



## Improving Nutrition for Women and Young Children

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Improving nutrition for women and young children has always been at the core of USAID's nutrition and health programs. This chapter presents the history of cross-cutting approaches USAID has advanced to better deliver nutrition services and improve dietary practices and nutritional status. The chapter begins by describing USAID efforts to address maternal nutrition and three components of infant and young child nutrition: breastfeeding, complementary feeding and the nutritional care of sick or severely malnourished children. These represent four of the Essential Nutrition Actions mentioned in Chapter One. The chapter then describes two hallmarks of USAID's nutrition activities: a community-based focus that includes growth monitoring and promotion, and USAID's innovations in social and behavior change.

### Maternal Nutrition

Poor maternal nutrition has many consequences for women, including increased risk for maternal death, infections, anemia, compromised immune function, lethargy and weakness, and lower productivity. It also affects infant health through heightened risk of fetal and neonatal death, intrauterine growth restriction, low birth weight and birth defects. The way the nutritional status of one generation of women affects their infants' nutritional well-being into childhood and adulthood is often referred to as the intergenerational effect of malnutrition.<sup>2</sup>

Nutrition-related factors are estimated to be responsible for 27 percent of maternal deaths. Maternal nutrition, especially the interrelationship between the health, nutrition and survival of mothers and their infants, has gained increased attention since the 1990s.<sup>3</sup> While improving maternal nutrition has been one of USAID's nutrition programming aims, the Agency's nutrition efforts through much of the 1980s and 1990s focused largely

on breastfeeding, even though global USAID projects<sup>4</sup> also mandated maternal nutrition.<sup>5</sup> Constraints included the emphasis on child survival, a lack of simple technologies to apply, a low prioritization by Ministries of Health, and the view that maternal nutrition was part of a larger problem of general food insecurity.<sup>6</sup> Under a 1992 initiative in Africa,<sup>7</sup> USAID assessed the factors affecting maternal nutrition and provided recommendations for improvement. Starting in 1996, the Agency's 10-year global infant and young child feeding and maternal nutrition activity focused on behavior change counseling in communities and health facilities; this was supported by detailed information for health workers in a maternal nutrition dietary guide on appropriate weight gain, supplementation and nutrient intake for pregnant and lactating women.<sup>8</sup>

The accurate assessment of maternal nutrition is vital for antenatal care. Anthropometry, or the assessment of nutritional status by physical measures such as weight, weight gain, height and mid-upper arm circumference (MUAC), is important for identifying individuals at risk and for evaluating the effect of care and services. An opportunity for innovative work on maternal anthropometry arose in the 1990s by adding a nutrition component to a new USAID initiative to reduce maternal mortality and make pregnancy and delivery safer. USAID contributed to building an international consensus on evidence-based anthropometric measures of maternal undernutrition for use in primary healthcare both to identify the risk of and to prevent poor pregnancy outcomes, such as those discussed in an important Pan American Health Organization (PAHO) publication on maternal nutrition and pregnancy outcomes.<sup>9</sup>

Nutrition monitoring continues to provide important insights. In many countries, Demographic and Health Surveys measure the standard adult nutrition indicator, body mass index,<sup>10</sup> for women of reproductive age to gain a better population-level understanding of nutritional status. Since

## Milestones in Improving Maternal, Infant and Young Child Nutrition

1975-1979

- U.S. Congress encourages USAID to support breastfeeding and maternal and child nutrition
- WHO and UNICEF meeting on child feeding sparks international action

1980-1984

- The International Code of Marketing of Breastmilk Substitutes is adopted
- USAID conducts a four-country study on infant feeding practices
- USAID supports clinical Lactation Management Education

1990-1994

- Innocenti Meeting is held; Declaration on Breastfeeding is issued
- USAID provides Breastfeeding for Child Survival Strategy and Report to U.S. Congress
- Baby-Friendly Hospital Initiative launched globally
- Maternal nutrition anthropometry and pregnancy outcomes book released (PAHO/USAID)

1985-1989

- Bellagio meeting reaches consensus on Lactational Amenorrhea Method effectiveness
- Interagency Group for Action on Breastfeeding is formed

1995-1999

- The Baby-Friendly Hospital Initiative begins in the U.S.

2000-2004

- USAID issues its Breastfeeding Policy
- PAHO publishes Complementary Feeding Guiding Principles

2010-2015

- *The Lancet* publishes Maternal and Child Nutrition Series (2013)
- Breastfeeding and Child Health Series appears in *Acta Paediatrica* (2015)

2005-2009

- Follow-up Innocenti Meeting is held; the declaration on infant and young child feeding is issued
- *The Lancet* publishes Maternal and Child Undernutrition Series (2008)
- CMAM is endorsed by WHO and other U.N. agencies
- WHO indicators on infant and young child feeding are finalized

2016-2020

- *The Lancet* publishes Breastfeeding Series (2016)
- WHO publishes breastfeeding guidelines for maternity and newborn services
- UNICEF/WHO publish revised Baby-Friendly Hospital Initiative implementation guidance

## Key Global Results

- In 1991, WHO and UNICEF launched the Baby-Friendly Hospital Initiative to strengthen the promotion of breastfeeding through accrediting maternity services that are supporting mothers to breastfeed.
- Community-based management of acute malnutrition (CMAM) was adopted as a global standard of care in 2007, preventing hundreds of thousands of child deaths.

## USAID Contributions to Global Results

- USAID's early recognition of breastfeeding's significance for child survival was important for later breastfeeding and child survival initiatives and support.
- From the early 1980s, USAID research and promotion helped advance the Lactational Amenorrhea Method, a 98 percent effective method of short-term family planning.
- The Agency's support for lactation management education was a foundation for the Baby-Friendly Hospital Initiative.
- CMAM for children with severe acute malnutrition was successfully scaled up and institutionalized in several sub-Saharan countries and Yemen.
- Between 1990 and 2014, the average exclusive breastfeeding prevalence doubled across 20 USAID priority nutrition countries.<sup>1</sup>



A young Nepali woman, 4 months pregnant with her first child, is weighed by an auxiliary nurse midwife during her regular antenatal care visit at the health post in Dang.

Dave Cooper for USAID

the 2000s, maternal overweight has posed a new risk and underscored the need to address both undernutrition and overweight and obesity. Between 2005 and 2015, USAID supported collaborative research on simple yet valid indicators of the diversity of women's diets in resource-poor settings.<sup>11</sup> Dietary diversity represents the number of different foods or food groups consumed over a given period of time.<sup>12</sup> For example, one indicator of dietary diversity tracks whether or not women between 15 and 49 years have consumed at least five out of ten defined food groups, such as dairy, grains and vegetables, in the previous day or night. These widely measured indicators can be used to monitor progress in improving the diversity of women's diets.<sup>13</sup>

Among the Agency's most important activities to improve maternal nutrition have been increasing access to family planning services for the healthy timing and spacing of pregnancies, and providing dietary advice and food and micronutrient supplements to pregnant and lactating women. These supplements help improve maternal nutritional status; in addition, newborns of poorly nourished women receiving supplements show substantial improvements in birth weight.<sup>14</sup> Many barriers remain to adequate dietary intake during pregnancy and lactation, and knowledge

gaps in addressing the barriers represent a challenge. Proven interventions during pregnancy, such as iron and folic acid tablets for all women, and balanced energy and protein dietary supplements for undernourished populations, are described in USAID guidance and in the 2016 WHO recommendations on antenatal care funded by USAID.<sup>15</sup> USAID has used this guidance to help countries improve health worker counseling tools and develop e-learning courses for students and health professionals.

In the 1990s, USAID developed a set of recommendations for improving nutrition among adolescent girls and young women. These recommendations included improving educational opportunities and school safety for girls, discouraging gender differences in food intake, and offering appropriate family planning for adolescents.<sup>16</sup> Data compiled for USAID in 2015 indicated that, while there has been progress in the nutritional status of reproductive-age women, adolescent girls' nutrition still lags (e.g., in South Asia, underweight status may be as high as 40 percent),<sup>17</sup> along with the continuing problems of anemia and inadequate micronutrient intake. In 2018, a meeting co-sponsored by USAID and PAHO led to a call for seven priority actions to improve research and programming related to adolescent nutrition, which was committed to by over 100 international organizations.<sup>18</sup> Over the long term, USAID's investments in improving girls' nutrition in the first 1,000 days will accrue to better adolescent and women's nutrition.

### Infant and Young Child Feeding

Since the 1970s, breastfeeding has been recognized as offering an unequaled advantage for child health and survival, for disease prevention, for infant and young child nutrition and development, and for its role in birth spacing. The optimal practice is exclusive breastfeeding for 6 months, with no other liquids given, not even water. Appropriate complementary feeding, along with continued breastfeeding, from 6 months of age onward has received much attention over the past 20 years, due to increased awareness and growing evidence of its importance.<sup>19</sup> Infant and young child feeding is a commonly used term to describe the continuum of optimal feeding practices from birth to 2 years of age. Estimates have shown that better infant and young child feeding practices could avert nearly 2 million child deaths annually.<sup>20</sup>

USAID has increasingly targeted nutrition assistance to younger children and pregnant and lactating women, who are the most vulnerable to both undernutrition and its lifelong damage. The term the *first 1,000 days of life*<sup>21</sup> came into use in 2010 to describe the time span between a woman's pregnancy and a child's second birthday, which offers a unique window of opportunity for better nutrition.<sup>22</sup> Between 2008 and 2015, major medical publications such as *The Lancet* and *Acta Paediatrica* confirmed through solid evidence the importance of breastfeeding and good nutrition for children in the first 2 years of life. These publications also showed that women's nutritional conditions in adolescence, at the time



of conception and during pregnancy greatly affect maternal health and survival, fetal growth and subsequent early childhood survival, growth and development.<sup>23,24,25</sup>

### Breastfeeding

Breastfeeding provides many health and social benefits for the infant and mother, which were not always recognized in health efforts. Early studies documented that the risk of death in formula-fed babies was several times higher than for breastfed babies,<sup>26</sup> largely due to the protection that breastfeeding affords against pneumonia and diarrhea, the two leading killers of children under 5. To punctuate the benefits, a 2016 breastfeeding series in *The Lancet* demonstrated that improving breastfeeding practices could save the lives of thousands of children and mothers annually.<sup>27</sup> Breastfeeding may also reduce the incidence of overweight and diabetes later in life,<sup>28</sup> and may protect women's health by reducing the risk of some breast and ovarian cancers, as well as type II diabetes. In economic terms, exclusive breastfeeding has one of the highest returns of any development action, yielding \$35 in returns for every \$1 invested, and improved breastfeeding practices could potentially add hundreds of billions of dollars to the global economy each year.<sup>29</sup>

In the 1970s, the optimal practice of exclusive breastfeeding was not yet defined, and regional declines in breastfeeding prevalence were seen. Presumed reasons included the insufficient health sector capacity to support breastfeeding, women's changing roles (especially working outside the home) and increased commercial marketing for infant formula.

In 1977, the U.S. Congress encouraged USAID to "implement maternal nursing education programs, integrated with nutrition and health improvement programs for mothers and children."<sup>30</sup> USAID subsequently

announced plans to expand these activities,<sup>31</sup> documented reasons for adverse trends in breastfeeding and sponsored a 1978 National Academy of Sciences conference on maternal and infant nutrition.<sup>32</sup> USAID's first 10-year global project on maternal and infant nutrition, launched in 1979, put many conference recommendations and approaches into action. An impressive foundation for future USAID nutrition investments was built through support for lactation management education for health professionals, improving complementary feeding by evidence-based behavior change strategies, and research on dietary management of diarrhea in young children and other relevant issues.<sup>33</sup>

Ongoing fears about declines in breastfeeding prompted a 1979 WHO and United Nations Children's Fund (UNICEF) meeting to encourage and support breastfeeding and complementary feeding, and the appropriate marketing and distribution of breastmilk substitutes, defined by WHO as "any food being marketed or otherwise presented as a partial or total replacement for breastmilk, whether or not suitable for that purpose."<sup>34</sup> The meeting generated a call for urgent action by governments, international agencies, NGOs, the infant food industry and health workers.<sup>35</sup> In May 1981, World Health Assembly member states adopted the "International Code of Marketing of Breast-milk Substitutes," which was supported by governments and international agencies. The resolution passed with 118 countries in favor, three abstentions and the United States in opposition.<sup>36</sup>

In the early 1980s, USAID supported a study in Colombia, Indonesia, Kenya and Thailand<sup>37</sup> to better understand breastfeeding pattern changes and breastfeeding declines resulting from infant formula marketing. An important feeding pattern seen in all sites was the high rate of breastfeeding initiation; the study also identified a high rate of early mixed feeding (supplementation of breastfeeding with other milks and foods). Mixed feeding can diminish some of exclusive breastfeeding's potential benefits because breastmilk provides protections against illnesses and is the perfect nutritional balance needed by infants; mixed feeding also negatively impacts a woman's breastmilk production and overall supply. The study results helped to raise consciousness about breastfeeding issues, their complexity and needed priority actions.

At the time the study was conducted, maternity services with unsupportive practices, such as separating mothers and babies at birth and not encouraging mothers to breastfeed, were major obstacles to breastfeeding.<sup>38</sup> USAID confronted the problem of unsupportive maternity services in 1983 by financing and otherwise assisting Wellstart International, a U.S. NGO, to pioneer the first medical training program on lactation management education for health care professionals from teaching hospitals in developing countries. What started as a small lactation program became a global force for equipping health professionals with optimal breastfeeding support skills. Graduates returned to improve the quality of care in their own countries' maternity services and to support women with initiation and establishment of breastfeeding. Several countries also created their own national training centers. Lactation management education transformed



A mother receives breastfeeding support at Karambo Health Center in Rwanda.

Amy Fowler/  
USAID

positively the norms for how health care professionals and maternity services supported breastfeeding. From 1983 to 1998, the program trained and supported 655 Wellstart Associates from 55 countries, leading to estimated tens of millions of mother-baby pairs receiving breastfeeding support around the world.<sup>39</sup>

Starting in the early 1980s, USAID research helped to deepen the understanding of the relationship between nutrition and fertility, and more specifically between breastfeeding and fertility. Studies corroborated that lactation prevents the release of hormones, menstruation and ovulation in the first 6 months after childbirth; this led to the Lactational Amenorrhea Method, a modern, short-term method of family planning.<sup>40,41</sup> USAID, its implementing partners and collaborators around the world conducted research, advocacy and training to test, prove the efficacy of and promote this method. Experts first confirmed at a 1988 meeting in Bellagio, Italy, that the Lactational Amenorrhea Method is more than 98 percent effective for preventing pregnancy when its three criteria are properly practiced.<sup>42</sup> Overall, USAID's family planning assistance and related research have played, and continue to play, an important role in improving nutrition globally for mothers and their children. Modern contraceptives help women prevent or delay pregnancies, which extends the duration of breastfeeding for the current child and lengthens birth intervals.<sup>43</sup>

Despite the positive evidence for breastfeeding, the advent of USAID's Child Survival Initiative and health funding increases in 1985 did not lead the Agency to prioritize or increase resources for breastfeeding promotion.<sup>44</sup> In 1989, the U.S. Senate Committee on Appropriations expressed this concern to USAID, noting "that less than one percent of child survival programs are being used specifically to promote breastfeeding," and requested an update. USAID's 1990 report to Congress documented breastfeeding activities and spending levels; it showed \$5.6 million out of the \$203.3 million total 1989 budget for child survival, or about two percent of USAID's overall budget.<sup>45</sup> The Agency committed to expand its support for breastfeeding promotion as one of the most cost-effective means of ensuring child survival. Soon thereafter, USAID released its "Breastfeeding for Child Survival Strategy,"<sup>46</sup> and began a period of intensive breastfeeding support that continued for the next two decades.<sup>47</sup>

Also in the late 1980s, several international agencies, including USAID, formed an ad hoc group, the Interagency Group for Action on Breastfeeding. At a groundbreaking policymakers' meeting in August 1990 at UNICEF's Innocenti Research Center in Florence, Italy, the historic "Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding" was signed and endorsed by government participants from 31 countries.<sup>48</sup> This declaration framed breastfeeding as a global policy issue and increased breastfeeding support by donors and countries worldwide.

Further strengthening the promotion of breastfeeding, WHO and UNICEF launched a movement in 1991 to accredit maternity services that supported breastfeeding, the Baby-Friendly Hospital Initiative. The movement multiplied the returns on USAID's investment in lactation management

education by partnering with Wellstart International to design the course for maternity staff and other tools, and launch the Baby-Friendly Hospital Initiative in the United States in 1996. Many of the USAID-funded lactation management education graduates went on to serve as expert evaluators of maternity services for "baby-friendly" hospital accreditation.

In 1991, USAID collaborated with WHO to define standard breastfeeding indicators to evaluate progress towards achieving optimal practices. These standards were then implemented in USAID-supported national Demographic and Health Surveys.<sup>49</sup>

USAID activities contributed to major increases in the prevalence of exclusive breastfeeding in a number of countries - in Ghana from 7 percent to 52 percent (1993-2014) and in Zambia from 10 percent to 73 percent (1992-2014). In addition to supporting country-led efforts, the Agency issued the USAID Breastfeeding Promotion Policy in 2002.<sup>50</sup> This directive guides USAID's breastfeeding programming to support families and women to immediately and exclusively breastfeed, provide appropriate complementary foods in addition to breastmilk from 6 months of age and continue to breastfeed for two years or longer. Consistent with its policy, the Agency established access to lactation counselors and lactation rooms for employees at its headquarters and country offices.

In 2005, a follow-up to the 1990 Innocenti meeting celebrated the accomplishments to date<sup>51</sup> and the participants adopted the "Innocenti Declaration 2005 on Infant and Young Child Feeding," which included both breastfeeding and complementary feeding.<sup>52</sup> Despite the progress, breastfeeding began to decline on the global development agenda. In 2014 UNICEF and WHO, along with other partners, formed a global advocacy initiative known as the Global Breastfeeding Collective, for better financing and implementation of breastfeeding policies and programs. USAID has actively participated in the Collective and promotes related evidence-based actions in its programming, such as improving access to skilled breastfeeding counseling in health facilities.

In 2017, WHO published guidelines for protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services. This was followed in 2018 by UNICEF and WHO releasing revised implementation guidance on breastfeeding support in Baby-Friendly Hospital Initiative facilities, focusing on institutional management procedures and clinical standards of care, such as establishing ongoing systems to monitor breastfeeding and supporting women to initiate breastfeeding as soon as possible. This guidance provided new recommendations on how and why low birthweight and preterm-birth babies should be prioritized for breastfeeding protection, promotion and support in facilities implementing the Baby-Friendly Hospital Initiative. This also signaled a shift in the Baby-Friendly Hospital Initiative from efforts centered on attaining the specific baby-friendly designation into a model where countries incorporate baby-friendly practices as part of quality improvement and national standards of practice.<sup>53</sup> The Baby-Friendly Hospital Initiative had reached 152 countries by 2018.<sup>54</sup>

### Complementary Feeding

Through complementary feeding, children 6 to 23 months begin to eat solid, semi-solid and soft foods while also continuing to breastfeed before fully transitioning to eating family foods.<sup>55</sup> The terms weaning or weaning practices were formerly common, but these could be misinterpreted as the undesirable practice of weaning the baby from breastmilk prematurely. Since around 1990, complementary feeding has been used to stress the importance of introducing diverse and adequate amounts of foods to complement continued breastfeeding—foods that, together with breastmilk, meet an infant’s nutritional needs. During this transition, infants are very vulnerable to infection, especially diarrhea, often due to inadequate hygiene or food safety and handling practices. Diarrhea can cause major interruptions in a child’s growth when complementary feeding and access to health services are inadequate.

Since starting in the 1960s, USAID food assistance has played an important role in improving complementary feeding for children 6 to 23 months old. For example, food distribution has been accompanied by counseling for mothers on better infant and young child feeding practices, and fortified blended foods were specially formulated by Food for Peace to meet the needs of young children and fill nutrient gaps in local diets.<sup>56</sup>

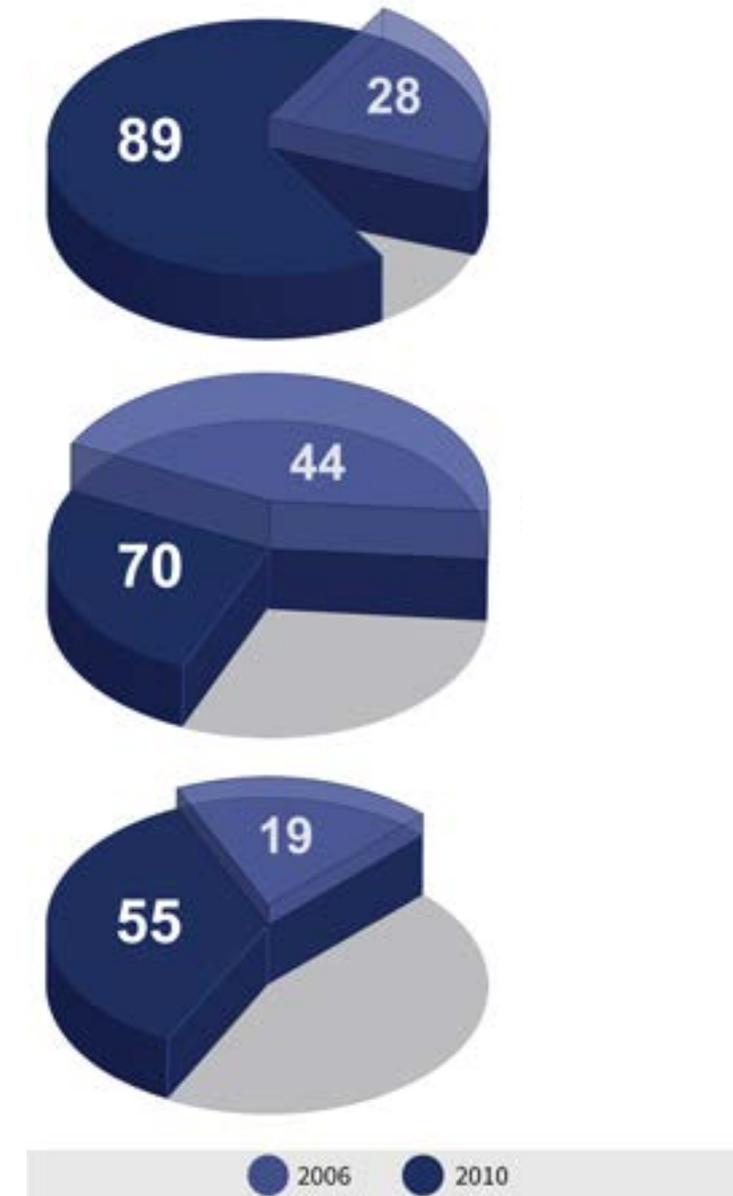
During the 1970s and 1980s, the U.S. Department of Agriculture, through its food technology agreement with USAID, assisted developing countries in producing low-cost, nutrient-rich fortified blended foods from local cereals and oilseeds (mainly soybeans) for use as complementary foods.<sup>57</sup> While these food products were nutritious and locally accepted, and prices were set as low as possible, many families could not afford them. They were thus not often commercially viable or sustainable without government subsidies, an investment few governments made.<sup>58</sup>

Recognizing the limitations of manufactured foods for people in need, USAID broadened assistance with the local or home preparation of low-cost complementary foods. This included an emphasis on cooking demonstrations and the use of indigenous recipes and local ingredients.<sup>59</sup>

By 1999, evidence began to build<sup>60</sup> that success in complementary feeding required a comprehensive approach, not necessarily only a food product.<sup>61</sup> Improving complementary feeding practices required a behavior change focus and appropriate counseling of mothers and caregivers about appropriate food texture, amount, consistency, frequency and variety; encouraging mothers’ patience and persistence was also important.<sup>62</sup> Program designs improved in 2003 when WHO and PAHO published strategies and guiding principles on infant and young child feeding.<sup>63</sup> These filled a specific guidance need, with clarity and details on optimal practices and proven interventions, as done earlier for breastfeeding.

## Percentage of Children 6-23 Months

with Minimum Acceptable Diet in USAID-Support CSHGP Project Areas



Source: USAID Child Survival and Health Grant Program (CSHGP) grantees, 2006-2010



A young child is measured and found to suffer from severe acute malnutrition at a health center in Wajid, Somalia.

World Food Programme

USAID and WHO led efforts to develop standard indicators to measure infant and young child feeding practices, which are now used globally for monitoring and evaluation and in Demographic and Health and other surveys. Guidance introduced in 2008 included indicators on complementary feeding, minimum dietary diversity, meal frequency and acceptable diet.<sup>64</sup> As of 2018, USAID continues to work with WHO and other partners on improving ways to measure complementary feeding practices and exploring potential new indicators.

Unfortunately, inappropriate complementary feeding practices remain widespread. These include waiting too long to start introducing complementary foods (beyond 6-8 months), or not offering a diverse or high-quality diet in the amount, consistency and frequency needed. In 2016, only one in six children ages 6-23 months old globally received a minimum acceptable diet, defined as that which provides sufficient food frequency and diversity.<sup>65</sup> There has also been increasing alarm about the proliferation of unhealthy snack foods and sweetened drinks aimed at children under 2 by the commercial sector.<sup>66</sup> Countering this, strong global interest remains to address challenges and improve conditions.

#### **Nutritional Care of Sick or Severely Malnourished Children**

Saving children's lives by adding nutritional care to the treatment of common infections and the timely treatment of acute malnutrition in development and emergency settings is a high priority for the global nutrition community and for USAID; an estimated 45 percent of child deaths

are associated with undernutrition.<sup>67</sup> Infections harm child growth by reducing appetite, impairing nutrient absorption and increasing nutrient requirements and losses.<sup>68</sup> They are also major killers of children, especially malnourished children who become sick. Critical components of child growth include preventing and treating infections, and feeding children adequately during and after illness to ensure adequate nutrient intake, promote catch-up growth and reduce an infection's negative effects on growth and survival.

This Essential Nutrition Action was first defined by USAID in the late 1990s.<sup>69</sup> Thereafter, strengthening the nutritional care of sick children through health services became a feature of an ongoing multiagency action, the Integrated Management of Childhood Illness approach, led by the WHO and UNICEF and supported by USAID. The approach includes both preventive and curative elements, and focuses on the whole child by improving case management skills of health care staff, overall health systems and family and community health practices.<sup>70</sup>

Many USAID-assisted activities have promoted improved practices for feeding sick children, including (1) increasing breastfeeding frequency; (2) continuing, not reducing, feeding amounts during illness; (3) increasing fluid intake for children 6-23 months, including breastmilk; and (4) increasing the variety, frequency and amount of food given after illness until a child regains weight and good growth. These behavioral efforts are often part of community-based outreach in the Community-Integrated Management of



Childhood Illness approach.<sup>71</sup> Supplementary feeding provided to young children through USAID food assistance has been vital in convalescence during illnesses and catch-up growth afterwards.

### **Community-based Nutrition Management**

Treating undernutrition in young children has always been a priority of USAID's nutrition programming. A promising early approach in 1969 was a village-based nutrition rehabilitation center, sometimes called a Mothercraft Center, where children could receive intensive feeding with locally available, nutritious foods during their 3- or 4-month recovery period.<sup>72</sup> While these centers successfully treated many children, their impact was low.<sup>73</sup> The major lesson is that focusing only on treatment is not effective; a community-wide prevention focus on improving feeding practices for all children under 2 is required.<sup>74</sup>

In the late 1990s, the Positive Deviance/Hearth (or PD/Hearth) model of community nutrition rehabilitation centers became popular in development food assistance programs, especially in Africa. This was a small-scale, intensive approach similar to the Mothercraft Centers. However, the nutrition education received by mothers of moderately malnourished children, and the local foods and recipes, followed the example of a "positive deviant" mother who had a well-nourished child because of her good feeding and care practices.<sup>75</sup> A review concluded that the programs had some success, but were unable to reduce malnutrition at the population level in the communities served. Again, the treatment-only approach did little to prevent malnutrition.<sup>76</sup> A resulting best practice, then, was to provide community-wide preventive services covering all women and children in the first 1,000 days.

Severe acute malnutrition is the final, life-threatening phase for children who have become extremely thin for their height due to lack of food and illnesses such as diarrhea. Until the early 2000s, the only treatment option was to admit children for in-patient care, which greatly limited access and impact. The biggest public health nutrition breakthrough in decades came with ready-to-use therapeutic food or RUTF.<sup>77</sup> This high energy, dry, peanut-based product was formulated in 1996 with a similar nutrient content to the therapeutic liquid milk used for inpatient treatment of severe acute malnutrition.<sup>78</sup> RUTF revolutionized the possibilities for outpatient care and take-home distribution; it was a soft, palatable, long shelf-life, fortified blended food that young children could easily eat straight from the package, with no need for clean water or cooking.

This innovation gave rise to community-based management of acute malnutrition (CMAM), a program model designed by two European NGOs based on the take-home distribution of RUTF.<sup>79</sup> USAID helped launch the model, through which the vast majority of severe acute malnutrition cases with no complications are now treated.<sup>80</sup>

From 2001 to 2005, USAID provided guidance and funding to test the CMAM model in different contexts. CMAM was shown to work extremely well in

emergencies in Ethiopia and Malawi, where it nearly tripled the number of acutely malnourished children treated compared to traditional inpatient care.<sup>81</sup> With this evidence, USAID engaged private voluntary organizations to take up the model, and WHO endorsed its principles in 2005.

USAID successfully supported the integration, learning and scale up of CMAM into routine health systems in a number of countries in sub-Saharan Africa and Yemen<sup>82</sup> where 10 percent or more of children suffer from moderate or severe acute malnutrition. However, a lesson learned was that investments by countries to prevent malnutrition should be the first priority, and treating malnutrition via CMAM should not be the only focus.

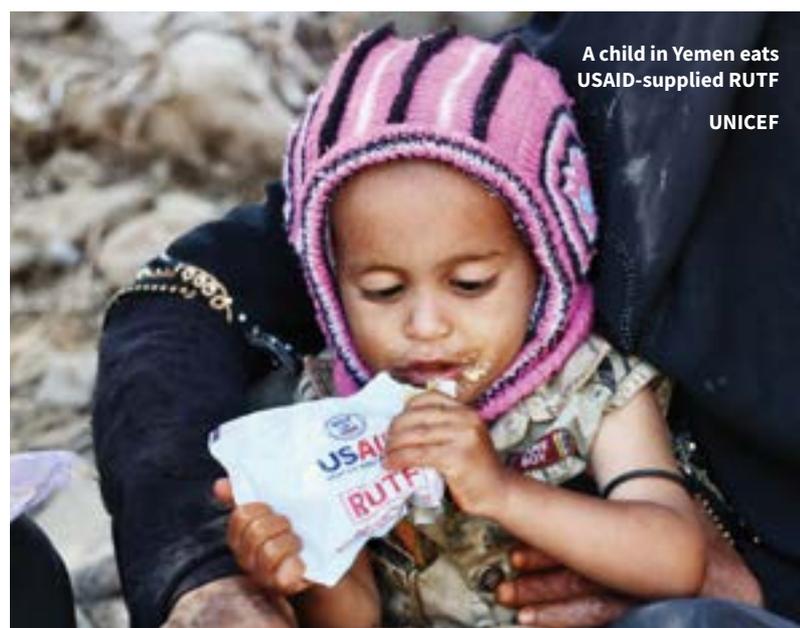
Coordinating with UNICEF and private sector partners, USAID has also facilitated the national production of RUTF in several countries, including Kenya, Malawi and Uganda. General benefits of local production include cost savings on the transportation of ingredients and finished products and lower tariffs; likewise, while in crisis situations, local manufacturing facilitates more responsive shifts in production and food quantity in response to context-specific dynamics and demands.<sup>83</sup> USAID's investments in CMAM in Ethiopia, Malawi and Niger contributed to their coverage rates of 75 percent or more through national health services, with child mortality rates reduced by more than half between 2000 and 2012.<sup>84</sup>

USAID facilitated the policy dialogue that led to the acceptance of CMAM as the new standard of care in a joint United Nations statement in 2007,<sup>85</sup> which profoundly improved global nutrition policy and saved hundreds of thousands of lives.

### **Emergency Nutrition**

Humanitarian crises harm the nutrition, health, hygiene, sanitation and social/care situation of the affected populations. Acute malnutrition often increases in the immediate aftermath of an emergency due to the toll taken by disease and inadequate diets.<sup>86</sup> Because emergencies can disrupt child feeding practices, it is especially important to protect and support the nutritional needs and care of both breastfed and non-breastfed infants and young children. When determining the most appropriate and effective actions, all local practices and cultural sensitivities, the risk of infectious diseases and the expressed needs and concerns of mothers and caregivers must be considered.<sup>87</sup>

From the start of its Food for Peace program, the United States has been the world's major provider of emergency food assistance.<sup>88</sup> In 2012, Food for Peace assumed an important role in increasing access to CMAM by adding RUTF and similar supplements, complementing USAID's disaster assistance for treating acute malnutrition.<sup>89</sup> After 10 years of product research and development by Food for Peace in collaboration with the U.S. Department of Defense and the National Academy of Medicine, ready-to-use, nutrient-dense, fortified food bars became available in 2011. These serve as ideal meal replacements early in emergencies, before traditional food assistance arrives.<sup>90</sup>



An important component of USAID's nutrition work during emergencies and humanitarian crises is to prevent and manage acute malnutrition, prevent increases in stunting or micronutrient deficiencies and promote optimal infant and young child feeding practices.<sup>91</sup> In 2015, USAID assisted in preparing a toolkit on feeding infants and young children during emergency situations, which, as part of a comprehensive support package, contained guidance on prevention and control of unsolicited, untargeted, unregulated donations of breastmilk substitutes, and the controlled provision of breastmilk substitutes if necessary.<sup>92</sup> To share its extensive experience and contribute to global learning, in 2017 USAID supported updates to operational guidance<sup>93</sup> used to provide concise, practical information on ensuring appropriate infant and young child feeding in emergency preparedness, response and recovery. This guidance is used globally by governments, donors and NGOs in the Emergency Nutrition Network, a United Kingdom-based policy and research organization working to overcome malnutrition.

### Community-based Nutrition Programming

USAID has learned that a community-based, integrated approach works best for delivering the Essential Nutrition Actions in rural areas in need. By the 1970s, USAID and international health and nutrition practitioners had discovered that children under 3 years were the most vulnerable to undernutrition, and that infections and inadequate dietary intake were the major causes.<sup>94</sup> Reaching most young children and their mothers with preventive behavior change strategies worked best in the community and at home, not in distant health facilities. However, an integrated approach combining community nutrition activities with health outreach, referrals

and facility-based care<sup>95</sup> was necessary to ensure that families had access to the basic health services critical to prevent undernutrition, such as prenatal and newborn care, immunization, treatment of childhood illnesses (including pneumonia and malaria) and family planning.<sup>96</sup> More recently, given the importance of preventing diarrhea and its devastating effects, integrated community nutrition programs since about 2000 have been more frequently including water, sanitation and hygiene activities as part of prevention.<sup>97</sup>

Community-based nutrition programs have provided significant learning that USAID has assisted, evaluated and documented.<sup>98</sup> For example, lessons from the national Indonesia program (1980-1990) resulted in the improved delivery of integrated services nationally, with family planning care moving beyond clinics to be offered at the field level, and the scope of village-based health promotion broadened to include nutrition. Many U.S. NGOs implementing community-based nutrition and child survival activities with USAID assistance utilize an approach called Care Groups, in which large numbers of village volunteers are mobilized to provide community outreach and home visits to facilitate behavior change. This approach became popular in the 2010s because organizations identified that group volunteers provided greater peer-to-peer support, developed stronger commitments to health activities and found more creative solutions compared to volunteers working independently.<sup>99</sup>

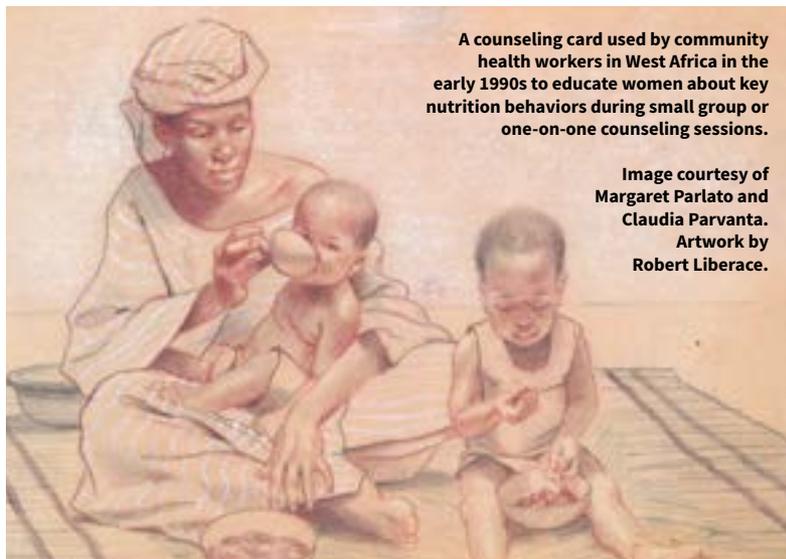
Health systems need to deliver the Essential Nutrition Actions as an integral part of maternal and child health care.<sup>100</sup> The Child Health Day model, also known as satellite or outreach clinics, has increased health service outreach in a number of USAID-assisted countries. This outreach, usually monthly at fixed day and site clinics, brings preventive services to where people live, thereby increasing coverage for multiple services at one time, such as immunization, vitamin A supplementation and child growth monitoring and promotion.<sup>101</sup>

Community-based growth monitoring and promotion, or regular measuring and counseling to ensure optimal child growth, is intended to spur appropriate action should any early signs of inadequate weight gain become apparent to mothers and health workers. However, programs that only weigh children with no or only weak nutrition counseling (promotion) have been common, and are widely criticized because they have little or no effect on nutritional status.<sup>102</sup> A 2008 global review of growth monitoring programs found that children participating in truly integrated growth monitoring and promotion, with access to health services, had better nutritional status or survival than children who did not.<sup>103</sup> USAID has supported a push to strengthen interpersonal counseling to improve infant and young child feeding practices in an approach re-named community-based growth promotion, implemented through national nutrition activities in countries such as Guatemala, Honduras, Nicaragua and Uganda in the 2000s. Evaluations in Uganda and Honduras found that positive results depended on mothers and children attending at least 10 monthly sessions per year and on well-established, supportive supervision.<sup>104</sup>



## Social and Behavior Change

A hallmark of USAID's nutrition programming since the 1960s has been investing in and increasing the effectiveness of social and behavior change to achieve acceptance, adoption and continuation of improved practices and shift social norms. It is hard to change behaviors, practices and social norms; these evolve over time, with individuals learning from successes and failures.<sup>105</sup> Improved practices need to be continually reinforced; supplying information and knowledge acquisition are not enough to change behavior. The shift to real behavior change programming began by recognizing that most of the immediate and underlying causes of undernutrition are often behavioral, and are rooted in the context of family, community and the broader social environment.



A counseling card used by community health workers in West Africa in the early 1990s to educate women about key nutrition behaviors during small group or one-on-one counseling sessions.

Image courtesy of Margaret Parlato and Claudia Parvanta. Artwork by Robert Liberace.

Starting in India in the late 1960s and continuing in Brazil, Colombia, Ecuador, El Salvador, Nicaragua and the Philippines in the 1970s, USAID supported the novel application of modern advertising techniques and mass media (primarily radio) to promote improved nutrition practices in an approach called social marketing. The power of mass media and social marketing to change nutrition behaviors, such as use of iodized salt in Ecuador, and enriching rice porridge for infants with oil, fish and vegetables in the Philippines, established USAID and its implementing partners as communication innovators.<sup>106</sup>

Social marketing revolutionized communication strategies. Best practices evolved to include identifying and addressing barriers and resistance to new behaviors; offering specific information on and trials of feasible; small doable actions; and motivating participants and groups to action.<sup>107</sup> In the 1980s, USAID developed a new, formative research method for nutrition, Trials of Improved Practices. This method gives insights on nutrition

behaviors while also testing new behaviors for feasibility. Successful behaviors are then promoted using social marketing or other techniques.<sup>108</sup> USAID also started providing technical support for nutrition education and communications to country programs around the world in the 1980s, raising the profile and level of nutrition communications globally.<sup>109</sup>

Successful community nutrition programming depends on frequent contact between well-trained community workers and caregivers of young children, often during home visits. Contacts can include checks on health and nutritional status, interpersonal counseling to improve dietary, child care, health and hygiene practices and cooking demonstrations. In the 1990s, USAID began integrating social marketing efforts with counseling, community mobilization and institutional skill-building to reinforce behaviors by delivering important messages through multiple channels to multiple audiences, an approach now collectively known as social and behavior change communication (SBCC).<sup>110</sup>

USAID also aims to improve community social norms around nutrition, as well as the beliefs and perceptions of influential family members and community leaders. One innovative channel USAID began using in 2012 is community video, which works to change social norms while also improving individual attitudes and self-efficacy regarding specific nutrition behaviors.<sup>111</sup>

In 2014, USAID reviewed SBCC and factors for success. A multiple communication strategy was among the most effective; multiple channels and approaches, targeting multiple actors (not just mothers) and multiple visits or contacts with the target audience resulted in greater change.<sup>112</sup> USAID-supported nutrition SBCC adheres to these best practices, and has further evolved into behavior-centered programming.<sup>113</sup> Efforts to influence individual behaviors are combined with structural changes, advocacy to policymakers, service quality improvements, increased access to goods and services and other interventions to remove barriers and boost actions that enable the desired behaviors.

## A Solid Foundation, a Solid Future

For over 50 years, USAID's nutrition programming has directly benefited millions of women and young children. Equally important is the tremendous learning that has occurred by working together with host governments, implementing partners, civil society, communities and families. Effective nutrition interventions have been proven and implemented at scale. Country nutrition programs have shown the importance of a preventive approach with a focus on communities, including local health clinics, and on reaching all children under 2 years and their mothers during pregnancy and lactation. Although improving women's nutrition during adolescence and pre-pregnancy still needs more attention, better nutrition in the first 1,000 days will help children grow into strong, productive citizens and promote self-reliant societies.