

FOCUS AREA 3: DELIVERY OF NUTRITION INTERVENTIONS

KEY NUTRITION SCIENCE KNOWLEDGE GAPS

1. Research to identify innovative methods for measuring and validation behavior and behavior change

The effectiveness of most nutrition interventions depends upon behavior change at an individual or household level, with breastfeeding and complementary feeding being prominent examples. Current methods to monitor and evaluate progress at project, national and global levels are based almost exclusively on self-reporting by mothers or caretakers but the validity of these indicators can be compromised by social desirability bias and other sources of systematic error. More objective methods for assessing behavior change, such as direct observation, may be useful in small scale research studies but are impractical for routine application in large-scale programs or national surveys.

Research is needed to develop and validate innovative, ethical and practical methods to measure behavior change in large scale programs and national surveys. Such methods may include alternative wording and questioning methods designed to neutralize social desirability bias, remote sensing, information and communication technologies, and biomarkers, as just a few examples.

2. Research to identify required staff competencies and their impact on program effectiveness and sustainability.

Recognizing that some management and leadership competencies vary depending upon region, country and context, there are some basic, cross-cutting skills that are required as part of nutrition interventions during the life cycle of the intervention. Critical stages of any intervention include preliminary needs and feasibility assessments, stakeholder and local influencer engagement, selective delivery system and infrastructure strengthening, human capacity building and training, design of comprehensive but realistic implementation plans, multi-level/multi-stakeholder advocacy, monitoring and evaluation, sustainability planning, impact assessments, exit of external partners, scaling of interventions and so on.

The research opportunity is to identify critical competencies across the program cycle (and at staff, management and leadership levels) to support community programs and to effectively scale up effective programs, and to identify innovative, cost-effective and scalable methods for strengthening these capacities.

Please answer the following questions about the following research gap: Research to identify and understand staff competencies that are required across stages of the intervention cycle and the impact of these competencies on the effectiveness and sustainability of programs.

3. Research on adequate indicators of nutrition delivery capacity, performance and actual costs.

The logical framework, in its various forms, is now in widespread use as a tool for rationalizing, communicating, monitoring and evaluating program inputs, outputs, outcomes and impacts at an overall program level. For all its strengths, however, such frameworks are not designed to assess and strengthen features/competencies of the delivery system(s) for an intervention (such as leadership, staff motivation, training capacity, investment and costs

measures against impact, etc), nor are they designed to monitor improvements in these features or intermediate indicators of intervention delivery such as adoption rates or service quality at district, community or clinic level.

There is a need for research to document existing frameworks, practices, level and types of investments, actual costs and indicators of delivery capacity and performance in the context of nutrition programs and the desired features/competencies.

(4) Research to understand demand creation for interventions at civil society levels.

Understanding how we drive demand for nutrition interventions at the civil society level is essential if we are to scale up nutrition. Scaling up requires the availability and accessibility of goods, services and educational resources. There is recognition that a social movement that supports demand for nutrition is part of scaling efforts. Without demand there is no “market” for goods and services, without a market we lose a potential incentive to invest via agencies, NGOs, etc. and, without investment the voice for nutrition is lost.

There is a need to research and understand the mechanisms by which to create community-owned and community-driven demand for nutrition and the impact of creating an engaged, evidence-based civil society movement on nutrition scaling.

(5) Research on implementation and impact pathways to improve agriculture-nutrition programs.

As the global nutrition community works toward creating stronger links between nutrition and agriculture – not only in production and food consumption/availability, but also in systems and capacity integration and leveraging, there is an opportunity to support research in areas that can more effectively inform ag-nutrition integrated programs. A recent BMJ review of the effectiveness of agricultural interventions in improving the nutritional status of children in developing countries highlighted this issue: “The question posed by the review cannot be answered with any level of confidence”. The data available show a poor effect of these interventions on nutritional status, but methodological weaknesses of the studies cast serious doubts on the validity of these results.

There is a need for stronger agreement among researchers and stakeholders concerning the changes that can realistically be expected from various types of agricultural, food security and livelihood programs (e.g., improved household dietary diversity or improved child nutritional status as well?), better designed studies to evaluate the outcomes with respect to these realistic indicators and agreements concerning the level and type of evidence needed for investment decisions.

(6) Research to determine why delivery systems do not reach sufficient numbers and lack the desired impact.

The need to understand where delivery of programs falls short can yield important insights on how programs are constructed in the future to increase coverage and impact. Identifying and understanding the most significant bottlenecks we are seeing across contexts allows the delivery community to also better understand the need for potential capacity development, better advocacy mechanisms, most significant social and cultural trends or barriers, a shift in institutional support, etc.

(7) Research on the safe administration of micronutrients.

With a major push to combat hidden hunger and ensure universal coverage of critical micronutrients, both public and private sector actors must be well coordinated on micronutrient interventions that reach children and adults.

There is a research need to create risk models, mitigation efforts and response plans that will help governments ensure safe administration of micronutrients through multiple vehicles and evaluate approaches that prevent

overexposure of micronutrients. As developing countries and emerging markets move toward greater fortification of staples and popular foods, there is a need to understand the experience of countries where widespread mandatory and voluntary fortification efforts are underway. The research will help evaluate the benefits, while also mitigating risks associated with increased levels of exposure of certain micronutrients.

(8) Research on optimal infant and young child feeding delivery systems and processes

The first 1,000 days from conception to age two have been recognized by global health and nutrition leaders as the critical window of opportunity to make a long-term impact on growth and development. During the first 1,000 days, optimal nutrition of both mother and child has a direct and powerful link to improved child survival, growth, cognition and overall health rates throughout the life-course. In addition to exclusive breastfeeding through the first six months, frequent, on-demand breastfeeding with an increase in appropriate and adequate complementary food intake from six months through 24 months have the greatest impact on improved nutritional status.

It is critical to recognize the continuum of child feeding and the unique issues related to the various phases that are part of optimal nutrition during a child's first two years. While there is recognition that infant and young child nutrition efforts must be implemented cohesively and in a coordinated manner, there also is recognition that early initiation of and exclusive breastfeeding through the first six months, along with complementary feeding with continued breastfeeding after the first six months pose unique delivery challenges.

As a result, this research topic is divided into two key categories:

- (a) The early initiation and exclusive breastfeeding advocacy and compliance issues and opportunities
- (b) The delivery systems and delivery processes related to complementary feeding

Research on optimal infant and young child feeding delivery systems and processes

(a) Research to understand early initiation and exclusive breastfeeding advocacy and compliance issues and opportunities.

The global nutrition and health community recognizes that early breastfeeding initiation soon after birth and exclusive breastfeeding during the first six months of an infant's life are among the most effective health and nutrition interventions in a child's life with long-standing benefits. A 2008 study by Nita Bhandar et. al. in *Maternal Child Nutrition* stated that interventions promoting exclusive breastfeeding were estimated to potentially prevent 13% of all deaths of children under five years old in developing countries. The study emphasized that exclusive breastfeeding was the single most important preventive intervention against child mortality. In addition, it stated that according to World Health Organization and United Nations Children Funds (UNICEF), only 39% infants are exclusively breastfed for less than four months. (<http://www.ncbi.nlm.nih.gov/pubmed/18289156>)

Not accounting for unique physiological barriers specific to infant or mother (i.e. mouth/palette, breast health/structure), some overarching challenges that stand in the way of early initiation of and effective breastfeeding practices include mother-infant separation after birth, poor feeding techniques, outside of home work practices, social and religious taboos or barriers, lack of counseling and support systems for mothers, among others. Specific issues for research agenda consideration include:

- How to identify and evaluate the impact of culture and traditions in early breastfeeding initiation and breastfeeding advocacy and practice. What are the barriers? What are the enabling factors?
- Understanding and evaluating work-related constraints that affect breastfeeding success and continuity.

- Understanding and evaluating the role of formal and informal information structures, ranging from NGO and government structures to village health groups, schools, social groups and traditional structures in supporting or disrupting early initiation and exclusive breastfeeding efforts.
- Understanding of the minimal level of intensity of communications needed to influence behavior and promote exclusive breastfeeding compliance during the first six months.
- Conducting a comparative analysis of the various delivery mechanisms that support breastfeeding practices, awareness and compliance.

Identifying innovative methods for measuring and validating breastfeeding practices, compliance and potential behavior and attitudinal changes.

(b) Research to understand delivery systems and delivery processes related to complementary feeding.

The WHO recognizes the period of complementary feeding, between the ages of 6 – 24 months, as one of the most critical time periods for the prevention of malnutrition. The complementary feeding period is the period when the majority of growth faltering happens worldwide, and these growth deficits are very difficult to reverse later in life. Challenges that stand in the way for scaling of effective complementary feeding efforts include the poor quality of available and affordable complementary foods, poor feeding practices, cultural habits (e.g. men first and men most) and poor hygiene and sanitation in preparation and feeding.

Specific issues for research agenda consideration include:

- How to identify and evaluate the impact of culture and traditions in complementary feeding efforts. What are the barriers? What are the enabling factors?
- How to identify and evaluate the availability and affordability of convenient foods and their impact on complementary feeding efforts.
- Understanding and evaluating the role of formal and informal information structures, ranging from NGO and government structures to village health groups, schools, social groups and traditional structures in supporting or disrupting behavior change towards optimum complementary feeding.
- Understanding of the minimal level of intensity of communications needed to raise awareness around appropriate complementary foods and feeding techniques, and influence behavior.
- Conducting a comparative analysis of the various delivery mechanisms that support complementary feeding efforts.
- Identifying innovative methods for measuring and validating complementary feeding practices, compliance and potential behavior and attitudinal changes.
- Identifying and understanding core competencies of frontline health workers required for complementary feeding interventions.
- Evaluating appropriate complementary feeding approaches or interventions given the community context of resources, food and water access, etc. Does the introduction of fortified commercialized complementary foods undermine the mother/caregivers use of locally available foods and the message of greater dietary diversity?