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TITLE II TECHNICAL REFERENCE MATERIALS

**TRM-01: PREVENTING MALNUTRITION IN CHILDREN
UNDER 2 APPROACH (PM2A): A FOOD-ASSISTED
APPROACH**

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FOREWORD

The Title II Technical Reference Materials (TRMs) are a new series of documents that provide programming guidance to help improve the design and/or implementation of Title II non-emergency programs.¹ Each TRM is developed in consultation with Title II Awardees, private voluntary organization (PVO) partners, United States Agency for International Development (USAID) Office of Food for Peace (FFP) staff and experts in the relevant subjects.

The TRMs provide concise, general technical guidance for program design and are not meant to provide a recipe for programming. They are not exhaustive, and guidance should be adapted to a country's context and to individual program circumstances. Where possible, references and supplementary materials that provide more in-depth information have been provided. All TRMs in the series might be refined over time to incorporate new evidence or additional details about successful field practices.

The primary audience of the TRMs is the staff and consultants of organizations that are designing new or implementing existing Title II programs. Other food-assisted programs engaged in international development or developmental relief activities also might find the TRMs useful. Some TRMs will offer non-food-related programming guidance that will be useful to non-food-assisted international development interventions.

Note on the PM2A TRM: This version of the Preventing Malnutrition in Children Under 2 Approach (PM2A) TRM (revised November 2010) provides guidance for current and potential Title II program Awardees, and is based on current program knowledge and experience. This body of knowledge is continually growing. At this time, two effectiveness trials are under way, and additional lessons might be learned through individual Awardee experiences implementing PM2A in their FY 2010 programs. This TRM will be updated as necessary to reflect any new information learned from these trials or implementation experiences.

¹ Title II non-emergency programs were previously referred to as Multi-Year Assistance Programs (MYAPs).

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ACRONYMS AND ABBREVIATIONS

ACDI/VOCA	Agricultural Cooperative Development International/Volunteers in Overseas Cooperative Assistance
ADRA	Adventist Development and Relief Agency
BEST	Bellmon Estimation Studies for Title II
BCC	behavior change communication
BCG	Bacille Calmette Guerin (tuberculosis vaccine)
BMI	body mass index
CBGP	Community-Based Growth Promotion
CHW	community health worker
C-IMCI	Community Integrated Management of Childhood Illness
CMAM	Community-Based Management of Acute Malnutrition
COPE	Client-Oriented Provider Efficient services
CRG	USAID's <i>Commodity Reference Guide</i>
CSB	corn-soy blend
CSHGP	Child Survival and Health Grants Program
DTP	diphtheria-tetanus-pertussis vaccine
ENA	Essential Nutrition Actions
FACG	Food Aid Consultative Group
FANTA	Food and Nutrition Technical Assistance Project
FANTA-2	Food and Nutrition Technical Assistance II Project
FAO	Food and Agriculture Organization of the United Nations
FBF	fortified-blended food
FFP	USAID Office of Food for Peace
FFPIB	Food for Peace Information Bulletin
FY	fiscal year
g	gram(s)
GM	growth monitoring
GMP	growth monitoring and promotion
HFA	height-for-age
Hib	Haemophilus influenza b vaccine
HIV	human immunodeficiency virus
IEC	information, education and communication
IFPRI	International Food Policy Research Institute
IMC	International Medical Corps
IMCI	Integrated Management of Childhood Illness
INCAP	Instituto de Nutrición de Centro América y Panamá
IOM	Institute of Medicine at the United States National Academy of Sciences
IQ	intelligence quotient
IR	intermediate result
IRD	International Relief and Development
IU	international unit(s)

kcal	kilocalorie(s)
kg	kilogram(s)
M&E	monitoring and evaluation
MAM	moderate acute malnutrition
MCHN	maternal and child health and nutrition
MEASURE	Monitoring and Evaluation to Assess and Use Results
MJ	megajoule(s)
MUAC	mid-upper arm circumference
MYAP	Multi-Year Assistance Program
MOH	Ministry of Health
NCHS	National Center for Health Statistics
n.d.	no date
NGO	nongovernmental organization
OR	operations research
PAHO	Pan American Health Organization
PDI	positive deviance inquiry
PDQ	Partnership Defined Quality
PLW	pregnant and lactating women
PM2A	Preventing Malnutrition in Children Under 2 Approach
PMTCT	prevention of mother-to-child transmission of HIV
PVO	private voluntary organization
QA	quality assurance
QAP	Quality Assurance Project
QC	quality of care
QI	quality improvement
QIQ	Quick Investigation of Quality
QIVC	Quality Improvement Verification Checklist
SAM	severe acute malnutrition
SAPQ	Standardized Annual Performance Questionnaire
SARA Project	Support for Analysis and Research in Africa Project
TIPS	Trials of Improved Practices
TRM	Technical Reference Materials
UNICEF	United Nations Children's Fund
UNU	United Nations University
USAID	United States Agency for International Development
WFA	weight-for-age
WFH	weight-for-height
WHO	World Health Organization
WSB	wheat-soy blend

1. PREVENTING MALNUTRITION IN CHILDREN UNDER 2: A TECHNICAL OVERVIEW

1.1 BRIEF DESCRIPTION OF PM2A

1.1.1 What Is PM2A?

The Preventing Malnutrition in Children Under 2 Approach (PM2A) is a food-assisted approach to reducing the prevalence of child malnutrition by targeting a package of health and nutrition interventions to all pregnant women, mothers of children 0-23 months, and children under 2 in food-insecure program areas, regardless of nutritional status. Because these women and children are the most nutritionally vulnerable members of the population, the program targets everyone in these groups to protect children from malnutrition and its long-term consequences, such as diminished psycho-motor skills, work capacity, intelligence quotient (IQ), and income, among others.

PM2A integrates best practices in maternal and child health and nutrition (MCHN) programming and combines them with food assistance. It is generally central to a Title II program's MCHN component, which might also include activities such as recuperative interventions, family planning, or water and sanitation activities. PM2A, along with the rest of a Title II program's MCHN component, should be consistently linked with the program's agriculture and livelihoods components as well as complementary services provided by the government or other organizations operating in the program area.

1.1.2 Core Services

Child malnutrition results from a set of underlying causes, including food insecurity; sub-optimal care and feeding of women and children; and poor health, hygiene, and environmental behaviors and conditions. A Title II program must address as many of the underlying causes as possible to achieve the greatest reduction in malnutrition. For example, providing rations temporarily helps address food access issues, while efforts to increase incomes and agricultural production have longer-term effects. Behavior change programming improves care and feeding practices, while providing and strengthening preventive and curative health and nutrition services helps ensure that children are sick less often and recover sooner, preventing malnutrition and death.

Core PM2A Services

The three core PM2A services provided to participants are:

- **Conditional² food rations** for the individual woman or child and for the household
- **Preventive and curative health and nutrition services** for children and women, according to national protocol
- **Behavior change communication (BCC)**

1.1.3 Program Beneficiaries

Table 1. PM2A Program Beneficiaries

Program Beneficiaries	Why Targeted with PM2A Services?	What They Receive
All Pregnant Women	<ul style="list-style-type: none"> • Protects maternal health and nutritional status • Promotes optimal growth of child in womb • Helps ensure adequate birth weight 	<ul style="list-style-type: none"> • An individual ration until child is born • Antenatal care, micronutrient supplementation and other preventive and curative health and nutrition services • Behavior change services
All Mothers of Children 0-23 Months	<ul style="list-style-type: none"> • Protects maternal health and nutritional status • Helps ensure adequate quality of breast milk 	<ul style="list-style-type: none"> • An individual ration until child is 6 months • Postnatal care and other preventive and curative health and nutrition services • Behavior change services
All Children 0-23 Months	<ul style="list-style-type: none"> • Protects child growth during a critical period of physical development • Protects health of child when s/he is also at high risk of infection and death 	<ul style="list-style-type: none"> • An individual ration from age 6 months to 2 years • Preventive and curative health and nutrition services including immunization and micronutrient supplementation • Behavior change services targeted at caregivers, families, communities
Households of Participating Women And Children	<ul style="list-style-type: none"> • Supplements household food supply and improves household food security • Encourages program participation • Discourages sharing of the individual ration 	A household ration

1.1.4 Eligibility Criteria

PM2A has simple and transparent entry and exit criteria for people living in the program area: A child must be 0-23 months³ and a woman must be pregnant or the mother of a child 0-23 months,⁴ regardless of nutritional status.

² “Conditional” indicates that beneficiaries must participate in behavior change interventions and attend and receive a minimum package of preventive health services to receive the ration. Each MYAP will define the specific behavior change and health service requirements for participation based on program context.

³ Children begin receiving preventive health services and benefiting from BCC at birth. They begin receiving the ration at 6 months.

⁴ Women receive an individual ration from conception until the child is 6 months old and are covered by the household ration once the child reaches 6 months. They receive BCC services and preventive and curative health services from pregnancy until the child’s second birthday.

To maintain eligibility to participate in the program and receive individual and household rations, these women must obtain a minimum package of regular preventive health services according to Ministry of Health (MOH) protocol and must participate in behavior change activities conducted by the PM2A program. Each Title II program will establish the minimum requirements a mother/caregiver must meet to receive the PM2A rations based on MOH protocol and local context. However, the program should be reasonable in establishing and enforcing the conditions—considering the constraints mothers/caregivers face—and work with communities to increase access to services. For example, if a mother/caregiver routinely fails to attend sessions, the program should try to understand what is preventing her from attending and address the problem, if possible, before ending her participation in the program. **The overarching goal is to ensure that as many mothers, children, and households as possible receive health and nutrition interventions, BCC, and rations;** conditions for program participation should be consistent with that goal.

1.2 EVIDENCE BASE

1.2.1 Why Target Children from Conception to 2 Years?

The period from conception through age 2 is when the most-rapid physical growth occurs and is a critical time in cognitive development. A mother's nutritional status before and during pregnancy affects her child's health and development. Low maternal body mass index (BMI) is associated with intrauterine growth restriction and low birth weight, which in turn put the infant at risk for neonatal complications.⁵

The period from birth to 2 years also is critical because children in this age range have relatively high nutritional needs to support growth and development. Sub-optimal feeding practices and high risk of illness and infection make children more vulnerable to growth faltering and malnutrition in the first two years of life than at any other time in the life cycle.⁶ These children are also most responsive to nutrition interventions.⁷ Research from several program sites has found that supplementary feeding is more effective in improving child growth and preventing growth faltering in younger children than in older children, with the greatest benefits occurring during the first and second years of life.⁸ In addition, food supplementation and nutrition education interventions targeted to children 6-23 months and their caregivers have been shown to improve nutritional status in children as individual and combined interventions.⁹ Targeting this vulnerable age group maximizes efforts to promote linear growth and prevent the long-term physical and cognitive consequences of malnutrition.

⁵ Black et al. 2008. "Maternal and child undernutrition: Global and regional exposures and health consequences." *The Lancet Series on Maternal and Child Undernutrition. The Lancet* 371: 243-60.

⁶ Shrimpton et al. 2001. "Worldwide Timing of Growth Faltering: Implications for Nutritional Interventions." *Pediatrics* 107 (5): E75.

⁷ Ibid.

⁸ Schroeder, D.G., et al. 1995. "Age Differences in the Impact of Nutritional Supplementation on Growth." *Journal of Nutrition Supplement: The INCAP Follow-Up Study. Journal of Nutrition* 125 (April) (4Suppl): 1051S-1059S; Lutter et al. 1990. "Age-specific responsiveness of weight and length to nutritional supplementation." *American Journal of Clinical Nutrition* 51: 359-64.

⁹ Roy, S.K., et al. December 2005. "Intensive Nutrition Education with or without Supplementary Feeding Improves the Nutritional Status of Moderately Malnourished Children in Bangladesh." *Journal of Health, Population and Nutrition* 23(4): 320-330 (January 1); Dewey, Kathryn G., and Seth Adu-Afarwua. 2008. "Systematic review of the efficacy and effectiveness of complementary feeding interventions in developing countries." *Maternal and Child Nutrition* 4: 24-85; Bhandari, N, et al. 2004. "An educational intervention to promote appropriate complementary

1.2.2 Why Focus on Prevention?

In communities with a high prevalence of malnutrition, all children are vulnerable to growth faltering. Even children who are not malnourished might not be growing optimally. In these vulnerable communities, preventing malnutrition and its long-term consequences by promoting and protecting growth for all children makes more sense than intervening after a child is malnourished.

The importance of prevention has been an accepted principle for years among public health and nutrition practitioners, and many food-assisted nutrition programs have focused their behavior change interventions on prevention, with a strong focus on women of reproductive age and children under 2. However, rations in these programs were often targeted to malnourished individuals only, were provided in small amounts as an incentive for program attendance, or were not provided as part of the MCHN component. A 2002-2006 study of a Title II program in Haiti¹⁰ compared a preventive approach that provided all program services (BCC, health services, rations) to all pregnant and lactating women (PLW) and children under 2 with a recuperative approach that provided similar services but targeted only underweight (weight-for-age [WFA] < -2 z-scores) children under 5 and all PLW. The prevalence of stunting, underweight, and wasting was lower at the end of the program in communities where the preventive approach was implemented than in the communities that only received recuperative services. By reaching all children with health and nutrition interventions when they are at the age of highest risk and rate of growth, the preventive approach was more effective at reducing overall malnutrition.

The preventive approach does not ignore the needs of children with inadequate growth, moderate acute malnutrition (MAM), or severe acute malnutrition (SAM). Even in programs with a preventive focus, some children do not grow well and become acutely malnourished. Children enrolled in PM2A who grow inadequately or develop MAM need special attention from PM2A's health and counseling services to treat underlying health issues, facilitate adequate catch-up growth, and prevent SAM. Children with SAM must be identified and referred for appropriate treatment. Depending on the prevalence of SAM, the services available in the community and the scope of the Title II program, the program could include an additional intermediate result (IR), separate from the PM2A program, that deals specifically with SAM or include a strong referral mechanism for children with SAM to receive treatment available through the MOH or another nongovernmental organization (NGO).

1.3 WHERE IS PM2A APPROPRIATE?

PM2A is appropriate in food-insecure locations with a high and widespread prevalence of stunting or underweight¹¹ among children under 5.¹² To be successful, Title II programs should implement

feeding practices and physical growth in infants and youth in rural Haryana, India." *Journal of Nutrition* 134: 2342-2348.

¹⁰ Ruel et al. 2008. "Age-based preventive targeting of food assistance and behavior change and communication for reduction of undernutrition in Haiti: A cluster randomised trial." *The Lancet* 371 (9612): 588-595.

¹¹ High prevalence refers to stunting (height-for-age [HFA] < -2 z-scores) of 30 percent or more and underweight (WFA < -2 Z-score) of 20 percent or more, using World Health Organization (WHO) standards or National Center for Health Statistics (NCHS) growth references.

¹² In "What Works? Interventions for Maternal and Child Undernutrition and Survival," Bhutta et al. indicated that complementary feeding support with food support or conditional cash transfers was more successful in food-insecure areas than complementary feeding support alone. Complementary feeding support without food support or conditional cash transfers was most effective in areas that had sufficient food.

PM2A in communities where a minimum package of essential health services is available or can be strengthened. In addition, the country-specific Bellmon Estimation Studies for Title II (BEST) should have determined that the location can absorb the amount of food needed for PM2A and should have considered the logistics of transporting and storing the food. PM2A should be implemented in areas of relative political and social stability with limited in- and out-migration. Finally, programs should consult with the host- country government to confirm that the government supports PM2A programming principles, including distribution of preventive individual and household rations.

BOX 1. WHERE IS PM2A APPROPRIATE?

PM2A is appropriate in food-insecure communities with:

- High levels of stunting or underweight
- An accessible minimum package of maternal and child health services
- Relative political and social stability
- Limited in- and out-migration
- Capacity to absorb the food without distortions to markets (BEST analysis)
- Host-country government support for PM2A

The package of health services required to implement PM2A includes antenatal care, postpartum care, micronutrient supplementation, immunization, and treatment of childhood illness, as described in the host-country MOH's policies and protocols. **Section 2.2** describes the typical components of each of these services, which will vary somewhat by country. In program areas with limited, inconsistent, or no access to these services, programs should describe these weaknesses and work to make the services available and accessible.

2. CORE PM2A SERVICES

2.1 COMMUNITY AND HOUSEHOLD BEHAVIOR CHANGE PROGRAMMING

2.1.1 Why Focus on Behavior Change?

Care and feeding practices of women and children are critical to growth, development, and achieving and maintaining good nutritional status. Inappropriate breastfeeding, complementary feeding, and care practices are key causes of malnutrition. To reduce malnutrition, it is essential to ensure that mothers/caregivers can optimally care for and feed themselves and their children. Counseling and BCC targeted to mothers, caregivers, family members, and decision makers should be central to strategies to improve the nutrition of infants and young children.¹³

2.1.2 Key Behaviors

Given that malnutrition is associated with illness, inadequate quantity and quality of food intake, care practices for women and children, and birth spacing, potential Awardees should concentrate the program's BCC efforts on promoting the Essential Nutrition Actions (ENA), key household hygiene actions, and preventive and curative practices like timely immunization, appropriate home health care, recognition of signs of malnutrition and illness, care-seeking behavior, and healthy timing and spacing of pregnancy. A program would not necessarily promote all of the listed behaviors; rather, it would promote the specific behaviors that formative research shows are most likely to impact child growth and nutrition in the program area, are achievable, and need improvement.

¹³ WHO/UNICEF. 2008. *Strengthening action to improve feeding of infants and young children 6-23 months of age in nutrition and child health programmes: Report of proceedings 6-9 October, 2008*. Geneva: WHO. http://www.who.int/child_adolescent_health/documents/9789241597890/en/index/html.

BOX 2. KEY BEHAVIORS TO PROMOTE

ENA

- Optimal breastfeeding during the first 6 months of life
- Optimal complementary feeding starting at 6 months, with continued breastfeeding to 2 years and beyond
- Optimal nutrition care of sick and severely malnourished children
- Prevention of vitamin A deficiency for women and children
- Adequate iron/folic acid intake and prevention and control of anemia for women and children
- Adequate iodine intake by all household members
- Optimal nutrition for women

Key household hygiene actions

- Treatment and safe storage of drinking water
- Handwashing with soap or ash at critical times (i.e., after defecation, after handling children's feces, before preparing food, before feeding children, before eating)
- Safe disposal of feces
- Proper storage and handling of food to prevent contamination

Other key practices

- Antenatal care attendance (at least four visits), tetanus toxoid vaccine, iron/folic acid supplementation
- Full course of immunizations for all children before their first birthday
- Children and women sleeping under insecticide-treated bednets
- Recognizing when a sick child needs treatment outside of the home and seeking care from appropriate providers
- Recognizing pregnancy danger signs
- Healthy timing and spacing of pregnancies

2.1.3 Key Behavior Change Programming Principles¹⁴

The behavior change strategy should promote the range of practices recommended for specific ages in a culturally appropriate and timely way, targeting not just those who practice the behaviors but those who influence the behaviors in a household and community. The behavior change program seeks to achieve the highest coverage possible, maintain regular and frequent contact with target groups, ensure appropriate targeting, and facilitate adoption of the behaviors. A review by Caulfield et al. found that clear, age-appropriate, and action-oriented messages delivered through multiple contact points and channels are most effective and that visual materials such as posters, counseling cards, and take-home brochures can help promote adoption of behaviors.¹⁵

¹⁴ This section draws from the USAID Child Survival and Health Grants Program TRM, *Behavior Change Interventions*, 2007, www.childsurvival.com, as well as the CORE Social and Behavior Change Working Group's *Designing for Behavior Change Curriculum*, http://207.226.255.12/working_groups/behavior.cfm.

¹⁵ Caulfield, L.E., S.L. Huffman, and E.G. Piwoz. 1999. "Interventions to improve the intake of complementary foods by infants 6-12 months of age in developing countries: Impact on growth and prevalence of malnutrition and potential contribution to child survival." *Food and Nutrition Bulletin* 20: 183-200.

PM2A programs should strive to have biweekly contact with pregnant women and mothers of children under 2, or monthly contact if this is not possible. The program should also maintain regular contact with others who influence mothers on key food security behaviors (e.g., husbands, mothers-in-law, leaders). The potential Awardee can determine the frequency of these contacts based on program resources and priorities.

BOX 3. DEVELOPING A BEHAVIOR CHANGE STRATEGY

Key principles to consider in developing an effective behavior change strategy are:

- Ensuring that it is based on evidence from formative research
- Understanding the target groups and working from their perspective(s)
- Exploring the multiple factors that affect behavior
- Addressing barriers to change
- Targeting those who influence behavior as well as those who practice it
- Tailoring programming to each target group
- Reaching target groups through multiple channels and contact points
- Maintaining frequent and consistent contact with target groups
- Keeping in mind that knowledge is not enough to change behavior
- Ensuring that messages are timely and relevant to the target group
- Employing adult education techniques

An effective strategy will address these key questions:

- Whose behavior do you want to change?
- What behavior do you want to help them practice?
- Why aren't they practicing the behavior now?
- What approaches can you use to address factors that influence their behavior?

2.1.4 Examples of Common Behavior Change Activities

As discussed, PM2A programs should use multiple channels to reach pregnant women and mothers. Some BCC contacts should be in a setting where the health worker can interact individually with the mother to discover her barriers to change, work through them, seek commitments to change, and interact with family members who influence her decisions. Ideally, this would be done during a home visit. In addition, working with mothers in small groups (eight to 12 members) is an opportunity to provide peer support for behavior change. There are many ways to support behavior change, and potential Awardees are encouraged to develop a comprehensive behavior change strategy that suits their program context. Some common behavior change approaches include:

Home Visits

Community health workers (CHWs), auxiliary nurses, trained birth attendants, or nutrition volunteers who are trained in individual counseling can conduct home visits. They can provide outreach, follow-up, and support to pregnant women, lactating mothers, caregivers of children, and their families. Visits might include checking on a baby's health, counseling caregivers, or following up with a child

who is sick or whose growth is faltering. The visit is an opportunity to tailor messages to individual needs and negotiate behavior change.

Care Groups

A variation of home visits, Care Groups are a community-based strategy for improving coverage and behavior change by building teams of volunteer community health educators who individually represent, serve, and promote health among women in 10-15 households in their community. The volunteers form a Care Group that meets weekly or biweekly and is trained by a paid facilitator. These Care Group members visit the women for whom they are responsible, offering support, guidance, and education to promote behavior change.

Small Groups

In small groups, such as mother's clubs, support groups, and women's groups, pregnant women and mothers can receive support for optimal self-care, child care, and child feeding. The group maintains a comfortable, supportive, and respectful environment. It uses adult education techniques and could be facilitated by a mother in the group, a health care provider, or other community member. Ideally, groups would be organized according to mothers' physiological status or children's ages to target behavior change messages appropriately. Small groups can also target men (e.g., men's clubs), mothers-in-law, or other key groups. Programs also might choose to add health and nutrition programming to existing community groups, such as marketing groups or village savings and loan programs.

Community-Based Growth Promotion (CBGP)

CBGP is a strategy implemented in the community to prevent malnutrition and improve child growth through monthly monitoring of child weight gain, one-on-one counseling, and negotiation for behavior change, home visits, and integration with other health services. Action is taken based on whether a child growth is faltering—not their nutritional status—identifying and dealing with growth problems before the child becomes malnourished.

Community Gatherings

Program beneficiaries attend brief behavior change sessions each month at a central meeting spot. The sessions might be combined with other essential health and nutrition services, such as immunization, micronutrient supplementation, and growth monitoring and promotion (GMP). The gatherings would complement a larger BCC strategy to reinforce messages delivered through other contact points.

Nutrition Counseling

Individual nutrition counseling targeted to a mother/caregiver's specific needs is an essential tool in behavior change and is often part of comprehensive behavior change programming. It can be done at a health facility, community health post, or the home by health staff or community volunteers trained in counseling and negotiation in addition to maternal and child nutrition. The counselor is supportive, listens to the mother's concerns and constraints, and works with her to overcome them. The program trains, supports, and supervises the counselors and develops appropriate counseling materials, if necessary.

Mass Media

As a complement to more intensive and targeted one-on-one and small group activities, mass media such as radio, billboards, and posters can help create awareness of specific behaviors or draw attention to ongoing activities or health issues. Using mass media permits the program to target all community members with broad behavior change messages.

Community “Edu-tainment”

Dramas, storytelling, and other performances can also complement intensive behavior change programming, serving as an entertaining way to share information with the broader community or spark discussion of cultural challenges to changing certain behaviors.

BOX 4. REFERENCES FOR DESIGNING BEHAVIOR CHANGE INTERVENTIONS

- CORE Social and Behavior Change Working Group. 2008. Designing for Behavior Change. http://207.226.255.123/working_groups/DBC_Curriculum_Final_2008.pdf
- Lisa Howard-Grabman and Gail Snetro. 2004. How to Mobilize Communities for Health and Social Change. Health Communication Partnership. <http://db.jhuccp.org/docs/191220.pdf>
- Social and Behavior Change Working Group, the CORE Group: http://207.226.255.123/working_groups/behavior.cfm.
- Emory University; Nutrition Research Institute, Peru; National Institute of Public Health, Mexico; and PAHO. 2003. ProPAN: Process for the Promotion of Child Feeding. www.paho.org/English/AD/FCH/NU/ProPAN-index.htm
- Doug McKenzie-Mohr and William Smith. 1999. Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing. New Society Publishers.
- Alan Andreasen. 1995. Marketing Social Change: Changing Behavior to Promote Health, Social Development and the Environment. Jossey-Bass.
- Robert Cialdini. 2008. Influence: Science and Practice. Fifth edition. Allyn and Bacon.

Technical References to Support Behavior Change Intervention Design

- Child Survival and Health Grant Program (CSHGP). Technical Reference Materials (TRMs) on: Behavior Change Interventions (2010) and Integrated Management of Childhood Illness (2007). http://www.mchipngo.net/controllers/link.cfc?method=tools_cross
- CSHGP. TRMs on: Nutrition (2007), Diarrheal Disease (2010), and Family Planning and Reproductive Health (2010). http://www.mchipngo.net/controllers/link.cfc?method=tools_tech
- WHO. 2003. Guiding Principles for Complementary Feeding of the Breastfed Child. Geneva: WHO. http://www.who.int/child_adolescent_health/documents/a85622/en/index.html
- WHO. 2005. Guiding Principles for Feeding Non-breastfed Children 6-24 months of age. Geneva: WHO. http://www.who.int/child_adolescent_health/documents/9241593431/en/index.html

2.2 PREVENTIVE AND CURATIVE HEALTH AND NUTRITION SERVICES

2.2.1 Reasons to Include Preventive and Curative Health and Nutrition Services

Because of the strong causal link between child illness and malnutrition, basic preventive and curative health services are essential in any program promoting improved child nutrition. To

encourage use of available health services, PM2A programs require participating mothers/caregivers to receive preventive health services to obtain the individual and household rations. Each Title II program should establish the required health services based on MOH protocol and program context. The MOH or agency that operates the local health system usually provides these services.

Awardees implementing Title II programs often work in difficult environments with little or no access to even minimal health services. The health system might be unable to cope if demand for services increases suddenly. In these circumstances, the program’s priority will be to strengthen essential health services, expand access, and encourage community ownership. Potential Awardees should adjust program design and PM2A program eligibility conditions accordingly.

2.2.2 Description of Preventive and Curative Health and Nutrition Services in PM2A

General descriptions of the preventive and curative health and nutrition services considered essential to PM2A are below, followed by components that are useful complementary services. The descriptions are general guidelines and will vary from country to country based on MOH protocol. In general, the health services are offered by trained health care providers, such as doctors, nurses, and midwives at the health facility and/or in the community. Some services are provided by CHWs. The Title II program’s role is to promote these services, coordinate and promote health campaigns, advocate for sufficient supplies and resources, and provide supplementary training and support as needed. As discussed, each program will determine which services beneficiaries must use to be eligible for the program. The table below describes the essential health and nutrition services for PM2A. Specific details will vary from country to country.

Table 2. Preventive and Curative Health and Nutrition Services

Essential Health and Nutrition Services	
Antenatal and Postnatal Care	Typical services provided at antenatal consultations include physical examinations, provision of iron/folate supplements and tetanus toxoid immunizations, among others. Regular postnatal consultations include home visits to the mother (ideally at days 1, 3, and 7 after birth), ¹⁶ physical examinations of the mother and newborn, provision of one dose of postpartum vitamin A to the mother within six weeks of delivery (if the mother did not already receive this via a home visit soon after delivery), and other health services.
Treatment of Illness/Integrated Management of Childhood Illness (IMCI)	Services that examine and treat ill children should be available and accessible. The services should include treatment and medications, such as oral rehydration therapy and zinc for diarrhea, antibiotics for infections, malaria treatment, counseling, and other essential curative services. Many countries have adopted IMCI, a facility-based program that addresses the five major causes of childhood morbidity and mortality – pneumonia, diarrhea, malaria, malnutrition, and measles – by focusing on case-management skills, strengthening the health system, and improving family and community practices through an integrated approach. (This approach also is practiced at the community level and called Community-Based IMCI [C-IMCI].)
Child Immunization	Standard childhood immunizations should be given by a trained health care provider according to country protocol. The minimum required childhood immunizations typically include Bacillus Calmette-Guérin (BCG), oral polio vaccine, diphtheria-tetanus-pertussis (DTP), and measles (or measles-mumps-rubella); yellow fever, hepatitis B, and Haemophilus influenza b (Hib) also might be included.

¹⁶ WHO and UNICEF. 2009. Home Visits for the Newborn Child: A Strategy to Improve Survival. WHO/UNICEF Joint Statement. http://www.unicef.org/health/files/WHO_FCH_CAH_09.02_eng.pdf.

Screening and Referral for SAM	Children with SAM are at high risk of death. PM2A programs, which have regular contacts with children, should include mechanisms to screen for SAM using mid-upper arm circumference (MUAC) and refer cases of SAM to appropriate treatment programs. If a program detects high levels of SAM and there are no appropriate treatment programs, the Title II program should advocate for or create a separate but linked program for treating SAM.
Routine Child Micronutrient Supplementation and Deworming	MOH policy in many countries recommends that children 6-59 months receive twice-yearly high-dose vitamin A supplementation and routine deworming. In non-malarial areas, some country protocols include iron supplementation for children.

Useful Complementary Health and Nutrition Services

BCC/Nutrition Counseling at Health Facilities	In addition to community- and household-level BCC, visits to the health facility provide another opportunity for BCC and nutrition counseling. Well-baby visits, such as those for immunization, could include discussions about optimal breastfeeding, complementary feeding and hygiene practices, while sick-child visits might focus on proper feeding of the sick child. All messages delivered at health facilities should be consistent with the BCC done in the community and household, reinforcing good behaviors.
GMP/CBGP	Programs should consider linking their PM2A activities with facility-based GMP or CBGP programs, where available. Through PM2A, the program can encourage beneficiaries to participate in GMP/CBGP, support the facility or community implementing the program, provide nutrition counseling and BCC services at GMP/CBGP, and train GMP/CBGP staff and volunteers. In locations where there is no GMP/CBGP, a program might choose to establish one.
Family Planning	In addition to reducing the risk of neo-natal, infant, and under-5 mortality, healthy timing and spacing of pregnancies is associated with improved nutritional status of children. ¹⁷ The longer the interval between births, the less likely a child is to be stunted or underweight. The World Health Organization (WHO) recommends that couples wait at least 24 months after giving birth before attempting to get pregnant again. ¹⁸ Because Title II programs work so closely with women of reproductive age and their partners, they can play a key role in improving access to voluntary family planning services and therefore reducing unintended or mistimed pregnancies. For example, a program could provide family planning counseling and education as part of its BCC services and link to existing family planning services or provide them as part of the program's health services (with complementary funding). All USAID-funded family planning services must be voluntary, provide informed choice, and comply with the Tiahrt Amendment. ¹⁹

¹⁷ For more information on the relationship between birth spacing and mortality and nutritional status, see Rutsein, Shea. 2008. "Further Evidence of the Effects of Preceding Birth Intervals on Neonatal, Infant and Under-Five-Years Mortality and Nutritional Status in Developing Countries: Evidence from Demographic and Health Surveys" DHS Working Paper No. 41: http://pdf.usaid.gov/pdf_docs/PNADM649.pdf

¹⁸ WHO. 2005. Report of a WHO Technical Consultation on Birth Spacing. Geneva, Switzerland. 13-25 June 2005. http://www.who.int/making_pregnancy_safer/documents/birth_spacing05/en/index.html

¹⁹ Key elements of the Tiahrt Amendment that apply to MYAPs include: 1) programs cannot deny rights or benefits, such as food or medical care, to those who do not accept family planning and 2) no incentives can be given to family planning service providers for achieving targets or to clients for accepting family planning services. For more information on voluntarism, informed choice, and the Tiahrt Amendment, see: http://www.usaid.gov/our_work/global_health/pop/voluntarism.html.

BOX 5. REFERENCES FOR PREVENTIVE AND CURATIVE HEALTH SERVICES AND HEALTH SYSTEMS STRENGTHENING

- CSHGP. TRMs on: Diarrheal Disease, Family Planning and Reproductive Health, Immunization, Maternal and Newborn Care, and Nutrition.
http://www.mchipngo.net/controllers/link.cfc?method=tools_tech
- CSHGP TRMs on: IMCI, Health Systems Strengthening and Capacity Building.
http://www.mchipngo.net/controllers/link.cfc?method=tools_cross
- The Food and Nutrition Technical Assistance Project (FANTA). 2008. Training Guide for Community-Based Management of Acute Malnutrition. Washington, DC: FANTA at the Academy for Educational Development (AED). <http://fantaproject.org/cmam/training.shtml>
- CORE Group, IMCI Working Group: http://207.226.255.123/working_groups/childhood.cfm
- Global Health e-learning center: <http://www.globalhealthlearning.org/login.cfm>. (Online courses to strengthen existing health systems.)
- Marcia Griffiths, Kate Dickin, and Michael Favin. 1996. Promoting the Growth of Children: What Works? Tool #4. The World Bank Nutrition Toolkit. Washington, DC: The World Bank.

2.3 RATIONS

One of three core services of the PM2A program is the provision of rations to pregnant women, mothers of children 0-5 months, children 6-23 months, and their households.

2.3.1 Objective of Rations

The rations are intended to help prevent malnutrition and promote linear growth by supplementing and improving the quality of the diets of pregnant women, mothers of children 0-5 months, and children 6-23 months. The household ration supplements the family's food supply, prevents sharing of individual rations, and provides an incentive for program participation.

2.3.2 Ration Recipients

Based on the evidence to date, the household ration is considered an integral part of the PM2A model. However, household rations can involve a relatively large amount of food, which could lead to Bellmon and sustainability concerns or limit the resources available for other activities. Modifying the household ration's size or the number of beneficiaries targeted might be possible without compromising the expected nutritional outcomes, but these modifications might increase sharing within the household or reduce participation, which could hinder the program's efforts to reduce child malnutrition. Programs that modify how household rations are calculated or distributed (e.g., by

Table 3. Rations and Ration Recipients

Ration Recipients	What They Receive
All Pregnant Women	An individual preventive ration from the time that pregnancy is detected until the child is born
All Mothers of Children 0-5 Months	An individual preventive ration from the child's birth until the child is 6 months old
All Children 6-23 Months	An individual preventive ration from 6 months until the child is 2 years old
Households of Participating Women And Children	A household ration for the entire time that the participating woman or child receives an individual ration

providing the household ration only during the lean season or by working with communities to target only the most vulnerable PM2A-eligible households rather than all PM2A-eligible households) should carefully document, monitor, and evaluate the program to ensure the modifications do not affect critical outcomes, such as program participation, and to contribute to the body of experience and evidence on PM2A.

If more than one person in a household qualifies for an individual ration, each eligible household member receives a full individual ration and the household receives one household ration, regardless of the number of individual rations received. Programs can modify this recommendation in societies where polygamous households are common; each participating mother could be viewed as representing a household within an extended household and could receive an individual ration and a household ration.

2.3.3 Conditions for Receiving Preventive Rations

To receive the individual and household rations, mothers/caregivers must meet certain conditions. Programs should develop appropriate mechanisms, such as a special card, to record beneficiaries' participation in the required activities and track whether they are eligible to receive the ration.

Decisions about how strictly conditions are enforced should be based on contextual assessment, community consultation, and recognition of the trade-off between rigorous enforcement — which helps ensure beneficiaries receive maximum exposure to PM2A services, leading to maximum impacts—and the realities and constraints that these women, children, and households face. To make it as practical as possible for mothers/caregivers to meet the conditions, programs should work with communities, households, and individuals to understand reasons for non-attendance and find ways to address participants' constraints.

Table 4. Conditions to Receive Rations

Ration Recipients	Condition to Receive the Ration <i>These conditions should be adjusted to country context as appropriate</i>
All Pregnant Women	<ul style="list-style-type: none"> • Receive antenatal examinations and all available MOH-recommended health and nutrition services • Participate in program's BC services
All Mothers of Children 0-5 Months	<ul style="list-style-type: none"> • Attend postnatal consultations and receive all available MOH-recommended health and nutrition services²⁰ • Participate in program's BC services
All Children 6-23 Months	<ul style="list-style-type: none"> • Receive all available MOH-recommended preventive health and nutrition interventions • Their caregivers should participate in the program's BC services
Households of Participating Women And Children	Be the household of a participating woman or child

2.3.4 Ration Design²¹

Ration design is a combination of science and art: the science of nutritional requirements and nutrient composition, among other areas, and the art of program delivery,

²⁰ Note: Receiving family planning services, even if part of MOH-recommended services, cannot be a requirement for receiving a ration.

²¹ More detailed guidance on designing rations for PLW and children 6-23 months can be found in the United States Agency for International Development (USAID) *Commodities Reference Guide* (CRG), available at: http://www.usaid.gov/our_work/humanitarian_assistance/ffp/crg/intro.htm. However, the PM2A TRM is more up-to-date and should be the reference used when the PM2A TRM and CRG contain contradictory information.

including logistical and cost considerations. Rations should be reasonable, justifiable, and, given cost and Bellmon considerations, conservative in size. Initial individual and household ration design should be based on science, i.e., what ration size and composition are most appropriate given nutritional and other household needs. Potential Awardees may then choose to modify the initial ration design to reflect logistical and cost considerations. Potential Awardees should also be aware of local government or MOH guidelines, if any, and harmonize them with their own program design.

Potential Awardees should describe and justify the assumptions used to determine the initial ration (based on “science”) and any modifications made to determine the final proposed ration, if applicable. If logistical, cost, or other program considerations result in substantial differences between the initial and final ration, potential Awardees should monitor the possible effects of the change on the ration’s ability to supplement the individual’s diet, prevent sharing, augment household food supply, and encourage program participation.

Ration designers should keep in mind any micronutrient supplements (e.g., vitamin A) or fortified foods that the target audience already might be consuming. Pregnant women should not consume more than 10,000 international units (IU) per day or 25,000 IU per week of vitamin A during gestation.²² Even if the PM2A ration is consumed in combination with other potential sources of vitamin A, such as supplementation or locally available fortified foods, it is highly unlikely that the ration would put the target groups at risk of ingesting too much vitamin A (which is toxic in very high doses), although it is important to validate this in individual contexts.

Finally, it is critical that appropriate BCC components be developed to support the optimal use of the rations provided to each target group and to promote a healthy diet overall. A complete, good quality diet does not consist solely of Title II rations plus breast milk. Even fortified-blended food (FBF) and fortified oil combined will not provide women or infants and young children with all their micronutrient requirements. Micronutrient-rich foods still must be included in the diet. BCC messages and materials should encourage and help mothers/caregivers gradually expose their children to a variety of locally available nutrient-rich foods, such as vegetables, fruits, pulses, and animal-source products, which can be mixed into the FBF or provided as snacks. The program can also work with mothers/caregivers to try different combinations of locally available foods and ration commodities for complementary feeding.

2.3.5 Ration Composition

When determining initial ration composition, programs should consider the cultural suitability, nutritional content, and physiological appropriateness (e.g., whether babies can eat it) of the given commodity choices and how these fit the target group’s needs. Depending on the commodity, the availability of complementary local foods will also play a role. Programs should select commodities based on local dietary preferences and choose options that are appropriate for the target group. Other factors to consider when selecting commodities are ease and speed of cooking and availability of milling facilities and cooking fuel, especially in areas at risk of environmental degradation. Key factors to consider in determining ration composition for specific target groups are listed below.

²² WHO. 1998. *Safe vitamin A dosage during pregnancy and lactation*. WHO Micronutrient Series WHO/NUT/98.4. Geneva: WHO. http://whqlibdoc.who.int/hq/1998/WHO_NUT_98.4.pdf (Accessed October 12, 2009).

Pregnant Women and Mothers of Children 0-5 Months

Pregnant women and mothers of children 0-5 months have higher calorie and nutrient needs than non-pregnant, non-lactating women. In addition, pregnant women are more likely to suffer nausea, heartburn, and other challenges to eating. They also tend to face time constraints. Therefore, rations for these women should be nutrient- and energy-dense foods that can be easily prepared. Examples include fortified products such as oil or blended cereals.

Children 6-23 Months

Because they are growing rapidly, children 6-23 months have high caloric and micronutrient requirements relative to their size. They need foods that are both nutrient- and energy-dense to ensure that their relatively small stomachs are not filled with empty calories that do not provide enough nutrients. Children 6-11 months are just learning to eat and need foods that are easily chewed and swallowed. Moreover, because mothers/caregivers tend to have many responsibilities and time constraints, foods that require minimal preparation are preferable. Foods that are easy to prepare in small quantities help to improve food hygiene and safety by reducing the likelihood of having leftovers that must be stored, often in less-than-ideal conditions. Therefore, blended cereal products (e.g., corn-soy blend [CSB], wheat-soy blend [WSB]) that are fortified with multiple vitamins and minerals, quickly prepared, and easy for a child to eat and digest are often an appropriate choice. A program also might select products considered to be “children’s foods” to help minimize sharing of a child’s ration.

Households

The household ration is meant to supplement the household’s regular diet, prevent sharing of the individual ration, and provide incentives for program participation. It should meet local dietary preferences as much as possible, and its cost should be reasonable. Ration designers should consider availability and cost of cooking fuel and milling facilities when selecting commodities for the household ration. In situations where micronutrient deficiencies are likely to be prevalent and traditional diets are not very diverse, programs should consider including fortified products in the ration.

2.3.6 Ration Size

The preventive ration is meant to supplement and improve the target group’s diet, not provide all the calories needed. Because average calorie requirements from complementary foods are quite low for young breastfed children, especially those 6-11 months, and the types of foods commonly available in food-insecure households are usually not of good quality, programs should aim to provide sufficient FBF and other fortified commodities to cover 100 percent of the calories this age group needs from complementary foods.²³

The amount of food to include in the household ration should be based on the target population’s average energy gap (the difference between the amount of calories household members need and the amount they typically consume). This assumes that the ration’s main purpose is to supplement the household food supply and prevent sharing of the individual ration. If the household ration mainly

²³ This does not mean that the ration provides 100 percent of the children’s requirements because they are also consuming breast milk.

serves as an incentive for program participation, the ration's size and composition can be guided by formative research (see Box 6 below).

BOX 6. USING THE HOUSEHOLD RATION AS AN INCENTIVE

A program in Haiti uses the household ration as an incentive and to compensate for the opportunity costs of participating in the PM2A program. When its resources decreased, the Awardee decided that reducing the household ration's size would be the least harmful way to absorb the decrease.

However, participation declined soon after the ration size was reduced. When mothers were asked why they were not attending program activities, a typical response—especially from those living further from the health posts—was: “Do you expect me to walk [two or three] hours for that small amount of food?”

The Awardee conducted interviews to determine barriers to participation, including discussions on what size ration would motivate participants and compensate for the opportunity costs. The Awardee adjusted the household ration accordingly and looked for other program elements to cut to accommodate the decrease in resources.

Pregnant Women and Mothers of Children 0-5 Months

Rations for pregnant women and mothers of children 0-5 months will vary based on the average energy gap for these women in a program area. The rations should at least cover the increased daily energy and protein requirements of pregnancy (360 kilocalories [kcal] and 9 grams [g] of protein in the second trimester; 475 kcal and 31 g protein in the third trimester)^{24,25} and lactation (500-675 kcal and 19 g of protein).^{26,27,28}

²⁴ “... The extra energy cost of pregnancy is 321 [megajoules (MJ)] (77,000 kcal) divided into approximately 0.35 MJ/day, 1.2 MJ/day and 2.0 MJ/day (85 kcal/day, 285 kcal/day and 475 kcal/day) during the first, second and third trimesters, respectively. There are many societies with a high proportion of non-obese women who do not seek antenatal advice before the second or third month of pregnancy. Under these circumstances a practical option to achieve the total additional intake of 321 MJ (77,000 kcal) during pregnancy is to add the extra 0.35 MJ/day required in the first trimester to the 1.2 MJ/day required in the second trimester. Rounding numbers for ease of calculation, this consultation recommends that in such societies pregnant women increase their food intake by 1.5 MJ/day (360 kcal/day) in the second trimester, and by 2.0 MJ/day (475 kcal/day) in the third. ... Based on an efficiency of protein utilization of 42 [percent], an additional 1, 9 and 31 g/day protein in the first, second and third trimesters, respectively, are required to support 13.8 kilogram [kg] gestational weight gain.” Source: UNU/WHO/FAO. 2004. *Human energy requirements: Report of a Joint FAO/WHO/UNU Expert Consultation, 17-24 October 2001*. Rome: FAO. p 59.

²⁵ WHO/FAO/UNU. 2007. *Protein and amino acid requirements in human nutrition: Report of a Joint FAO/WHO/UNU Expert Consultation*. WHO Technical Report Series No. 935. Geneva: WHO. p 120.

²⁶ “...Well-nourished women with adequate gestational weight gain should increase their food intake by 2.1 MJ/day (505 kcal/day) for the first six months of lactation, while undernourished women and those with insufficient gestational weight gain should add to their personal energy demands 2.8 MJ/day (675 kcal/day) during the first semester of lactation. Energy requirements for milk production in the second six months are dependent on rates of milk production, which are highly variable among women and populations.” Source: UNU/WHO/FAO. 2004. *Human energy requirements: Report of a Joint FAO/WHO/UNU Expert Consultation, 17-24 October 2001*. Rome: FAO. pp 65-66.

²⁷ WHO/FAO/UNU. 2007. *Protein and amino acid requirements in human nutrition: Report of a Joint FAO/WHO/UNU Expert Consultation*. WHO Technical Report Series No. 935. Geneva: WHO. p 126.

Children 6-23 Months

The children's ration size should take into account that the product(s) are to be used as a complementary food that should not displace breastfeeding and should be appropriate for children, who can eat only a certain amount per meal and per day. In addition to calories from breast milk, children 6-8 months require about 200 kcal per day; children 9-11 months require 300 kcal per day; and children 12-24 months require 550 kcal per day in complementary food.²⁹ Children 6-11 months require 11 g of protein per day, and children 12-23 months require 13 g of protein per day.³⁰ Fat should constitute 30-45 percent of total energy in the diet (including energy from breast milk, which usually has higher fat content than complementary foods). Assuming average breast milk intake, rations should provide 0-34 percent of energy from fats for children 6-8 months, 5-38 percent for children 9-11 months, and 17-42 percent for children 12-23 months.³¹

BOX 7. ENERGY GAP DATA TIPS

- If there has been a household food consumption/dietary intake survey in the area, the energy deficit is likely available.
- Collecting and analyzing dietary intake data are complex and costly. Organizations should not conduct household food consumption or dietary intake surveys if they are needed only to calculate the ration.
- The Food and Agriculture Organization of the United Nations' (FAO) intensity of food deprivation indicator might be a useful tool to calculate household ration size.

The program's BCC and nutrition education components should help mothers learn the correct amount of food to prepare and how to prepare it for their children and themselves. This support is for both rations and food in general.

Household Ration

The household ration should be based on the household's average per capita energy gap and the number of household members. The energy gap can be determined by the potential Awardee's own data collection or estimated using secondary data for the country.

FAO publishes a country-specific measure of the intensity of food deprivation that can be used to calculate the household ration size.³² The measure is derived from FAO's calculation of the proportion of the country's population that is undernourished, i.e., unable to meet minimum dietary energy requirements.³³ The measure is an estimate of the average amount of calories

²⁸ All mothers of children 0-5 months are targeted under PM2A rather than only breastfeeding mothers to avoid stigma for women who have chosen not to breastfeed, e.g., based on prevention of mother-to-child transmission of HIV (PMTCT) counseling. However, the majority of mothers of children 0-5 months will be breastfeeding, and ration size calculations for this target group can be based on the additional requirements for lactation.

²⁹ PAHO. 2004. *Guiding Principles for Complementary Feeding of the Breastfed Child*. Geneva: WHO. p 18.

³⁰ IOM. 2005. *Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids*. Washington, DC: The National Academies Press. Information on micronutrient requirements can be found in an appendix at http://books.nap.edu/openbook.php?record_id=10490&page=1319 (Accessed 10/15/09).

³¹ *Ibid.* p 23-24.

³² FAO, n.d. "Intensity of food deprivation."

http://www.fao.org/fileadmin/templates/ess/documents/food_security_statistics/Depth_Hunger_en.xls.

³³ FAO, n.d. "Prevalence of undernourishment in total population."

http://www.fao.org/fileadmin/templates/ess/documents/food_security_statistics/PrevalenceUndernourishment_en.xls;
FAO. n.d. "Minimum dietary energy requirements."

undernourished (food-deprived) individuals need to reach the minimum dietary energy requirement cutoff, i.e., the gap between estimated consumption and requirements. In developing countries, this gap ranges from 200 to 440 calories per person per day. These estimates are based on the number of calories needed to reach minimum energy requirements, which assume light levels of activity. However, households in rural areas, which are the primary focus of Title II multi-year activities, are more likely have moderate levels of activity on average. Energy requirements for moderate activity are about 10 percent higher than for light activity.

Rations for Households With HIV-Positive Members

In areas of high HIV prevalence, where infected individuals have increased energy requirements, individual and/or household rations might need to be adjusted. Energy requirements in adolescents and adults living with HIV, including PLW, increase by 10 percent in the asymptomatic stage and by 20-30 percent in the symptomatic stage. For children living with HIV, energy requirements increase by 10 percent during both the asymptomatic and symptomatic stages if they are not losing weight. Energy requirements increase by 50-100 percent if they are losing weight.³⁴

2.3.7 Individualized Versus One-Size-Fits-All Rations

Programs might decide that it is not logistically feasible or is undesirable to provide different-sized individual rations for different beneficiary groups (i.e., pregnant women, lactating women, children 6-23 months) or to customize individual rations for different age groups within the 6-23 month range (e.g., one ration for children 6-8 months, one ration for children 9-11 months, a third ration for children 12-23 months). Instead, programs might choose to provide the same individual ration to all children (**one-size-fits-all child ration**), the same individual ration to all individual beneficiaries (**one-size-fits-all individual ration** for mothers and children 6-23 months old) or a single ration that combines the individual and household ration to all beneficiaries, regardless of the number of PM2A-eligible individuals in the household (**one-size-fits-all individual+household ration**).

Programs have legitimate reasons for deciding that a one-size-fits-all ration makes sense. While understandable from a programmatic perspective, these decisions might affect the program's effectiveness. As mentioned in **Section 2.3.4**, modifications to the basic PM2A design should be clearly documented, monitored, and evaluated to ensure that objectives are achieved and to contribute to the continuing evolution and refinement of PM2A.

One-Size-Fits-All Child Ration

Many past and current Title II food-assisted MCHN programs have opted for a one-size-fits-all individual child ration based on the average requirements of children 6-23 months (about 416 calories per day).³⁵ A one-size-fits-all child ration may provide more calories than an infant needs and fewer than an older child needs. In these cases, programs must ensure that the ration, which

http://www.fao.org/fileadmin/templates/ess/documents/food_security_statistics/MinimumDietaryEnergyRequirement_en.xls.

³⁴ FANTA. 2007. *Recommendation for the Nutrient Requirements for People Living With HIV/AIDS*. Washington, DC: FANTA, AED.

³⁵ 416 calories is a weighted average requirement for children 6-23 months. Average requirements in each age range (6-8 months [200 kcals/day], 9-11 months [300 kcals/day], and 12-23 months [550 kcals/day]) were weighted by the average proportion of children in each age range in USAID Office of Food for Peace (FFP) priority countries.

might provide too many calories for young children, does not displace or interfere with breastfeeding. While the additional calories required by a mother breastfeeding a child over 6 months vary widely, programs might choose to present the individual child ration as a joint, shared ration for both the lactating mother and the breastfeeding child through 12 months of age, when the ration becomes exclusively for the child.

One-Size-Fits-All Individual Ration

A one-size-fits-all individual ration might provide too many calories for some groups and not enough for others. As with the one-size-fits-all child ration, the greatest concern is to avoid providing too many calories for children 6-11 months old and risking displacement of breastfeeding. Encouraging the breastfeeding mother to share the ration with her 6- to 11-month-old child could help mitigate this risk.

One-Size-Fits-All Individual+Household Ration

A one-size-fits-all individual+household ration might provide too many calories for some beneficiaries and not enough for households with more than one PM2A-eligible beneficiary. Again, programs will need to mitigate the risk of overconsumption among younger children. Before choosing a one-size-fits-all individual+household ration, programs should determine what proportion of households have more than one PM2A-eligible beneficiary (e.g., a pregnant woman and a child 6-23 months, a pregnant woman and a breastfeeding woman with a child 5 months and a child 6-23 months) to make sure they do not represent a significant proportion of households.³⁶ If households with more than one PM2A-eligible beneficiary do make up a significant proportion of households, programs might wish to reconsider providing a one-size-fits-all individual+household ration. If a program decides to provide this ration, it should estimate by how much the ration will shortchange the needs in households with multiple individual beneficiaries and determine how the BCC materials will address this issue.

2.3.8 Illustrative PM2A Rations

This section presents examples of ration composition and sizes used in PM2A programs and explains the rationale and justification for the programs’ choices.

Table 5. Monthly Ration Sizes for Different Beneficiary Groups: Program 1

	Monthly Ration (Kg)				Kcal/Day	% Energy From Fat
	CSB	Rice	Pinto Beans	Vegetable Oil		
Pregnant women, mothers of children 0-5 months, and children 6-23 months	4				501	16.5
Household		7	3	1.84	1671	33.2
Total ration	4	7	3	1.84	2171	29.5

Program 1 chose a different commodity mix for the household than for the individual beneficiaries. The household ration commodities—rice, pinto beans, and oil—are similar to the traditional diet in the program area. To help prevent sharing, the program called CSB a “special” food specifically for

³⁶ Note, however, that there is no evidence-based guidance on what defines a “significant” proportion of households.

pregnant women, mothers of children 0-5 months, and children 6-23 months; packaged the food distinctly; and included appropriate BCC messages.

The program used secondary data from a national maternal and child health survey to estimate the average size of PM2A-eligible households in the program area. The average household size was 6.88 people. The household ration covered a little more than 100 percent (105 percent) of the estimated calorie gap at the household level (1,589 calories) using the FAO intensity-of-hunger measure and increasing it by 10 percent to account for moderate rather than light activity levels. The individual ration covered a varying proportion of needs of individual beneficiaries (see **Table 6**). While mothers breastfeeding children 6-11 months were not an explicit target group for rations, the program decided to encourage the mothers to share their children’s CSB to avoid the risk of displacing breastfeeding by providing too many calories to the children.

Table 6. Percentage of Energy Requirements Covered by the Individual Ration: Program 1

Target Group	Requirement (Kcal/Day)	% of Individual Kcal Requirements Provided by CSB Ration	Notes
Pregnant women	417.8 (additional kcal required due to pregnancy [average second and third trimester requirements])	120% (% of additional kcal requirements due to pregnancy [average second and third trimester requirements])	
Mothers of children 0-5 months	500 (additional requirements due to lactation)	100% (% of additional requirements due to lactation)	
Children 6-8 months	200 (required from complementary feeding, assuming average breast milk intake)	100% (percentage of complementary feeding kcal requirements met, assuming average breast milk intake)	BCC instructs the breastfeeding mother how much to feed a child 6-8 months to provide the 200 kcal required and to consume the remaining 301 kcal herself
Children 9-11 months	300 (required from complementary feeding, assuming average breast milk intake)	100% (percentage of complementary feeding kcal requirements met, assuming average breast milk intake)	BCC instructs the breastfeeding mother how much to feed a child 9-11 months to provide the 300 kcal required and to consume the remaining 201 kcal herself
Children 12-23 months	550 (required from complementary feeding, assuming average breast milk intake)	91%(percentage of complementary feeding kcal requirements met, assuming average breast milk intake)	Child receives all of the CSB plus locally available foods promoted through BCC; Mother does not consume ration

Program 1 decided to centrally prepackage the rations so that each household would receive the same monthly ration (one-size-fits-all individual+household ration) regardless of how many individual beneficiaries were enrolled. The program estimated that less than 5 percent of PM2A-eligible households had more than one PM2A-eligible beneficiary and decided that the benefits of prepackaging a single, one-size-fits-all ration—such as increased food safety and hygiene,

streamlined operations, reduced potential for diversion, and maintaining the dignity of the ration recipients—outweighed the risk of not providing enough CSB in households with more than one eligible beneficiary. The program’s BCC component was essential to helping caregivers provide an appropriate amount of food for their children, including supplementing the single, individual ration with locally available foods.

Program 2 used the same two commodities (CSB and oil) for the individual and household ration to reduce the number of separate meals to prepare (families in the program area tend to cook single-pot meals from which the entire family eats rather than preparing separate meals for mothers or children). The amounts needed for pregnant women, mothers of children 0-5 months, and children 6-23 months were explained to caregivers during BCC sessions.

Table 7. Monthly Ration Sizes (kg) for Different Beneficiary Groups: Program 2

	CSB	Oil	Kcal/Day	% Energy From Fat
Pregnant women and mothers of children 0-5 months	6	0.6	908	32.8
Children 6-23 months old	3	0.3	454	32.8
Household	12	1.2	1,815	32.8
Total ration: Pregnant woman/mother + household	18	1.8	2,723	32.8
Total ration: Child + household	15	1.5	2,269	32.8

Each participating household received a single ration of either 2,723 kcal per day of CSB and oil for pregnant women and mothers of children 0-5 months or 2,269 kcal per day of CSB and oil for children 6-23 months (**Table 7**). BCC messages and special tools, such as a bowl marked with recommended amounts, helped caregivers know how much of the ration to provide to a mother or child. Once the pregnant woman, mother of child 0-5 months, or child 6-23 months received their portion, the household was instructed to consume the remainder. This ration covers 16-21 percent of estimated household requirements and 72-104 percent of the estimated household calorie gap (**Table 8**).

Table 8. Percentage of Household Energy Requirements and Energy Gap Covered by Ration: Program 2

Individual Beneficiary	% of Household Requirements* (10,784 Kcal/Day) Met After Meeting 100% of the Additional Kcal Requirements for PLW or 100% of Kcal Requirements From Complementary Food for Children 6-23 Months (Assuming Average Breast Milk Intake)	% of Household Energy Gap** (2,383 Kcal/Day) Met After Meeting 100% of the Additional Kcal Requirements For PLW or 100% Of Kcal Requirements From Complementary Food for Children 6-23 Months (Assuming Average Breast Milk Intake)
Pregnant woman***	21%	104%
Mothers of children 0-5 months	21%	93%
Child 6-8 months	19%	87%
Child 9-11 months	18%	83%
Child 12-23 months	16%	72%

* Household requirements calculation: Minimum dietary energy requirements for Burundi (1,720 kcal/person/day) increased by 10 percent to account for moderate activity level and multiplied by average household size of 5.7.

** Household energy gap calculation: Intensity of food deprivation for Burundi (380 kcal/person/day) increased by 10 percent to account for moderate activity level and multiplied by average household size of 5.7.

***Additional kcal requirements calculated as the average kcal requirements in the second (360 kcal/day) and third (475 kcal/day) trimesters.

3. PROGRAM DESIGN

3.1 LINKING WITH OTHER FOOD SECURITY ACTIVITIES IN THE TITLE II PROGRAM

PM2A is just one activity in a comprehensive Title II program and should be implemented in the same communities as the program's other activities related to access, availability, and utilization. Ideally, individual households will participate in as many different program interventions as possible. For example, families with a pregnant woman or a child under 2 might participate in a program's income-generation activity in addition to PM2A, or PM2A could seek BCC contact points outside of the health sector if PM2A beneficiaries participate in agriculture, marketing, or other activities. Households that do not participate in PM2A would still have access to the other program interventions and would be encouraged to participate in those activities.

Potential Awardees must design an integrated program that is appropriate for the local context. As noted earlier, if constraints prevent a program from providing a fully integrated package in certain communities, the application should discuss those constraints and explain how it will overcome them and eventually offer an integrated program. For example, if limited access to key health services restricts the number of communities where PM2A can be implemented at project startup, applicants might consider starting PM2A in fewer communities while strengthening health services in the other communities in preparation for PM2A. Or, in areas with limited health services, projects might consider first implementing a smaller PM2A package based on those services and then phasing in the full package as more health services become accessible to the community.

3.2 COVERAGE

PM2A aims to reach 100 percent of the target population, and programs should incorporate intensive community mobilization and outreach to maximize coverage. However, given the challenging environments in which Title II programs operate, even a very well-implemented program might not reach everyone. To date, there is not enough program experience to indicate the levels of coverage programs can expect to achieve and use to guide program planning. Therefore, a program team should design the PM2A component based on the absolute maximum coverage it estimates it can achieve in the target area so that PM2A rations, health services, and BCC programs are available to all who are eligible and want to participate. Estimates can be based on past program experience, feedback from communities and community leaders, and the Haiti PM2A program, which reached 73 percent of the target population in its catchment area. Note that in the context of program design and planning, expected coverage is not an indicator for measuring success but a planning tool to ensure that the program has adequate resources.

To achieve high coverage, programs have used community outreach (see below), census-based programming, social mapping, and Participatory Rapid Appraisal techniques to identify eligible people.

3.3 COMMUNITY OUTREACH

All programs must have a strong community outreach component to gain and maintain community support, overcome barriers to participation, and achieve the high coverage that PM2A requires. The program should introduce PM2A to the community, explain the program goals, describe the services and requirements, and address any community concerns. The outreach will also help to identify program beneficiaries and encourage their participation.

Each program must determine the most effective ways to conduct community outreach in its own program area. For example, some programs conduct community outreach through home visits by CHWs, through meetings with key community leaders who help mobilize the community, or through providing services and information at key community gathering places.

3.4 FORMATIVE RESEARCH³⁷

Formative research is the foundation of an effective behavior change strategy and is a critical first step in implementing the new Title II program. By assessing current care and feeding practices, formative research helps the program design team understand the target group's perspective and why they do or do not practice certain behaviors, select key target audiences for behavior change, determine the most feasible and effective behaviors to promote, understand what influences those behaviors, and identify the best ways to deliver BCC.

Several formative research methods are used to develop behavior change interventions, including doer/non-doer analysis, barrier analysis, trials of improved practices (TIPS), positive deviance inquiry (PDI), focus groups, in-depth interviews, and local determinants of malnutrition studies. Programs can use a combination of methods to suit their needs.

³⁷ Parts of this section were adapted from the CSHGP TRM on *Behavior Change Interventions* (2007). www.childsurvival.com.

BOX 8. RESOURCES FOR PROGRAM DESIGN

- **For census-based programming:** Curamericas. Census-Based Impact Oriented Methodology: A Resource Guide for Equitable and Effective Primary Health Care. http://www.coregroup.org/index.php?option=com_content&view=article&id=51
- **For rapid rural appraisal and participatory rural appraisal:** K. Schoonmaker Freudenberger. Rapid Rural Appraisal (RRA) and Participatory Rural Appraisal (PRA): A Manual for CRS Field Workers and Partners <http://www.crsprogramquality.org/pubs/ME/RRAPRA.pdf>
- **For community outreach/mobilization:** Lisa Howard-Grabman and Gail Snetro. 2004. How to Mobilize Communities for Health and Social Change. Health Communication Partnership. <http://db.jhuccp.org/docs/191220.pdf>
- CORE Group Social and Behavior Change Working Group. 2008. Designing for Behavior Change. http://207.226.255.123/working_groups/DBC_Curriculum_Final_2008.pdf
- **For PDI:** CORE Group. 2003. Positive Deviance/Hearth: A Resource Guide for Sustainably Rehabilitating Malnourished Children. http://207.226.255.123/working_groups/Hearth_Book.pdf
- Emory University; Nutrition Research Institute, Peru; National Institute of Public Health, Mexico; PAHO. 2003. ProPAN: Process for the Promotion of Child Feeding. www.paho.org/English/AD/FCH/NU/ProPAN-index.htm
- **For Barrier Analysis:** Thomas P. Davis. November 2004. Barrier Analysis: A tool for improving behavior change communication in child survival and community development programs. Food for the Hungry. http://barrieranalysis.fhi.net/how_to/how_to_conduct_barrier_analysis.htm
- **For TIPS:** K. Dickin, M. Griffiths, and E. Piwoz. 1997. Designing by Dialogue: A Program Planner's Guide to Consultative Research for Improved Young Child Feeding. Washington, DC: Support for Analysis and Research in Africa (SARA) Project at AED. <http://www.pronutrition.org/files/Designing%20by%20Dialogue%20Young%20Child%20Feeding.pdf>
- **For qualitative research guidance:** P. Winch, J. Wagman, R. Malouin, Garrett Mehl. 2000. Qualitative Research for Improved Health Programs: A Guide to Manuals for Qualitative and Participatory Research on Child Health, Nutrition and Reproductive Health. Washington, DC: SARA Project at AED. http://sara.aed.org/publications/cross_cutting/qualitative/qualitative.pdf

3.5 ADDRESSING ACUTE MALNUTRITION

3.5.1 SAM in Children Under 5

While PM2A programs focus on preventing malnutrition among children under 2, they should include mechanisms to detect and refer any child under 5 with SAM to treatment services immediately (see **Screening and Referral for SAM in Section 2.2.2: Description of Preventive and Curative Health and Nutrition Services in PM2A**). How a program addresses SAM depends on the magnitude of the problem and whether treatment services for SAM are available in the community. If there is a high prevalence of SAM but no treatment services, a potential Awardee might choose to set up a Community-Based Management of Acute Malnutrition (CMAM) program as a separate activity in the Title II program's MCHN component. This program should follow all MOH protocols and be linked with PM2A, including referral. If SAM services are available, Title II programs can link with these services. If SAM is rare, programs can simply detect and refer cases to treatment services.

3.5.2 Growth Faltering and MAM in Children Under 2

By providing health, nutrition, and behavior change services in addition to a ration, PM2A promotes adequate growth among all children enrolled. However, many factors, including illness, will put children at risk for growth faltering and acute malnutrition. Children enrolled in PM2A whose growth falters or who develop MAM (weight-for-height [WFH] < -2 z-scores and > -3 z-scores) need special attention from the program to improve growth and prevent SAM. This includes treatment for ill children and intensive support and counseling services focused on care and feeding of sick, malnourished, and recovering children. The program should ensure that the child is fed adequately rather than provide additional food because the PM2A child ration generally meets or exceeds the calorie requirements of children under 2. WHO is examining the best approaches to managing MAM in children. This document will be updated as necessary when the WHO recommendations are published.

3.5.3 MAM in Children 24-59 Months

If MAM in children 24-59 months is a concern and there are no MAM management services, a program might choose to include a separate activity that addresses MAM in this age group and link it with any programs addressing SAM. This would be separate from the PM2A program but could be part of a Title II program's MCHN activities.

3.6 SUSTAINABILITY

A Title II program's design should incorporate an exit strategy to help sustain program impacts and maintain the program activities that will help the community continue improving its food security. Activities that produce permanent or self-sustaining results can be phased out while other activities can be phased over to the community, the government, or another institution. Note that details on how a program will exit might develop over the first half of the project. While to date there is no evidence to support any one strategy for phase-out or phase-over of PM2A, the following guidelines for sound exit strategies will promote overall Title II program sustainability (see **Box 9**).

BOX 9. GUIDELINES FOR MYAP EXIT STRATEGIES AND SUSTAINABILITY

- Develop a comprehensive sustainability strategy that examines ways to sustain outcomes and impacts of all MYAP activities that promote food availability, access, and utilization.
- Communicate clearly with the community about sustainability from the outset of the program, establishing a timeline and expectations.
- Strengthen the capacity of the community and community-based organizations to gradually take over some program activities. Key stakeholders and their responsibilities should be identified early in the project so that they can build necessary skills.
- Phase-over to the community works best with activities that the community values and is committed to maintaining. For example, Care Groups often have continued well past program exit because communities valued their contribution.
- Design activities that empower individuals and communities so they are better able to demand and provide certain services.
- Link PM2A closely with MYAP activities that promote increased agricultural production and improved livelihoods. These activities, coupled with BCC, could better equip PM2A families to fill their energy gaps and improve their care and feeding practices—which in turn could reduce the need for rations.
- Collaborate with the government to have it take over certain aspects of PM2A, such as rations or support for CHWs. In some circumstances, MOHs have adopted or scaled up interventions that were originally implemented by NGOs.
- Improve existing services so that communities continue to demand and provide strong BCC and health services.
- Seek opportunities to access locally produced fortified and nutrient-dense foods.
- Plan for close-out, determining when to stop enrollment in PM2A components that will be phased out. Communicate with the community about this so that it is not surprised when enrollment ceases.

3.7 COST CONSIDERATIONS³⁸

PM2A might cost more per beneficiary than other components of the Title II program, not only because it requires more food but because of the increased costs to transport and store the food and manage inventory. This might affect the numbers and locations of beneficiaries targeted and the program's budget overall. PM2A planning should consider the costs of several elements, including program inputs, staffing, direct implementation needs, and technical assistance needs. While exact needs and costs will vary among programs, see Table 9 for items generally included in budgets for food-assisted preventive MCHN programs

³⁸ Adapted from CORE Nutrition Working Group. n.d. *Pathways for Selecting Appropriate Nutrition Approaches*. Draft.

Table 9. Cost Considerations

<p>Program Inputs</p> <ul style="list-style-type: none"> • Food for household and individual rations • Scales for weighing rations (unless they are prepackaged elsewhere) • Beneficiary cards (e.g., health and ration cards with space to record immunizations, vitamin A supplementation, eligibility, and rations received) • Scales (preferably digital) for weighing children if there is GMP • Length boards • Visual aids; information, education and communication (IEC) materials; and job aids for BCC, health and nutrition counseling, or education sessions • MUAC tapes for screening for SAM • Office equipment • Staff transportation (e.g., vehicles, bicycles, motorbikes) 	<p>Direct Program Implementation</p> <ul style="list-style-type: none"> • Formative research • Operations research • M&E and reporting • Development of BCC materials • Printing of materials • Training for health facility staff and CHWs • Support groups, counseling, home visits for BCC • Outreach efforts • Food distribution • Commodity transport, storage, and management • Support to health services (advocacy, campaigns, supervision)
<p>Staffing</p> <ul style="list-style-type: none"> • Nutritionists • Qualified medical professionals to help strengthen health services • CHWs or volunteers (might need incentives instead of pay) • BCC experts • Commodities and logistics staff • Program managers • Administrative staff • Monitoring and evaluation (M&E) staff 	<p>Technical Assistance</p> <ul style="list-style-type: none"> • The program will need to determine what technical assistance it needs and when it will be provided by staff or by hired consultants.

4. PROGRAM IMPLEMENTATION

4.1 PROGRAM START-UP

At start-up, Awardees will need to determine how best to provide high-quality PM2A services as quickly as possible to all eligible beneficiaries. Because the program will need to develop a behavior change strategy and test materials, train staff and volunteers, ensure a minimum package of health services, and obtain rations, some time will elapse between starting the Title II program and providing PM2A services to program beneficiaries. Each program should determine the most efficient way to start its program based on its country context, training needs, and requirements, and logistical constraints. For example, if a program cannot provide all services at the same time to a large caseload at the beginning of the program, it might choose to phase in one target group or service at a time or to gradually phase in communities over a set period.

BOX 10. OPTIONS FOR PM2A ENROLLMENT AT START-UP

Although PM2A targets all children under 2, each program can choose the best way to enroll children at start-up based on its goals, resources, and constraints. Programs should keep in mind that these decisions likely will have trade-offs that can affect program management, community relations, program impact, or other factors.

For example, some programs might enroll all age groups at start-up to reach as many children as possible for at least a short time. Although this simple enrollment strategy maximizes coverage and is easy for the community to understand, it challenges the program managers to start up rapidly, with BCC materials and health services for all age groups in place from the beginning of the program. It also enrolls older children who can participate in the program for only one or two months, which is not enough time to improve their nutritional status or effect behavior change.

To use program resources efficiently and reach all children who could potentially benefit from PM2A, one program enrolled all pregnant women and children under 18 months at start-up to ensure that all children participated for at least six months, which is considered to be the minimum amount of time needed for a child to benefit. However, this strategy must be clearly explained because the idea that children stay in the program until they are 2 but cannot enroll in the program after they are 18 months might confuse potential participants.

Other programs have enrolled only pregnant women and children up to 6 months at start-up. This option, which enrolls a smaller portion of the target group and gradually increases enrollment numbers, helps simplify start-up, gives the program more time to develop age-specific BCC materials and provides an opportunity for all program participants to receive program services for as long as possible. However, the disadvantage to this option is that children who are 6 months or older at start-up would never receive the services, which could weaken the program's impact in the community.

4.2 SERVICE DELIVERY POINTS

4.2.1 Key Principles

Because PM2A involves multiple stakeholders providing multiple services, it requires multiple service delivery points. Programs will need to work with the community to determine where and how it will distribute rations and deliver behavior change programs and messages. They also will need to collaborate with the MOH to provide essential health and nutrition services.

A program should select service delivery points that make the most sense to its context, specifically locations that are accessible, culturally appropriate, and do not pose major barriers to program participation. Below are examples of potential delivery points that can be adapted to suit program needs.

4.2.2 Food Distribution

A program should establish a food distribution schedule and location for a program area. The food distribution point should be reasonably accessible to beneficiaries and large enough to accommodate them. The location should have systems for verifying eligibility (e.g., monitors verifying beneficiary cards), distributing the ration, and verifying the ration composition and quantity.

4.2.3 Behavior Change³⁹

Key principles of behavior change programming include delivering consistent and clear messages through multiple channels, providing individual contact and group support, and using visual materials to support the messages. A program will need to investigate opportunities for delivering behavior change services in their communities. The following are examples of common behavior change contact points:

At Home

A home visit conducted by a CHW or community volunteer trained in nutrition counseling ensures direct interaction with the mother, which helps the CHW or volunteer to better understand the mother's particular barriers to behavior change, work with the mother to jointly develop strategies to overcome those barriers, negotiate behavior change, and interact with other influential people in the household.

Food Distribution Point, or Community Meetings/Festivals Involving PM2A Target Groups

Because mothers/caregivers must regularly collect the ration at a central site, the site is a potential BCC contact point. Programs could include edu-tainment such as skits or songs, distribute materials reinforcing key messages, hold group sessions, or counsel individuals if there is appropriate space. In addition, community meetings or festivals are an opportunity to reach a wider target audience.

³⁹ Sections adapted from CORE Nutrition Working Group. n.d. *Pathways for Selecting Appropriate Nutrition Approaches*. Draft.

Health Facilities and Community Health Posts

A health worker can provide individual counseling to mothers who attend antenatal and postpartum care or bring their children for well-baby visits, sick-child visits, or immunization. The program also can hold group sessions if many mothers gather for antenatal care or well-baby visits on scheduled days. Regular peer support meetings could be held at community health posts if they are conveniently located.

Child Health Days or Weeks

If the community has regular campaigns to provide vitamin A, immunizations, or other preventive services to young children, the program can use this opportunity to conduct BCC activities, such as performing dramas or songs, holding group sessions, or distributing or posting materials.

CBGP or GMP Sessions

A CBGP or GMP program that meets regularly in the community and is well-attended offers a great opportunity to provide BCC services to complement those programs. Facility-based GMP programs usually have weak BCC components. And while CBGP programs already offer nutrition counseling and BCC, the PM2A program could help strengthen those services. These monthly gatherings of mothers and young children are a useful opportunity to provide individualized guidance based on the child's growth pattern and age, group support, community education, and materials.

Public Spaces

Mass media, such as radio, billboards, and posters, can be used to create awareness of specific behaviors or draw attention to ongoing activities or health issues. Programs can use mass media in public spaces to target all community members with broad behavior change messages.

4.2.4 General Health Services

Home Visits

Trained health staff provide a variety of services through home visits. Visits to pregnant women might include an antenatal follow-up, provision of iron/folate, and monitoring for danger signs. Visits to mothers of newborns might include a postnatal follow-up (on days 1, 3, and 7 after birth or according to MOH protocol) and provision of postpartum vitamin A (within six weeks of delivery). For children whose growth has faltered or who have been absent from the health facility, visits might include an examination of the child's health and nutritional status (including anthropometric measurements) or discussion with the mother to understand and address reasons for the child's absence. All visits include appropriate counseling. Some of these activities can be done by a CHW, but medical services must be provided only by trained health professionals, following country protocol.

Health Facilities

Program beneficiaries can receive preventive and curative health services at health facilities that are staffed by nurses, physicians, midwives, and other qualified health personnel. Mothers can receive ante- and postnatal health consultations and give birth at the facility. Children can receive vaccinations, vitamin A supplementation, well-baby examinations, and treatment for illness. In addition, nutrition and health counseling can be provided at the facility.

Community Health Centers or Health Posts

Community members might not be able to easily access fully functioning health facilities. In these circumstances, it is useful to have some essential services provided in the community by trained community members (e.g., traditional birth attendants) or health staff who visit the community. If country policy permits, ante- and postnatal care, micronutrient supplementation, vaccinations, and treatment of common illnesses can be done in the community.

Ration Distribution Site

Some preventive services, such as vaccinations, deworming, and micronutrient supplementation, can be provided at the ration distribution site if conditions allow. This will help make it easier for beneficiaries to access the services they need to continue participating in the PM2A program.

4.3 QUALITY ASSURANCE (QA)⁴⁰

While good design is essential to program success, a well-designed program is not sufficient to reduce malnutrition. The quality of delivery and utilization of interventions will determine whether the program is truly successful. Title II programs must continually work to ensure that the program is implemented well and tailored to the local situation. They must adjust the program when challenges or problems arise. QA includes activities that contribute to defining, designing, assessing, monitoring, and improving the quality of program implementation.⁴¹ Key principles of QA include focusing on the beneficiary's perspective and needs, viewing work in terms of systems and processes, making decisions based on data, and collaborating with stakeholders at various levels. Core QA activities include defining quality in terms of what is optimal and achievable; measuring quality through baseline measures and M&E; and improving quality by identifying what must be improved and who will improve it, analyzing processes and systems, developing and testing hypotheses about solutions, and monitoring the changes. Several QA methods and tools can be applied or adapted to PM2A. A few are briefly described below.

4.3.1 Operations Research (OR)

OR assesses the quality of program implementation and service delivery, and identifies operational and utilization constraints. OR uses quantitative and qualitative assessments to collect information on each essential implementation step to better understand how the program works or why it is not working. OR examines constraints to optimal program implementation, utilization of services, perceptions of beneficiaries, staff motivational factors, or other issues, and it obtains information from a range of stakeholders, including program staff at all levels, program participants, and those not participating in the program. The OR results are discussed with program implementers and other key stakeholders to identify priority problems to address, determine solutions, and develop an action plan. A follow-up round of OR to assess progress in implementing the action plan is recommended, if feasible.

⁴⁰ Sections adapted from CSHGP. 2007. *Technical Reference Materials: Quality Assurance*. <http://www.childsurvival.com/documents/trms/xcut.cfm>.

⁴¹ The content of this paragraph is summarized from the CSHGP TRMs. For more details, see <http://www.childsurvival.com/documents/trms/xcut.cfm>.

4.3.2 Quality Improvement and Verification Checklists (QIVC)⁴²

A QIVC is a supervisory tool used to monitor and improve a CHW's or volunteer's work, particularly on activities that are done regularly, have multiple steps, and can be observed. The tool can be used with different activities, such as counseling or GMP. A supervisor observes the activity that the worker or volunteer is performing and uses a checklist to note whether he/she performed key tasks in conducting the activity. The supervisor then privately provides supportive feedback to the worker and discusses strengths and weaknesses with him/her. The worker commits to improve performance where needed. The information from the QIVC also can be aggregated to identify system-wide weaknesses and to track individual workers over time.

4.3.3 Client-Oriented, Provider-Efficient Services (COPE)

COPE is a process developed by EngenderHealth that helps health facility staff continuously improve their services' quality, efficiency, and responsiveness to clients' needs through staff involvement, ownership, self-assessment, and teamwork. COPE provides staff with tools to identify problems and develop solutions using local resources. It also encourages all staff—from managers and doctors to janitors and community volunteers—to work as a team and to involve clients in assessing services. COPE comprises the following tools, which are used together:

- 10 self-assessment guides that focus on client rights and staff needs
- Interview guides for staff to conduct informal interviews with clients after clinic visits
- Client flow analysis charts to track how clients in a clinic progress from entry to exit
- An action plan template to address problems identified during the COPE interviews and analysis

COPE is designed to be integrated with a package of quality improvement (QI) approaches and tools that includes:

- **Facilitative supervision:** Involves mentoring, joint problem-solving, and dialogue between supervisor and staff
- **Medical monitoring:** Identifies gaps between best and actual practices and makes recommendations
- **Whole-site training:** Links supervision and training; emphasizes teamwork and sustainability
- **Quality measurement tool:** Measures quality annually based on COPE self-assessment tools
- **Cost-analysis tool:** Measures direct costs of providing specific health services to improve staff efficiency, maximize supplies, and set user fees to reflect actual direct costs, if necessary
- **Community COPE participatory process/tool:** Helps health care staff build partnerships with community members to make services more responsive to local needs

⁴² Adapted from Food for the Hungry. 2006. "Quality Improvement and Verification Checklists." Presented at the CORE Spring Meeting, April 24-28, 2006, Easton, Maryland, United States.

4.3.4 Partnership Defined Quality (PDQ)

PDQ is a method developed by Save the Children to improve the quality of health services and involve the community in defining, implementing, and monitoring QI processes by linking QA and QI with community mobilization. The process includes four phases:

1. Building support by obtaining commitment for participation from all key stakeholders, both facility- and community-based and at the local or national level
2. Exploring quality by understanding various stakeholders' perspectives on quality
3. Bringing relevant stakeholders together to share ideas and perspectives, form a team to develop a shared vision of quality, and identify and prioritize problems and constraints to achieving quality
4. Working as a team to solve problems by discussing and analyzing the root causes of quality problems, identifying solutions, and selecting indicators to monitor progress

While PDQ considers inputs from communities and health workers on quality, it is not a substitute for a technical assessment of quality. Preferably, PDQ should be conducted in coordination with standardized QA at the facility.

4.3.5 Quick Investigation of Quality (QIQ)

QIQ was developed by the Monitoring and Evaluation to Assess and Use Results (MEASURE) Evaluation Project in collaboration with various Awardees to provide a low-cost, practical way to routinely measure quality of care (QC) in family planning services. The method, which could be adapted for other types of services, includes collecting data for a specified list of QC indicators using a set of field-tested instruments designed to provide a fuller picture of QC. The indicators are measured using three types of data collection:

1. A facility audit with questions for the program manager that is used to determine each facility's readiness to serve the client, covering factors such as types of services provided, types and amounts of supplies in stock, the facility's condition, and types of records
2. Observation of provider-client interactions and selected clinical procedures, including evaluation of the provider's performance during counseling and clinical sessions
3. Exit interviews with clients to learn about their experience with the clinic

BOX 11. REFERENCES FOR QA METHODOLOGIES

- The Quality Assurance Project (QAP): <http://www.qaproject.org/>
- The Framework for Operations and Implementation Research in Health and Disease Programs. www.theglobalfund.org/documents/me.FrameworkForOperationsResearch.pdf
- COPE. <http://www.engenderhealth.org/pubs/quality/cope.php>
- Ronnie Lovich, Marcie Rubardt, Debbie Fagan, and Mary Beth Powers. 2003. Partnership Defined Quality: A Tool for Partnership and Health Provider Collaboration. http://www.phishare.org/files/2265_PDQ_Final_Manual.pdf
- Quick Investigation of Quality (QIQ). February 2001. A User's Guide for Monitoring Quality of Care in Family Planning. MEASURE Evaluation Manual Series No. 2. <http://www.cpc.unc.edu/measure/tools/family-planning/monitoring-quality-of-care-in-fp>

4.4 STAFFING NEEDS

Both health care and community staff (e.g., trained health care providers, nutritionists, CHWs, volunteers) and commodities management staff are needed to provide PM2A services. The structures of both staff teams might vary according to Awardee practices, local resources, the MOH's level of presence, and other factors. Strong supervisory support, which is essential to quality, is needed over the course of the program. In addition, the program might need trainers on a short-term basis.

5. MONITORING AND EVALUATION

5.1 TITLE II M&E GUIDELINES

The United States Agency for International Development (USAID) Office of Food for Peace (FFP) requires Awardees to report on annual monitoring indicators to assess progress in program implementation and on baseline and final evaluation indicators to assess program impact. Midterm evaluations are also encouraged, with a focus on implementation processes at the beneficiary level. M&E procedures should follow standard Title II Program Guidance (see **Box 12**). FFP has not created additional M&E requirements or changed any current requirements for programs that are implementing PM2A. Below is a summary of the general Title II Program M&E Guidance.

5.1.1 Monitoring

There are seven required FFP monitoring indicators on anthropometry, behavior change, and community resilience, which are reported annually at the beneficiary level (**Box 13**). In addition, programs can and should establish their own indicators for important program processes and outputs they wish to monitor, such as program participation or percentage of beneficiaries achieving certain benchmarks. The indicators are reported using the Standardized Annual Performance Questionnaire (SAPQ) and Summary Request and Beneficiary Tracking Tables.

5.1.2 Evaluation

FFP requires programs to measure and report on four impact indicators, two based on anthropometry and two that measure household food access (**Box 13**). These indicators have a fixed definition and are measured at the population level. Programs can include other impact indicators appropriate to their program. The required evaluation design includes a baseline survey and a final evaluation survey. Pre-post comparisons should be based on “program adequacy,” meaning no control groups or causality analysis is required, but sample size must be sufficient to determine whether differences between point estimates at baseline and final are statistically significant. Programs should include all required impact and outcome indicators, according to FFP Guidance.

BOX 12. REFERENCES FOR M&E OF TITLE II PROGRAMS

- Gilles Bergeron, Megan Deitchler, Paula Bilinsky and Anne Swindale. February 2006. Monitoring and Evaluation Framework for Title II Development-Oriented Projects. FANTA Technical Note No. 10. http://www.fantaproject.org/downloads/pdfs/TN10_MEFramework.pdf
- Gilles Bergeron, Anne Swindale, Megan Deitchler and Paula Bilinsky. March 2006. Evaluating Title II Development-Oriented Multi-Year Assistance Projects. FANTA Technical Note No. 11. http://www.fantaproject.org/downloads/pdfs/TN11_MYAP.pdf
- Food for Peace Information Bulletins:
http://www.usaid.gov/our_work/humanitarian_assistance/ffp/ffpib.html
 - FFPIB 07-01: USAID and Food for Peace Indicators and Reporting Systems
 - FFPIB 07-02: New Reporting Requirements for Food for Peace
 - FFPIB 09-07: Title II Awardee Reporting Requirements

BOX 13. FFP-REQUIRED M&E INDICATORS FOR TITLE II PROGRAMS

Monitoring Indicators

Anthropometry

1. Anthropometric indicator of program's choice to regularly monitor the nutritional status of beneficiaries

Behavior Change

2. Percentage of beneficiaries adopting an improved health, nutrition, or hygiene behavior (chosen from FFP menu)
3. Percentage of beneficiaries (farmers) using a project-defined minimum number of sustainable agricultural technologies

Community Resilience

4. Number of program-assisted communities with improved physical infrastructure to mitigate the impact of shocks, in place as a result of program assistance
5. Number of assisted communities with disaster early warning and response systems in place, as a result of program assistance
6. Number of assisted communities with safety nets to address the needs of their most vulnerable members in place, as a result of program assistance
7. Number of assisted communities with improved community capacity as a result of MYAP assistance

Impact Indicators

Access

1. Average number of months of adequate food provisioning
2. Average household dietary diversity score

Utilization

3. Percentage of underweight (WFA < -2 z-scores) children 0-59 months
4. Percentage of stunted (height-for-age [HFA] < -2 z-scores) children 6-59 months

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- . n.d. "Prevalence of undernourishment in total population."
http://www.fao.org/fileadmin/templates/ess/documents/food_security_statistics/PrevalenceUndernourishment_en.xls.

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ANNEX A: PM2A SUMMARY TABLE

Program participants	All pregnant women	All mothers of children 0-5 months	All children 0-23 months (with specific ration information for children 6-23 months)	Households of participating women and children
Why targeted with PM2A services?	<ul style="list-style-type: none"> Protects maternal health and nutritional status Promotes the optimal growth of child in womb Helps ensure adequate birth weight 	<ul style="list-style-type: none"> Protects maternal health and nutritional status Helps ensure adequate quality of breast milk 	<ul style="list-style-type: none"> Protects child's growth during a critical period of physical development Protects child's health when he/she is also at high risk of infection and death 	<ul style="list-style-type: none"> Supplements household food supply and improves household food security Encourages program participation Discourages sharing of the individual ration
PM2A core services	<ul style="list-style-type: none"> An individual ration until child is born Antenatal care, micronutrient supplementation and other preventive and curative health and nutrition services Behavior change services 	<ul style="list-style-type: none"> An individual ration until child is 6 months Postnatal care and other preventive and curative health and nutrition services Behavior change services 	<ul style="list-style-type: none"> An individual ration from age 6 months to 2 years General health and nutrition services including immunization and micronutrient supplementation Behavior change services targeted at caregivers, families, communities 	<ul style="list-style-type: none"> A household ration for the entire time that the participating woman or child is receiving an individual ration
Necessary conditions to receive ration	<ul style="list-style-type: none"> Receive antenatal examinations and all available MOH-recommended health and nutrition services Participate in program's BC services 	<ul style="list-style-type: none"> Attend postnatal consultations and receive all available MOH-recommended health and nutrition interventions Participate in program's BC services 	<ul style="list-style-type: none"> Receive all available MOH-recommended preventive health and nutrition interventions Caregivers participate in the program's BC services 	<ul style="list-style-type: none"> Be the household of a participating woman or child
Duration of program participation	<ul style="list-style-type: none"> From the time that pregnancy is detected until the child is 24 months old 			

Program participants	All pregnant women	All mothers of children 0-5 months	All children 0-23 months (with specific ration information for children 6-23 months)	Households of participating women and children
Ration composition	<ul style="list-style-type: none"> Nutrient- and energy-dense foods Easy-to-prepare foods Fortified food products such as oil or blended cereals. 		<ul style="list-style-type: none"> Nutrient- and energy-dense foods Fortified food products Foods that are easy for a child to eat and digest Foods that are easy to prepare “Children’s foods” that are less likely to be shared Blended cereals (e.g., corn-soy blend [CSB], wheat-soy blend [WSB]) 	<ul style="list-style-type: none"> Foods that meet local dietary preferences Foods with a reasonable cost Foods that can be prepared with available cooking and milling technology Fortified products in areas of micronutrient deficiency
Ration size	<ul style="list-style-type: none"> Based on the average energy gap for PLW in a program area Minimum: Covers the increased energy and protein requirements of: <ul style="list-style-type: none"> Pregnancy: 360 kcal/day, 9 g protein/day in the second trimester; 475 kcal/day and 31 g protein/day in the third trimester Lactation: 500-675 kcal/day and 19 g protein/day 		<ul style="list-style-type: none"> Ration is complementary food and should not displace breastfeeding Complementary food requirements for breastfed children: <ul style="list-style-type: none"> 6-8 mos.: 200 kcal/day 9-11 mos.: 300 kcal/day 12-24 mos.: 550 kcal/day Protein requirements for breastfed children: <ul style="list-style-type: none"> 6-11 mos.: 11g/day 12-23 mos.: 13 g/day Fat requirements for children: <ul style="list-style-type: none"> 30-45% of total energy in the diet (incl. from breast milk) 6-8 mos.: 0-34% ration’s energy from fats 9-11 mos.: 5-38% of ration’s energy from fat 12-23 mos.: 17-42% of ration’s energy from fats 	<ul style="list-style-type: none"> Based on the household’s average per capita energy gap