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Global Alliance for Improved Nutrition

GAIN Working Paper

INFANT AND YOUNG CHILD NUTRITION: PAPER 2

PROMOTING OPTIMAL INFANT FEEDING PRACTICES AND EFFECTIVE USE OF COMPLEMENTARY FOODS FOR INFANTS: DELIVERY LESSONS

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ABOUT THE GLOBAL ALLIANCE FOR IMPROVED NUTRITION (GAIN)

The Global Alliance for Improved Nutrition (GAIN) is an international organization that was launched at the UN in 2002 to tackle the human suffering caused by malnutrition.

GAIN is driven by the vision of a world without malnutrition. We act as a catalyst — building alliances between governments, business and civil society — to find and deliver solutions to the complex problem of malnutrition. Today our programs are on track to reach over a billion people with improved nutrition by 2015.

We focus our efforts on children, girls and women because we know that helping them have sustainable, nutritious diets is crucial to ending the cycle of malnutrition and poverty. By building alliances that deliver impact at scale, we believe that we can eliminate malnutrition within our lifetimes.

This paper forms part of a series of three papers exploring the enabling environment, business models, and behaviour change components of GAIN's MIYCN portfolio, all of which are available from: **www.gainhealth.org**

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1. EXECUTIVE SUMMARY

This paper brings together evidence and learning from a portfolio of innovative private and public models aiming to improve the consumption of nutrient-dense, vitamin-rich and mineral-rich complementary foods in children 6-23 months of age alongside breastfeeding. It specifically focuses on behavior change to adopt better feeding and care practices. The Global Alliance for Improved Nutrition's (GAIN) project portfolio consists of a diverse set of 23 projects in 17 countries in Africa, Asia, and Latin America carried out over a 7-year period between 2008 and 2014. By December 2014 a total of 19 million beneficiaries have been reached, close to the initial target of 20 million, and cumulative coverage is expected to be almost 25 million by the end of 2015.

The GAIN infant and young child nutrition (IYCN) program combined proven child infant interventions – such as protection and promotion of breastfeeding – with a novel focus exploring the potential role of the private sector in improving low income families' access to fortified complementary foods or micronutrient powders (MNPs).Initiated with a grant of US$38.8 million from the Bill & Melinda Gates Foundation other donors joined over time, including the Children's Investment Fund Foundation (CIFF), Ireland's Department for Foreign Aid and Trade (Irish Aid), the Khalifa bin Zayed Al Nahyan Foundation (KBZF), the Netherland's Directorate-General for International Cooperation (DGIS), the UK Department for International Development (DFID), and the United States Agency for International Development (USAID).

Despite considerable progress over the past decades, millions of children still suffer acute and chronic malnutrition today and many more experience sub-optimal health and/or development due to micronutrient deficiencies. Efficacious and proven interventions exist to improve dietary intake and reduce the risk of infection (Bhutta et al, 2013). Promotion of adequate breastfeeding lies at the core of IYCN interventions, specifically exclusive breastfeeding through to 6 months of age and continued breastfeeding through to 2 years of age (WHO a, 2003). Less progress has been made in complementary feeding, where the availability and affordability of nutrient-dense complementary foods, as well as the promotion of adequate complementary feeding practices, needs to be strengthened.

Locally grown, accessible, and culturally acceptable foods form the natural basis of the child's diet. However, at the same time, there is a growing body of scientific evidence showing that locally grown and home-prepared complementary foods cannot always fulfill all the nutritional requirements of infants and young children within the affordability constraints of low-income households (Vossenaar et al. 2012, Skau et al. 2014, Osendarp et al. 2015). Osendarp et al's review concludes that a number of key micronutrients cannot possibly be obtained from local diets alone, and in some contexts even proved unable to fulfill a child's energy needs. The Pan American Health Organization (PAHO) and the World Health Organization (WHO), in their guiding principles for complementary feeding of the breastfed child (WHO 2003, PAHO, 2003) have recognized that alternative ways to fill complementary nutrient gaps in local complementary foods are needed, and could be provided through fortified complementary foods (FCF) or home fortification of local foods with MNPs. Four years later, in 2008, a WHO-UNICEF Consultation - Strengthening Action To Improve Feeding Of Infants And Young Children 6-23 Months Of Age In Nutrition And Child Health Programs, concluded *inter alia: "Where locally available foods alone will not satisfy nutritional requirements, various types of products offer promise. They may include centrally produced fortified foods, micronutrient powders, and lipid-based nutrient supplements. Further research and carefully monitored applications at scale are needed to generate more evidence on which product is best for which circumstance, how best to promote their correct utilization, and their contribution to improving nutritional, developmental and health status in different circumstances"* (WHO-UNICEF, 2008).

GAIN's IYCN program set out to address this challenge head on. The principal aim of the project portfolio was increasing access and availability of affordable complementary foods and supplements to improve nutrition of older infants and young children 6-23 months of age, in the context of the promotion of optimal feeding practices. Recognizing the complexity of the subject at hand, GAIN sought opportunities to work with partners in the public and the private sector to increase regular consumption of high quality, nutrient-dense complementary foods in children age 6-23 months of age.

The initial emphasis of the program was put on improving access to nutritious foods, with a focus on the development of fortified complementary foods by local producers, and/ or the introduction of manufactured vitamin and mineral supplements to add to home-made complementary foods. Concerns around quality, availability, and affordability were at the core of this program, and the program addressed issues such as product composition guidelines, standard procedures for quality assurance, product classification, regulatory considerations, and modeling of distribution through public delivery channels or through the commercial market. The lessons on business models for improved access of product-based options to improve complementary feeding, through market-based or public service delivery, are published in the GAIN IYCN Series Paper 1 (GAIN a, 2015).

This paper, IYCN Series Paper 2, examines lessons learned on how to drive consumer awareness, and to ensure uptake and compliant use (both in frequency and quantity) of such product solutions in the context of IYCN programs (Figure 1).

GAIN recognized from the outset that products themselves are only part of the solution to the improvement of complementary feeding. They should not be developed as standalone products or in isolation from the promotion of optimal feeding practices or integrated ICYN programs. To complement the efforts made on product formulation and increased access to nutritious food products, GAIN worked closely with civil society partners and local health authorities to develop and implement infant and young child feeding (IYCF) behavior change interventions (BCI) promoting exclusive breastfeeding for the first 6 months, continued breastfeeding from 6 through 23 months and beyond and timely introduction of adequate complementary foods, emphasizing dietary diversity using local foods.

These campaigns, where possible, included messages on the option to use a fortified complementary food, or an MNP to enrich homemade infant porridges given to infants age 6 to 23 months as part of the overall solution to improve their nutrition.

The design of GAIN's projects followed a series of stages in behavior change and demand creation once affordable products were made available through commercial retail channels or public delivery channels. Ultimately, these steps should lead to effective coverage and a measurable nutrition impact.

- First, creating awareness and driving behavior change for adequate breast feeding and complementary feeding practices, including the options to use fortified complementary foods or MNPs.
- Second, triggering initial trial of the product and extensive monitoring to create a positive product experience.
- Third, leveraging a positive product experience, continuous BCIs and product promotion to ensure regular product use by consumers.
- Fourth, focusing on compliance, with the product being used as recommended by the targeted recipient, in the right quantity, frequency and with the correct preparation, to ensure appropriate use.

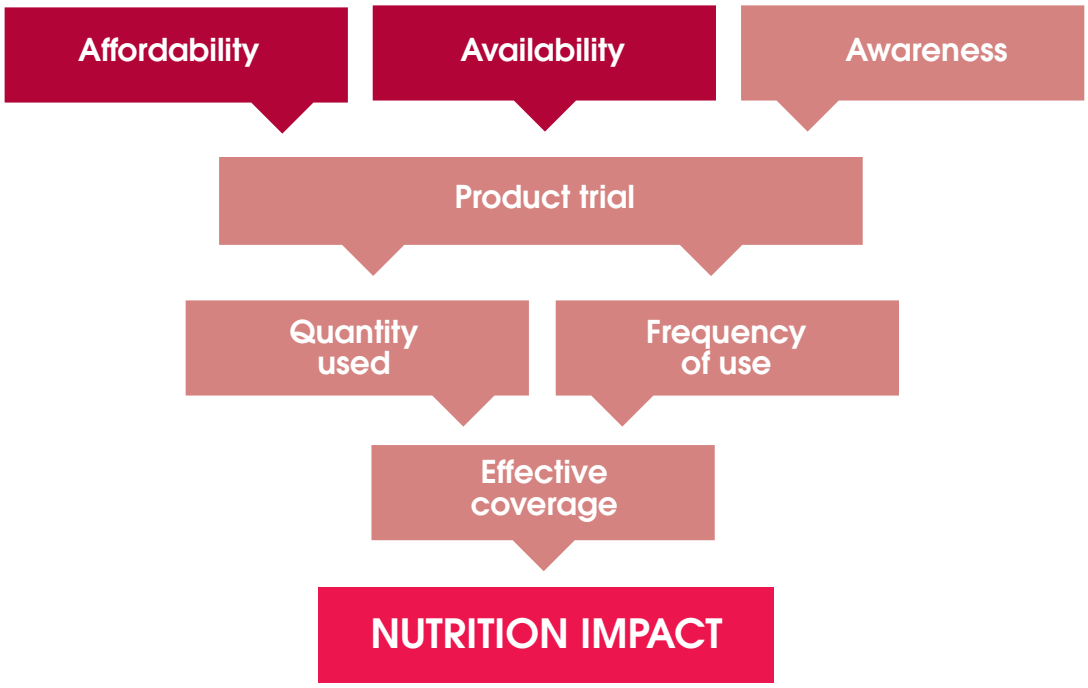


Figure 1: Steps in behavior change and demand creation

Following a mid-term evaluation in 2011, GAIN identified a number of challenges at each of these steps suggesting that interventions could be modified to be more effective. Recognizing that investments in behavior change and demand creation were not optimal, investments in BCI were increased, and GAIN explored how generic BCIs could be designed and aligned with branded promotion, in order to effectively drive demand and utilization of a product. To this end, commercial marketing principles were used to identify key drivers for demand and utilization of products, including packaging, pricing, and distribution of products.

In this paper we describe the challenges encountered, the adaptations or innovations we tested in terms of design and implementation, and the lessons learned over the course of this process. The analysis is based on the evidence and learning generated from projects in Bangladesh, Côte d'Ivoire, Ghana, India, Indonesia, Kenya, Mozambique, South Africa, Nigeria and Vietnam, in which products were either distributed for free through public delivery channels, or products were sold, partly subsidized or not, using multiple channels such as retail shops, direct commercial sales force, and health system or community volunteer networks.

Six lessons were learned:

1. Nutritious products should be, but are not yet universally accepted, as part of the complementary feeding solution.

2. Coordination of BCI and alignment of messages across actors and communication channels is paramount to avoid consumer confusion.

3. More sophisticated regulation of marketing and promotion of IYCF products is needed to avoid the downside of banning claims of complementary foods.

4. A user's broader aspirations and motives, beyond the enablers and barriers of child feeding behaviors, are equally important to trigger behavior change.

5. The complexity of complementary feeding practices and the extremely short window, in which these are applied, require focused interventions.

6. Optimal effectiveness in behavior change can be achieved by delivering mutually reinforcing and frequently repeated messages, across multiple channels, delivered at a time and place when the user is most receptive

To achieve national and global nutrition targets, such as stunting reduction and anemia reduction BCI must be implemented, at-scale, using multiple communication channels and in collaboration with multiple stakeholders.

2. A FRAMEWORK FOR BEHAVIOR CHANGE AND DEMAND CREATION: FROM POLICY TO ADOPTION

A number of challenges were encountered in the process, from building awareness through to compliant use of fortified complementary foods or MNPs. These challenges have been categorized as follows:

- Coordination and alignment of the different actors;
- Awareness raising on complex complementary feeding practices, simultaneously with awareness for products-based options;
- Moving from awareness to trial of the product-based options, because these products are relatively new to most consumers and not part of established feeding habits; and
- Achieving regular and compliant utilization of these products to reach effective coverage and potential impact on nutritional status.

Global evidence and national policies: can nutritious products be part of the solution?

Despite the supporting scientific evidence and the inclusion of FCF and MNPs as potential alternative options in infant feeding guidelines by the World Health Organization and the Pan American Health Organization (WHO 2003, PAHO 2003), GAIN quickly realized that these recommendations were often not translated into practice. Initially developed by USAID, Helen Keller International (HKI) and John Snow International have successfully turned the Essential Nutrition Actions Framework into an illustrative practical booklet, with additional training guides (Guyon and Quinn, 2011), which contains numerous, straightforward, simple, doable actions to help build capacity at local levels. Many countries and organizations have adapted the Essential Nutrition Actions Framework to their own situation. However the Essential Nutrition Actions Framework's complementary feeding principles do not include messages around MNPs or FCF, nor do most of the national IYCF campaigns delivered by the public sector.

When GAIN tried to bring in product-related messages into generic IYCN BCIs in partnership with non-governmental organizations (NGO) and governments, this led to important questions and dilemmas about whose responsibility it was to promote product-based messages, which actors should be involved, and who should be funding them. This work generated many unanswered questions about how to address commercial interests and the creation of effective demand for products within a public health agenda, and whether generic IYCF behavior change should indeed be preparing the grounds for branded product promotion. There was little if any prior experience in nutrition BCIs involving collaboration between public health and the private sector actors who are promoting specific products. In the design of its projects, GAIN had implicitly assumed there would be distinct roles for public (government or NGO) and private sector actors, but had underestimated the need for explicit alignment and coordination between the actors.

The reluctance to recommend products as part of the solution to adequate complementary feeding has its origin in a major public health problem, the irresponsible promotion of infant formula that contributes to low rates of exclusive breastfeeding, and harmful mixed feeding practices. Most readers will be familiar with this issue, which remains a continuous threat and which the International Code of Marketing of Breast-Milk Substitutes (WHO, 1981) was set up to address. At the core of this Code is the imperative to protect and promote breastfeeding. In this context, when and how to introduce complementary foods is sensitive and highly polarized, and given the role of some manufacturers in breaching the Code, doubly sensitive when manufactured food products of any kind are involved.

There is a constant fear that processed foods may displace breastfeeding, and that processed foods may unnecessarily replace the cheaper local diets. This is more the case for FCFs and less so for MNPs (which are added to local food). However, overall skepticism still remains. In addition, local indigenous foods are sometimes perceived as more "natural" and therefore healthier than processed foods, which are often seen as equated with artificial and unhealthy foods. While a number of processed foods do carry health risks due to high levels of salt, sugar, and fats, generalizing this to all processed foods is incorrect and potentially flawed when applied to broad food categories. Local foods and diets are in many cases insufficiently nutrient dense and therefore contribute to undernutrition, whereas processed foods – when formulated according to international standards – may contribute positively to healthy diets, development, and growth.

Raising awareness: the challenge of aligning complex messages

The promotion of optimal infant and young child feeding behavior is universally and rightly seen as a public sector responsibility. GAIN partnered with health authorities and NGOs to develop behavior change strategies, messages, and materials that are fully aligned with the IYCF recommendations and messages of governments and international agencies (WHO and UNICEF). In many cases, the materials were endorsed by the Ministry of Health, resulting in co-branding with their logo, for example in Côte d'Ivoire, Ghana, and South Africa.

One characteristic of public IYCF campaigns is antithetical to the best communications principle of simplicity – complexity: infant feeding practices are inherently complex. Multiple messages are needed to explain the concepts of 'timely introduced', 'adequate', 'safe', and 'properly fed' complementary foods.

The WHO and PAHO recommendations (WHO 2003, PAHO 2003) and the Essential Nutrition Actions Framework (Guyon and Quinn, 2011) are deliberately non-prescriptive to allow for individual and cultural variations. Through formative research in Indonesia, GAIN found that mothers could recall all recommendations regarding dietary diversity, but their practices were still not adequate to fulfill the needs of her child. The frequency and quantities of meat, egg, or vegetables that were added to the infant's meal, were insufficient. The concept that nutrient density needs to be higher for infants and children than for adults, is difficult to communicate, especially when at the same time the introduction of family foods is being recommended that may be interpreted as feeding the child from the family pot.

The complexity of complementary feeding is even more accentuated due to the fact that the window for learning and getting it right is extremely short. Feeding practices are evolving almost at a monthly basis after age 6 months, which makes it challenging to guide the mother or caregiver with the right messages at the right time.

Additional confusion could arise in situations where generic IYCF campaigns do not include messages around the option of using FCF as a partial solution to adequate complementary feeding, but products are available in the market. In Ghana and Côte d'Ivoire for instance, the NGO partners of GAIN needed to negotiate with the health authorities to get permission to include a message on FCFs (Panel 1). Moreover, where such messages are included, they get diluted by multiple other messages. This may lead to a misunderstanding of the recommendations. In Indonesia, GAIN found that it took time to come to an agreement with the national and provincial health authorities to obtain their approval for the focus on only three key behaviors, instead of addressing all feeding practices.

PANEL 1: Generic messages on fortified complementary foods are too complex and too vague to drive behavior change

In 2009, GAIN partnered with Helen Keller International (HKI) in Côte d'Ivoire, and in 2010 with PATH in Ghana to develop and implement BCIs. This included the development of education materials based on the seven Essential Nutrition Actions (Guyon and Quinn, 2011), for interpersonal communication through the health system and through radio broadcasting, as well as building the capacity of health workers in distinct geographical regions.

The materials and messages – which were validated and used by the local health authorities – targeted all recommended infant feeding practices, including exclusive and continued breastfeeding, timely introduction of complementary feeding, and dietary diversity.

In Côte d'Ivoire, cooking demonstrations were also organized in 55 health centers, using an unbranded FCF. And in Ghana, PATH trained the sales force of GAIN's private sector partner on appropriate infant feeding practices, and on the do's and don'ts to ensure compliance with the International Code of Marketing of Breast-Milk Substitutes (WHO, 1981).

In both countries, it took time and effort before the health authorities agreed to the inclusion of a message on fortified 'thick porridge' as a possible option for adequate complementary feeding. There was no specific explanation in the materials, however, of what was meant by fortified, which could also be interpreted as porridge with the addition of other ingredients.

The lack of detailed attention to products in both of these IYCF campaigns, as well as (in the case of Ghana) a mismatch in timing of the campaign and product availability, meant that these behavior change efforts did not noticeably contribute to better awareness of this product category, nor to first trial by the target audience.

Triggering trial using acceptability, credibility and trust

There is a large body of evidence to show that many positive behaviors are not adopted for a variety of reasons, and infant feeding practices are no exception. As explored in "Up and Out of Poverty: The Social Marketing Solution" (Kotler & Lee, 2009), behaviors can take a long time to change, whereas others are spontaneous and repeated without much thought or concern. Some behaviors involve costs or unpleasant efforts, or do not have a system or support network to facilitate the behavior. Changing a behavior requires asking a person to stop doing something that has always been done a certain way, to adopt a new habit, or to add a new habit to an already busy day. In order to achieve that outcome, the target audience needs to be convinced that the new behavior supersedes her current practices. A behavior change communication (BCC) campaign therefore has the challenging mission of convincing the caregiver that the new behavior has a higher value than the current behavior.

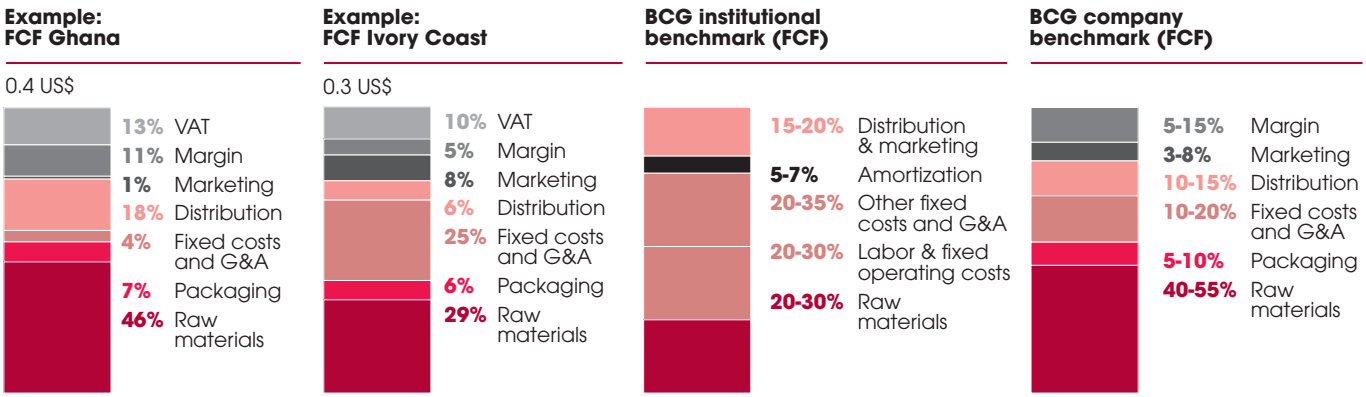
In many cases, MNPs or FCFs are relatively unknown to the consumers, and awareness and demand for these products must be built from scratch. Generating first trial is a challenging task for any organization, because it requires breaking through existing habits. Possible prejudices around the products need to be overcome, for instance mothers may be hesitant to add a "medicine-like" powder to the foods of their children that are apparently healthy. Or processed foods may be perceived to be full of artificial ingredients, such as preservatives. Trust and acceptability of the product are paramount to encourage caregivers to try them. Both public sector and private sector actors have a role to play in strengthening trust and credibility of MNPs and FCFs.

On-pack messages and claims are an important source of information that provides the buyer with arguments to trust the product sufficiently to be willing to try it out. In the case of food products for children under 2 years, a resolution by the World Health Assembly (WHA, 2010) has issued guidance that does not allow any health or content claims on commercial products. This is an important measure intended to protect exclusive breastfeeding against the introduction of inappropriate foods for infants. However, it does make it especially challenging for producers of infant fortified foods or supplements to

position their products positively towards consumers. In countries such as Kenya, South-Africa, and Tanzania, national legislation strictly enforces these guidelines. On the upside, producers of inappropriate foods cannot use misleading claims. However, on the downside, producers of appropriately formulated foods are not allowed to differentiate themselves through on-pack messages. As a result, mothers and caregivers cannot distinguish appropriate age-specific products from foods that are not appropriate for this age-group. Strong regulation of marketing practices and implementation within this product category is needed to protect and promote appropriate infant feeding practices. Nonetheless, a blanket ban on any claim (as per WHA 63.23) is a very blunt tool to this end. A longer-term solution points not to less regulation, but to more sophisticated and better regulation based on evidence that allows mothers to make an informed choice.

In commercial best practice, branding is an important aspect that builds quality and trust. Established brands have increased their value over years through delivering continuous quality and availability. Though branded marketing was viewed by GAIN as the company's responsibility, GAIN has worked with companies to ensure that all labeling and promotion materials are compliant with marketing guidelines (Quinn et al, 2010). These

marketing guidelines were developed in the spirit and letter of the International Code of Marketing of Breast-Milk Substitutes (WHO, 1981). However, GAIN did not invest in the branded market campaigns of its private sector partners, who were expected to allocate marketing spending as part of the product's cost structure, to help drive the offtake of products. An analysis by the Boston Consulting Group (BCG) in 2012 highlighted that for local FCF manufacturers in Ghana and the Ivory Coast, allocations for marketing spending were much lower than the industry benchmark (5-8% versus 15-20% industry average), rendering them highly uncompetitive, and making it challenging to launch new products or brands (GAIN, 2012; Figure 2).



BCG – Boston Consulting Group, **FCF** – Fortified Complementary Foods, **G&A** – General and Administrative Costs, **VAT** – Value Added Taxes

Figure 2: Marketing expenditures as part of the overall cost structure: comparison of GAIN partners with an institutional and industry benchmark Boston Consulting Group (2012). GAIN business model evaluation. Report to GAIN

Success means regular utilization and compliance

The final and most difficult step is to move the caregiver or user from trial to regular utilization of a FCF or MNP, which is compliant with recommended frequency and quantity. Only when this happens can a measurable impact on nutritional status be expected.

The challenge is to create a feeding habit, which changes the habit of feeding children from the family pot. It is important to note, however, that there is a subtle difference between the family pot which is cereal-based, voluminous, but nutrient-poor, and the recommendation of introducing family foods in appropriate quantities and proportions to respond to a child's high nutrient requirements. According to one study (Lally et al, 2010) it takes on average more than 2 months before a new behavior becomes automatic — 66 days to be exact, but with large individual variations of anywhere between 2 weeks and 8 months. Considering the target age-group of children aged 6-23 months, the window of opportunity to establish new complementary feeding habits is extremely short at 18 months.

Achieving compliant utilization is a significant challenge for products such as MNPs, especially when they are handed out for free. In Benue State in Nigeria, GAIN found that despite the success of free distribution of MNPs during government-run Health Weeks, it proved difficult to draw the same households, with the same children, to the second distribution of MNPs 6 months later. Other observations showed that free supplementary food delivered through public distribution programs such as the Integrated Child Development Services in India, is often being shared amongst all children, instead of being given solely to the target child.

When a consumer has to actively look for the product and pay for it, there are other hurdles to overcome. The consumer must be convinced of the benefits of the product, and the "return-on-investment" must be sufficiently high to continue investing in regular purchase. Consumer insight research can help to identify what motivates the consumer and drive these motivations in the marketing and promotion of a product. Although health and nutrition benefits are important known motivators, more short-term immediate benefits such as convenience, taste, and social status can be important daily drivers for utilization.

Improving infant feeding practices requires the engagement of multiple actors and partners in order to generate real impact, and to harness the skills, strengths, and capabilities of each organization. However, without explicit planning and coordination of the generic IYCF campaign and product promotion, it has proved very challenging to ensure that partners align their messages and their activities, both in terms of timing and content. The differences between generic IYCF behavior change and branded product promotion pose an additional challenge, but could at the same time present an opportunity to create a multiplier effect. The question remains, when driving trial and subsequent regular and compliant utilization among consumers, can lessons from product marketing be applied to strengthen BCIs? The next two sections will describe the steps that GAIN has taken to overcome numerous challenges in the design phase and the implementation phase.

3. THEORY AND PRACTICE: STRENGTHENING BCIS FOR IYCN

This section discusses the different design phase of interventions to raise awareness, instigate trial among consumers, and drive regular and compliant utilization. It describes which theories and methodologies have helped inform the behavior change component of GAIN's IYCN portfolio to date, and highlights some of the core methodological innovations that have been adopted or piloted in order to strengthen the multi-sectoral promotion of complementary feeding in the context of the International Code of Marketing of Breast-Milk Substitutes (WHO, 1981), other national and international regulations, and in-country capacity.

BCC theoretical frameworks

According to the commonly used definitions in public health, social BCC is the systematic application of interactive, theory-based, and research-driven communication processes and strategies that aim to change social conditions and individual behaviors. Used across the board in multiple disciplines in the public sector, a four step-design process (Figure 3) examines multiple dimensions, and analyzes personal, societal, and environmental determinants of a behavior to identify the most effective way for sustainable change. Multiple theories and models exist that guide the development of BCIs and provide road maps for studying and addressing key issues.

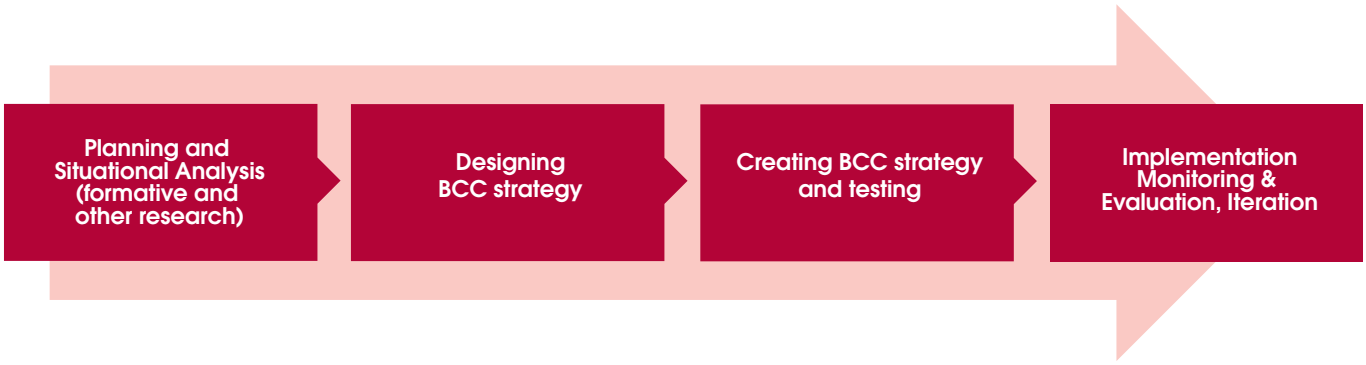


Figure 3: Four-step design process

All BCC experts would agree that changing behavior is complex and difficult. Experts continue to struggle to align effective interventions to encourage people to stop smoking, wear seatbelts, drink less alcohol, exercise more, or breastfeed exclusively and introduce appropriate complementary foods in a timely manner. Effective interventions depend on the application of theories and strategies that are appropriate to a given situation. Choosing the theory that fits the issue best remains a challenge. For instance, the Health Belief Model (Janz and Becker, 1984) is extremely useful to address problem behaviors at the individual level that lead to direct health concerns at the individual's level (risk of HIV due to unprotected sex), since health motivation is at the core of its focus. The Theory of Planned Behavior (Azjen and Driver, 1991) assumes that behavioral intention is the most important determinant of behavior and it builds on the perception that people can control their behavior. Both theories are building on the assumption that what people know and think, affects their behavior. Other theories represent the ecological perspective, which emphasize the importance of multiple levels of influence and the reciprocal causation between the individual's behavior and the social environment.

In Indonesia, GAIN chose to work according to the theoretical framework developed by the London School of Hygiene and Tropical Medicine (Aunger and Curtis, 2014). Called Evo-Eco, this approach is based on the principles of evolutionary biology, ecological psychology, and commercial marketing. GAIN was specifically interest in their broad perspective on what motivates people, including non-conscious or emotional motives.

Child feeding behavior does not only depend on rational decisions, derived from knowledge and situational constraints but is also heavily influenced by non-conscious and emotional motives

Formative research in Indonesia has shown that despite knowing what is right for their child; many caregivers unfortunately do not adopt recommended behavior. Knowledge alone is insufficient to generate trial, acceptance, and adherence to a certain behavior.

Although good health, nutrition, and growth are reported as the most important drivers for decisions on infant and child feeding, there are short-term motivations, such as affiliation, income, and status, which may supersede rationality when decisions are being made on a daily basis. This has been confirmed by a research study funded by GAIN in Ghana (Pelto and Armor-Klemesu, 2011) and Indonesia (GAIN, 2014), where convenience and social pressure were identified as important influencers of choices related to infant feeding behavior (Panel 3).

Innovations in formative research

Formative research to understand feeding behavior is universally used as the first step in the development of a BCI. A review by Fabrizio et al (2014) found, however, that although most studies report that they conducted formative research, only about half of the studies presented sufficient detail to allow others to benefit from their methods, findings, or application. This makes it challenging to understand which information has been collected and how it is been analyzed and used. The first step in conducting formative research requires prioritizing the understanding of the target audience and behavior: to know 'which' food is being fed, but also 'how', 'when', 'where' and 'why' this food is being fed to a child. Public health and nutrition campaigns are traditionally designed to bridge a gap in existing behaviors and focus on the problem (for example, "reducing anemia rates" and "increasing exclusive breastfeeding rates"). The starting point is often the expert's perspective, with the problem at the core.

To better understand the interplay between motives, beliefs, aspirations, and ultimate behaviors, GAIN has worked with experts to develop and pilot new formative research approaches that dig deeper into motives,

barriers, enablers, and non-conscious drivers of caregivers to make the "right feeding choice" for the child. The formative research dives deep into behaviors (both reported and observed), but also looks at media and messaging consumption patterns as well as the environment and system in which the caregiver operates.

The Focused Ethnographic Survey (FES)
GAIN identified the need for a methodology that specifically included new product testing (product acceptability, willingness-to-pay) in order to better understand the potential for a product to succeed in the market, and to assess its use, likeability, and acceptability in a certain cultural context. GAIN invested in the development of the FES, a new approach to formative research (Pelto and Armar-Klemesu, 2014). GAIN first used the FES approach in 2010 to explore whether a fortified, but not instant, cereal would be an appropriate intervention in urban Ghana (Panel 2). FES uses a mixed-methods approach to formative research that can effectively and efficiently illuminate data, in this case on infant feeding practices. The survey tool is guided by a cultural-ecological framework that investigates: a) social organization - economic conditions, socio-demographics, how the household is organized to care for its dependent members; b) technology - techniques and equipment that are involved in the production, distribution, preparation, and consumption of food; c) culture - knowledge, beliefs, values and perceptions; d) physical environment –where the feeding behavior takes place; and e) social environment - the sources from which households acquire food. Depending on the context and purposes of the research, FES is modular and flexible because the research is typically conducted in phases. Therefore, data collection can be fine-tuned as population differences emerge and it can be combined with other types of research if desired.

Building on the Ghana experience, GAIN has used the FES approach in a number of other projects, including Afghanistan, South Africa, Kenya, Ethiopia, and Bangladesh (Pelto et al, 2012). The Kenya FES was paired with Optifood, another innovative research tool developed by a FANTA (Food And Nutrition Technical Assistance), a USAID-funded project, in collaboration with the London School of Hygiene and Tropical Medicine, which is based on modeling techniques to assess the potential of locally available foods or alternative solutions to meet nutrient requirements (FANTA, 2014). In 2014, GAIN supported the development of a FES manual for researchers (Pelto and Armor-Klemesu, 2014; http://www.hftag.org/resources/all-resources/), and organized training workshops to build the capacity in using FES of eight organizations across six countries.

PANEL 2: A Focused Ethnographic Survey Highlighted How Mothers In Urban Ghana Balance Convenience With Nutrition

Ethnographic tools and approaches can be used very effectively and efficiently to obtain and interpret data on infant feeding practices. The first FES completed by GAIN in 2011 in Accra, Ghana, found that mothers held strong views about commercially available foods and the possible negative impact they have on their children's health and growth. Not surprisingly, low economic resources and high costs of foods are key constraints that mothers face in feeding their children. Another major determinant of a mothers' choice is the perceived "healthiness" of foods. For example, sincethe cheapest foods are not considered the healthiest, mothers are concerned that low-cost, traditional porridges are not the best foods for their children. The most compelling insight, however, was the insight that this study gave around issues of time management and convenience. The multiple demands on the time of the mother mean that sometimes she prefers to purchase instant porridge which does not require cooking time, thus freeing up time for other household tasks. We found that the daily challenge for mothers in an urban setting is to find a balance between these three determinants: food costs, beliefs, and values around healthiness, and demands on a mother's time.

(Pelto and Armar-Klemesu, 2011)

Behavior-Centered Design: The Evo-Eco Framework

Researchers at the London School of Hygiene and Tropical Medicine (LSHTM) developed a theoretical framework for behavior change, based on the principles of evolutionary biology, ecological psychology, and commercial marketing. This theory, called Evo-Eco, assumes that there are 15 basic motives for all human behavior, which can be grouped into drives (fear, disgust, hunger, comfort, lust), emotions (affiliate, nurture, attract, love, hoard, create, status, and justice), and interests (curiosity and play). The Evo-Eco framework focuses on understanding non-conscious motives underlying behaviors, as well as the situational constraints of what people do (Aunger and Curtis, 2014). Following their success in changing hand washing behavior with soap, resulting into 47% reduction of diarrhea, (Curtis and Cairncross, 2003) GAIN linked up in 2012 with the LSHTM.

The Evo-Eco theoretical framework was used in a behavior-centred design process of GAIN's Indonesia project, Baduta, and has led not only to interesting and some new insights, but also led to innovations in the creative design process (Panel 3).

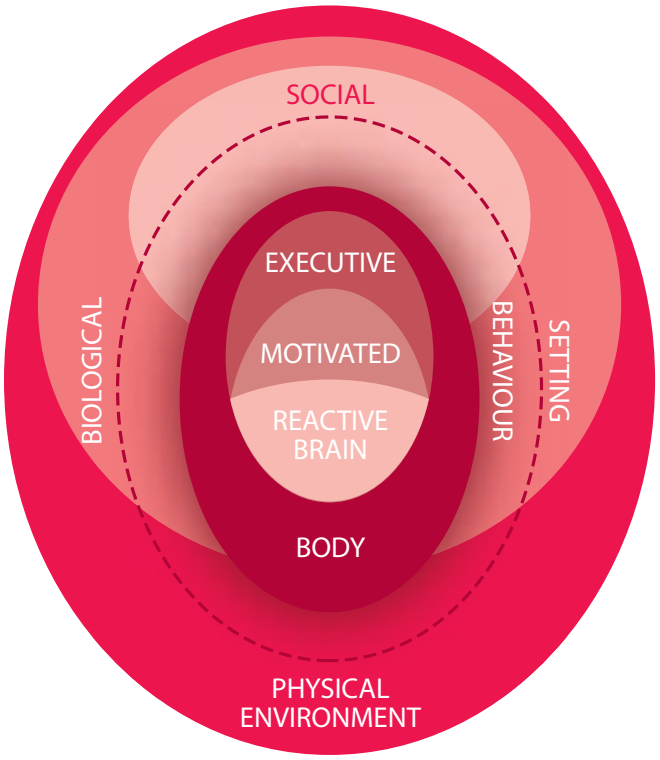


Figure 4: Interplay between environment, brain, and body (Reproduced from Aunger and Curtis, 2014, with permission)

PANEL 3: Caregiver motives and drivers of infant feeding behaviors, Sidoarjo, East Java

Formative research carried out by the London School of Hygiene and Tropical Medicine and Savica, an Indonesia nutrition agency, supplemented information about local infant feeding behaviors with additional insights into the motives of mothers and other caregivers. The research highlighted the following:

1. **Knowledge about nutrition is important but insufficient to lead to change**. Mothers knew the key messages: 'breast is best 'and 'diverse diet'. But they did not necessarily understand or believe the information, nor act upon it.
2. **Confidence is crucial**. Mothers lack confidence in their own ability to breastfeed and make the right choices, and well-intended advice can work counterproductive and lead to inadequate feeding behavior
3. Belief that **baby knows best**. Child-led feeding is an important phenomenon in this region, where parents provide immediate response to demands of children to pacify them and keep them happy. When children cry they are given snacks or bottle of milk, even if it is close to meal time.
4. **Peer pressure**. The entire social environment interferes with a child's education and feeding, and the mother is motivated by the need to be respected as a good mother and to avoid negative judgments of family, friends, and neighbors.

GAIN (2014). Improving Childhood Nutrition by Changing Infant Feeding Practice in Sidoarjo, East-Java.

Figure 4 represents the Evo-Eco theory. The theory highlights the interplay between the environment (which challenges individuals), the brain (which responds to that challenge), and the body (which produces behavior through input from the brain), and shows that it is central to devising new methods of changing behavior. The executive brain (ratio) is only partly responsible for driving behavior, because the motivated and reactive brains are driven by much more basic and sometimes non-conscious motivations.

The Evo-Eco approach relies not only on interviews but also considerably on lengthy observation of participants, which in the Baduta study (Aunger and Curtis, 2014) was conducted through day-long videoing. The combination of reported and observed behavior is expected to give the closest depiction of 'real' behavior, whereas each methodology on its own is likely to include a certain bias. Reported behavior is often distorted by justification of behavior in hindsight, whereas people may not even be conscious of the real reasons that drive their behavior. The presence of an observer might also influence the behavior of the mother or caregiver, though in this research we reduced that likelihood by working with young women observers from the neighborhood, which were not perceived as strangers.

Both these innovative approaches have generated insights and learnings on how and why mothers opt for the feedings habits they currently practice, and what their emotional and rational barriers are to adopting new or different behaviors, especially towards product-based solutions. These insights would then help inform the BCI strategy, which is the next step in the design process (Panel 4).

PANEL 4: Universal Insights

The importance of cultural contexts and sensitivities necessitates adaptation of messages and interventions to make them culturally appropriate. Yet many behaviors, as well as motivations for a certain behavior are similar across the world. For example, the key insight from the FES in Ghana (Panel 2) was that convenience seems to be a driver for infant feeding behavior of urban mothers, as it helps her cope with time constraints. The same point came across through formative research in other countries such as South Africa, Ethiopia and Vietnam. This is a universal insight used by marketers in developed countries for decades, and is amongst the three main drivers for product purchase; price, taste, and convenience.

A key insight from East Java, the lack of new mother's confidence in her ability to breastfeed, was also identified in Alive & Thrive's work in Vietnam and Bangladesh, and seems to be universal for young mothers around the world.

The identification of the most relevant universal insights that influence a caregiver's behavior related to infant feeding could facilitate the development of effective BCI. It could be the starting point of formative research to then further identify how to apply this universal insight with attention to local differences in culture and environment.

Translating insights into BCC strategy to inform creative design

Translating insights into an effective creative process remains a constant challenge, linked to both the challenge of coordinating different players within IYCF, and allowing for truly surprising creative design to generate real impact in consumer's minds and hearts. There is a dearth on information on how formative research results are being translated into BCC strategies and BCC implementation (Fabrizio, 2014). This could be due to the fact that the public sector has not widely built core skills or documented processes in creative design, leading sometimes to a conservative BCC execution re-using existing imagery, which may not exploit the consumer insights identified during the research phase.

Following the formative research, the development of a BCC strategy involves a number of equally important steps. First, the primary and secondary target audiences need to be narrowly defined (e.g. first-time mothers instead of all mothers) as well as the desired end behavior for each of the target audiences, and the behavior that needs to be changed. The description of the desired end behavior and why it should be adopted must be described in simple, focused, consumer-language, often called a "concept" in the commercial jargon. Concepts are ideally tested with consumers to evaluate whether the proposition is strong enough, valuable, relevant and compelling.
Second, a sequence of communication channels will need to be selected based on insights on media utilization and who the key informants are. An explicit communications objective needs to be defined for each of the channels. The BCI strategy and the consumer-centric insights delivered by the formative research will lead to the development of a creative brief to inform a communications agency who will start generating creative "big" ideas. In GAIN's experience, it is challenging to identify local creative agencies that have the creative or strategic capacity to translate a communications strategy and brief into compelling creative work. Large creative agencies house very diverse and experienced teams, including visual creative experts, copywriters, graphic designers for the creative process, and strategic planners who help translate consumer insights into relevant, appealing value propositions that are distinctive and unique compared to the competition, as well as media planners to help with the optimal media spending and improve the return on investment of the campaign,.

In Indonesia, GAIN partnered with a commercial marketing agency that translated the formative research insights into an aspirational concept. These insights informed the creative brief for a campaign idea. During the creative design process, the GAIN project team worked closely with the creative design team of the commercial agency and the academic BCC experts from the London School of Hygiene and Tropical Medicine.

Though challenging at times, the multi-disciplinary nature of the teams guaranteed a rich, interactive, and imaginative process. The proposed storyboards were rigorously scrutinized by the academic team, and scientific principles were consistently applied and translated into creative solutions. The creative team, with their extensive knowledge of the Indonesian culture and context, ensured appropriate grounding of the formative research insights and the behavior change principles into an animated and fitting narrative.

Large programs such as the Alive & Thrive's project in Vietnam and Bangladesh, and the conditional cash transfer program, Prospera, Mexico, have leveraged social and even commercial marketing principles to the delivery of a comprehensive IYCN program (Bonvecchio et al, 2007). GAIN, in its effort to develop BCC acumen in large scale home fortification programs, is working with experts from the Mexican National Institute of Health Promotion to develop a new BCC campaign for the expansion of MNP delivery in Bangladesh, and using the same rigorous social marketing BCC strategy process as was developed for Prospera in Mexico.

In these case studies, harnessing the expertise and skills of highly qualified commercial agencies, and even using private sector funding streams, has led to effective branding, advocacy, and advertising, demonstrating success and impact on target behaviors. Using multi-stakeholder approaches to generate creative breakthroughs, increase reach and drive cost effectiveness if the "big idea" is truly innovative, relevant, and aspirational to the target groups.

4. OVERCOMING CHALLENGES IN THE PROMOTION OF COMPLEMENTARY FEEDING PRACTICES

In this section we will elaborate on the approaches and solutions that GAIN implemented over the course of the IYCN grant, to overcome the numerous challenges we have previously described. We describe how GAIN identified and addressed barriers to awareness, trial of products, and regular use, but also how compliance was defined and measured. A particular effort was made to obtain a deep understanding of the caregivers' needs and how to best reach them. GAIN IYCN projects were not primarily designed to evaluate BCIs, and further research is required to understand which approach and model will be most effective in driving the timely introduction of appropriate complementary foods.

Driving awareness and trial of new products amongst low-income groups

A highly solicited target group

Mothers in resource-poor settings are not only caregivers, but also consumers and sometimes producers or vendors of the goods that they produce. Health or nutrition issues are just one of the concerns on the mothers' mind as she is in a situation where income generation, safety, and social obligations are just some of the preoccupations that drive her decisions. Low-income populations are increasingly becoming global consumers who rely on multiple sources of information to make decisions concerning their day-to-day lifestyle, spending practices, markets and work. A deep understanding of the mother or caregiver's life, her constraints, and her needs are critical to the design of an effective BCI. In its formative research in Indonesia, Vietnam, and Bangladesh, GAIN addressed consumer insight issues that went beyond the target behavior questions, and day-long video observations were used in Indonesia to understand the setting in which the complementary feeding occurs. Universal insights on the need for convenience solution An important aspect in the understanding of the audience is not only to identify who are the key influencers, but also at which moments they are most receptive to receiving information or messages (Brown et al, 2008). In addition, we need to identify the individuals that have influence over potential users and to orient marketing activities around these influencers. In Vietnam, GAIN found that the 6-month immunization visit was the perfect window to deliver IYCF messages on complementary foods, because mothers were extremely interested in the topic and were most open to receiving home fortification solutions after explanation from the health-care workers.

This information has allowed GAIN and its partners to a certain extent the adaption of the content, execution, timing and frequency of messages to when the mother is most receptive. Targeting windows of receptivity with a few prioritized messages is highly likely to increase the impact and the cost effectiveness of a campaign, but would require solid evidence of benefit before widespread implementation could occur.

Defining the key messages and value proposition of the desired behavior

Persuading individuals that a new behavior is "worth" spending time, energy, and sometimes money on, requires communicating about the desired behavior's benefits that drive appeal, interest, and relevance for this new behavior. Increasing the perceived value of a desired behavior is one of the biggest challenges in BCI, as it often means changing current behaviors or requires adjustments to a new daily routine. Currently, IYCF benefits are most often related to improved health and wellbeing and the growth and development of the child. A recent review, commissioned by GAIN, of best practices of marketing nutritious foods to consumers at the Base of the Pyramid suggested that promoting health may not always be sufficient to drive behavior (Kayser and Klarsfeld, 2014). These authors concluded that: "Marketing nutrition is not (only) about health: the value proposition should provide an immediate satisfaction to the child and convenience for the mother, while meeting local food habits".

Associations between adequate complementary feeding and child development may not always be relevant or compelling enough to generate the interest of the caregiver. Moreover, nutrient content claims or health benefit claims are strictly regulated and currently not permitted on food products for children less than 2 years, as per the WHO World Health Assembly Resolution 63.23 (WHA, 2010; Panel 5), and the International Code of Marketing of Breast-Milk Substitutes (WHO, 1981). GAIN supported the publication of a paper on how best to use the International Code of Marketing of Breast-Milk Substitutes to protect optimal infant feeding practices (Quinn et al, 2010). GAIN has worked actively with private sector partners to ensure that the packaging and promotion of their products are compliant with the Code. Local small enterprises in Côte d'Ivoire and Ghana had not heard about the Code prior to GAIN's engagement with them because they were not manufacturing any infant formula. GAIN worked with these producers to ensure that they had no claims on-pack, as per WHA guidance (WHA, 2010), except in cases where national legislation specifically permitted otherwise. Compliance with the Code is a minimum standard requirement and is designed to inspire trust in the product.[1]

"Marketing nutrition is not (only) about health: the value proposition should provide an immediate satisfaction to the child and convenience for the mother, while meeting local food habits".

Highlighting benefits of other product attributes such as convenience is equally important if not more important than nutrition and health claims, to drive awareness and trial. Convenience of instant infant porridges that require almost no cooking is for instance a very attractive benefit for mothers. Testing different benefits and claims will help to gauge consumer perception and to understand which benefit is most appealing and most relevant to the target group. For example in packaging design testing in Vietnam and in formative research in Bangladesh, convenience and a good understanding of how to use a micronutrient powder, reassuring mothers that they did not have to change anything in their cooking habits nor make the food harder to be given to the child, were elements that were highly desirable and very convincing to new users. This translated into very explicit pictograms about usage on every element of packaging.

[1] IYCN Paper 3 of GAIN's Working Paper Series discusses issues related to the regulatory environment for IYCF products, and how GAIN has worked towards creating an enabling environment (GAIN, 2015).

PANEL 5: The challenge of regulating on-pack claims on complementary feeding products

One of best and most frequently used marketing tools to drive value for a consumer is to emphasize relevant and impactful benefits consistently through all communication channels, including on-pack, print and mass media communication. Regulation of claims has been taken up by national Food and Drug Authorities, in order to avoid misleading consumers with false claims.

For food products targeting children less than 2 years of age, the World Health Assembly adopted a resolution in 2010 (WHA, 2010) which does not allow the use of any nutrient content or functional health claims. This is an important measure intended to protect exclusive breastfeeding against the introduction of inappropriate foods for infants.

Blanket bans on claims, i.e. no claims are allowed on complementary foods for children under 2, however, run the risk of being counterproductive. On the upside, producers of inappropriate infant foods cannot use misleading claims, but on the downside, producers of appropriately formulated complementary foods are also not allowed to differentiate themselves through on-pack messages. This hampers their ability to raise awareness about their products. As a result, mothers and caregivers have difficulty distinguishing appropriate age-specific products from foods that are not appropriate for this age-group, but producers are permitted to put claims on pack.

Strong regulation of marketing practices for this product category is needed to protect appropriate infant feeding practices such as breastfeeding. A longer-term solution, however, points not to less regulation, but to more sophisticated regulation that is based on evidence and which enables consumers to make their own informed choices. Providing practical guidance to companies will facilitate their compliance with the proposed revised guidelines.

Multi-stakeholder coordination for BCI implementation

GAIN has worked extensively with multiple stakeholders across its projects. Different types of collaboration models could be distinguished related to implementation of BCI, based on whether the partners were public sector and/or private sector, and on generic vs. branded messaging. The various models were not set up to systematically evaluate the impact on awareness, product uptake, and knowledge and practices of the mothers or caregivers, however individual studies and qualitative feedback did result in directional conclusions from the various scenarios.

A) Generic IYCF promotion by the public sector

In most projects, GAIN partnered with government nutrition departments, NGOs, or social marketing agencies to promote optimal infant feeding behavior only through the public system. GAIN provided technical assistance to help implement public health based IYCF campaigns and effectively built local capacity for the promotion of micronutrient powders in the context of IYCF.

This strategy has proven to be an effective approach, especially when home fortification of complementary foods was prioritized as a solution in national nutrition action plans. When government endorses the MNP and integrated it fully in the nutrition policy and guidelines, these campaigns resulted in high awareness and a relative good uptake. GAIN used this model in Vietnam, Kenya, and Nigeria (Panel 6).

With regard to the inclusion of a fortified complementary food message in generic IYCF campaigns, the experience was different. The link to actual products was weaker as governments in general did not endorse such a product, and the message did not receive suitable attention (Panel 1).

PANEL 6: MNP promotion in Benue State, Nigeria

Benue state is the first in Nigeria to launch a Home Fortification Program as a strategy to reduce iron deficiency anemia by improving the nutritional quality of complementary foods prepared at home. The Benue State Ministry of Health, in collaboration with GAIN, piloted the distribution of MNPs for children 6-59 months of age via two bi-annual maternal, newborn, and child Health Weeks in December 2013 and June 2014, and one additional distribution during Immunization Plus Days in March 2014. The Benue State Government procured 10 million sachets of MNPs called 'Enrich' from local premix supplier BioOrganics Nutrients System Ltd. GAIN provided financial and technical assistance for the MNP distribution which was complemented with social mobilization and BCC to contextualize MNP use within a package of optimal infant feeding and care practices, including the promotion of exclusive breastfeeding. GAIN reports that considerable uptake and use of MNPs was achieved through the three distribution rounds. Over 8 million MNP sachets were distributed to an estimated 42,000–94,000 children (32–53% of

resident 6-59 month old infants in the area) were reached per round, which was slightly below the target 50% coverage. However, these results should be interpreted in the context of heightened insecurity, with population displacements and disruption of health services in pilot areas.

The home visits and second maternal, newborn, and child Health Weeks survey reported improved caregiver's knowledge and consistent utilization of MNPs at the recommended average of 2-3 sachets per infant per week, with a median of 30, 31 and 58 sachets per child in each of the thee interventions, respectively.

Korenromp. et al (2015)

B) Generic IYCF promotion by the public sector, branded product promotion by the manufacturer GAIN initially hypothesized that public health promotion of infant feeding practices, including messages on unbranded product options, would create awareness amongst target users, and that branded product promotion driven by the company would suffice to drive demand and uptake of the nutritious foods. This hypothesis has not been confirmed. Without explicit planning of coordination of the generic IYCF campaign and private sector promotion, throughout the design and implementation of the interventions, it has proven challenging to ensure that partners align their messages and their activities, both in terms of timing and content, as shown by the two examples below.

In Ghana and Côte d'Ivoire, the BCI campaigns by GAIN's NGO partners were successful in strengthening IYCF message delivery through the health services, as well as via other nutrition stakeholders, but they were disconnected, both in time and in message, from the launch and promotion of a fortified infant porridge in the market. As such, this approach did not have a noticeable impact on product awareness or sales that could be attributed to the public IYCF campaign.

Although branded marketing was the manufacturer's company's responsibility, GAIN worked with companies to ensure that all labeling and promotion materials were compliant with marketing guidelines (Quinn et al, 2010), developed in the spirit of the International Code of Marketing of Breast-Milk Substitutes (WHO, 1981). GAIN did not directly provide subsidies or investments in the branded market campaigns of its private sector partners. However, marketing expenditure by these small producers was relatively limited and below industry average, as small companies could not afford mass marketing to drive demand for their products.

In South Africa, Nycomed/Takeda, a pharmaceutical company, understood that in order to create a MNP market it was important to target early adopters, whose behaviors would be aspirational to lower income consumers. Their launch strategy consisted of targeting high-income consumers, so-called "trend setters" or "early adopters", with a premium packaged MNP called Emvit sold exclusively in high-end pharmacies. The model, used in other product categories, would then allow for the product to be distributed in lower-tier distribution networks, such as Shoprite pharmacies, at lower margins to increase reach and coverage amongst lower income populations. Other companies have shown interest in launching an MNP following Emvit's initial success, which will create a competitive market, driving prices down as well.

Collaboration between public and private sector take time and effort to coordinate and align between the different actors.

Nevertheless, the benefits outweigh the downsides as more efforts and investments are needed to implement effective BCIs at scale

C) Branded IYCF promotion by the public sector
In Vietnam, the government has played a leading and innovative role in the development, promotion and sales of a branded MNP called 'Bibomix'. GAIN has worked closely with the National Institute of Nutrition, which developed and produces the MNP. The government decided that the product would not be distributed for free, but sold through the public health system. The BCC campaign promoting optimal child feeding alongside the use of MNP was heavily endorsed by the government. The National Institute of Nutrition placed considerable emphasis on the training of health staff that would be selling the product and counseling mothers on its use. They also promote Bibomix as part of the bi-annual campaign called "Micronutrient Day" led by the Ministry of Health to raise awareness of the high rates of micronutrient deficiencies amongst children. This government endorsement added significant credibility to the brand perception.

In Bangladesh, the benefits of well-aligned public and private approaches were seen when Renata, a leading pharmaceutical manufacturer in Bangladesh, was asked to broadcast and finance a generic breastfeeding awareness campaign. Renata funded this campaign from the profit of their MNP sales through retail. Despite some initial resistance from the public sector actors to work with this producer, this approach secured a sustainable funding stream to promote exclusive breastfeeding and also improved the reach and impact of IYCN campaigns. Fostering collaboration between public actors and private sector manufacturers also improved the reach and impact of IYCN campaigns These collaboration models share one feature, in that they take time and effort to coordinate and align with the different stakeholders. Nevertheless, the benefits outweigh the downsides as more efforts and investments are needed to implement effective BCIs at scale.

Modernising marketing: optimal mixes to drive awareness

Finding the right media mix is a science in itself, and while a lot of effort and research is done to understand caregivers' behaviors and beliefs, limited efforts have focused on understanding the most cost-effective, credible, relevant, and persuasive vehicles ways to deliver key messages in the social realm. The major part of the evidence for IYCF behavior change that exists is around interpersonal communication, but very little is yet known about the effectiveness of mass media, social media, or mobile phone platforms at scale.

Alive & Thrive is the first nutrition BCI project that compared the impact of mass-media alone, with the impact of a combination of interpersonal and mass-media communication. An evaluation of the Alive & Thrive mass media campaign in four provinces in Vietnam, exclusive breastfeeding increased from 26% to 48% after 1 year of the campaign (Alive & Thrive, 2014a). It was also found that in 3 years (2010-2013), exclusive breastfeeding increased from 19% to 62% in Alive & Thrive areas with mass media and social franchises (Alive & Thrive, 2014b).

In the context of Vietnam's rapidly evolving media landscape, mothers and caregivers are bombarded with messages, making it difficult to disaggregate what has the most direct impact on attitudes, beliefs and ultimately, on behaviors. The commercial sector uses numerous modeling tools and testing and invests heavily in capacity to define an optimal media mix, depending on the size of the target group, the type of message to be conveyed, the expected outcome as well as the adequacy of the media vehicle to reach the intended target group. The use of mass or social media, mobile phone platforms, community activation, such as through women self-help or community groups, complemented with on-pack messaging, helped surround the mother with consistent messages about a given topic. This idea was based on a common marketing approach called 360° marketing, which promoted the brand or product at all points of consumer contact, "surrounding" the consumer in as many places and occasions as possible. However, more research is required to better understand when and where target audiences are most receptive for certain messages – at what moment in their daily lives, as well as during their life stage.

Branding and packaging

In line with commercial best practices, branding is an important aspect that helps drive recall, and builds value perception, quality, and trust. In the home fortification category for example, branded products increased their awareness and value perception over time, mainly thanks to continuous support, consistent messaging, and constant availability. Pushtikona MNP, for example, which has been distributed for over 6 years in Bangladesh, now has awareness levels reported of over 60% within Bangladeshi households, primarily through the consistency in availability, relevant and easy to recall name, and colorful, consistent packaging that is easy to recognize (unpublished data).

The Farinor brand in Côte d'Ivoire was already well established for a few decades prior to GAIN's engagement. Building on existing brand equity facilitated the introduction of the new fortified complementary food: Nutribon Farinor. Though the company was initially hesitant about introducing a sub-brand with new (Code-compliant) packaging, consumers reacted very positively to the perceived update of the 20-year old packaging.

Branding helps drive recall, and builds value perception, quality, and trust.

Packaging is the main, high-impact vehicle for communicating this

Packaging is the main, high-impact vehicle for communication at the point of distribution or purchase, which the mother will have in her house and will be referring to when preparing her child's foods. Usage instructions and on-pack claims are therefore extremely important (Panel 7). In many countries described in Paper 3, GAIN has played an instrumental role in ensuring that on-pack information is aligned with national and international recommendations (GAIN, 2015).

PANEL 7: Vietnam packaging development to drive value perception

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Interpersonal communication

Nutrition BCIs have relied primarily on interpersonal communication by community health volunteers or health workers to deliver a series of IYCF messages through the health system. This is the approach that is well documented and supported by evidence in terms of its impact on changing infant feeding practices and improving nutrition status. Rapid scale-up of interpersonal communication can be achieved by working in conjunction with large existing networks such as the 30,000 Shastya Shebika community workers in Bangladesh (Panel 9) or recurring events such as the bi-annual Health Weeks in Nigeria.

This approach, however, relies on strong institutional capacities (staff, training, infrastructure and access) in the health system, which are frequently not available. A further challenge is that the formal health system is often weak in reaching priority target groups, such as adolescent girls, working women, or mothers that already have had multiple children, because they may visit the health centers less frequently or not be at home when the community health worker does her rounds.

Mass media

Although there is still little evidence for effective use of mass media in nutrition interventions, for private sector companies, mass media has been the dominant platform for marketing since the 19th century. Due to the high cost of TV broadcasting, mass media is often being dismissed as a medium to create awareness on a public health issue. Nevertheless, while the total cost might be high, targeted media planning can generate a very low cost per beneficiary reached and can help accelerate both demand and accessibility.

In Indonesia, media analysis indicates the use of television across the entire population. During the first phase, the TV commercials developed by GAIN were broadcast on two regional television stations, reaching 2.5 million people in East Java, Indonesia (Panel 3). The design team made a strong effort to ensure that the TV commercials had a private sector look and feel, and insisted on using real-life dialogues, avoiding public health jargon, and using humor and strong characters to ensure better recall of the commercial and the messages (GAIN, 2014).

Mass-media, especially TV, penetration is much in rural areas than sometimes believed. Even in Bangladesh, more than 80% of the total rural male population has watched TV in the last 30 days (Figure 5), which would make this an excellent high-reach communication channel to reach fathers, who have a strong influence on the purchasing behaviors at the household level.

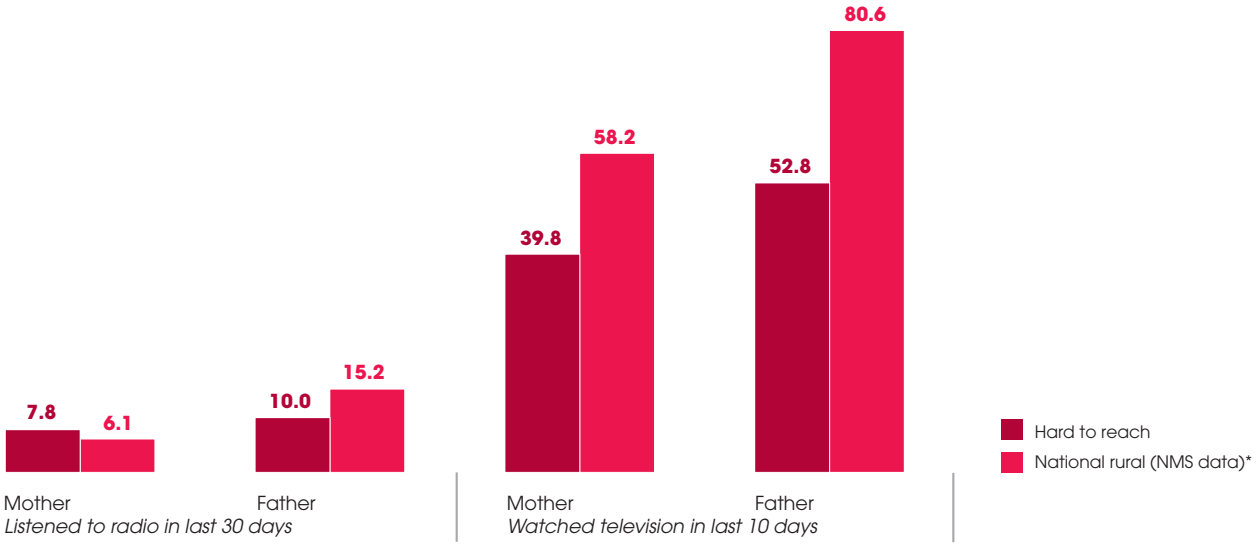

Figure 5: Recent media habits (% of respondents) for rural and hard-to-reach areas (The Nielsen Company, 2013).

The choice of media and channels requires detailed analysis on indicators such as audience, viewership (time of the day), credibility of the channel, adequacy with the target audience, which vary significantly from country to country, and even from province to province. Given the small and narrow target group, i.e. mothers which children between 6-12 months who are most receptive to information on how to give semi solid foods, country specific analyses need to be conducted before the different elements of the media mix are to be produced.

Mobile phone platforms

As media consumption patterns evolve, BCC strategies need to keep up with the fast-moving trends in internet and mobile penetration in all socio-economic strata across the globe. Innovation is needed in terms of creative quality of messages, adaptability to different media and in terms of the media channel that needs to be adopted, to truly reach the target consumer. This effort can be done by requesting data on audience, viewership, subscription rates, and followers, depending on the type of media that is being investigated. The sharp increase in access to social media and the internet through mobile technology has impacted how messages can be disseminated in a cost-effective way to lower income and formerly hard-to-reach groups, including in rural and media dark areas. GAIN's experience of using mobile-phone technology in South Africa and Mozambique is summarized in Panel 8.

PANEL 8: Using mobile-phone technology to create demand and change behavior

The below examples show how the use of IT has improved implementation of IYCN campaigns in South Africa and Mozambique, where mobile penetration is very high even in the hardest to reach and secluded areas of the country.

As part of a wider government-run social behavior change campaign in South Africa, focusing on the 1,000 day window of opportunity for improved maternal and infant nutritional feeding practices, GAIN has partnered with a social marketing agency to develop a mobile platform for disseminating key nutritional information as part of the "Feeding Smart from the Start" campaign. This platform consists of a registration-based mobile website with nutrition guidance and interactive functions such as quizzes and a messaging platform, as well as more basic SMS text updates. Users are awarded free airtime for engaging with the content, and responding to questions to test their understanding of the target behavioral practices. This platform currently has over 100,000 registered users.

Given the sharp increase in mobile phone usage amongst low-income groups in South Africa, the mobile platform is a targeted vehicle to reach parents (especially mothers with young children), in order to spread awareness of nutritional practices and bring about social change. The objective is to build the database of users who could be delivered information on infant and young child nutrition, with GAIN supporting the development of a new set of health messages to facilitate behavior change. These messages are added to the site or sent via SMS text message to registered individuals bi-weekly. GAIN is also working with manufacturers and retailers to implement a mobile phone airtime-based voucher program to encourage the trial and uptake of fortified products endorsed by the National Directorate of Health (http://www.gainhealth.org/knowledge-centre/mobile-technology-improving-nutrition/).

In Mozambique, GAIN is developing is developing an innovative voucher system linking the private retailers with health workers through the use of Movercado "Troca Aki" sites typical neighborhood kiosks where mothers and caregivers typically buy small quantities of food and prepaid cards. MNP delivery is being piloted through voucher distribution and direct sales at these sites. The vouchers are being given out at the commune health centers, in conjunction with nutrition counseling for mothers of children under age 2 years. These vouchers represent a value of 20 or 30 MNP sachets and can be redeemed for free at the Movercado "Troka Aki" site. Since the MNPs will be available through the retailers, the voucher system provides an alternative to the already overburdened government health system which is currently delivering health supplies and medicines delivered. By entering the voucher number via SMS text, the kiosk owner will be compensated for the value of the voucher and will therefore recover his costs. This is a new concept that incentivizes kiosk owners to carry health products that are commonly required to meet the micronutrient gaps of children under age 2 years, and leverages the fact that these kiosks are frequently visited by our target groups. https://www.youtube.com/watch?v=6wx9YyOK94o

Community mobilization
Leveraging existing community groups or volunteer networks can be an effective means to reach out to target populations through the community, instead of through the health system. Only a few very large NGO networks exist – for example, in Bangladesh (Panel 4) – however, in some countries strong government networks do reach very isolated communities in India (Anganwadi workers) or Ethiopia (the Women's Development Army).

GAIN's projects in India address social and economic empowerment of women, by working through women self-help groups to improve nutrition. For instance, in rural parts of the Indian State of Uttar Pradesh, the Rajiv Gandhi Foundation has been working with women's self-help groups for years, training them in terms of their entitlements to health services and giving them a collective voice to demand improvements in the quality of service delivery. GAIN supported the Rajiv Gandhi

Foundation to develop specific modules to improve feeding practices and encourage the utilization of nutrition services. Through this grass-root level approach, Dalit women from the lowest castes have improved their social standing in their communities, have been allowed to contribute to decision-making in the household, and have been listened to at community level.

Overall, there are little or no data regarding the comparative cost-effectiveness of different communication approaches, or a mixture of approaches. Results from the first ever large-scale nutrition social behavior change program in two Asian and one African country, Alive and& Thrive, supported by the Bill & Melinda Gates Foundation, will soon publish its cost-effectiveness analysis (Piwoz et al, 2013), but more operational research that seeks to gather data on cost-effectiveness, scalability, and sustainability is needed to define cost effective models.

Achieving nutrition impact: levers for compliance and effective use

This final section will elaborate on some of the key levers that help drive compliance and effective use of product-based options to help improve nutrition of children under 2 years. Elements such as explicit packaging, clear usage instructions, continuous supply and consistent dosage recommendations are critical to guarantee sustained use. Other levers, such as initial satisfaction with the first experience with a product, strong government endorsement, and incentives and rewards can also easily help create a sustainable habit change amongst mothers.

In general, a mother or caregiver who manages to satisfy the needs of her child, without delays, wasted time, or any crying/fussing from the child, is a happy and satisfied mother. Therefore, in order for her to adopt a new behavior, that behavior not only needs to be simple to adopt, but needs to generate a positive affect from the primary user. Only if the first experience is positive will the mother likely repeat the same behavior. In its programming, GAIN not only ensured that the product quality was delivered according to international standards, but also provided manufacturers guidance on how to make the product more convenient (access, usage). Additionally, in many programs in home fortification, GAIN monitors and tracks first-time consumer's reactions and responses to the products.

Building trust: consistency in messages across campaigns
Ministries of Health and NGOs follow international recommendations and guidelines that are developed by the UN (WHOa 2003, PAHO 2003). Nutrition messages, however, are quite complex, and when given all at once, well-intended public health messages may be only partly understood, or not understood at all. In Bangladesh, for example, GAIN found that efforts to provide a large number of messages ran the risk of diluting the effectiveness of training and education (Panel 2). In some instances GAIN found that this even led to opposite behaviors of well-intended messages. Too often, GAIN sees populations exposed to many diverse and sometimes conflicting messages in their daily living and work environment. Avoiding conflicting messages by active alignment of all players at a national level is therefore of critical importance for effective behavior change.

"Aligning messaging between public and private sector players requires brokering of the dialogue, application of sound communication principles, and simplifying messages ..."

GAIN's intent was for NGO and business partners to work together to strengthen optimum nutrition behavior promotion, and this has proven challenging. Whereas in most (but not all) situations, home fortification of complementary foods with MNPs is an accepted product solution to improve the micronutrient intake of children, the use of fortified infant porridges encounters more hesitancy amongst public health professionals who fear that mothers will be persuaded to introduce these too early and compromise exclusive breastfeeding.

Ample time and efforts are required to overcome the diverging perspectives, before it is possible to harness the strengths of both the public and private sector players in implementing effective BCC. GAIN has learned that this dialogue rarely happens automatically. What is required is a neutral party on the ground to broker the relationships and create buy-in for one common goal and one BCC strategy, using multiple touch points or media channels to deliver the same or complementary messages.

PANEL 9: Consistency in messaging is critical to allow for good recall

In Bangladesh, GAIN is supporting BRAC, the largest NGO in the world, and Renata Pharmaceuticals to manufacture and subsidize a brand of MNPs called Pushtikona. The sachets were being sold by more than 30,000 community health volunteers referred to as Shasthya Shebikas. This is a potential for high coverage in the use of MNPs in Bangladesh, since BRAC health volunteers already sell a variety of health products in their geographical and program catchment areas. In addition to selling basic health-care products, they provide free services to their fellow community members, including education on hygiene and nutrition practices.

Shashtya Shebikas are trained about micronutrient benefits but not on specific strategies to sell them. They introduce their products during doorstep visits to village households (>1 per month). People typically buy several sachets at once (10 on average) to last until the next visit of their Shashtya Shebika. Shashtya Kormis— managers of 10-12 Shashtya Shebikas— also conduct monthly health forums with the villagers (6-7 households at the time) to deliver basic health education. Because they cover 2000-3000 families, each Shasthya Kormi sees each household at least once every 6 months. Between 40 and 50% of households with young children are aware of Pushtikona, of which more than 70% from their BRAC health workers (versus 18% from relatives and 11% from TV campaigns). Although the effectiveness and delivery model of MNPs has been established in other models, evidence on the public-health impact of sales-

based models is very limited. The International Food Policy Research Institute (IFPRI) investigated the suitability of the market-based system in GAIN's project for reaching intended Pushtikona beneficiaries, (Rawat et al, 2012).

The study reported that while the health workers had very good knowledge about the product and its usage, at household level the information had been diluted. Indeed, household knowledge of the benefits of feeding Pushtikona to the child and recommended dosage is low, although higher among households in the area where the "Alive & Thrive' behavior change project operated. Only around 40% of households were able to name such benefits as "good for child's brain/intelligence" and "child will grow well". Other specific benefits had a lower recall. Only 44% of households were able to indicate the recommended dosage of Pushtikona, due to different recommendations on dosage frequency by the various organizations involved, leading to confusion of the mothers.
http://www.gainhealth.org/knowledge-centre/project/bangladesh-miycn-home-fortification

Government as the accreditor

Consumer trust and credibility can also be driven by government accreditation or the use of certification logos to communicate on government or a certain credible entity's endorsement of a product or a proposition. Sanogo and Masters (2002) for instance, demonstrated mother's demand for quality certification of infant foods in Mali. In South Africa, the certification logo is part of the National Department of Health's effort to advocate for a cheaper, reformulated maize meal product, fortified with key micronutrients to address the high levels of micronutrient deficiencies in infants from 6-23 months of age, with no added source of protein or fat.

GAIN developed and tested different fortification logos that will represent National Department of Health's endorsed quality of complementary foods. This research indicated that simple symbols are best understood by consumers, such as "The right tick symbol tells me that the food is good and that it has been approved" or "The sun shows that the porridge should be given in the morning".

The government plans to promote the use of products displaying the fortification logo in their public health communication material, thus encouraging private manufacturers to comply with the fortification standards to be allowed to display the logo on their products.

Reinforcement: Reminders and Rewards

The feeding behaviors that nutrition experts would like to influence are frequent, daily, or sometimes hourly behaviors. For example, exclusive breastfeeding is required 8 times per day or more, hand washing with soap should be done before every meal and after every washroom visit, and MNPs should be taken at least 120 days per year to be effective. Interactions with healthcare professionals are too infrequent to provide mothers and caregivers with the frequent reminders and encouragement to continue making these daily choices. Based on this insight, GAIN and its partners introduced a number of reminder tools to encourage the appropriate use of MNPs in Bangladesh, Vietnam, South Africa, and Indonesia, such as stickers and member cards, calendars, and personalized SMS text messages.

To encourage continuous compliance, GAIN and its partners have developed schemes that encourage longer term subscriptions by providing a short-term reward or free sample after use of a product for between 15 and 20 times (for example, discounted purchase of MNP for bulk purchases). In addition, we have developed certificates for exclusive breastfeeding beyond 3, 4, and 5 months. In GAIN's project in Vietnam, mothers can gain fidelity rewards for multiple purchases of MNPs, such as a branded hand fan, a branded infant bib, or a branded infant plate, depending on the number of months that the mother has been giving Bibomix to her child. .

Though challenging, it is important to come up with a short-term demonstrable benefit of nutrition interventions in order to encourage parents and caregivers to sustain the desired behavior. Robust research that focuses on what works and what does not in terms of reminders and rewards would greatly improve the effective coverage of breastfeeding and complementary feeding promotion.

5. REFLECTIONS AND NEXT STEPS: PUTTING BCI AT THE HEART OF INFANT AND CHILD NUTRITION

The promotion of optimal feeding practices was an integral element from the outset of GAIN's IYCN program, which aimed to improve the accessibility (i.e., availability and affordability) of fortified complementary foods or MNPs as part of the solution to help improve nutrition of children less than 2 years of age.

Though initially lacking the in-house expertise, GAIN increased its focus on BCC along the way. We learned the following lessons:

1. Nutritious products should be, but are not yet universally accepted, as part of the complementary feeding solution.

Global evidence and guidance on the potential role of FCFs and MNPs as part of the solution to improved complementary feeding already exist, but with the exception of some countries in Latin America, have not yet been actively translated into country level nutrition and behavior change policy and programming. Without universal acceptance of FCF and MNP as one of the solutions to help improve nutrition intake for infants aged 6-23 months without affecting exclusive breastfeeding, efforts around increasing their availability, quality, awareness, and demand creation are severely compromised. The Home-Fortification Technical Advisory Group (HFTAG; see also www.hftag.org), with support from GAIN, has made good progress to date in aligning global and local stakeholders around MNP programming. A similar effort would benefit the appropriate introduction and utilization of FCFs in target populations while addressing potential conflicts of interest between the public and private sector.

2. Coordination of BCI and alignment of message across actors (and communication channels is paramount to avoid consumer confusion.

Governments, health systems, civil societies, and private sector companies share the responsibility for informing mothers and caregivers properly as to how they choose to feed their children (issues related to the ethical marketing and the Code discussed in next bullet). While there is still room for improvement in monitoring and enforcement, policies are in place in most countries to ensure that this influencing stays within the realm acceptable under the Code and aligned with global IYCF recommendations. To increase impact and avoid confusion among mothers and caregivers, coordination of all those involved in BCC need to coordinate the prioritized proven interventions, and, together, align and drive consistent messages that are mutually reinforcing each other to allow for maximum impact over time. Where feasible, it is recommended to develop one (sub) national overarching campaign idea, which is easily recognizable for the target audience.

3. More sophisticated regulation of marketing and promotion of IYCF products is needed to avoid the downside of banning claims of complementary foods

With processed foods set to become increasingly larger part of people's diets in resource-poor countries as a result of increased globalization and urbanization, it is of fundamental importance that governments receive support to address regulatory issues, to establish ethical marketing guidelines, as well as strengthening enforcement of the legislation. Current guidance from the World Health Assembly does not allow any claims around nutrient content or health benefits on food products marketed to children below 2 years of age, which is an important measure, intended to protect breastfeeding. While these important regulations are designed to protect against false and misleading claims, as a result, mothers are not given the necessary, accurate, and relevant information to make an informed choice. More sophisticated regulation of marketing and promotion of IYCF products is required, and until then a recognizable government endorsement of products marketed to children aged 6-23 months and fulfilling a certain number of nutrition and quality criteria could be a good alternative to on-pack claims.

4. A user's broader aspirations and motives, beyond the enablers and barriers of child feeding behaviors, are equally important to trigger behavior change.

Low-income mothers are so time-starved and heavily solicited with multiple conflicting chores that they need to be given tangible, demonstrable and visible reasons why they should start adopting new behaviors in their already busy agenda. Research shows that long term benefits are more difficult to appreciate, hence why immediate benefits and visible cues, such as appealing packaging, clear and relevant product benefits, convenient usage, and rewards, can be simple, yet highly effective approaches to drive compliance and ultimately effective use.

5. The complexity of complementary feeding practices and the extremely short window in which these are applied, require focused interventions.

The true challenge is that we aim to install a temporary, transitional behavior (between 6 -23 months of age), for a target group that is ever changing , with new young women becoming mothers and new babies being born, in a time window which is extremely short (around the 6 month anniversary through to 12 – 18 months). This cannot be achieved by one single campaign or by health sector interventions alone. A true shift towards adequate and appropriate complementary feeding requires establishing social norms around appropriate complementary feeding, including the potential utilization of nutritious products. In addition, it requires global and local stakeholders to work effectively and requires consistent messages across sectors and continuous investment over time.

6. Optimal effectiveness in behavior change can be achieved by delivering mutually reinforcing and frequently repeated messages, across multiple channels, delivered at a time and place when the user is most receptive

Despite the proven effectiveness of interpersonal counseling by health workers and community volunteers in the health system (Imdad et al, 2011), interactions with mothers and caregivers remain relatively limited and are easily overtaken by the multitude of messages coming from other sources. With the fast evolving media landscape, an enormous opportunity has risen to harness new communication platforms (social media, mobile, private sector advertising) to significantly ramp up the level and quality of messaging, and to reach, sustainably and cost-effectively, those individuals who were previously were hard to reach. Competencies of public and private sector players must be united to deliver coherent messages, repeatedly and sequentially to grasp the mother's or caregiver's attention at the most receptive moment in time and in place.

These lessons from GAIN's portfolio are consistent with the conclusions of a recent meeting co-organized by GAIN and USAID/SPRING in Washington DC, USA, in November 2014 (GAIN/USAID/SPRING 2014). The Conference led to the definition of a strategic agenda which calls for focused investment in five priority areas to maximize impact on national and global nutrition outcomes. It affirms the need for action at large scale, and recommends focusing on a few priority behaviors and taking a user-centred approach to ensure high-quality implementation. It also encourages investing in robust research including on cost-effectiveness of different channels and approaches. Moreover it recommends harnessing the strengths of a variety of partners, including private sector, social media agencies, and mobile technology companies. Finally, it calls for strong advocacy to put SBCC at the top of the nutrition agenda.

"We know a lot about the "what" works, but not the "how;" operations research in real world conditions is key to building the evidence base for nutrition SBCC that is effective at scale."

"We can learn from the private sector, including how they tap into aspirations that drive behavior, thinking of beneficiaries as consumers, and which contexts need adaptation at scale."

Quotes from participants at the "Designing the Future of Nutrition Social and Behavior Change Communication: How to Achieve Impact at Scale" Conference, November 2014.

The GAIN projects have demonstrated that BCIs can lead to increased awareness, increased trial of new products, and consumption of either a FCF or an MNP. The remaining challenge is how to create sufficient demand and achieve regular and compliant utilization of FCFs or MNPs as part of generic complementary feeding practices, including application of dietary diversity principles. This will be an important focus for GAIN going forward.

Based on the lessons learned from these experiences, GAIN has adopted a comprehensive research-based approach to behavior change and demand creation, applying lessons learned from other health areas such as HIV/AIDS and hygiene. We have established partnerships with a broad set of players, including academia and the private sector. We are working closely with BCC experts globally, including from Cornell University, the London School of Hygiene and Tropical Medicine, the USAID-funded project SPRING, and the Mexican National Institute of Public Health, to further test and develop the creative design approach with diverse inter-disciplinary teams. We aim to improve and innovate in the

monitoring and evaluation of BCIs, and to establish process and impact indicators using both reported and observed behaviors. GAIN applies lessons learned from established marketing approaches, harnessing private sector expertise and experience on consumer insights for the creative design of impactful campaigns, and on the use of multiple communication channels. We will also expand our partnerships to include mobile providers, companies involved in designing social media platforms, or industry associations, using the workplace as an additional entry point. Our research and projects will focus on understanding the life goals, the daily challenges, and the drivers of our beneficiaries, beyond their nutrition behaviors.

To achieve national and global nutrition targets, such as stunting reduction and anemia reduction, BCI must be implemented, at-scale, using multiple communication channels and in collaboration with multiple stakeholders. This is expensive, but new funding models that could benefit from private sector contributions, or loyalty programs, need to be further explored. Governments and NGOs, including GAIN, all too often invest in short-duration campaigns, which lack the continuity needed to bring about sustained change. GAIN calls upon all stakeholders to invest more in SBCC, for a longer term, and with a greater focus placed on implementation at large scale.

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GLOSSARY

BCC	Behavior Change Communication
BCD	Behavior-Centred Design process
BCI	Behavior Change Intervention
BMGF	Bill and Melinda Gates Foundation
CIFF	Children's Investment Fund Foundation
DFID	UK Department for International Development
DGIS	Netherland's Directorate-General for International Cooperation
ENA	Essential Nutrition Actions
FANTA	Food and Nutrition Technical Assistance
FAO	Food and Agriculture Organization
FCF	Fortified Complementary Foods
FES	Focused Ethnographic Survey
GAIN	Global Alliance for Improved Nutrition
HFTAG	Home-Fortification Technical Advisory Group
HIV	Human Immunodeficiency Virus
HKI	Helen Keller International
IFPRI	International Food Policy Research Institute
IPD	Immunization Plus Days
Irish Aid	Ireland's Department for Foreign Aid and Trade
IYCF	Infant and Young Child Feeding
IYCN	Infant and Young Child Nutrition
KBZF	Khalifa Bin Zayed Al Nahyan Foundation
LSHTM	London School of Hygiene and Tropical Medicine
LSM	Living Standard Measures
MIYCN	Maternal, Infant and Young Child Nutrition
MNCHW	Maternal, Newborn and Child Health Week
MNP	Micronutrient Powder
MoH	Ministry of Health
NDoH	National Department of Health, South Africa
NGOs	Non-Governmental Organizations
NIN	National Institute of Nutrition, Vietnam
PAHO	Pan American Health Organization
PATH	Program for Appropriate Technology in Health
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHA	World Health Assembly
WHO	World Health Organization