The Basics: Planning for Formative Research for Infant and Young Child Feeding Practices

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Infant & Young Child Nutrition Project

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Preface

Infant and young child feeding is context specific. Although the optimal breastfeeding and complementary feeding behaviors can be (and have been) defined (see Annex A), to what extent (and how) the range of behaviors—from initiation of breastfeeding, continuation of breastfeeding, and introduction of complementary foods, to introduction of family foods, among others—is practiced varies tremendously according to culture, geography, social, economic, and other family and community factors. Formative research is the key to open up our understanding on: what motivates or inhibits the optimal practice of the most critical (or least practiced) behaviors in households; perceptions about these practices; and possible ways to facilitate new or improve current practices. Formative research on infant and young child feeding is a critical activity in the process of developing program strategies, especially those involving approaches to behavior change to prevent malnutrition.

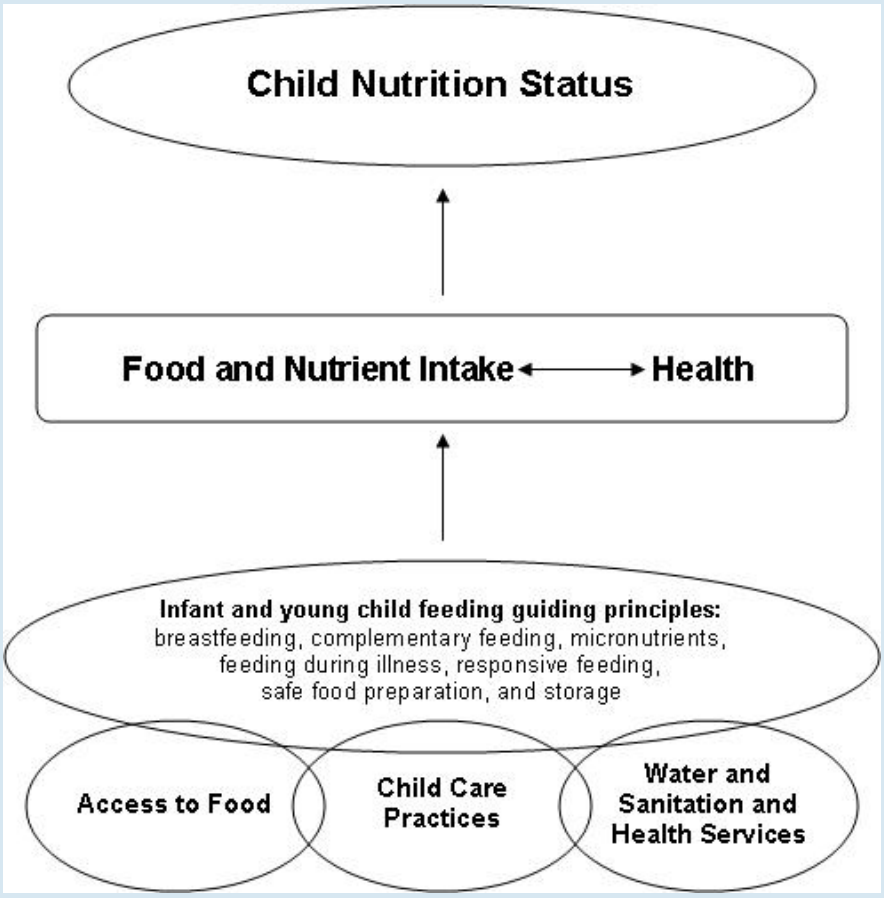
Many materials and documents are available on infant and young child feeding and formative research methods. However, despite (or perhaps in part as a result of) the relatively large number of guides and documents, it remains a challenge to know how to select between the various methods and approaches to conducting formative research for infant and young child feeding. Often, those (individuals and firms) who are contracted to conduct formative research either are not 'subject matter experts' in infant and young child feeding, or they may have limited formative research experience.

This guide is intended to bridge the gap between those who have some of the knowledge and skills, but lack the specific experience in formative research for infant and young child feeding. It is intended to offer a brief orientation to the key infant and young child feeding topics; major formative research methods and techniques to apply in this area; a process for determining the appropriate formative research approach depending on program needs; and preparations for analyzing the information collected. It also includes samples and examples of formative research tools and plans and suggestions for analytical tools and formats.

I. Knowing the general context

Infant and young child feeding practices fit within the broader 'causal framework' of the determinants of child nutrition (see Box 1). Infant and young child feeding practices are part of broader child care practices, and are also affected by household food security/access to food, the availability of safe water and sanitation, and access to quality health services. Our understanding of the determinants of infant and young child nutrition status goes well beyond this general conceptualization. For infant and young child feeding, specific 'guiding principles' for optimal feeding and care practices are available from the World Health Organization for both breastfed and non-breastfed children, as well as for those at risk for HIV/AIDS. In addition, 'core' indicators for measuring infant and young child feeding have been developed (see Annex B). Practitioners conducting formative research on infant and young child feeding must understand the international conceptual framework and be familiar with the internationally recognized feeding recommendations and indicators.

Box 1. Infant and young child feeding practices and determinants of child nutrition framework



Adapted from: United Nations Children's Fund (UNICEF). *Food, Health and Care: The UNICEF Vision and Strategy for a World Free from Hunger and Malnutrition.* New York, NY: UNICEF, 1992.

II. Knowing the country, region, or project context

Research practitioners also should understand the country and/or program context: what is already known and documented about nutrition and infant and young child feeding in the country where the formative research will be undertaken. Multiple sources of country-level information are available to develop a nutrition and infant and young child feeding profile (see Box 2).

Box 2. Nutrition and infant and young child nutrition literature review sources

Source of information and where to access	Description of available data
Demographic and Health Surveys www.measuredhs.com	**Household and female and male questionnaires**, including data on: • Breastfeeding: Initial breastfeeding; breastfeeding status, median duration, and frequency; percentage of children breastfed six or more times. • Complementary feeding: Percentage of children 6–23 months who are fed according to three infant and young child feeding practices (minimum meal frequency, minimum dietary diversity, consumption of specific foods). • Nutritional status: Anthropometric indicators for women during pregnancy and for children. • Micronutrients: Iodization of household salt, micronutrient intake among children and mothers, prevalence of anemia in children and women and by anemia status of mother, consumption of vitamin A–rich foods, vitamin A supplementation rates. • Feeding during diarrhea practices.
Multiple Indicator Cluster Surveys www.childinfo.org	**Modular surveys**, including one for nutrition with data on early initiation of breastfeeding; exclusive breastfeeding; continued breastfeeding; breastfeeding and complementary foods; anthropometrics on stunting, wasting, and underweight; vitamin A supplementation; and iodized salt consumption at household level.
World Health Organization database on vitamin and mineral deficiencies www.who.int/vmnis/en/index.html	**National, in-country regional, and first administrative-level data** on vitamin and mineral nutritional status of populations in United Nations Member States. Contains information on anemia, vitamin A deficiency, and iodine deficiency.
United States Agency for International Development knowledge, practices, and coverage surveys www.mchipngo.net/controllers/link.cfc?method=tools_kpc_modules	**Rapid knowledge, practices, and coverage survey questionnaires:** Module 2 includes 14 questions on breastfeeding and infant and young child feeding and optional questions on fortified foods, iron supplements, and deworming. Module 3 includes growth monitoring and child anthropometry questions.

Additional resources to check at this stage for more quantitative survey data as well as for qualitative information include:

- Ministries of health/health management information systems. Many countries now have websites.

- Relevant journal articles and project documents:
  - Multidisciplinary journals: www.ingentaconnect.com.
  - National Library of Medicine: http://gateway.nlm.nih.gov.gw/Cmd.
  - International Information Support Center: www.asksource.info/databases.html.
  - All United States Agency for International Development-funded project reports and documents: http://dec.usaid.gov.

The review of the literature will help to identify the gaps that the formative research will attempt to fill. Quantitative information alone can reveal much about the determinants of malnutrition and aid in guiding the formative research (see Box 3, following page). The richer the sources available for existing background information, the more the formative research questions can be refined.

Assembling the information in a format that facilitates the identification of knowledge gaps in order to define research questions is particularly useful. A practical tool for this purpose, the Infant and Young Child Feeding Practices Matrix, can be found in Annex C. This matrix lists the guiding principles (Annex A) and contrasts them with what is known about actual practices in a given country/setting and with suggestions for feasible new or improved practices. To provide support for the effort/program to address infant and young child feeding, the matrix also summarizes what is known about the motivations for current or recommended changes in behaviors as well as what appear to be the barriers to these 'new' practices. This matrix should be used throughout the research process; first, to organize existing information, and later, to add highlights from the research itself.

Box 3. How quantitative data can help guide formative research

Using several quantitative data sources, the following profiles were assembled:

Category and status	Nepal	Nigeria
Nutrition status (%) and mortality (/1000)		
Infant mortality (younger than 1 year)	41	96
Diarrheal deaths (children younger than 5 years)	24	13
Stunting (low height-for-age)	49	41
Underweight (low weight-for-age)	39	23
Wasting (low weight-for-height)	13	14
Anemia (children younger than 2 years)	74	76
Infant and young child feeding practices (%)		
Early breastfeeding initiation	35	32
Exclusive breastfeeding for the first six months	53	13
Breastfeeding at 2 years	95	32
Fed solids minimum number of times	66	41
Fed minimum number of food groups	61	51
Fed per all three recommended practices	47	22

In Nepal, a focus on diarrheal disease and low rates of early initiation of breastfeeding are two infant and young child feeding elements that arise from these statistics. Some general research questions might be:

- What are the perceptions and practices related to hand-washing and hygiene in the home in relation to prevention of diarrheal disease in the young child?
- What are the infant and young child feeding practices during and after a diarrheal disease episode?
- What are the birth traditions preventing early initiation of breastfeeding and how might breastfeeding be begun within the first hour of birth?
- When, why, and with what is supplementation occurring during the first six months and what would motivate a delay in supplementation?
- What are the infant and young child feeding practices for each age segment, placing priority on consistency of the complementary food for the youngest and amount of food fed to the older ages? Why and at what ages is frequency of feeding a problem? What are the key food diversity problems, focusing especially on animal-source food and fats?

In Nigeria, some of the 'problem' practices are similar to the Nepal profile (e.g., lack of early breastfeeding initiation), but other practices are quite different (e.g., exclusive breastfeeding). Some general research questions based on this profile might include:

- Beginning with the birth of the baby and following women for the first 18 months, when is supplementation occurring, with what, and why? Also, how can supplementation be delayed?
- Why are young children not receiving food frequently enough, and is it more prominent at younger or older ages?
- What are the key food diversity problems, focusing especially on animal-source foods and micronutrient-rich vegetables?

III. Planning the specific formative research

A. Choosing methods and research participants

Deciding who will participate in the research and which methods to use are important elements of the formative research planning process. The goal is to choose respondents who can provide the most accurate and useful information about infant and young child feeding practices, who or what influences those practices, or who or what needs to be considered in facilitating change in the practices. Box 4 on the following page provides some examples of the kinds of information different respondents can provide.

Research participants

The most common groups of participants for infant and young child feeding formative research are:

- Caregivers (usually divided by the age of their youngest child and/or by several factors from those listed below).
- Husbands/Fathers of the young children, depending on their involvement in child rearing.
- Grandparents of the young children, particularly grandmothers if living in the same household.
- Other members of the community who might be involved in child rearing such as the community health worker or midwife, traditional healer, or school teacher.
- Individuals outside the community, such as at the health center, birthing center, store, or market.

The more that participant groups and the geographic areas where the research will take place can be further defined by environmental and cultural factors important in infant and young child feeding, the easier it will be to interpret and learn from the findings. When identifying which of these criteria should be applied, ask whether, for example, people with different religious beliefs feed their children differently on a regular basis. If yes, the different religious groups need to be included in the sample. If not, no distinction is needed. Typical factors that aid in defining the research sites include:

- Rural or urban location.
- Highland, lowland, or coastal area.
- Market accessible, market non-accessible.
- Ethnic groups.
- Religious groups.

Finally, segmenting the categories of research participants (caregivers, grandmothers, traditional birth attendants, etc.) according to additional criteria will further aid in interpreting the results of the research. For example, the research might segment caregivers using the following criteria:

- ***Nutritional or health status of the children:*** Caregivers with well-nourished children, caregivers with malnourished children or sick children.
- ***Age of the youngest child:*** Families with infants in important age groupings for feeding practices: 0–5 months, 6–8 months, 9–11 months, and 12–23 months.
- ***Mother's work status:*** Caregivers working inside the home for remuneration, those working outside the home for remuneration, or not working for remuneration.
- ***Family socioeconomic status:*** Caregivers who are marginalized by socioeconomic class or caste, those who are not.
- ***Mother's experience:*** First-time mothers, experienced mothers.
- ***By practice:*** Mothers who are breastfeeding, those who are not.

Box 4. Sample research questions, respondents, and types of information

Respondents	Types of information
Research question, Nepal: What are the infant and young child feeding practices during and after an episode of diarrheal illness?	
Mothers of children younger than 2 years who currently have diarrhea: 0–5, 6–11, and 12–23 months	• What they do during different stages of a diarrheal episode: care-seeking, breastfeeding, diet, other fluids, changes in usual feeding, manner of feeding. • Their perceptions of diarrhea, appetite, and child health.
Mothers of children younger than 2 years who have had diarrhea in the past two weeks; by same age groups	• What they did after the diarrhea subsided: care-seeking, breastfeeding, diet, other fluids, changes in usual feeding. • Their perceptions of recuperation and child appetite.
Grandmothers present in the young child's home	• Their role in care of the child, including when the child is sick. • Their perceptions of diarrhea and feeding. • Their opinion of childcare given by the mother and about care-seeking related to the diarrheal disease episode.
Community health workers	• Their knowledge of what should be done for feeding during and after diarrhea. • Their observations about mothers in the village. • What counseling/recommendations are provided regarding a child with and following diarrhea (if related to a specific child, the advice can be checked with the caregiver). • Their perceptions of diarrhea, feeding, and appetite.
Local shop owners	• Are they sought out for advice? • What is their advice? • What foods do mothers buy for diarrhea?
Health facility staff nurses	• Their knowledge of what should be done for feeding during and after diarrhea. • Their observations about mothers' practices. • What counseling/recommendations are provided regarding a child with and following diarrhea. • Their perceptions of diarrhea, feeding, and appetite.

Respondents	Types of information
Research question, Nigeria: What are the key issues related to food diversity, focusing on animal-source and micronutrient-rich fruits and vegetables?	
Mothers of children younger than 2 years: 0–5, 6–11, and12–23 months	• Mothers' knowledge of appropriateness of different foods for young children. • Use of foods from family diet versus 'special foods.' • Amount of food that is purchased for the child. • Availability/Affordability of nutrient-dense foods. • Mothers' 'skills' in making foods that are more diverse.
Others in the household responsible for purchasing and/or preparing food	• Grandmothers who purchase child foods from ambulatory vendors: How do they decide what to buy, what is their perception of the food, do they alter the food in any way to feed it to the child, or would they be willing to alter it. • Men who occasionally bring commercial foods from shops in large cities: How do they decide what to buy, would they be willing to buy something different.
Vendors in the market/ shopkeepers	• What is available and what do they sell and/or think are good child foods. • Are they asked for and do they offer advice on infant and young child feeding. • Do they have foods that could be promoted and would they feel comfortable promoting foods for young children.
Men's/Women's agriculture/ livestock groups	• What do they believe are nutritious foods for young children. • Their perceptions about growing food specifically to promote in the community for infant and young child feeding—would they use it for their children.

Research methods

The kind of information needed should dictate a particular formative research method since not all methods lend themselves to truthful or insightful answers depending on the sensitivity of the topic. Box 5 below summarizes the typical methods available and their uses, as well as sources to consult for additional information.

Box 5. Research methods and their use

Method	Use	Key resources for more information
Pre-coded knowledge, attitudes, and practices surveys	To determine the prevalence of particular practices in a given geographic area; differences and similarities among areas, ethnicities, and income levels; or certain relationships among practices.	United States Agency for International Development knowledge, practices, and coverage surveys: www.mchipngo.net/controllers/link.cfc?method=tools_kpc_modules. CARE. *Infant and Young Child Feeding Practices: Collecting and Using Data—A Step-by-Step Guide*. January 2010.
Focus group discussions	To obtain information on norms, attitudes, and beliefs, NOT individual practices.	Mack N et al. *Qualitative Research Methods: A Data Collector's Field Guide*. Family Health International, 2005. *Methodological Review: A Handbook for Excellence in Focus Group Research*. Academy for Educational Development/Healthcom (no date). de Negri B, Thomas E. *Making Sense of Focus Group Findings: A Systematic Participatory Analysis Approach*.

Method	Use	Key resources for more information
		Academy for Educational Development, 2003.
In-depth individual interviews with women	To understand what is done on a daily or frequent basis and less frequently; to understand reasons for practices and influences on practices. Often combined with dietary assessments and observations.	Mack N et al. *Qualitative Research Methods: A Data Collector's Field Guide*. Family Health International, 2005. Linkages Project. *Formative Research: Skills and Practice for Infant and Young Child Feeding and Maternal Nutrition*. Linkages/India, January 2003. Dicken K, Griffiths M, Piwoz E. *Designing by Dialogue: A Program Planner's Guide to Consultative Research for Improved Young Child Feeding*. Support for Analysis and Research in Africa Project, 1997: www.manoffgroup.com/resources/Designing%20by%20Dialogue.pdf.
Key informant interviews	To understand the role of key gatekeepers or decision-makers in infant and young child feeding within the family or broader community.	Same as in-depth interviews with women.
Trials of Improved Practices	To test actual new or modified practices in order to gain additional insight into how programs and efforts to support them can best be designed.	Dicken K, Griffiths M, Piwoz E. *Designing by Dialogue: A Program Planner's Guide to Consultative Research for Improved Young Child Feeding*. Support for Analysis and Research in Africa Project, 1997: www.manoffgroup.com/resources/Designing%20by%20Dialogue.pdf.
Market surveys	To obtain information on the availability and costs of different foods or potential food options in the diet.	Pan American Health Organization. ProPAN: Process for the Promotion of Child Feeding, 2003: www.paho.org/English/AD/FCH/NU/ProPAN-Index.htm.
Dietary analysis	To obtain information about the nutritional adequacy of the diet, or to estimate adequacy of a particular nutrient.	Pan American Health Organization. ProPAN: Process for the Promotion of Child Feeding, 2003: www.paho.org/English/AD/FCH/NU/ProPAN-Index.htm. Dicken K, Griffiths M, Piwoz E. *Designing by Dialogue: A Program Planner's Guide to Consultative Research for Improved Young Child Feeding*. Support for Analysis and Research in Africa Project, 1997: www.manoffgroup.com/resources/Designing%20by%20Dialogue.pdf. Linkages Project. *Formative Research: Skills and Practice for Infant and Young Child Feeding and Maternal Nutrition*. Linkages/India, January 2003.
Recipe trials	To obtain information about foods available at home and how mothers combine and prepare foods.	Dicken K, Griffiths M, Piwoz E. *Designing by Dialogue: A Program Planner's Guide to Consultative Research for Improved Young Child Feeding*. Support for Analysis and Research in Africa Project, 1997: www.manoffgroup.com/resources/Designing%20by%20Dialogue.pdf.

Some of the more common missteps to avoid in matching information needs with collection methods include:

- Using a method based on what the researcher is familiar with rather than choosing one (or more) based on the information needed/research questions.

- Conducting focus group discussions to gather information about daily child feeding practices. Focus groups do not allow for 'honest' answers about practices, as participants are often reluctant to describe what they do in front of people they know, or they will mimic what others say. Focus groups are good methods for discussing notions of child raising, beliefs about the properties of foods, what usually happens in the community, and ideas about what might or might not be acceptable to change and why.
- Asking key informants such as nurses and village leaders to provide information on caregiver practices. They cannot speak for caregivers about what they do and why; their answers would be speculative and uninformative.
- Thinking that baseline or quantitative surveys in which information is collected on prevalence of certain practices or beliefs provide insight into practices. These surveys lack insight into why, or how, precisely certain practices are followed.
- Assuming that defining current behaviors and determinants will lead to answers about the feasibility of potential changes or new practices. The determinants of current behaviors are not necessarily determinants of new behaviors (see Box 6). Rather, they are merely a starting point for defining what and how a practice might be modified.

Box 6. Current behaviors do not always determine new behaviors

In many countries, the vast majority of women delay the initiation of breastfeeding. They say they delay offering the breast because it is a tradition and the recommendation of elders and birth attendants to not give their babies colostrum. They also cite many disadvantages to giving colostrum.

It may seem a daunting task to confront such determinants of delayed initiation of breastfeeding; however, experience has shown that when mothers are asked as part of Trials of Improved Practices research to try to breastfeed immediately and to offer colostrum, and are given compelling reasons to do so, they are willing to try and virtually all of them make the change. The determinants of the new behavior in this case are: (1) 'new' information about the increased chance of survival that immediate breastfeeding offers, and (2) respect for the advice of a health care professional encourages immediate breastfeeding.

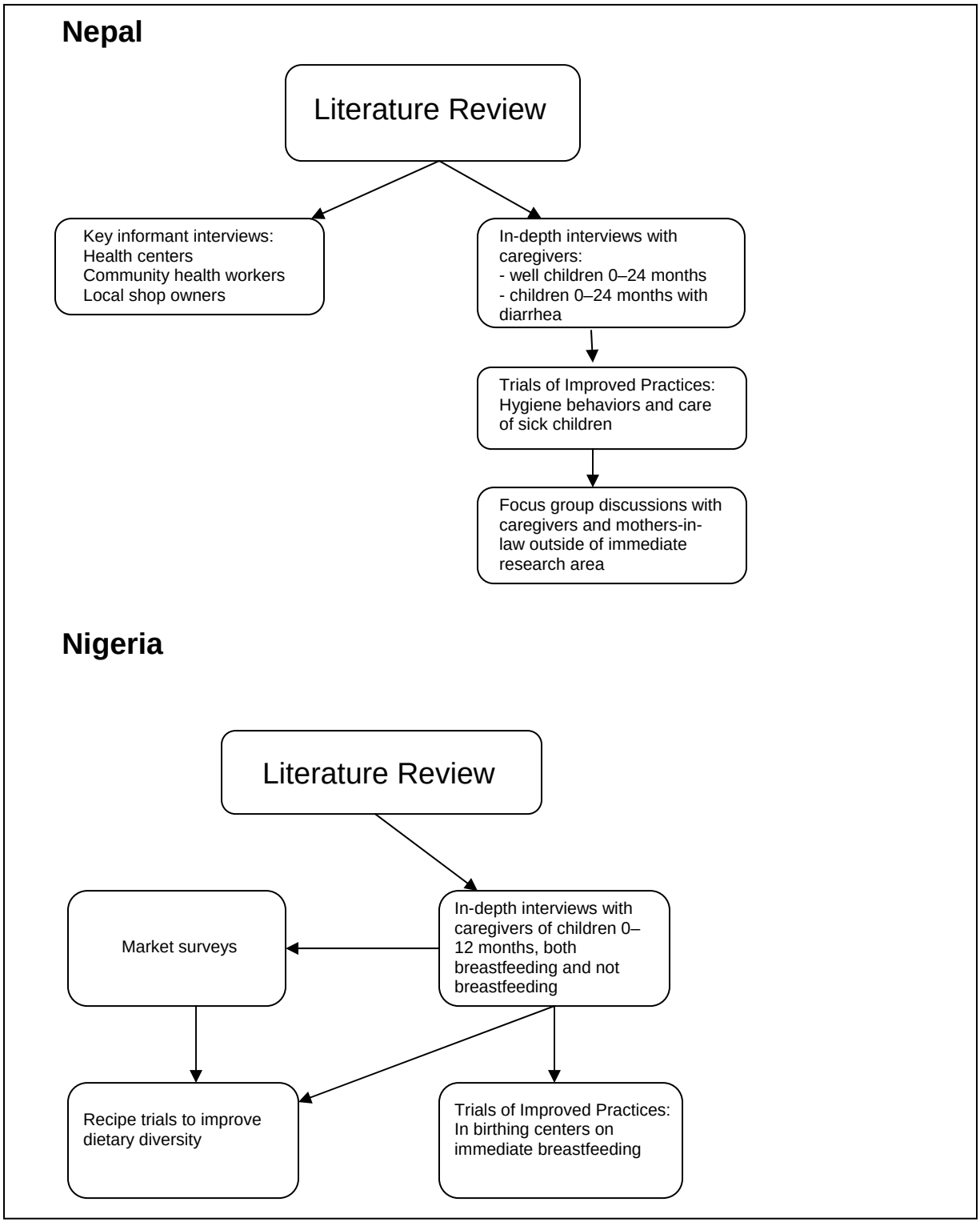
For this practice, ncovering the cogent benefits communicated by a trusted source for a new behavior demonstrates the relative ease of changing this behavior. While this is not always the case, by exploring determinants of new behaviors (in addition to understanding current behaviors), the possibility of change becomes clearer, albeit sometimes more complex, particularly if the determinant is beyond the control of the family or community.

Research plans

A rapid assessment of the various participant groups that might be included, along with the questions that need to be answered and the variety of methods that could be used, would lead to the conclusion that there are many ways to structure a formative research activity. There is no one correct way; formative research is context specific and dependent on the time and budget available. Technically, what is most important is that the right people are selected and the right method is used to obtain the most valid or true information regarding attitudes and practices and their influences/determinants.

Box 7 provides two examples of research plans for exploring infant and young child feeding practices in Nepal and Nigeria.

Box 7. Examples of research plans



B. Defining specific research guides and tools

A variety of research techniques and methods are available for collecting information on infant and young child feeding. Some techniques are better suited to certain topics and methods than others. For example, some research techniques are designed to help elicit more unbiased responses from respondents who might be inclined through direct questioning to provide what they feel is the 'right' answer or 'what the investigator wants to hear' (see Box 8). Different techniques and methods are also used together to help verify respondents' answers. For example, in-depth interview questions about hand-washing might be followed by an observation of whether or not the house has a hand-washing station. Questions about which foods are appropriate for young children might be combined with implementation of recipe trials to see what foods caregivers have and what foods they are willing to use and feed to their young children (see Box 9).

Box 8. Information collection techniques

Projective techniques: These are stories or photographs that are shared with participants in order for them to 'project' their feelings about a particular topic or person in describing the photo or finishing the story. For example, a variety of photographs of people can be displayed and research participants can describe from which one they would seek advice about childcare or health, and why; or they can describe which one is a good parent and why. These insights are helpful in understanding motivations for particular behaviors.

Free-listing or "pile sorts": These techniques are used to better understand processes, associations, or priorities that people give to certain things like foods. For example, people might be asked to sort foods into those that have hot and cold properties, body building or body purification properties, good first foods, or those inappropriate before a child has teeth.

Observations: These can be structured (usually a checklist) or unstructured, and are typically used to obtain information on the physical environment or on actual feeding practices or interactions.

24-hour dietary recall: This detailed listing of every food consumed by amount and time of day allows for a more accurate understanding of intake than simple questioning. However, the interviewers must be specially trained, standard measuring instruments must be provided, and professional assistance is needed to analyze and interpret results.

Box 9. Methods and commonly used information-gathering techniques

Method	Common techniques
Focus group discussion with grandmothers who have a child younger than 2 years in their home	• Open discussion with probes. • Photo-sort with various photos of grandmothers with their young children to elicit a discussion of relationships and responsibilities of grandmothers for their grandchildren; images of foods to discuss what foods are fed to young children and why and what might be appropriate to change if they knew that young children need more of a certain food. • Stories of particular family scenarios that require that they offer an ending.

Method	Common techniques
In-depth interviews with caregivers of children 12–23 months old	• Open-ended questions about practices. • Dietary assessment: 24-hour food recall to understand what the child has eaten in the past 24 hours; one-week food recall that looks at the intake of particular foods over the course of a week. • Observation of a feeding episode to assess quantity, consistency, quality, and feeding style; also stores of food in the home and what the family is eating. • Photo-sort of a few children for the caregiver to describe as healthy or unhealthy; photos of different child/parent feeding situations to determine if any of the situations occur in the caregiver's family and perceptions about the situations.
Recipe trial with caregivers of children 9–11 months old	• Free-listing to demonstrate the various properties of foods. • Participant observation, to see how foods are combined and prepared. • Trial, to determine if the food will be given to the child and the reaction and preference. • Dietary assessment, to understand what the child has eaten and where the new recipes could enhance the diet.

Annex D contains samples of a few of these formative research tools and demonstrations of how some of the techniques in Box 8 have been included.

C. Analyzing and communicating results

Thinking about and planning for the formative research analysis and reporting should be discussed at the planning stage of the formative research. Setting up summary sheets and matrices to catalog findings during tool development will save time and allow for analysis to begin in the field. Also, ensuring that field supervisors know the type of analysis that is expected will allow them to ensure that the information needed to inform the analysis is being collected and cataloged.

For use in the field: At a minimum, the matrix in Annex B can be modified to expand sections or create multiple matrices (e.g., one for each population segment to begin to catalog responses). Likewise, tally sheets can be set up to allow field supervisors to look for trends in responses so they can assess if the research questions should be expanded to capture important variances. For example, tallies can be kept on various practices of women who work inside and outside the home for remuneration, or who might be within or beyond ten minutes of a market, to determine if there are interesting patterns that need further exploration.

Since most formative research is in-depth and therefore qualitative (even if it has quantitative aspects such as dietary recalls), it is critical to plan for case studies or typology analysis to illustrate important points about what was uncovered during the field work. For example, while

talking about what most families are feeding their children, it is often instructive to highlight a particularly poor diet and one of the best diets, to show the extremes and that even with the best diets, some deficiencies exist. Similarly, if women's time is a severely limiting factor, offering examples of women's time allocation would allow more insight into the issue than simply summarizing how many hours women work each day. These types of 'callouts' should be planned, and daily briefings of the field workers should always include their observations about interesting deviations, new relationships, or patterns they have observed during the course of their interviews or visits.

Formative research reports should go beyond a descriptive report of the information collected by method or participant group. The insights come from the researcher's synthesis looking across the findings from the various methods and participant groups. Box 10 suggests some tips for synthesizing findings.

Box 10. Tips for synthesizing formative research results

Synthesis	What	Tips and formats
Summarize and compare findings from all methods by participant group Summarize and compare findings by practice across participant groups	• Highlight majority practices and/or opinions. • Note the range of opinions and practices by characteristic of person. • Reasons why.	• By comparing responses across methods and participant groups, it is possible to triangulate to find the most reliable answer to what is being practiced, by whom, and why. • Look for contradictions between what was said and what was observed and offer insights. **Example:** Finding: Mothers report giving their children animal-source foods but none are observed on interview day. Interpretation: They know the foods are important, but they are not a daily staple.
Clarify and summarize processes, unspoken decision algorithms, or classifications	• Highlight patterns and trends. • Insights into decision-making. • Specific examples.	• Use diagrams to show the usual sequence of practices and others to show significant deviations. • Develop taxonomies to describe feeding problems, their symptoms, causes, and remedies. • Develop decision charts or algorithms for different participant groups and compare. **Example:** A taxonomy of mothers' beliefs about breastfeeding problems and how to resolve them. A decision tree about what to feed a child with diarrhea depending on the child's appetite and appearance of diarrhea.

Synthesis	What	Tips and formats
Interpret the findings to develop recommendations	• Action recommendations are formulated for each major finding or group of findings related to a specific topic or question. The recommendations must flow from the findings. • Mention when a particular, expected recommendation is not offered because it is not supported by the research.	• Use 'therefore' statements after each small set of findings as a transition to the recommendations. **Example:** Finding: Caregivers add water to adult porridge so it is easy for their child to swallow; children drink, not eat, their first foods. Therefore: First foods lack energy density because they are diluted to make them easy to feed and easy for the child to swallow. Recommendation: Counseling should stress using the adult porridge, but softened with a spoon of sour milk. Children are ready to learn to swallow and will not choke on the soft food.

Annex A. Infant and young child feeding guiding principles for the breastfed and non-breastfed child

Topic	Guiding principle summary—for breastfed children	Modifications for non-breastfed children
Early initiation of breastfeeding	The baby is placed at the breast and is allowed to suckle within the first hour of being delivered.	• Commercial infant formula milk as long as home conditions include safe water and sanitation; the mother/caregiver can reliably provide sufficient infant formula milk to support normal growth and development; the mother/caregiver can prepare it cleanly and frequently enough so that it is safe; and the mother/ caregiver can exclusively give infant formula milk. • Expressed, heat-treated breastmilk. • Home-modified animal milk is not recommended for the first six months.
Exclusive breastfeeding for the first six months	Practice exclusive breastfeeding from birth to 6 months of age, and introduce complementary foods at 6 months (180 days) while continuing to breastfeed.	
Maintenance of breastfeeding	Continue frequent, on-demand breastfeeding until 2 years of age or beyond.	Animal milk (boiled for infants younger than 12 months), as part of a diet providing adequate micronutrient intake.
Responsive feeding	Practice responsive feeding, applying the principles of psychosocial care: Feed infants directly and assist older children when they feed themselves; feed slowly and patiently; experiment with different food combinations, tastes, and textures; minimize distractions during meals; talk to children during feeding, with eye-to-eye contact.	
Safe preparation and storage of complementary foods	Practice good hygiene and proper food handling: Wash caregivers' and children's hands before food preparation and eating; store foods safely and serve immediately after preparation; use clean utensils, cups, and bowls; and avoid using baby bottles.	
Amount of complementary food needed	Start at 6 months of age with small amounts of food and increase the quantity as the child gets older, while maintaining frequent breastfeeding. Amounts should be approximately: 200 kcal/day at 6–8 months, 300 kcal/day at 9–11 months, and 550 kcal/day at 12–23 months.	Start at 6 months of age with small amounts of food and increase the quantity as the child gets older, offering at least 200 kcal/day of milk. Complementary foods would make up the rest of the diet, depending on milk intake. Ranges for food could be: 200–400 kcal/day at 6–8 months, 300–500 kcal/day at 9–11 months, and 550–700 kcal/day at 12–23 months.
Food consistency	Gradually increase food consistency and variety as the infant gets older, adapting to the infant's requirements and abilities. Infants can eat pureed, mashed, or semi-solid foods starting at 6 months; by 8 months, most can eat finger foods; and by 12 months, most can eat family foods, bearing in mind nutrient density and avoiding foods that may be choking hazards.	

Topic	Guiding principle summary—for breastfed children	Modifications for non-breastfed children
Meal frequency and energy density	Increase the number of times that the child is fed complementary foods as he or she gets older: for the 'average' child, 2–3 times/day at 6–8 months and 3–4 times/day at 9–11 months and 12–23 months. Additional nutritious snacks may be offered 1–2 times/day. Frequency is directly related to caloric density of the meal: 0.65 kcal/g is the lowest (child needs more meals), and 1.0 kcal/g the highest (child needs fewer meals).	Increase the number of times that the child is fed complementary foods as he or she gets older: for the 'average' child, 3 times/day at 6–8 months, 4 times/day at 9–11 months, and 4–5 times/day at 12–23 months. Additional nutritious snacks may be offered 1–2 times/day.
Nutrient content of complementary foods	Feed a variety of foods to ensure that nutrient needs are met: meat, poultry, fish, or eggs should be eaten daily; vitamin A–rich fruits and vegetables daily; diets should have adequate fat content; and avoid giving drinks with low nutritive value.	In addition to recommendations for the breastfed child: If the child receives animal-source foods, give 200–400 ml/day of milk; if not, 300–500 ml/day; avoid raw milk.
Vitamin-mineral supplements or fortified products	Use fortified complementary foods or vitamin-mineral supplements (preferably mixed with or fed with the food) for the infant, as needed.	
Feeding during and after illness	Increase fluid intake during illness, including more frequent breastfeeding, and encourage the child to eat soft, varied, appetizing, favorite foods. After illness, give food more often than usual and encourage the child to eat more.	Increase fluid intake during illness, and encourage the child to eat soft, varied, appetizing, favorite foods. After illness, give food more often than usual and encourage the child to eat more.

Sources: World Health Organization/Pan American Health Organization, *Guiding Principles for Complementary Feeding of the Breastfed Child*, 2003. World Health Organization, *Guiding Principles for Feeding Non-Breastfed Children 6–24 Months of Age*, 2005. World Health Organization, *Guidelines on HIV and Infant Feeding*, 2010.

Annex B. Core infant and young child feeding indicators

Category	Indicator
Early initiation of breastfeeding	Proportion of children born in the last 24 months who were put to the breast within one hour of birth.
Exclusive breastfeeding under 6months	Proportion of infants 0–5 months of age who are fed exclusively with breastmilk.
Continued breastfeeding at 1 year	Proportion of children 12–15 months of age who are fed breastmilk.
Introduction of solid, semi-solid, or soft foods	Proportion of infants 6–8 months of age who receive solid, semi-solid, or soft foods.
Minimum dietary diversity	Proportion of children 6–23 months of age who receive foods from four or more food groups.
Minimum* meal frequency	Proportion of breastfed and non-breastfed children 6–23 months of age who receive solid, semi-solid, or soft foods (including milk feeds for non-breastfed children) the minimum number of times or more.
Minimum* acceptable diet	Proportion of children 6–23 months of age who receive a minimum acceptable diet (apart from breastmilk) [composite indicator based on minimum dietary diversity and minimum meal frequency].
Consumption of iron-rich or iron-fortified foods	Proportion of children 6–23 months of age who receive an iron-rich food or iron-fortified food that is specifically designed for infants and young children, or that is fortified at home.

*Minimum is defined for breastfed and non-breastfed children and dependent on age.

Source: World Health Organization, *Indicators for Assessing Infant and Young Child Feeding Practices, Parts 1–3*, 2010.

Annex C. Matrix of infant and young child feeding practices

Guiding principle summary	Current behavior	Motivation/Rationale for current behavior	Barriers to practicing guiding principles	Recommendations for feasible/'better' practices	Motivations and barriers to recommended behaviors*
Early initiation of breastfeeding					
Place the newborn on the breast within one hour of delivery.					
No prelacteal feeds.					
No feeding bottles.					
Exclusive breastfeeding for the first six months					
Practice exclusive breastfeeding from birth to 6 months of age.					
Use of both breasts.					
High frequency—about ten times per day.					
Empty both breasts at each feeding.					
Introduce complementary foods at 6 months of age (180 days) while continuing to breastfeed.					
Maintenance of breastfeeding					
Continue frequent, on-demand breastfeeding until 2 years of age or beyond.					

* This column would be used after conducting an activity such as Trials of Improved Practices that provides information on acceptability/feasibility of 'new' practices.

Guiding principle summary	Current behavior	Motivation/Rationale for current behavior	Barriers to practicing guiding principles	Recommendations for feasible/'better' practices	Motivations and barriers to recommended behaviors*
Complementary feeding of a child 6–8 months					
Start at 6 months of age with small amounts of food and increase the quantity as the child gets older; 200 kcal/day at 6–8 months.					
Gradually increase food consistency as the infant gets older, adapting to the infant's requirements and abilities. Infants can eat pureed or mashed foods starting at 6 months; by 8 months, semi-solids.					
Increase the number of times that the child is fed complementary foods as he or she gets older: for the 'average' child, 2–3 times/day at 6–8 months.					
Gradually increase food variety as the infant gets older.					

* This column would be used after conducting an activity such as Trials of Improved Practices that provides information on acceptability/feasibility of 'new' practices.

Guiding principle summary	Current behavior	Motivation/Rationale for current behavior	Barriers to practicing guiding principles	Recommendations for feasible/'better' practices	Motivations and barriers to recommended behaviors*
Complementary feeding of a child 9–11 months					
300 kcal/day at 9–11 months.					
Feed 3–4 times/day.					
Feed a variety of foods: meat, poultry, fish, or eggs daily; vitamin A–rich fruits and vegetables daily; diets with adequate fat content; avoid giving drinks/foods with low nutritive value.					
Most infants can eat finger foods, bearing in mind nutrient density and avoiding foods that may be choking hazards.					
Complementary feeding of a child 12–23 months					
550 kcal/day at 12–23 months.					
By 12 months, most young children should eat family foods.					
Offer meals 3–4 times a day; additional nutritious snacks may be offered 1–2 times/day.					
Feed a variety of foods: meat, poultry, fish, or eggs daily; vitamin A–rich fruits and vegetables daily; diets with adequate fat content; avoid giving drinks/foods with low nutritive value.					

* This column would be used after conducting an activity such as Trials of Improved Practices that provides information on acceptability/feasibility of 'new' practices.

Guiding principle summary	Current behavior	Motivation/Rationale for current behavior	Barriers to practicing guiding principles	Recommendations for feasible/'better' practices	Motivations and barriers to recommended behaviors*
Vitamin/mineral supplements or fortified products					
Use fortified complementary foods or vitamin-mineral supplements for the infant, as needed.					
Feeding during illness					
Increase fluid intake during illness, including more frequent breastfeeding, and encourage the child to eat more.					
Encourage the child to eat soft, varied, appetizing, favorite foods.					
After illness, give food more often than usual or give a little more food at each meal.					
Offer 'special' nutrient-dense foods.					

* This column would be used after conducting an activity such as Trials of Improved Practices that provides information on acceptability/feasibility of 'new' practices.

Guiding principle summary	Current behavior	Motivation/Rationale for current behavior	Barriers to practicing guiding principles	Recommendations for feasible/'better' practices	Motivations and barriers to recommended behaviors*
Responsive feeding: Applying the principles of psychosocial care					
Feed infants directly and assist older children when they feed themselves.					
Feed slowly and patiently.					
Experiment with different food combinations, tastes, and textures.					
Talk to children during feeding, with eye-to-eye contact.					
Safe preparation and storage of complementary foods					
Caregivers' and children's hands should be washed before food preparation and eating.					
Store foods safely and serve immediately after preparation.					
Use clean utensils, cups, and bowls.					
Avoid using baby bottles.					

* This column would be used after conducting an activity such as Trials of Improved Practices that provides information on acceptability/feasibility of 'new' practices.

Annex D. Sample formative research tools

1. Focus group discussion guide
2. Section of an in-depth interview guide
3. Section of an observation guide
4. Trials of Improved Practices tool—counseling visit

1. Focus group discussion guide

Focus Group Discussion Guide: Mothers with children 6–11 months old

1. Introduction:
   Participants should introduce themselves and mention how many children they have and the age of their youngest.

Note that they have in common a child younger than 1 year.

2. Perceived health/nutrition status of the children:
   Do participants believe that their children are healthy or not healthy—and why and how do they compare their child to others in the community.

3. Indicators of good health/nutrition:
   Let me show you a few photographs of children. These are photographs of children from neighboring villages. [Spread out photos.]
   - Can someone select a child who looks healthy and well nourished? [Pick up the selected photo.]
   - Do the rest of you agree, or do you think this child might be malnourished? Discuss the reasons why the children appear to be well or malnourished. Reach agreement among the group until all the photos are divided into two piles: one for healthy/well-nourished children and the other for malnourished children.

4. Perceptions of well-nourished/malnourished child's mother:
   Let us now take a photograph of one of these children who all of you felt was a well-nourished child.
   - What kind of mother/family does this child have?
   - What does the mother/family do to make sure the child is well nourished?
   - Even if the family is poor, what do they do?

   Let us take a photograph of one of the children who all of you felt was poorly nourished.
   - What kind of mother/family does this child have?
   - What are the things that this mother/family does, or doesn't do, that might lead the child to become malnourished?
   - Given what life is like in this village, can families here have well-nourished children and avoid the problems that result in children becoming malnourished?
   - What about with very young children like your children who are not walking yet—are there special things that should be done to ensure that they are well nourished or to avoid them becoming malnourished?

5. Perceptions about specific child feeding practices:
   Now I would like to describe to you the way that some mothers in another village were feeding their children who were about 9 months old. Let's talk about what you think about these practices and your experiences. [Put in common feeding practices for the area.]
   - For example, all of the women were breastfeeding their babies frequently throughout the day and night.
   - For example, some women were feeding their children rice porridge twice a day; others were giving food from the mother's plate every time she ate; others were not giving anything but breastmilk.

6. Perceptions about possible changes in the practices:
   If I told you that the best way to feed a 9-month-old child is to breastfeed the child, and in addition, to feed this small bowl [show bowl] *full of food in the morning, mid-day, and in the evening—so feed three times a day, and each time, the food would be rice with, for example, in the morning, some fermented milk, at mid-day, the vegetables and a mashed piece of meat or beans from the family food, with the same in the evening.*
   - What are your opinions? About the quantity? About the foods?
   - What else might you feed?

7. Advice-seeking:
   - If you were to seek advice from someone about how to take care of your children, who would you take advice from? Why?
   - If you had the choice to seek advice from your mother-in-law, your husband, the community worker, the nurse at the health center, the shopkeeper, who would you prefer to talk with? Why and why not the others?

8. Aspirations for child:
   Let us imagine a situation where you are praying and suddenly your prayers are answered and you can have your wish. If you have two wishes, one for yourself and one for your child, what would they be?

   All of you have very young children. Soon they will grow up. Do you think about that time? What would you like to see them become? Would you like to see them stay in this town?

2. Section of an in-depth interview guide

COMPLEMENTARY FEEDING

Ideal practice 7. Begin complementary feeding at 6 months of age with semi-solid foods.

16. Have you given any food to your baby?
    - What was the first thing you gave your baby to eat?
    - Why did you decide to start with this particular food?
    - How old was your baby when you gave her/him this particular food for the first time?
    - Who gave you advice on this?
      SKIP TO Q#17 IF ANSWER IS 6 MONTHS.
    - (ASK IF CHILD WAS FED BEFORE 6 MONTHS) If you knew that "to exclusively breastfeed for six months" would make "the child get sick less often and grow up more," and that "to give other liquids and solid food before 6 months" would make "the child get diarrhea and cough more often and s/he would remain small and thin," would you be willing to change your practice?
    - Is there something that would make you carry out this change?
    - How could this change be easier for you?
    - (ASK IF CHILD WAS FED AFTER 6 MONTHS) If you knew that "to exclusively breastfeed for six months and to initiate semi-solid foods at that age" would make "the child grow up more," and that "to give other liquids and semi-solids until the child is older than 6 months" would make "the child remain small and thin," would you be willing to change your practice if you had another child?
    - Is there something that would make you carry out this change?
    - How could this change be easier for you?

Ideal practice 8. Feed the child the amount necessary to meet her/his recommended daily energy requirements.

17. If it were necessary to increase the amount of food that you give your child, would you be able to do this?
    - Why? Why not?

Ideal practice 9. Feed the child with high energy and nutrient density foods.

18. Do you prefer to feed your child more liquid or more solid (thicker) foods?
    - When should thicker, more solid foods be given to a child?
    - What would you say to a friend who is thinking of giving thicker, more solid foods to her 6-month-old baby?

Ideal practice 10. Feed the child with the recommended daily frequency.

19. How many times a day do you feed your child? (ASK ABOUT MAIN MEALS AND SNACKS)
    - If a health professional asked you to increase the number of times you feed your child each day, would you be able to do this? Why? Why not?

Ideal practice 11. Feed the child meat, fish, or poultry daily.

20. How many times a day do you feed your child meat, fish, or poultry?
    - IF LESS THAN ONE PER DAY: What conditions would have to be present for you to increase the number of times a day you serve these foods to your child?

Ideal practice 12. Support and motivate the child to eat.

21. If your child stops eating, and you think she is still hungry or did not eat enough, what do you do?
    - How do you motivate her/him to eat?
    - What could you do so that the child has someone to help her/him at every meal?

Ideal practice 13. If child is sick, continue or increase frequency of breastfeeding. Continue feeding regular foods or switch to soft foods. Provide special foods or more food for several days once child feels better.

22. If your child is ill, how do you feed your child differently? How do you feed the child?
    - How do you try to get her/him to eat?
    - What special foods do you feed your child when she/he is ill?
    - Once your child feels better, how do you feed your child? How is her/his appetite?

3. Section of an observation guide

REGISTRATION FORM FOR THE *HOUSEHOLD OBSERVATION*

It is possible that not all the key points to be observed regarding breastfeeding and complementary feeding will be observed in a single mother-child pair or in a single home. However, whenever it is possible to observe the feeding of a child less than 2 years of age, refer to the key points below and record as much as possible.

Date of observation:	**District:**
Name of observer:	**Village:**

Household number:		**Child code:**	
Name of mother/caregiver:		**Name and sex of child:**	

TOPIC	OBSERVATION
Breastfeeding	
1. Mother-child interaction: • Mother pays attention to the child? • Breastfed to satiety? • Difficulties? • Both breasts? 2. Was the child breastfed before or after the child was fed solid food?	
Complementary feeding	
During the meal time	
1. When serving the food: • Wash the child's hands? ( ) Yes ( ) No • Serve the child first? ( ) Yes ( ) No • Anyone help her serve the food? ( ) Yes ( ) No _____ • Child eats ( ) by her/himself ( ) with other family members: _____	
2. Own plate? Uses a spoon, bottle, or other utensil?	
3. Who feeds the child? Support from family?	
4. Location of the child in relation to caregiver.	

TOPIC	OBSERVATION
5. Foods, preparations, and drinks served to the child.	
6. Any food, preparation, or drink served to the child and not to the rest of the family?	
7. Child served only a portion of a food, preparation, or drink that is served to the rest of the family?	
8. Any food, preparation, or drink served to the rest of the family but not to the child?	
Caregiver-child interaction	
9. Caregiver <u>verbally encourages</u> the child to eat?	
10. Caregiver encourages the child while she/he is eating well?	
11. Caregiver ever <u>motivates</u> the child to eat more with <u>gestures, games, or by demonstrating</u> to her/him how to eat?	
12. Caregiver ever <u>physically forces</u> the child to eat?	
13. Caregiver ever serves more food to the child?	
14. Child eats all the food that is served? What does caregiver do with leftovers?	
15. Caregiver pays attention to the child? Did the caregiver stay with child throughout the meal?	
16. General observations about hygiene in the home.	
17. Other aspects related to the feeding.	

4. Trials of Improved Practices tool—counseling visit

TRIALS OF IMPROVED PRACTICES COUNSELING VISIT

Date of observation/interview:	
Name of observer:	

Province:	
District:	
Village:	

Household number:	
Name of mother/caregiver:	

Child code:	
Name and sex of child:	

Child is sick:
- ❑ **YES**
- ❑ **NO**

Child is underweight:
- ❑ **YES**
- ❑ **NO**

IDENTIFICATION OF FEEDING PROBLEMS

1. Analyze the dietary information you collected during your interview/observations and identify any feeding problems based on the assessment and counseling guide, according to the child's age and health status. When analyzing the child's diet, take into account the following criteria:

BREASTFEEDING PRACTICES ***Question guides for summary of information***	
Is the mother currently breastfeeding?	
When does the mother normally breastfeed the child?	
How many times during the night?	
How many times during the day?	
Does the mother breastfeed to satiety?	
Does the mother pay attention to the child during breastfeeding?	
Was there any other liquid given to the child aside from breastmilk?	
Is breastfeeding a problem when the child is sick?	
Does the baby take less breastmilk when sick? If less, why?	
FEEDING PRACTICES ***Question guides for summary of information***	
Is the child fed foods other than breastmilk?	
How many meals was the child fed?	
Was the food (e.g., borbor) thick or watery?	
Did the child finish all the food given?	
How much was eaten by the child? (e.g., ½ bowl)	
Did the mother give any snacks?	
Did the diet include any meat, fish, egg, or poultry?	
Was a vegetable given to the child?	
Did the mother motivate the child to eat?	

2. Fill out the following table with the corresponding information once you have analyzed the child's diet, using the assessment and counseling guide.

Problems identified	Recommendations	Motivations

DISCUSSION OF DIETARY ASSESSMENT

1. Explain your assessment of the child's diet to the mother. Remember to praise her for any positive practices. For example: "Your child has/has not been receiving breastmilk. In addition, your child is getting ___. [note frequency, quantity, and thickness for mother]. Your child takes this from a bottle/cup/by hand/[other]. As you have told me, your child seems to be healthy/ill in the past/frequently/today."
2. Add any other important information the mother has mentioned. Ask if she agrees with your summary.
3. Ask the mother if she would be willing to try something new to improve the diet for the child's health and strength.
4. Ask if she has any ideas—make general suggestions and try to get her to come up with some possible improvements.
5. Discuss the appropriate recommendations for the child's age and current feeding patterns, based on the assessment and counseling guide.
6. On the following forms, record as much detail as possible about the mother's responses to the recommendations. How does she react? Why is she willing or unwilling to try?
7. Negotiate with the mother so that she chooses one new practice she would be willing to try for a few days. Explain that you will be coming back to get her opinion on the new practice.

RECOMMENDATION

Recommendation #		
Specific food options suggested:		
Mother's initial response:		
Willing to try? Why or why not?		
Any other circumstances under which she would try the recommendations? When? What modifications?		

[Insert additional sheets for as many recommendations as are planned for this counseling session.]

Ask the mother to explain to you the new practice she will try. Make sure she understands and agrees. Summarize (in her own words) what the mother has agreed to try:

Ask if she has any questions or comments, and record them. Make sure that all the details of preparation are clear.

Arrange a date for follow-up in about 7–10 days (see schedule). Ask the mother when is a convenient time of day to meet her and try to arrange that she will be home when you come.

Follow-up visit arranged for: _____

Thank the mother for taking the time to answer your questions and encourage her to really try the new practice.

Time finished: ___ ___: ___ ___