Original Article

The scope and practice of behaviour change communication to improve infant and young child feeding in low- and middle-income countries: results of a practitioner study in international development organizations

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Abstract

We describe features of the landscape of behaviour change communication (BCC) practice devoted to infant and young child feeding (IYCF) in low- and middle-income countries by practitioners in international development organizations. We used an iterative, snowball sampling procedure to identify participants, and the self-administered questionnaire contained pre-coded questions and open-ended questions, relying primarily on content analysis to derive generalizations. Highlights of findings include (i) IYCF-specific BCC is usually delivered within the context of other public health messages and programmes; (ii) technical assistance with programme development and implementation are primary activities, and evaluation-related work is also common; and (iii) formative research and evaluation is universal, but process evaluation is not. With respect to scaling up nutrition: (i) use of mass media and digital technology generally play only a minor role in BCC activities and are not currently an integral part of BCC programming strategies and (ii) only 58% of the participants report activities related to communication with policy makers. The individuals who comprise the community of BCC leaders in the area of IYCF are a diverse group from the perspective of academic backgrounds and nationalities. In addition to nutrition, public health, agriculture and adult learning are common disciplinary backgrounds. In our view, this diversity is a source of strength. It facilitates continuing growth and maturation in the field by assuring inputs of different perspectives, theoretical orientations and experiences.

Keywords: behavior change communication, practitioner perspectives on BCC, BCC for child nutrition in international development organizations, infant and young child feeding.

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Introduction

The scope of behaviour change communication (BCC) in nutrition has expanded rapidly in recent years, fuelled by the growing recognition that social and behavioural change interventions are fundamental to achieving the nutrition-related goals of the United Nations (2014) (<http://www.un.org/millenniumgoals/>) and meeting the challenges of the Scaling Up Nutrition (SUN) movement ([http://](http://scalingupnutrition.org/about)

scalingupnutrition.org/about). Communication is an essential aspect of BCC in every aspect of public health, including nutrition. This paper presents the results of a study that was undertaken on the recommendation of the International Advisory Group on Infant and Young Child Feeding of the Global Alliance for Improved Nutrition to describe the landscape of BCC practice in nutrition with an emphasis on infant and young child feeding (IYCF). We sought to provide an overview of the scope and

main features of current practice, with a focus on international humanitarian organizations.¹ To achieve this goal we turned to BCC practitioners, particularly the individuals who are in leadership positions within organizations that are delivering BCC services for IYCF.

The first section of the paper contains a description of the study methods, which involved both quantitative and qualitative data collection and analysis. We regard all of the individuals who responded to our request to participate in the study as 'key informants', who provided us with information on their work. We use the concept of key informants in the sense this term is used by ethnographers (Bernard 2011; Schensul & LeCompte 2012). Throughout the paper we refer to them as 'participants' rather than 'respondents' to emphasize their contributions and avoid the connotation that their contributions were restricted to narrow answers to survey questions. For the presentation of the results, we have also followed common practice in publication of qualitative research, which is to combine the 'results' and 'discussion' into substantive sections rather than presenting them in separate sections as is typically the case with articles in many other scientific fields. The sections that follow after the methods section are organized,

¹A second purpose of the study was to provide BCC professionals working on IYCF within the context of international organizations with an opportunity to reflect on the strengths and weaknesses of current practice and to derive a picture of the present state of the science and art of the diverse activities of current efforts, as well as the conceptual basis for their approaches. The results of this aspect of our research effort are contained in a separate paper; Peltó *et al.* n.d.).

therefore, in relation to content areas. The last section of the paper contains a summary of the findings and our commentary on the picture that emerged from the 'mapping exercise'.

Methods

How we limited the list of potential participants

The potential scope for this study was large. BCC activities directed to IYCF are conducted by many sectors in both economically advanced economies and in low- and middle-income countries. They are undertaken by governments, by international humanitarian organizations, by research institutes and by academic organizations. From this large and diverse world of activity we decided to narrow our study to humanitarian organizations that are working in resource-poor environments. We felt that it would be relatively easy to disseminate the results to this fairly delimited set of players compared with other sectors, and it would be a 'shared space' to encourage discussion and examination of contemporary BCC practice. We hope that it will also inspire other investigations including country-specific studies.

The sampling process

Identifying participants

The sampling strategy can be characterized as a combination of iterative, triangulation and snowball procedures. We began with a list of the 'big players' in BCC for IYCF in international humanitarian

Key messages

- Behaviour change communication (BCC) is a key component of infant and young child feeding (IYCF) programmes in low-resource countries. We describe the scope and practice of BCC practitioners working with international humanitarian organizations on IYCF activities and programmes.
- BCC practitioners who work on IYCF are primarily responsible for providing technical assistance with programme development and implementation, as well as research and evaluation.
- Formative research and outcome evaluations are universal, but process evaluations, which are essential for understanding and improving program implementation, are not routinely conducted.
- Mass media and digital technology are not central components of current BCC programming strategies.

organizations, which included large non-governmental organizations, international agencies and large bilaterals. In each organization or agency we identified one or several individuals to contact. Many, but not all, of the organizations in our initial list are part of the CORE group (<http://www.coregroup.org/>). However, we did not attempt to reach everyone in the CORE group as some of the member organizations in that consortium do not carry out BCC for IYCF as a primary activity.

We sent an initial email to the individuals we had identified in the first step of gathering sample. At the same time we also initiated a 'snowball sampling technique' by asking the people we sent the email to whom else they would suggest we should invite to participate. Not surprisingly there were many duplications among the suggestions we received, including many names who were already receiving the invitation letter.

As a result of the snowball sampling strategy, we identified a number of BCC specialists working on IYCF who are not direct employees of organizations but currently work as consultants. Many of these consultants are individuals who started their professional careers in organizations and moved into consulting at a later time.

Recruiting participants

The initial contact with potential participants was by email. The email contained a cover letter, signed by the senior author, in which the purpose of the study was explained. The cover letter also described the procedures for ensuring confidentiality. The email also contained the self-administered data collection instrument. We offered potential participants the option of participating through a telephone interview rather than in written form. For a study of the type we envisioned, it would have been preferable to obtain all of the data through in-depth interviews using a standard questioning frame to facilitate comparison and analysis. However, this approach was not feasible as the primary data collection modality, and we only used telephone interviews when participants requested it. We sent follow-up emails several times

to encourage people to respond, unless they had sent an email declining to participate.

Through the iterative strategy described earlier we contacted a total of 64 individuals. These individuals were associated with 24 organizations. The results of the strategy, the final sample, are described in the section on findings. As is usually the case with key informants, investigators often need to go back to them to ask for clarification of previous statements. In several cases we corresponded with individual participants to ask for more information or clarification. We also conducted a second round of data collection, with a short set of questions to obtain information on the use of mass media as so little information on this topic was obtained in the original communications.

The structure of the data collection instrument placed a heavy emphasis on the activities of the organization the participant worked for. This was potentially a problem for individuals who were currently employed as consultants. We decided not to design a separate instrument for consultants but instructed them to answer organization-directed questions in one of three ways (as they felt was most appropriate for their situation): (i) report it for the agency they were currently work for; (ii) report a composite experience; or (iii) leave some questions blank. We asked them to indicate which choice they had made. In some cases, consultants contacted us for more information about how to respond.

In a few cases two or more individuals within the same organization filled out the data collection instrument collaboratively. When individuals within an organization who collaborated on answering the questions had different views about specific issues, or different perspectives, they indicated their differences and provided additional commentaries.

Ensuring confidentiality

It is always difficult to ask people who work for, or consult for, an organization to describe features of organizational functioning that may be sensitive, especially when asking them to describe challenges, hopes and critique practices. Information that is regarded as 'sensitive' by one organization may not be so regarded by another. Moreover, for this BCC

review the number of organizations and core players is actually quite small, which makes it relatively easy to identify who said what. Therefore, it was essential to define individual contributions as ‘privileged communication’. Although the study was not a formal activity undertaken through Cornell University, we utilized the senior author’s position at Cornell to obtain an ethical review for the human protection procedures we proposed to institute. The Cornell Institutional Review Board served this function for the study.

Structure of the data collection instrument

The data collection instrument consisted of questions organized into the following sections: I. About you; II. About BCC activities in your organization; and III. Characteristics of BCC activities in your organization. (The results of the fourth section, ‘Stepping back to consider larger issues’, are presented elsewhere; c.f. Peltó *et al.* n.d.).

BCC for IYCF includes a wide variety of issues, concerns and activities. Consequently, any examination has to define limits and draw boundaries about what it can cover. Thus, although the following topics would be valuable for a complete ‘map’, we did not ask participants about (i) the specifics of how their organization delivers BCC at the community level; (ii) the specific content of BCC curricula; or (iii) the external evaluations of the quality and effectiveness of BCC of participant’s organizations.

Data analysis

Quantitative analysis

A few of the questions we asked participants were pre-coded and required only marking a box. These were analysed with simple spreadsheets. Some of the structured questions required short (three to four words) responses. Codes were derived for these based on the responses. In a few cases two or more members of an organization collaborated on answering the questions. However, when we present quantitative results, we are referring to completed data collection instruments, not to individuals.

Qualitative analysis

The fully open-ended questions asked the participant to write short narratives. The narratives were analysed as ‘text’ using procedures. These procedures were as follows: (i) the responses to each question from all participants were consolidated into separate text files; (ii) we made an initial reading of a file, which contained all of the answers to a specific question, sequentially by participant ID number; (iii) we read the file for the second time and made notes about the themes that emerged, considering the set of responses as a continuous text and treating the whole corpus of text as a single unit; (iv) we reviewed the notes and created a list of categories for coding, with working definitions of the categories using examples of text to illustrate the definition; (v) we then returned to the individual contributions and coded the text for the response to that question. The first and second authors (GHP and SLM) participated in this process, independently, to ensure validity of the decisions. The level of agreement was so high that there was no need to test for inter-rater reliability.

Results and discussion

The sample

Twenty-four data collection instruments were returned, containing responses from 29 individuals. Sixteen of the 24 organizations (67%) we contacted are represented in the sample, and 29 of the 64 individuals (45%) whom we identified as potential key informants participated in the study. We consider this a good return rate for a ‘mailed survey’, particularly one that arrived on participants’ desks without prior contact.

The organizations in the sample include large international, bilateral and private voluntary organizations and projects (such as CARE, HKI, Alive and Thrive, JSI, CRS, World Bank, UNICEF), and smaller private voluntary organizations as well as private specialized companies who engage in BCC and behavior change interventions. In addition to ‘organizational participants’, eight data collection instruments were returned from individuals who identify themselves as ‘consultants’. As noted earlier these individuals are

drawing from their experiences in various organizations, so the total range of organizations in the sample is *de facto* more than 16. Also, for many of the questions, consultants replied with data about the organization they are currently working for. Slightly over half of the participants who are currently employed by organizations are from developing countries, although some are based in organizational headquarters located in the United States or Canada. A third of the consultants are from developing countries.

At the time of completing the data collection instrument many of the consultants were working full time for a specific organization. Most of the consultants were relatively senior and had worked for organizations previously either as a staff member, a consultant or both. Some of the consultants who identified themselves as currently working for an agency were previously (sometimes recently) with other organizations and drew on their experiences in their previous work (explicitly naming the agencies they previously worked for). Thus, we do not distinguish between 'staff' and 'consultants' in presenting the results.

BCC programme characteristics

Characteristics of BCC leadership practitioners

We were successful in obtaining data and perspectives from individuals in leadership positions with high levels of responsibility for BCC within their organizations. The job titles of participants include 'nutrition advisor', 'senior specialist, behaviour change', 'BCC project officer', 'senior program manager', 'senior child health and nutrition advisor' and 'nutrition team director'. We use the phrase 'leadership' broadly because the participants in the sample have a wide range of responsibilities. Some of them are responsible for setting up and guiding BCC programmes for some of the largest agencies in the world. Some are BCC specialists working at national level, often with previous experiences in other agencies and/or other countries. Some have careers that have moved them back and forth between country-level responsibilities and international responsibilities. A few of the participants are more junior.

Although there was no specific question about educational training or background, this information became apparent through job titles or was referred to in the responses. As a group the participants are quite diverse, including PhDs and individuals with advanced training in nutrition, but many come to BCC from a variety of disciplinary backgrounds. Adult education and communication are strongly represented in the sample. Some have a background in development including agricultural development. Many are qualified in public health, sometimes with a specialty in nutrition. In short, the professionals who are running BCC programmes for agencies, either as employees or consultants, are, for the most part, highly knowledgeable individuals with training and skills in communication and behaviour change.

Level of professional BCC personnel in organizations

To get a sense of where BCC professionals are placed within organizations, we asked two questions: (i) 'Does your organization include professionals who are specialized in BCC?' and (ii) 'At what levels within the organization do you have BCC specialists?'

The answers to the first question from the 18 participants who answered this question were 14 affirmative and four negative. Many organizations (nearly 80%) have BCC professionals at both headquarters and national levels. Some (43%) also have regional-level professionals, but only 1 in 5 have BCC professionals at subnational levels.

We asked about continuing education for programme staff. On this question we received exactly the same number of positive and negative responses as we did for the question on the presence of professional BCC personnel in the organization: 14 positive responses and four negative. The types of continuing education opportunities cover a wide range of options from short-term (1–2 days) conferences or workshops to more extensive training.

BCC for breastfeeding and complementary feeding

All of the participants reported that their programmes are directed to BCC for both breastfeeding

Table 1. Delivery venues and types of programmes for IYCF BCC activities (*n* = 24)

Delivery venues	No.	%	Types of programmes	No.	%
Community groups	17	71	Health related	16	67
Health centres	16	67	Integrated	10	42
Home visits	16	67	Agricultural related	9	38
Mother's clubs	15	63	Social services	8	33
Health outposts	14	58	Education related	8	33
Schools	12	50			
Child care centres	4	16			
ECD centres	4	16			
Other	7	29			

BCC, behaviour change communication; ECD, early child development; IYCF, infant and young child feeding.

and complementary feeding. A related feature of BCC activities we examined was whether BCC programmes for IYCF are 'free standing' (i.e. limited only to issues of breastfeeding and complementary feeding) or whether they are imbedded in larger health and nutrition communication activities. This distinction is important because of its implications for personnel recruitment, frontline worker qualifications and training, frontline workers' workloads, as well as for volume and intensity of beneficiaries' exposure to new information, and opportunities and intensity of opportunities to practice new skills. In embedded programme contexts, the range and type of information that must be conveyed is much more variable and requires different types of materials and communication supports. As some BCC activities in larger organizations are organized differently in different sites, projects or countries, participants often marked both options. Table 1 shows the results for this question.

Nearly all IYCF BCC activities are embedded in broader health and nutrition communication activities (92%). However, organizations are also engaging in communications that are exclusively concerned with IYCF issues. More than half of the participants who checked the category 'embedded' also selected 'free standing'. Only two participants reported that all of their IYCF BCC activities are exclusively devoted to breastfeeding and complementary feeding.

Table 1 provides information on the types of programmes in which IYCF BCC activities are embedded and venues in which BCC for IYCF is delivered. In addition to checking off categories on the data

collection instrument, some participants provided more detailed information. For example, the types of venues they identified included 'feeding centres', 'big events', 'mobile vans', 'supermarkets', 'faith groups', 'community theatre', 'hospitals', 'farmer field schools', 'father's groups', 'grandmother's groups', 'village savings and loan association meetings', 'fairs', 'parades' and 'mass media' formats, particularly radio and TV.

As is the case with the types of programmes in which BCC activities are 'located', the results of the question on venues document the importance of health services and health agency venues, but it also show that the picture is much broader and more diverse. IYCF BCC is often being delivered in child services-related, as contrasted with health-related, venues. Clearly, IYCF BCC has moved out of the clinic and into the community and into people's homes. The majority of the BCC participants reported working in community groups, mother's clubs and home visits. On the other hand, much of the community activity may be sponsored by health sector agencies, a feature that cannot be determined from these data. Regardless of who is the sponsor, the fact of major outreach into the community is clearly documented.

Types of organizational support for IYCF BCC

We asked, 'What are the general kinds of support for BCC activities your organization provides?' and provided participants with a checklist of types of support. The results are shown in Table 2. Most participants

Table 2. Types of BCC support activities (n = 24)

Types of support	No.	%
Technical assistance with programme development	22	92
Technical assistance with programme implementation	22	92
Direct delivery of BCC activities	14	58
Technical assistance with programme evaluation	14	58
Direct programme evaluation	12	50
Financial resources to run programmes designed and implemented by others	10	42

BCC, behaviour change communication.

checked multiple categories on the types of support they provide for BCC. Fourteen participants checked three or four different types of support and seven identified five or six types of support their organizations engage in. Table 2 shows that technical assistance with programme development and implementation are the primary BCC activity participants are engaged in. Research to evaluate programmes and/or responsibility for overseeing evaluations that are contracted out are also common, although not at the same level of frequency as programme development-focused and delivery-focused activities. Nine participants checked both direct evaluation and technical assistance with programme evaluation, suggesting that their roles in evaluation involve both implementation of BCC evaluations and providing input to evaluations conducted by others.

Training materials

In many cases (58%) BCC programme staff are responsible for developing the training materials that are used to train supervisors and frontline workers. Occasionally consultants or external firms create these. However, it is also apparent from the comments that organizations are flexible, making decisions about the best way to accomplish this aspect of programme implementation based on local considerations and conditions.

In large programmes, or programmes that are intended to go to scale, training of trainers (TOT) is essential. We asked participants whether their organizations (or, by implication, the agencies they are working with) conduct separate activities to TOT.

Seventeen participants answered affirmatively and the rest answered 'sometimes'. From these responses it appears that TOT training is well established in BCC programming for IYCF.

Supervision and retraining

Two questions were directed to supervision and retraining: 'Do you have formal supervision procedures?' and 'Do you have routinely scheduled retraining?' Nearly half of the participants did not answer this question and of those who did, only half said that supervision was a routine aspect of programme management. Similarly, retraining appears to be routinely present in only about a third of the organizations represented in the participant sample.

The role of research in IYCF BCC

Use of formative research

All of the participants said that formative research is part of their programme development plan. They emphasized that this is essential because of the need to take local culture and local values into account in BCC activities, and all participants provided statements indicating their concern with addressing issues of local culture and local values. Many focused on the importance of formative research to design the content of BCC; they stressed its importance for message development to ensure 'technical accuracy', 'cultural acceptability' and 'motivation'. They also emphasized the process of 'cognitive testing' prior to formal pretesting to ensure message comprehension.

The two questions in the section on formative research were 'Is it conducted by programme staff or contracted to external group?' and 'Is it carried out with formal research tools or formative research guidelines?' Table 3 shows that all organizations use formal tools or guidelines and many use both staff and external agencies to conduct their formative research, depending on local circumstances. We purposely did not specify any definitions or criteria for 'formal research tools' or 'guidelines' because this study is essentially ethnographic in nature and we did not want to restrict or prejudge participants'

Table 3. Who conducts formative research and with what type of guidance ($n=23$)

	No.	%
Who conducts*		
External	18	78
Programme staff	18	78
Both	10	44
Use tools/guidelines		
Yes	23	100
No	0	

*One participant did not reply to this question.

interpretations. As we will suggest below, further work to describe the range of tools and their contents would be valuable to have a more complete picture.

Most participants wrote a relatively extensive narrative on how formative research is conducted in their organizations. They emphasized the importance of flexibility in relation to a number of factors, including the needs of specific projects, the competencies and demands on local programme staff, the availability of a good outside firm and so on. Among some of the 18 who selected 'programme staff' as having the responsibility for formative research, the participants explained that they used this designation to include headquarters BCC staff within the category of 'program staff'. However, they pointed out that although HQ staff are 'external' to the site, they are 'internal' to the organization. The commentaries participants made in connection with this question also stressed that when external groups are contracted to do formative research the programme collaborates closely with them. Typically the programme is involved in the design of the formative research and the adaptations required to meet specific project needs.

Table 4 presents the results of the question on the length of fieldwork for the formative research. Here we find a large range in the amount of time. Note also that there was a high level of non-response, the highest level of any of the implementation process questions. The non-responses are mainly from people who are working in organizations that contract out the research and, therefore, the participants do not themselves have detailed information about the length of fieldwork.

Table 4. Length of fieldwork for formative research ($n=16^*$)

Time	No.	%
<1 week	1	6
1–2 weeks	2	13
3–4 weeks	2	13
5–8 weeks	5	31
>8 weeks	2	13
Varies	4	25
Didn't give a figure	8	50

*Eight participants did not reply to this question.

We also asked whether the results of the formative research are formalized in a document. Ten people responded affirmatively, six said no and eight did not answer.

Concerning the design of the BCC content, we asked (i) 'What is the process for deriving messages?' and (ii) 'How are the results of the formative research used: (a) for decisions about delivery strategies? (b) for message formulation? (Are there formal procedures for "translating the results" to message formulation?) and (c) how are messages pretested?'

For the most part, participants approached these questions by providing short narratives rather than by answering them as individual items. The following is an example of a narrative answer to the questions on use of formative research and message design:

'First we do formative research to:

- Help determine the role models with which the audience identifies and thereby the actors/singers/speakers/change agents who will be most compatible with the goals of the programme
- Help assess the audience's feelings and concerns related to IYCF
- Help determine audience segmentation
- Help determine the potential reach of the communication interventions
- Help determine which communication channels to use
- Help in message design and in message testing
- Inform the design and development of behaviour change communication interventions and materials'

In some cases organizations that contract with external firms to conduct their formative research

also give the responsibility for deriving messages to these firms. In such cases the programmes are also involved in making decisions, but the participants did not provide details about the process.

Reflections on formative research

(i) From the results to the data collection instrument we conclude that formative research is virtually universal. However, the variability in the length of field research is striking. Although participants did not explicitly tie their answers to the question on length of fieldwork to the tools or guidelines they use, it is likely that the wide differences in length of the research is due to differences in the tools or guidelines that programmes use to organize and conduct their formative research. However, in the absence of a compendium of available tools or a systematic analysis of what they contain, we can only speculate that the variability is due to the selection of the formative research tool or approach. The length of time spent in formative research is, itself, not as important, as the utility of the information that emerges. In this case 'cost effectiveness' (in which time equals cost) relates to the value of the results. We know of no systematic efforts to examine this issue.

(ii) The finding that less than half of the participants gave a positive answer to the question about whether there is a formal report of the formative research indicates another problematic area. The lack of a formal report reduces the role of programme personnel in participating in decisions about content and approaches. Moreover, the lack of a formal report has implications for the role of formative research as a mechanism to accumulate and compile data about IYCF practices and IYCF communication. Formative research reports have the potential to contribute to understanding the global picture, but to make this contribution they have to be available. The first step in availability is a formal report. The next step is access, not only for the programme but also for the larger behaviour change community.

(iii) Very few participants addressed the question about how formative research results are used to select recommendations and derive messages. Previously, we have referred to this process as 'crossing the

bridge from formative research to intervention development' (Pelto 2006, 2008). This remains a 'black box' in many areas of nutrition programmes, and BCC for IYCF is not an exception. It is an issue that needs to be opened up because better knowledge about the process could lead to greater efficiency in future message development.

Process evaluation

With the expansion of concern about 'M & E' ('monitoring and evaluation'), the role of information collection in an ongoing programme has become more common in interventions. Often programmes or agencies do not make a clear distinction between routine monitoring and the type of investigation that is conducted to obtain insights and information to improve, modify or 'fine tune' the delivery and utilization of an intervention. At present there is no agreed on terminology for this type of research, which is conducted between formative research and impact evaluation. It may be referred to as 'operations research', 'programme theory research' or 'process evaluation'. In this study we used the phrase 'process evaluation' and asked, 'Is process evaluation a routine part of project management?' and 'Do you have procedures for feedback and re-planning based on process evaluation?'

About half of the participants said that process evaluation is conducted in their organization, while the remainder replied in the negative or suggested it is sometimes done. Very similar results emerged from the question about procedures for feedback and re-planning, with half of the participants replying in the affirmative.

Reflections on process evaluation results

(i) Readers may recall that for many years UNICEF has advocated for 'replanning' based on feedback about programme operations as part of their 'planning cycle' approach to interventions. In fact the concept of a 'cycle' implies inputs of information about progress. However, what we found in this review is that 'process evaluation' seems to be less fully integrated into programme organization than is formative research.

(ii) What is notable for its absence in the narratives is discussion about process evaluation of the interactions of BCC programme staff with programme beneficiaries. Overall, participants placed an emphasis on the importance of caregiver motivation, but there was almost no mention of issues of motivation, learning and cultural beliefs of frontline workers. One could come away from a perusal of the narratives with the impression that BCC practice typically regards the frontline workers as passive conduits to reach caregivers rather than as active players in a dialog. If this is a correct impression, we interpret the absence of discussion about knowledge transfer and frontline workers in process evaluation as an indication that it is not examined. Given the importance of the frontline worker as a communication focal point, the lack of attention to the knowledge transfer process, including the role of health worker motivation, training and communication skills, the structure of rewards in the organization and other determinants of efficacy of transfer (Mbuya *et al.* 2013) is unfortunate. It is an area that needs attention.

(iii) We were not able to determine what needs programmes face with respect to support for process evaluation. It is probable that this is an area that requires more development. Thus, we suggest that more attention to process evaluation procedures and practices, as well as to models for integrating results into ongoing programmes is another gap to consider for future BCC support activities.

Outcome evaluation

To open a window on to how outcome evaluation is pursued within the context of IYCF BCC in the organizations our participants are affiliated with, we asked two questions: 'What types of formal evaluation procedures do you use?' and 'What types of outcome indicators?' Table 5 shows the responses to the first question.

Five participants did not answer this question and did not provide an explanation for why they chose to skip it. Restricting our generalization to those who responded, we see that evaluation, like formative research, is normative in IYCF BCC practice.

Table 5. Answers to questions on 'Formal Evaluation Procedures' (n = 19*)

	Number	%
Evaluation focus		
Impact or end-line evaluation	19	100
Method		
Quantitative	19	100
Qualitative	6	32
Who conducts the evaluation		
Internal to organization	8	42
External to organization	6	32
Cannot determine from answer	7	37

*Five participants did not reply to this question.

Table 6. Answers to questions on 'types of indicators' (n = 19*)

	Number
Cognitive indicators	
Knowledge	4
Beliefs/attitudes	3
Feeding practices indicators	
Reported adoption of recommended practices	6
Feeding practices (not specified)	2
Nutritional indicators	
Anthropometry	7
Dietary patterns/diversity	3
Dietary intake	2
Other	
Selected from external compendium or list	4
Cognitive development	2
Morbidity	1

*Five participants did not reply to this question.

More than half of the participants spontaneously volunteered the information about who had responsibility for conducting the outcome evaluation – an external group or the organization itself. Not everyone supplied this information, in which case we had to code this as 'cannot determine from the answer'. From the participant comments it appears that the policy of the funding agency is the main determinant of who conducts the evaluation. Some funding agencies insist on an external evaluation, whereas others encourage internal evaluation and include it in the project budget.

Table 6 is concerned with the types of outcome indicators that are commonly used in the outcome evaluations. In line with our desire to regard the

participants as 'key informants' and avoid imposing pre-structured categories to the fullest extent possible, we did not predefine outcome indicators or categories of indicators. Thus, the categories shown in Table 6 are derived from participants' text answers. To be assigned to a category the participant had to mention the specific indicator in their text response. Therefore, the results cannot be interpreted as a statement about the frequency with which a given indicator is used in evaluations. For example, the fact that only two participants specifically mentioned 'dietary intake' in their answer does not mean that only two of the 19 outcome evaluations represented by this sample used dietary intake as an outcome indicator. To avoid the potential of drawing this conclusion, we have not calculated the percentages for this table.

Reflections on outcome evaluation

(i) A diversity of measures is used in BCC outcome evaluations. Often they are focused on nutritional impact. In our view this focus is appropriate for behaviour change interventions or for BCC efficacy studies that are designed to test the extent to which BCC alone, without any other programme interventions, can change nutritional status. However, they are not appropriate for BCC programme evaluations whose goal is to determine how well a BCC programme is working. The requirements for evaluating effectiveness are very specific when one is concerned with behaviour change goals. Testing programme effectiveness with biological outcome indicators without systematically measuring all the intermediate steps that identify where in the process problems in the flow of the intervention are occurring is wasteful of the resources that are spent on evaluation and leads to incorrect conclusions (Habicht *et al.* 2009).

(ii) From the findings of our study we conclude that there is a need for a systematic review of BCC outcome evaluations, focused on indicator selection, followed by the development of guidelines for appropriate selection of indicators based on programme characteristics and goals. It is also necessary to initiate better communication with funding agencies and external evaluation firms to educate them about appropriate research design and outcome indicators

for BCC and behavior change intervention evaluations so that they do not impose incorrect or inappropriate indicators.

Other dimensions of IYCF BCC practice

Use of mass media

In our initial scanning of the completed data collection instruments we found little mention of mass media. As we had not explicitly asked about mass media in the questions, we were concerned that our omission might have contributed to the lack of information. However, as use of mass media is likely to increase with the current emphasis on 'scaling up', we felt it was important to review this more fully. Therefore, we decided to send out a short follow-up to the data collection instrument aimed specifically at mass media.

The enquiry consisted of three questions: (i) 'Do you use any mass media as part of your BCC for IYCF activities?' (ii) 'If so, which media do you use?' and (iii) 'Are there any comments or insights you would like to share about the role of mass media in BCC?' We sent the new questions to all 24 participants. Eleven people answered. One person wrote 'No to all three'. Three said they are considering using radio in future programmes. Six people replied that they used radio. In addition to radio, other media that were identified by one or two of the six participants were cell phones (particularly SMS messages), social media (e.g. Facebook), newspapers, information kiosks, videos in health centres and mobile units, image-based brochures and banners, and theatre. Several participants commented that television is prohibitively expensive and often not available to the audience the programmes are directed to.

A theme in several of the narratives on mass media is the role of radio in reinforcing and supporting messages that are promoted through other means. Some participants also see it as a means for introducing new messages. The quotations, together with the answers and non-answers, generally show a mixed picture with respect to mass media use in IYCF BCC. Here are some examples of the range of responses:

Participant: We combine radio sketches with listening groups, exchange visits and examples of actual people who have used a technique (witnessing) to reinforce messages.

Participant: We use mass media primarily for: Attention getting; Conveying new information; Giving the basic facts; Popularizing and reinforcing messages; Providing time-sensitive information (i.e. when, where, who is eligible).

Participant: Traditionally, mass media has been used to disseminate messages in order to increase the knowledge of community members. A main component of the BCC program should focus on overcoming barriers and challenges. Working with different groups, having community members involved and creating the messages themselves will help with this. It would be great to see a shift from basic knowledge dissemination to messaging that assists in overcoming barriers as this will lead to sustained adoption of optimal practices.

Participant: This is an extremely sore subject because there are (many) organizations that confuse mass media (messages) and call it BCC without the requisite formative research and complementary behavior change interventions at the community, household and individual level. They completely ignore the cultural and educational contexts in which behavior change can occur, including involving influential individuals and structures (mother-in-laws, religious and traditional leaders, etc). Many organizations and donors lack a working definition of BCC and fail to include objectively verifiable measures that the desired behaviors have changed, or are in the process of change. In addition, mass media is expensive and largely dependent on donors and therefore not sustainable after the funding runs out'.

In sum, mass media has some enthusiastic supporters, some moderate supporters, as well as some professionals who are doubtful or negative. Moreover, it is difficult to interpret the lack of response to the enquiry, particularly as many of the people who did not reply had been generous in their efforts to participate in the main survey. It may simply reflect 'respondent fatigue', or it may be the case that those who did not respond do not use mass media and felt they had nothing to add to the discussion.

Activities directed to policy makers

We asked participants, 'Are any of your BCC efforts for IYC feeding directed to policy makers? Please describe the nature of these efforts'.

Of the total of 24 participants, 14 answered affirmatively, eight gave an unambiguous 'no' and two gave answers that were not directly relevant to the question. The types of activities participants described include (i) working with other groups in coalitions to reach national policy makers; (ii) working directly with policy makers at the Ministry of Health level; (iii) promoting international guidelines by facilitating their dissemination to policy makers; (iv) disseminating policy-related documents through press releases and press coverage; (v) advocating for the value of specific guidelines with national policy makers; (vi) and lobbying for national legislative bills.

The diversity in the answers illustrates differences among organizations in their situations relative to the societies in which they are situated. For the most part, the negative answers were accompanied by an explanatory statement to the effect that advocating for policy was either explicitly or implicitly prohibited by the relationship of their organization to the countries within which they were located. A clear conclusion from this question is that different types of organizations have different legal and social relationships to national policy makers. In the case of organizations that work in multiple countries, the differences are often even more pronounced. They reflect not only different mandates, funding sources and socio-political pressures but also differences in the ways in which national-level units relate to higher levels of their own organizational management as well as international socio-political conditions.

A policy-related issue that could be raised in connection with 'communication with policy makers' is whether our participants used this query in the data collection instrument to discuss the importance of 'social change' within the context of their work. We refer here to the 'S' in SBCC, which appears to be rapidly becoming the preferred acronym. Nearly all of the participants brought up the importance of social, economic and cultural conditions as barriers to achieving BCC nutrition goals at some point (or

several points) in their narratives. Many of them stressed the necessity of addressing social conditions that constrain or prevent adopting recommended practices. These issues were not explicitly flagged as points they address in their interactions with policy makers. However, we cannot assume that not mentioning this specifically in connection with question on activities with policy makers means that this is not a focus of their communications. Its absence at this particular point in the data collection instrument narratives may simply reflect the way in which our question was phrased. On the other hand, as described in the preceding paragraph, we also see that communications with policy makers are often structured and constrained by conditions that are outside of the control of the BCC practitioner.

Summary and conclusion

The BCC practitioner community

The individuals who comprise the community of BCC leaders in the area of IYCF are a diverse group from the perspective of academic backgrounds and nationalities. In addition to nutrition, public health, agriculture and adult learning are common disciplinary backgrounds. In our view, this diversity is a source of strength. It facilitates continuing growth and maturation in the field by assuring inputs of different perspectives, theoretical orientations and experiences. One suggestion we draw from this aspect of our mapping is that identifying and supporting formal mechanisms for sharing these diverse perspectives across the IYCF BCC community should be sought. One existing platform for this sharing is the CORE Group's Community Health Network, which is a community of practice comprised of more than 100 organization and individual members. Network members are scholars, practitioners and advocates that come together to advance community health (<http://www.coregroup.org/our-network/the-core-group-network>). The Community Health Network has two relevant working groups – social and behaviour change, and nutrition – that focus on dissemination.

Many, but not all, of the organizations that conduct IYCF BCC have BCC professionals on their staff.

However, some of the most senior and highly experienced BCC practitioners are not employees of organizations and agencies, but are private consultants whose work arrangements may be project specific, country specific, programmes development, technical assistance support, evaluation, or a combination of these. In some cases, consultants have primary responsibility for the design and development of BCC activities in an agency, and they may even have a role (*de facto* or *de jure*) in setting policy. A suggestion we draw from this aspect of the mapping exercise is that when organizations rely on consultants for primary aspects of their activities, they would be well served by efforts to ensure that expertise that is not 'institutionalized' within their ongoing organization is more systematically incorporated into their organizational structure and processes.

How BCC professionals and their organizations support BCC activities

The most frequent type of support that organizations provide for IYCF BCC is technical assistance with programme planning and programme implementation. Technical assistance with evaluation and direct activities in programme implementation and evaluation are also common, but less central than technical assistance with planning and implementation. In our view establishing approaches that provide systematic guidance across the full range of these complex activities an organization engages in with respect to IYCF BCC is likely to lead to greater efficiency in managing and conducting these complex portfolios.

The challenge of embedding IYCF BCC in public health communications

The great majority of IYCF BCC is embedded in large public health communication activities, although many organizations also engage in single-focus (IYCF) activities in addition to broader communication activities.

IYCF for BCC takes place in a wide diversity of programmes, including social services, education, agricultural, in addition to health. Similarly, the range of venues for delivery of BCC is large, from health

centres and health outposts to schools, childcare centres, and informal community settings and homes. The design and development of training materials is largely the responsibility of BCC professionals. Our study did not contain the depth of information that permits us to reflect meaningfully on this aspect of practice, and we hope this will be addressed in future studies.

In our view, the constraints that IYCF practitioners face create serious challenges for effective communication of the complex set of messages that constitute BCC to improve IYCF. There is, we suggest, an urgent need to identify complementary and alternative models for the dissemination of IYCF knowledge and skills to those who are in a position to support caregivers in meeting the challenge of improving IYCF nutrition. This includes the full programme impact pathway from policy makers to frontline workers and community educators to household members, including especially fathers and grandmothers (c.f. Matovu *et al.* 2008; Moestue & Huttly 2008; Affleck & Pelto 2012; Aubel 2012; Tomlinson *et al.* 2014).

The role of research

There is virtually universal use of formative research undertaken primarily to adapt generic messages (nutrition, evidence-based recommendations) for local cultural conditions. This research may be conducted by programme staff or external consultants depending on circumstances. The length of fieldwork is highly variable ranging from days to months.

The process for translating findings from formative research to programme decisions is not well codified, and formal reports of results are not routinely required or disseminated. This reflects the more general lack of attention to implementation science in nutrition and the need for establishing institutions and venues to support formal communication. Process evaluation and programme re-planning based on the results are common, but not universal.

The indicators that are used in evaluations of IYCF BCC are quite variable. They include the range from proxies for behaviour change (reported behaviours) to factors that are hypothesized to underlie the behaviours (e.g. beliefs, attitudes and knowledge) to

the proximate goals (dietary intake) and the less proximate (goals of improvements in the outcomes of better nutrition – better anthropometry, less morbidity and better child development).

Concerning support for the research components of BCC for IYCF our suggestions include (i) developing an analytic compendium of tools and guidelines to help programmes select from the diversity of approaches those that are most appropriate for their formative research needs; (ii) greater attention to process evaluation procedures and practices as well as to models for integrating results into ongoing programmes; (iii) the need for a systematic review of BCC outcome evaluations, focused on indicator selection, followed by the development of guidelines for appropriate selection of indicators based on programme characteristics and goals; and (iv) better communication with funding agencies and external evaluation firms to educate them about appropriate research design and outcome indicators for BCC and behavior change intervention evaluations so that they do not impose incorrect or inappropriate indicators.

Scaling Up Nutrition

The results from the mapping exercise revealed a number of features that have implications for SUN. In this paper we want particularly to highlight two findings: (i) the finding that use of mass media and digital technology generally play only a minor role in BCC activities and are not currently an integral part of BCC programming strategies and (ii) that only 58% of the participants (who broadly represent BCC leadership) report activities related to communication with policy makers. This does not mean that their organizations are not engaging with policy makers, but only that the BCC component is not systematically involved in this aspect of their organization's work. A thorough discussion of the implications of these findings is beyond the scope of this paper. However, we conclude that exploration of these issues emerges as an outcome of the mapping exercise, which we hope will provide guidance for future work to improve the efficiency and effectiveness of BCC in support of IYCF.

In conclusion, communication activities to promote better nutrition by sharing knowledge that is generated through scientific research and intervention experiences have been an essential part of nutrition since the inception of the field. However, the analysis of the process has generally not been routinely and systematically pursued. This research was motivated by the recognition that better understanding of the process is essential for more effective use of scarce resources, and resources for nutrition communication are always constrained. We believe that behaviour change practitioners have important roles to play in advancing analysis of the process. Thus, we want to thank all of the 'key informants' who shared the information and insights that made this mapping exercise possible. We hope it reflects the reality of the complex activities that fall under the aegis of 'behaviour change communication for infant and young child feeding' and illustrates the importance of describing this (or any public health activity) from the practitioners' perspective. Given the fundamental importance of communication in all nutrition interventions, regardless of their specific goals and strategies, we hope this study has contributed to highlighting issues that need recognition and attention, particularly by donors and policy makers as well as the organizations within which dedicated BCC practitioners work.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

Contributions

GHP, MVL, SM and CF conceptualized the research and the article; GHP led the study; GHP and SLM analysed the results. All of the authors participated in drafting the manuscript and have read, edited and approved the final manuscript. The manuscript is original, has not been previously published and is not being considered for publication elsewhere.

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