system failures, delays, and missed opportunities were presented to the MOH and used to guide messaging.

• Employ focused capacity building: The efforts of health promoters (community health workers) were amplified by developing Care Groups consisting of community-based volunteer teams. Supportive supervision among CGVs and Promoters was enhanced through the use of quality improvement and verification checklists.

• Monitor project process quality and operations using quality improvement and verification checklists and mini Knowledge, Practice, Coverage surveys using Lot Quality Assurance Sampling. Results were used to help staff and volunteers improve performance. Implementation research with the CGVs found that the majority had interacted with community leaders or Ministry of Health (MOH) staff in the preceding three months.

Evidence of Effectiveness

During the five-year period of the intervention, Sofala experienced a 29% decrease in under-five mortality (an average from two project areas reached within 54 months) and a 37% reduction in child underweight. From 2009 to 2010 there was a 42% reduction in underweight in project communities and a 78% increase in exclusive breastfeeding. The average annual rate of decline in undernutrition in intervention areas was 2.2% compared to 0.4 – 0.6% nationwide. The intervention reached more than 1 million people, including 219,617 beneficiaries comprising of children 0-5 months and women of reproductive age. Over 90% of neighbor women had contact with the CGV every two weeks and 78% of neighbor women had someone else present during home visits, which helped further amplify key messages.

The project cost for all seven districts in Mozambique was US$3,024,166, equaling US$ 0.55 per capita. The cost per beneficiary per year was US$ 2.78. The estimated cost per disability-adjusted life year (DALY) averted was US$ 14.72 and the cost per life saved was US$ 441.

Lessons Learned

• Small, frequent group meetings created ownership and a sense of empowerment in women beneficiaries and CG volunteers.

• Similarly, participation in the program generated a new sense of community respect experienced by the CG volunteers. The program found, therefore, that non-monetary incentives could be successful.

• Having mothers choose the CGVs results in a higher likelihood of behavior change.
Key Takeaways for Nutrition Social and Behavior Change Communication

- Use a low cost-structure and longer-term integration within the community health worker structure. Lowered costs and greater integration enhance feasibility and sustainability.
- Integrate the intervention with the health system: Health system integration will help assure continued data surveillance and incorporation of health and nutrition data into the MOH information system.
- To promote complex, daily behaviors, utilize trusted facilitators, whom audiences identify with, and make time for the audience to process information together and share strategies for implementing recommendations in daily life.

Care Groups in Other Settings

In a comparison of Care Group and non-CG projects in the same six countries, behavior change was about double in Care Group projects. (George CM et al., in publication) For example, in the Care Group projects the average improvement in handwashing with soap was 43 percentage points vs. 20 percentage points in non-CG projects, and complementary feeding improved by 22 points in CG projects versus a decrease of 12 points in the non-CG projects.

Organizations: Food for the Hungry and Feed the Children

Food for the Hungry is an international Christian relief and development organization that serves the poor. FH works in more than 20 countries to provide short-term emergency relief and long-term support to end hunger. FH works in health, agriculture, water, education, income generation, and religion. FH is one of 27 organizations across 23 countries implementing Care Groups.

Feed the Children is an international relief and development organization whose vision is a world where no child goes to bed hungry. Along with their affiliate, World Neighbors, they serve people in more than 18 developing countries. They currently operate Care Groups in Malawi and are introducing CGs in nine other countries.
Background
Poor farmers in low and middle income countries are often risk-averse and reluctant to adopt new methods of farming, since crop failure could potentially lead to extreme hardship. Effective agricultural extension activities can improve the uptake of new practices, leading to better outcomes for farming households. Digital Green works in eight states in India and in parts of Ethiopia, Ghana, Mozambique, Niger, and Tanzania, together with more than 20 partners. Digital Green works with local farmers to create community-led videos disseminated through local social networks to encourage farmers to adopt new practices to improve their livelihoods.

In 2012, Digital Green partnered with SPRING on a pilot study in Odisha, India, adapting their agriculture extension approach to promote maternal, infant, and young child nutrition (MIYCN) behaviors and care practices. Based on the initial success of the pilot study, Digital Green and SPRING have begun collaborating on nutrition-focused programming in Niger in 2014. http://www.digitalgreen.org/connect/SPRING/

Description of Intervention
Digital Green’s approach builds upon existing community organizations, such as a self-help group, to amplify their efforts to accelerate rural development and adoption of improved agriculture practices. This approach involves (a) participatory identification of content in which community members help identify priority practices and barriers to adoption; (b) local production of low-cost videos designed to promote uptake of priority practices; (c) group discussion using the videos as a basis for mediated instruction, where a mediator encourages participants to discuss video content; (d) follow-up home visits to support and monitor the adoption of the promoted practices; and (e) qualitative and quantitative data collection to engage communities in an iterative cycle of learning.

In 2012-2013, Digital Green and SPRING adapted this approach for a pilot program to assess the feasibility of using a similar approach to promote better MIYCN-related behaviors and care practices, including child feeding, self care during pregnancy, and handwashing. Digital Green and local partner, VARRAT, worked with community members to produce and disseminate 10 MIYCN-focused videos in bi-weekly self-help group meetings as part of an ongoing Digital Green-VARRAT agriculture program.
Design Process

Community members designed videos to respond to locally identified challenges (“by the farmers, of the farmers, for the farmers”). Digital Green supports the creation of low-cost videos, which are produced by farmers themselves and feature local participants in rural communities across South Asia and sub-Saharan Africa. Local intermediaries then screen the videos and lead group discussions with small groups of farmers.

For the nutrition pilot, based on lessons learned from the agricultural community video extension programs, Digital Green applied the central principles of flexibility, attention to local context, and leveraging of local networks.

Design Strategy

- Local farmers identify learning objectives. To be effective, agricultural extension programs need to adapt messaging to the varying needs of farmers operating in different contexts, taking into account, for example, soil quality, access to water, language, or farmer capabilities. To ensure the most appropriate, effective content, the local farmers take ownership of the process.

- Social networks are used to connect community members with experts: the excitement of appearing on video motivates them to participate, and similarities are leveraged to minimize the distance between teacher and learner.

A similar process was used in Digital Green’s nutrition pilot study.

Implementation Strategies

- Ensure continuous capture, review, and analysis of nearly real-time operational data. Digital Green used its innovative, multidirectional system, Connect Online Connect Offline (COCO), to support these functions.

- Enable rapid diagnosis of and attention to problems in implementation by using low-cost information and communication technologies customized to low-resource settings with intermittent Internet connectivity. These features of COCO help promote higher adoption of good practices in addition to the system’s data gathering and analysis function.

- Achieve deeper insights into intervention performance through periodic bottleneck analysis, cost-effectiveness studies, case studies, third-party quality assurance surveys, baseline and endline studies, and randomized control trials (Figure 1).
Evidence of Effectiveness

Digital Green has produced more than 3,500 videos in more than 28 languages and reached over 500,000 farmers in 6,500 villages.1 A controlled evaluation demonstrated the approach to be 10 times more cost-effective and the uptake of new practices seven times higher compared to traditional extension services. In a 13-month trial involving 16 villages (eight control and eight target villages balanced for parameters such as size and mix of crops) and 1,470 households, Digital Green increased the adoption of certain agricultural practices sevenfold over that of a classic training and visit-based extension approach.

In a 13-month study involving 16 villages in India, the Digital Green approach was shown to be 10 times more effective per dollar spent than a classical extension system, on a cost-per-adoption basis.2

For Digital Green and SPRING’s pilot feasibility study adapted this approach to promote MIYCN-related behaviors and care practices such as child feeding, care during pregnancy, and handwashing. Process and uptake-related evaluations were highly encouraging. Among targeted mothers, demand and acceptability were strong and knowledge of some of the nutrition messages was high. Although the pilot was not designed to measure behavior change, the findings indicated that community members were trying some behaviors promoted in the video.

Key Takeaways for Nutrition Social and Behavior Change Communication

- Keep program design flexible and adaptable; regularly and rapidly review data to inform continuous improvement.
- Focus on localized interventions; for faster implementation and greater community buy-in, integrate intervention into existing structures.
- Customize technological components for low-resource contexts.
- Refine and use standard process and impact indicators in a way that is feasible to use at scale.
- Develop, test, evaluate, and refine the application of information and communication technology as well as participatory methodologies.

Organization: Digital Green

Digital Green is a not-for-profit international development organization that uses an innovative digital platform for community engagement to improve livelihoods in rural communities across South Asia and sub-Saharan Africa. They partner with local public, private, and civil society organizations to share knowledge on improved agricultural practices, livelihoods, health, and nutrition, using locally produced videos and human-mediated dissemination.

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1 http://www.digitalgreen.org/analytics/overview_module
Background

Development Media International (DMI) implemented a cluster randomized controlled trial (RCT) in Burkina Faso to measure the impact of mass media on child mortality. RCTs of mass media campaigns are not feasible in certain settings, because of the need to exclude national radio and television stations. Burkina Faso was chosen because of its uniquely localized, radio-dominated media environment with very low national radio penetration. This allowed for local FM community radio stations to broadcast messages to intervention areas without “leaking” into control areas, and without losing the aggregate power of the media.

DMI and the London School of Hygiene & Tropical Medicine (LSHTM) created a mathematical model that predicts how many children’s lives could be saved by mass media campaigns in various countries. The model predicts that child mortality could potentially be reduced by 16–23% in several developing countries. It also predicts that the cost per life saved may be significantly lower than with other child health interventions. The mass media RCT trial in Burkina Faso aims to test the predictions of the model.

Description of Intervention

The three-year trial in Burkina Faso used radio broadcasts to affect a range of behaviors—including exclusive breastfeeding; water, sanitation and hygiene; and treatment-seeking behavior (for malaria, pneumonia, and diarrhea symptoms)—in order to improve child survival. DMI developed a broadcasting schedule, which weighted messages about behaviors based on those behaviors’ predicted impact on mortality. For example, messages targeting treatment-seeking behavior (for malaria, pneumonia, and diarrhea, the three leading causes of child mortality in Burkina Faso) were allotted many more weeks of spot broadcasting than messages about complementary feeding.

Sixty-second radio messages were aired 10 times per day in six languages for 35 months. In addition, in-depth, two-hour radio dramas were broadcast five nights per week on each station, representing a total of 70 hours of live radio per week. Scriptwriters attended weekly training workshops and participated in pre-testing and feedback research. In exchange for airtime, DMI provided each radio station with focused capacity building to improve its organizational and technical ability as well as their capacity to sustain broadcasting.

DMI employs a saturation+ approach, which includes broadcasting at high intensity in appropriate languages, and on popular stations; using rigorous modeling to maximize and measure impact; and developing stories, based on research, that entertain and persuade the appropriate audience to adopt healthier behaviors for themselves and their families.

Mathematical Model

DMI and LSHTM created a mathematical model that predicts how many children’s lives could be saved by mass media campaigns in various developing countries. The model measures the impact on child and maternal mortality for each behavioral message. It uses evidence from previous behavior change campaigns and national coverage data for each behavior. Results predict which messages are likely to have a higher impact in terms of lives saved.

The mathematical model predicts that in Burkina Faso, more than 13,000 under-five deaths could be averted each year through a national mass media campaign.

Design Process

Data from formative research on health topics and gray literature were used to create message briefs for scriptwriters. Each brief contained information on the behavior to promote, any existing data on the prevalence of the behavior, barriers/obstacles to behavior change, influencing factors or levers to facilitate behavior change, and the influencers/decision makers relevant to the behavior. Scriptwriters then used the message briefs to create dynamic radio spots and longer format dramas that promoted the desired outcome behavior, including necessary information and targeting different influential audiences.

Feedback research, which was integral to the intervention, was conducted throughout the campaign among men, women, and community leaders using focus group discussions and individual interviews in rural communities. This research investigated message recall, frequency of audience exposure to messages, self-reported behavior change, and continued barriers to change. These data were continually collected (through approximately monthly research trips) and used to modify messages throughout the trial. Sample findings from feedback research included:

- The majority of those interviewed had heard at least one DMI radio message.
- Complementary feeding and exclusive breastfeeding were among the themes most spontaneously recalled.

Design Strategies

The intervention was designed to respond to the findings of formative research, including these insights:

- Traditional beliefs pose a challenge to good practices: Many women discard colostrum because they believe it is dirty, “bad,” or rotten.
- Female relatives strongly influence new mothers: Older female relatives, often present at birth, typically influence whether the child is given colostrum.
- A lack of confidence affects women’s practices: When a baby wants to nurse more often than usual, some mothers are concerned that this indicates insufficient breast milk or hunger/deprivation on the part of the child.

As an example, based on these insights, a key message was designed to target older female relatives in radio messages about the benefits of colostrum.

Implementation Strategies

- Scheduled messages predicted to have higher impact for more frequent broadcasting.
- Used formative research findings, spot testing, and post-broadcast feedback to continually refine radio messages.
- Measured the potential impact of comprehensive campaigns on mortality, using a robust RCT study design independently evaluated by LSHTM.

Evidence of Effectiveness

A midline survey of 5,000 mothers from all seven intervention and control zones was conducted by LSHTM after 20 months of broadcasting. Preliminary results, represented in Table 1, show that the 10 key behaviors (including breastfeeding; water, sanitation and hygiene; and treatment seeking) all improved in the intervention zones (showing increases from 9.3% to 25.5%).

Comparing intervention results from pre-to post intervention, the difference between the intervention and control zones was substantial (ranging from 8.5% to 23.3%) for 6 of 10 behaviors, as shown in Figure 1. There was also a strong relationship between the intervention “dose” (the number of weeks each message was broadcast) and the impact on behavior change. Based on these results, the broadcast intensity of each message was adjusted for the remainder of the trial.
In total, approximately 2.5 million people were reached through radio broadcasts in Burkina Faso during a 20-month period. Initial estimates of the model predicted a cost of 5–15 U.S. dollars (USD) per disability life year (DALY) averted.

Table 1. Changes in behavior from baseline to midline

<table>
<thead>
<tr>
<th>Target behaviors</th>
<th>Control zones</th>
<th>Intervention zones</th>
<th>Difference in change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sought treatment for diarrhea at a clinic</td>
<td>57.8%</td>
<td>66.4%</td>
<td>8.6</td>
</tr>
<tr>
<td>Received ORS or increased liquids for diarrhea</td>
<td>42.0%</td>
<td>43.5%</td>
<td>1.5</td>
</tr>
<tr>
<td>Received antibiotics for pneumonia (fast/difficult breathing)</td>
<td>28.2%</td>
<td>38.7%</td>
<td>10.5</td>
</tr>
<tr>
<td>Sought treatment for fever at a clinic</td>
<td>63.7%</td>
<td>72.4%</td>
<td>8.7</td>
</tr>
<tr>
<td>Women sleeping under a bed during pregnancy</td>
<td>65.6%</td>
<td>78.2%</td>
<td>12.6</td>
</tr>
<tr>
<td>Household ownership of latrines</td>
<td>21.0%</td>
<td>30.6%</td>
<td>9.6</td>
</tr>
<tr>
<td>Early initiation of breastfeeding (2 hours of birth)</td>
<td>45.3%</td>
<td>42.8%</td>
<td>-2.5</td>
</tr>
<tr>
<td>Exclusive breastfeeding aged 0 to 5 months</td>
<td>34.0%</td>
<td>48.1%</td>
<td>14.1</td>
</tr>
<tr>
<td>Gave birth in a health facility or with skilled attendant</td>
<td>81.8%</td>
<td>93.3%</td>
<td>11.5</td>
</tr>
<tr>
<td>Saved money for an emergency during pregnancy</td>
<td>62.8%</td>
<td>68.4%</td>
<td>5.6</td>
</tr>
<tr>
<td>Average (mean) behavior change</td>
<td>8.0</td>
<td>15.3</td>
<td>8.7</td>
</tr>
</tbody>
</table>

Figure 1. The difference between changes in the intervention and control zones as compared to message frequency (in weeks)

Key Takeaways for Nutrition Social and Behavior Change Communication

- Use implementation research and/or monitoring data during the intervention to understand and refine activities along the program impact pathway.
- Calculate message intensity taking into account the nature of the behavior and predicted impacts; modify intensity based on results.

Organization: Development Media International (DMI)

Development Media International (DMI) focuses on increasing maternal and child survival through mass media campaigns. DMI produces radio and TV campaigns designed to change behaviors and create demand for healthy behaviors related to reproductive, maternal, newborn, and child health. DMI focuses primarily on sub-Saharan Africa, specifically in countries that are not on track to meet the 2015 maternal and child mortality Millennium Development Goals.

For more information
http://www.developmentmedia.net/
Background
Mexico struggles with a double burden of malnutrition. In the communities where the Prospera program works, nearly 34% of children under five years are stunted and 25% are anemic. One of every five pregnant women suffers from anemia and three of four adult women are overweight or obese. In urban areas, only one of seven children under six months of age is exclusively breastfed.

Prospera, formerly known as Progresa or Oportunidades, is a national conditional cash transfer program. EsIAN is a pilot program within Prospera that aims to strengthen Prospera’s health and nutrition component by addressing the nutritional transition in Mexico and improving the health and nutrition of beneficiaries, with a focus on the first 1,000 days. This brief focuses on the pilot of the EsIAN strategy in four states. Currently, the EsIAN national strategy is being scaled-up nationwide.

Description of Intervention
EsIAN aims to decrease anemia, overweight and obesity, and stunting in children under five, and future chronic diseases among pregnant and lactating women and children under five. EsIAN is a multi-sectoral (health and social development), scalable, systems approach. The three components of the EsIAN strategy are (a) supplementation for pregnant and lactating women (tablets) and children aged 6–59 months (micronutrient powder, fortified porridge and milk), (b) improved health systems (specifically, equipment and quality of nutrition counseling), and (c) behavior change communication and training.

Design Process
Because the program worked within the health system, formative research was conducted both with the health workers (HWs) who would deliver the intervention as well as with the beneficiaries. Formative research with HWs identified (a) practices related to growth promotion and counseling; (b) barriers and opportunities for health promotion during primary care services; (c) mapping of actors; and (d) communication channels. Formative research with mothers, female community leaders, and fathers identified (a) maternal and infant feeding practices, including perceptions, motivations, barriers, beliefs, opportunities, and practices of nutrition behaviors; (b) traditional and social norms in communities; and (c) communication channels.
Design Strategies

The intervention was designed to respond to the findings of formative research, including these insights:

- Each category of influencer has different advantages and constraints: For families, doctors were a credible source of information but were subject to high turnover and time constraints. Nurses were less subject to turnover and were closer, physically and demographically, to the target population but also experienced time constraints. Health promoters were recognized as sources of health information by mothers and had good communication skills yet also lacked sufficient time. Community volunteers often had social recognition and were beneficiaries themselves, yet faced knowledge and time constraints.

- Health workers face major constraints: The main barriers for HWs in promoting good practices included lack of knowledge, motivation, incentives, and supervision.

- Mothers are constrained by key gaps as well as negative influence: The main barriers for mothers in using good practices included lack of knowledge, confidence, support, and influential family members.

EsIAN followed an interactive, researched, planned, and systems-thinking process. The pilot utilized three behavior change models, the socio-ecological model, the social cognitive theory and the theory of planned behavior, to guide program design and decisions. Research was used to understand the target audience, drive the strategy and generate content. Central to the strategy was a plan to pilot, assess, and adjust.

Implementation Strategies

- Use an overall systems approach to build on existing resources, improve tools, skills, staff/infrastructure, and routine activities.

- Focus on prevention rather than treatment and integrate nutrition into primary care services.

- Provide specific tools and materials for each level of HW, update/standardize communication materials, and provide consistent messages at all levels.

- Focus on a few priority key behaviors and create mutually reinforcing messages for different levels of the intervention, including communication materials for health workers, billboards, TV and radio spots, and advertisements on buses.

- Use different interventions to address beneficiaries according to life stage.

- Develop standardized blended training for HWs, including in-person and online training modules.

- Clearly define roles and responsibilities among HWs and shift tasks among the varying levels of HWs.

- Implement blended trainings and integrate supervision and monitoring into training approach.

Evidence of Effectiveness

Results of the pilot study in four states, measuring frequency of behaviors in 2012 compared to baseline in 2010, showed improved HW counseling skills in the areas of exclusive breastfeeding (62%), breastfeeding on demand (41%), and breastfeeding techniques (67%). Additionally, anemia decreased in children 6–23 months of age (7% decrease in urban areas, 28% decrease in rural areas) and in children 24–59 months of age (5% decrease in urban areas, 7% decrease in rural areas). Prospera reached 6.1 million families, or 26 million people, and trained more than 191,000 health workers.
Lessons Learned

- Developing an enabling government environment was key to facilitate the use of pilot test results to improve the intervention’s design and implementation, ensure commitment necessary for scaling up, and secure adequate funding.
- Integration within the health system was key to reaching a large population and ensuring implementation funding.
- Prioritize key behaviors for messaging by impact and likelihood of adoption.

Key Takeaways for Nutrition Social and Behavior Change Communication

- Use a multi-sectoral approach: Dividing responsibilities among the Ministry of Health, Ministry of Education, the sub-national government, and social development programs and organizations enabled each to leverage resources and contribute to the effort based on defined responsibilities.
- Create public-private partnerships to fund mass media campaigns: Funding constraints can be overcome by incorporating private funding mechanisms to strengthen community mobilization efforts.
- Garner government support at the national and sub-national levels to create an enabling environment for national scale-up, commitment, and resources.
- Focus on fewer behaviors and messages: Narrowing the scope of the intervention allowed for greater impact.

Organization/Program: Prospera/EsIAN

Prospera is a national conditional cash transfer program that aims to improve the utilization of public services by low-income households in Mexico across the health, education, and social development sectors. EsIAN is a national strategy to strengthen the health and nutritional component of Prospera by addressing undernutrition and obesity, with a focus on the first 1,000 days of life.
Background
In Nepal, four in 10 children are stunted; one in three women and five in 10 children are anemic, and one in 10 children is wasted. Suaahara (“Good Nutrition”) is implementing a multisectoral, multiplatform approach to reducing these problems by promoting better practices at the community and household level.

Description of Intervention
The Bhanchhin Aama (“Mother knows best”) intervention is a combined community-level and mass media campaign designed by the Johns Hopkins Center for Communication Programs, a partner in the Suaahara program, which is led by Save the Children. The intervention utilizes a trusted, knowledgeable, friendly mother-in-law character to model and promote positive behavior change. A logo with her image appears on all of Suaahara’s materials, including field activity guides, posters, pamphlets, billboards, games, and toolkits, ensuring that the program has a branded “look and feel.” The intervention’s field activities include leveraging contact during key life events to promote the campaign’s messages for women and families, supporting them in overcoming barriers, and motivating them by promoting local role models identified as “ideal families.”

The Bhanchhin Aama entertainment education program includes a twice-weekly Bhanchhin Aama radio drama and Hello! Bhanchhin Aama call-in radio programs broadcast in three languages. The aim is to generate discussion at the household and community levels to facilitate and sustain behavior change. The programs cover a broad range of topics related to maternal and child health and nutrition, including infant and young child feeding (IYCF), hygiene and sanitation, agriculture, and family planning. To promote high levels of community conversation around these topics, the program supports more than 240 radio discussion groups among marginalized populations. The discussions, which are integrated into existing discussion groups, are facilitated by trained social mobilizers using companion comic books featuring the mother-in-law character. The intervention components were designed and carried out by engaging in multi-sectoral partnerships.
Design Process
Formative research was conducted to gain an in-depth understanding about the primary determinants of key behaviors, including breastfeeding, complementary feeding, feeding practices, sanitation and hand washing, family planning, and other behaviors related to infant and childcare.

Research methods included:
• Focus group discussions among mothers, fathers, and mothers-in-law
• In-depth interviews with traditional healers, community health workers, model farmers, and government officials
• Participant observations of public places and markets
• Perceptual mapping techniques

Venues and participants were chosen to capture a maximum diversity of practices, perspectives, and social norms. Special care was taken to include members of marginalized groups. In addition to determining current behaviors and barriers and motivators to behavior change, formative research identified families’ aspirations for their children.

Design Strategies
The intervention was designed to respond to the findings of the formative research, including these insights:

• Concerns about children’s education and future prospects are important motivators: Mothers, fathers, and grandmothers at all study sites identified education as the key to their children’s future, whether with respect to job opportunities, social status, or general happiness. Education was also perceived to be related to agency, or the ability to make positive changes in one’s life, including the adoption of nutritious food habits.

• Having a higher level of education is linked to progressive behaviors and openness to change: Higher educational levels were associated with the respondents’ practice of more “progressive” behaviors, such as delivering a baby at a health center, eating tastier foods, and aspiring for a better life for themselves and, especially, their children. These respondents tended to view the present as better than the past, were optimistic about the possibility of change, and indicated a willingness to carry through with necessary changes.

• Mothers-in-law are key sources of influence and information: Mothers-in-law continue to play an important role in family life and seemed to welcome social changes that they noted were unfolding in their communities. They are a potential resource that can be tapped by providing positive role models of mothers-in-law in media programming and by including them in community mobilization activities.

The program utilized these insights in activities targeting families’ aspirations to improve health and nutrition behaviors at the household and community levels. The design was informed by behavior change theories (stages of change, theory of reasoned action, and diffusion of innovation).

Implementation Strategies
• Develop an evidence-based entertainment-education campaign.
• Mobilize communities around women and children’s nutrition as a major opportunity for a better future.
• Use multiple communication channels, promoting small, feasible actions that improve nutrition, focusing on personal aspirations and perceived benefits of the new behaviors while promoting role models who are practicing the behaviors and creating behavioral norms.
• Use a multi-level approach that includes harmonizing interpersonal communication, community mobilization, and mass media.
• Use a multi-sectoral approach that integrates nutrition, hygiene, agriculture, family planning, reproductive health, and child health.

Evidence of Effectiveness
The campaign is being implemented in 25 of Nepal’s 75 districts, aiming to improving nutrition among 350,000 children under two years and their mothers or caretakers. Secondary audiences include husbands, mothers-in-law, female community health volunteers, peers, and traditional healers. According to a 2014 district-level study, four of every five people (81.7%) who listened to the program (28% of the population or half of those who own a radio), self-reported taking an appropriate action related to IYCF and more than half (53.3%) discussed the issues with their friends and families. In addition, an independent survey of 2,500 mothers found that their child’s dietary diversity, consumption of food from four or more
food groups, consumption of fruits and vegetables, and consumption of animal source foods were positively and significantly associated with the frequency of listening to the Bhanchhin Aama program.

“I like this show very much and I never miss it. Earlier I didn’t know many things about how to bring up children, but after listening to this program, I have started being conscious about it. This show has really become fruitful to me in bringing up my little daughter.”

— Uma B.K., Ghanapokhara, Lamjung

In 2015, Suaahara will collect midline data to assess communication impact and understand how specific knowledge, attitudes, and behaviors have changed since the radio program’s inception.

Key Takeaways for Nutrition Social and Behavior Change Communication

• A unified-theme, “branded” campaign links community and household-level approaches and mass media to reinforce key attitudes and behaviors and enhance the enabling environment for change.

• To help families makes changes to established cultural practices, it is critical to use a trusted information source, such the mother-in-law figure. For example, many nutrition behaviors in Nepal, such as very low rates of feeding eggs, meat/fish, or vegetables to children under two years, are guided by cultural practice—but the radio programming helped promote the idea of the mother-in-law persuading families to practice new behaviors that would strengthen children’s health and benefit their futures.

• Using personal communication technology can be critical to effectively engage target audiences. Mobile phone ownership was high—over 80%—and many people listened to the radio via their phones. The intervention capitalized on this by incorporating a call-in radio show that made participation simple and convenient. This interactive element helped the program make adjustments and strengthen its relevance to audience needs.

• Getting all stakeholders onboard from the outset helps to ensure successful development and implementation of a multi-sectoral, multi-platform program.

• Ensuring the participation of male family members needs greater attention. The participation of men was relatively low, as a result of several factors, including travel for migrant work. However, the direct participation of males in activities can be essential to facilitating and continuing behavior change, as males are typically key decision-makers at the household level.

Project: Suaahara

Suaahara is a five-year integrated nutrition program designed to improve the nutrition of women and children in 41 districts in Nepal (increased in 2014 from 25). It is funded by USAID/Nepal and involves these partners: Save the Children, Helen Keller International, JHPIEGO, Johns Hopkins Center for Communication Programs, Nepali Technical Assistance Group, Nutrition Promotion and Consultancy Service, and Nepal Water for Health. The program also works closely with the government’s Child Health Division and National Health Education, Information and Communication Center as well as the Family Health Division and the National Health Training Center, Agriculture Department, Livestock Department, Department of Water Supply and Sewerage, and Ministry of Federal Affair and Local Development from the central to the community level. Suaahara integrates health, nutrition, agriculture, and food security activities. All project approaches support the Government of Nepal’s Multi-sectoral Nutrition Plan 2013–2017 and the Hygiene and Sanitation Master Plan 2011–2015.

For questions or additional information, please contact:
JHU/CCP Suaahara Website
http://ccp.jhu.edu/projects/suaahara-nepal/
Background
Mumbai’s suburban railroads serve over 7 million daily commuters; with 2,000 train lines spread over 465,000 km. Besides serving as rail service infrastructure, the railroad tracks are often the shortest pedestrian route between common destinations. With few effective physical barriers and over 1,000 trespassing points, the rail service experiences over 36,000 fatalities per year. Final Mile was engaged to design solutions to reduce fatalities.

Description of Intervention
A behavior architectural approach was taken to reduce unsafe behaviors around the trains. New signs were produced consisting of dramatic photos without text and placed close to the tracks (to increase emotional impact of signs). Train engineers were instructed to hit the horn with short, staccato bursts a certain distance from crossing points (because people pay attention to intermittent noises more than constant). Finally, yellow lines were painted at regular intervals on the tracks (because people are bad at judging train speed and distance from the viewer without reference points).

Design Process
Final Mile conducted qualitative research asking people in the target population to identify “other people’s” risky behavior and motivations. Participants spoke of “others’” habitual practices in crossing train tracks or using the tracks to relieve themselves, and routinely expressed overconfidence in their own ability to judge train speed. Their responses also implied an attitude of “private optimism”, that train accidents are things that happen to other people.

Design Constraints
- The intervention needed to be scalable, feasible, and sustainable.
- Implementation could not interrupt train service.
- Communication materials had to be understood by low literacy and multi-lingual pedestrians.
- The intervention could not include overt sanctions or acknowledgments.
Design Strategies
The following findings and concepts were used to underpin intervention design:

• Habits are non-conscious and routine
• Behavioral economics principles helped identify participants’ private optimism (underestimating their risk of train accidents)
• Neuroscience helped identify how the human brain underestimates the speed of large moving objects;

Implementation Strategies
• Build in project team diversity across designers, behavioral science, business managers, and architects.
• Redesign signage to resonate with a feeling of fear (previous signage had no emotional transfer) and warn the overconfident trespasser at the right time (see photos).
• Utilize non-conscious design and the ways it influences behavior so that the individual is not consciously aware of the connection between stimulus (design artifact) and behavioral shift.

Evidence of Effectiveness
Within six months of implementation, the number of deaths fell and was sustained over the next year and a half (Figure 1).

Key Takeaways for Nutrition Social and Behavior Change Communication
• Observations become powerful and useful if examined through scientific frameworks.
• Integrating behavioral economics and cognitive neuroscience with design helps to design for the non-conscious. This helps change habits and overcome the cognitive biases and mental shortcuts that all people use.
• It’s important to understand audiences’ decision-making. Consider such behavioral economic concepts as mental accounts, temporal discounting, and private optimism.
• Build in project team diversity.
• Clearly understand and respect programming constraints.
• High science can equal high impact without high cost.

Organization: Final Mile
Final Mile is a behavioral architecture agency that explains and influences behavior to meet marketing, organizational, and social objectives by applying learning from cognitive neuroscience and behavioral economics.