Positive Deviance /Hearth

A Resource Guide for Sustainably Rehabilitating Malnourished Children

CORE

Child Survival Collaborations and Resources Group
Nutrition Working Group
February 2003

The CORE Group

The Child Survival Collaborations and Resources Group (The CORE Group) is a membership association of more than 35 U.S. Private Voluntary Organizations that work together to promote and improve primary health care programs for women and children and the communities in which they live. The CORE Group's mission is to strengthen local capacity on a global scale to measurably improve the health and well being of children and women in developing countries through collaborative NGO action and learning. Collectively, its member organizations work in over 140 countries, supporting health and development programs.

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PD/HEARTH

A HOME & NEIGHBORHOOD-BASED PROGRAM

Abstract

A Positive Deviance/Hearth Nutrition Program is a home-based and neighborhood-based nutrition program for children who are at risk for protein-energy malnutrition in developing countries. The program uses the "positive deviance" approach to identify those behaviors practiced by the mothers or caretakers of well-nourished children from poor families and to transfer such positive practices to others in the community with malnourished children. The "Hearth" or home is the location for the nutrition education and rehabilitation sessions. This resource guide explains in detail how to identify at-risk children, conduct a Positive Deviance Inquiry to identify positive practices, conduct Hearth sessions, and set up a monitoring and evaluation system. Specific field examples and useful tools are provided.

ACKNOWLEDGMENTS

Many people contributed to the final version of this resource guide — writing chapters, providing cases, sharing experiences, reorganizing material and steps, and editing the document to make it user-friendly for field staff. This final product is a work of many committed individuals who found value in the Positive Deviance/Hearth approach and wanted to share their learning with others. We want to thank the many CORE members and partners who have shared insights on PD/Hearth through various meetings and e-mails over the past two years. While we cannot name everyone involved, we want to highlight a few of the key individuals who contributed significant amounts of their time.

This final product is a work of many committed individuals who found value in the PD/Hearth approach and wanted to share their learning with others.

Donna Sillan was hired by CORE as the lead writer of the first draft of the resource guide. She traveled to Myanmar to work with **Monique and Jerry Sternin** and learn about their PD/Hearth work in Vietnam, Egypt, Myanmar and other countries. She built on this experience and her own work designing PD/Hearth programs for CORE members around the world to compile in-depth information and cases on PD/Hearth. She incorporated materials from the following sources: the original PD/Hearth field guide: *Field Guide: Designing a Community-Based Nutrition Program Using the Hearth Model and the "Positive Deviance" Approach* (1); the Masters thesis of **Melissa Cribben**, that field tested the original guide in Bolivia (2); *Positive Deviance in Child Nutrition: A Field Manual for Use in West Africa* (3); a national Hearth workshop in Guinea held in February 2000 by Africare; a Hearth Technical Advisory Group Meeting held in April 2000 by CORE and BASICS II; and a Positive Deviance Approach workshop held in November 2000 in Mali by Save the Children and BASICS. The contributions from these different sources are too extensive to reference individually in the text.

Monique and Jerry Sternin elaborated the Positive Deviance approach and demonstrated its incredible power by setting up Save the Children's Nutrition Education and Rehabilitation Program in Vietnam. They started small and brought it to scale with an approach they named "living university" and scientifically documented its success. Monique reviewed several drafts and provided invaluable information based on her extensive experience.

Drs. Gretchen and Warren Berggren set up and wrote about the original Hearths (nutrition demonstration foyers) in the 60s in Haiti and are still contributing to the refinement and lessons learned of the Hearth approach while mentoring others in its use. Gretchen Berggren reviewed several drafts of the manual and both Gretchen and Warren provided excellent technical guidance.

Dr. David Marsh wrote the chapter on Monitoring and Evaluation and contributed many of the case studies based on work by Save the Children. David's hard work to document the success of the approach through operations research activities in several countries has significantly contributed to the uptake of both Positive Deviance and Hearth.

Adventist Development and Relief Agency (ADRA), **Africare**, **CARE, Christian Children's Fund**, **Mercy Corps**, **Save the Children**, **World Relief**, **World Vision**, and others implemented PD/Hearth in different communities around the world. The hard work of communities, Hearth volunteers and field staff made the lessons learned, cases, and exercises presented here possible.

Olga Wollinka initiated the development of this document and provided valuable insight based on her World Relief experience with PD/Hearth.

Lynette Walker solicited feedback from a team of reviewers and reorganized and wrote the final version of the manual.

Additional reviewers provided extensive input on several drafts: **Judiann McNulty** (Mercy Corps), **Karen LeBan** (CORE), **Caroline Tanner** (FANTA), **Valerie Flax** (consultant), **Hannah Gilk** (Pearl S. Buck Foundation), **Judy Gillens** (FOCAS), and **Karla Pearcy** (consultant).

Several copyeditors contributed to the document at its various stages: **Alicia Oliver**, **Lucia Tiffany**, **Justine Landegger** and **Robin Steinwand**.

Regina Doyle designed the layout, graphic design, and illustrations.

Our appreciation to the many individuals & organizations who were not mentioned but who have contributed immensely to the development of Positive Deviance/Hearth.

In addition to those persons mentioned, we want to express our appreciation and gratitude to the many individuals and organizations who were not mentioned but who have contributed immensely to the development of PD/Hearth programs around the world. Thank you.

With the hope that we are able to bring the practices of these extraordinary positive deviants into the norm, and learn to practice their good child caring, feeding, and health-seeking behaviors, we present to you, the implementers, this resource guide to the PD/Hearth approach.

Sincerely,

Judiann McNulty, Co-Chair
The Nutrition Working Group
Child Survival Collaborations and Resources (CORE) Group

Karen LeBan, Executive Director
Child Survival Collaborations and Resources (CORE) Group

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OVERVIEW of POSITIVE DEVIANCE / HEARTH

Who Should Read this Guide?

This resource guide is designed for program managers interested in mobilizing communities to sustainably rehabilitate malnourished children.

How to Use this Guide

Chapter One will help you decide if Positive Deviance/Hearth is the right approach for your community. Subsequent chapters contain useful exercises, tips and lessons learned by non-governmental organizations successfully implementing PD/Hearth around the world. Practical information and materials guide you through a series of steps to implement an effective Positive Deviance (PD)/Hearth program. We recommend that you read the entire guide before starting implementation, as a thorough understanding of the process will simplify your program planning.

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Remember that local adaptation is a must. Include the essential elements listed in this chapter and then be creative and experiment. There are a multitude of variations that can be made to adapt the approach for your project. Each individual project design is dependent on available resources and the process of combining them. As you carry out your own PD/Hearth program, you will learn many lessons from your particular experience. Document your experience to share around the global Hearth. The global Hearth is fueled and kept warm by people such as you, who are looking for workable solutions to the problem of malnutrition.

What is PD/Hearth?

PD/Hearth is a successful approach to decrease malnutrition. The Positive Deviance/Hearth approach has enabled hundreds of communities to reduce current levels of childhood malnutrition and to prevent malnutrition years after the program's completion.

PD/Hearth is a successful approach to decrease malnutrition: it has enabled hundreds of communities to reduce current levels of childhood malnutrition and to prevent malnutrition years after the program's completion.

Goals of a PD/Hearth Program

1. To quickly rehabilitate malnourished children identified in the community;
2. To enable families to sustain the rehabilitation of these children at home on their own; and
3. To prevent future malnutrition among all children born in the community by changing community norms in childcare, feeding and health-seeking practices.

PD/Hearth combines two approaches proven to successfully reduce child malnutrition and promote the normal development of the child at the community level.

The PD/Hearth process taps into local wisdom for successfully treating and preventing malnutrition and spreads that wisdom throughout the community.

The Positive Deviance Approach

Positive Deviance is based on the premise that some solutions to community problems already exist within the community and just need to be discovered. Because behaviors change slowly, most public health practitioners agree that the solutions discovered within a community are more sustainable than those brought into the community from the outside. The PD/Hearth process taps into local wisdom for successfully treating and preventing malnutrition and spreads that wisdom throughout the community.

Positive Deviance is a "strength-based" or "asset-based" approach based on the belief that in every community there are certain individuals ("Positive Deviants") whose special, or uncommon, practices and behaviors enable them to find better ways to prevent malnutrition than their neighbors who share the same resources and face the same risks. Through a dynamic process called the Positive Deviance Inquiry (PDI), program staff invites community members to discover the unique practices that contribute to a better nutritional outcome in the child. The program staff and community members then design an intervention to enable families with malnourished children to learn and practice these and other beneficial behaviors.

Positive Deviants all demonstrate certain behaviors and practices, which have enabled them to successfully solve problems and overcome formidable barriers.

In every community, be it the inner cities of the United States, the slums of Manila, Addis Ababa, Cairo, or impoverished rural villages in Myanmar or Nicaragua, there are **Positive Deviants**. These Positive Deviants all demonstrate certain behaviors and practices, which have enabled them to successfully solve problems and overcome formidable barriers. The Positive Deviance approach has been used extensively in fighting malnutrition, but is also being used in other areas such as maternal and newborn care and condom use among high-risk groups.

The Hearth Approach

In the Hearth approach, community volunteers and caregivers of malnourished children practice new cooking, feeding, hygiene and caring behaviors shown to be successful for rehabilitating malnourished children. The selected practices come from both the findings of the Positive Deviance Inquiry and emphasis behaviors highlighted by public health experts. Volunteers actively involve the mother and child in rehabilitation and learning in a comfortable home situation and work to enable the families to sustain the child's enhanced nutritional status at home. The Hearth session consists of nutritional rehabilitation and education over a twelve-day period followed by home visits to the caregivers by volunteers.

The Hearth approach promotes behavior change and empowers caregivers to take responsibility for nutritional rehabilitation of their children using local knowledge and resources. After two weeks of being fed additional high-calorie foods, children become more energetic and their appetites increase. Visible changes in the child, coupled with the "learning by doing" method, results in improved caregiver confidence and skills in feeding, child care, hygiene and health-seeking practices. Improved practices, regardless of mothers' education levels, enhance child growth and development. This approach successfully reduces malnutrition in the target community by enabling community members to discover the wisdom of Positive Deviant mothers and to practice this wisdom in the daily Hearth sessions.

Positive Deviance/Hearth is an effective community mobilization tool, galvanizing communities into action by involving different strata of the community to work together to solve a problem and discover the solution from within. It focuses on maximizing existing resources, skills and strategies to overcome a problem and makes extensive use of participatory methodologies and the Participatory Learning and Action process.

While PD/Hearth must be locally adapted and many of the implementation steps are flexible, there are several essential elements that must be included in order to maintain the effectiveness of the PD/Hearth approach.

Experience has shown that all effective programs:

- ♥ Conduct a Positive Deviance Inquiry in every target community using community members and staff
- ♥ Utilize community women volunteers to conduct the Hearth sessions and the follow-up home visits
- ♥ Prior to Hearth sessions, de-worm all children and provide needed micronutrients
- ♥ Use growth monitoring/promotion to identify newly malnourished children and monitor nutritional progress
- ♥ Ensure that caregivers bring a daily contribution of food and/or materials to the Hearth sessions

HEARTH

Hearth sessions consist of nutritional rehabilitation & education

Visible changes in the child, coupled with the 'learning by doing' method, results in improved caregiver confidence and skills in feeding, child care, and hygiene and health-seeking practices.

ESSENTIAL ELEMENTS

Effective Positive Deviance / Hearth Programs

- ♥ Design Hearth session menus based on locally available and affordable foods
- ♥ Have caregivers present and actively involved every day of the Hearth session
- ♥ Conduct the Hearth session for 10-12 days within a two week period
- ♥ Include follow-up visits at home for two weeks after the Hearth session to ensure the average of 21 days of practice needed to change a new behavior into a habit
- ♥ Actively involve the community throughout the process

Beneficial Behaviors and Practices Promoted by PD/Hearth

The beneficial household practices at the core of the PD/Hearth program are divided into three or four main categories: feeding, caring, hygiene and health seeking.

Feeding practices: Good practices include feeding young children over six months a variety of foods in small amounts throughout the day in addition to breast milk, actively feeding, feeding during illness and recovery, and managing children with poor appetites.

Caring practices: Positive interaction between a child and primary and secondary caregivers fosters emotional and psychological development. Positive practices include frequent verbal interaction with the child, giving attention to the child and demonstrating affection, division of labor to allow for proper supervision and childcare, and active participation of fathers in childcare. These and other childcare practices are critical to normal child development and are often overlooked.

Beneficial practices need to be reviewed in the cultural context of the community in which the PD/Hearth is implemented.

Hygiene practices (sometimes included in caring practices): Body, food and environmental hygiene play an important role in keeping a child healthy and preventing diarrheal diseases and worm infection. One single hygienic practice, washing hands with soap before eating and after defecating, has become the focus of the World Health Organisation's campaign to reduce the incidence of diarrheal diseases.

Health-seeking practices: Besides providing the child with a full course of immunizations before his/her first birthday, timely treatment of childhood illnesses and timely seeking of professional help play an important role in keeping the child healthy.

These practices need to be reviewed in the cultural context of the communities in which the PD/Hearth is implemented. Program staff collaborate with local partners to select the key priority behaviors in each community. Chapter 4 includes examples of beneficial practices discovered in different communities through the PD/Hearth approach. It is also useful to look at the sixteen key

family practices adopted by WHO and UNICEF for Household and Community Integrated Management of Childhood Illness (IMCI) to decrease the main causes of child mortality and morbidity.

TABLE 0.1 KEY COMMUNITY IMCI FAMILY PRACTICES

Physical Growth & Mental Development	Disease Prevention
♥ Breastfeed infant exclusively for six months ♥ Starting at about six months of age, feed child freshly prepared energy- and nutrient-rich complementary foods, while continuing to breastfeed up to two years or longer ♥ Ensure that child receives adequate amounts of micro-nutrients (Vitamin A and iron, in particular), either in diet or through supplementation ♥ Promote mental and social development by responding to child's needs for care through talking, playing, and providing a stimulating environment	♥ Take child as scheduled to complete the full course of immunizations (BCG, DPT, OPV, and measles) before the first birthday ♥ Dispose of feces, including child feces, safely; wash hands after defecation, before preparing meals, and before feeding ♥ Protect child in malaria-endemic areas by ensuring sleep under insecticide-treated bednet ♥ Adopt and sustain appropriate behaviors regarding prevention and care for HIV/AIDS affected people, including orphans
Appropriate Home Care	**Seeking Care**
♥ Continue to feed and offer more fluids, including breast-milk, to child when sick ♥ Give sick child appropriate home treatment for infections ♥ Take appropriate actions to prevent and manage child injuries and accidents ♥ Prevent child abuse and neglect and take appropriate action when it has occurred ♥ Ensure that men actively participate in providing child-care and are involved in the reproductive health of the family	♥ Recognize when sick child needs treatment outside the home and seek care from appropriate providers ♥ Follow the health worker's advice about treatment, follow-up, and referral ♥ Ensure that every pregnant woman has adequate antenatal care including at least four antenatal visits with an appropriate health care provider, Tetanus Toxoid vaccination and support from family and community in seeking care at the time of delivery and during the post-partum and lactation period

Sixteen key family practices significantly reduce child illness and mortality.

Source: Presented at The International Workshop on Improving Children's Health and Nutrition in Communities, Durban, June 20-23, 2000 (1)

PD/Hearth vs. Traditional Nutrition Programs

Traditional nutrition interventions include growth monitoring, counseling and the provision of supplemental foods and micronutrients, such as Vitamin A.

Growth monitoring, an important component of any nutrition intervention serves a number of functions. While its primary purpose is to identify malnourished children, it can also enable caregivers to monitor their child's growth, encourage those with healthy children to maintain their children's health and identify children with underlying diseases and refer them for treatment. It is also used to monitor a target group's nutritional status over time and to provide a quantitative impact measuring tool, as well as a sustained impact measuring tool.

For at least the past two decades, local health workers have mobilized millions of villages to regularly weigh their children in an effort to address malnutrition. Salter scales, market scales and bathroom scales throughout the developing world have been used to monitor the weights of children under five years old. National ministries of health have produced Growth Monitoring Cards on which the weights of children are plotted.

But what happens after the weighing? Has the growth of individual children improved? Has the nutritional status of children in the community improved? Does weighing itself improve nutritional status? Often, when monthly growth data for all children in a community is tabulated and trends are reviewed over a year, it becomes clear that the growth monitoring sessions have produced little change in nutritional status. As one prominent public health doctor exclaims, we are literally "weighing children to death." (2) Plotting a falling growth curve of a child whose weight eventually falls in the severely malnourished zone, often leaves a volunteer health worker unfazed. Pleased that she was able to plot the weight correctly, she misses the important next step — interpreting the meaning of the weight change. Child growth is a dynamic process. A focus on achieving adequate weight gain each month shifts attention to those children with a current problem. A child's failure to gain weight is often the first sign of an underlying problem.

In traditional programs that rely on external food resources and paid health providers, the children often relapse into their previous malnourished state as soon as the feeding sessions are over.

Counseling is a key component of a nutrition program, providing the caregiver with information on how to change the child's nutritional status and positively impact the rate of growth. Even when the community health volunteer interprets the plotted information properly, however, she may talk with the mother about proper foods to feed a child during the noisy, busy growth monitoring session. There may not be enough time to cover breastfeeding, home care of illness, health referral or other topics contributing to malnutrition. Thus, the caregiver often departs from the session without knowing or remembering the practical steps she can take at home.

For decades, relief and development organizations all over the world have provided therapeutic and supplemental feeding programs for those children classified as malnourished and have succeeded in rehabilitating many children. However, since the programs are based on providing external food resources, most often in centers with paid health providers, rather than on achieving behavior change in families, the children often relapse into their previous malnourished state as soon as the feeding sessions are over.

The traditional approaches to nutrition interventions tend to look for problems in the community that need to be solved. The PD/Hearth approach looks for the positive behaviors and strengths that exist in the community and can be built upon. Looking at the questions typically used in these two approaches shows the difference.

TABLE 0.2 TRADITIONAL vs PD/HEARTH APPROACH

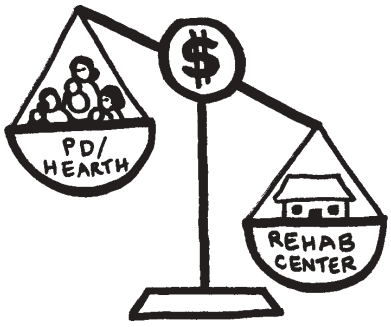
Traditional Approach	PD/Hearth Approach
What are your needs?	What are your strengths?
What is wrong?	What is working here?
What can we provide?	What are your resources?
What is lacking in the community?	What is good in your community?
What is missing here?	What can we build on?

Advantages of the PD/Hearth Approach

There are a number of advantages to the PD/Hearth Approach. PD/Hearth is:

Quick - The approach provides a solution that can quickly address an immediate problem. Children need to be rehabilitated now, which is why supervised feeding is held during a Hearth session. Caregivers then implement the same practices at home and report on their experiences at the Hearth sessions. Follow-up support at home is provided to the caregivers and volunteers.

Affordable - PD/Hearth is affordable and families are not dependent on outside resources to practice the new behaviors. PD/Hearth is much more cost effective than staffing a nutrition rehabilitation center or investing in a hospital ward. In Vietnam, the program cost was approximately US$2 per child. The cost per child participant in the Hearth is one level of cost. The next level to factor into the equation are the costs saved when better home



PD/Hearth is much more cost effective than staffing a nutrition rehabilitation center or investing in a hospital ward.

Hearth not only changes the behaviors of individual families, but also changes how a community perceives malnutrition and their ability to change the situation.

practices mean the younger sibling do not suffer from malnutrition. And there is yet a third tier. If malnutrition is eliminated in a community, many children yet to be born will also benefit from the Hearth. Thus, the cost per beneficiary becomes exponentially miniscule considering the number of cases in which malnutrition, and oftentimes death, is prevented.

Participatory – Community participation is a vital ingredient in the success of the PD/Hearth approach. The community plays an important role throughout the PD/Hearth process, from discovering successful practices and strategies within the community to supporting the caregiver after the Hearth sessions are over.

Sustainable - The PD/Hearth approach is sustainable because new behaviors are internalized and continue after the Hearth sessions end. The caregivers are not simply trained to rehabilitate their malnourished children, but to sustain that rehabilitation at home. The skills practiced at the Hearth become habitual behaviors and younger siblings receive nutritional benefits from the Hearth sessions without ever having to attend one. Hearth not only changes the behaviors of individual families, but also changes how a community perceives malnutrition and their ability to change the situation. It instills positive norms across many families for healthy childcare and feeding practices. Best of all, communities gain the skills to sustain PD/Hearth, if necessary, with only local inputs.

Indigenous - Because the solution is local, progress is made quickly, without a lot of outside analysis or resources. The approach can be broadly applied, as positive deviants exist in almost all communities.

Culturally Acceptable – Because the Hearth is based on indigenous behaviors identified within the social, ethnic, linguistic and religious context of individual communities, it is by definition, culturally appropriate.

Based on Behavior Change (not primarily knowledge acquisition) - Three steps of the behavior change process are included in this approach:

1. Discovery (Positive Deviance Inquiry)
2. Demonstration (Hearth sessions)
3. Doing it (Hearth sessions and home)

Save the Children/US in Vietnam

When Save the Children was invited by the government of Vietnam in 1990 to create a program to enable poor villagers to solve the pervasive problem of malnutrition, it seemed an enormous challenge. In order to find a long-term solution to childhood malnutrition at the grass roots level, it was necessary not only to rehabilitate children, but more importantly, to find a way to ensure that their families could sustain this improved status.

Save the Children sought a new approach that would identify solutions to community problems within the community. This search led to the use of the Positive Deviance Approach. Although the concept had been known for years, its application had been primarily limited to academic studies except for a few NGO projects implemented in Haiti and Bangladesh (3). Save the Children began applying this approach with four very poor communities in Northern Vietnam. Although malnutrition in these villages affected more than 70% of all children under three, about 30% of the population managed to have well-nourished children.

Utilizing a Positive Deviance Inquiry, trained local villagers identified those very poor families with well-nourished children – the Positive Deviants – and went to their homes to learn what unique behaviors enabled them to out-perform their neighbors. It was discovered that in every poor family with a well-nourished child, the mother or caregiver was gathering sweet potato greens and would travel to the rice paddies to collect tiny shrimps and crabs, adding these to the child's diet.

Although readily available and free, the conventional wisdom held that these foods were inappropriate, or even dangerous for young children. Along with the discovery of the use of these foods, the inquiry revealed that there were other positive deviant feeding and caring practices such as breastfeeding, active feeding, hand washing, and providing adequate foods and fluids to children when ill. Based on these findings, a nutrition education and rehabilitation program was developed. Mothers or caregivers of malnourished children were invited to attend a two-week session where they would practice new ways of feeding and caring for their children.

The program provided locally available foods such as rice, tofu, fish and fat, in order to rehabilitate the children. However, in order to achieve the more difficult goal of enabling the families to sustain their children's improved status after rehabilitation, Save the Children required all caregivers to bring a handful of shrimps, crab and greens (the "positive deviant" food) as their "price of admission" to the nutrition session. It was hoped that by requiring the mothers to collect the shrimps, crabs and greens and feed them to their children for the 14 days of the program, they would continue the practice after their children were rehabilitated.

Ultimately, successful results were witnessed as a result of the PD/Hearth program. A cohort of 700 children, all with second or third degree malnutrition, participated in the Hearth program. Follow-up two years later showed that of these same children, only 3% were still second and third degree malnourished. Fifty-nine percent of all Hearth participants were rehabilitated to normal and 38% to first-degree malnutrition. This initial level of improvement was observed 14-23 months after participation in the Hearth.

The PD/Hearth program in Vietnam presents a wonderful example of how the PD/Hearth approach can have astonishing results and be scaled up to a national program. Starting in 1991 with four villages and a total population of 20,000, the program was adopted by the Ministry of Health and in 1998 reached over 256 villages with a total population of 1.2 million.

Save the Children/Vietnam data showed a dramatic impact in preventing future malnutrition. In 1991, 3% of children under three were severely malnourished, 12% were moderately malnourished and 26% were mildly malnourished. By 1995, two years after initial implementation, third degree malnutrition had been completely eliminated. Only 5% of the children were moderately malnourished while 21% were mildly malnourished. The program reduced second and third degree malnutrition by 80%. Caregivers were able to sustain enhanced nutritional status as long as two years beyond their participation in the program. The younger siblings of these children, and other children in the community born after the Hearth ended, enjoyed the same enhanced nutritional status as Hearth program participants (4).

"We are guilty of many errors and faults, but our worst crime is abandoning the children, neglecting the fountain of life. Many of the things we need can wait. The child cannot. Right now is the time his bones are being formed, his blood is being made and his senses are being developed. To him we cannot answer "Tomorrow." His name is Today."

'The Child's Name is Today'
by **Gabriele Mistral**
Nobel Prizewinning Poet
from Chile

The PD/Hearth approach is not just about shrimps, crabs or greens. Nor is it a "model" insofar as a model implies something that is fixed. Rather, it is a flexible approach, which relies on local, culturally acceptable practices within a given community.

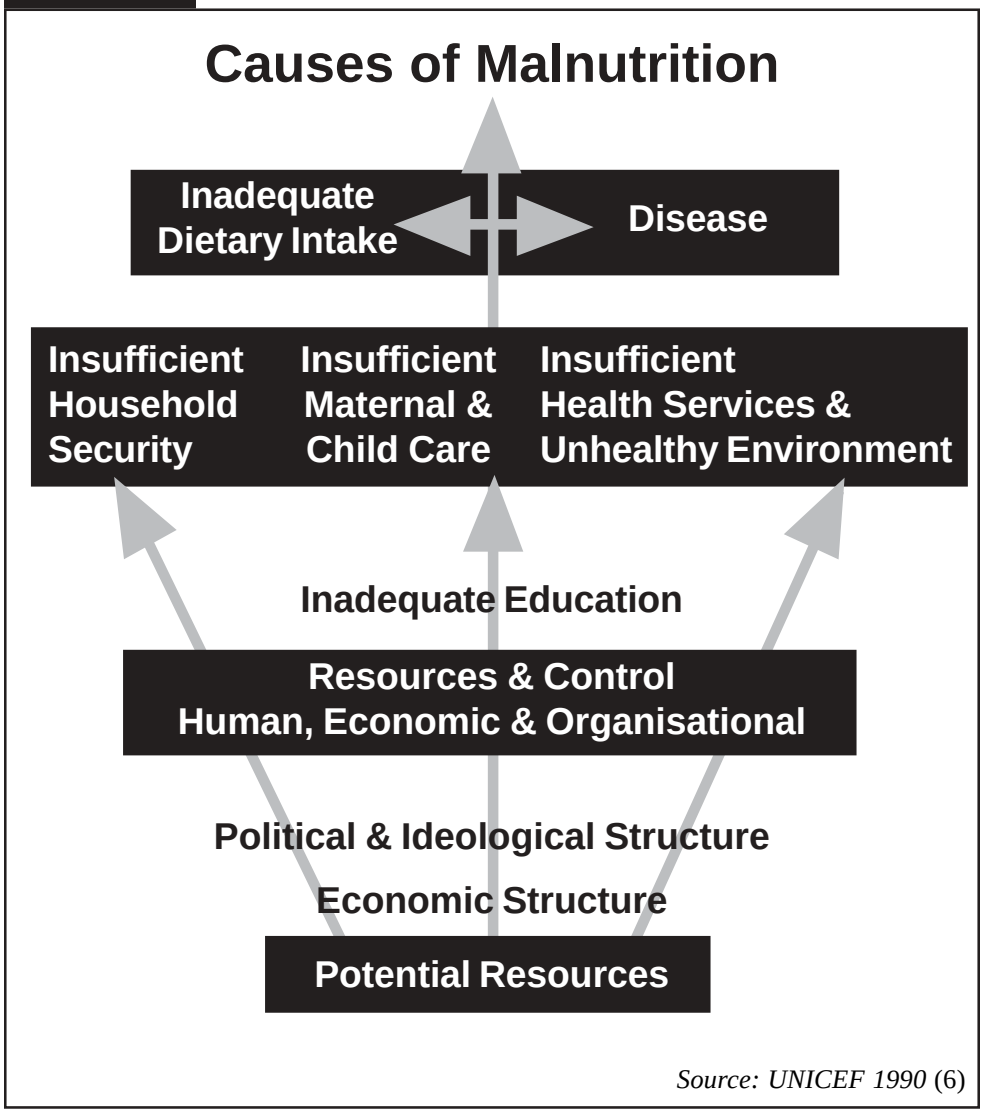
Why is Malnutrition a Problem?

Malnutrition is implicated in more than half of all child deaths worldwide. It is slow acting, persistent, and often not diagnosed. Malnutrition is a silent emergency that imperils children, women and families, and ultimately, the viability of the whole society. This crisis is real and its persistence has profound implications on the future of the global village. While malnutrition leads to death and disability of children on a vast scale, it has much larger implications. By impairing physical and mental development, malnutrition robs children of their full potential as human beings. For many children, chronic hunger has become a way of life. Even a mildly underweight child has an increased risk of dying, according to the World Health Organization.

Some malnourished children will have thin and reddish hair or be listless, apathetic, and not interested in play, food or interaction. Others may seem withdrawn and hesitant. Still others may appear normal, yet turn out to be much older than they look. Then there are the marasmic and classic kwashiorkor children who exhibit severe malnutrition in its full-blown state, and require immediate medical referral. Because of its gradual onset and high prevalence, caregivers, families, communities and governments often ignore malnutrition. Yet every malnourished child should raise a red flag that signals the need for family and community support. It points to a problem in which lack of food, inappropriate distribution of available food, poor breastfeeding and weaning practices, lack of early childhood stimulation, inadequate caregiving practices, compromised water and sanitation, and disease may all have a role.

Figure O.1 depicts the interactions between underlying and immediate causes of malnutrition. Positive Deviance/Hearth focuses on the underlying behavioral causes of malnutrition at the household level, such as inadequate maternal and child care practices, in order to address the two direct causes of malnutrition: inadequate dietary intake and disease.

FIGURE O.1 CAUSES OF MALNUTRITION



Source: UNICEF 1990 (6)

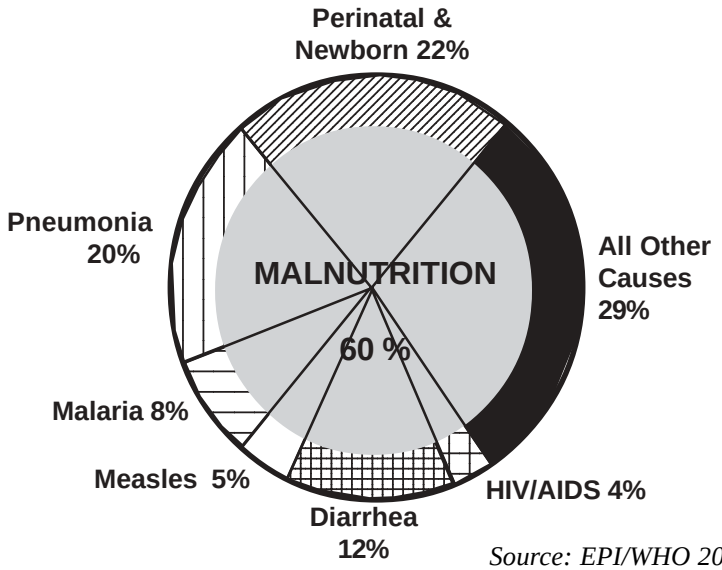
The consequences of mild malnutrition should not be underestimated. The malnourished child's low resistance to illness undermines all public health efforts. It diminishes the return of the considerable resources spent to ensure that families have access to immunization, oral rehydration therapy (ORT), sanitation, treatment for acute respiratory infection (ARI) and malaria, and HIV/AIDS education. It has been shown that 83% of malnutrition-related child mortality is due to complications of mild to moderate, as opposed to severe, forms of child malnutrition (7). When malnutrition is reduced, all public health efforts are rendered more successful.

"Inappropriate feeding practices and their consequences are major obstacles to sustainable socioeconomic development and poverty reduction. Governments will be unsuccessful in their efforts to accelerate economic development in any significant long-term sense until optimal child growth and development, especially through appropriate feeding practices, are ensured."

WHO Global Strategy on Infant & Young Child Feeding
Report of the Secretariat
55th World Health Assembly, April 2002(5)

While poverty is a tremendous factor affecting nutritional status, some impoverished families have demonstrated that this can be overcome. The PD/Hearth approach involves the community to identify the behaviors that contribute to good nutrition and the healthy development of children and mobilizes communities to sustainably rehabilitate malnourished children.

FIGURE O.2 CONTRIBUTION OF MALNUTRITION TO DEATHS IN CHILDREN UNDER 5, DEVELOPING COUNTRIES, 2000



Source: EPI/WHO 2001 data (8)

Malnutrition has long been recognized as a consequence of poverty. It is increasingly clear that it is also a cause. When malnourished, children become significantly weaker, thereby making learning difficult or impossible and infringing on their full development and future earning potential. Lack of certain nutrients also results in lower mental capacity or lower resistance to illness thereby further decreasing productivity.

Key Steps of the PD/Hearth Approach

The steps to implementing an effective PD/Hearth program will be described in detail in the following chapters. In brief, the key steps and results are:

STEP 1 **Decide whether the PD/Hearth approach is feasible in the target community: Chapter 1**

RESULT Assessment of the key components for effectiveness within the community and implementing organization and an informed decision on whether to initiate the PD/Hearth approach

STEP 2 **Begin mobilizing the community and select and train community resource persons: Chapter 2**

RESULT Support of the community through identification and involvement of decision makers and influential individuals, formation and/or strengthening of a Village Health Committee, and the identification and training of PD/Hearth resource personnel including supervisors, trainers, project managers, and Community Health Volunteers

Prepare for a Positive Deviance Inquiry: Chapter 3 — **STEP 3**

RESULT Awareness of current, normative practices that affect the nutritional status and development of children, a wealth ranking of families, and a nutritional baseline assessment on all children in the target group to identify the malnourished and Positive Deviant (PD) individuals in the community

Conduct a Positive Deviance Inquiry: Chapter 4 — **STEP 4**

RESULT Identification of key feeding, caring, hygienic and health-seeking behaviors to be taught in the Hearth sessions based on home visits to PD families

Design Hearth Sessions: Chapter 5 — **STEP 5**

RESULT A schedule of twelve home-based sessions with healthy menus and effective health education messages

Conduct the Hearth sessions with malnourished children and their caregivers: Chapter 6 — **STEP 6**

RESULT Recovery of malnourished children and improved knowledge and practice of new behaviors among caregivers

Support new behaviors through follow-up visits: Chapter 6 — **STEP 7**

RESULT Participants practicing new behaviors at the household level

Repeat Hearth as needed: Chapter 6 — **STEP 8**

RESULT Majority of children rehabilitated and growing well

Expand PD/Hearth program to additional communities: Chapter 7 — **STEP 9**

RESULT Additional communities rehabilitating malnourished children

Sustainability needs to be built-in and planned from the start and not tacked on as an after thought at the end of a Hearth project. Chapter 7 includes a discussion of this issue and how it can be considered in the early phases of planning a PD/Hearth program. Each chapter begins with a depiction of the nine steps and highlights the step being covered so that you can follow your progression in the process.

***Monitoring and Evaluation** is important to all steps of PD/Hearth. It is covered in detail in Chapter 8.*

DEFINITIONS

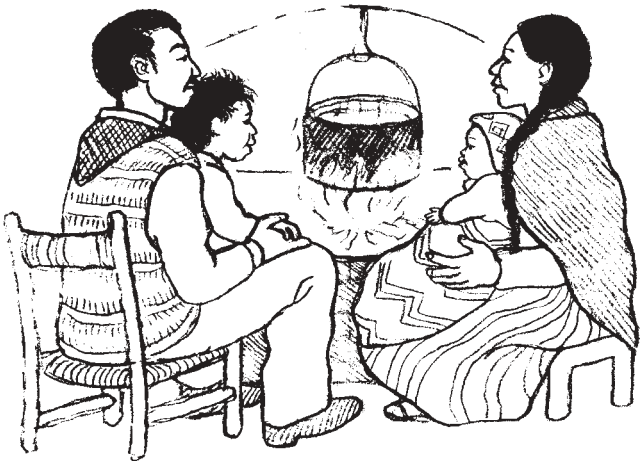
Positive Deviance / Hearth Terms

Caregiver The person who is most directly involved in the care of the child. The caregiver may be a mother, grandmother, father, or older sibling. While this manual sometimes refers to the mother instead of the caregiver, it is important to realize that the caregiver can be anyone in the child's life, and it is this primary caregiver who should be invited to the Hearth sessions.

Deviant A person or behavior that departs from the traditional way of doing things. A change of course which turns aside from the current path and takes a new path. Usually the term "deviant" is considered negative; however, it can be negative or positive since it is only a deviation from the norm.

Hearth A home fireplace/kitchen that usually suggests feelings of warmth, coziness, home, and family. Term used to describe the setting for the nutrition education and rehabilitation sessions.

"A hearth is a home fireplace / kitchen suggesting feelings of warmth, coziness, home, and family."



Hearth Session (or Hearths) A 12-day series of sessions designed to rehabilitate malnourished children and teach Positive Deviant practices and behaviors. Located in a home setting, caregivers and volunteers prepare an extra energy-rich/ calorie-dense supplemental meal or snack to feed the malnourished children. Caregivers prepare Positive Deviant foods and practice other positive childcare behaviors.

Positive Something that is working or something that people are doing right. A positive behavior is utilizing locally available resources, instead of "special" resources that are unavailable to all in the community. Finding positive behaviors focuses on identifying success instead of failure.

Positive Deviance Approach in Development A development approach that helps a community and its members find existing, sustainable solutions to a community problem by understanding the behaviors of positive deviant individuals within the community.

Positive Deviant Behavior or Practice An uncommon and demonstrably successful practice.

DEFINITIONS

Positive Deviant Family Family members who practice uncommon, beneficial practices which result in having a healthy, well-nourished child.

Positive Deviant Food A specific, nutritious food that is used by the positive deviants in the community. This food is affordable and available to all.

Positive Deviance Inquiry (PDI) A survey tool used to discover the positive deviant person's successful or desired practices. A community's self-discovery process in which they witness practices of neighbors with healthy and well-nourished children. An observation of those children that thrive under common and ordinary conditions. Includes observation of these children's families and their positive coping mechanisms that can be replicated within the community.

Positive Deviant Inquiry Team (PDI team) The team that conducts the PDI. This team may include community members, project staff, health personnel, and individuals outside of the health sector.

Positive Deviant Person A person whose special practices or behaviors enable him/her to overcome a problem more successfully than his/her neighbors who have access to the same resources and share the same risk factors. In the context of malnutrition, a PD child is a well-nourished child who is part of a poor family (according to village standards).

Note: These terms must be translated into common wording in the local language before the training of the community and Hearth volunteers takes place. For example, in some countries, a positive deviant person is called a "role model person" or a "*maman lumière*."

DEFINITIONS

Common Nutrition Terms (9)

Anemia Reduction in red blood cells, caused by iron deficiency. In children, anemia can be caused by loss of blood, parasites (such as hookworm), and other vitamin and mineral dietary deficiencies such as Vitamin A, Vitamin C, Vitamin B-12, and folic acid.

Kwashiorkor Severe, acute malnutrition characterized by thin, sparse hair that falls out easily, swelling of both feet (edema), dry scaly skin especially on the arms and legs, a puffy face and swollen abdomen.

Malnutrition Failure to achieve nutrient requirements, which can impair physical and mental health. Generalized inadequate nutrition demonstrated by stunting, underweight, and wasting in individuals; and deficiencies of micronutrients, such as Vitamin A, zinc, iodine, iron, and folic acid. Malnutrition is defined by the World Health Organization using Weight-for-Age standards for children under-5 years old.

Marasmus Severe visible wasting requiring urgent medical attention. Child looks thin (skin and bones), with little fat and muscle; outline of ribs clearly visible.

Stunting Chronic undernourishment resulting in failure of a child to grow to his or her normal height for age.

Underweight Undernourished child seriously below normal weight for his or her age. This is the measure most commonly used in PD/Hearth programs.

Wasting Acute undernourishment resulting in a child seriously below the normal weight for height. Requires medical attention.

Z-scores Also called a standard deviation score. A measurement of how far and in what direction a child's nutritional status deviates from the mean on the internationally recommended reference population of other children with the same age or height. Weights that are one standard deviation below the norm (<-1 Z scores) are considered mildly malnourished, two standard deviations (<-2 Z scores) are moderately malnourished and three standard deviations (<-3 Z scores) are severely malnourished.

CHAPTER ONE
Step 1: Determine if PD / Hearth is for You

STEP 1

Decide whether the PD/Hearth approach is feasible in the target community by considering:

A. General conditions
B. Community commitment
C. Implementing agency commitment

The decision to implement a PD/Hearth program requires careful consideration based on a number of variables including general conditions, community commitment, and implementing agency commitment. It is not an intervention to be taken lightly, simply as an add-on to an existing program. The following criteria should be carefully considered in deciding whether the PD/Hearth approach is appropriate for your situation.

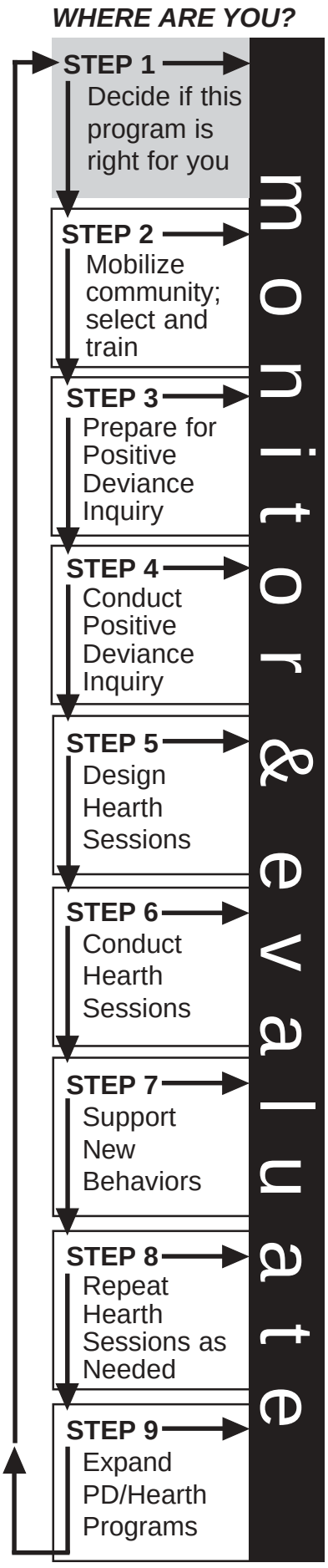
A. General Conditions

There are certain general characteristics associated with successful PD/Hearth programs:

Malnutrition Prevalence in the Community

There should be a critical mass of malnourished children in order to justify the PD/Hearth effort. PD/Hearth is most effective in communities where at least 30% of children are malnourished (including mild, moderate, and severe malnutrition). Since the approach requires a fairly high level of community participation, it may not be the best use of resources where the prevalence of malnutrition is less than 30%. The method used to determine malnutrition is based on standard weight-for-age measurements used by most Ministry of Health Growth Monitoring Cards.

If your initial malnutrition rates seem low, consider the possibility that not all children may be registered. Door-to-door registration and weighing are important to ensure an accurate assessment of malnutrition rates. Registries from local health centers are often in need of updating to include immigrants or children born in the past year. You may also want to consider children who are not yet malnourished, but whose growth cards reveal growth faltering (weight loss) for more than two months. Intervening with these children can prevent subsequent malnutrition. (1)



Local, affordable food must be available in order for the community to sustain the feeding behaviors.

Availability of Affordable Local Foods

Local, affordable food must be available in order for the community to sustain the feeding behaviors. PD/Hearth is not recommended in areas of prolonged periods (more than three months) of household food insecurity or where relief-feeding programs are the main food source. To find out about the availability of affordable food:

- ♥ Conduct an informal market survey
- ♥ Visit local markets and shops to check food availability and prices
- ♥ Inquire about seasonality of foods
- ♥ Assess availability of family food stores, including food grown in kitchen gardens or fields and livestock or poultry

Geographic Proximity of Homes

PD/Hearth works best when houses are relatively close together because caregivers will be able to attend daily sessions without spending additional hours walking. The proximity will also make it easier for volunteers to frequently visit the homes of participating families.

Urban vs. Rural Settings

Although the majority of PD/Hearth projects have been implemented in rural settings, urban projects exist in a growing list of countries.

Experience shows that PD/Hearth can be implemented successfully in both urban and rural settings. In urban communities, food is purchased. In most rural areas, fruits and vegetables are grown and people can fish or raise livestock. The PDI will reveal the coping mechanisms that some families have found to work within their situation. Additionally, urban areas are more densely populated, which means short distances between homes for Hearth visits. Although the majority of PD/Hearth projects have been implemented in rural settings to date, urban projects exist in Haiti, Ethiopia, Guinea, Madagascar, Indonesia and India.

Existence of Food Aid (Title II, Food for Work, World Food Programme, etc.)

PD/Hearth is meant to tap into local knowledge and resources in order to combat malnutrition. Providing food from the outside in the form of charity or food-for-work complicates the goal of using indigenous, available foods. However, in countries that are receiving food aid it is important to find creative ways to utilize these food sources in a manner that does not diminish the Hearth program's impact, nor jeopardize its major tenets.

A PDI may reveal that some families are making use of the food contributions better than others. They may be preparing it in a palatable way or selling it to buy other foods. When the food aid ends, a new PDI should be conducted to find solutions to malnutrition not dependant on food aid inputs.

One way food aid may be integrated into the Hearth is through the contribution of the staple food and oil over a limited period of time, in

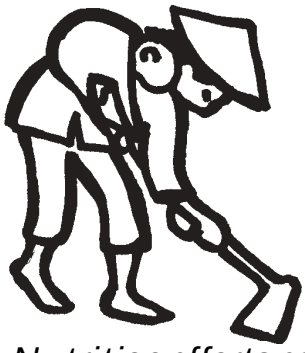
order to help with the rehabilitative objectives of the program. Caregivers would still be required to bring the Positive Deviant food to the Hearth session and practice other active feeding, hygiene and caring behaviors. Another idea would be to use food aid as an in-kind incentive for the trainers/ supervisors who conduct the Hearth sessions. In any case, it must be understood that food aid is time-limited and not sustainable, so a plan to wean the community off food aid must be built into the Hearth design.

Internally Displaced Persons and Refugees

PD/Hearth is not the best approach for projects involving internally displaced and refugee populations. However, the PD approach can be an effective tool to identify unique coping strategies and skills some individuals or families use to face these situations.

Landless Populations or Squatter Communities

This type of community is unstable, but, nonetheless, positive deviants exist. A combined strategy with an income-generating component to support household food security would be necessary.



Nutrition efforts can be integrated into a variety of existing programs including agriculture, food security, economic development, and water and sanitation.

Existence of Complementary Public Health and Development Programs

There are several public health programs that work synergistically with PD/Hearth to improve the health and nutritional status of children. It is important to assess the present status of these programs and make any decisions in light of program goals and available resources. Although PD/ Hearth can be implemented in communities without health services, a project in Myanmar found that young children's nutritional gains in the project were set back by the high tuberculosis rate and a measles outbreak. As possible, programs should consider implementing complementary health activities or partnering with other organizations who can provide:

- ♥ Immunization program
- ♥ Micro-nutrient supplementation
- ♥ De-worming
- ♥ Referral system to local health facilities for ill children

Nutrition efforts can be integrated into a variety of existing programs including agriculture, food security, economic development, and water and sanitation. Where Integrated Management of Childhood Illness (IMCI) exists, PD/Hearth can complement health education messages and benefit from IMCI's community assessment, classification, treatment and referral mechanisms. Additionally, malnutrition is both a cause and effect of many other public health problems and cannot be treated alone. PD/Hearth programs fit well within child survival programs and, if properly implemented, can have dramatic effects on other public health indicators such as the incidence of diarrheal disease and the mortality rates from pneumonia and malaria.

Malnutrition is both a cause and effect of many other public health problems and should not be treated in isolation.

Systems for Identifying and Tracking Malnourished Children

The following programs are beneficial in a community committed to implementing PD/Hearth and sustaining lower childhood malnutrition rates. While their existence characterizes an optimal situation for PD/Hearth implementation, their lack in a given community should not automatically eliminate the community from consideration. It is important to assess whether these monitoring programs exist and at what level. One must then make a decision based on the other criteria, program goals, and resources available whether to continue with implementation in their absence, to work on strengthening one or all of these items, or to partner with other organizations who can bring in needed resources or expertise.

♥ ***Willingness to Start or Continue Growth Monitoring Promotion Programs***

Growth monitoring is the means for monitoring nutrition status of children over time. It will identify malnourished children who require the Hearth sessions and children who do not maintain adequate growth after their participation in Hearth has ended.

♥ ***Registration of Every Child in Target Group***

A population-based registration is necessary to reach every child in the prioritized age group (0-3yrs), and obtain community-wide nutritional status information. This enables the clear definition of the target community of malnourished children and their caregivers.

♥ ***Vital Events Reporting to Capture New Births, Deaths and Migration***

In order to track each child, and enroll new members into the community, either through birth or migration, it is necessary to collect vital events information. If this is not yet being done, village leaders should be willing to set up or organize systems to collect this basic data.

B. Community Commitment

Commitment on behalf of the community is vital to the success of the PD/Hearth effort: if community leaders are not invested in the process, the effort should not be undertaken.

Commitment on behalf of the community is vital to the success of PD/Hearth. Contributions from the community are expected, are essential to success, and reflect their level of support. Contributions from individual caregivers who attend the Hearth, contributions of the Hearth volunteers who host and implement PD/Hearths, community leaders and health committees that provide both moral and material support are all invaluable assets. Though difficult to quantify and count, these are the contributions that really fund the program and determine its success or failure:

Presence of Committed Community Leadership

Upon meeting with community formal and informal leaders, health personnel and religious leaders, assess if there is a concern for health in the community and a desire to reduce malnutrition. If community leaders are not invested in the PD/Hearth process, the effort should not be undertaken.

Presence of a Committed Village Health Committee

Assess the presence and functionality of a Village Health Committee. If this committee does not exist, it must be formed. The role of a Village Health Committee is to:

- ♥ Manage and coordinate health activities at the local level
- ♥ Set criteria for and select and supervise community volunteers
- ♥ Collaborate with the organization implementing the Hearth program and with district health staff

Availability of Potential Volunteers in the Community

The key human resource for Hearth is the Hearth volunteer. One to two volunteer women are needed from each Hearth site. The volunteers conduct the Hearth sessions in their homes, preparing food, supervising caregivers, demonstrating active feeding and conveying simple messages to other mothers. Their commitment to the program is for a minimum of two months and during that time, they are expected to provide significant time and effort towards achieving the project goals. PD/Hearth programs can recruit current Community Health Workers (CHWs) where they exist. More information on the job description, recruitment and training of Hearth volunteers is provided in Chapter 2.

Volunteers conduct the Hearth sessions in their homes, preparing food, supervising caregivers, demonstrating active feeding and conveying simple messages to other mothers.

C. Implementing Agency Commitment

The national director of the lead implementing agency must have full buy-in to the project. Unless management and staff are committed to focusing on this methodology, it is not recommended. It has been proven that successful Hearth programs are those that have the full commitment of the implementing agency at both the national and international levels. Given the intensity of human resource needs, the program can suffer without the will of top management behind it. The largest investment in PD/Hearth is the hard work and commitment of staff and volunteers. The program does not rely on large investments in infrastructure or tangible inputs but on process and launching a concept into motion. Therefore, human resources are extremely critical and need to be considered before starting this effort. Table 1.1 on page 22 illustrates the staffing needs for supporting a population with sixty malnourished children.

Hearth Project Manager and/or Lead Trainer

One project manager is needed to oversee the entire project including training staff; overseeing the process; planning menus; coordinating with community leaders, the Ministry of Health, and other partners; monitoring and evaluating the results; etc. Different organizations make different decisions regarding hiring a local project manager or an expatriate. The sample budget at the end of this chapter includes a Project Manager, who phases over responsibility to the local lead trainer after the first year. International Hearth consultants are available to set up PD/Hearth programs, train staff, trouble-shoot when a program is facing difficulties and evaluate Hearth programs. One option is to use a PD/Hearth consultant to help get

Not all organizations have found it necessary to employ external knowledge --- many successful projects have been run by local program managers and drawn on external assistance only when needed.

the program started, assess the program six months to one year later to ensure the program is working optimally and provide recommendations to streamline the approach and plan for expansion. One must note however, that not all organizations have found it necessary to employ external knowledge. Many successful projects have been run by local program managers and drawn on external assistance only when needed.

Supervisors/Trainers

Supervisors/trainers are needed for every ten to twenty volunteers. These individuals are paid by the project and serve to train the volunteers and supervise the Hearth process.

Food Resources

By design, food costs for a PD/Hearth project are minimal since the project is based on low-cost, locally available food, mainly contributed by the community. The responsibility of gathering basic materials for Hearth sessions should be shared among the community, the implementing agency and the caregivers. In the beginning, the implementing agency may have to contribute more food, especially food for rehabilitation. Once the community understands the value of Hearth sessions and sees children who were sickly and lethargic become active and healthy, the perceived value of the program increases and the community is more willing to bear the costs. The demonstration of the power of the community's resources and resourcefulness is only possible if external inputs are minimized. It is important to consider the available resources of the caregivers, community, and organization in this stage.

TABLE 1.1 SAMPLE STAFFING NEEDS FOR 60 CHILDREN

Staffing	Total	Calculation	Comments
Health Volunteers	10 to 20	With 5 to10 children/site, 10 Hearth sites needed for 60 children. With 1 to 2 volunteers per Hearth site, 10 to20 volunteers needed	Volunteers often prefer to work in pairs, resulting in 2 volunteers per Hearth site
Supervisor/ Trainer	1 to 2	1 for each 10 to20 volunteers	Due to distance, rural supervisors can generally support 10 volunteers while urban supervisors can support up to 20 volunteers
Hearth Manager / Lead Trainer	1	1 for project	

Other Project Costs

Other project costs include materials, travel, equipment, communications, and housing. A budget worksheet itemizing costs over a three-year time period is included at the end of this chapter. The largest financial investments are at the beginning of the program, but are generally not recurring. Costs will be lower for an agency or health department with an existing office than for an NGO that will have to cover costs for office space, shared staff, communications, etc.

Eventually, Village Health Committees with support of local leaders, assume full responsibility for managing Hearth and for repeating the program.

A PD/Hearth Program Involves Various Actors

Often, an international NGO or the Ministry of Health takes the lead. Their role is to orient and train local health staff or local NGOs to implement PD/Hearth at the community level. To assure quality implementation, the lead agency must devote special attention to monitoring and supporting the quality of mobilizing, training and supervision carried out by the local implementing agency and assure that they adhere to the fundamental principles of the approach.

The local agency is responsible for mobilizing the community, providing guidance in the formation of a Village Health Committee and selection of Hearth volunteers, training these groups or individuals and monitoring the day-to-day implementation of Hearth during the initial rotations. They may also assist the community in implementing a growth monitoring program and providing complementary health services.

Eventually, the Village Health Committees, with support of their local leaders, assume full responsibility for managing Hearth and for repeating the program, if needed, at some future time.

Case Study: Sample Project Staffing / Beneficiary Calculations

Project Site: Urban Area of Jakarta, Indonesia

- ♥ Eight supervisors/trainers will work directly with Hearth volunteers
- ♥ Each supervisor/trainer will oversee between four and ten pairs of volunteers
- ♥ Approximately one hundred sixty volunteers will be trained
- ♥ Eighty Hearth sites are planned over the length of the project

One hundred twenty-six children in eighty Hearth sites means approximately 10,000 malnourished children will be reached during the three years of the Jakarta project.

(case study continued)

♥ Five to ten malnourished children and their caregivers will be assigned to a volunteer pair at any given time (These children will rotate after approximately two months of participation in the Hearth sessions)

♥ Forty-two children will be served at each site in a year with seven different malnourished children rotating in every other month (7 x 6)

♥ One hundred twenty-six children will be served at each Hearth site over the three years (42 x 23)

♥ One hundred twenty-six children in eighty Hearth sites yields approximately 10,000 malnourished children reached during the three years of the project

♥ Fifty thousand family beneficiaries will be reached in three years (assuming three children and two caregivers per family).

Sample Staffing Needs for 60 Malnourished Children

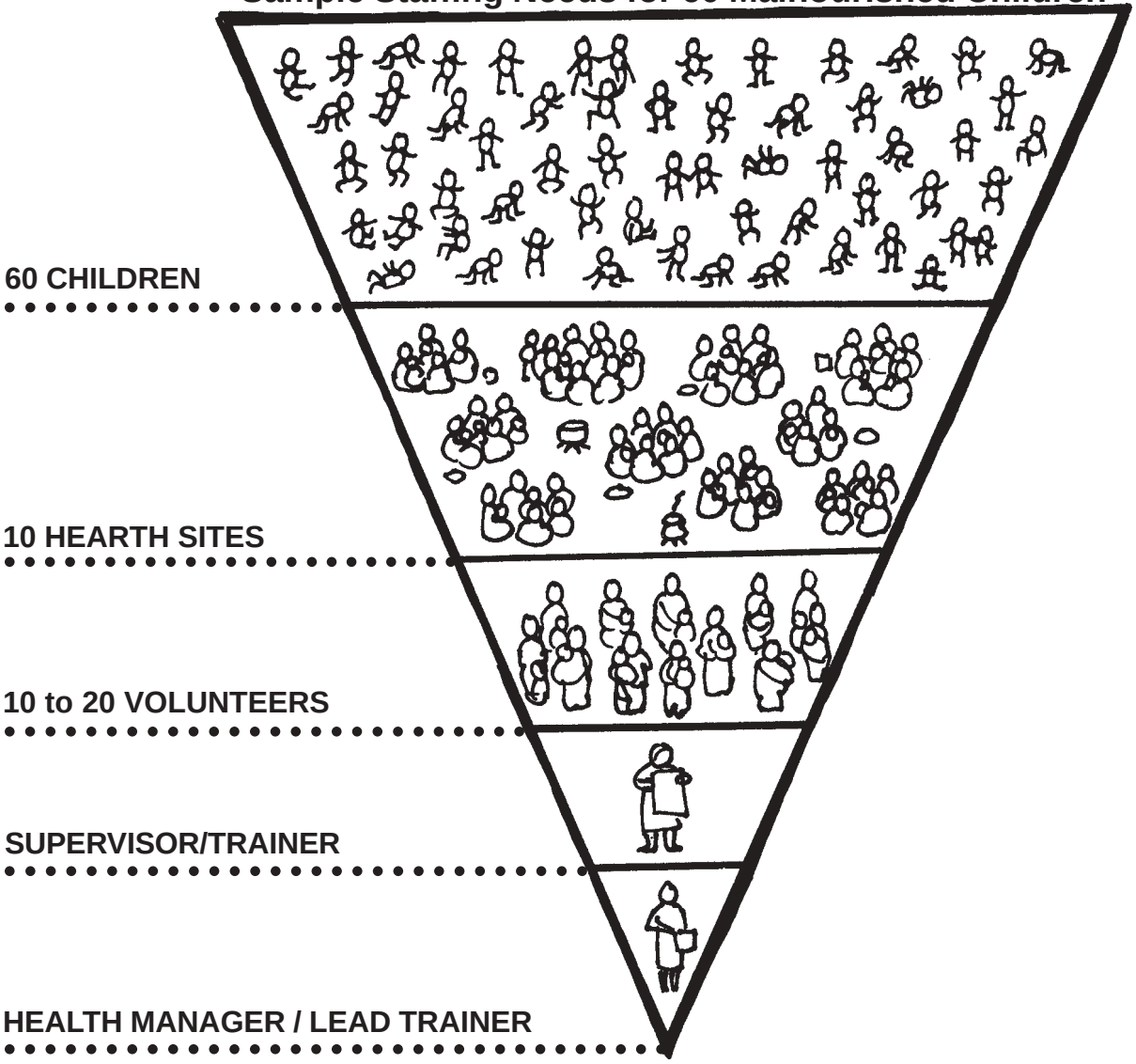


TABLE 1.2 PD/HEARTH BUDGET WORKSHEET

Budget Item				
PERSONNEL	**Year 1**	**Year 2**	**Year 3**	**TOTAL**
Health professional (expatriate or national)				
Lead trainer (national)				
Supervisor/trainers				
Office administrator/manager/support staff				
Country Director (%)				
Finance Manager (%)				
Drivers				
Senior Health Program Officer (HQ based)				
CONSULTANTS				
Headquarter technical assistance visits				
Consultant visits				
MATERIALS				
T-shirts/hats/badges for volunteers				
Pots of each Hearth				
Spoons & cooking utensils				
Oil & rice				
Soap				
Buckets				
Vitamin A*				
Anti-helminth medications*				
Growth Monitoring Cards*				
Calculators				
Office supplies				
Monitoring tools: registers & forms				
Training materials				
Production: Hearth lessons learned				
Training supplies				
TRAVEL				
Vehicle rentals: cars/motorcycles				
Cross training visits for supervisor				
Cross training visits for lead trainer				
EQUIPMENT				
Weighing scales				
Food scale				
Computers & printers				
Office furniture				
COMMUNICATIONS				
Internet fees				
Phones/faxes				
HOUSING				
Office rent				
EVALUATION				
External team				
TOTALS				

** The Hearth program can often obtain these free from the Ministry of Health or, preferably, refer children to the MOH for these services.*

CHAPTER TWO
Step 2: Mobilize, Select & Train

STEP 2

Begin to mobilize the community and select and train resource persons

A. Mobilize the community

1. Meet with key community leaders
2. Orient local health personnel
3. Organize or strengthen a Village Health Committee

B. Select and train resource persons

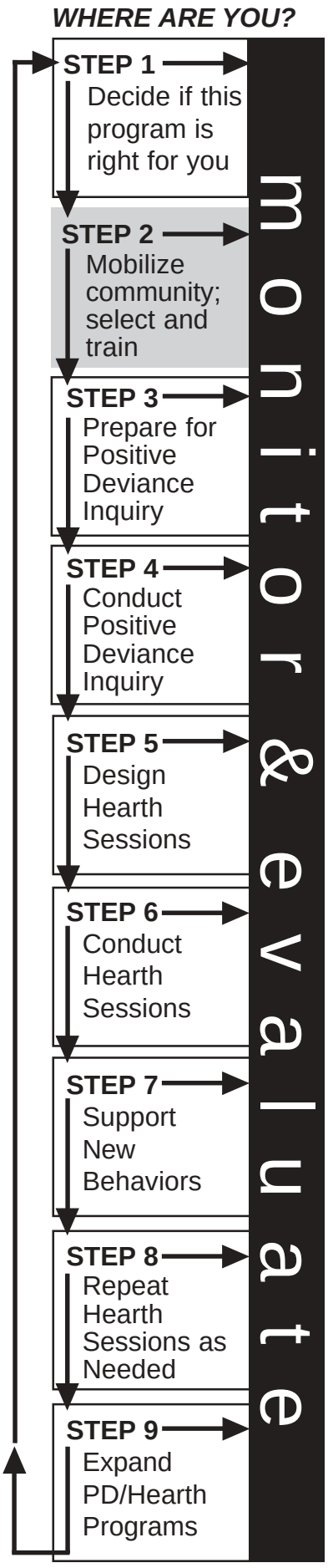
1. Write job descriptions
2. Conduct a task analysis
3. Develop participant selection criteria
4. Recruit staff and volunteers
5. Conduct a training needs assessment
6. Select course content
7. Develop training strategy
8. Establish training methodology
9. Set up training evaluation strategy
10. Prepare training and evaluation materials
11. Conduct training

Once you have decided that a PD/Hearth program is feasible for your geographic and cultural situation, you can begin Step 2.

A. Mobilize the Community

PD/Hearth is a community-run program requiring active community participation. Since the process demands community self-discovery and action, an implementing agency cannot successfully run a PD/Hearth program without community participation and support.

Although an implementing agency may initiate the PD/Hearth process through training community members, it is up to the community, from the start, to learn to manage and supervise the project. It requires an intense initial investment to transfer these management skills to the community, which is an underlying principle of the PD/Hearth approach.



For PD/Hearth to work, the whole village must be excited about getting rid of malnutrition.

Involve influential people in the PD/ Hearth process – especially those who might raise barriers if they are not brought in.

1. Meet with Key Community Leaders, including:

- ♥ Local hamlet leaders or chiefs
- ♥ Informal health sector representatives such as traditional healers and birth attendants and local medicine vendors
- ♥ Religious leaders
- ♥ Tribal or caste leaders
- ♥ Grandmothers
- ♥ School directors/teachers
- ♥ Local groups, clubs, associations
- ♥ Decision makers, opinion leaders, local heroes
- ♥ Business leaders

Discuss the health situation in the community, especially for children under five years of age. Check to see if there is a concern or interest among community members and leaders about the level of malnutrition in their community. Is it a high priority? Which children's age groups are most at risk of malnutrition? The Under 5s? Under 3s? Under 2s? Do people consider it a problem? Do they understand the lost potential of malnourished children? Try presenting these themes using drawings or pictures and asking community leaders to discuss what they see and its relation to the situation in their own community. Providing local health and nutrition data in an understandable format is often a good motivator for action.

Providing Data in an Understandable Format

In Mali, CARE staff prepared big bar graphs to show the average nutrition status of children in a community in comparison to those of children from other villages. When the charts were explained to the village leaders, one exclaimed, *"I'm embarrassed that the children here are more malnourished than those in other places. We must do something about this now!"*

2. Orient Local Health Personnel

Formal and non-formal health resources need to be identified and involved in order to coordinate efforts for Hearth. Health facility staff can identify available resources and services for ill children and severely malnourished children. Children identified at Growth Monitoring Promotion (GMP) sessions as suffering from third degree malnutrition or a variety of other illnesses need to be referred to a local health clinic. Decisions regarding universal de-worming, protocols for Vitamin A distribution and appropriate content and reinforcement of health messages at Hearth sessions all require

close linkage with health services. Roles for health center staff include treating malnourished children with underlying diseases such as pneumonia, measles, night blindness, tuberculosis, or malaria; coordinating outreach activities for Growth Monitoring Promotion sessions; increasing and maintaining immunization coverage; facilitating the distribution of iron and Vitamin A supplements for pregnant women, and Vitamin A and de-worming medication for children; and participating in the review and analysis of Hearth results.

3. Mobilize the Village Health Committee

The management of Hearth rests with the community. Building the capacity of a local village health committee is necessary to transfer skills and to create ownership. If such a committee does not exist, one needs to be created from the initial meetings of the community leaders. Ideally, the committee is elected, but village leaders may also appoint it. Criteria for effective members include, a concern for improving health and nutrition status in their community, time available to devote to this effort, good teamwork skills, and the respect of others. It is good to have formal and informal community leaders on the committee. Formal leaders, or those close to the formal leadership structure, can influence community decisions, prioritization and resource allocation.

Program management is carried out in partnership with the community using the "Triple A" cycle of assessing a problem, analyzing its causes and taking action based on this analysis.

The activities of the Village Health Committee may start with Hearth, but once they have experience, they may move on to address other issues in the community. A good training curriculum for staff working with Village Health Committees and involved in other community mobilization efforts is referenced in the resource section of this manual.

Through the Village Health Committees, communities can be empowered to:

- ♥ Supervise community health workers
- ♥ Manage Hearth sessions
- ♥ Plan and evaluate results
- ♥ Monitor vital events
- ♥ Produce visual score boards that illustrate the measurable impact of Hearth and share these with community members and leaders
- ♥ Manage growth monitoring and promotion

Capacity building of the local community begins with the initial meeting to discuss an intervention in nutrition. Subsequently, the Committee learns the skills needed to manage Hearth and growth monitoring through their involvement in implementation. Establishing a partnership starts from day one, followed by monthly or bi-monthly meetings that use UNICEF's "Triple A" cycle of assessment, analysis and action to support community training.

These three activities, **Assessment**, **Analysis** and **Action** become the framework for managing the program.

The "Triple A" cycle consists of:

ASSESSMENT

Collecting both quantitative and qualitative current information on key indicators

ANALYSIS

Interpreting the information, making sense of it, identifying areas of success, and areas that need improvements

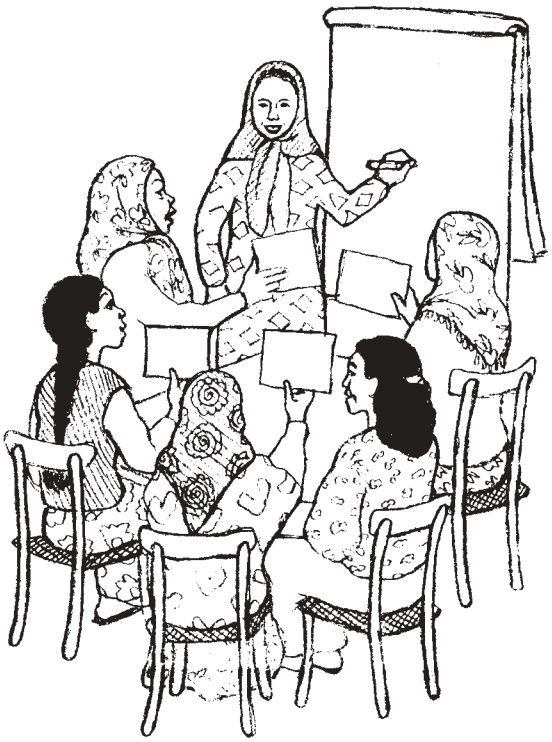
ACTION

Developing strategies or action plans to solve identified problems and improve implementation activities

B. Training Development Process

Training is at the heart of the PD/Hearth approach. Staff, Hearth volunteers, and the Village Health Committee all need to be prepared to carry out the PD/Hearth process in order to have an impact on childhood malnutrition. The Hearth session with mothers is itself a training workshop to involve mothers in rehabilitating their children and learning new behaviors to keep their children healthy.

The positive deviance approach, at the core of Hearth, is based on the belief that answers to community problems already exist in the community. This requires a role-reversal from teacher to learner, from trainer to trainee.



The approach to training is one of Hearth's biggest challenges. The positive deviance approach, at the core of Hearth, is based on the belief that answers to community problems already exist in the community. This requires a role-reversal from teacher to learner, from trainer to trainee. Hearth volunteers learn from the PD caregivers and staff learns from the Hearth volunteers. This reverses the traditional paradigm of how to teach poor families in developing countries.

Each Hearth is a "training workshop," which embodies concepts of adult learning techniques: active participation, demonstration, practice and reinforcement. The process begins by capturing the training messages through the PDI, then moves on to designing a training content, planning training logistics, and training the Hearth volunteers to carry out the Hearth session.

Preparing appropriate training sessions for staff, Hearth volunteers, and the Village Health Committee involves the following steps:

1. Write Job Descriptions

Job descriptions list out the roles, responsibilities and activities that need to be carried out by each actor. Written job descriptions help the different individuals know what is expected of them and guides the development of training to prepare them to take on that role. Sample job descriptions are provided at the end of this chapter.

2. Conduct a Task Analysis

A task analysis is a quick review of the job description to identify the knowledge and skills an individual will need to have to successfully take on their role. Consider what someone will need to know and what he/

she will need to be able to do. Look at areas such as reporting and record keeping, interpersonal skills, communication skills, etc. The task analysis is also a time to consider what cannot be taught. Are there certain attitudes or skills that people need to have initially that cannot be easily taught?

3. Develop Selection Criteria for Staff and Volunteers

From the task analysis, determine the selection criteria for staff and volunteers. These criteria will guide your recruitment efforts.

For staff selection, criteria should include:

- ♥ Eager to learn, open to new ideas
- ♥ Excellent interpersonal skills and good listening skills
- ♥ Strong interest in working in the field
- ♥ Willingness to learn from less educated individuals

For Hearth volunteers, guide the Village Health Committee in developing the criteria and selecting the best volunteers.

Criteria for volunteers will vary by country, but generally include:

- ♥ Willing to work as a volunteer
- ♥ Married woman with children living in the village
- ♥ Respected and trusted by the community
- ♥ Eager to learn, open to new ideas
- ♥ Literate (In countries where female literacy is low, an illiterate volunteer can be paired with a literate volunteer)

An important criterion for a volunteer is having children who are relatively healthy and well nourished. During the nutrition assessment, however, some Hearth volunteers have discovered that their children are not well nourished and have subsequently become even more effective volunteers.

Priority is often given to existing community-based health volunteers, however this must be carefully considered. Do they have significant additional time to devote to Hearth? Have they been in the didactic "teacher" role for so long that they will have a difficult time accepting that they must learn from other community members? This may be especially difficult when the community members are poorer and have less status.

4. Recruit Staff and Volunteers

Involve the Village Health Committee in selecting Hearth volunteers.

5. Conduct a Training Needs Assessment

The next step is to identify the skills and knowledge that the trainees already possess. The existing educational level for each position should guide the development of appropriate training, but all training should model good adult learning techniques. Compare the trainee's knowledge and skills to the task analysis to determine the gaps that need to be included in training.

The educational level critical for each position should guide the development of appropriate training, but all training should model good adult learning techniques.

TABLE 2.1 **COMMON EDUCATIONAL LEVELS FOR KEY PD / HEARTH POSITIONS**

Position	Existing Educational Level
PD/Hearth Manager	University Degree
Supervisor/Trainer	At least to 8th Grade
Hearth Volunteer	Literacy helpful, but not essential
Village Health Committee	Varied, one or more members able to write

6. Select Course Content

The course content will be different for each group and needs to be informed by the preceding steps. Following are guidelines based on previous Hearth programs.

The community leaders, Village Health Committee members, implementing agency staff, and Hearth volunteers all need to be oriented to Hearth. They will need to understand:

- ♥ The positive deviance concept
- ♥ The basis for the menus (the PD family practices and food for rehabilitation)
- ♥ Why Hearth lasts two weeks
- ♥ Basic nutrition concepts (variety, protein/calorie, frequency, amounts)
- ♥ Basic early childhood development concepts

The Hearth volunteers will need specialized training in:

- ♥ Growth monitoring and promotion activities (weighing, plotting, counseling)
- ♥ Basic nutrition and nutrients, use of food composition table
- ♥ Simplified 24-hour diet recall
- ♥ Marketplace food survey
- ♥ Home visiting skills
- ♥ Food values: three or four food groups
- ♥ How to visit the "Positive Deviant" child and learn about the "three goods" (good feeding, health seeking, and caring)
- ♥ Principles of home-based treatment of malnutrition
- ♥ Understanding of the cycle of nutrition and infection
- ♥ Vaccination schedules
- ♥ Preventing and treating dehydration during diarrhea
- ♥ Recognizing the signs of acute illness, including pneumonia, malaria, and severe diarrhea, that need referral
- ♥ Child development milestones
- ♥ Early childhood stimulation techniques

Many Groups Need to be Oriented to Hearth

Given the intensity of community participation required for a PD/ Hearth program, there are many community groups that will need to be oriented to the general concepts of PD and Hearth. These may include: local health providers, religious leaders, shopkeepers, traditional healers and birth attendants, street vendors, fathers, grandmothers, and siblings. Each should understand their role in supporting Hearth and the caregivers who participate.

The Supervisors-trainers will need to understand:

- ♥ All the topics for volunteers (listed above) plus:
- ♥ Supervisory skills
- ♥ Information system
- ♥ Monitoring and evaluation skills
- ♥ Use of food composition tables and planning menus

The team conducting the Hearth sessions will need to understand:

- ♥ PD/Hearth approach
- ♥ Planning a session
- ♥ Scheduling
- ♥ Setting up a Hearth session
- ♥ Gathering materials
- ♥ Purchasing and preparing Hearth foods
- ♥ Recording results of Hearth
- ♥ Health education messages
- ♥ Hearth daily protocol
- ♥ Hearth results interpretation
- ♥ Follow-up to Hearth (home visits and criteria for repeating Hearth)

Specific skills will also be needed for different steps. Training topics for the PDI team are listed in Chapter 3.

Training should be sequenced over time so as not to overload the participants and to ensure that the skill can be directly applied at the time.

7. Develop Training Strategy

Depending on the information to be covered, develop the overall training strategy for the project. Training should be sequenced over time so as not to overload the participants and to ensure that the skill can be directly applied at the time. Some of the training, such as the philosophy of the PD/Hearth approach, will begin very early on. Other aspects will not be taught until after information from the Positive Deviance Inquiry (PDI) has been collected. Training on conducting the Positive Deviance Inquiry and on conducting the Hearth sessions should be carried out during the appropriate steps. Training for the volunteers and supervisors in the health education messages to be presented during Hearth sessions cannot be done until after the PDI is completed. Table 2.2 on the next page provides an idea of the amount of training required for each position.

8. Establish Training Methodology

Using a variety of training tools makes the training more interesting and fun. When designing the training sessions, be sure to use warm-ups, role-plays, value clarification games, practice, and demonstration exercises. It is very important to train staff in the same way that you expect them to teach volunteers and mothers. Health education during Hearth sessions cannot be done in a lecture-style mode. Instead, participating mothers are gently guided through a series of experiences (learning how to feed their children in an ideal setting with support) for several weeks, and then

followed up at home as they practice these new food preparation and feeding behaviors in their own kitchens. Hence, training of the volunteers follows the same pattern of being guided through experiences and supported by supervisors as they apply their new skills in conducting the PDI and Hearth sessions.

It is very important to train staff in the same way that you expect them to teach volunteers and mothers: health education during Hearth sessions cannot be done in a lecture-style mode.

TABLE 2.2 TRAINING TIME REQUIRED BY POSITION

Position	Training Required	Timing
Hearth Manager	One week of training and orientation to PDI and Hearth	Prior to deciding to implement PD/Hearth
Supervisor/ Trainer	Two to three weeks of training	Before implementation of PD/Hearth
Hearth Volunteer	Five days of training (two to three hours/day) Refresher training	During Step 3 (preparing for PDI), during PDI, before setting up Hearth site As needed
Village Health Committee	Periodic training on management of Hearth, GMP and monitoring and evaluation	Ongoing - four hours/month

Learning is primarily a social process. People learn through observations and interactions. Individuals learn how to act by modeling their behavior on that of others and social support systems reinforce the learning.

The Hearth learning methodology is one of Practice, Attitude, Knowledge (PAK) instead of the traditional Knowledge, Attitude, Practice (KAP). The focus is on changing behavior in order to change thinking rather than changing thinking in order to change behavior. PD/Hearth starts immediately with practicing the desired behavior. It is after the practice that a caregiver's attitude begins to change as her child begins to "brighten." After she witnesses the change in her child, she begins to understand the causes for the change and know what it took to rehabilitate her child. Her knowledge then changes, as she is convinced of the new belief that she can heal her own child through simple new practices.

It is tempting for staff members (especially those who are health professionals, nurses, educators, or nutritionists) to try to push their own nutritional messages, menus and theories.

It is tempting for staff members (especially those who are health professionals, nurses, educators, or nutritionists) to try to push their own nutritional messages, menus and theories. The program staff must put themselves into the role of learners, and then intentionally communicate to Hearth volunteers (and Hearth volunteers to participating mothers) that the wisdom of village mothers is what they are teaching and practicing during Hearth sessions.

Adult learning principles differ from traditional teaching methods and the way that most of us were taught in school. Adult learners bring considerable life experience to the training session and are not simply "empty vessels" to be filled with knowledge. Their life experiences should be respected and built upon. Participatory discussions where trainees are able to discover the concepts and apply their own experiences are much more effective than lectures with flipcharts. Adults are highly involved learners and want to see immediate, useful applications to the information they are learning. Learning comes from doing and discovering.

Good training skills

- ♥ Present new information slowly
- ♥ Provide a guided and supportive learning atmosphere where staff and caregivers can feel successful with their participation
- ♥ Repeat and reinforce information
- ♥ Ask participants to repeat or explain the information back to you
- ♥ Engage participants in active and "hands-on" leaning opportunities: people learn best by doing
- ♥ Always allow time for question or discussion
- ♥ Interact with all the volunteers or caregivers not just those who are already actively participating
- ♥ Keep your training sessions short and simple
- ♥ Begin by reviewing what was learned and discussed in the previous session
- ♥ Use visual aids and demonstration as much as possible to involve all senses in the process

Responsive Discussion

Responsive discussion is an effective methodology for involving learners in discovering information. This method can be used for a variety of topics. Each question guides learners into a greater depth and clarity. Compare the type of discussion and learning this method creates to the same information presented in a lecture mode.

Sample Responsive Discussion

Q: *Who is responsible to keep children healthy after rehabilitation?*
A: *Parents / caregivers.*

Q: *What can even poor families do on their own?*
A: *Use PD practices.*

Q: *How can families learn to keep their children healthy?*
A: *By changing habits; by learning new habits that are accessible to all.*

Blind Exercise

Divide participants into pairs and explain that one member of each pair will be 'blind' and the other will lead them around the room. The blind person may not open their eyes (remove blindfold). There can be no talking. After three minutes, instruct them to switch roles.

♥ Ask participants how they felt when they were blind and how they felt when they were leading the blind person.

♥ Ask them why they think this game is relevant to PD/Hearth.

In the PD/Hearth approach, experts experience a role reversal from being the leader/expert "leading the blind, i.e. the villagers", to being blind and being led by the villagers. This exercise can lead to interesting discussions on issues such as control and power.

REMEMBER:

"If I hear it, I forget it.
If I see it, I remember it.
If I do it, I know it.
If I discover it, I use it."

Q: *How can we learn new habits?*
A: *By practicing them every day. By bringing food every day.*

Q: *What kind of food? Just any food?*
A: *By bringing PD foods daily; food that other poor families feed their young children.*

Q: *If caregivers bring food every day to the Hearth, what do you think they will do at home?*
A: *Continue the practice learned at the Hearth and bring it home.*

Probing questions are similar to responsive questions but are used with posters depicting good or bad practices or situations.

Probing Questions

Probing questions are similar to responsive questions but are used with posters depicting good or bad practices or situations. The discussion starts with general questions about the picture and then moves to more probing questions which relate the picture to the learner's own experience.

Sample Probing Questions Related to Food and Body Hygiene

Poster	Opening Question	Probing Question
Woman washing her hands	What do you see in the picture? Why is the woman washing her hands?	How often do you wash your hands? When do you wash them?
Woman washing vegetables	Why is this woman washing vegetables?	Do you usually wash vegetables before cooking? Why? Why not?
Child playing on the ground OR child using a latrine or defecating on the ground	What is the child doing? Why?	What can happen if the child does not wash his/her hands before eating?
Woman covering prepared food	Why is this woman covering the food?	Why is it important to cover food? What can we use to cover food?
	Can you practice these habits at home? Why? Why not?	How often should you practice these habits? Why?

Role-Plays

Role-plays can be adapted for many different situations. An instructor can role play a situation and then lead the group in discussing what they saw, how they felt, what they would have done differently, etc. Similarly, the instructor can involve several students in acting out a situation and then lead the "actors" and group in the subsequent discussion.

With role plays, all participants can perform in small groups to practice new skills. Skills such as conducting a PDI visit can be practiced in a safe environment. The volunteers have the opportunity to become comfortable with the visit, receive feedback on their style, and learn to anticipate some of the different questions or issues that may arise in a home situation. The program staff has the opportunity to provide immediate feedback and ensure the quality of the future interactions.

In a role-play, volunteers have the opportunity to become comfortable with PD visits, receive feedback on their style, and learn to anticipate some of the different questions or issues that may arise in a home situation.

Sample Role Play for Counseling Caregivers

1. Ask three participants to come to the front of the room to play three different mothers: one with a child who gains enough weight and graduates from Hearth; one with a child who gains some weight, but not enough to graduate; and one with a child who does not either gain or lose weight in the Hearth session.

2. As the trainer, play the role of a Hearth volunteer interacting with each of the "mothers" and counseling them on the care of their child.

3. After the role play, ask the participants for feedback and comments about the exercise. What did they see? How did the "volunteer" act? What did he/she say and do? How did the "mothers" respond? What might the mothers have been thinking? Will the counseling be effective?

4. After the three role plays, divide the participants into groups of three. The participants will alternate playing the roles of the Hearth volunteer, the mother, and an observer. Each participant will play the role of a Hearth volunteer for one of the three situations. The observer watches the role play and comments at the end.

5. At the end of this exercise, ask participants to give feedback and comments.

Skills within the PD/Hearth Program that can be Adapted for Role Plays

- ♥ Conducting the PDI visit
- ♥ Conducting a Hearth session
- ♥ Providing health education during the Hearth session
- ♥ Providing nutrition counseling to grandmothers and fathers in the home
- ♥ Presenting Hearth results at a health committee meeting
- ♥ Counseling caregivers at the end of the Hearth session

Storytelling

Stories provide a fun, interesting way of learning. Stories can be adapted, told and then discussed to teach important lessons. Chapter 6 provides an example of the story "Stone Soup" used to demonstrate the strength of many small donations within a community. Most cultures have folktales passed down by elders and wise people. Try to probe into indigenous stories. Look for stories that portray messages supportive of good nutrition practices or that can be adapted to teach a certain message. Look for quotes from religious books and scriptures that advocate health and nutrition.

This story can be used to communicate that sometimes, the answers are right in front of us!

Sample Story

Nasirudin, the great Sufi mystic, appears in different guises in different stories. In one story, he is an acknowledged smuggler. Every evening when Nasirudin arrives at the customs house, the inspectors feverishly search the contents of his donkey baskets to discover what he is smuggling. But each day, their efforts go unrewarded. No matter how thoroughly they inspect, they find nothing but straw.

The years go by and Nasirudin grows richer and richer. The customs officials vainly continue their daily search, more out of habit than hope of actually discovering the source of his wealth.

Finally, Nasirudin, now an old man, retires from his smuggling trade. One day he happens to meet the customs chief, now retired as well. "Tell me, Nasirudin," pleads his former adversary, "now that you have nothing to hide, and I, nothing to find, what was it that you were smuggling all those years?"

Nasirudin looks the customs chief in the eye, shrugs his shoulders, and replies, "Donkeys, of course".

Songs and dances can make important messages easier to remember in addition to providing a fun, interactive exercise.

Songs and Dances

Songs and dances can make important messages easier to remember in addition to providing a fun, interactive exercise. Using local songs, change the lyrics to incorporate nutritional messages. In Mozambique, the Hearth volunteers created a song about the Hearth. In Myanmar, the volunteers made up a children's song, which is sung during Hearth sessions.

9. Set Up a Training Evaluation Strategy

It is important to know how much people are learning and what skills may be causing difficulty so that you can adjust the training as needed. Observing the participants during the role plays and asking questions to assess knowledge are informal evaluation techniques.

10. Prepare Training and Evaluation Materials

Finalize the training design and determine who will be responsible for developing each part of the training. Develop the curriculum for each training session along with any visual materials and training aids. Two sample modules for training Hearth volunteers are provided at the end of this chapter.

Sample exercises adapted to Hearth are provided at the end of this chapter.

11. Conduct Training

The final step is to conduct and evaluate the actual training sessions.

SAMPLE JOB DESCRIPTIONS

1. Sample Job Description for HEARTH MANAGER / LEAD TRAINER

This "Sample Job Descriptions" section provides ideas to be adapted for your local area

1. ***Hearth Manager/ Lead Trainer***
2. ***Supervisor/ Trainer***
3. ***Village Health Committee***
4. ***Hearth Volunteer***

Duties

- ♥ Train Supervisor trainers to train volunteers
- ♥ Lead the PDI process and facilitate analysis of results
- ♥ Responsible for the development, selection and use of all educational materials used at the Hearth, at Village Health Committee meetings, and at home visits
- ♥ Analyze nutrition data and provide feedback to the community
- ♥ Interact with village leaders and health facility personnel to introduce and evaluate the program
- ♥ Coordinate with Ministry of Health
- ♥ Network with NGOs, universities and international organizations (UNICEF, etc.)
- ♥ Oversee the process and outputs of PDI
- ♥ With team and volunteers, plan menus and calculate caloric and protein content of the menus
- ♥ Assume responsibility for overall management of all Hearth sessions
- ♥ Set up community-based monitoring system

Qualifications

- ♥ University graduate
- ♥ Field experience in community nutrition
- ♥ Community organizing/ development experience
- ♥ Experience with participatory adult learning

***Qualifications** are the same as selection criteria*

Key Competencies

- ♥ Adult education principles
- ♥ Participatory assessment skills (ex. PLA, PRA)
- ♥ Supervisory skills
- ♥ GMP technical ability: use of anthropometric methods
- ♥ Basic nutrition principles
- ♥ Community mobilization
- ♥ Concept of PD
- ♥ Use of food value tables
- ♥ Marketplace surveys
- ♥ Menu planning to meet the calorie and protein requirements
- ♥ Early childhood stimulation and development techniques
- ♥ Community-based monitoring and evaluation techniques

***Key competencies** identify the knowledge and skills needed to successfully do the job - these are identified in the task analysis.*

SAMPLE JOB DESCRIPTIONS

2. Sample Job Description for SUPERVISOR / TRAINER

One of the Hearth Supervisor / Trainer's duties is to train volunteers to facilitate caregivers' learning and conduct PDI and Hearth sessions.

Duties

- ♥ Assist in selecting community volunteers
- ♥ Train volunteers to facilitate caregivers' learning and conduct PDI and Hearth sessions
- ♥ Identify positive deviant families and assist in conducting PDI
- ♥ Interact with village leaders, health facility personnel, and community health committees
- ♥ Supervise multiple Hearth sessions during same period
- ♥ Assist volunteers to mobilize reserved mothers so that all participating mothers have practice with all the behaviors
- ♥ Procure ingredients for Hearth menus and teach volunteers and mothers to assume this responsibility
- ♥ Create monthly plan (agenda/ itinerary) for implementing Hearth in given geographic area
- ♥ Assure implementation of Hearth protocol (wash hands, snack, cooking and feeding, and training)
- ♥ Understand nutrition sufficiently to substitute menus (added fruit, replace vegetables, identify seasonal food calendar)
- ♥ Assist volunteers to lead caregivers in cooking process so food is palatable, tasty, and appropriate for young children.
- ♥ Conduct follow-up home visits to participant homes along with volunteers

Qualifications

- ♥ Lives within target communities
- ♥ Relates well with women and groups of women
- ♥ Humble
- ♥ Eighth grade level education (minimum)
- ♥ Community health experience desirable

Key Competencies

- ♥ Adult education principles
- ♥ Supervisory skills
- ♥ GMP technical ability: use of anthropometric methods
- ♥ Basic nutrition principles
- ♥ Community mobilization
- ♥ Concept of PD
- ♥ Use of food value tables
- ♥ Marketplace surveys
- ♥ Menu planning to meet the calorie and protein requirements
- ♥ Early childhood stimulation and development techniques
- ♥ Community-based monitoring and evaluation techniques

SAMPLE JOB DESCRIPTIONS

3. Sample Job Description for VILLAGE HEALTH COMMITTEE

One of the Village Health Committee's duties is to train volunteers to participate in program design and goal setting.

Duties

- ♥ Analyze community health situation and share concerns with the rest of the village
- ♥ Participate in identifying malnourished children through a nutritional assessment or through Growth Monitoring
- ♥ Participate in identifying positive deviant families and conducting PDI
- ♥ Participate in program design and goal setting
- ♥ Advocate for resources from community leaders for Hearth and Growth Monitoring and Promotion programs
- ♥ Manage and coordinate Hearth activities at the local level, including scheduling, procurement of needed supplies and equipment, selection of participants and ensuring participant attendance
- ♥ Set criteria for selection, select, and supervise Hearth volunteers
- ♥ Collaborate with the organization implementing the Hearth program and with district health staff
- ♥ Track vital events and report to community leaders, MOH and community at large
- ♥ Manage Growth Monitoring and Promotion
- ♥ Promote participation in Hearth
- ♥ Collect and interpret Hearth data and Growth Monitoring data and share this with community leaders, community members and health workers
- ♥ Create and regularly update community Visual Scoreboards
- ♥ Evaluate results of Hearth and determine graduation criteria
- ♥ Locate other support, as needed, for Hearth families including food aid, employment, credit, agricultural inputs, etc.

Qualifications

- ♥ Concern for improving health and nutrition status in the community
- ♥ Time available to devote to effort
- ♥ Good teamwork skills
- ♥ Respected by others

SAMPLE JOB DESCRIPTIONS

4. Sample Job Description for HEARTH VOLUNTEER

One of the duties of a Hearth Volunteer is to supervise caregivers in processing food, cooking meals, and feeding children during Hearth.

Duties

- ♥ Weigh children, plot weights on growth chart and counsel mothers
- ♥ Participate actively in conducting PDI
- ♥ Invite children and caregivers to Hearth sessions
- ♥ Buy additional food stuffs and prepare according to set menu
- ♥ Motivate mothers to attend and bring food contributions
- ♥ Encourage active feeding
- ♥ Supervise caregivers in processing food, cooking meals, and feeding children during Hearth
- ♥ Teach simple nutrition, food safety, and hygiene messages during Hearth activities
- ♥ Monitor attendance, progress, and food contributions
- ♥ Report to Village Health Committee
- ♥ Provide intensive support to the mothers in their homes for two weeks following the Hearth

Qualifications

- ♥ Willingness to volunteer substantial time and her own home
- ♥ Married with children
- ♥ All her children are healthy and well-nourished
- ♥ Respected and trusted
- ♥ Basic minimum literacy, if possible
- ♥ Eager to learn

EXERCISES ADAPTED FOR HEARTH

1. VILLAGE BUILDING

Contributed by Dr. Tariq, Regional Health Advisor, Save the Children

Purpose: To illustrate the concept of Positive Deviance using a "3-Dimensional tool" and to generate a discussion among the group

With whom: An assembly of community members, men's group and women's group

When to use: At orientation meeting, as the first step of the PDI, or at a feedback session about the PDI findings

Materials: Something to represent houses (small cardboard houses, different size stones, bricks or mud balls); chalk, stick, or magic markers; 3-5 small pictures of healthy children; 10-15 small pictures of unhealthy children. If you do not have pictures, you can use intact leaves to represent healthy children and torn leaves to represent malnourished children.

Time needed: 20 to 30 minutes

Steps

1. Draw a boundary of a fictitious village. Ask participants to place the boxes or stones where the homes should be and to draw in other significant landmarks (road, river, bridge, religious building, school, etc.)

2. Place pictures of children face down under some "houses" making sure that several poor houses get a picture of a well-nourished child.

3. Explain to the community members that this is a village where most people share similar socio-economic conditions. Say that in each of these houses (pointing to the ones with a piece of paper) live children who are under three years old. Most of them suffer from malnutrition.

4. Ask volunteers to pick-up the stones or bricks to see what they find there.

5. Ask each one what they have found in their house. They will say a well-nourished or malnourished child.

6. Have the volunteer count the number of malnourished children and the number of well-nourished ones. Then say: "How many malnourished children do we have in this village? How can we solve this problem?"

This section is on Exercises Adapted for Hearth

Many different exercises can be adapted and used for Hearth. Identify the main message or skill that needs to be conveyed and then develop an effective way of conveying the message or skill using adult learning principles.

Following are several examples of exercises created or adapted for Hearth. Review books of adult learning activities for other ideas and be creative.

7. Listen to villagers' suggestions. You want to hear them say, "We can learn from the families who have well-nourished children what they do TODAY to keep their children healthy to make the other malnourished children healthy as well!" If you hear this response, reinforce it. If you do not, then make the suggestion after allowing for discussion.

8. Invite villagers to make comments and guide the discussion to help them realize that the same principle can be applied to learn how to keep children healthy in their village.

2. POSITIVE DEVIANCE BEHAVIORS

Contributed by Dr. Hien, Dakrong District Health Services, Save the Children/Vietnam

Purpose: To develop "community ownership" and enable community members to identify immediately accessible solutions to childhood malnutrition.

NOTE ON MATERIALS ▶
The giant color-coded growth chart can be prepared with the community after the nutrition baseline assessment and the wealth ranking survey to identify the PD children (see Chapter 3). Using each child's weight, place a star or figurine on the chart at the appropriate place for each child. Use a black star or figurine for children from "poor" families and a yellow star for children from "well-off families."

With whom: Parents of children less than three years old (or other target age group); men and women from formal or informal networks; health cadre; village leaders; etc

When to use: During the community meeting to provide feedback on PDI findings and conduct action planning

Materials: Giant color-coded growth chart prepared at earlier meeting with the community; flip chart paper; magic markers; strips of paper; 4 pictures of a healthy child; 4 pictures of an unhealthy child; tape

Time needed: 2 hours

Steps

1. Before the meeting,

   A. Place a picture of a healthy child in the center of the first poster and a picture of an unhealthy child in the center of the second poster. Repeat so that each group has both posters.

   B. Write or illustrate the behaviors/practices related to health seeking, caring, feeding and hygiene practices found during visits to PD and non-PD families on separate strips of paper (one practice per strip of paper).

EXERCISES ADAPTED FOR HEARTH

2. Ask the villagers to review the significance of the giant growth chart previously prepared. Have them come up to the chart and point out the different channels. Reinforce the fact that although most of the children from poor families were malnourished, there were several poor families whose children were well nourished.

3. Divide participants into four groups. Give each group two flip chart size papers (one with a picture of a well-nourished child and one with a picture or a malnourished one). Give each group a set of the paper strips with health seeking behaviors/practices written on them (Group 1: health seeking; Group 2: caring; Group 3: feeding; Group 4: hygiene). The facilitator carefully explains that the behaviors/practices written on the strips were **taken from families in their community**.

4. Ask the groups to review the behaviors and tape each behavior on the flip chart with either the well-nourished or the malnourished child. Behaviors they consider to be good should be placed on the chart with the well-nourished child and behaviors considered to be bad should be placed on the chart with the malnourished child.

5. After 10-15 minutes, ask all four groups to return to the bigger group and share their findings. For example, the group whose packet of strips contained behaviors/practices related to feeding (such as, use of colostrum, non-use of colostrum, immediate breastfeeding after delivery, or initiation of breast feeding after four days, etc.) should explain why they decided to put each behavior on one chart or the other.

6. After each group presents, ask all participants to discuss the findings, and either agree, disagree or amplify. Allow for lots of animated discussion. Using the experience and wisdom of the entire group is an excellent way to correct the few errors made.

7. After everyone has presented, re-emphasize that "all of the practices you listed have come from families in THIS community!"

8. Ask one person from each group to come up to the chart with the picture of the well-nourished child and the selected "good practices." Have them place a black "X" under those practices a poor family could do/use and a red "X" under those practices that rich families could do/use.

Note from Vietnam This was not a perfunctory exercise as the groups identified a few behaviors which ONLY rich families could do/use, such as the use of soap for washing clothes, and providing ample warm clothes for the child in winter. All the other behaviors/

◀ Tip for Step 2

The facilitator can have several people come up to the chart and repeat the explanation in order to confirm that everyone really understands it.

◀ Example for Step 6

One group initially identified using colostrum as a negative practice, (i.e. placed it on the chart with the malnourished child). After discussion, the entire group decided that it was a good practice and moved it to the chart with the well-nourished child.

Note from Vietnam

Initial brainstorming from participants focused on getting poorly nourished families to visit well nourished ones and learn what they were doing to have well-nourished children. With prompting, villagers added that it was more useful to get villagers to PRACTICE or DO new behaviors, than to just hear about them. The full meeting took two hours and was a brilliant demonstration of how the collective ideas, experience and knowledge of a community can be tapped and utilized to solve its own problems with existing resources.

The facilitator repeatedly referred to the fact that the weighing of the children, the creation of the large growth chart and the discovery of the fact that it was possible for a poor family to have a well-nourished child were all done by the community. Similarly, the discovery of good behaviors enabling even poor families to have well nourished children, were all based on behaviors/practices discovered in the homes of members of their community! The highlighting of these facts resulted in a true sense of "community ownership" for defining the problem and identifying strategies to overcome malnutrition, which were demonstrably accessible TODAY to everyone in the community.

practices were identified with both a black and a red "X" signifying that they were accessible to everyone in the community.

9. In order to create a plan of action, ask the participants what they want to do about the malnourished children in the community. Hopefully, they will all agree that they want the malnourished children to become well nourished. Ask the participants how they can use the newly created charts of behaviors leading to a "well nourished" child to improve the health/ nutritional status of all children in the community.

3. BUILDING TO THE SKY

Purpose: To illustrate the concept of sustainability

With whom: Group of community members (leaders, teachers, decision makers, men, women) and trainees

When to use: During the community meeting to provide feedback on PDI findings and conduct action planning; at the training of trainers in the PDI concept

Materials: Four objects of similar size (ex. bricks, books, telephone books, dictionaries)

Time needed: 5 minutes

Steps

1. Divide the participants into a minimum of three teams. Ask each team to stand together away from the other teams.

2. Explain that each team needs to build the highest structure they can, in a short amount of time, using objects available in the room. The team that builds the highest structure wins.

3. To make it more difficult, hand each team an object of the same size (a brick or book) and ask them to build on this base.

4. Allow three minutes for the construction.

5. When three minutes are up, congratulate the winning team. THEN TAKE A PAUSE.

6. Proceed to remove the bases provided to build the structures and watch them tumble down.

7. Ask the participants what happened.

8. Guide the discussion to explain how this shows the need to build on a base that involves community partners from day 1. This is a fun game and powerful exercise to illustrate the concepts of building on existing resources and using asset-based approaches.

4. LIGHTING THE CANDLES

Contributed by the Save the Children Afghan Refugee Camp field staff

Purpose: To illustrate how individuals can learn from each other and disseminate new practices throughout the community

With whom: Group of community members (leaders, teachers, decision makers and other men and women)

When to use: During the community meeting to provide feedback on PDI findings and conduct action planning; on the last day of the Hearth session

Materials: 25 to 30 candles and a box of matches

Time needed: 3 to 5 minutes

Steps

1. Distribute candles to everyone in the group.

2. Identify two or three active community members from the audience and light their candles.

3. Ask each identified community member to light the candles of their neighbors on either side.

4. Ask these individuals to light the candles of others around them, and so on.

5. Ask participants to explain what the activity means.

6. Guide the discussion to illustrate the impact of participants' commitment to disseminate what they have learned to others (relatives, friends, etc.). This activity can also illustrate the idea of progress "from darkness to light," especially if carried out in the evening.

Variations on "Lighting the Candle" Exercise

#1: Illustration of PD Concept in Advocacy Instead of having the facilitator strike the match and light a few candles, have two or three individuals in the audience carry candles and matches (representing PD individuals with PD behaviors). Each of them light their own candles and then turn to their neighbors to light theirs.

 # 2: Comparison of MOH Outreach and Community-Based Systems (Use during training) The identified outreach worker lights her candle then proceeds to light each candle in the audience. The exercise is then repeated using the original version described above. Discuss the differences in the experience and in the total amount of time needed.

EXERCISES ADAPTED FOR HEARTH

5. COPING MECHANISM

Fold the papers so small that only one group is able to stay within the bounds of their piece of paper.

Purpose: To illustrate that some people are better at coping in situations with little (or decreasing) resources than their neighbors may be

Materials: Several large pieces of paper / cloth

Time needed: Approximately 10 minutes

Steps

1. Divide participants into groups of three or four and give each group an identically-sized piece of paper or cloth. (Ideally there should be a minimum of three groups for this exercise.)

2. Explain that each team will need to arrange themselves so that all members are standing on the piece of paper with no parts of their bodies touching the floor. The group that manages to do so will win.

3. Once the teams successfully complete the exercise, congratulate them. Then, ask them to step off, fold each of their papers in half and ask them to repeat the exercise. Repeat this step until the papers grow so small that only one group is able to stay within the bounds of their piece of paper. Congratulate the winning group.

4. Ask participants to explain the relevance of the exercise to the topic under discussion. For example: How do people manage when resources are dwindling? What coping skills do some individuals or groups develop to face a crisis? What are the characteristics of a PD behavior?

6. SMALL GROUP EXERCISE

Purpose: Improve understanding of the Positive Deviance approach

Materials: None

Time needed: 30 minutes (15 minutes in small groups; 15 minutes for large group discussion)

Steps

1. Divide participants into three groups. Assign each group one of the following questions or statements to discuss.
2. Ask each group to report back to the whole group on their discussion.

EXERCISES ADAPTED FOR HEARTH

Group 1: Answer the following question *"How does the Positive Deviance Approach differ from traditional development problem-solving tools?"* Provide flipcharts with two columns (one for traditional tools and one for PD) and ask participants to record their answers in the appropriate column.

Group 2: Discuss the statement *"The PD approach is a tool for ensuring sustainability of a development project."*

Group 3: Discuss the statement *"Positive Deviance = finding solutions to community problems within the community."*

7. ASSUMPTIONS

Purpose: Identify causes of malnutrition; challenge preexisting assumptions

Materials: Flip chart; markers

Time needed: 20 to 30 minutes

Steps

1. Ask participants to write down what they believe to be five causes of malnutrition.

2. Compile the different lists and write the most commonly listed items in order on a flip chart.

3. Challenge the group to identify which causes are "assumed" and not necessarily true.

4. Discuss how malnutrition is not directly correlated to economic status. People usually assume that with increased income, nutrition improves. People with increased income may purchase other luxury items instead of nutritious foods for their family. This is why visiting a well-to-do family with a malnourished child is sometimes included in the positive deviance inquiry.

People usually assume that with increased income, nutrition improves, but people with increased income may purchase other luxury items instead of nutritious foods for their family.

8. COSTS OF PD BEHAVIORS

Purpose: Build awareness of the inexpensive behaviors and practices that can reduce malnutrition even among those in poverty

Materials: None

Time needed: 15 to 20 minutes

Steps

1. Ask participants how much it costs to:
   - ♥ Use local vegetables
   - ♥ Use a Positive Deviance food that can be gathered
   - ♥ Breastfeed
   - ♥ Wash their hands
   - ♥ Practice personal hygiene
   - ♥ Care for a child
   - ♥ Interact with a child
   - ♥ Stimulate a child
   - ♥ Prevent dehydration

2. Explain that although most people point to poverty as the main cause of malnutrition, there are good nutrition practices unrelated to income which are inexpensive, and sometimes even free

Variation on "Costs of PD Behaviors" Exercise

Demonstrate the cost benefits of the PD/Hearth approach by asking participants to compare and discuss the following costs and methods of rehabilitating a malnourished child:

- ♥ Cost of hospital admission: $100
- ♥ Cost of admission to a nutrition rehabilitation center: $35
- ♥ Cost of participating in a Hearth: $4

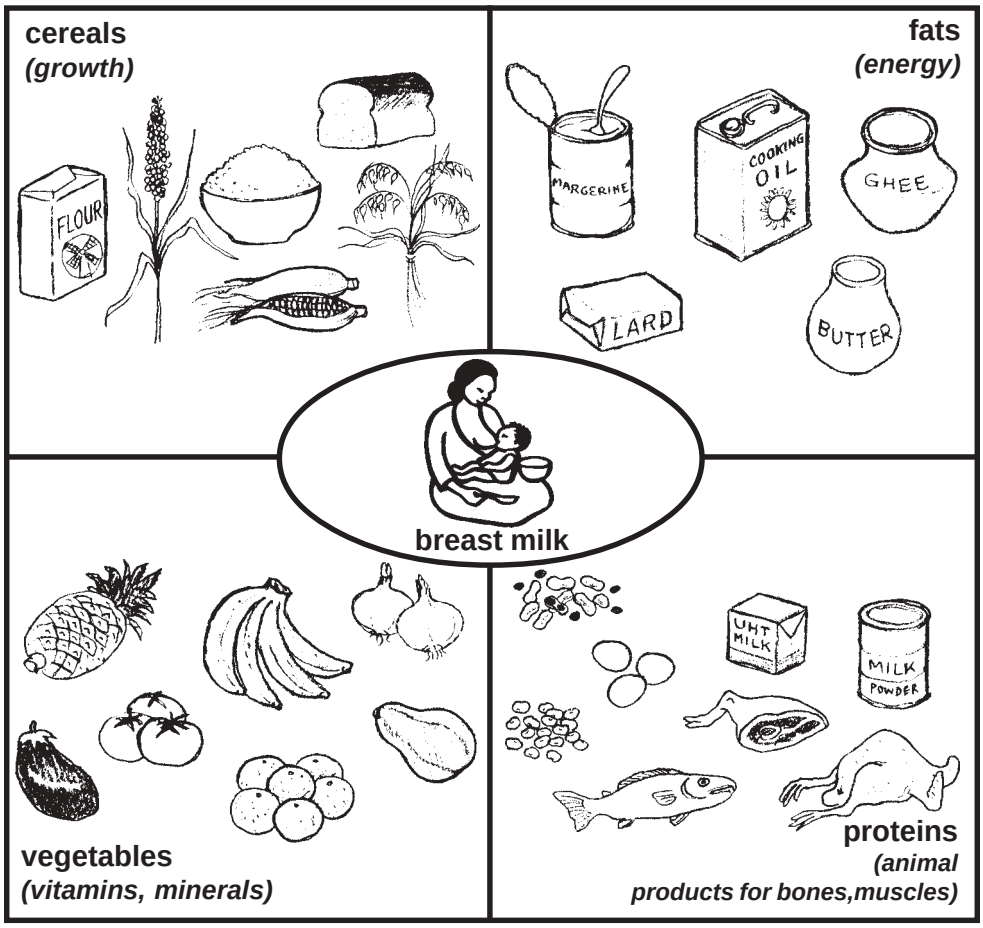
EXERCISES ADAPTED FOR HEARTH

9. TRADITIONAL MEALS

Purpose: Demonstrate the value of traditional meals and the use of meal planning tools

Materials: Drawing of the food square

The Food Square



Time needed: 30 minutes

Steps

1. Go around the room and ask each participant to describe her/his favorite traditional meal or dish that their grandmother used to prepare.

2. Use the food square method (covered in Chapter 5) to analyze the nutritional value of the traditional meals.

3. Discuss how traditional meals are usually well-balanced and nutritious and how in modern times we may forget some of our ancestor's wisdom.

10. FOOD CHOICES

Lead participants through a quick 24-hour dietary recall of everything they have eaten.

Purpose Teach the principles of good nutrition

Materials None (flip chart or paper optional)

Time 15 to 20 minutes

Steps

1. Lead participants through a quick 24-hour dietary recall of everything they have eaten.

2. Discuss their food choices and how nutritious they are.

SAMPLE TRAINING OUTLINE FOR VOLUNTEERS

MODULE ONE

Participants: Hearth volunteers selected by villagers from different villages

Duration / Time Frame: 2 days (Day 1: 6 hours; Day 2: 6 hours)

Training Objectives: After this training, participants will be able to:

1. Explain the two goals of the project to mothers and other caregivers
2. Convince mothers and family members to bring their daily contribution of "special" food to the PD/Hearth session
3. Set up and carry out a PD/Hearth session in their home or other community member's home
4. Teach mothers and family members their roles and responsibilities in order to make the PD/Hearth successful using a visual aid (poster)
5. Create and use the PD/Hearth book

DAY 1 (6 hours)

Outline

I. Review

A. Greeting/Introduction
B. Review of the findings from PDI (Flip charts on PD findings)
C. Review "Whom do we want to help?" (Poster of GMP results)
D. Objectives of the PD/Hearth training (Flip chart 1)

II. Information on PD/Hearth

A. What are the two goals of the PD/Hearth? (Flip chart on objectives)
B. What is a Hearth session? When to carry out the Hearth (Flip chart / calendar)
C. Who will work together to rehabilitate the malnourished children and what is the role of each person?
D. Role of the volunteer
E. Admission criteria to attend the Hearth session
F. Individual family food contribution to the joint rehabilitation of malnourished children
G. Exercise 1 — Making Posters for the two objectives and family food contribution
H. Role play with posters

This section contains a volunteer Training Outline used by Save the Children, Myanmar

Materials:

♥ Flip chart, flip chart paper, white board, duster and marker pens.
♥ Poster on village tract GMP results
♥ Posters on PD findings in the village tract
♥ Food Square Chart
♥ Foods from four food groups, especially PD foods
♥ Pictures or illustrations of PD foods for poster making
♥ 350 grams each of uncooked and cooked rice
♥ Local measuring tools (tin cups, spoons, local weights, balance, etc.)
♥ Menu visual aid and PD/Hearth menu sheet.
♥ Monthly calendar poster
♥ One model PD/Hearth book for each group
♥ Model of a poster about the purpose of the PD/Hearth messages for each site
♥ Color pens and large papers (two papers for each group)

Make a special menu of poor families with well-nourished children

III. Making Menus for the PD/Hearth

A. Food square analysis
B. Making the Hearth menu
C. Making a special menu: the menu of poor families with well-nourished children
D. Calculating each portion per child with home measurements
E. The Hearth menu schedule
F. Cooking lunch together and giving the project a local name
G. Inventory of one song for the PD/Hearth, role play

DAY 2 (6 hours)

I. Review from Day 1

A. Role play with poster on goals of PD/Hearth and family contribution
B. Review of beneficial household-based feeding, caring, hygiene and health-seeking behaviors (including PD practices)

II. Protocols

A. What is a Hearth book?
B. Exercise 2: Making a Hearth book
C. Tools needed for a Hearth session
D. Procedures and tasks for day one of the Hearth session

III. Logistics

A. Preparation for the first Hearth session
B. What to say to the family of malnourished children (role play)
C. Practice of interactive song
D. Completion of the day's training

SAMPLE TRAINING OUTLINE FOR VOLUNTEERS

MODULE TWO

Module two is carried out after the first week of a Hearth session and before the second week.

Participants: Hearth volunteers selected by villagers from different villages

Duration / Time Frame: 2 days (Day 1: 4 hours; Day 2: 6 hours)

Training Objectives After this training, participants will be able to:
1. Use the visual aids effectively
2. Carry out focus group discussion with caregivers of malnourished children on different topics during daily Hearth sessions
3. Assess individual children's progress and counsel caregivers accordingly at the end of the Hearth session
4. Report on the outcomes of the Hearth session to the Village Health Committee (VHC)

DAY 1 (4 hours)

I. Review of current Hearth

A. Greeting and introduction; Objectives of the Hearth training
B. Review of the Hearth goals (flip chart)
C. Feedback on week 1: lessons learned (flip chart)
D. Review Hearth menu (food squares – flip chart & handouts)
E. Role of fathers (optional)

II. Topics for discussion at Hearth and focus group discussion

A. Overview

1. Review feeding, caring and health-seeking practices
2. Presentation of the four visual aids
3. Explain the schedule of basic messages (flip chart & handout)

B. Topic One: Food and body hygiene

1. Facts (flip chart and soap)
2. How to present the visual aid (questions)
3. Trainer role play of facilitating a focus group discussion
4. Volunteers' role play of facilitating a focus group discussion and feedback

C. Topic Two: Breastfeeding

1. Facts (Flip chart, questions, and demonstration)
2. Review of how to have a focus group discussion with questions on breastfeeding
3. Volunteers role play focus group discussion on topic two and feedback

SAMPLE TRAINING OUTLINE FOR VOLUNTEERS

DAY 2 (6 hours)

Warm-up Two children's songs involving movements (body and flies)

I. Review Day 1

II. Hearth topics

A. Topic Three: Prevention and treatment of sickness

1. Facts (flip chart – home based ORS)
2. Review questions for focus group discussion
3. How to check young children's breathing rate and make ORS at home (practice with children)
4. Volunteers role play a focus group discussion on topic three and feedback

B. Topic Four: Caring for the young child

1. Facts (flip chart and interactive games/song)
2. Review questions for focus group discussion
3. Volunteers role play a focus group discussion on topic four and feedback

C. Topic Five: Last day message *"What we can we do at home by ourselves?"*

1. Poster on variety of food and PD inquiry findings

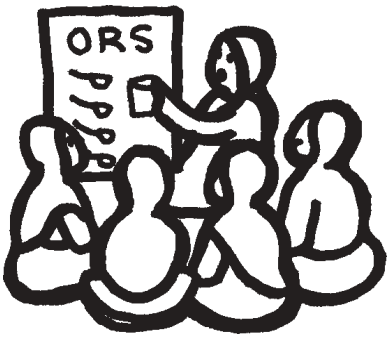
III. Procedures for last day of Hearth

A. Procedures and tasks for day 12 of the Hearth session

B. Counseling the mothers and family members at the end of the Hearth session

C. Using role play to practice counseling the mothers and family members

D. Creating a report of Hearth



Review Hearth topics such as the prevention and treatment of sickness facts using a flip chart showing home based ORS.

CHAPTER THREE
Step 3: Prepare for a Positive Deviance Inquiry

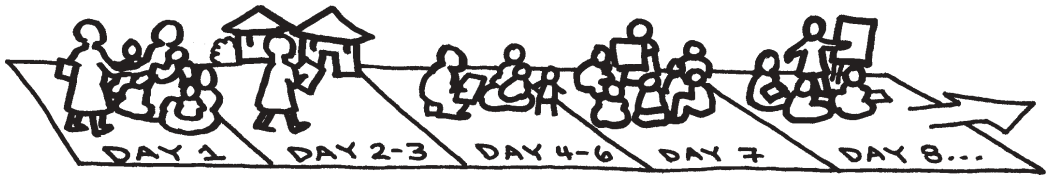
STEP 3

Prepare for a Positive Deviance Inquiry:

A. Determine the target age group
B. Conduct a nutrition baseline assessment
C. Conduct a situational analysis
D. Conduct a wealth ranking survey
E. Meet with community for feedback on baseline nutrition survey, introduction of PD concept and setting of goals and objectives
F. Identify Positive Deviants
G. Train and prepare the PDI team

A Positive Deviance Inquiry (PDI) is a community-specific survey tool used to discover the positive deviant caregiver's successful or desired practices that can be replicated by others in order to address a community wide problem. In PD/Hearth programs, the focus is on practices to reduce childhood malnutrition.

Before the PDI can be conducted, steps A through G, listed above, need to be carried out. The process is most commonly carried out in one to three weeks. Since children's nutritional status can deteriorate quickly, there should be a minimum of delay between the nutrition assessment, wealth ranking and identification of PD families. The best results are achieved when a multi-disciplinary team conducts these steps as each individual brings a different perspective to the study.



1 Day	1 or 2 Days	1 to 3 Days	1/2 Day	1 Day
identify target group in community	*conduct baseline nutritional survey*	*conduct situation analysis & wealth ranking*	*meet with community*	*train & prepare PDI team*

WHERE ARE YOU?

STEP 1 → Decide if this program is right for you

STEP 2 → Mobilize community; select and train

STEP 3 → Prepare for Positive Deviance Inquiry

STEP 4 → Conduct Positive Deviance Inquiry

STEP 5 → Design Hearth Sessions

STEP 6 → Conduct Hearth Sessions

STEP 7 → Support New Behaviors

STEP 8 → Repeat Hearth Sessions as Needed

STEP 9 → Expand PD/Hearth Programs

monitor & evaluate

If there are too many children under five to include them all, consider inviting children between the ages of seven months and three years to the Hearth --- research indicates that this period is the time when children are most vulnerable nutritionally.

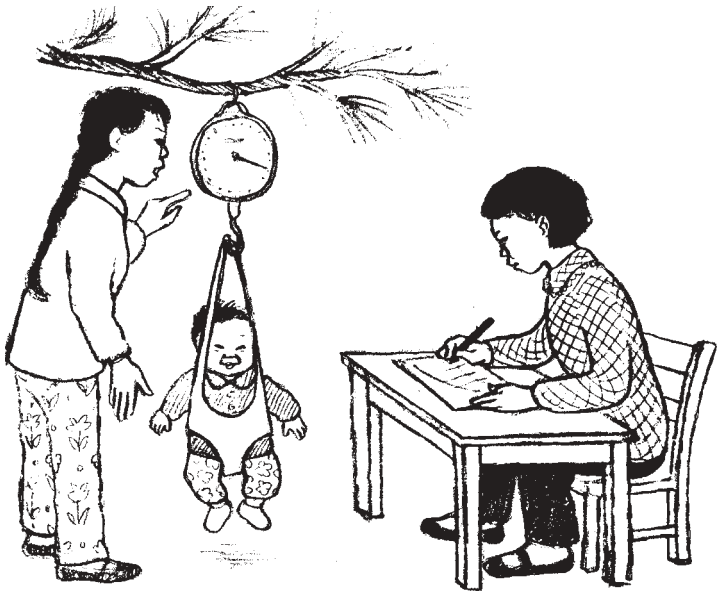
A. Determine the Target Age Group

In many cases, your funding source may determine the target age group for the PD/Hearth effort. If it does not, involve the community in making this decision. Will you focus on all children under three years of age? All children under five? Since children should not be given complementary food until six months of age, the youngest child targeted should be seven months old. If there are too many children under five to include them all, consider inviting children between the ages of seven months and three years to the Hearth. Children under three years of age grow faster than at any other age, are the most vulnerable to disease, wasting and stunting, and respond best to immediate intervention. Additionally, research indicates that this period is the time when children are most vulnerable nutritionally. If there is widespread malnutrition within a community and the numbers are large, it would be wise to concentrate your health efforts on seven to twenty-four month olds.

B. Conduct a Nutrition Baseline Assessment

The nutrition baseline assessment identifies malnourished children and serves as a community mobilization tool. It is important to weigh every child in your target age group. Weight for height is a preferable measure for assessing acute malnutrition, or wasting. However, since weight for age is the most sensitive to change, it is the method used in most PD/Hearth programs to assess children who are underweight.

Guidelines for weighing and measuring children are provided at the end of this chapter and Weight for Age standards are listed in Table 3.5.



Each underweight child must be classified by weight-for-age standards into mild, moderate or severe malnutrition status. Guidelines for weighing and measuring children are provided at the end of this chapter and Weight-for-age standards are listed in Table 3.5.

When growth monitoring and promotion (GMP) already exists in a community, the nutritional assessment can begin at the growth monitoring sessions, but data used must be from the current month. If growth monitoring does not exist, consider starting GMP concurrently with PD/Hearth on a regular basis to identify and monitor individual children's growth status.

It is important to notice who does not get weighed. It is rare that 100% of the target group will be participating in the monthly GMP weighing sessions and it is usually the malnourished children who are the first to skip or miss a growth monitoring session. The children regularly attending are usually self-selected and from already motivated, health-conscious families.

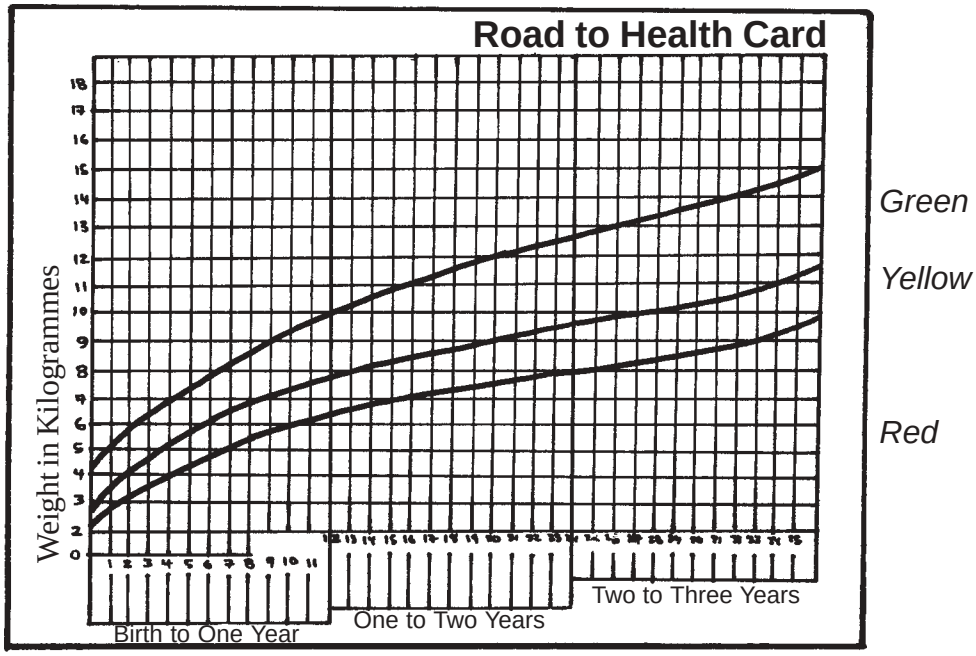
Where growth monitoring is not in place, or where children are being missed, project staff and volunteers should go house-to-house, identifying all children in the target age group as a census and weighing them. This process ensures no children are missed and the stress and chaos of group weighing are avoided.

Analyze the Data

Individual child data is recorded on a Growth Monitoring Card that is maintained by the caregiver. This data is important to the caregiver, and graphically shows over time whether a child is growing well or is growth faltering, and in need of specialized counseling. On a Growth Monitoring Card there are typically three paths, which indicate the nutritional status of the child. In some countries, these are colored as shown in Table 3.1 below.

TABLE 3.1 GROWTH MONITORING CARD

Lines on Graph	Malnutrition Status	Color (most common)
Top line	Normal	Green
2nd line	Mild	Light Yellow
3rd line	Moderate	Yellow
Below the 3rd line	Severe	Red



When children are not getting weighed, it is usually due to one of the following reasons:

Weighing is not available in their village

or

Weighing is present, but:

- ♥ The family is unaware of the weighing;
- ♥ The family is unmotivated to attend;
- ♥ The family is embarrassed to come because their child is underweight;
- ♥ The family has had previous bad experiences at weighing sessions;
- ♥ Previous sessions haven't had any perceived benefits or meaningful follow-up; or
- ♥ The family believes that weighing is harmful to their child.

Other more sophisticated standards exist for assessing a child's nutritional status. Table 3.5 provides weights for age standards for boys and girls aged 0-60 months. These tables are often available through the country Ministry of Health Nutrition Office. Weights that are one standard deviation below the norm or median are considered "mild malnutrition"; two standard deviations below the norm indicate "moderate malnutrition"; and three standard deviations below the norm are "severe". Standard deviations from an international norm are commonly referred to as Z-scores. A comparison of these three types of terms can be seen below. Research studies often use Z-scores in order to provide information that is comparable across different countries.

TABLE 3.2 MALNUTRITION LEVELS BY STANDARD DEVIATIONS OR Z-SCORES

Malnutrition Status	Standard Deviation (SD) below the norm	Z-Score Notation
Normal	Median	Median
Mild	1	< -1 Z-scores
Moderate	2	< -2 Z-scores
Severe	3	< -3 Z-scores

For the remainder of this resource guide, we will use the terms normal, mild, moderate and severe malnutrition. Check with your Ministry of Health for the standard in your country. Regardless of the method used, it is important to be able to track the change in the child's weight over time.

Each individual child's weight or nutritional status can be graphically portrayed on a community scoreboard to help the community understand the overall nutritional status of children in the community. When large numbers of children are malnourished, this graphic representation is often a motivator for the community to take action. To avoid embarrassing some families, the scoreboard should only show marks or symbols, not names of children.

Using the total number of children under three (or under five) in the community, tabulate how many children are in each nutritional status category. Use a table similar to Table 3.3. When all children are weighed, the nutritional assessment is based on 100% registration of the target population. The total number of under-threes (or under-five's) provides the denominator for the proportion of malnourished children in the community. Next, figure out the percentages that fall into each category of malnutrition. Take the total number in the category, multiply it by 100, and divide by the total target population.

Crosscheck Children

Do a crosscheck to see if you identified all the children in a particular age category (remember that it is likely that not all children were weighed).

Some general rules of thumb in developing country situations:

- ♥ If you targeted the under-fives, they should equal between 16-20% of the total population
- ♥ If you targeted the under-threes, they should equal 10-14% of the population

TABLE 3.3 PERCENTAGE OF TARGETED CHILDREN BY NUTRITIONAL STATUS

Nutritional Status	Number	Percent
Normal		
Mild malnutrition		
Moderate malnutrition		
Severe malnutrition		
Total		

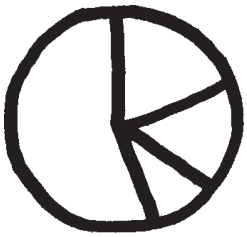
Graphically Prepare the Results

This initial assessment serves as an important baseline for the intervention. The community needs this information. It belongs to them and must be shared. There are several ways to present the data so that it can be easily understood and the community can see the extent of the problem. The information should be shared with local health workers, the village health committee, community leaders and any other community groups. This is the start of creating visual scoreboards to track progress towards combatting malnutrition. The initial pie chart (or other visual aid) represents the baseline data. Subsequent data would be compared to this.

Emphasize the importance of community-based scoreboards that are understood by the community, so that they can see the impact of the Hearth approach on their community statistics and overall health.

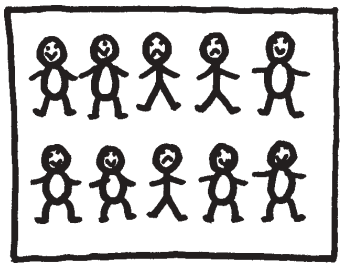
Pie Chart

Pie charts are useful for showing the proportion of children falling into each nutritional status. Staff can show community members how to make a pie chart using proportions of well-nourished, mildly malnourished, moderately malnourished and severely malnourished children. For pie charts, a powerful illustration is to show only two groups in the pie chart: those who suffer from all levels of malnutrition, and those who are well-nourished.



Colored Stick

A stick can be painted different colors according to the percentage of children in each category of malnutrition.

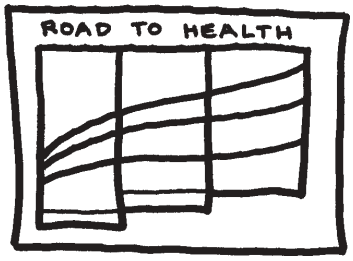


Stick Figures

Stick figures can be used to demonstrate the percentage of children in each category. When you use ten stick figures, each figure represents ten percent of the population. If thirty percent of the population were malnourished, three out of the ten stick figures would be painted red.

Large Poster

Each child's weight-for-age can be plotted on a poster or giant flip chart version of the Growth Monitoring Card. This depiction shows the frequency of malnutrition among the children and the extent of the program in addition to improving the understanding of the community.



C. Conduct a Situational Analysis

Good program planning is based on having a comprehensive understanding of the current situation in a community. In addition to the nutrition baseline assessment, important information to gather includes:

General health situation: immunization coverage; incidence and case management of Acute Respiratory Infections (ARI), especially pneumonia, diarrheal disease, malaria, and worms in young children; Vitamin A deficiency; family planning acceptance; and access to maternal and child care.

Levels and causes of under-five mortality: including medical causes (diagnose) and system causes (late care-seeking, low quality care, etc.).

Current behaviors and beliefs: household feeding, caring and health-seeking behaviors; commonly held beliefs surrounding food and health, including taboos and norms; and availability of clean water.

In parts of Mozambique, it is believed that a "spirit sitting on the child" causes marasmus. Only a witch doctor can exorcise, or lift, the bad spirit from the child. The child normally stays with the witch doctor for two weeks. The improvement in a child's condition while attending Hearth sessions starts to show within two weeks. Mothers felt comfortable with the two-week sessions since it was familiar in their cultural context as a "healing period."

To plan the Hearth, staff will need to fully understand local beliefs and practices. Even if they are from the area, they may not have paid much attention to child feeding or caring practices, particularly those of lower socio-economic groups. Since PD/Hearth aims to change the conventional wisdom and guide the community in adopting ways to prevent and eliminate malnutrition, it is important to articulate and document the preexisting community-wide norms. Clarifying the norm allows for easier identification of the positive deviants and serves as a qualitative baseline against which changes in feeding, caring and health-seeking practices can later be compared.

There are a number of different methodologies for collecting information and assisting a community to tell its own story. It is suggested that several different methods be used to validate information, commonly called "triangulation" of information. The project team should use both quantitative and qualitative information. Quantitative information can include written documents, such as government records or health facility data that will help the project team and the communities understand key causes of childhood death and disease. If these data are not available, then the project team may need to conduct a Knowledge, Practice & Coverage (KPC) survey of the area to better understand the extent of the childhood nutrition and disease problem. The KPC survey consists of a predetermined set of questions posed to a randomly selected group of respondents. References for more detailed information on carrying out a KPC survey can be found in the Resource section at the end of this manual.

The quantitative data need to be complemented by qualitative information that provides in-depth information on the local beliefs and practices in a variety of settings. Many useful tools come from social anthropology; the most commonly used tools for PD/Hearth are those known as Participatory Rural or Rapid Appraisal (PRA) and Participatory Learning and Action (PLA). The PLA

applies a community development, problem-solving approach in which facilitators work with communities to help them analyze causes of a problem, identify solutions, and develop and implement a plan of action.

PD/Hearth volunteers and program staff often start a PLA or PRA by conducting key informant interviews with women leaders or focus group discussions with women and other decision makers to understand breastfeeding practices, weaning practices, mother's workload, child care concepts, beliefs about child rearing, environmental hygiene practices, and perceptions about causes of child malnutrition. Interviews and focus group discussions should be complemented by other information gathering methodologies to better understand the various factors that contribute to malnutrition. The notes collected by staff and volunteers can later be compared and discussed to identify the behaviors or beliefs targeted for change.

A list of sample focus group discussion questions can be found in the Information Gathering Mehods at the end of this chapter.

Focus group discussions in one project area identified a weakness in getting food from the field to the child. Fathers are generally absent, working in another country, and are unable to help the mothers with household chores or provide moral support in raising a child. The mother labors almost all day in the fields in order to bring the food into the household. When she returns home, she then starts fetching water and cooking the food. It is difficult for her to find enough time or energy to properly sit down and patiently feed her children. As a result, children must fend for them-selves, often eating out of a common plate with older siblings. The faster, stronger and older children get the largest portions.

While it is common for women to breastfeed for two years, mothers who become pregnant before that time is up, abruptly wean the child. This practice is strongly encouraged by mother-in-laws who strictly prohibit breastfeeding during pregnancy. Once a child is prematurely deprived of breast milk, growth starts to falter.

It is difficult for many Mothers to find enough time or energy to properly sit down and patiently feed her children.

A survey of daily eating patterns among children in Sri Lanka found the typical meal to be:

Breakfast: Biscuits and tea

Lunch: Rice or yams with green leaves and coconut, dried fish and vegetable curry

Between Meals: Cup of plain tea

Dinner: Bread or string hoppers with curry

Table 3.4 at right lists a number of information gathering methodologies that can be used, and the types of data that each provide. These methods should be used as needed to gather the information required.

An asterisk (*) indicates directions for carrying out the methodology can be found at the end of this chapter.

TABLE 3.4 INFORMATION-GATHERING METHODOLOGIES

Methodology/Tool	Information Collected
A. Single Informant Interview	
Standardized Closed-Ended Interviews of Key Informants	Comparable results across households helps determine reported and actual childcare behaviors
24-hour dietary recall	Mother's inventory of child's food intake for the preceding 24 hours; focus should be on types of food rather than quantity; frequency and types of snacks (a type of close-ended interview)
Standardized or Semi-Structured Open Ended Interviews of Key Informants	Elicits more participation from households and increases understanding of childcare behaviors and their context, e.g. household roles governing child care, decision making, etc. (Commonly used in PD/Hearth programs)
B. Group Interviews	
Focus group discussions*	Provides contextual information for feeding, childcare, hygiene and health-seeking reported behaviors
Community mapping*	Provides locations of poor and wealthy houses, health centers, water pumps, agri-cultural fields, schools, religious buildings, etc.
Trend lines*	Visual depiction of major trends in malnutrition status, food availability, economic situation, population growth, etc. over the last five to ten years
Seasonal calendar*	Visual depiction of food availability, workload, and disease prevalence due to seasonal changes
Time use	Visual depiction of how women spend their time
Time lines (local history)	Changes in food usage and practices over time
C. Systematic Interviewing	
Ratings / Ranking of health-seeking practices	To whom community members go when children are sick
Pile Sorts of Illnesses	Perception on most common causes of childhood illness and malnutrition
D. Direct Observation	
Home visits	Actual food preparation, feeding, caring and health-seeking behaviors through participant observation
Continuous Monitoring	Changes in actual feeding, caring and health - seeking behaviors in various home contexts

Several beliefs and customs discovered in one qualitative study were subsequently used to shape PD/Hearth messages in the project:

♥ Children need protein and should not avoid meats and eggs

♥ Fathers and grandparents help feed the children and should be involved in the PD/Hearth program

♥ Since the mother decides what can or can not be eaten by a child, decision-making messages about food should be targeted at the mother

♥ Complementary foods such as smashed orange, papaya, congee and coriander can be given at weaning time instead of waiting for a child to turn 1year of age

♥ Additional messages are required about proper feeding when a child is ill since sick children are often only fed porridge

♥ Messages about caring for the child during episodes of acute respiratory infection should be built into the PD/Hearth since the most common illness is ARI

♥ The family is most concerned about diarrhea and convulsions and wants to better understand both prevention and care

♥ Mothers are typically more concerned about the taste of food rather than the nutritional content; basic food pyramid messages will be important

♥ Mothers spend too much time cooking foods which do not pay back in terms of good nutrition; nutritious recipes will be helpful during the PD/Hearth

Fathers and others who help feed the children should be involved in the PD/Hearth program

D. Conduct a Wealth Ranking Survey

Develop wealth-ranking criteria with the community and work with community members to classify households by socio-economic status. This can be as simple as differentiating poor households and wealthier households. Hearth volunteers and village health committee members who have close contact with the community are best positioned to design the wealth ranking since the criteria are very culturally specific.

Wealth ranking can be conducted while the nutritional assessment is taking place, while results of growth monitoring are being tabulated, during the situational analysis or immediately afterwards.

Questions to Guide Wealth Ranking Criteria:

- ♥ How would you describe poor and wealthy households?
- ♥ Where do poor and wealthy families live? What are their homes like?
- ♥ What do they wear?
- ♥ What types of food do they eat?
- ♥ What do they do for recreation?
- ♥ Who are the main caregivers for the children?
- ♥ How much do they spend on health care in a year?
- ♥ What types of work do the men do? Women? Children?

Wealth ranking criteria for a community in Mali:

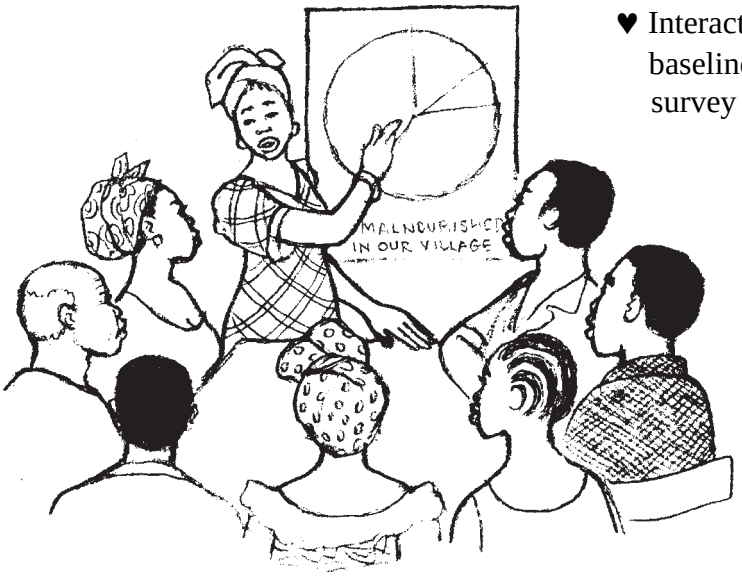
Richest Family owns donkey(s) and a cart
Middle Family owns one or more donkeys
Poor Family does not own donkey

Wealth ranking criteria for a community in Guatemala:

Richest Children wear leather sandals/shoes that cover toes
Middle Children wear plastic sandals or boots
Poor Children wear no shoes/sandals

E. Meet with the Community

Organize a meeting with the community to provide feedback on the baseline nutritional survey, introduce the PD concept and collectively set goals and objectives. A typical agenda for this meeting may include:



- ♥ Interactive sharing of baseline nutritional survey with graphic presentation
- ♥ Review of signs of malnutrition (physical and psychological)
- ♥ Exploration of short-term and long term effects of malnutrition
- ♥ Review of some causes of malnutrition (incorporate information from focus group discussions and PLA activities)
- ♥ Setting goals and objectives
- ♥ Introduction of the PD concept (see Chapter 2 for sample exercises)

The main goal of a nutrition rehabilitation project using the PD/ Hearth approach is sustained rehabilitation of poorly nourished children.

Set Goals and Objectives

During the community meeting, guide the group to develop formally stated goals and objectives for the program. The main goal of a nutrition rehabilitation

project using the PD/Hearth approach is sustained rehabilitation of poorly nourished children. It is much larger than simply rehabilitating children currently suffering from malnutrition. It extends to: children who are younger siblings, those not yet malnourished in the community, and future children, not yet born. All these groups are affected because the PD/Hearth approach is focused on changing behavioral norms in the community, thereby preventing future malnutrition.

Set clear objectives, stated in measurable terms for the program as a whole and with each specific community. Hearths are time-limited in nature; the Hearth sessions will only run 8-12 months total, and then hopefully be no longer needed. If they are running properly, they should accomplish their goal of sustained behavior change to prevent future malnutrition in that amount of time.

Sample Process for Guiding Community in Setting Goals & Objectives

Staff leads the community group in a discussion using the following questions:

Q: What is the problem we want to solve?
A: Malnutrition

Q: What do we want to do to solve the problem?
A: Answers should include "rehabilitate all malnourished children."

Q: Is it enough to rehabilitate the children?
A: No, there is also a need to keep children well nourished after Hearth sessions.

Staff shows the community a flip chart with the following objectives:

- ♥ Rehabilitate children
- ♥ Sustain the rehabilitation
- ♥ Prevent future malnutrition

Subsequent discussion leads to community commitment to following through with their role in supporting each of the objectives:

- ♥ Provide adequate food to malnourished children; attend Hearth sessions
- ♥ Bring food/fuel contribution to each Hearth session; share appropriate feeding and caring practices
- ♥ Support mother/caregivers in their home setting to use new foods and feeding and caring practices

Discussions should lead the community to understand their role in

- ♥ *rehabilitating children*
- ♥ *sustaining rehabilitation*
- ♥ *preventing future malnutrition*

F. Identify Positive Deviants

After the community-wide meeting, village leaders and Hearth volunteers work together with staff to identify the positive deviants by listing the children found to be well-nourished and identifying those who come from poor families. Table 3.4 represents a simple chart for this information.

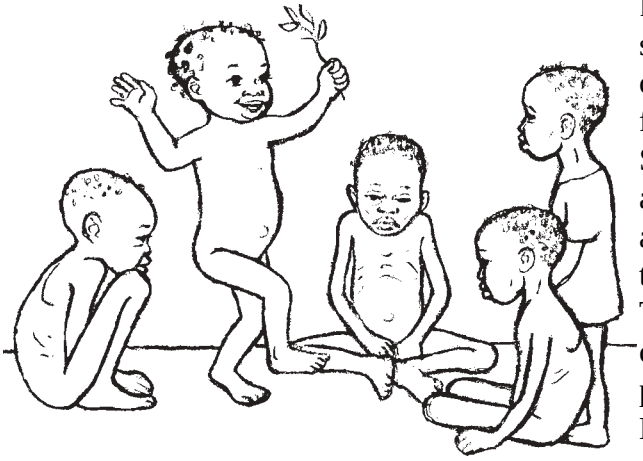
TABLE 3.4 MATRIX OF NUTRITIONAL STATUS AND SOCIO-ECONOMIC STATUS

	Number in Poor Households	Number in Wealthier Households
Well-Nourished Children	# Children (Positive Deviants)	# Children
Poorly-Nourished Children	# Children	# Children (Negative Deviants)

General criteria for selecting PD families:

- ♥ Poor family (low income)
- ♥ Normal nutritional status of child
- ♥ Minimum of two children (must be close to average family size)
- ♥ Family should be representative of geographical and social groups living in the village
- ♥ No severe health problems
- ♥ PD family must belong to "mainstream community"
- ♥ Head of household should have same occupation as the majority of villagers
- ♥ Must have access to same resources as others in the community
- ♥ Family is found in the identified minority (if the program targets minority communities only)
- ♥ Gender of PD child can be a criterion in gender-biased cultures

The volunteers assess the positive deviant children for other factors that might make them special, such as being the only child, having wealthy grandparents, etc. These families would be eliminated. Those families that remain share the same risks as the average household. These are the Positive Deviant families and from them, PD children and households are selected. It is important to remember that the community needs to be large enough to find a Positive Deviant and it helps if the demographic make-up of the community is somewhat homogenous. There will be some variability in the criteria for selecting PD families based on culture. Some issues such as average family size in the area and gender bias need to be taken into account. The PDI should be conducted as soon as possible after the Positive Deviants are identified.



A PD child cannot:

- ♥ Be a big baby who is losing weight now
- ♥ Be a child with a begging or scavenging background
- ♥ Be a first-born or only child since it may receive special care
- ♥ Have any severely malnourished siblings
- ♥ Have any severe or atypical social or health problems
- ♥ Have a family enrolled in a supplementary feeding program (this will skew results)
- ♥ Be a very small, low-weight baby who is now growing well

G. Train and Prepare the PDI Team

As the Positive Deviance Inquiry (PDI) is at the heart of the Hearth Program design, it is essential that the PDI team be well trained and prepared. This will usually take up to two days.

The following topics should be covered:

- ♥ Overall concept of PD approach
- ♥ Purpose of PDI
- ♥ Review of feeding, caring and health-seeking behaviors
- ♥ Introduction to the two tools for gathering PDI information: Observation Checklist and Semi-structured Interview Guide (discussed in greater detail in Chapter 5)
- ♥ Information-recording protocols
- ♥ Norms and guidelines for home visits

In the training, the most important skills to be learned are:

- ♥ Accurate identification of household practices which do or do not contribute to good nutritional status of local children, and
- ♥ Good observation and interview skills with an emphasis on probing and listening skills

These can be taught and practiced through role plays.

Guiding the team through practice interviews using role plays is a good opportunity to learn as well as adapt the PDI tool as needed. Pay attention to confusion on terms in the local language and the need to add more space to the form or rearrange questions based on the interview flow. Information about training and several sample training exercises are included in Chapter 2.

This section provides sample questions for **Focus Group Discussions.**

Select the questions that will be most useful in your situational analysis and lead the group through a participatory discussion around the given topic.

NOTE: Precede fact-finding questions with expressions "*usually* ...," or "*normally* ...," and "*in your village* ..."

Precede attitudinal questions with expressions "*in your opinion* ...," or "*according to you* ..."

1. FOCUS GROUPS (Sample Questions)

I. Questions for Mothers of Young Children

BREASTFEEDING PRACTICES

1. What would be good to give newborns at birth? Why?
2. How much time after birth is a newborn given breast milk? Why?
3. What do you call the first milk that comes out of a woman's breast after having her baby?
4. Would it be good to give your babies this yellow liquid (name) that comes out in the first hour after birth? Why?
5. Up to what age does a mother give only breast milk to a baby? Why?
6. Until what age would it be good to give a baby only breast milk? Why?
7. Why is it that some mothers don't give only breast milk during the first six months?
8. What else do they give their babies to eat or drink?
9. What are some of the problems that mothers have that prevent them from using only breast milk for the first six months?
10. What are things that you think can make a mother's breast dry up?
11. What can a mother do to produce more milk?
12. How do mothers and babies benefit from breastfeeding?
13. What illnesses do babies have that cause them to stop breastfeeding?
14. When mothers stop breastfeeding, what foods and drinks do they give their children and in what containers?
15. Until what age do the majority of mothers breastfeed the child?

COMPLEMENTARY FEEDING HABITS

1. At what age are food or liquids other than breast milk introduced? Why?
2. What is the first weaning food made of? How long is it used?
3. What foods are considered healthy for young children?
4. What foods should not be given to young children?
5. How many times a day are children offered something to eat (meals and snacks)?
6. Until what age does a child eat this number of times? Why?
7. In what container do you give your children food when they are first beginning to eat?
8. Who feeds the child and how does the child eat (hand, spoon, chewing)?
9. Do other people also feed the child?

10. What problems do you have feeding your young children?
11. When a child does not want to eat, what do you do?
12. When a child is recovering from illness, do you give him/her different foods?
13. Who decides what the child can or cannot eat in the household?

MALNUTRITION

1. What is a malnourished child?
2. What is malnutrition?
3. How do you recognize malnourished children?
4. How does malnutrition affect children in the future?
5. What causes malnutrition in children?

CARING PRACTICES

1. How often are young children bathed? Hands washed?
2. How much time do mothers usually spend with their children daily?

HEALTH-SEEKING PRACTICES

1. Do you feed the children when they are sick? What do you give them?
2. When a child is sick, what foods should be avoided?
3. When a child is sick, from whom do you seek help first?
4. When your children have diarrhea, what do you do? Do you feed him/her same, more or less food and liquids? Why?
5. Do you buy food for the child outside? If yes, what food? (snacks, fresh food) How often?
6. From whom (specific food stall vendor) and why?
7. For lactating mothers only: What do you do when you are sick?

II. Questions for Community Informants

CARING PRACTICES

1. In your community, how do you prepare food for your children?
2. Normally, how often do you wash your hands and when?
3. How often are children bathed?
4. How often are children's hands washed?
5. How many hours are you apart from your children during the day?
6. Who watches your children other than you?
7. Do you encourage your child to play with other children? Why? Why not?
8. When do you play with your child? What do you do with him/her?
9. What do you think is the most important thing a child needs?
10. What does your husband do for the children in the household? Siblings? Grandparents?

Tips for Conducting Focus Group Discussions

♥ Choose an informal setting

♥ Create a congenial atmosphere

♥ Respect the group's ideas, beliefs and values

♥ Listen carefully and show interest in participants' responses and exchange

♥ Encourage everyone to participate in the discussion

♥ Be observant and notice participants' level of comfort or discomfort

♥ Ensure that everyone can voice their ideas or opinions

♥ Do not let one person dominate the discussion – acknowledge that person's contribution to the group and then stress the need to learn and hear from everyone.

Health-Seeking Practices

1. What illnesses most concern parents in your community?
2. What other illnesses do children suffer?
3. How do you know your child is sick? (signs of sickness)
4. Whom do you consult first? Then whom?
5. Who decides what to do when there is a severe health problem at home?
6. What are the remedies to cure sick children?
7. What do you do to protect your children from illnesses?
8. What do you use water for?
9. Are children immunized here?

Questions for older sibling caregivers include, "who decides what and when you will feed your younger brother or sister?"

III. Questions for Older Sibling Caregivers

1. Do you go to school?
2. What do you do besides look after your younger siblings?
3. What do you do with your younger sister/brother?
4. What do you do when he/she cries? When he/she gets hurt or sick?
5. What do you do when the child is naughty?
6. What things do you like to do with your younger brother/sister? Why?
7. What things do you not like to do? Why?
8. Do you involve him/her in your games? Why?
9. How do you feed the child (probing)?
10. Who decides what you will feed the child?
11. Who decides when you will feed the child?

2. COMMUNITY MAPPING

Purpose: Identify locations of poor and wealthy neighborhoods, health centers, water pumps, agricultural fields, schools, religious buildings, etc.

With Whom: Community members and leaders

Materials: Local materials (stones, sticks, leaves, colored powder, etc.) or flip chart paper, magic markers, colored pens, and scotch tape

Time: Approximately 1 hour

Steps:

1. Find a suitable place where a large group of people can assemble.

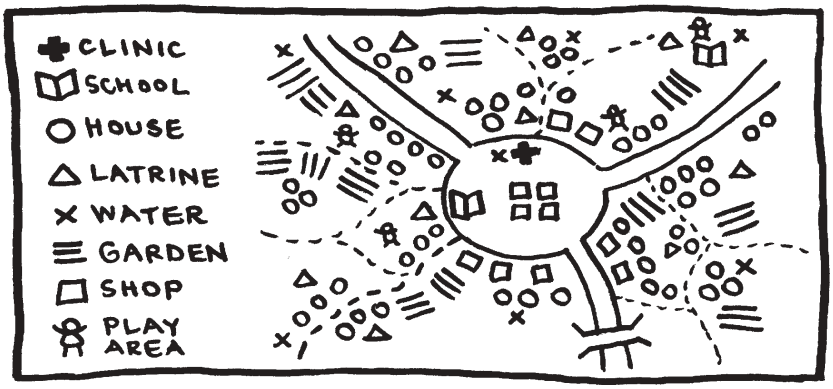
2. Ask the community leaders to draw (either on the ground or on piece of paper) their village track, as it would look to a bird flying over it.

3. Encourage participants to mark (with pens or local materials) various landmarks such as different villages, main roads, important buildings, etc.

4. Use the **probing questions** at right to encourage participants to provide more detail and add their suggestions and ideas. Ensure that the community guides the map development and that the resulting map is the community, as the group perceives it.

5. Create a legend for symbols used and encourage participants to use color-coding and other symbols to identify types of resources (e.g. red for health facilities, yellow for market, blue for schools, etc.

6. Task a staff member with recording participants' comments as they progress through the activity and drawing a small replica of the map that can be used by the team in subsequent planning efforts.



PROBING QUESTIONS

Homes: Where is your home?
Health: Where do the TBAs live? How many are there? Where are the traditional healers located?
Recreation: Where are the video shops, liquor stores, tea shops, places children play, associations, and administrative buildings?
Schools: Where are the schools? How many children are enrolled? How many children are not in school? Why?
Food: Where are the markets, food stalls, snack shops, and vendors?
Occupation: Where do poor people live? What are the main occupations in the community?
Ethnic: How many different ethnic groups are there? Where do they live?
Religious: Where are the mosques, churches, pagodas and/or temples? What are the different religious groups? What are the religious holidays?
Children: Do children work? What do they do?
Men: Where do men go for recreation? Is drinking a problem in your village?
Women: Where do women get together?

3. TREND LINES

Purpose: Develop visual depiction of major trends in malnutrition status, food availability, economic situation, population growth, etc., over the last five to ten years

With Whom: Elders from different parts of the community

Materials: Flip chart paper, magic markers, and pictures/symbols

Time: Approximately 1 hour

Steps:

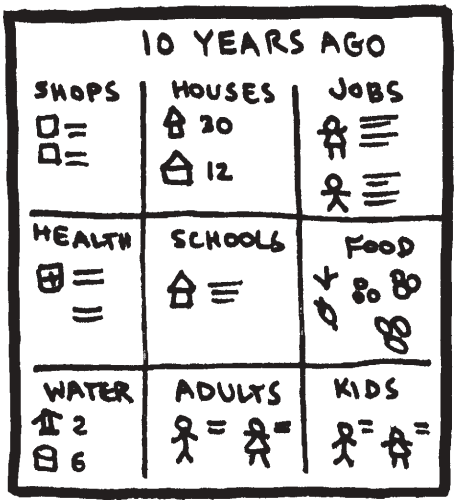
1. Explain to participants that they will be exploring together what has happened in the last ten years in the community, what caused the different changes and which changes were positive and which were negative.

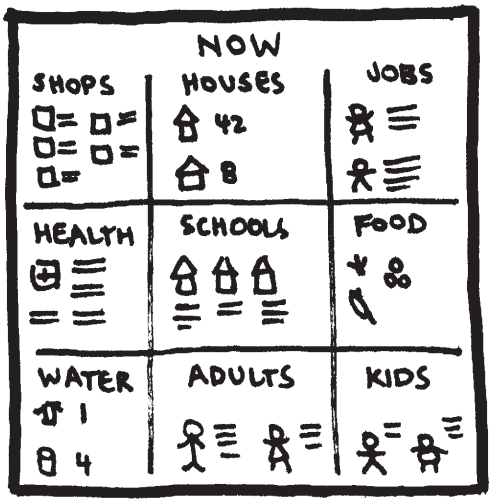
2. On the flip chart paper, draw two columns. Label the first "ten years ago" and the second "now."

3. Ask participants to talk about what was the village like ten years ago and compare their observations to the current situation. Use the **probing questions** at left to guide this discussion. Record the answers in the appropriate columns.

4. Review/summarize the results of this activity with participants.

5. Optional discussion question: "What would you like to see ten years from now? What are your dreams for your children?"





PROBING QUESTIONS

Infrastructure: Are there more shops, more roads, easier access, electricity?

Socio-economic: Are there more jobs, more businesses, more money?

Population: Are there more or less people, children, youth? Why?

Housing: Is housing better? How? (e.g. water, electricity, etc.)

Health: Are there better facilities, access to medicine, and treatment? Is there less disease?

Education: Are there more schools and teachers?

Food: Is more food available, more crops, more harvest, etc.?

Religion: Are there more religious leaders?

4. SEASONAL CALENDAR

Purpose: Develop visual depiction of food availability, workload and disease prevalence due to seasonal changes.

With Whom: Cross-section of the community, including women, leaders, and providers

Materials: Flip chart paper, colored pens, available objects, flash cards with drawing, beans, etc.

Time: Approximately 1 hour

Steps:

1. Explain the purpose of the activity to participants.

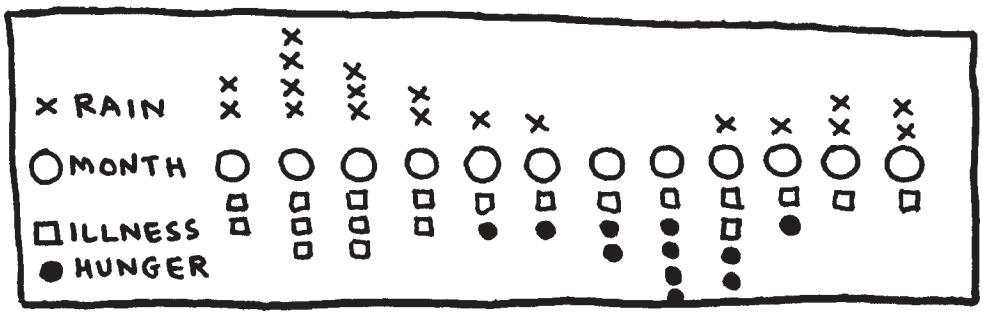
2. Guide participants in drawing a calendar divided by months.

3. Use the probing questions at right to solicit changes across the year.

4. Encourage community members to record their observations on the calendar.

5. Task a staff member with recording participants' comments as they progress through the activity.

6. Review/summarize the findings with participants.



PROBING QUESTIONS

Food: What are the seasons for different fruits and vegetables? How long do seasons last? When do the plants grow? When are they harvested? What are the seasons for eating different meats or seafood? How does food availability change through the year? Are there times when it's hard to find food?

Weather: What is the weather like at different times of the year?

Events: When are religious events/festivals?

Migration: Is there any seasonal migration of people? Of animals?

School: When are the children in school?

Disease: What diseases do children get at different times of the year? Why?

Workload: Is workload the same all year long?

Games: Are there any games that are played only at certain times of the year? What are they and who plays them(i.e. boys/ girls)?

This section provides weight for age standards for **Weighing Children**.

To weigh and measure children, see Guidelines beginning on page 78.

1. Weight for Age Standards Table

BOYS					GIRLS				
Age in months	Median	"-1 SD	"-2 SD	"-3 SD	Age in months	Medi-an	"-1 SD	"-2 SD	"-3 SD
0	3.3	2.9	2.4	2.0	0	3.2	2.7	2.2	1.8
1	4.3	3.6	2.9	2.2	1	4.0	3.4	2.8	2.2
2	5.2	4.3	3.5	2.6	2	4.7	4.0	3.3	2.7
3	6.0	5.0	4.1	3.1	3	5.4	4.7	3.9	3.2
4	6.7	5.7	4.7	3.7	4	6.0	5.3	4.5	3.7
5	7.3	6.3	5.3	4.3	5	6.7	5.8	5.0	4.1
6	7.8	6.9	5.9	4.9	6	7.2	6.3	5.5	4.6
7	8.3	7.4	6.4	5.4	7	7.7	6.8	5.9	5.0
8	8.8	7.8	6.9	5.9	8	8.2	7.2	6.3	5.3
9	9.2	8.2	7.2	6.3	9	8.6	7.6	6.6	5.7
10	9.5	8.6	7.6	6.6	10	8.9	7.9	6.9	5.9
11	9.9	8.9	7.9	6.9	11	9.2	8.2	7.2	6.2
12	10.2	9.1	8.1	7.1	12	9.5	8.5	7.4	6.4
13	10.4	9.4	8.3	7.3	13	9.8	8.7	7.6	6.6
14	10.7	9.6	8.5	7.5	14	10.0	8.9	7.8	6.7
15	10.9	9.8	8.7	7.6	15	10.2	9.1	8.0	6.9
16	11.1	10.1	8.8	7.7	16	10.4	9.3	8.2	7.0
17	11.3	10.1	9.0	7.8	17	10.6	9.5	8.3	7.2
18	11.5	10.3	9.1	7.9	18	10.8	9.7	8.5	7.3
19	11.7	10.5	9.2	8.0	19	11.0	9.8	8.6	7.5
20	11.8	10.6	9.4	8.1	20	11.2	10.0	8.8	7.6
21	12.0	10.8	9.5	8.3	21	11.4	10.2	9.0	7.7
22	12.2	10.9	9.7	8.4	22	11.5	10.3	9.1	7.9
23	12.4	11.1	9.8	8.5	23	11.7	10.5	9.3	8.0
24	12.3	11.2	10.1	9.0	24	11.8	10.6	9.4	8.3
25	12.5	11.4	10.2	9.0	25	12.0	10.8	9.6	8.4
26	12.7	11.5	10.3	9.1	26	12.2	11.0	9.8	8.5
27	12.9	11.7	10.4	9.1	27	12.4	11.2	9.9	8.6
28	13.1	11.8	10.5	9.2	28	12.6	11.3	10.1	8.8
29	13.3	12.0	10.6	9.3	29	12.8	11.5	10.2	8.9
30	13.5	12.1	10.7	9.4	30	13.0	11.7	10.3	9.0

Weight for Age Standards Table (continued)

BOYS					GIRLS				
Age in months	Median	"-1 SD	"-2 SD	"-3 SD	Age in months	Median	"-1 SD	"-2 SD	"-3 SD
31	13.7	12.3	10.9	9.4	31	13.2	11.9	10.5	9.1
32	13.9	12.4	11.0	9.5	32	13.4	12.0	10.6	9.2
33	14.1	12.6	11.1	9.6	33	13.6	12.2	10.8	9.4
34	14.3	12.7	11.2	9.7	34	13.8	12.3	10.9	9.5
35	14.4	12.9	11.3	9.7	35	13.9	12.5	11.0	9.6
36	14.6	13.0	11.4	9.8	36	14.1	12.6	11.2	9.7
37	14.8	13.2	11.5	9.9	37	14.3	12.8	11.3	9.8
38	15.0	13.3	11.7	10.0	38	14.4	12.9	11.4	9.9
39	15.2	13.5	11.8	10.1	39	14.6	13.1	11.5	10.0
40	15.3	13.6	11.9	10.2	40	14.8	13.2	11.6	10.1
41	15.5	13.8	12.0	10.3	41	14.9	13.3	11.8	10.2
42	15.7	13.9	12.1	10.4	42	15.1	13.5	11.9	10.3
43	15.8	14.1	12.3	10.5	43	15.2	13.6	12.0	10.4
44	16.0	14.2	12.4	10.6	44	15.4	13.7	12.1	10.5
45	16.2	14.4	12.5	10.7	45	15.5	13.9	12.2	10.6
46	16.4	14.5	12.6	10.8	46	15.7	14.0	12.3	10.7
47	16.5	14.6	12.8	10.9	47	15.8	14.1	12.4	10.8
48	16.7	14.8	12.9	11.0	48	16.0	14.3	12.6	10.9
49	16.9	14.9	13.0	11.1	49	16.1	14.4	12.7	10.9
50	17.0	15.1	13.1	11.2	50	16.2	14.5	12.8	11.0
51	17.2	15.2	13.3	11.3	51	16.4	14.6	12.9	11.1
52	17.4	15.4	13.4	11.4	52	16.5	14.8	13.0	11.2
53	17.5	15.5	13.5	11.5	53	16.7	14.9	13.1	11.3
54	17.7	15.7	13.7	11.6	54	16.8	15.0	13.2	11.4
55	17.9	15.8	13.8	11.8	55	17.0	15.1	13.3	11.5
56	18.0	16.0	13.9	11.9	56	17.1	15.2	13.4	11.5
57	18.2	16.1	14.0	12.0	57	17.2	15.4	13.5	11.6
58	18.3	16.3	14.2	12.1	58	17.4	15.5	13.6	11.7
59	18.5	16.4	14.3	12.2	59	17.5	15.6	13.7	11.8
60	18.7	16.6	14.4	12.3	60	17.7	15.7	13.8	11.9

NOTE: Data for this table come from two different child populations. In the case of the age grouping from 0-23 months (above) the data is based on Fels Research Institute, Yellow Springs, Ohio studies. The 24-60 month age grouping (next page) draws from National Samples of the National Center for Health Statistics. This accounts for minor inconsistencies at the point of overlap (1).

2. GUIDELINES FOR WEIGHING AND MEASURING CHILDREN

Instructions for Weighing a Child Using a Salter-like Hanging Scale

1. Measurer or assistant: Hang the scale from a secure place like the ceiling beam. You may need a piece of rope to hang the scale at eye level. **Ask the mother to undress the child as much as possible.**

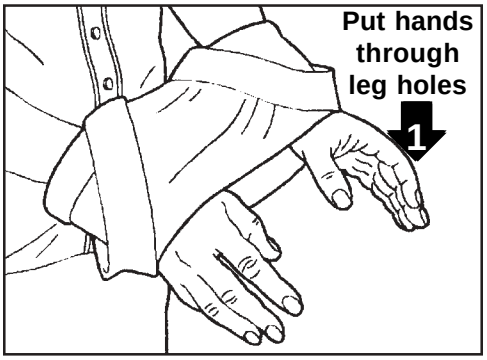
2. Measurer: Attach a pair of the empty weighing pants to the hook of the scale and adjust the scale to zero, then remove from the scale.

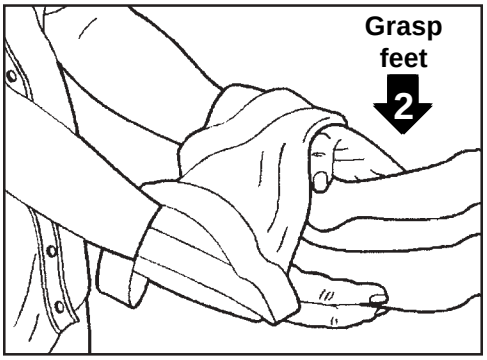
3. Measurer: Have the mother hold the child.

Put your hands through the leg holes of the pants (Arrow 1).

Grasp the child's feet and pull the legs through the leg holes (Arrow 2).

Make certain the strap of the pants is in front of the child.





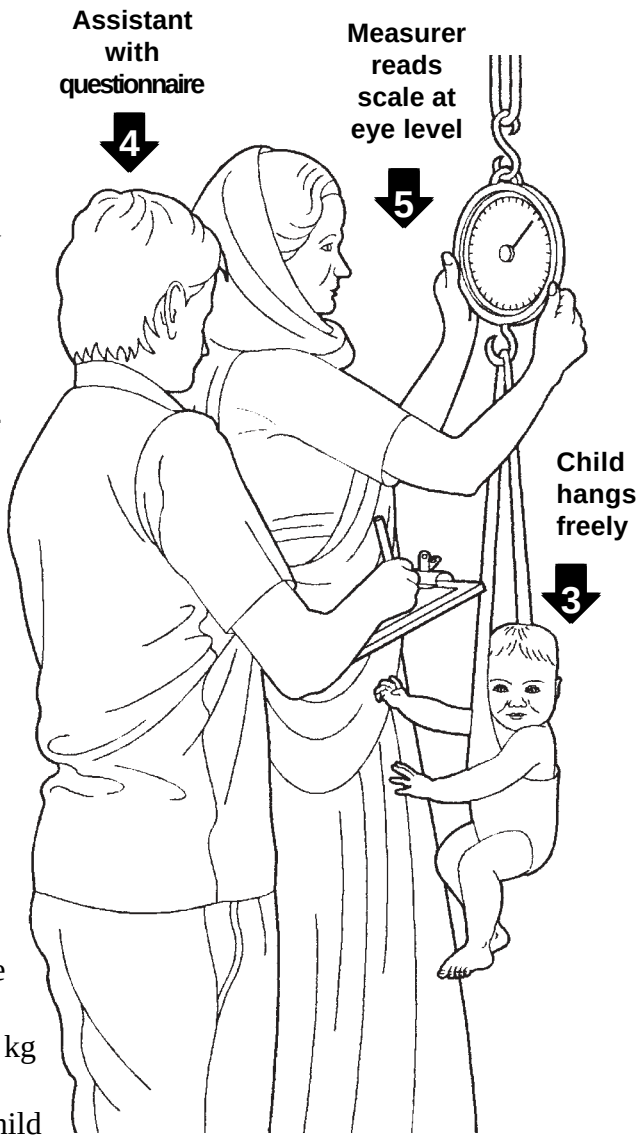
IDEA

INITIAL PREPARATION: Ensure that the mother/caregiver understands what is happening. Measurement of weight and length can be traumatic; participants need to be comfortable with the process. Keep equipment cool, clean and safely secured. Work out of direct sunlight since it can interfere with reading scales and other equipment and is more comfortable for people.

Two Trained People Required: When possible, two trained people should measure a child's height and length. The **measurer** holds the child and takes the measurements. The **assistant** helps hold the child and records measurements. If there is only an untrained assistant such as the mother, the trained measurer should also record the measurements.

These guidelines are adapted from ***How to Weigh and Measure Children: Assessing the Nutritional Status of Young Children in Household Surveys***, UN Department of Technical Cooperation for Development and Statistical Office, 1996 (2) and ***Anthrometric Indicators Measurement Guide***, Bruce Cogill, Food and Nutrition Technical Assistance Project, 2001 (3).

4. Measurer: Attach the strap of the pants to the hook of the scale. DO NOT CARRY THE CHILD BY THE STRAP ONLY. Gently lower the child and allow the child to hang freely (Arrow 3).



5. Assistant: Stand behind and to one side of the measurer ready to record the measurement. Have the form ready (Arrow 4).

6. Measurer and Assistant: Check the child's position. Make sure the child is hanging freely and not touching anything. Repeat any steps as necessary.

7. Measurer: Hold the scale steady and read the weight to the nearest 0.1 kg (Arrow 5). Call out the measurement when the child is still and the scale needle is stationary. Even children who are very active, which causes the needle to wobble greatly will become still long enough to take a reading. WAIT FOR THE NEEDLE TO STOP MOVING.

8. Assistant: Immediately record the measurement and show it to the measurer.

9. Measurer: As the assistant records the measurement, gently lift the child by the body. DO NOT LIFT THE CHILD BY THE STRAP OF THE WEIGHING PANTS. Release the strap from the hook of the scale.

10. Measurer: Check the recorded measurement on the form for accuracy and legibility. Instruct the assistant to erase and correct any errors.

When to Weigh and Measure: Weigh and measure the child only after collecting all verbal information. This will allow you to become familiar with the members of the household and help the mother and child feel more comfortable before the measurements begin.

Weigh and Measure One Child at a Time: Complete any questions and measurements for children one at a time. Do not weigh and measure all the children together. This can easily cause confusion and will create a greater chance for errors such as recording one child's measurements on another child's form.

Control the Child: When weighing and measuring children, keep them as calm as possible. A child who is excited or scared can make it difficult to get an accurate measurement. Be firm yet gentle with children. Your own sense of calm and self confidence will be felt by the mother and child.

Recording Measurements: Record all measurements in pencil so that if a mistake is made, it can be corrected.

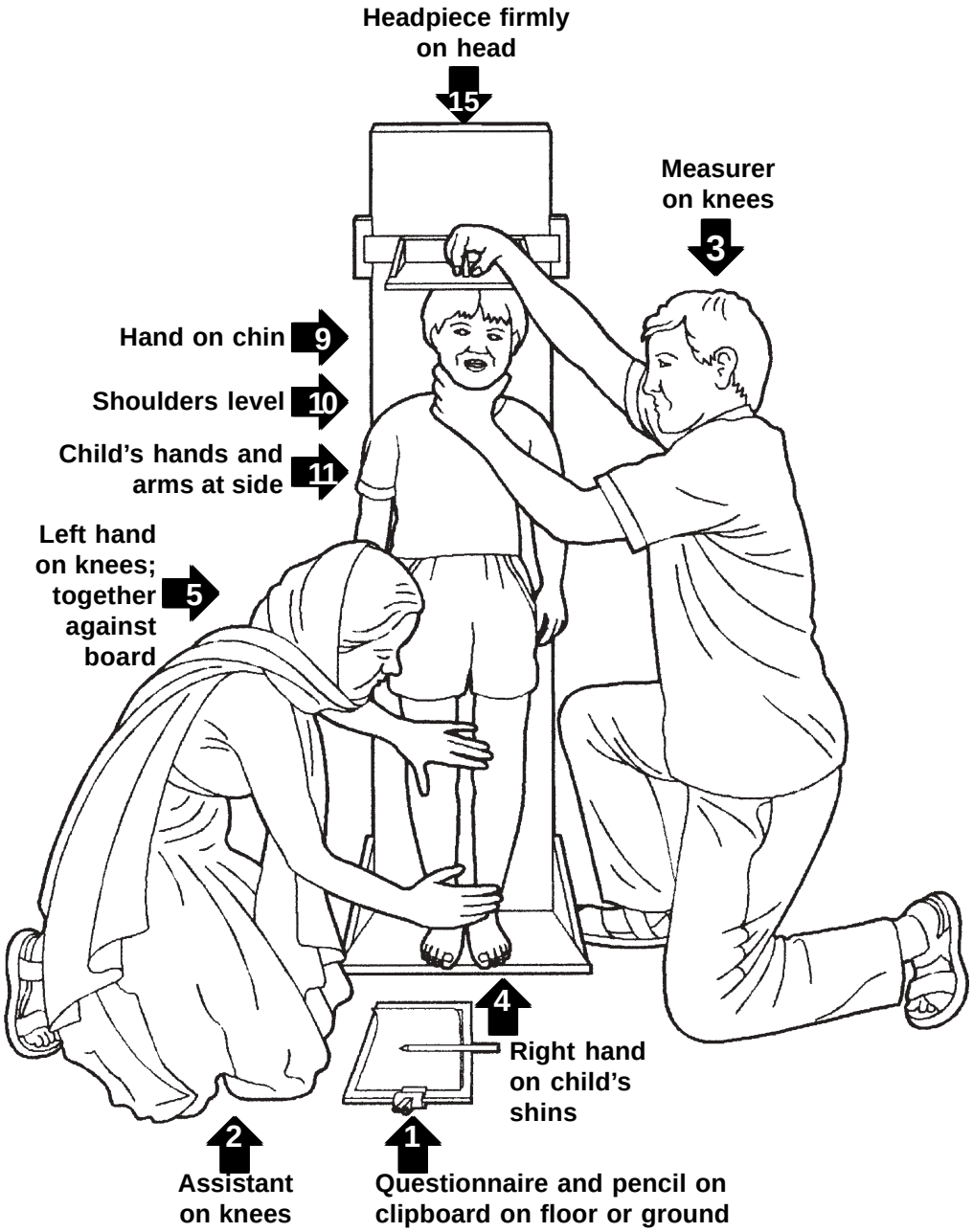
NUTRITION BASELINE ASSESSMENT

Instructions for Measuring Height for Children 24 Months and Older

1. Measurer or assistant: Place the measuring board on a hard flat surface against a wall, table, tree, staircase, etc. Make sure the board cannot move.

2. Measurer or assistant: Ask the mother to remove the child's shoes and unbraid any hair that would interfere with the height measurement. Ask her to walk the child to the board and to kneel in front of the child.

Tell the child to look straight ahead at the mother who should be already kneeling in front of the child.



3. Assistant: Place the form and pencil on the ground (Arrow 1). Kneel with both knees on the right side of the child (Arrow 2).

4. Measurer: Kneel on your right knee on the child's left side (Arrow 3). This will give you maximum mobility.

5. Assistant: Place the child's feet flat and together in the center of and against the back and base of the board. Place your right hand just above the child's ankles on the shins (Arrow 4), your left hand on the child's knees (Arrow 5) and push against the board. Make sure the child's legs are straight and the heels and calves are against the board (Arrows 6 and 7). Tell the measurer when you have completed positioning the feet and legs.

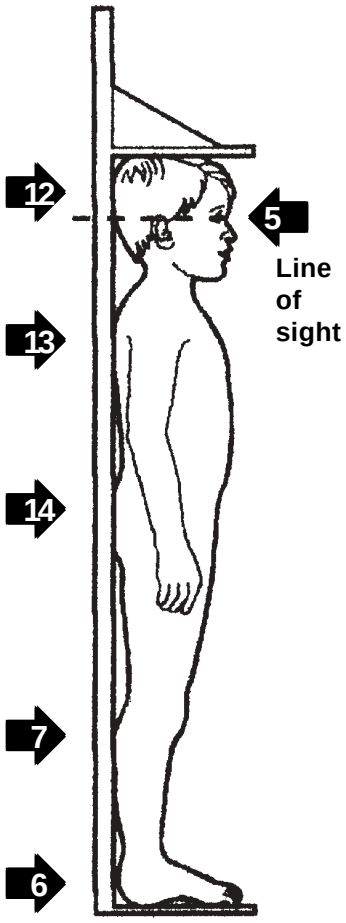
6. Measurer: Tell the child to look straight ahead at the mother who should be already kneeling in front of the child. Make sure the child's line of sight is level with the ground (Arrow 8). Place your open left hand under the child's chin. Gradually close your hand (Arrow 9). Do not cover the child's mouth or ears. Make sure the shoulders are level (Arrow 10), the hands are at the child's side (Arrow 11), and the head, shoulder blades and buttocks are against the board (Arrows 12, 13, and 14). With your right hand, lower the headpiece on top of the child's head. Make sure you push through the child's hair (Arrow 15).

7. Measurer and assistant:
Check the child's position (Arrows 1-15). Repeat any steps as necessary.

8. Measurer: When the child's position is correct, read and call out the measurement to the nearest 0.1 cm. Remove the headpiece from the child's head and your left hand from the child's chin.

9. Assistant: Immediately record the measurement and show it to the measurer.

10. Measurer: Check the recorded measurement on the form for accuracy and legibility. Instruct the assistant to erase and correct any errors.



Make sure the shoulders are level, the hands are at the child's side, and the head, shoulder blades and buttocks are against the board

NUTRITION BASELINE ASSESSMENT

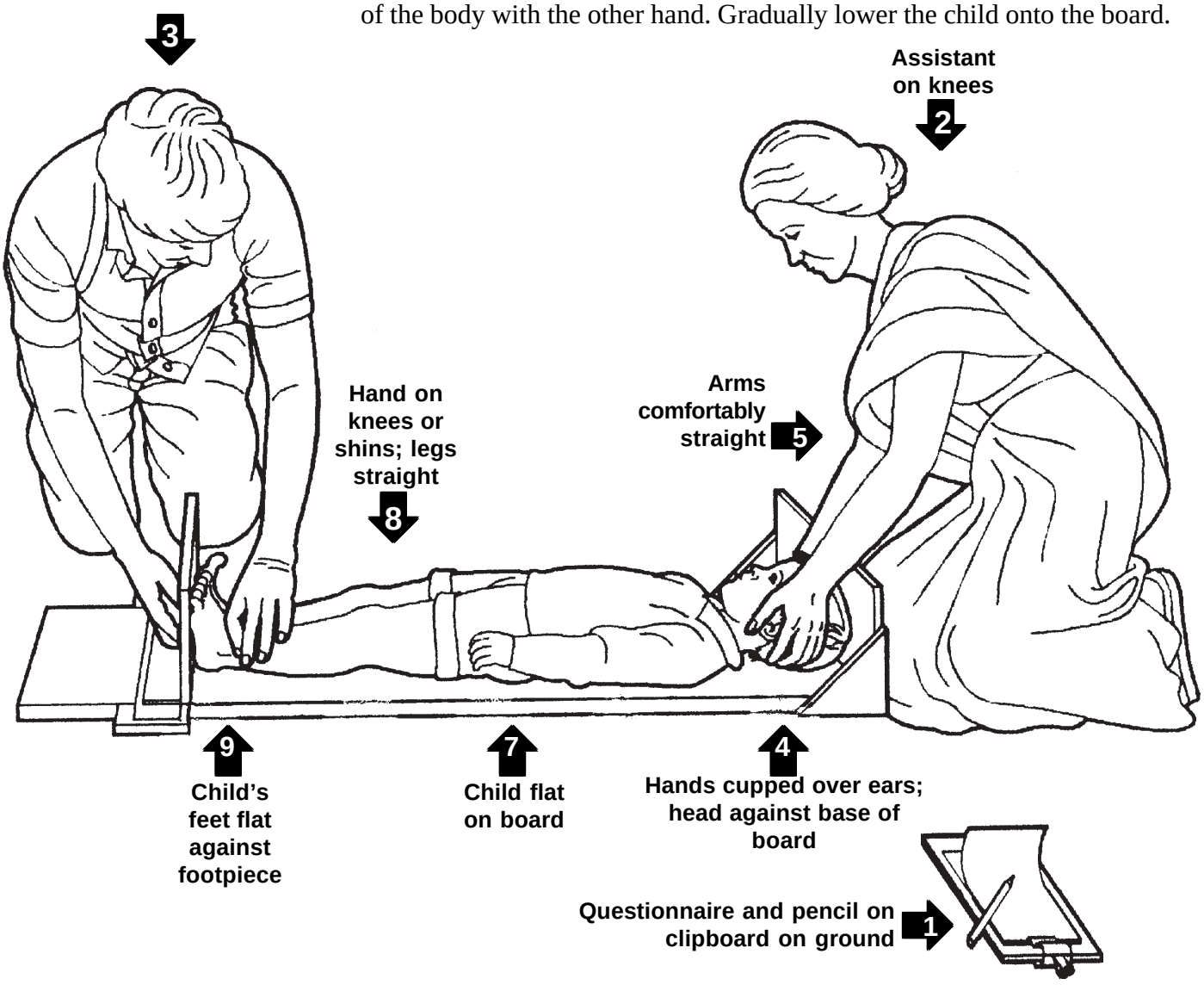
Instructions for Measuring Length for Infants and Children 0 – 23 Months

1. Measurer or assistant: Place the measuring board on a hard flat surface, i.e., ground, floor, or steady table.

2. Assistant: Place the form and pencil on the ground, floor, or table (Arrow 1). Kneel with both knees behind the base of the board if it is on the ground or floor (Arrow 2).

3. Measurer: Kneel on the right side of the child so that you can hold the foot piece with your right hand (Arrow 3).

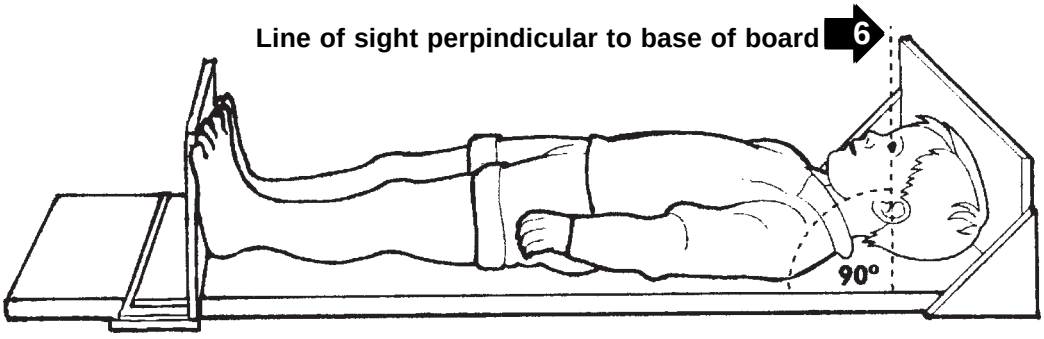
4. Measurer and assistant: With the mother's help, lay the child on the board by supporting the back of the child's head with one hand and the trunk of the body with the other hand. Gradually lower the child onto the board.



5. Measurer or assistant: Ask the mother to kneel close on the opposite side of the board facing the measurer as this will help to keep the child calm.

6. Assistant: Cup your hands over the child's ears (Arrow 4). With your arms comfortably straight (Arrow 5), place the child's head against the base of the board so that the child is looking straight up.

The child's line of sight should be perpendicular to the ground (Arrow 6). Your head should be straight over the child's head. Look directly into the child's eyes.



The child's line of sight should be perpendicular to the ground. Your head should be straight over the child's head.

7. Measurer: Make sure the child is lying flat and in the center of the board (Arrows 7). Place your left hand on the child's shins (above the ankles) or on the knees (Arrow 8). Press them firmly against the board. With your right hand, place the foot piece firmly against the child's heels (Arrow 9).

8. Measurer and assistant: Check the child's position Repeat any steps as necessary.

9. Measurer: When the child's position is correct, read and call out the measurement to the nearest 0.1 cm. Remove the foot piece and release your left hand from the child's shins or knees.

10. Assistant: Immediately release the child's head, record the measurement, and show it to the measurer.

11. Measurer: Check the recorded measurement on the form for accuracy and legibility. Instruct the assistant to erase and correct any errors.

CHAPTER FOUR
Step 4: Conduct a Positive Deviance Inquiry

STEP 4 **Conduct a Positive Deviance Inquiry**

A. Plan PDI Logistics
B. Conduct home visits
C. Compile the findings
D. Share results with the community

A Positive Deviance Inquiry (PDI) is a tool used to discover the Positive Deviant's successful or desired practices. It is key to the acceptance of the behaviors that will be uncovered and then taught in a Hearth. If community members do not see for themselves what their fellow community members are currently doing to prevent malnutrition, then they will not believe that there are some good local practices that they can learn and follow to achieve the same results. The PDI provides the information needed to design the menus and health education content of the Hearth Sessions covered in Chapter 5.

The PDI is rapid and carried out by community members, Hearth volunteers and supervisors who conduct home visits and observe the behavior of families and caregivers. The PDI and analysis of the results can be completed in less than a week.

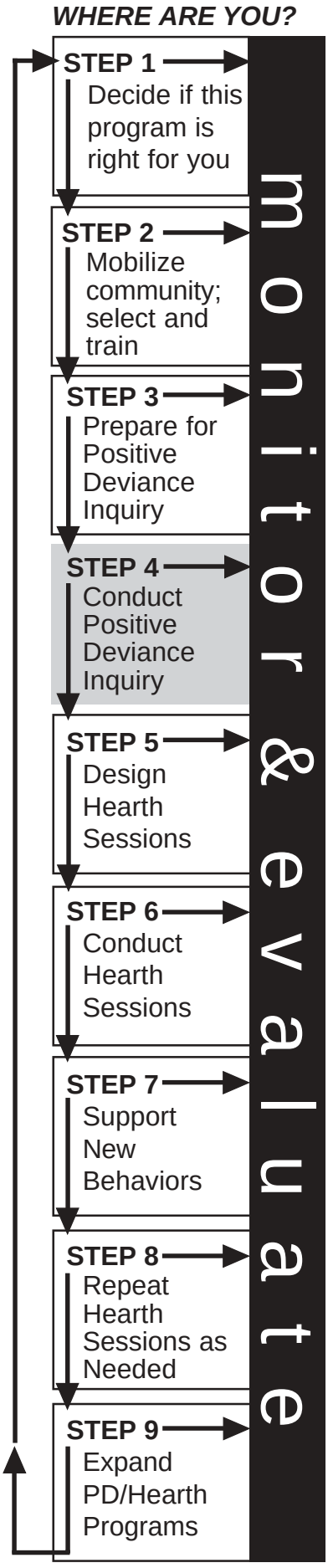
There are three or four basic categories of behaviors that are observed:

1. **Feeding practices:** use of a particularly nutritious food, feeding frequency and amounts

2. **Caring practices:** ways family members and child interact (psycho-social care) and early childhood stimulation

3. **Hygiene practices:** includes body, food, and environmental hygiene (hygiene is sometimes included with caring practices)

4. **Health care practices:** preventive health practices, home management of illness and use of health services



The PDI process is:

♥ A new way of looking at old problems; looking for ways that work today

♥ A way of observing the obvious: all around us are people practicing behaviors that are possible for others

The PDI process is based on successful, healthy behaviors, not failures.

♥ Looking for uncommon but good, culturally acceptable behaviors which can be made common

♥ Based on successful, healthy behaviors, not failures

♥ Based on self-discovery by the volunteers who represent their community

♥ Immediate and quick, not a drawn-out process with lots of data entry and analysis

♥ Based on a small sample (four to six home visits) rather than a large sample size

♥ Focused on observing ways that work in a particular community

♥ Not passive, observers use all the senses

♥ A process that mobilizes the community to solve a problem

A. Plan PDI Logistics

1. Timeline

The PDI consists of training, home visits to positive deviant families and the synthesis of the PDI information into a composite of successful practices that can be taught at Hearth sessions. These activities can be done within one or two weeks:

1. Training for participating community members	2 days
2. Home visits (6) in each community	1 or 2 days
3. Consolidation and compilation of PDI findings	1 day

2. Materials Needed for a PDI

♥ Flip charts for consolidating findings

♥ Clipboards

♥ Nutritional information summaries per family

♥ Observation Checklist

♥ Semi-structured Interview Guide

♥ Family home Visit Findings Report

Prior to conducting home visits, volunteers should collect and compile the nutritional status data on each family using information from family registration cards (if available), the nutrition baseline assessment, and the families' wealth ranking. Use a form similar to the one in Table 4.1 to compile this information.

TABLE 4.1 Nutritional Information Summaries by PD Status

Family	Name	Weight (kg)	Malnutrition Status (Normal, 1st, 2nd or 3rd degree)	Socio-economic status (Not poor, Poor, Very poor)	Age of child
PD					
PD					
PD					
PD					
ND					
ND					
Not PD					
Not PD					

PD = *Positive Deviant* **ND** = *Negative Deviant* **Not PD** = *Poor and Malnourished*

The Observation Checklist includes:

- ♥ Observation of household members (selected child, primary caregiver/mother, secondary caregivers, siblings, father, and other family members)
- ♥ Observation of practices (hygiene, feeding, interactions, breastfeeding, food preparation, and water usage)
- ♥ Observation of food availability (quantity, variety, source, storage, preservation and processing)
- ♥ Observation of household environment (living quarters, home garden, water sources, latrines, and animals)

The Semi-structured Interview Guidelines include:

- ♥ General questions about the family
- ♥ Questions for mothers on feeding practices, caring practices, health-seeking practices
- ♥ Questions for older sibling caregivers, fathers, and grandmothers

*The **Observation Checklist** and a **Semi-structured Interview Guide** are included at the end of this chapter and should be adapted and/or translated into the local context and language before use.*

Information from these two tools is compiled in the **Family Home Visit Findings Report** *(see format on pages 104-105).*

2. Assignment of Teams

The PDI team is made up of community leaders, Hearth volunteers, and local health center staff. The team is divided into sub-teams of two or three persons each to conduct home visits and should include a good mix of types of team members. More than three people on a team makes the home visit seem too intrusive and intimidating. Each sub-team member

should take on one role: interviewer, observer, or recorder. If only two members are on the team, then either the interviewer or observer must also record.

The team may find that during the closer analysis of a home visit, a family initially identified as a positive deviant does not meet the criteria.

In total, the PDI team will visit at least four poor families that have well-nourished children (positive deviants) and at least two families that are not poor but have under-nourished children (negative deviants). If the team is unable to visit the richer families, select poor families with malnourished children (non-positive deviants). Where the community is large (over 3000 population), more visits may be needed. Sometimes the team may find that during the closer analysis of a home visit, a family initially identified as a positive deviant does not in fact meet the criteria. Reasons for this include inaccurate weighing or special circumstances such as finding out that the child is an only child or the family is not as poor as originally thought.

The home visits should be divided so that each sub-team visits a variety of positive deviant, non-positive deviant, and negative deviant families. It is also important to choose families with children under one year, one to two years, and two to three years to ensure that a variety of age-appropriate feeding and caregiver practices are found. Set up a schedule of home visits so each team knows whom they are visiting and when. Table 4.2 provides a sample of PDI team assignments.

TABLE 4.2 Sample PDI Team Assignments

Team	Interviewer	Recorder	Observer	Type of families interviewed
1	Hearth Volunteer	Field project staff	Supervisor/ trainer	1 PD, 1 Not PD
2	Hearth Volunteer	Health Committee member	Nurse	1 PD, 1 Not PD
3	Hearth Volunteer	Community leader	Nurse	1 PD, 1 ND
4	Hearth Volunteer	Hearth Volunteer	Supervisor/ trainer	1 PD, 1 ND
Total interviews: *4 Positive Deviant Families, 2 Non-Positive Deviant Families, 2 Negative Deviant Families*				

Families visited should not be informed of their PD, Not PD or Negative Deviant (ND) status. The visit should be presented as simply an information gathering and observation visit in which the team is completely non-judgmental. PDI team members should be reminded to be polite, respectful and friendly, to go not as teachers, but as listeners, and to use open-ended, instead of yes-no, closed, or leading questions. Always keep in mind the purpose of the visit; to learn about nutrition habits in the community.

B. Conduct Home Visits

Plan the home visits during times meals are prepared and eaten to ensure that you will be able to observe actual practices. The home visits should take no more than two hours. Be sure not to overstay your welcome.

C. Compile the Findings

Once the home visits have been conducted, selected members of the project team review all the Family Home Visit Findings Reports. They look for commonalities among the PD families' behaviors that might positively impact a child's nutritional status. From these behaviors, the team compiles a master list of the beneficial household practices. The team can use a matrix (Table 4.3) to compare PD practices across households.

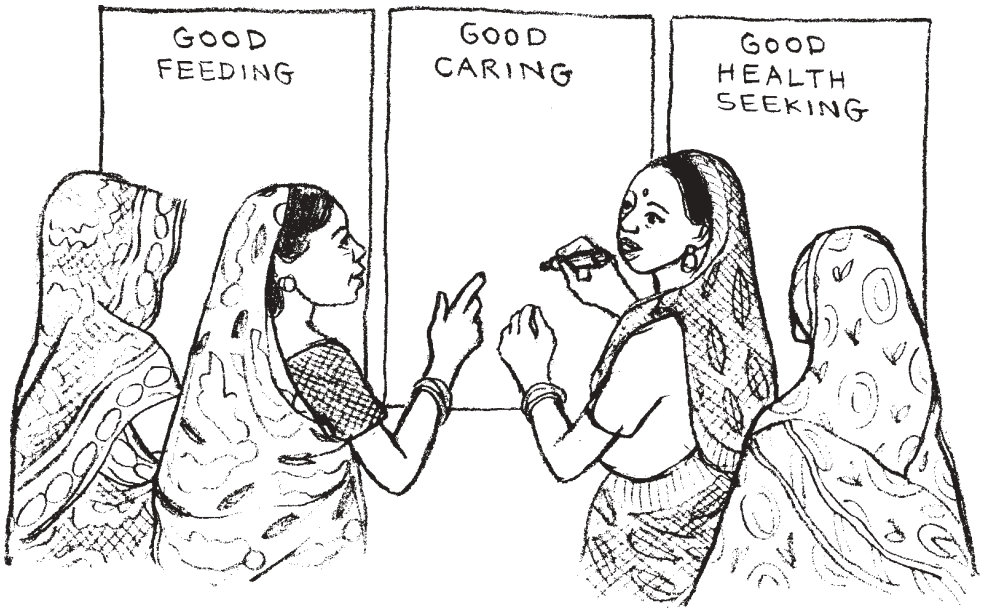


TABLE 4.3 Sample Matrix to Analyze PD Findings

Household	Good Foods Good Feeding	Good Child Care	Good Health Care

The team can then circle those PD practices that are accessible to all in the community. This list serves as the basis for the design of the Hearth sessions and the messages for the health education presented there. Note that the positive behaviors and messages are a composite of best practices from several families.

A Step-by-Step Process for Conducting Home Visits

1. Introduce team members to household members and state the purpose of your visit and the length of time you wish to stay.
2. Get the family's approval to join in their daily routine and offer to help out around the house.
3. Befriend the family members. Interact with family members by touching, playing, etc.
4. Visit the kitchen, latrine, sleeping quarters, animal sheds and eating area.
5. Use a casual conversa-tional style for the interview of the current or primary caregiver.
6. Learn about the family history, financial situation, and caregiver's hopes for the children's future.
7. After the home visit, record observations in the observation check list.
8. Summarize information from observations and interviews on the Family Home Visit Findings Report at end of this chapter.
9. Within one day, write a story about this family with a focus on the caregiver(s) and the children under five years using quotes from family members.

TABLE 4.4 Examples of Foods Identified in Various Projects

Country	PD Food	Accessibility
Vietnam	Shrimps, greens	Free; Collected in the rice paddies
Mozambique	Marula nuts	Free - grow wild on trees and collected off the ground
Nepal	Wild berries, snails, frogs	Free
Sri Lanka	Soybean meat	Low cost; available

These sample practices represent some of the beneficial behaviors "discovered" during the PDIs in several countries.

Sample food and feeding practices:

- ♥ Introduction of appropriate complementary feeding around six months
- ♥ Frequency of feeding
- ♥ Variety in the food
- ♥ Amount and consistency (thickness) of food
- ♥ No gender bias regarding eating order, amount and kind of food
- ♥ Continued frequent breastfeeding
- ♥ Appropriate management of child with poor appetite
- ♥ Supervision during feeding (active feeding)

Sample child caring practices:

- ♥ Division of labor and childcare among caregivers so that an adequate amount of time is spent with each child
- ♥ Caregiver(s) practice situational learning (interactive and stimulating activities with child while performing simple daily chores)
- ♥ Use of traditional stimulation (massage)
- ♥ Use of songs (lullabies)
- ♥ Positive interaction between child, primary and secondary caregivers and older siblings that fosters emotional and cognitive development (attention and signs of affection, frequent verbal interaction)
- ♥ Positive interaction between child and other family members fostering child's socialization (use of positive reinforcement/praise, patience, modeling good behavior)
- ♥ Supervision at all times
- ♥ Appropriate stimulation and play for overall child development, fostering child's experimentation with environment and allowing discovery
- ♥ Use of age appropriate homemade toys and games
- ♥ Father providing attention and affection
- ♥ A safe environment

Sample hygienic practices:

- ♥ Food, body and environmental hygiene (washing face, hands and feet with water before eating)

Sample preventive health practices:

- ♥ Complete immunizations
- ♥ Regular weighing of child (if available)
- ♥ Use of mosquito nets in malaria-endemic areas
- ♥ All family members use latrine or other toilet facilities
- ♥ Regular de-worming of child and family members in endemic areas

Sample care of the sick child practices:

- ♥ Appropriate home treatment of the sick child during illness and recovery
- ♥ Appropriate diet and liquid during illness and recovery period
- ♥ Appropriate home treatment of minor illnesses and injuries (colds, cough, fever, ear ache, eye inflammation, cuts, burns, bites, bruises, rash, etc.)
- ♥ Continued feeding of breast milk and appropriate liquids and foods during diarrhea episodes; extra foods given to child after a diarrhea episode
- ♥ Use of ORS or home liquids to prevent dehydration during diarrheal episodes
- ♥ Timely care-seeking of professional help for treatment of diseases and injuries

Sample household factors affecting child nutrition status:

- ♥ Access to sufficient water
- ♥ Access to safe drinking water
- ♥ Smoke in the house
- ♥ House and animal sheds separate
- ♥ Cash income
- ♥ Use of cash or other assets
- ♥ Parental substance abuse
- ♥ Domestic violence or child abuse
- ♥ Age and knowledge of the person who is caregiver in the mother's absence

Note on De-worming:
Worm infections have a large, negative impact on the growth and development of children less than 24 months of age. Young children were previously excluded from de-worming programs, but new WHO guidelines recommend that, in endemic areas, all children one year of age and older should be included in systematic de-worming programs. Check with the Ministry of Health in your country for the national policy.
Source: Allen 2002 (1)

Madagascar

Catholic Relief Services conducts Hearth in an urban environment in Madagascar. The PDI found that mothers of malnourished children purchased firewood and then had only enough money left to buy rice to feed their children. PD mothers went outside the city to collect fallen sticks for firewood and, while there, harvested wild greens to add to the rice they bought for their children. They used the money saved from not buying firewood to buy other healthy foods.

The examples in Tables 4.5, 4.6 and 4.7 show observations of positive deviant, negative deviant and non-positive deviant families in Bangladesh.

Not all of the negative deviant and non-positive deviant family behaviors are poor; there is often a mix of good and bad practices. The differences may be stark or they may have to be teased out. It takes specific observations and the use of a "magnifying glass" to detect the particular behavioral differences, but, it will gradually become apparent which behaviors matter most to the well-being of the child.

TABLE 4.5 Positive Deviant, Bangladesh

General information	Feeding practices	Caring practices	Health-seeking practices
Still breastfed Well-nourished 5-member family Grandmother - secondary caretaker Father - day labor, home every 20 days Environment clean Mother runs small shop No latrine Presence of soap and water Drink tube well water	Yesterday's diet: rice, dhal, egg, fish, biscuit Fed 4 to 5 times a day Fed egg twice a week Complementary feeding started at 8th month Fed biscuits when appetite poor	Good mother-child interaction Mother plays with child Father always ensures that food is available for his family Child eats by herself Good grandmother - child interaction Plays with clay toys and a doll Neighbors are helpful	Child immunized (no card) Home management of diarrhea with ORS Cooling head for fever Wash hands with soap Regular bathing House environment is clean All food is covered

TABLE 4.6 Negative Deviant, Bangladesh

General information	Feeding practices	Caring practices	Health -seeking practices
Breastfed, malnourished 9 member family Father: agricultural farmer, landowner, hire day labor People and cattle sleep together (fear of theft) Big house, CI sheeting No latrine No vegetable garden	Yesterday's diet: cow's milk, rice, fish, meat, sag & pulse When child not hungry, not fed Fed 3 or 4 times a day No active feeding During illness, only breast milk Mother is careless about feeding Mother does not have extra food to supplement her diet while breastfeeding	Father is not close to child Mother does not show affection to child, does not interact Husband/wife relation aggressive Mother does not care if children play or not Child displays no interest in strangers Child is not clean, muddy Child is unattended	No toilet/latrine No washing hands Immunization completed (no card) Mother does not know about home management of illnesses, or diarrhea Clean kitchen utensils in the pond, then put to dry on cow dung

TABLE 4.7 Non-positive Deviant, Bangladesh

General Information	Feeding Practice	Caring Practice	Health Practice
Malnourished, delayed physical development 10-member family 5 sisters & 2 brothers Only 1 child goes to school Father is farmer, only earning member Courtyard not clean No vegetable gardening Open latrine	Still breast-feeding Cow's milk given from the 2nd month Feeding twice a day Force feeding Provide physical punishment for not eating Diet: usually feeds rice and milk	Child unattended No toys No stimulation Elder siblings get no guidance from parents No picture on the wall Sharp knife kept within child's reach Delayed communication development No practice of social reward Use physical punishment. Parents quarrel in front of children Mother was passive, shy, and sick	Mother knows ORS preparation and uses it Child is immunized Child suffers from worm infestation Confusing statement regarding deworming Goes to village doctors when the child is sick

D. Share Results with the Community

Have team members make a poster to illustrate the successful practices that enable even a poor family to have a well-nourished child. Work with the Village Health Committee to think of creative ways to spread this information throughout the community.

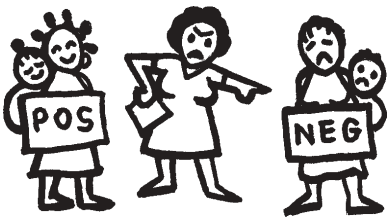
A feedback session with the community may include:

- ♥ A review of the activities carried out to date
- ♥ A review of the goals and objectives
- ♥ An interactive presentation of the PDI findings (see sample exercises at the end of Chapter 2)

The Village Committee helps find creative ways to spread positive practices throughout the community.

Make a poster to illustrate the successful practices that enable even a poor family to have a well-nourished child

PDI QUESTIONS AND ANSWERS



Never tell people they are positive or negative deviants: the aim of PDI is to not to find "role models," but to find "model behaviors."

Do you actually tell people they are "Positive" or "Negative" Deviants?

A family should never be told that they are either positive or negative deviants. They should be informed that they are being observed and interviewed in order to help the community find solutions to the malnutrition problem. Referring to people as PD or ND stigmatizes them. Pointing out a person's negative practices could mean social suicide. In some cultures, so could pointing out the positive. When the whole community knows who these mothers are, there can be a rejection of their behaviors for unrelated social reasons such as caste or economic status. In Vietnam, many of these mothers were even poorer than the norm. As with community health workers, when someone is put in a "role model" position, it can arouse jealousy in others. "Why is she better than us? Look, she doesn't even..." The aim of PDI is to not to find "role models," but to find "model behaviors."

Can you use another term besides "Deviant?"

The word "deviant" itself sounds somewhat derogatory. Choose a more culturally appropriate word. In Guatemala, PD mothers were called "informant mothers" or "study cases." In the Philippines, the PD mothers were called "coping mothers" since "successful mothers" implied that others with well-nourished children were not successful. In Haiti, they are called "Maman lumières."

What if during the PDI there is not a particular PD food that stands out? What if the process results in a limited number of foods that are not necessarily nutritious or accessible, yet are used by PD families?

It may not become clear from the PDI that a particular food is "unique" and can be labeled a Positive Deviant food. In fact, a specific PD food that is found may not be necessarily nutritious or accessible. Although it is nice to be able to identify a particular PD food, this is not always possible. Other characteristics such as frequency of feeding and volume of food may be equally important. Manner of food preparation may be the behavior that makes the difference. For example, if vegetables are boiled until overdone and depleted of nutritional value, then the proper way of cooking may be a Positive Deviant behavior. In one PDI it was discovered that when the vegetables were finely chopped, the children actually ate vegetables and found them palatable. Families with malnourished children did not chop large vegetables and the children did not eat them. This is an example of food preparation making the crucial difference.

PDI QUESTIONS AND ANSWERS

What happens when food availability changes with the seasons?

The Positive Deviance Inquiry needs to be done in different seasons to see how people cope under the different conditions. The menu must change to adapt to the food that is available and affordable during that time of year. In a "hunger season" or "dry season", food scarcity will probably drive up prices. Fruits and vegetables may be unavailable at certain times of year.

The Positive Deviance Inquiry needs to be done in different seasons to see how people cope under the different conditions.

Do other issues need to be addressed?

Upon analyzing the PDI results, other issues may surface. Perhaps there is a need for an income-generating component. This is an opportunity to discuss a larger development plan, which is holistic and integrated with nutrition activities. The Hearth program design is determined by the need to make an immediate impact on malnutrition, before waiting for other causal factors to be addressed, such as water supply, sanitation, and structural poverty. Hearth however, also opens up the opportunity to look at larger issues and make long-term plans to enhance the quality of life for women, children and their families.

Does the PDI need to be conducted in every community?

It is essential to conduct a PDI in every community. Community participants discover that solutions do exist in their own community. This process of discovery empowers and motivates the community to accept new practices and to participate in the Hearth sessions. An exception is a situation where no PDs are found in one community but are identified in a neighboring community which is closely linked by familial relationships and culture and has the same economic profile. In this situation, it is possible to involve the community members from the first community in conducting the PDI along with members of the second community. This strategy was applied successfully among the tiny villages in the Guatemalan highlands and in Mali.

"I didn't know anything about nutrition, but now when my wife asks for money for food, I give it to her right away. The children eat well now."

Testimony from a Hearth father

How do you overcome gender bias within a household?

During the PDI, look for Positive Deviant behaviors related to male involvement that can be promoted. The role of men in supporting nutrition activities, such as the Hearth, cannot be understated. Considering the power they usually hold, it is important that fathers understand the value of good nutrition and allocating

limited resources towards nutrition and health. After a mother has been trained through the Hearth, she needs to have the ability to practice new behaviors at home. If a husband doesn't support a mother's actions, then she may not be able to try her new practices. The same issues apply to influential mothers-in-law and grandmothers.

It is helpful for the supervisor/trainer to hold a meeting with the fathers and/or mothers-in-law midway through the 12-day Hearth session to explain the PDI findings and key messages. In Guinea, men came for the first two Hearth sessions. When the women subsequently asked for more money for the market, the men understood and agreed.

Mothers with many closely-spaced children often wean abruptly. How do you overcome this practice?

Promote child spacing and assure access to contraceptives. Look for positive deviant behaviors demonstrating exclusive breastfeeding and good weaning practices in the community. Children of mothers who stop breastfeeding abruptly or prematurely (before six months) are much more likely to be undernourished. The number of reasons for this include poor hygiene practice, diluted formula, insufficient food offered, and unclean water which leads to diarrhea. Sometimes, even children who are older than six months have not yet learned to eat well. Breast milk ensures adequate nutrition until a child can consume and digest enough food on his/her own. Breast milk also contains antibodies to help children ward off illnesses. Educational messages should stress that breastfeeding is critical to good health. When a child is ready to wean, messages should focus on the importance of nutritious complementary foods. Use qualitative research techniques to develop appropriate messages.

Can the PDI be used for problems other than malnutrition?

The Positive Deviance Inquiry is a low-tech, culturally appropriate tool for problem-solving. For the purposes of this manual, it is applied to the problem of malnutrition. However, once the process is learned, it can be applied to other content areas, including advocacy.

Examples of Positive Deviance applied to breastfeeding, maternal and newborn care, and birth outcome are provided on the next two pages.

PDI QUESTIONS AND ANSWERS

APPLYING PDI APPROACH TO OTHER ISSUES

Three examples of Save the Children's experience in applying the PD approach to other health issues are provided here. (2)

Breastfeeding in Vietnam

While breastfeeding is common in Vietnam, exclusive breastfeeding is not. Since 1990, Save the Children has implemented nutrition programs using the PD approach to reduce severe childhood malnutrition. In 1999, Save the Children, Emory University, and the LINKAGES Project recognized that while efforts to rehabilitate malnourished children had been successful, PD could also be used to prevent malnutrition through support for optimal breastfeeding. They conducted a cross-sectional quantitative and qualitative assessment of mothers' breastfeeding knowledge, attitudes, and practices.

They found that most mothers were aware of the appropriate behaviors, including early initiation of breastfeeding and exclusive breastfeeding, and recognized milk sufficiency. However, most women returned to agricultural work shortly after delivery and women who worked outside the home were less likely to exclusively breastfeed than mothers who did not. Nonetheless, there were rare PD mothers who worked outside the home yet exclusively breastfed, generally interrupting their workday to return home to breastfeed. Efforts are underway to develop programs informed by these findings and other negotiated strategies. This departs from previous PD programming in that it targets pregnant women and mothers of infants less than six months of age and focuses on breastfeeding to maintain good nutrition rather than on complementary feeding to restore good nutrition.

Maternal and Newborn Care in Pakistan

In February 2001, Save the Children, in collaboration with the Pakistan/Afghanistan Field Office, applied the PD approach for the first time to newborn care. The team conducted the PDI with both Afghan refugees and local Pakistanis in Haripur District in the Northwest Frontier Province. In both settings, the PDI revealed Positive Deviant practices, such as clean delivery, warm delivery setting, cord cut with a clean razor blade, and mother-in-law promoting exclusive breastfeeding.

PD-informed interventions included hosting gatherings of pregnant women facilitated by local health volunteers where women stitched receiving blankets, assembled clean delivery kits, and promoted and practiced maternal and newborn emphasis behaviors. This work continues as more communities become involved and the process is refined.

PDI QUESTIONS AND ANSWERS

APPLYING PDI APPROACH TO OTHER ISSUES

Birth Outcome in Egypt

A Save the Children/Tufts University team carried out a pregnancy-related PDI in two rural, socio-economically divergent communities in Al-Minya, Upper Egypt in June and November 2000.

The PDI showed that:

- ♥ increased rest,
- ♥ more antenatal visits,
- ♥ better diet, and
- ♥ decreased symptoms suggesting urinary tract infection

were associated with better pregnancy weight gain and birth weight.

These results informed an ongoing pilot project that records monthly weights for all pregnant women along with weekly IMPRESS (Improved Pregnancy through Education and Supplementation) sessions which, akin to Hearth, provide relevant health messages, micronutrients, and food supplements based on the identified PDI foods (in this case less expensive vegetables and meat, when possible).

OBSERVATION CHECKLIST FOR PDI

Name of Selected Child_____ Date_____
Name of Family_____ Community_____
Select Category: (PD) (NPD) (ND)
Starting Time:_____Ending Time:_____

I. Household Members: **Observations:**

1. Selected Child
Is s/he well-nourished or malnourished?
What is the child like? (energetic, content?)
Is s/he clean or not? (body and clothes)
Other observations:

2. Primary Caregiver:
Who is s/he? (the mother?)
What is s/he like?
Is s/he clean or not?
Other observations:

3. Secondary Caregiver:
Who is s/he? (the grandmother?)
What is s/he like?
Is s/he clean or not?
Other observations:

4. Siblings of the Child:
Are they well-nourished or malnourished?
What are they like?
Are they clean or not?
Other observations:

5. Father of the Child:
Who is he? (the grandfather?)
What is he like?
Is he clean or not?
Other observations:

6. Other Family Members:
Who are they?
What are they like?
Are they clean or not?
Other observations:

II. Practices:

1. Feeding Practices
Wash hands before/after feeding child?
Child eats from food picked off ground?
Child eats food touched by animals?
Washes plates/dishes?
Other observations:

2. Active/Passive Feeding
Child is alone while eating?
Type of feeding?
What is the child eating?
Consistency of food?
Amount of food (in spoonfuls)?

OBSERVATION CHECKLIST FOR PDI (continued)

3. Family Eating Practices
Family eating together?
Priority to males: quantity/frequency?
Other:

4. Interaction between Caregiver & Child
Supervision and care for child?
Loving behavior?
Teaching the child to walk, talk, play?
Other:

5. Interaction of Family Members & Child
Supervision and care for child?
Loving behavior?
Teaching the child to walk, talk, play?
Other:

6. Personal Hygiene
Bathing the child?
Child's nails trimmed?
Child away from animal excrement?
Mother washes hands after toileting child?
Mother's nails trimmed?

7. Food Preparation
Washes hands before preparing food?
Keep food covered before/after cooking?
Washes raw fruits and vegetables?

8. Water
Boiled drinking water?
Keep drinking water covered?
Clean water for bathing?
Source of water?
Water source, close or far? (give approx. distance/time to walk to source)

III. Food Availability
Quantity and variety of foods?
Foods from family garden?
Foods from animal origin?
Food storage?
Food preservation and processing

IV. Home Environment

1. Home
What is kitchen like?
Sleeping quarters?

2. Latrine
If there is one, is it clean or not?
Is it close or far?
If no latrine, where is excrement disposed?

3. Animals
Do they come inside the house?
Are they in a pen?
Does the child play with them?

SAMPLE SEMI-STRUCTURED INTERVIEW

PDI Guidelines: Interviewing Caregivers during Home Visits

I. General Questions

1. How many people live in the house? How many eat meals together?
2. How many children are there? How old are they? How many children are under three?
3. Do the older children go to school? If not, why?
4. What do you do for a living? Father? Other family members?
5. How much does the family earn per day?
6. How long do they work? (Morning? Evening? All day? All night?)
7. Where do they work? How long does it take to travel there? Does the child accompany them?

II. Questions about Feeding Practices to Caregiver

1. Are you still breastfeeding this child? If yes, how often? At night?
2. What food do you give your child in addition to breastfeeding?
3. When did you start complementary feeding? What complementary food was used?
4. How many times a day do you feed your child?
5. How much food do you give your child? (Show with actual plate and spoon)
6. Who feeds the child and how does the child eat? (hand, spoon, chewing)
7. What have you fed your child so far today? (List food including breastfeeding.)
8. What will you feed your child this evening ?
9. Does your child get fed by other people? Who? (older siblings, neighbor, etc.)
10. What do you do when your child does not want to eat or has a small low appetite?
11. In your opinion what foods are not good for very young children? Why?
12. When your child is sick with diarrhea, do you feed him/her the same, more or less food and liquids? Why?
13. Do you buy food for the child outside? If yes, what food? (snacks, fresh food)
14. From whom (specific food stall vendor) and why?
15. For lactating mothers only: What do you do about breastfeeding when you are sick?

Ask questions about feeding practices during illness such as, "When your child is sick with diarrhea, do you feed him/her the same, more or less food and liquids? Why?"

PDI Guidelines: Interviewing Caregivers during Home Visits

Ask about the child's play time: who are the playmates? Is play encouraged? Does the child have toys?

III. Questions about Caring Practices

1. Beside you, with whom does your child interact? What do they do with the child?
2. When you are away, who looks after your child?
3. What advice do you give this person? (safety)
4. What do you do when your small child is naughty (dirty, breaks something, etc.)?

Probing: How do you beat? Where? How often?

5. How do you put your child to sleep?
6. Do you encourage your child to play with other children? Why? Why not?
7. When do you play with your child? What do you do with him/her?
8. What do you feel is the most important thing a child needs?
9. What does your husband do for the children in the household?
10. How many children do you have? How many do you want?
11. Have you heard of child spacing? Are you interested in it?

IV. Questions about Health-Seeking Practices

1. How often do you bathe your child?
2. How do you toilet train your child?
3. What do you use water for? soap? (hand washing before eating?)
4. Is your child immunized?
5. What kind of illnesses does your child have most often?
6. What do you do when your child has a cold?
7. What do you do when your child has diarrhea?
8. Has your child had diarrhea in the past two weeks?
9. If yes, how did you treat it? If ORS, how to prepare?
10. When your child has diarrhea, what do you feed him?
11. What do you avoid feeding him?
12. What are the danger signs of pneumonia?
13. What do you do if your child has these signs?
14. How do you know your child is sick? (signs of sickness)
15. Whom do you consult first? Then whom?
16. Who decides what to do when there is a severe health problem at home?
17. What are the health problems for young children you are most concerned about?
18. How do you solve these problems?

PDI Guidelines: Interviewing Caregivers during Home Visits

V. Questions for older sibling caregiver

1. Do you go to school?
2. What do you do besides looking after your younger siblings?
3. What do you do with your younger sister/brother?
4. What do you do when he/she cries? Gets hurt? Is sick?
5. What do you do when the child is naughty?
6. What things do you like to do with your younger brother/sister? Why?
7. What things don't you like to do? Why?
8. Do you involve him/her in your games? Why?
9. How do you feed the child? (Probing)

VI. Questions for Father

1. In your opinion, how is your child?
2. How do you know your child is healthy?
3. How much time do you spend with your child everyday?
4. What do you do when you are with your child during the day?
5. What do you do when your child is sick?
6. In your household, who decides what to do when your child is sick?
7. How many children do you have? How many do you want?
8. Have you heard of child spacing? Are you interested in it?

VII. Questions for Grandmother or Mother-in-Law

1. In your opinion, at what age should a child be given food in addition to breastmilk?
2. What are good foods for children less than three years old? Why?
3. What foods should NOT be given to children less than 3 years old?
4. Include questions from sections above on Feeding Practices and Care Seeking Behavior.

home visits should be divided so that each sub-team visits a variety of positive deviant, non-positive deviant, and negative deviant families.

FAMILY HOME VISIT FINDINGS REPORT FORMAT	
(information gathered from observation and semi-structured interview)	
GENERAL INFORMATION	**FEEDING PRACTICES**
Age / Sex / Nutritional Status	Breastfeeding schedule
Breastfeeding status	Detailed daily diet of child
Family size / Number and age of siblings	Yesterday or today's meal / diet recall
Primary caretaker	Frequency of meals
Secondary Caretaker	Amount of food per child
Parents' occupation / Schedule	Child's appetite status
Income (daily)	Management of poor appetite
Type of housing (size, number of rooms, etc.)	Food tabboos (avoidance) for young children
Environmental cleanliness	Under-3 supervision during feeding
Presence of latrine	Active feeding
Water supply	Food and liquid given during illness and recovery
Garden / trees / animals	Food bought from street vendor
Kitchen	Criteria for selection of snacks
Physical appearance of child / Family members	Eating order of family
Concerns of parents related to child's health	

FAMILY HOME VISIT FINDINGS REPORT *(continued)*	
(information gathered from observation and semi-structured interview)	
CARING PRACTICES	**HEALTH SEEKING PRACTICES**
Emotional / psychological appearance of child and family members	Body hygiene, cutting nails
Child's reaction to strangers	Food hygiene
Interaction between child and caregiver, siblings, other family members	Washing hands before eating
Relation of secondary caregiver to child (i.e. older sibling)	Safe drinking water, soap
Child's play and stimulation with other people	Environmental hygiene
Parents' play and stimulation with child (details)	Complete immunizations
Role of father in childcare	Treatment of minor injuries and illnesses at home
Time spent with child by care givers	Management of diarrhea at home (Oral Rehydration Therapy)
Division of labor and house chores between adult members of family	Identification of signs of sickness
Method of disciplining the child	Timely seeking of qualified help
	Identification of danger signs (Acute Respiratory Illness and diarrhea)
	Decision-making for seeking help
	Use of mosquito net in malaria endemic areas
	Use of deworming
	Use of iodized salt

PDI team members should be reminded to be polite, respectful and friendly, to go not as teachers, but as listeners, and to use open-ended, instead of yes-no, closed, or leading questions.

Examples in this section:

1. **Mozambique**
2. **Myanmar (rural and urban)**
3. **Bolivia**
4. **African countries**
5. **South-East Asian countries**
6. **South Asian countries**

These forms document some of the findings to date. They are intended solely to provide examples of PD behaviors and practices and should not replace a PDI in a community. It still is necessary to conduct a PDI in each community so that it is locally appropriate and so that the community experiences the key process of self-discovery.

PDI ANALYSES FROM DIFFERENT COUNTRIES

1. Mozambique

Positive Deviance Inquiry Results, Nacala-a-velha, Mozambique, 1997

Good feeding practices	Good child-caring practices	Good health-caring practices
Porridge made of cashew fruit molasses & manioc flour Use of cashew nuts or peanuts in Mathapa 3 meals a day Introduction of complementary feeding at 5 months	Cover drinking water container Wash food before processing Wash hands before eating Supervise young children at all times Supervise/assist young child at meals	Vaccination Purchase medicine with prescription only Appropriate use of ORS package or home-made equivalent

Poor or Harmful Practices of Poor Families with Malnourished Children (NPD)

Poor feeding practices	Poor child caring practices	Poor health caring practices
Only 2 meals/day No cashew nuts or peanuts in food No vegetable in daily diet	Many caregivers Water container not covered Poor body & food hygiene	No vaccination

2. Myanmar

2a. Positive Deviance Inquiry Yangon, Urban Slum Setting

PD Feeding Practices

- ♥ Feeding the young child 3 meals a day, plus snacks
- ♥ Feeding the young child fruits such as papaya, guava, bananas and oranges
- ♥ Feeding the young child a variety of food such as fried vegetables (cabbage, watercress with vegetable oil), protein energy foods (groundnuts, fried beans and molasses), eggs (quail eggs), thick lentil soup (dhal)
- ♥ Feeding the young child boiled rice water
- ♥ Feeding the child nutritious snacks such as shrimp beignet, dried biscuit
- ♥ Not purchasing cooked meal from street vendor for the young child

PD Child-Caring Practices

- ♥ Child is supervised at all times
- ♥ Secondary caregiver is experienced
- ♥ Mother plays with child (singing and stimulation)
- ♥ Supervision of child during meals (active feeding)
- ♥ Siblings or other family members interact with child (talking)
- ♥ Father plays with children

PD Health-Caring Practices

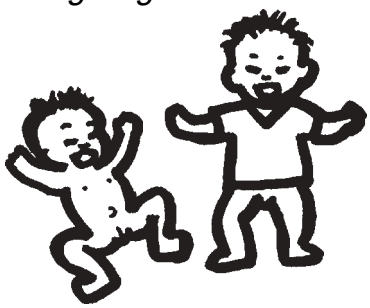
- ♥ Cutting fingernails regularly
- ♥ Bathing twice a day
- ♥ Washing hands before feeding and eating
- ♥ Washing hands after toileting the child
- ♥ Go to clinic for treatment of sick child

A comparison of the **urban** and **rural** Myanmar examples showcases several key differences between urban and rural settings.

2b: Positive Deviance Inquiry, Rural Setting

PD Feeding Practices	PD Child Caring Practices	PD Health Caring Practices
Child under 12 months Exclusive breastfeeding for 4 months Complementary food 3 times/day Variety of complementary food: rice + oil+ potato or ½ chicken egg, or beans Amount: 1 teacup full per meal Mother feeds child with small spoon Snacks: potato or fish chips **Child 12 to 36 months** Frequent feeding: 4 or 5 times a day Amount: 4 teacups full per meal Variety of food in one meal: breakfast - Mohinga, rice, beans, vegetables (Vegetarian family), rice, oil, small fish or shrimps, eel (Ma Yin) lunch - rice, watercress, duck egg, oil dinner - rice, vegetables, cheap meat (pork/frog), + oil Child eats with spoon, own plate Child eats regular meals with family Child drinks rice water 3 times/week Child supervised while eating	Child always supervised Older sibling trained to look after younger brother/sister Father supervises dinner, tells stories, sings songs Mother, other family members teach child to talk Mother interacts with child around feeding	Use of soap to bathe child Use of soap to wash hands before & after meals, after toileting Cut nails with blade Use soap and ashes to clean pots/plates Complete immunization including measles Use iodized salt Only parents give children medicine when child is sick

In the rural Myanmar example, notice how the differences in feeding practices were distinguished by age group. The under-one practices differed from the 1-3 year old practices. This is important to understand when designing the Hearth.



2c: Emphasis Behaviors for Myanmar

FEEDING BEHAVIORS

- ♥ Complementary feeding by 6 months
- ♥ Feeding the young child 4 to 6 times a day: 3 meals + snacks
- ♥ Feeding the young child a good amount of food per meal
- ♥ Feeding the young child a variety of food such as eggs, fish, beans and vegetables
- ♥ Cooking food with enough oil
- ♥ Feeding the young child nutritious snacks

CHILD CARING PRACTICES

- ♥ Child is supervised at all times
- ♥ Caregivers practice active feeding
- ♥ Caregivers play and sing with child,
- ♥ Father is involved in childcare (singing, telling stories)
- ♥ Older sibling is trained to look after younger child
- ♥ Mother and other family members teach child to talk
- ♥ Active feeding: coaxing, eye contact and smiling
- ♥ Caregivers encourage child with poor appetite

Positive deviant practices include good child body hygiene such as washing hands and face before and after feeding.

HEALTH-CARE PRACTICES

Food hygiene

- ♥ Washing vegetables at least 3 times
- ♥ Keep uncooked food in safe place
- ♥ Cover food at all times
- ♥ Wash hands with soap before handling food
- ♥ Heat up left over food before eating

Body hygiene

- ♥ Wash hands with soap before and after feeding child
- ♥ Wash child's hands and face before and after feeding
- ♥ After going to latrine wash hands with soap
- ♥ Check children's nails regularly and cut nails if necessary

Environmental hygiene

- ♥ Sweep floor before and after eating
- ♥ Clean bowls, spoons, pots and pans with soap and ashes after use

Preventive/curative practices

- ♥ Use of iodized salt
- ♥ Identification of danger signs
- ♥ Home treatment of the sick child
- ♥ Home made ORS

3. Bolivia

Positive Deviants

GOOD FEEDING PRACTICES	GOOD CHILD CARING PRACTICES	GOOD HEALTH CARING PRACTICES
Exclusive breastfeeding for 6 months Breastfeeding on demand Use of a variety of foods such as carrot juice, chicken, turnips, and radishes Frequently fed food: **meat** (Llama meat, eggs, cow/sheep milk, lamb fat) **vegetables & fruits** (green beans, parsley, papaya, orange & mandarins) **grains & legumes** (quinoa, dried broad beans, dried peas, wheat, oats, peanuts) Feeding 3 to 5 times a day Mid-morning snack 10-20 spoonfuls of food each meal Community garden that is well-cared for with produce capable of growing during winter months	Active feeding: loving & patient interaction Use of own plate for older child Use of games, songs and special foods for the child with poor appetite Help/supervision during the meal Fathers help mothers care for children Fathers and siblings are loving and playful and teach the child	Hygienic preparation of food Boiled drinking water Child is bathed 2-3 times a week during the winter months Wash child's hand and face with soap and water during the day Correct use of ORT Home remedies: herbal teas, boiled liquids with wheat flour Alcohol bath with green branches when child has fever Seek medical care at the hospital Increased food & liquids for the child during & after illness Complete vaccinations and Vitamin A

Positive deviant practices include boiled drinking water and covering drinking water.

4. Africa

Summary of Positive Deviant Practices found during PDIs

Practices	Egypt	Mozambique/ North	Mali	Tanzania
Feeding Practices	Fed cooked meal more than once a week Fed variety of food: green vegetables, eggs, beans Sick child fed fresh lemon juice, other liquids	Breakfast food: porridge of cashew fruit molasses & manioc flour; cashew nuts/peanuts in Mathapa (meal w/ veggies) 3 meals/day Complement--ary feeding at 5 months	Porridge with karite oil at 6 months Sauces, fish, meat, eggs, family dish Seasonal fruits by 12 months 6 feedings/day No eating on dirt or floor No food taboos	Groundnuts: every day Beans/peas: 2 - 3 times/week Green vegetable: 2 - 4 times/week Sweet potatoes: 4-5 times/week Fruits: 4- 5 times/week
Child Caring Practices	Active feeding & supervision around meals Child not allowed to play in canal Child not left on the ground, beaten, or yelled at Adult supervision at all times	Cover drinking water container Wash food before processing Wash hands before eating Supervise young child at all times Assist young child at meals	Father involved in feeding/ overall development of child Good relations between parents & secondary caregiver Coax child with poor appetite Dote on young child	N/A
Health Care Practices	Good body hygiene Cut nails, wash hands Bathe once a week Good environmental hygiene Seek professional help when child has fever, cough, loose stools Check for worms	Complete vaccination Purchase medicine with prescription only Appropriate usage of ORS package or home-made equivalent	2 baths/day Wash hands before/after meals Complete vaccination Any adult can decide on seeking help for treatment Father follows child's development Enrollment/use of available health insurance package	N/A

Positive deviant practices include father's involvement in the overall development of their children.

5. South-East Asia

Summary of Positive Deviant Practices found during PDIs

Practices	Cambodia	Myanmar (peri-urban slums)	Vietnam
Feeding practices	Complementary feeding around 6-7 months, 3+ meals/day Smoked fish, crabs, cockroach, duck eggs, snails, black spider, short and long leg frogs Vegetables from forest: watercress, anaon leaves/ flowers, sour paste, fish past, spider sauce Keep left over food for snack between meals	3 meals a day, plus snacks Papaya, guava, bananas and oranges, fried vegetables groundnuts, fried beans and molasses, quail eggs, thick lentil soup "dhal", boiled rice water Not purchasing cooked meal from street vendor	Complementary feeding at 4 months Variety of food: eggs, crabs, shrimps, snails, soy products, seasonal fruits & vegetables Inclusion of fat (peanuts & sesame, pork fat) in diet of young children Feed child 4-6 times/day, including snacks
Child Caring practices	Father looks after child Mother prepares food; gives instructions to caregiver when she goes out Father feeds children all kinds of food: believes good nutrition brings good health Display of affection and care by parents	Supervision at all times Experienced secondary caregiver Mother plays with child (singing and stimulation) Active feeding Siblings, other family members interact with child Father plays with children No video parlor attendance	Division of labor allows appropriate childcare Father involved in childcare Appropriate management of child with poor appetite
Health Caring Practices	Wash hands before eating Water jar, leftover food covered Use locally -made ORS from tamarind and guava tree bark boiled in water Keep breastfeeding when child has diarrhea Give deworming medicine if child has distended stomach Early identification of signs of sickness (shortness of breath, cough, fever and diarrhea)	Cut fingernails regularly Bathe twice a day Wash hands before feeding and eating Wash hands after toileting child Go to clinic for treatment of sick child	Wash hands before meals and breast - feeding, after defecation Cover drinking water/well Cut nails regularly Prompt attention and care of sick child No reduction of food intake when child sick Consult with health provider regarding medicine (no self-prescription)

Positive deviant practices include fathers feeding their children all kinds of food.

6. South Asia

Summary of Positive Deviant Practices found during PDIs

Practices	Bangladesh	Bhutan	Nepal (hills)
Feeding Practices	Feed young child fish, vegetables and egg (normal diet for young children: rice powder or soft rice with salt, in addition to breast-milk) Introduce complementary feeding at 6 months (Shapla family only) Active feeding, supervision of child during meals	Complementary food "lep" made of cereals mixed with vegetables Soup with meat bone, eggs Feed 4 times/day Feed foodchild likes when poor appetite (banana, cheese)	Complementary feeding around 5 months Variety of food: pea, eggplant, yam, onion leaf, cabbages, tomatoes, fish, snails, goat, pork, chicken, crabs lemon, mulberry, guava, chiuri, nibuwa, mango
Child Caring Practices	Lullabies, songs, stories, games Caregivers play with child, with homemade toys Competent secondary caregiver: father attentive to well-being of child Keep home environment safe	Supervision of child by experienced caregiver at all times Caregiver involved in child's activities	Father participates in care Mother spends time w/child Children eat with parents Caregivers display affection
Health Caring Practices	Immediate removal of stools and hand washing with soap after toileting Wash hands before eating Wash kitchen pots/pans from tube well water (not from pond) Cold sponging during fever episode	When child sick, more frequent feeding of smaller portions of food When child is sick for 1 day, perform puja then take to Basic Health Unit	Wash hands before eating Bathe child daily/every other day Use herbal medicine for small illnesses Frequent feeding during illness Continue breastfeeding &/or giving fluids/ food during episodes of diarrhea

Positive deviant practices include caretakers playing with children.

CHAPTER FIVE
Step 5: Design Hearth Sessions

STEP 5

Design Hearth Sessions

A. Schedule Hearth sessions
B. Plan Hearth session menus
C. Design health education messages
D. Choose site for Hearth sessions
E. Design protocols for the Hearth sessions
F. Create a one-year plan of activities

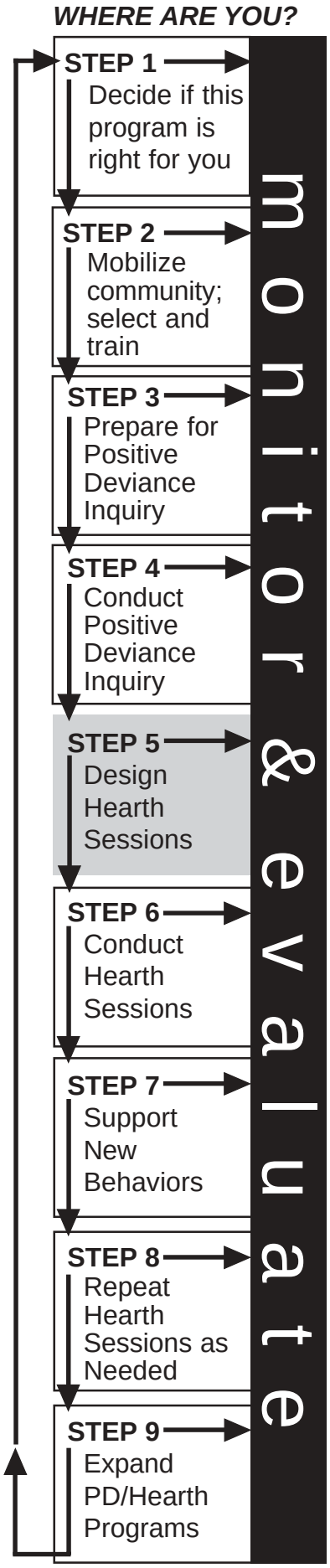
The Hearth is held in homes of people in the community for twelve days (six days per week) with no more than ten malnourished children and their caregivers. At each session, the caregivers prepare energy-rich, calorie-dense foods and feed their children under the guidance of the volunteers. They also learn about nutritious foods, positive child-caring practices and health care behaviors, including proper hygiene. As the price of admission, caregivers are required to make a daily contribution of the community-specific Positive Deviant food (identified through the PDI) or other locally available foods needed for the meal.

Daily Hearth sessions usually last for two hours. Each session contains these components:

- ♥ Setting up the cooking, feeding and handwashing stations
- ♥ Handwashing
- ♥ Food preparation
- ♥ Feeding
- ♥ Integration of health and nutrition education messages and practices

The Hearth sessions are designed immediately following the Positive Deviance Inquiry. The PDI guides the decisions on which foods to prepare, which behaviors to promote, and which information to share so that others can learn to internalize PD behaviors. The new feeding, caring and hygiene practices will be demonstrated and practiced in a group during the Hearth sessions and later, individually at home. It is also through the daily Hearth sessions that children will receive the extra nutrition necessary for their rehabilitation.

This chapter covers the key activities in designing the Hearth sessions.



Note: If sessions are scheduled in the morning in some communities and in the afternoon in others, the supervisor will be able to cover two communities per day. Start-up of Hearth sessions in a target area should be staggered so that the supervisor can attend all sessions in a given community the first week, shifting attention to other start-up communities as the first volunteers gain confidence in conducting the sessions alone.

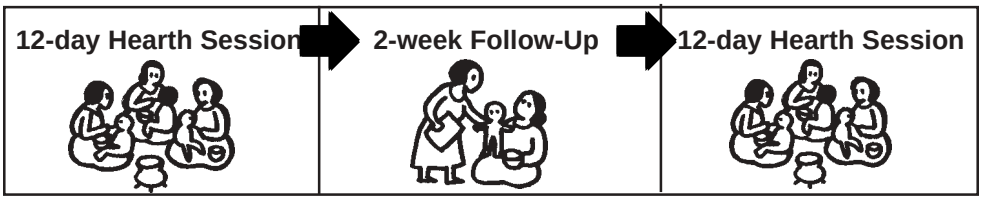
A. Schedule Hearth Sessions

When planning/scheduling the 12-day Hearth sessions, keep the following criteria in mind:

- ♥ Hold them as soon as possible after children have been weighed
- ♥ Plan sessions each month, or every other month, or in seasonal patterns that correspond to times of the year when children are most malnourished (sessions are generally not needed beyond a one-year period in each community)
- ♥ Plan seasonal Hearth sessions to provide families with appropriate seasonal variations to menus

Schedule the daily Hearth sessions according to the following criteria:

- ♥ Select a time during the day that is most convenient for mothers/ caregivers to attend so that there will be a high attendance
- ♥ Since children will still be expected to eat from the family pot as frequently as usual, select a time that is between meals as appropriate for an additional, supplementary, meal (e.g., 10 a.m. or 3 p.m.)



B. Plan Hearth Session Menus

The supplemental meal required to rehabilitate malnourished children is served each day of the two-week session. According to WHO, during the rehabilitation period, a child should receive between 150-220 calories per kilogram of body weight per day. If a child eats less than 130 calories/ kilogram/day, rehabilitation is not possible. Therefore, programs should strive to create Hearth session menus composed of 600-800 calories each day with 25-27 grams of protein for each child. (1) With these menus and the resulting rapid recuperation, caregivers will see a visible change within the two weeks. This will motivate families to adopt the new child-feeding behaviors.

In some regions, it is very difficult to create menus meeting requirements based entirely on local foods. *In these cases, menus with a minimum of 500 to 600 calories and 18 to 20 grams of protein will suffice to rehabilitate malnourished children over a longer period of time. In this situation, children will most likely need to repeat the Hearth session more than once. The advantage of repeating the Hearth is that it allows caregivers and family members more time to learn the practices needed for child growth and development as well as develop other community-based strategies to overcome malnutrition. This increases the likelihood of more sustained rehabilitation and prevention of future malnutrition in the community.*

Menus must:

- ♥ Include a nutritious, non-filling snack food for children to eat while the mothers or caregivers are cooking
- ♥ Include the special PD foods (i.e., fruits, vegetables, shrimps, oil, or nuts)
- ♥ Provide a variety of ways of preparing the foods
- ♥ Use ingredients that are locally available, seasonally appropriate and affordable
- ♥ Use foods rich in Vitamin A, iron, and other micronutrients, as available
- ♥ Use animal products and oil or fats whenever possible
- ♥ Ensure that all food groups are present at each meal so that the children receive a balanced meal

Develop the menus based on the results of the PDI feeding practices, a quick market survey, and an analysis of the nutritive value of local foods.

Materials needed:

- ♥ Calculators
- ♥ Food composition tables
- ♥ Local measuring cups and spoons
- ♥ Food scale (optional)

1. Conduct a Market Survey

A simple market survey conducted by the volunteers identifies appropriate and affordable foods that can be purchased and used by each family (see example below). Look at the variety of foods and the local unit of cost. Ask the sellers about seasonal variations and "lean months" as well as expected price differentials (e.g., in the dry season, fruits double in price). Remember that some PD foods may be gathered at no cost to the families from gardens, fields or water.

A simple market survey conducted by the volunteers identifies appropriate and affordable foods that can be purchased and used by each family.

TABLE 5.1 Market Survey from Sri Lanka

Item	Quantity	Rupees	Item	Quantity	Rupees
Egg	1	4	Tuna	1 kg	100
Potato	1 kg	50	shark tuna	1 kg	120
Rice	1 kg	22.5	Fish	1 kg	200
Dried fish	100 gm	12	Fish	1 kg	140
Lentils	500 gm	28	Small fish	1 kg	40
Green gram	500 gm	30	Salted fish	1 kg	100
Vegetable oil	1 liter	115	Pencil fish	1 kg	100
Coconut oil	1 liter	55	Village tank fish	1kg	60
Coconut milk	1 liter	65	Beef	1 kg	120

Spices and flavorings such as fish sauce, turmeric, salt, onion, garlic and ginger, often included in menus to improve taste, are not included in the nutritional assessment since they do not add any significant nutritional value.

Carrots	1 kg	40	Chicken	1 kg	140
Eggplant	1 kg	24	Chicken liver	1 kg	160
Tomato	1 kg	56	King coconut	1	70
Pumpkin	500 gm	15	Lettuce	1 kg	80
Beet	1 kg	36	Plantain	1 kg	40
Green beans	1 kg	36	Kangkung	500 gm	4
Green leaves	1 bunch	5	Beet seeds	100 gm	4
Gilum beans	1 kg	40	Dambelo	1 kg	40

2. Calculate the Nutritional Value of Hearth Meals

Food composition tables, usually available from the national Ministry of Health, provide the nutritional breakdown of 100 grams of edible portions in terms of energy, fat, protein and micronutrient content (calcium, B-carotene equivalent for Vitamin A, riboflavin, niacin, etc.) content. Using these tables, the team determines the nutritional value of the Hearth meal and snack per child so that the total number of calories and the protein content is sufficient for catch-up growth and an adequate intake of vitamins and minerals is ensured. Table 5.3 can be filled in with the proposed menu items and their corresponding nutritional values. Adjust the food quantities in the menu until each child's serving contains at least 600-800 kilocalories and 25-27 grams of protein.

Meals and snacks can be "enriched" to increase the density of calories by adding oil or nuts. Adding oil to a bowl of porridge to boost caloric value can reduce by half the volume of porridge a child would otherwise have to consume. Once children have achieved catch-up growth, then the PD menu (without as much oil) should be enough to sustain growth and prevent them from faltering again.

Vitamins A and C, Iron and Zinc should be taken into account when planning the meals. The required levels of specific micronutrients are provided in Table 5.2. More information about the importance and sources of various micronutrients can be found at the end of this chapter.

TABLE 5.2 Required Micronutrient Levels

Age	Vitamin A	Vitamin C	Iron	Zinc*
7-12 mos.	400 RE *(RE = Retinal Equivalent)*	50 mg	11 mg	3 (6) mg
1-3 years	500 RE	15 mg	7 mg	5 (10 mg
4-6 years	300 RE	25 mg	10 mg	5 (10) mg

∗Zinc is not well-absorbed by those consuming vegetarian (no animal products) diets compared to absorption by non-vegetarians. Vegetarians may require twice as much (the amount in parentheses).

Source: *Dietary Reference Intakes, Food and Nutrition Board of the National Academy of Sciences, in publication. (2)*

TABLE 5.3 Market Survey from Sri Lanka

FOOD ITEM	QUAN-TITY	GMS	K-CALORIE		PROTEIN		FERROUS IRON		VITAMIN A		ZINC		FOLIC ACID	
			100 gms	Total	G/ 100g	Total	Mg/ 100g	Mg/ total	IU/ 100g	IU/ Total	Mg/ 100g	Mg/ total	Mg/ 100g	Mg/ total
1. sample food	200g	200g	90	180	12	24	4	8	0	0	2	4	9	18
2.														
3.														
4.														
5.														
6.														
7.														
8.														
Totals:														

Breastfeeding should be encouraged for children under two years old. Breastmilk should not, however, be included in the calorie calculation. It should be given to children upon demand and is over and above the supplemental meal (and all other meals).

3. Make Any Necessary Menu Adaptations

Menus need to be culturally appropriate and adjusted according to the age of the malnourished participants. If the majority of children are under 12 months of age, appropriate complementary (weaning) foods will need to be prepared. If the group is mixed in age, the same meal can usually be made with a softer consistency for the younger children by cooking foods slightly longer and then mashing them.

Other menu adaptations may be needed in specific communities:

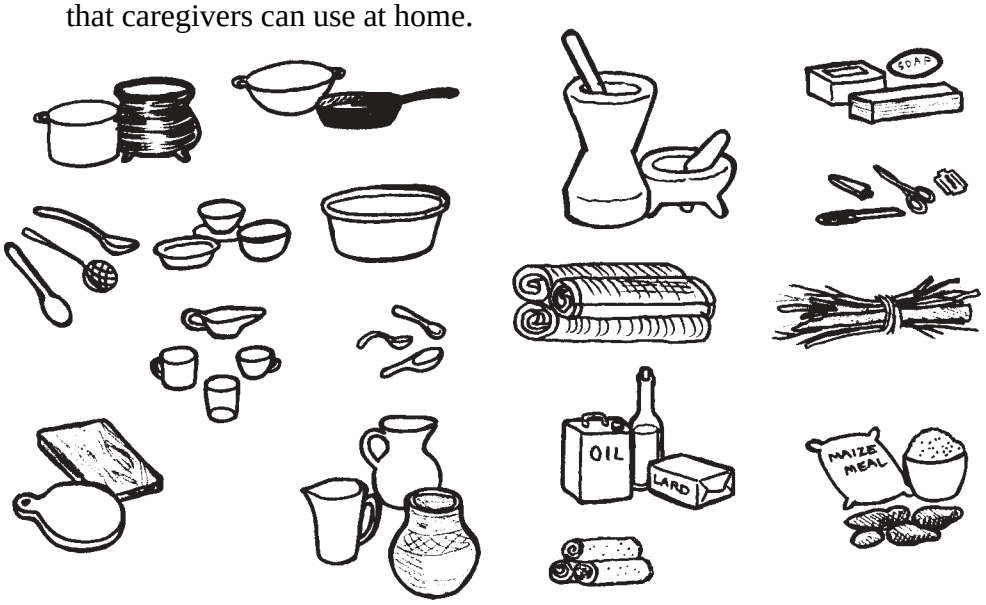
- ♥ **Fasting menus** - some countries fast for religious purposes. Often fasting doesn't apply to children, but adults may not want to cook or handle food that is restricted during this time. Develop menus or timing of Hearth sessions with this in mind.
- ♥ **Dry season menus** - Some countries suffer from near drought conditions during their dry season. Fruits and vegetables become rare or unavailable. Anticipate the lean season and design menus that are resourceful in using what is available, or creatively use food that has been dried or stored from the abundant season.
- ♥ **Vegetarian menus** - For those communities that choose not to consume animal or fish products, design menus that are high in protein using food combinations (rice and beans) or other high protein products such as tempeh and soy products, including tofu.

4. Determine Portion Size

Using the calorie and protein requirements and a food weighing scale, determine the quantity and weight of a single portion. Since food should be served by volume, not weight, during a Hearth session, determine how to measure the desired volume using local measuring tools. These

measurements might be cans, fistfuls, three finger pinches, portions of water bottles, etc. This method enables the volunteer to measure the portions for each child during the Hearth session and provides a practical method that caregivers can use at home.

Since food should be served by volume, not weight, during a Hearth session, determine how to measure the desired volume using local measuring tools.



6. Prepare Meal Schedule

With all of the preceding information, prepare a meal schedule covering each of the twelve days of the Hearth session. Include:

- ♥ Menus (may alternate two basic menus from day to day) (See Table 5.4)
- ♥ Quantities needed of all ingredients
- ♥ Who will provide which ingredients and in what amounts
- ♥ Portion sizes

TABLE 5.4 Sample Menu from India

Menu	Contri-bution	Home Measure	Quantity	Calories	Protein (grams)	Cost in Rupees
Rice	NGO	4 tablespoons	50 grams	200	4.5	1.35
Green leaves	Family	1/4 bunch	80 gms	35	2	1
Coconut	Family	1 handful	20 gms	222	2.2	1.25
Dried fish (PD)	Family	2 *tickels*	20 gms	50	11	4
Coconut oil	NGO	1 tablespoon	1 tbsp	100	0	0.5
Dahl	Family	2 tablespoons	15 gms	35	3	1.7
Soy Meat (PD)	Family	1 handful	10 gms	43	4	1
Snack: pumpkin seeds	NGO	1 handful	5 gms	55	3	2
TOTAL				740	29.7	12.8

6. Prepare Meal Schedule

With all of the preceding information, prepare a meal schedule covering each of the twelve days of the Hearth session. Include:

- ♥ Menus (may alternate two basic menus from day to day) (See Table 5.5)
- ♥ Quantities needed of all ingredients
- ♥ Who will provide which ingredients and in what amounts
- ♥ Portion sizes

TABLE 5.5 Sample Daily Menu from Sri Lanka

MENU A: **Breastmilk plus ...** Rice Soya meat + dahl Green leaves + coconut Coconut oil	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
	A	B	A	B	A	B No Oil	OFF
MENU B: **Breastmilk plus ...** Dried/fried sprats Rice Green beans, papaya Coconut oil	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	
	A	B	A	B	A	B < oil	Weighout

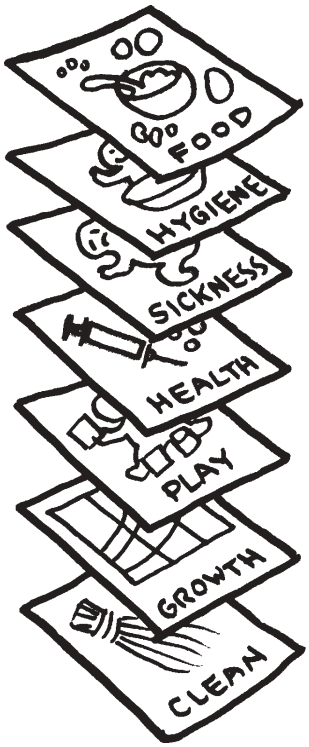
C. Design Health Education Messages

Since the Hearth sessions are set in a small, intimate environment where women are focused on the health of their children, they present an excellent opportunity to disseminate health education messages. Not only are the participants a "captive audience," they are also receptive to the messages and interested in keeping their children healthy.

1. Identify Key Messages

The PDI process should have identified a number of behaviors that appear to lead to better health and nutrition among the PD families. Use these practices as the basis for health education messages. In order to affirm that the lessons from the PDI are in line with international standards on healthful practices, cross check the messages with the Ministry of Health national health messages, or "Facts for Life" UNICEF messages (3). Focus on feeding, hygiene, child caring practices and important health caring practices, including home care practices for the sick child.

Although many key messages are demonstrated in the process of carrying out Hearth sessions (such as practicing hand washing and active feeding), messages that directly reflect the PDI-identified practices need to be clarified and emphasized.



Health education messages should especially reflect PDI - identified practices for feeding, hygiene, child caring and care of the sick child.

The boxes on this page provide examples of messages developed around identified PD practices in Myanmar, Tajikistan, Mozambique, and Vietnam.

In Tajikistan, PDI Children were:

- ♥ Breastfed on demand after six months of age
- ♥ Given good care and kept hydrated with home liquids during diarrhea episodes

Key Messages from PDI in Mozambique

Children under three years of age need:

- ♥ To eat five to six times each day in addition to having breastmilk
- ♥ Extra fat or oil in their diets
- ♥ A high protein diet with marula nuts
- ♥ To eat more protective foods like fruits and vegetables

PDI Feeding Practices in Myanmar by Age Group

Children six to twelve months:

- ♥ Complementary foods provided three times a day in addition to breastmilk on demand
- ♥ Variety of complementary food provided: rice, oil, potato, half chicken egg, beans
- ♥ Amount of food: one teacup full per meal
- ♥ Mother feeds the child with a small spoon
- ♥ Mother provides snacks of potato or fish chips

Children twelve to thirty-six months:

- ♥ Frequent feeding: four-five times a day in addition to breastmilk
- ♥ Amount of food: four teacups full per meal
- ♥ Variety of food in one meal [Breakfast fish stew; Rice + beans + vegetables (Vegetarian family); Rice + small fish or shrimps and eel +oil; Rice + watercress + duck egg + oil; Rice + vegetables + cheap meat (pork/frog) + oil]
- ♥ Child eats with spoon and has own plate
- ♥ Child eats regular meals with family
- ♥ Child drinks rice water three times a week
- ♥ Child is supervised while eating

Key PDI Messages from Vietnam

1. Breastfeeding: Breastmilk is the best food for the child. It helps protect the child against disease and helps develop a strong relationship between the mother and the child. Do not stop breastfeeding before twelve months.

2. The good foods – colored bowl: We must give children under three a variety of foods three to five times per day. These foods include the "good foods" which some very poor families with well-nourished children use and that are available in our commune. We can make a "colored bowl" of these nutritious "good foods", which are…

3. Supplementary food: From six months, in addition to breastmilk, we need to give children supplementary food. We can start by giving them weak, watered-down rice gruel and gradually give them a stronger thicker mix of rice flour cooked in shrimp, crab or vegetable broth instead of water.

4. Good child care: Children need people to take care of them, feed them, play with them, and guide them. Good child care will help the child to grow healthy, bright and able to love people.

5. Good health care: We can help prevent diseases from affecting children by keeping the house, the children's bodies, and their food clean; giving the children vaccinations to prevent serious disease and bringing sick children to the commune health center; and weighing the children regularly to detect malnourishment at an early stage.

6. Taking care of well-nourished children at home: Families can continue to maintain and improve their children's health at home by using the "good foods" available in the commune which are…, the "good child care", and "good health care" they have learned from the "Model Families", such as…

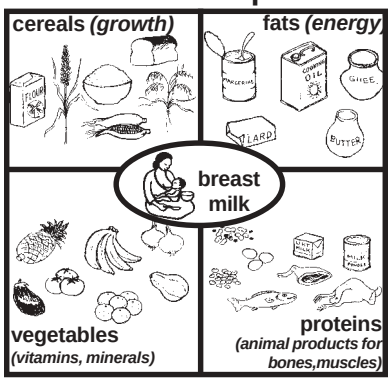
Messages Related to Planning Healthy, Well-Balanced Meals

The meals planned for the Hearth sessions include a computation of calories, carbohydrates, fats, proteins, and micronutrients. Both Hearth volunteers and caregivers, however, need to learn an easy method, such as food groupings, to plan their own balanced meals. Check to see if there are specific food groupings used in national nutrition policies.

Studies have found that caregivers have a difficult time retaining information on three or four food groups. In addition, they may become more focused on the combination of ingredients and their "category," while forgetting the importance of frequency and quantity. In this case, the "three-color" or "colorful plate" concept can be useful. If three different colors (the most common food choices are white/yellow, green, and red/orange) are present, the meal is usually balanced. Since the staple food is often white or yellow, two foods in other colors would be added to make a balanced meal.

The Food Square is another way to teach food groupings (see Chapter 2, Exercise 9: "Traditional Meals"). In the Food Square, each of the four sections represents an important component of a balanced diet. Draw a big square on the ground with a stick and place the food to be cooked during a Hearth session within the appropriate boxes to show the importance of variety in a healthy diet.

The Food Square



Messages Related to Meal Process

The process of the meal may be an important PD practice. **In Mali, it was found that a child with his/her own feeding bowl was much better off than the child who shared a family plate.**

This important finding was integrated into the Hearth session practice and key messages. Active feeding has often been identified in PDIs as a key practice to be promoted.

Messages Related to Introduction of Foods

Since many children become malnourished after six months of age, addressing PD behaviors for preventing malnutrition during the time complementary foods should be introduced is important. Introducing new foods into a child's diet in addition to breastmilk often requires extra effort by caregivers. Some of the key practices include:

- ♥ Feeding several times a day. With a small, limited stomach, infants and children need small but frequent servings.
- ♥ Feeding sufficient amounts of food at each feeding time. Infants and children often take longer to eat than older children, and need to be coaxed to consume enough food teaspoonful by teaspoonful. This is called active feeding.

Tips for Active Feeding:

- ♥ Feed infants directly and assist older children when they feed themselves
- ♥ Offer favorite foods and encourage children to eat when they lose interest or have depressed appetites
- ♥ If children refuse many foods, experiment with different food combinations, tastes, textures and methods for encouragement
- ♥ Talk to children during feeding and make good eye contact
- ♥ Feed slowly and patiently and minimize distractions during meals
- ♥ Do not force children to eat

Source: LINKAGES, 2001 (3)

Ensure hands and tools are clean when preparing food and before eating food.

♥ Using balanced foods with high nutrient content. A good weaning food often consists of rice, wheat, potato or other types of soft, mashed cereals with protein foods (eggs, breastmilk, legumes), oil, and cooked, mashed vegetables or fruits.
♥ Reducing illness from contaminated food. Ensure hands and tools are clean when preparing food and before eating food. Feed the child only freshly prepared food and food that has been thoroughly cooked. Previously cooked food kept for many hours at room temperature will grow bacteria and make the child sick. Wash the outsides of fresh fruits with clean water before peeling them.

The Positive Deviance Inquiry (PDI) will uncover the specific local practices and food preparations that make introduction of foods successful. Table 5.6 provides suggested food frequency guidelines by age.

TABLE 5.6 Feeding Frequency / Type of Food by Age

Age of child	Daily energy requirements (kcals) from foods *(not including breastmilk)*	Number of complementary feedings a day and Form of food	Number of breastfeeds needed *(day and night)*
6 - 8 months	275	2-3 times a day Give mashed, semi-solid cereals with legumes, beans, breastmilk; add small pieces of mashed animal foods (eggs, meat, fish, cheese) and fruits/vegetables	Freely as the child wants, gradually decreasing from about 8 feeds each day/night at 6 months
9 - 11 months	450	3 - 4 times a day Continue with mashed gruel (as for 6-8 months old), also introduce snacks and fried foods, increase quantity of animal foods and fruits / vegetables.	Freely as the child wants
12 - 23 months	750	4 - 5 times a day Same as above; gradually transfer to chopped or mashed family foods after 12 months.	Freely as the child wants, gradually to at least once each day/night by 23 months of age

Source: Sanghvi 1999 (5)

2. Plan Daily Schedule of Health Education Messages

Choose a maximum of six key messages for the whole two weeks. After finishing the six messages in the first week, repeat the same messages the second week (Days 7-12), using a different method of presentation, to reinforce the lessons learned. The Hearth participants discuss one Hearth message each day. Focusing on only one discussion theme per day prevents overloading mothers with new information.

It is often tempting for staff members and volunteers (especially those who are health professionals, nurses, educators, or nutritionists) to try to push their own nutrition messages, menus and theories. The program staff (including volunteers) must put themselves into the role of learners, communicating to participating mothers during the Hearth sessions what was learned during the PDI, and explaining that it is the wisdom of mothers in their own village that they are learning and practicing.

Health education during Hearth sessions cannot be done in a lecture-style mode. Instead, it is primarily learning by doing during the Hearth session, questions and answers and group discussion, all of which is followed up at home as they practice these new food preparation and feeding behaviors in their own kitchens.

Some guidance on adult learning techniques is provided in Chapter 2. For more information on designing health education messages and adult learning techniques see the resource list at the end of this manual.

Teachable Moments

During the Hearth sessions, take advantage of "teachable moments". In one World Relief Project, the Hearth volunteer discovered that a child hin the group was sick with pneumonia. She used this opportunity to discuss recognizing danger signs and seeking health care.

TABLE 5.7 Sample Health Education Plan: Hearth Sessions

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Breast-feeding	Hygiene	Acute Respiratory Infection (ARI) / Diarrhea home care including oral rehydration therapy (ORT)	Early Childhood stimulation	Comple-mentary feeding	Food preparation techniques
Day 7	**Day 8**	**Day 9**	**Day 10**	**Day 11**	**Day 12**
Lessons learned from trying menu at home; breast-feeding	Hygiene	ARI/ Diarrhea ORT home care	Early childhood stimulation	Comple-mentary feeding	Review all messages; Reinforce ability to practice behaviors at home

A sample health education plan with topics, message content and activities is included at the end of this chapter.

Hearth Session Site Criteria

- ♥ Location must be accessible and central
- ♥ Space for 10-20 children (siblings often tag along) and 10 caregivers
- ♥ Access to a latrine
- ♥ Access to clean water for drinking, cooking and hand washing
- ♥ Access to shade and a kitchen area

D. Choose Site for Hearth Sessions

The term "Hearth" connotes women volunteering their hearths and homes to assist mothers of malnourished children to begin the rehabilitation process. Each Hearth volunteer is expected to use her home as the venue for a Hearth session. It is helpful to use the same site for the whole twelve-day Hearth session, but subsequent sessions can be held in different volunteers' homes so that the commitment does not need to be long-term. Weather permitting, the Hearth session can be conducted outdoors on mats under a tree. It is important that the atmosphere be relaxed and "homey"; sessions should not be held at the health center or other facility.

E. Design Protocols for the Hearth Sessions

Protocols need to be established with community participation and support to enable the program to proceed steadily toward its goals and decrease the possibility of losing or overlooking any child in need of rehabilitation.

1. Decide on nutritional status cut-off point for participation

Will only moderately and severely malnourished children be invited to participate in Hearth sessions or will all malnourished children be included? Some Hearths are beginning to confront the challenge of preventing as well as rehabilitating malnutrition and inviting pregnant first-time mothers-to-be or new mothers with well-growing young infants. (These new mothers exclusively breastfeed their children during the Hearth session, but participate in meal preparation and other learning activities in anticipation of the day when their infant will be ready for complementary feeding.) The cut-off point should be decided based on greatest need as well as practical considerations such as the availability of volunteers, budget, etc. In Vietnam, where almost 70% of children under three years old were malnourished (mild, moderate or severe), Hearth session participation was prioritized for those children suffering from moderate and severe malnutrition (6).

Some projects consider the rate of growth instead of the nutritional status. Focusing on the growth curve enables the project to prioritize children at risk for future problems who might not be selected otherwise. This is important since a child's failure to gain weight is often the first sign of an underlying problem. Consider Child 1 who currently has a normal weight for his age, but has failed to gain weight since the last weighing session. Child 2 is underweight for his age, but is steadily gaining weight. Using nutritional status, Child 2 would be targeted. The growth curve method would prioritize Child 1 as being at greater risk (7).

2. Determine criteria for graduation

There are two different ways of determining whether a child is ready to graduate from Hearth or needs to continue for another Hearth session.

a. When using national growth monitoring cards:

Criteria for graduation are based on movement between severe malnutrition, moderate malnutrition, mild malnutrition and normal nutritional status. This is the easier method to explain and use with community members. The community might select to graduate children:

- ♥ Only when they reach normal nutritional status
- ♥ When they move from moderate to mild malnutrition
- ♥ When they move from severe to moderate malnutrition

b. When using weight gain guidelines:

Criteria for graduation are based on catch-up growth achieved during the course of the Hearth session. With this method, children who have achieved between 400 and 800 grams of weight gain and are growing as fast or faster than the 'International Standard Median' are considered to have a successful outcome. It is assumed that once a child has achieved the catch-up growth, growth will continue in subsequent months.

If a child is not gaining weight, the child should be referred for medical attention and the volunteer and supervisor should make a home visit to rule out total lack of food in the house. Review the child and caregiver attendance to ensure that both are attending regularly (sometimes caregivers come to sessions without the child). Staff should also review the Hearth menu to ensure that children are getting enough protein and calories.

3. Decide how many Hearth sessions individual children can participate in even if they haven't graduated

The number selected will depend on the original objectives developed by the community and the local situation. If the goal is to move children from severe to moderate malnutrition, two to three 12-day sessions should suffice. If the goal is to move children with severe, moderate, and mild malnutrition to normal nutritional status, more sessions will be needed.

Most PD/Hearth sessions include a mandatory medical check-up at the earliest possible time of enrollment for all children involved in the project or those who are moderately or severely malnourished. Children with severe malnutrition (kwashiorkor or marasmus) need immediate medical attention.

If nutritional status is not improving through repeated participation in Hearth sessions, a strategy other than Hearth is required.

In Vietnam, where 65% of children were malnourished in the pilot projects, only children who were severely malnourished (weight-for-ageless than 3 Z-scores) were enrolled in the program and "rehabilitation" was defined as reaching moderate malnutrition (-2 Z-scores) or better. The average time for a child to "graduate" from severe malnutrition (less than -3 Z-scores) to moderate malnutrition (-2 Z-scores) ranged from 2.8 sessions in pilot villages in Vietnam to about 1.9 sessions as the program evolved. (8)

Egypt

A special protocol for the cases of growth failure will focus more attention on assisting such children. In Egypt, early identification of "at risk" malnourished children through a questionnaire and special attention via repeated home visits allowed the implementers to significantly reduce the number of children who failed to grow.

The protocol used in this project can be found at the end of this chapter.

(Z-scores, or standard deviations, are an internationally accepted way of describing nutritional status and can be found in Table 4.5.) Because there are a significant number of new children entering the ranks of the malnourished until the community's conventional wisdom changes, it is possible to continue Hearth sessions in a community with 300-500 children under three for about a year in order to capture them all.

In Haiti, 60-70% of Hearth children, followed for three to six months after the Hearth session, were growing as fast or faster than the international standard for weight and age. Of the 30-40% who were not growing normally, studies found that half of these children had a hidden infection, mostly tuberculosis, and the other half lived in extreme poverty. These children were either treated or enrolled in a poverty lending program based on the situation. (9) Prior liaison with the formal health sector staff is critical to ensure that a referral mechanism for these children exists. For families who are impoverished, income generation activities should be encouraged. These might include small savings and loan opportunities, livestock production, raising chickens, provision of seeds for planting a kitchen garden or technical assistance for increasing family agricultural production. Documenting in detail the cases of children who do not recover would help improve understanding of why some children do not respond to the Hearth program.

Scenarios Demonstrating the Range of Hearth Situations and their Impact on the Number of Sessions per Child

Scenario 1: The PD/Hearth operates in a region prone to flood, drought, or earthquakes and under economic hardships that involve seasonal migration of all or some members of families. Due to the vulnerability of the community, more sessions with periodic interruptions may be needed.

Scenario 2: PD/Hearth operates without much public health support. In this situation, the underlying causes of poor response to additional food intake, such as child tuberculosis, are not addressed and malnourished children may need to participate in more Hearth sessions.

Scenario 3: The project is integrated in a child survival program or parts of a hospital outreach program and families have good access to a health center. The project designers and the community may agree on a set number of Hearth sessions per child (e.g., two to four) to avoid family dependency on the project.

Because of all the conditions and circumstances described in these scenarios, it is very difficult to determine in advance how many Hearth sessions will be carried out in a given community.

Even within a community, some neighborhoods or hamlets may have fewer Hearth sessions than others. Program managers must remain alert to perverse incentives for maintaining Hearths as long as possible (even at the cost of "maintaining" a level of malnutrition). This is especially true if the project calculates community inputs (cash, food, etc.) on the basis of the numbers of activities or affected children.

Sample Community-Selected Hearth Protocols

1. Conduct regular growth monitoring and promotion quarterly for all children less than three years old
2. All children less than three years old and moderately or severely malnourished should attend Hearth sessions
3. Volunteers conduct follow-up home visits in conjunction with the Hearth sessions
4. Children brought to the Hearth session and suspected of having an underlying illness should be referred to the local health post
5. Refer all children who have not improved after two 12-day sessions (within two months) for a medical check-up
6. Pregnant women should be encouraged to eat more during pregnancy and receive antenatal care
7. Mothers who are breastfeeding should continue breastfeeding upon demand
8. Vitamin A will be distributed biannually to all children
9. All children will be de-wormed prior to attending the first Hearth session

F. Create a One-Year Plan of Activities

Plan out the year with the Community Health Committee, project supervisor/ trainers, Hearth volunteers, Community Health Workers, and health staff to determine the dates for Growth Monitoring and Hearth sessions. Table 6.8 provides a sample of an annual work plan in a large community.

If a community Growth Monitoring program already exists, Hearth participants and graduates should continue to participate in it. Volunteers can encourage mothers to take their children by making home visits to remind them. If a growth monitoring program does not exist, development of one should appear early on the annual work plan. The Village Health Committee can take the lead in assuring that all families participate so that all under-five children in the community are weighed on a regular basis. Mothers of children who are growing well will receive positive feedback, while malnourished children will be detected and referred to the Hearth.

Growth Monitoring is an important aspect of the ongoing plan because it:

- ♥ Enables caregivers and community members to follow the normal development of the young child and encourages caregivers with healthy children to maintain their children's health
- ♥ Identifies malnourished children for rehabilitation through Hearth
- ♥ Monitors the target group's nutritional status over time
- ♥ Measures the impact of PD/ Hearth on beneficiaries
- ♥ Measures the sustained rehabilitation of Hearth participants six to twelve months after rehabilitation

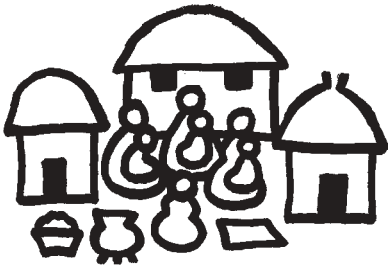


TABLE 5.8 Sample One-Year Hearth Plan

	Large Community with Many Malnourished Children	Month	Week
1	Feedback to villages on results of nutritional survey and establish partnership and general goal with community leaders	1	1
2	Workshop on Participatory situation analysis of children's health, including PDI for trainers		2
3	Participatory Situation Analysis in 2 villages with a community action plan		3
4	Set up or reactivate Village Health Committee (VHC) and select Hearth Volunteers (HV)		4
5	Document Situation Analysis, Training of Trainers (TOT) on Growth Monitoring Program (GMP)		4
6	Train VHC and HV in GMP and update household registers	2	1
7	First GMP session in 2 villages, with feedback		1
8	Train Trainers (Supervisors) on HEARTH (session 1)		2
9	Train HV and VHC on HEARTH (session 1)		2
10	First supervised HEARTH 1Nutrition education & rehabilitation s sessions begin		3 & 4
11	Feedback session/Lessons learned	3	1
12	TOT Hearth management (monitoring & supervision tools) Preparation for HEARTH 2 training		1
13	Training HV and VHC for HEARTH 2, including communication skills a and home visiting format, management (monitoring)		2
14	HEARTH 2 in two villages		3 & 4
15	Supervise home visits by HV	4	1
16	TOT GMP 2, including vital events monitoring and creating in indigenous score boards		1
17	GMP Training 2 for HV and VHC members		1
18	GMP 2 session in two villages		2
19	HEARTH 3		3 & 4
20	HEARTH 4	5	3 & 4
21	GMP 3	6	2
22	HEARTH 5	7	3 & 4
23	HEARTH 6	8	3 & 4
24	TOT for 6-month evaluationof nutrition education & rehabilitation	9	1
25	GMP 4 Session and 6 months evaluation of HEARTH		2
26	Documentation of evaluation (qualitative and quantitative) and new strategies (new action plan)		3
27	HEARTH 7 and HEARTH 8	9 10	3 & 4 3 & 4
28	GMP session 5	11	2
29	GMP session 6	13	2
30	GMP session 7	15	2
31	Project phase 1 evaluation		3 & 4

What about incorporating traditional foods?

A country's national dishes or cuisine are often naturally balanced. The preparations may be difficult or time-consuming and therefore no longer prepared as frequently. Ask village elders about possible food options from the "old days." In most countries, there are indigenous leaves that have lost their former acceptance in favor of other vegetables, such as cabbage and eggplant. These indigenous leaves, often rich in iron, calcium, folic acid protein and Vitamin A, can be reintroduced into the standard diet through the Hearth.

How do you overcome belief systems such as those that attribute malnutrition to non-food related causes?

One of the reasons for starting PD/Hearth in small pilot areas is to demonstrate the dramatic impact on malnourished children within one month. When malnourished children are rehabilitated, they become living proof of the effectiveness of the Hearth practices and community members become advocates for change. Through their example, beliefs will eventually change. To conduct such a pilot, look for mothers to participate who do not hold tightly to such beliefs.

What happens if the caste system prohibits people of different castes from eating together?

Do a PDI and look for positive deviants that break that habit. In the mean time, form groups of the same caste to facilitate group cohesion.

Vanquishing Sorcerers in Mali

In Mali, grandmothers saw children rehabilitated from Kwashiokor, which they previously attributed to the evil eye and only curable via witchcraft. They reported, *"On a vaincu les sorciers." (We have vanquished the sorcerers).*

Breastmilk is a rich source of Vitamin A for the first months of life. When children begin to eat other foods at six months of age, they need to eat a Vitamin A rich food daily.

ADDITIONAL MICRONUTRIENT INFORMATION

Vitamin A

There is a relationship between Vitamin A deficiency and increased frequency of infections and protein-energy malnutrition. Vitamin A helps protect the body from night blindness, measles, respiratory infections and diarrhea.

♥ Breast milk is a rich source of Vitamin A for the first months of life. When a child begins to eat other foods at six months of age, he/she needs to eat a Vitamin A rich food daily.

♥ Vitamin A found in animal products is *preformed* or *retinol* (ready for the body to use as Vitamin A). Retinol is found in meat and the flesh of fatty fish, in egg yolks and milk fat. Liver is a particularly rich source.

♥ Vitamin A as found in plant sources is *pro-vitamin* or *carotenes* (a form which the body can convert into Vitamin A). Important sources of carotene are bright yellow or orange vegetables such as carrots, pumpkin and red sweet potatoes; fruits like papaya/pawpaw or mangoes; red palm oil; and dark green leafy vegetables. Vitamin A is fairly stable during normal cooking methods and does not dissolve in water. However, if the color is removed through extended cooking, the Vitamin A is also removed. Leaves start losing their carotene value as soon as they are chopped or torn.

In areas where itamin A foods are scarce and countries where Vitamin A deficiency has been documented, WHO recommends Vitamin A supplements for post-partum women and children. Check with the Ministry of Health for local policy.

♥ In areas where Vitamin A foods are scarce and countries where Vitamin A deficiency has been documented, WHO recommends Vitamin A supplements for post-partum women and children. At the time of this publication, the recommendation is to provide one dose of 200,000 IU to the mother within the first eight weeks after delivery; one dose of 100,000 IU for infants from 6-11 months; and one dose of 200,000 IU for children 12-59 months every 4-6 months. (10) Be sure to check this policy with the Ministry of Health staff.

Vitamin C

Vitamin C plays a role in preventing illness and anemia. The best source of Vitamin C for very young children is breastmilk. It is also found in fresh fruits and vegetables and some fresh tubers. Good sources of Vitamin C are citrus fruits (lemons, oranges, etc.), watermelon, strawberries, mangoes, and tomatoes. Vitamin C is highly soluble in water and is rapidly destroyed by heat.

ADDITIONAL MICRONUTRIENT INFORMATION

Iron

If the prevalence of anemia is known to be very high (40 percent or more), give iron supplements daily (12.5mg/day) to infants six months to one year of age. Continue supplementation, if necessary, until twenty-four months of age. For low birthweight infants, start supplementation at three months. (11)

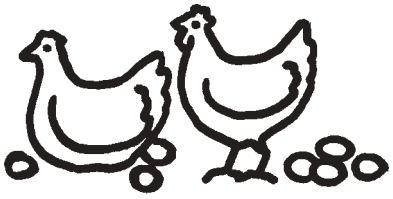
Tea inhibits absorption of iron. In cultures where it is common to drink tea with meals, families should be encouraged to substitute a local herbal tea, plain boiled water or juice for tea during meal time. Tea served between meals will not affect iron absorption.

Tea inhibits absorption of iron. In cultures where it is common to drink tea with meals, families should be encouraged to substitute a local herbal tea, plain boiled water or juice for tea during meal time.

Red meats and egg yolk are excellent sources of easily absorbed iron, while iron from plant sources is more difficult for the body to absorb. Some good plant sources include leafy green vegetables, dried fruits such as raisins, legumes and molasses. Vitamin C enables the body to better absorb iron from foods.

Zinc

Zinc has a positive effect on reducing diarrheal disease and is essential for children to grow and thrive. The mineral also combats child pneumonia, heals wounds more quickly and helps to strengthen a child's immune system. Stunted children should be given a zinc supplement to increase growth rate. Zinc is found in whole grains and in animal foods such as meat, milk and eggs.



Note:
Any micronutrient supplements or de-worming medicine given should be prior to and separate from the Hearth session either at the health center or at monthly growth monitoring sessions. Mothers may otherwise think the child's recovery is due to the supplements instead of the Hearth food and practices.

Messages from days 1 to 6 are repeated during days 7 to 12 to reinforce Hearth lessons fro home use.

TABLE 5.9 Sample Curriculum: 12 Day Hearth Session

DAY	MAIN TOPIC	CONTENT	ACTIVITIES
Day 1	Breast-feeding	Breastmilk as best food for infant Benefits of colostrum Immediate initiation of breastfeeding after delivery Exclusive breastfeeding for at least three months Breastfeeding duration (up to 24 months)	Discussion Use of interactive visual aids (poster) to deliver the message
Day 2	"Good food" plus variety of food	Inventory of foods for children available in the village PD foods Daily food contribution, Hearth menu Importance of fat in the young child's diet Feeding the child three meals a day and snacks in between	Discussion Use of Hearth menu ingredients Games, Poster
Day 3	Com-- ple-men-tary feeding	When to introduce complementary feeding Why introduce new food in addition to breastmilk Ingredients for a complementary food Consistency and quantity, method of feeding	Discussion Recipes for comple-mentary feeding Message, Games, Poster
Day 4	Good child care	Personal hygiene Hygiene around feeding Supervision during feeding How to feed the child with poor appetite	Discussion Practice during Hearth session Message
Day 5	Good health care	Environmental and food hygiene Promotion of vaccination and regular weighing Diarrhea: treatment of diarrhea at home (symptoms, diet, use of ORS - demonstration) Identification of danger signs and seeking help Prevention of diarrhea	Demonstration of how to use ORS packages or home-made equivalent Message
Day 6	Keep-ing child-ren healthy at home	Use of PD foods at home Practicing good hygiene around food and while eating Maintaining good personal and environmental hygiene	Discussion The model family chart
DAY OFF		**Practicing at home**	
Day 7	Breast-feeding	How to increase breastmilk production Breastfeeding during maternal or child illness Maternal diet during lactation Breastfeeding and spacing children	Discussion Interactive visual aids, poster Message
Day 8	"Good food" and variety of food	Review items from Day 2 Role of different foods for adequate growth (four food groups) Review Hearth menus	Discussion Use of Hearth menu ingredients Message, games, poster
Day 9	Com-ple-men-tary feeding	Review the items covered on Day 3 Complementary feeding Breastfeeding	Poster Recipes for complementary feeding Message
Day 10	Good child care	Positive frequent interaction with child Display of affection Supervision at play and at all times	Hand games Songs
Day 11	Good health care	Review Day 5 Treatment of the sick child at home ARI: identification of danger signs of ARI Diet during and after illness Care seeking Prevention	Discussion Demonstration of breathing patterns Review of message
Day 12	Keep-ing child-ren healthy at home	Use of PD foods at home Practicing good hygiene around food and while eating Maintaining good personal and environmental hygiene	Discussion Family Model Poster Message

"Good child care" includes positive frequent interaction with the child, displays of affection and supervision at play at all times.

HEARTH REGISTRATION FORM

VHW Name:_____Date:_____
Child's Name: _____Date of Birth:_____
Age (months):_____ Gender:☐Female☐Male Child's Weight(kg):_____
Mother's Name:_____

Ask the mother the following questions abouth the child at the beginning of a 12-day Hearth session

Section I: Major Criteria (one or more ' b' answer(s) is considered AT RISK)			
No.	***Questions and Filters***	***Coding Categories***	
1	What is this child's birth order?	[ ] a. 1st-4th child [ ] b. 5th and higher	b:[ ]
2	Is this child a twin?	[ ] a. No [ ] b. Yes	b:[ ]
3	How old were you at the time of this child's birth?	[ ] a. 30 years and younger [ ] b. 31 years and older	b:[ ]
4	So far, how many pregnancies have you had? _____ How many deliveries? _____ How many live births? _____ Have any of your children ever died?	[ ] a. No [ ] b. Yes	b:[ ]
5	So far, how many previous 13-day Hearth sessions has this child attended? *(Do not include current session)*	[ ] a. 0-1 session [ ] b. 2 or more	b:[ ]
Section II: Minor Criteria (two or more ' b' answers is considered AT RISK)			
No.	***Questions and Filters***	***Coding Categories***	
6	Does your house have a sanitary latrine?	[ ] a. Yes [ ] b. No	b:[ ]
7	In the past two weeks, did this child have diarrhea?	[ ] a. No [ ] b. Yes	b:[ ]
8	Was this child "unusually small" at birth compared with other newborn children?	[ ] a. No [ ] b. Yes	b:[ ]
9	How much time do you yourself spend during the day feeding and playing with your child?	[ ] a. More than 1 hour [ ] b. Less than 1 hour	b:[ ]
10	*(Ask this question only from the mother of a child 6-12 months of age):*Did you breastfeed this child exclusively for at least four months?	[ ] a. Yes [ ] b. No	b:[ ]

Total number of 'b' answers in Section I (Major criteria): ____
Total number of 'b' answers in Section II (Minor criteria): ____

AT RISK: NO ☐ YES ☐

This form is designed to **identify children at particular risk** who may need extra attention during or after the Hearth sessions and during home visits. These children are less likely to graduate at present intervention intensity and require more effort by the Hearth volunteer to increase the chances of graduation.

Volunteers should fill in the form for each child separately at the first day of Hearth session and after weighing the child. At the end of the first Hearth day, the volunteer should analyze the data and identify children at particular risk in her group.

Check the code next to the category that best matches the mother's response. If the answer to any question is 'b', place a check in the last column.

If the answer to ANY question in section I (Major criteria) is 'b' or if there are TWO 'b' answers in section II (Minor criteria), the child should be identified for special attention as shown in the list on the next page.

Form from Save the Children/ US: Egypt Field Office

PROTOCOL FOR EARLY IDENTIFICATION OF "AT RISK" MALNOURISHED CHILDREN

*If the answers from the **Hearth Registration Form** (previous page), indicate a child at particular risk, the child should be identified for special attention as shown in this "protocol" list.*

1. Assure that the mother and her child attend all twelve days of the Hearth session (check every day).
2. Pay an additional home visit to the household.
3. Make sure that the mother has understood all Hearth messages and recommended practices and knows how to carry them out correctly.
4. Describe the practices and their importance to other home decision makers (e.g. mother-in-law and/or husband) to ensure their support.
5. Assure that all children six months of age and older are receiving complementary food while continuing breastfeeding, that the child is being actively fed by mother/father/caregivers (especially children with poor appetite), that there are a variety of foods (particularly the PD foods) in the child's daily diet and that there is appropriate frequency of feeding (at least 3-4 meals a day) with the proper amount of food at each feeding. Promote giving healthy snacks to the child at home.
6. During home visits, give special attention to mothers who are introducing complementary food for the first time. Check on the diet's ingredients, consistency and quantity as well as the method of feeding.
7. Spend more time at home visits and investigate underlying problems, constraints and resistance points by talking to the mother, mother-in-law, husband and other members of the family (e.g., investigate time constraints, lack of empowerment of mothers to carry out Hearth practices at home, mother-in-law/husband objections to the new practices, economic constraints, lack of latrine, safe water source, etc.).
8. Make sure that the mother has enough time to carry out the Hearth recommended practices and spends enough time feeding, interacting and playing with her child. If not, discuss the possibility of reducing mother's workload with the help of her mother-in-law, husband and other members of the family. This problem can further be addressed through better time management, giving priority to child needs in the daily work setting, etc.
9. Be certain that the secondary caregiver(s) gets appropriate advice for the child's care from the mother when she is away from home.
10. Investigate the existence of proper hygiene practices in the household (i.e., good body hygiene, use of safe drinking water, good hygiene while feeding the child and handling and preparing the food, etc.).
11. Assure that the mother/mother-in-law/husband can identify danger signs of the sick child and explain the importance of timely and appropriate help-seeking. Emphasize the importance of continuing to feed the child during illness and increasing feeding immediately after illness for catch-up growth.
12. Investigate the existence of ORS packets at home and the proper use of them by the mother.
13. At any home visit, if the child has diarrhea, make sure that the mother is giving ORS to her child (especially in your presence).

Spend more time at home visits and investigate underlying problems, constraints and resistance points.

CHAPTER SIX
Steps 6, 7 and 8: Conduct, Support & Repeat Hearth Sessions

STEP 6 **Conduct Hearth Sessions**

A. Collect materials and set-up the daily Hearth sessions
B. Greet and register caregivers and their children and collect PD foods
C. Lead the Hearth session
D. Supervise Hearth activities

With all the planning completed, it is now time to start the Hearth sessions. This chapter covers Steps 6 through 8.

Step 6: Conduct the Hearth Sessions

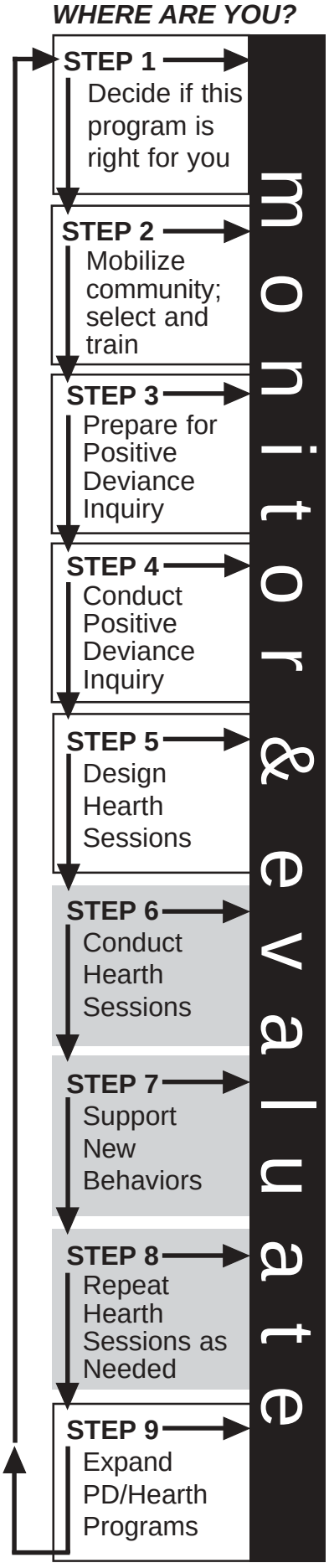
There is a European fable which illustrates the dynamics seen in Hearth sessions:

Stone Soup

After years of war, two soldiers came to a village looking for food. They went to the first home and asked for food. Tired of providing for soldiers during the war, and without much for themselves, the first family said they had no food to spare. Going to the second home they received the same answer.

The clever soldiers then decided to make a pot of "stone soup." They asked to borrow a pot and placed a large round stone in the pot. They added water and started to boil the "soup."

The villagers were curious and gathered around to see what was cooking. The soldiers said, *"This soup is fine by itself, but I do wish we had a few carrots. They would add a fine flavor."* Soon a woman exclaimed, *"Yes, I have some carrots in my pantry, I'll run and get them."* They cut up the carrots and added them to the pot. Next, they said, *"This stone soup would be so delicious if we only had some potatoes."* Soon a neighbor brought some potatoes. Next, they spoke of the excellent addition that onions, tomatoes, beans, and squash would make. Shortly the pot was full to the brim with a nutritious soup. The whole community feasted and congratulated the soldiers on their wonderful recipe.



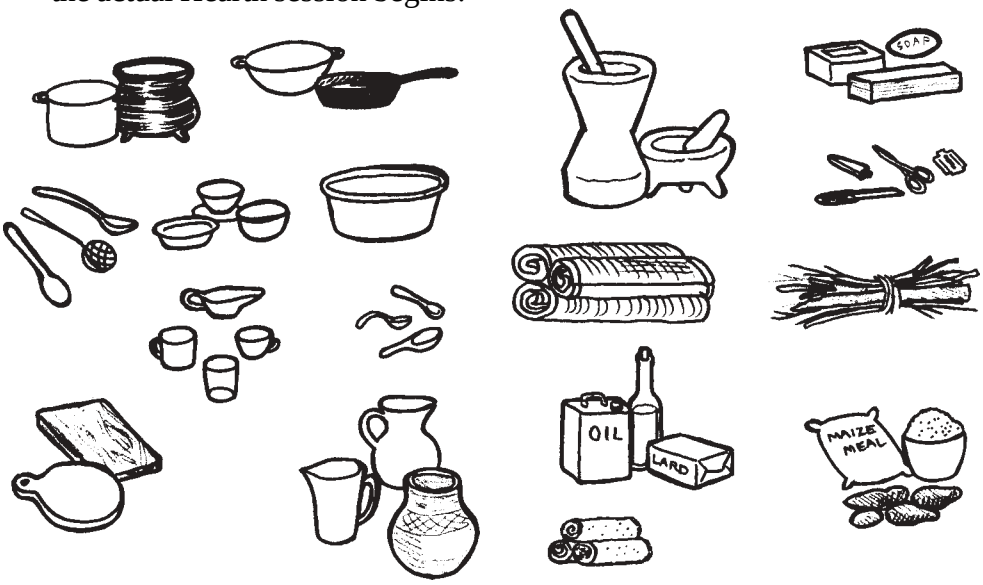
The important moral of the "Stone Soup" story is that many small contributions led to the creation of a large nutritious meal for everyone. So too, it is possible to combine locally available foods, contributed by the Hearth program and community members, to feed and rehabilitate malnourished children.

List of Materials

- ♥ Weighing scales (can be used for growth monitoring program as well)
- ♥ Register to track attendance and weights
- ♥ Daily menu and recipes
- ♥ Health education materials
- ♥ Soap, wash basin, towels (for hand-washing demonstration and practice)
- ♥ Water pitchers
- ♥ Mats (for accommodating the children)
- ♥ Cooking pot, frying pan and cooking utensils
- ♥ Cutting boards and mortar and pestle
- ♥ Fuel/wood (for cooking)
- ♥ Cups, bowls, plates and spoons (or caregivers can bring them from home)
- ♥ Staple food (e.g., rice, fufu, yams)
- ♥ Oil
- ♥ Additional ingredients

A. Collect Materials and Set Up the Daily Hearth Session

The following materials should be collected and set up a few hours before the actual Hearth session begins:



Caregiver and community contributions of as many of these items as possible will increase the community buy-in and ultimate sustainability of the Hearth. In addition to a handful of the PD food, mothers can be expected to take turns bringing the staple food, oil and other ingredients. They may also be able to bring bowls, cups, spoons and towels every day and alternate bringing some of the cooking pots and utensils. Table 6.1 (next page) provides a list of the basic materials and columns for identifying their source.

Once the materials are collected, set up a hand washing station with soap and clean water and an area with clean surfaces for cleaning and chopping food. An appropriate distance from the cooking area, set up a clean environment with a mat for the children to sit and play. Lay out utensils, plates and cups and cover them to prevent contact with flies and dust.

B. Greet and Register Caregivers and their Children and Collect PD Foods

The volunteer and program staff should greet all participants warmly and politely. The volunteer should collect the PD food and show the participants where to sit. The volunteer should then record the attendance of the caregiver in the log book, along with the PD food and/or other contribution that was brought to the session.

TABLE 6.1 Basic Materials for Setting Up a Hearth Kitchen

ITEMS	COMMUNITY	IMPLEMENTING AGENCY	CAREGIVERS
Cooking pots			
Frying pan			
Cooking utensils			
Bowls			
Basins			
Spoons			
Cups			
Water pitchers			
Cutting boards			
Mortar and pestle			
Soap			
Nail cutters			
Mats			
Fuel/wood			
PD Food			
Staple food (rice, fufu, yams)			
Oil			
Towels			
Other ingredients			

Hearth sessions require each caregiver to bring some of the good foods that have been identified as positive deviant within the community. There are several reasons for this:

- ♥ Caregivers learn to collect or purchase the PD foods and prepare nutritious meals with them
- ♥ Caregivers repeatedly practice the behavior of collecting and preparing healthy food
- ♥ It shows that the food practice will be possible once the session ends
- ♥ Families form a daily habit of feeding their children good foods that are readily available

Hearth sessions require each caregiver to bring some of the good foods that have been identified as positive deviant within the community.

C. Lead the Hearth Session

A two-hour Hearth session usually includes one hour of food preparation and cooking, one half hour of feeding, and one half hour of clean-up and health topic discussion. Each day, participants rotate to different duties of the Hearth so that everyone learns all the skills.

While some participants are cooking, the others play with and care for the children. They wash hands, provide the snack food and practice games and songs to stimulate their children. Older siblings who are present can be recruited to help with hand washing and hygiene, snacks, games and discussions.

Group feeding inherent in Hearth sessions is important for several reasons:

- ♥ Eating together helps overcome a lack of appetite as children who sit together tend to eat together
- ♥ A support group is formed through the preparation of a collective group meal
- ♥ Caregivers can share and practice different early childhood stimulation techniques
- ♥ Volunteers can monitor food going to the malnourished child instead of other family members
- ♥ Volunteers can provide nutrition education to a captive caregiver audience
- ♥ Volunteers can demonstrate the emotional aspect of feeding between mother-child and sibling-child
- ♥ Volunteers can provide the caregivers emotional support

General Steps followed in each Daily Hearth Session

1. Welcome all of the participants. Review the goals of the Hearth, the agenda for the day, and respond to any participant concerns or questions. (You can discuss PD foods and other contributions that were brought this day, along with causes of a child's slow growth.)
2. Show the participants where they can wash their hands and the hands of their child: demonstrate proper handwashing technique using soap and rubbing hands together at least three times. (At the same time check children for illness and refer any sick child to the health post)
3. Distribute a snack to the children (discuss how snack time boosts calorie intake, stimulates appetite and provides the caregivers with time to cook the main meal).
4. Conduct a health education discussion on the health topic for the day.
5. Divide the participants into teams for different aspects of the food preparation, child care and stimulation, and clean-up.
6. Prepare and cook the meal while other participants play with the children using songs and games.
7. Repeat handwashing of the caregiver and child.
8. Distribute the meal and supervise caregivers as they feed their children (use opportunities to demonstrate active feeding techniques).
9. Clean up.
10. Review the day's lessons.
11. Plan for the next day's menu and food contributions with the mothers or other caregivers.

Special Days

There are a few days with special activities that need to be incorporated into the daily agenda.

Days 1 and 12: Child Weighing

Every child is weighed on the first and last day of the Hearth session.

Materials needed:

- ♥ Scale
- ♥ Hearth register book
- ♥ Growth Monitoring Cards (brought by caregiver for each child)

Volunteers weigh each child, record the weight in the Hearth register book and plot the weight on the child's Growth Monitoring Card. Caregivers should be informed of the child's weight, growth and his/her malnutrition status.

Day 7: Home Alone Day

After spending six days in a group setting cooking and feeding, on the seventh day participants stay home and practice the new behaviors. Discussion on Day 8 should revolve around the experiences the caregivers faced at home. If the behavior was not practiced at home, it is important to find out why and assist the caregiver in developing a strategy. Use probing techniques to identify any obstacles encountered in the household. Through discussion, caregivers can share their problems and offer each other solutions.

Day 11: Next-to-last day of the Hearth Session

At the eleventh Hearth session, volunteers ask families to bring to the last session all of the necessary ingredients to prepare a healthy meal for their child at home. They also remind caregivers to bring Growth Monitoring Cards to the final session.

Day 12: Last day of the Hearth Session

On the final day of the Hearth session, caregivers will prepare a meal as they would at home. In addition to the regular daily activities, at the 12th Hearth session, children will be weighed. The Hearth volunteer records the child's status (whether he/she will graduate or repeat the Hearth the following month) in the Hearth register book and discusses the results privately with each caregiver.

For those children who have moved into the green and met the graduation criteria: Volunteers congratulate the caregivers and advise them on how to keep the child healthy at home.

For those caregivers whose children have gained weight, but have not yet met the criteria to graduate: Volunteers congratulate them and advise them to continue what they have learned during the Hearth session at home and then come back to the next Hearth session. They subsequently make a home visit to provide the date of the next Hearth session and check on the child's progress.

For those children whose weight has not increased: Volunteers talk to the caregiver about the issue, providing guidance on following the Hearth menus and the hygiene and care practices at home. If the child has not been sick, they remind the mother that the Hearth meal is an extra meal and not a replacement meal. The caregiver is asked to bring the child to the next Hearth session. The supervisor and volunteer will make home visits to the family before then to encourage new practices.

If the caregiver is an older sibling: The volunteer advises them that a home visit will be made to personally inform the parents of the outcome of the Hearth session.

After completing the last day of the Hearth session, volunteers summarize and record the following information in the Hearth roster book:

- ♥ Total number of children who attended the Hearth sessions
- ♥ Number of children who gained weight
- ♥ Number of children who had no weight gain
- ♥ Number of children who lost weight
- ♥ Number and percent of children who graduated
- ♥ Number and percent of children at different stages of malnutrition
- ♥ Number of children planned for the next Hearth session

The supervisor helps the caregiver overcome any barriers encountered in the real-life home situation, reinforces key messages and provides support and encouragement for continuing to practice the new behaviors until they become routine.

D. Supervise Hearth Activities

The project manager oversees the supervisors/trainers and the supervisors/trainers oversee the Hearth volunteers. Good supervision at both of these levels ensures quality within the Hearth sessions and provides supportive feedback and guidance to address any problems that may arise.

As the project begins, both the project manager and the supervisors/trainers must participate in supervision of the Hearth sites. Since this is a skill that is learned with practice, it is recommended that project staff and supervisors/trainers do supervisory visits together as much as possible. As the supervisors/trainers gain experience, the project staff can turn over more and more of the site supervisory duties.

Supervisors/trainers should be available during the initial Hearth sessions to help the volunteers with any issues that come up. This is especially true in the first few days of each Hearth session when they check to make sure all the proper foods are being used, that the weighing is done accurately, and that the volunteers are encouraging caregivers and mothers to participate. Stagger the Hearth session startups to facilitate this presence in those crucial first few days.

The Observation Checklist and Caregiver Interview Guide are useful to assist the supervisor in assessing the quality of the intervention. The Supervisor Feedback and Trouble Shooting Guide provides a tool for summarizing the information gathered, reviewing it with Hearth volunteers, and guiding them in developing solutions. Reviewing records and interpreting the data is done together with the Hearth volunteer and provides quantitative evidence of the program's strengths and weaknesses. Sample supervisory forms are located at the end of this chapter and can be adapted to your program needs.

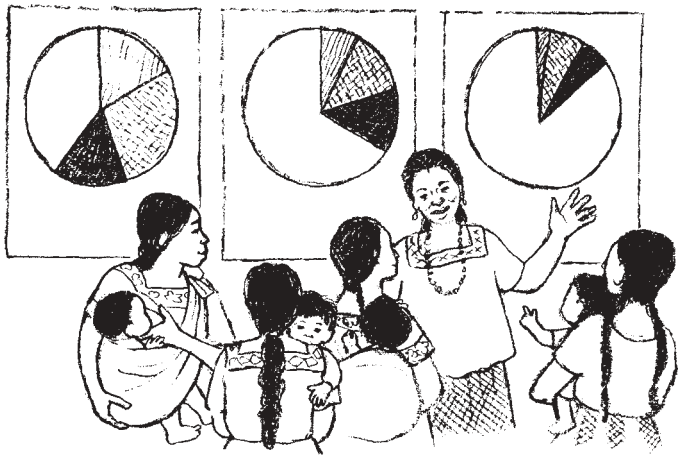
Additionally, staff and/or supervisors/trainers and volunteers should make periodic home visits to participating families during the Hearth sessions and for a period of two weeks to one month after the sessions end. Home visits provide the supervisor with valuable information about the feasibility of new practices in the home.

The supervisor helps the caregiver overcome any barriers encountered in the real-life home situation, reinforces key messages and provides support and encouragement for continuing to practice the new behaviors until they become routine. These visits are especially important for any child who failed to graduate from the Hearth session. The supervisor is often in a position to deal with issues that the Hearth volunteer cannot deal with alone. Through these visits, the supervisor supports the volunteer and ensures the success of the intervention while the volunteer learns the skills needed to assume responsibility for conducting the home visits alone.

Step 7: Support New Behaviors

STEP 7 **Support New Behaviors through Home Visits**

Behavior change theory states that we need at least twenty-one days of practicing a new behavior in order for it to become a habit. Hearth should be thought of as a four-week (twenty-eight day) exercise: two weeks working with peers in a group setting followed by two weeks of at-home practice with occasional supervision from a Hearth volunteer. In some communities, the Hearth volunteers visit the caregivers at home every day for two weeks to ensure that they are able to continue practicing the new behaviors. In other communities, villagers informally monitor their neighboring children's progress, with less frequent visits by the volunteers.



An important role of the volunteer in the follow-up visits is to ensure that the food is indeed 'extra'. A mother should not refuse the child his or her portion from the family pot because she is providing the extra meal and snack. The child needs this additional nourishment to gain the needed "catch-up" growth.

The most convincing argument for behavior change is visible change in the child. After two weeks of Hearth sessions, a child recovering from malnutrition becomes hungry and playful, losing edema (swelling) and/or beginning to gain weight. Mothers make the connection between providing extra food and seeing a dramatic improvement in appetite, general demeanor, and activity level of their children.

Hearth volunteers continue every month or every two months to record the weights and nutritional status of all children under three for whom they are responsible. They aggregate and share the growth data with the Village Health Committee and village leaders using community scoreboards visibly displayed at the community or health center. This monitoring system provides a powerful tool for communities to measure the improving nutritional status of their children and provide positive reinforcement to the caregivers.

A major component of the Hearth approach is community involvement and community-wide change. It is not simply about rehabilitating individual malnourished children and graduating them through Hearth sessions. It is also about raising community awareness of child malnutrition and having the community witness nutritional improvement through the hard work of their neighbors. When community leaders are kept abreast of the Hearth outcomes, they are able to realize its power. Without the community behind this effort, the power of the methodology is greatly reduced and potentially lost.

In Myanmar, the NGO staff posted results and photographs of the Hearth in local train stations. Curiosity was aroused and community members wanted to learn more. Such marketing is an effective way of spreading the word and promoting good nutrition.

Step 8: Repeat Hearth Sessions

STEP 8 **Repeat Hearth Sessions as Needed**

Many communities, once seeing the positive impact of the Hearth program, are anxious to share the technique with their neighbors or neighboring communities.

Children who remain malnourished are invited to join a Hearth session the next month, until the majority of all children in the community show adequate weight gain and growth. Graduation requirements and protocols for repeating Hearth are covered in Chapter 5.

Most communities repeat Hearth programs monthly or periodically for up to one year to rehabilitate all malnourished children. Results from the community-wide growth monitoring sessions determine when the Hearth can actually end. The community must then ensure that the new behaviors are sustained as the implementing organization moves on to another location.

"In the Green!"

A Program Director was visiting the Hearth project in rural Myanmar. He saw a young boy jumping around at a Hearth session as he proudly exclaimed, *"I'm in the green now! I'm in the green now!"* The boy was a recent graduate.

But once the boy saw the food that was being fed to the participating children that day, he changed his tune and tried to take it back by saying, *"I mean I'm in the yellow still."* The food looked so tempting, he was willing to pretend he still required the Hearth!

Many communities, once seeing the positive impact of the Hearth program, are anxious to share the technique with their neighbors or neighboring communities. This enthusiasm attracts those caregivers with malnourished children who might not have participated in the early Hearths.

QUESTIONS AND ANSWERS

What if mothers spend all day working in the fields or in a factory and are unavailable to attend the Hearth?

Attendance tends to be sporadic in the beginning of the program, with few participants attending all twelve days. Those participants who do, however, have children who perform better nutritionally. These children provide a good example to others and absenteeism drops off when the community witnesses the positive outcomes of attending a Hearth session. It still may be a challenge to select a good time when mothers or other caregivers are free. If the main caregiver is a grandmother or an older sibling, this person can accompany the child. Whoever feeds the child should learn the new, beneficial practices and then "train" the mother at home through example and discussion.

It still may be a challenge to select a good time when mothers or other caregivers are free: whoever feeds the child should learn the new, beneficial practices and then "train" the mother at home through example and discussion.

Do you let siblings attend Hearth?

The Hearth focuses on rehabilitating specific malnourished children. Other children should only be allowed to eat if there is left over or surplus food and the Hearth participant children have already eaten. If an older sibling is brought along, see if s/he can participate in some way such as helping with handwashing. The more household members exposed to Hearth messages, the higher the level of support for adopting these new behaviors within the home. If caregivers bring several children too old for Hearth, but still needing attention, one of the oldest children present may be tasked with taking them to an area some distance away to play so that mothers are not distracted and the noise level during food preparation and feeding is kept down.

Can a mother just send her child?

No. This is not a feeding program. A child cannot be sent alone for food and a messenger cannot come to pick up food for a child who does not attend. This defeats the purpose of a Hearth, which is based on behavioral change.

What about hungry, malnourished mothers who bring their malnourished children?

It is difficult to deny food to the mothers who are cooking and feeding their children. There are also benefits to having them taste the food. Consider adding extra ingredients to the allotted portions to enable the mothers to eat. This can be an opportunity to boost maternal nutrition, but the program emphasis naturally rests on feeding children. Link these mothers with income-generating projects or food aid.

What if a caregiver does not bring a contribution?

Caregivers who do not bring a contribution should not be permitted to attend the sessions. This avoids setting an unhealthy precedent. PD foods, by design, are inexpensive and accessible and using them should not entail an additional expense. By reprioritizing limited resources and shifting spending patterns, families can purchase more nutritious options. If a family is absolutely too

poor (as defined by the community) to contribute the PD food, then they may bring water or wood for fuel to the Hearth session.

How do you convince children with poor appetites to eat?

Never force feed a child. Allow children to eat slowly and a little at a time. Early childhood stimulation and interaction with the mother or caregiver are effective means for bringing the child around to enjoying her/his food. Try using songs, games, eye contact and interactive play.

Children who have finished their food should be given more until they are no longer hungry.

How can a child possibly eat so much during a Hearth and be expected to still eat from the family pot the rest of the day?

It may seem like a large quantity of food, especially for an anorexic child who is not interested in food. However, appetites generally are stimulated as a function of beginning to eat and anorexic children will become hungry again. Once they overcome their initial anorexia, they are more than happy to finish off the meal. Mothers should understand that Hearth food is extra and designed to help malnourished children catch up on their weight. This meal should not replace other calories being given at home. If the child does not get the extra calories, there is no hope of catch-up growth. Stress that the food is to be considered as medicine to make the child recover. Any child who has finished his/her food should be given more until he/she is no longer hungry. Be aware that a malnourished child may defecate immediately after eating. This is normal. Reassure the mother and show her to the latrine.

What do you do if malnourished children cannot finish their meal during the Hearth session?

Each participating child will be given a measured amount of food with the required caloric/protein content, so it is best not to dilute the effect. Once it is clear that the child will not eat anymore, the older sibling or mother can finish it. Leftover food should not be brought home. It is uncertain that the child will get it and microbes can multiply quickly in most prepared meals. The child's appetite may improve as the Hearth session progresses. Gradually increase the quantity of food. Often malnourished children will not eat much at the first few sessions since it takes several days for their bodies to adjust to high-calorie, nutritious food. If caregivers continue to encourage feeding at each session and throughout the day, children will soon regain their appetites.

QUESTIONS AND ANSWERS

What happens to the Hearth volunteers after the Hearth sessions are over?

Hearth volunteers often become the cornerstone of other health-related activities. As a result of the demonstrated success in rehabilitation of malnourished children, the Hearth volunteer gains community respect and becomes a trusted source of knowledge. She is now equipped with skills that she can apply to many other health activities.

What happens to the mothers?

The Hearth sessions provide an opportunity for women to come together in a safe, accepting and interactive environment. Women who may have felt isolated or insecure have been able to build relationships with others and share common concerns. An important outcome of the Hearth approach is the strong feeling of solidarity and friendship created among participants. After Hearth, women often create informal support networks and sometimes organize themselves into formal groups for breastfeeding support or income generation.

An important outcome of the Hearth approach is the strong feeling of solidarity and friendship created among participants.

The supervisor should fill out the form on this page for each Hearth session visited. Note if the items listed are present or not and record any comments that might be useful.

SUPERVISORY CHECKLIST FOR OBSERVING HEARTH SESSION

GENERAL INFORMATION

Date: Supervisor:

Village:

Hearth Day Number: Number of children attending:

Relationship of caregivers to children (e.g. mothers, grandmothers, older siblings):

ITEMS TO CHECK	PRESENT?		COMMENTS
	YES	NO	
Hearth site: *Environmental cleanliness *Presence of soap and water *Spacious and clean kitchen area *Mats for participants to sit on			
Hearth meal: *PD food contribution from each participant *Ingredients contributed by NGO *Consistency of food and portion per child *Snacks provided			
Caregiver practices: *Hand washing before processing food *Washing children's hands and face before and after feeding *Processing foods *Proper management of child with poor appetite *Good caregiver-child interaction in games and in general			
Volunteer skills: *Supervising other mothers at processing and cooking *Encouraging caregivers who are having trouble feeding their children *Good communication skills *Accuracy of records in the Hearth Book			

CAREGIVER INTERVIEW GUIDE	
GENERAL INFORMATION	
Date:	Supervisor:
Village:	
Hearth day #:	Number of children attending:
QUESTIONS	**ANSWERS**
General understanding 1. Why are you here with your child? 2. Do you think it is possible for a poor family in your community to have a well-nourished child? How?	
Visible changes in the child 1.Is the child getting better? How can you tell? 2.What changes (physical, emotional, or social) have you and other family members noticed in the child at home? 3. How much did the child weigh on the first day? Now?	
Food contribution 1.What did you contribute to the meal today? 2.Do you contribute food every day? Why? Why not? 3.Why are you using these special foods?	
Behavior change at home 1.What do you now do at home that you did not do before? 2.What are the things you used to do that you do not do anymore?	

The supervisor should use these questions to interview individual caregivers at the Hearth sessions and gain a better understanding of their knowledge and practices. Record direct quotes from participants as much as possible.

After completing the interviews, summarize the responses and develop one to two short profiles of the beneficiaries.

Using the results of the Supervisory Checklist for Observing Hearth Sessions and the Caregiver Interview Guide , the supervisor should itemize any problem issues in the Hearth sessions and guide volunteers and staff in developing solutions. This form provides a written record.

Supervisor Feedback and Trouble-Shooting Guide			
GENERAL INFORMATION			
Date:		Supervisor:	
Village:			
ISSUE AREAS	**STRENGTHS**	**WEAKNESSES**	**SOLUTIONS**
Caregivers: *Attendance and participation *Caregiver profile			
Hearth site: *Cleanliness *Soap and water *Kitchen area *Participant comfort			
Hearth meal: *Participant contributions *Purchasing of food *Portion size and consistency *Snacks			
Caregiver practices: *Hand and face washing *Processing of foods *Management of children *Caregiver-child interactions			
Volunteer skills: *Supervising mothers *Encouraging caregivers *Communication skills *Record keeping			
Caregiver knowledge, attitude and practice: *Understanding of the project *Reported behavior change			
Discussion of special topics (health education)			
Other topics			

CHAPTER SEVEN
Step 9: Expand PD/ Hearth Programs

STEP 9

Expand PD/Hearth Programs

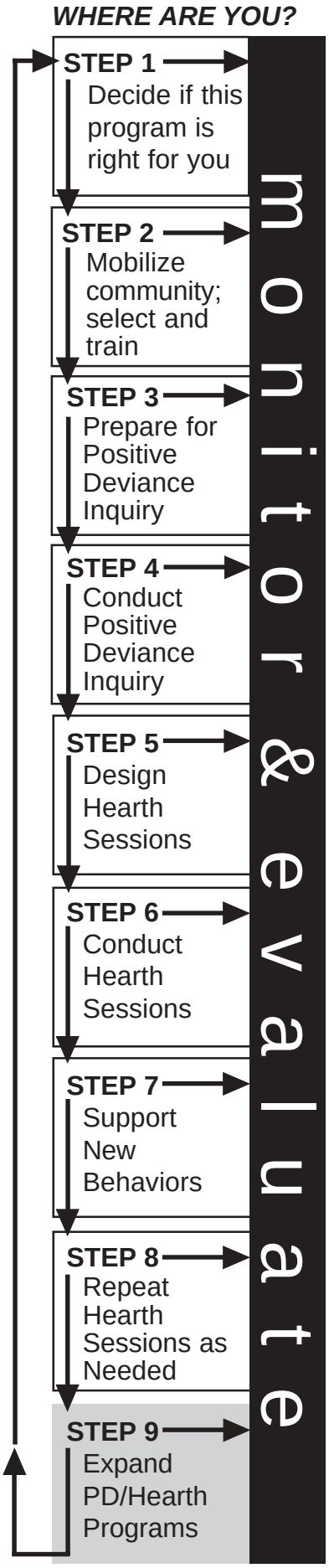
A. Develop a small successful model
B. Work out an expanded successful model
C. Expand the PD/Hearth program to the district level
D. Create a "Living University" or "Laboratory Site for Field Learning"
E. Support new graduates to return to their home base and begin replication

Approach to Scaling-Up

By design, Hearth groups are formed in small units at the neighborhood level. Scaling-up involves replicating a successful Hearth experience in other neighborhoods, first within the same village, then in neighboring villages and other communities in the region or district, and eventually on a national scale. It is important to start small and implement a strong, solid Hearth program. It is critical to monitor and evaluate this initial phase of the program to demonstrate that this approach can successfully work in the particular area. This program then serves as a model for other villages or organizations implementing the approach.

The idea of expansion needs to be built in from the beginning. If the implementing agency wants to expand the program to the district level and perhaps to other districts, a national Ministry of Health representative and the district health office management team should be involved early on in the process. Their participation in the monitoring and evaluation of the early model will help further their understanding of the potential impact of this approach and help ensure their commitment to its successful replication. While scaling up, remember to include only those communities that fit the criteria for effective locations for PD/Hearth (see Chapter 1).

Save the Children/Vietnam (SC/Vietnam) developed a five-step process for expansion of their successful PD/Hearth program, which ultimately reached over 2.2 million people in seven years.



Save the Children/ Vietnam began in four communities with a total population of approximately 20,000 people.

A. Develop a Small Successful Model

It is recommended that the PD/Hearth approach first be piloted in a few villages with a high incidence of severe malnutrition. This pilot project should be monitored and evaluated for effectiveness to ensure the process and tools produce the desired results (see Chapter 8).

B. Work Out an Expanded Successful Model

Once the PD/Hearth approach is validated, the program can be expanded to a larger number of communities. SC/Vietnam expanded the program from four communities to fourteen communities or from approximately 20,000 to approximately 80,000 people. At this stage, the approach often needs to be streamlined to focus on the key program aims of rehabilitating malnourished children, enabling families to sustain the rehabilitation of children at home on their own, and ensuring community ownership of the new child care, feeding and health-seeking practices.

Despite the fact that there were other health and social problems that might have been addressed, SC/Vietnam focused only on the feasible and sustainable PD/Hearth practices for expansion. This enabled SC/Vietnam to manage the staffing and supervision needs critical to maintain quality during expansion. Experience from the pilot program, combined with streamlining, enabled replication to be carried out faster than the initial implementation. Critical elements of the approach, such as the Positive Deviance Inquiry, were maintained to ensure community ownership.

After validating the streamlined approach and ensuring that it is both successful and replicable, program staff can adapt the curriculum, tools, and training materials accordingly.

C. Expand the PD/Hearth Approach to the District Level

The district-level staff should be involved in steps A and B to assist with assessing the program and developing the expansion strategy and tools.

Once the approach is seen as feasible and effective, the implementing agency can work with a district management team to determine the appropriateness of replicating the program at the district level, and to select those sub-districts and communities where this approach might be most useful. This step provides for Ministry of Health buy-in and ensures the necessary collaboration to support local program ownership, expand advocacy efforts for government funding and address possible policy implications. This step focuses on the transfer of roles and responsibilities for the program to the district health team. The district team can assume responsibilities for program management and problem-solving, as well as becoming a catalyst for PD/Hearth replication.

D. Create a "Living University" or "Laboratory for Field Learning"

Once the PD/Hearth program has been successfully tested and replicated, the knowledge and experience gained form the basis for a living laboratory where others can be trained in the approach and learn through "hands-on" experience. Staff develop a training-of-trainers (TOT) curriculum with which they train other implementers interested in the PD/Hearth approach. Trainees are selected from other districts, programs or institutions, preferably in teams of two to three persons per site, to attend one-to-two week courses. Attendance by teams encourages active involvement by partners and a team learning process that facilitates ultimate decision-making and implementation.

The successful PD/Hearth program becomes a living laboratory where potential new implementers from other districts and programs can learn the PDI approach through hands-on experience.

These courses take place at PD/Hearth field sites where trainees learn both theory and field practice by visiting villages/sites and participating in growth monitoring, the Positive Deviance Inquiry, and Hearth sessions in action. The curriculum also includes sessions on how to train others, and how to work with and mobilize communities. This participative, reflective and problem-posing training methodology is a new approach to many trainees and critical to the role-reversal needed for the PD/Hearth approach – that of community as teacher and trainer as facilitator.

A "Living University" Model Inspires Action

"I heard about the [PD/Hearth] model but I did not believe it could work. I thought it required a large budget and a lot of technical assistance. Only after visiting the [Living University] in Quang Xuong, Thank Hoa, did I think it might be applicable. In 1996, Save the Children/US began work in our province in the pilot two communes and I became more interested. I asked if I could attend the training at the Living University and was accepted. Two other provincial staff and twelve district staff from Quang Ngai also attended.

Soon we had 34 communes using the model. I knew it would be applicable in other communes, so I modified the program and used it in 21 additional communes as part of the National Nutrition Program."

From a discussion with Provincial and District officials recorded in ***"An Assessment of the Living University as a Mechanism for Expansion,"*** *David Pyle and Tricia Tibbetts, 2002, Draft. (1)*

E. Support New Graduates to Return to Their Home Base and Begin Replication

Each team returns to their project site and replicates PD/Hearth in two to four communities to determine if the approach is effective in their locale. The Living University training team consults with the new graduates for the first year to ensure that their pilot is successful, and to help them solve problems and discover opportunities. Once the pilot project is validated, the graduates work on expanding the model and creating their own mini living universities to further expand the PD/Hearth approach.

Results From the Field

World Relief Bangladesh, the **Hospital Albert Schweitzer** in Haiti, and **Save the Children Vietnam** each demonstrated the effectiveness of the PD/Hearth and contributed to lessons learned about scaling-up the approach. (2) Based on this work and trial and error by other country staff and organizations, the PD/Hearth approach is now being implemented in more than twenty-two countries. The following examples provide an idea of the possible variations used in scaling up PD/Hearth programs.

In Mozambique, the program started simultaneously in every "Care Group" organized by World Relief. A "Care Group" is a group of ten volunteer mothers who each represent and serve a block of ten households. The high level of pre-existing community organization enabled this approach to be effective and quickly expanded.

In Ethiopia, Christian Children's Fund started a small-scale PD/Hearth in a peri-urban slum area, close to their national office. This location facilitated close supervision and provided a convenient training ground for field staff from around the country who came to the capital city for national level meetings.

In Nepal, Save the Children/Japan and Red Barna from Save the Children/Norway partnered with more than 32 local NGOs to scale-up the program. Partnering with these groups led to greater institutional development and the opportunity to reach large, remote, and dispersed populations.

Succeeding at Expansion

Experience has shown that scaling up a PD/Hearth program requires more than a well thought out replication strategy. Expansion can take different forms, but there are several factors critical to the success of an expanded program.

♥ **Leadership/ownership:** In addition to the local ownership that is central to PD/Hearth, expansion requires a champion (or set of champions) to continue to motivate staff, maintain program visibility to political decision-makers and ensure adequate funding for expansion efforts.

♥ **MOH Support:** As previously stated, MOH involvement and support are critical to scaling up. The MOH can advocate for program support,

facilitate implementation in many communities, share important health data, assist with the continuity of health messages taught to communities, and contribute to better referral of severely malnourished or sick children to health care facilities. A good tracking of project costs and estimates of costs for going to scale can assist national decision-makers. Good innovations, proven successful in decreasing childhood malnutrition, can move from local communities up to national policy.

Expansion of PD/Hearth requires leadership as well as local ownership and Ministry of Health support.

♥ **Strong Monitoring and Evaluation Framework:** Evaluation data demonstrates program effectiveness, impact and the potential impact on larger populations. This is critical to convince others that this is a successful approach worth further investment. Monitoring data ensures that replicated programs maintain high quality standards and that any failures provide opportunities for learning and adaptation instead of undermining the expanded program.

♥ **Participatory Training:** The training of trainers should be based on sound adult-learning principles. Key concepts and steps of the PD/Hearth approach must be well understood. Each trainee must participate in actual hands-on fieldwork so that experience can be combined with knowledge. Each trainee should leave with new training, facilitation and community mobilization skills that promote community learning and ownership.

♥ **Flexible Implementation:** By definition, the PD/Hearth approach is community-specific. As such, it needs to be flexible and adapted to the local situation. The step outlined in this manual are guides developed through experience; they will need to be modified to best suit local conditions. When making changes to the PD/Hearth approach, monitor the program to ensure that the changes are successful. Within the local adaptation, there are several critical aspects of the process that must be maintained in order to effectively rehabilitate malnourished children. Refer to Chapter 1 for essential elements of a PD/Hearth.

♥ **Adequate supervision:** The initial implementing agency needs to provide supportive supervision, especially to volunteer staff, to build their self-esteem and confidence in implementing the PD/Hearth approach, and to develop problem-solving skills. As the PD/Hearth approach becomes replicated in more and more communities, monitoring of quality control indicators will help supervisors provide more focused and appropriate training on key steps of the program.

♥ **Good human resource practices:** Finding volunteers and staff with the right skill sets and addressing issues of staff turnover are important. People are critical to running a successful program. As such, good recruitment, training, and retention efforts are vital.

People are critical to running a successful program; good recruitment, training, and retention efforts are vital.

The selection of locally available and accessible Positive Deviant foods ensures that the community will be able to continue providing healthy meals for their children in the future.

Before Hearth

During Hearth

After Hearth

In the Future

♥ **Sufficient time to develop a feasible and affordable model:** Before replicating the PD/Hearth approach in many communities, it is important that the approach be streamlined, cost-effective and demonstrably successful at sustainably reducing malnutrition. The implementing agency will need to learn through trial and error; the best definition for high risk communities; strategies to engage the community; use of participative methodologies; adaptation of tools to train, monitor and supervise the program; and processes to use during the Hearth sessions.

Sustainability

Should the individual Hearth sessions be sustained?

The answer is no. It is the impact of the program that needs to be sustained, not the program itself. One of the reasons for setting the Hearth sessions up as non-permanent, moving sessions is to ensure that the emphasis is on behavior change in the home instead of creating dependency on a rehabilitative process outside of the home. At both the family and community levels, new behaviors are adopted and internalized to maintain a child's good nutritional status and prevent future malnutrition in all children.

The focus on identifying culturally acceptable behaviors based on local knowledge, along with the active community involvement and control are key creating a situation where behavior change is sustainable. The selection of locally available and accessible Positive Deviant foods ensures that the community will be able to continue providing healthy meals for their children in the future.

In addition to the decrease in childhood malnutrition, the PD/Hearth process empowers families and communities to tackle and solve other problems. The PDI develops both confidence and skills within the community for finding local solutions.

The impact of Hearth should be measured after one year and at the end of each subsequent year. Important questions to ask include:

- ♥ Has the child continued to follow the growth curve and have an adequate weight for his/her current age?
- ♥ Have the children who participated in the Hearth and graduated maintained their good nutritional status? Are they continuing to grow at the rate of the international standards?
- ♥ Are the siblings of the participating children also well-nourished?
- ♥ Has community-wide malnutrition been reduced?

See Chapter 8 for further guidance on monitoring and evaluation.

An Example from West Africa:
How Key Principles of the PD/Hearth Approach Promote Sustainable Development

1. PD/Hearth Optimizes and Enhances Community Potential

Community members explicitly and consistently formulate their understanding of the impact of the project on their lives. Through the Hearth sessions, they establish the link between good food and good health and connect the well being of the young child with restored family economic and psychological well-being. In Senegal and Mali, fathers reported that when the children were rehabilitated, their wives got more sleep, worked better in the fields, and consequently contributed more to the family income. Grandmothers reported that the whole village slept better.

2. PD/Hearth Respects the Cultural Context

In West Africa, raising and feeding the young child is not limited to the biological mother. The whole community is involved is raising a child and Hearth targets all these caregivers, especially the grandmothers. Traditionally, knowledge and practices are transmitted to young women by their mothers-in-law and Hearth sessions there use this approach. Communal eating is a fundamental aspect of the socialization process, teaching children how to share with others. Health education messages built into the Hearth sessions reinforce this tradition.

3. PD/Hearth is a Democratic Process

In the West African context, the approach unleashes the tremendous power of African villages to govern themselves. They discover and leverage their own resources, exercise solidarity through food contributions, and involve a broad constituency at the grassroots level (especially the imam and the grandfathers) in the decision-making. The PD approach enables ordinary individuals who practice positive, unordinary behaviors (the Positive Deviants) to be recognized and to contribute to their community.

4. PD/Hearth Involves the Community in Monitoring and Evaluating the Process

The PD/Hearth approach uses growth monitoring and promotion as a multi-purpose tool which enables the mother or other caregiver, other community members, and health workers, to work together to identify the problem, target children for rehabilitation, monitor their progress, and evaluate the effect of the program on the community in the short and long term.

Traditionally in West Africa, knowledge and practices are transmitted to young women by their mothers-in-law and Hearth sessions there use this approach.

Source: Diene 2000 (3)

CHAPTER EIGHT
Monitoring & Evaluation

M&E

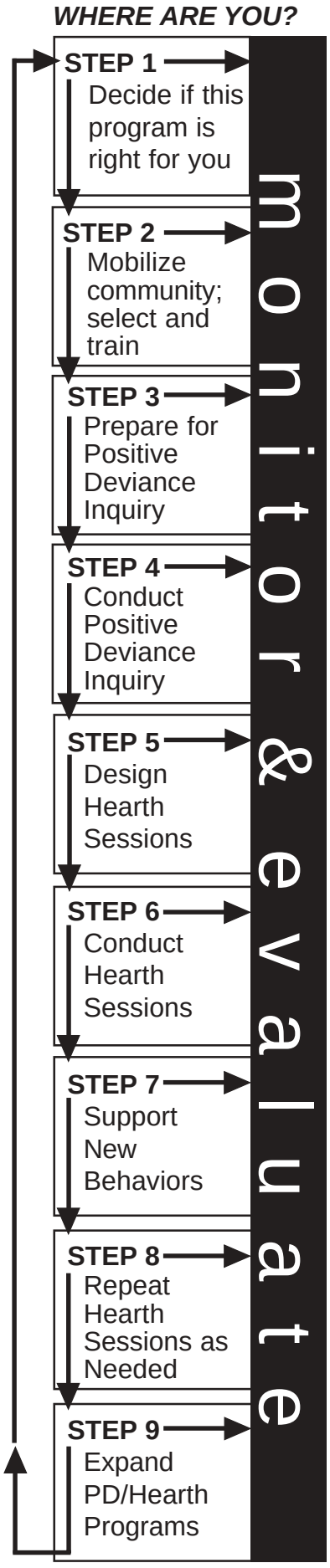
MONITORING AND EVALUATION

A. Select Project Results
B. Monitor Progress
C. Evaluate the Effectiveness and Reach of the Program

It is not enough to simply "buy in" to the concept of PD/Hearth and believe that it works. One needs concrete evidence, gathered through monitoring and evaluation, to prove that PD/Hearth is effective at reducing childhood malnutrition. Fortunately, the PD/Hearth approach presents clear evidence when children either gain or do not gain weight. After one 12-day Hearth session, many severely malnourished children start to exhibit changes in alertness, physical activity and appetite. Changes in weight follow. When a child's weight is measured and interpreted, using international or local standards, success or failure of the intervention is indicated. Program children are weighed on the first and last day of each session.

A child's rate of weight gain is compared to standards (see Table 4.5 for weight-for-age standards). Program success is based on the original goals selected. If the goal is to rehabilitate all children participating in the Hearth, the program is considered successful when the children's weight has increased. When the goal is to sustain the enhanced nutritional status over time and/or prevent malnutrition in younger siblings, success will be determined based on the results collected over time through growth monitoring promotion.

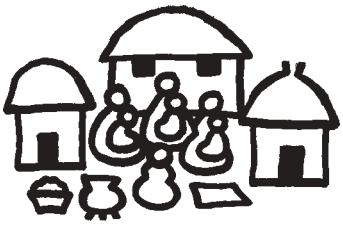
Monitoring determines whether desired results are being achieved. It is ongoing, routine, and usually quantitative. It involves collecting data, calculating indicators (practical, reliable, objective measures that "indicate" whether a program is on track) and comparing the indicators to the preset targets. ***Evaluation*** is an occasional, selective, often partially qualitative, inquiry into a specific programmatic question, such as "How or why were the results (not) achieved?"



PD/Hearth evaluations in several countries have demonstrated impact among three populations:

1. Participating children – directly through receiving the Hearth meals and benefiting from caregiver behavioral change;

2. Participating children's siblings – as caregivers adopt new behaviors, other children in the family also start to show lower rates of malnutrition (in control studies in Haiti and Viet Nam); and



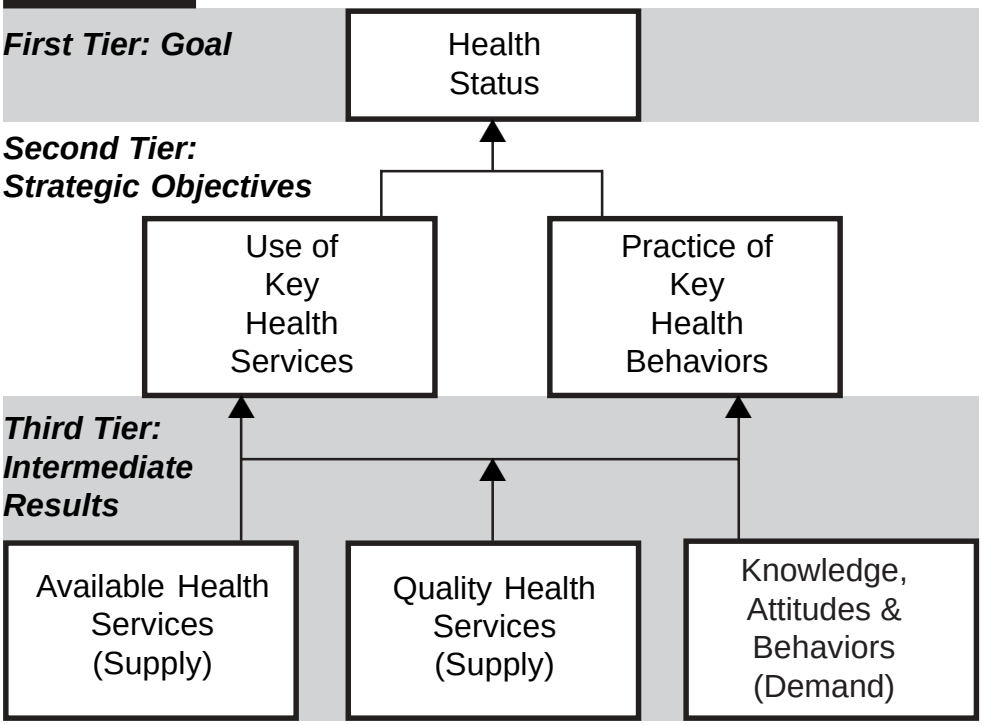
3. Communities at large – a "spread-effect" occurs whereby demonstrably effective PD behaviors become the norm and all children in the target age group show improved nutritional status.

A. Select Project Results

In order to monitor and evaluate PD/Hearth, it is important to have clear desired results against which progress can be measured. Chapter 3 discusses setting goals and objectives together with the community. A results framework (Figure 8.1) help to understand the interaction among program goals, objectives, and intermediate results. Each level builds on the next. In order to achieve the goals, the objectives must be met, and in order to achieve the objectives, the intermediate results must be met.

This framework enables program staff, Hearth volunteers, and partners to better understand how the program works and how each part of the program plan supports achievement of the ultimate goal. This understanding guides the selection of strategies and activities to best achieve the desired results as well as targets and indicators to measure progress.

FIGURE 8.1 PD/Hearth Results Framework



The top tier of the results framework represents the ultimate project goal – good health status, which is generally measured by mortality, morbidity and/or nutritional status.

PD/Hearth programs usually seek the following goals:

- ♥ Malnourished children are rehabilitated
- ♥ Families are enabled to sustain the rehabilitation of these children at home on their own
- ♥ Malnutrition is prevented among the community's other children, both current and future

The middle tier, the strategic objectives, represents the two common pathways to achieving good health status that are within the program's control:

1. Use of key health services (e.g., growth monitoring, Hearth sessions, immunizations, supplementation with Vitamin A, or curative care for danger signs, etc.)
2. Practice of key health behaviors (i.e. feeding, caring, hygiene, and health-seeking practices)

The third tier, the intermediate results, supports the strategic objectives and includes those items that impact on both supply and demand. In order for caregivers to use the Hearth sessions and incorporate the key health behaviors, the sessions must be:

1. Available (supply-side)
2. High quality (supply-side)
3. In demand by the community based on their knowledge, attitudes and behaviors (demand is influenced by community norms and beliefs as well as self-efficacy)

This results framework is broad enough to inform a national health strategy or a local Hearth project. Each of the tiers can be adapted based on the goals, strategic objectives, and intermediate results for specific health programs.

B. Monitor Progress

Hearth programs seek a goal-level result (decrease in morbidity due to malnutrition) that can be regularly monitored.

Health programs generally seek to measure results at the strategic objective level (second tier) or intermediate result level (third tier) of the results framework. Goal level (first tier) change in the target health population is often more long term and generally not easily measured through routine monitoring. Based on the results framework, an assumption is made that achieving strategic objectives and intermediate results will lead to the goal level result. Costly surveys conducted over a long period of time are often needed to assure that the desired first tier goals are eventually achieved. Hearth programs present a "special case" in that they seek a goal-level result (decrease in morbidity due to malnutrition) that can be regularly monitored.

Hearth programs monitor both an individual child's health nutritional status and community nutritional health status. Each caregiver receives a growth chart that shows progress of a child's nutritional status. With this information, the caregiver is motivated to take actions and practice household behaviors that will improve the child's growth. Project staff can provide special counseling and referral to health services to help the child get appropriate care to ensure good growth. Monitoring of the community's nutritional health status shows that the program is reaching a significant portion of children and that positive practices have become part of a new community norm, enabling children and their siblings to maintain good growth.

Community growth monitoring is an effective and beneficial collaborative practice. The information gained by having such surveys or the sharing of health status is very important. However, monitoring is only as good as the data collected. There have been examples of projects that seem to achieve results only to later learn that the baseline figures were manipulated so as to make it seem that there was more community input and higher weight gain. In this case, information regarding such an incident would be helpful to prevent future incorrect results. A monitoring plan using a few indicators for the strategic objectives (second tier) and intermediate results (third tier) will help project supervisors track progress and identify problems early on so that they can be corrected.

Select monitoring indicators that are practical, reliable and objective measures of program progress. Indicators are only useful if they inform decision-making.

1. Select Appropriate Indicators

As stated earlier, monitoring involves collecting data, calculating indicators and comparing the indicators to the preset targets. It is important to select indicators that are practical, reliable and objective measures of program progress. Indicators will vary based on project needs and conditions, but need to have clear definitions. Table 8.1 provides sample indicators organized by tiers within the results framework. Some listed indicators have internationally accepted definitions. Most do not. Many include an "X" which represents a phenomenon that needs to be locally defined. Those without an "X" still need to be clarified before being used. For example, what exactly does "number or percentage of new births recorded" mean? Are you going to include just live births or all births, and how soon should the recording take place?

Indicators at a given result level allow inferences to be made about processes at lower levels. Good use of Hearth services implies that the services are available. On the other hand, a low level on the use of Hearth services indicator necessitates a review of all lower level indicators to determine the cause of the problem. For example, low use of GMP services might reflect low availability of GMP services that, in turn, might reflect missing inputs, such as scales. Remedying a problem might require the temporary use of additional indicators. Namely, poor Hearth attendance might require Hearth facilitator retraining and a limited-time, intensive monitoring of several aspects of Hearth quality.

TABLE 8.1 Sample Indicators for Growth Monitoring & Hearth Programs

RESULT	
Growth Monitoring Promotion	**Hearth**
Health Status[1]	
# **(%) Children** less than age X with normal "green" nutrition (> -2Z WFA) (X = 2, 3, 5 years, etc.) # **(%) Children** less than age X with mild "yellow" malnutrition or moderate malnutrition (> -3 Z and < -2 Z WFA) (X = 2, 3, 5 years, etc.) #**(%) Children** less than age X with severe "red" malnutrition (< -3Z WFA) (X = 2, 3, 5 years, etc.) Overall nutritional status of children less than age X (mean WFA Z-score) (X = 2, 3, 5 years, etc.)	**Overall** nutritional status of population X (mean WFA Z-score) (X = Hearth graduates, Hearth graduates by presenting nutritional category, younger siblings of Hearth graduates, etc.) # **(%) Hearth children** who "graduated" from Hearth, i.e., who were rehabilitated or gained more than 400 grams within 2 months # **(%) Hearth children** who did not "graduate" from Hearth, but who gained 200- 400 g within 2 months (first vs. second Hearth) # **(%) Hearth children** who did not "graduate" from Hearth, but who gained < 200 g within 2 months (first vs. second Hearth) # **(%) Hearth children** who did not "graduate" from Hearth, and who did not gain weight # **(%) Hearth children** who did not "graduate" from Hearth, and who lost weight # **(%) Hearth children** who demonstrated X (X = physical, emotional, or social attribute)
Use of Key Services[2]	
# **(%) Target population who** participate in GMP # **(%) Children** age 6-23 months who received a Vitamin A dose in last six months # **(%) Children** age 12-23 months who received all vaccinations before 1st birthday (card-confirmed)	# **(%) Eligible** malnourished children enrolled in Hearth # **(%) Enrolled** malnourished children who participate in Hearth at level X (X to be defined) # **(%) Caregivers** of Hearth attendees who are X (X = mothers, grandparents, siblings, etc.)
Practice of Key Behaviors[3]	
# **(%) Caregivers** who report that their infants, 6-9 months of age, received complementary feeding and breastmilk in last 24 hours # **(%) Caregivers** who report that they practiced active feeding with their infants, 6-24 months of age, in last 24 hours # (%) **Caregivers** who report that they fed their child, age 6-24 months, X times, in last 24 hours in addition to breastfeeding (X varies with age) # **(%) Caregivers** who report that they fed their infants, 6-24 months of age, food X in last 24 hours (X varies with season and age), among those children with diarrhea in the last two weeks # **(%) Caregivers** who report that they increased fluids during the illnessAmong those children with diarrhea in the last two weeks, # **(%) Caregivers** who report that they offered the same amount or more food during the illness among those children with diarrhea in the last two weeks # **(%) Caregivers** who report that they offered more food during recuperation from illness # **(%) Caregivers** who report usually handwashing with soap/ash before food preparation or child feeding, after defecation, or cleaning child who defecated # **(%) Households** with a designated handwashing facility with soap or other cleansing agent present # **(%) Caregivers** who report that they and/or family members provided cognitive and linguistic stimulation to their child in the last 24 hours # **(%) Fathers** who report that they provided resource X for the child in the last month (X to be defined)	

TABLE 8.1 FOOTNOTES:

1 ***Health status*** for GMP refers to nutritional status of the community as a whole; whereas, health status results for the Hearth are confined to Hearth participants.

2 ***Use of key services*** is restricted to coverage of either the GMP or the Hearth, with the denominators representing the relevant eligible populations. More traditional measures of health service utilization (i.e., timely complete vaccination, use of Vitamin A supplements, care-seeking for fever, etc.), can be added, especially since these are associated with nutritional status and are often part of Hearth health education.

3 ***Both interventions (GMP and Hearth)*** focus on changing the same household behaviors.

Service Availability[4]	
# GMP sessions per quarter scheduled **# (%) scheduled** GMP sessions that actually occur	**# Hearth sessions** per year scheduled **# (%) scheduled** Hearth sessions that actually occur **# (%) scheduled** Hearth days that actually occur per session or per year
Service Quality	
# (%) GMP workers who weigh accurately **# (%) GMP workers** who plot weight accurately **# (%) GMP essential equipment** available (supplies, scale, scoreboard, supervisory checklist, etc.) **# (%) New births** recorded **# (%) Deaths** among target group recorded **# Community volunteers** enlisted on community management team **# (%) Community volunteers** participating in community sessions among those enlisted **# (%) X** who know Y (X = community leaders, community management team members, GMP implementers, etc.; Y = optimal child care practices; community nutritional status, etc.) **# (%) GMP implementers** who report receiving supervisory visit according to standard X (X = #, form, feedback, training, problem-solving, record review, etc.)	**Dietary and feeding behavior assessment** conducted according to standard X (to be defined) **PDI conducted** according to standard X (to be defined) **PDI analyzed** according to standard X **# (%) Hearth menus** reflect X (X = local PD foods, nutrition balance, etc.) **# (%) Hearths** with a designated hand-washing facility with soap or other cleansing agent present **# (%) Hearths** with sanitary disposal of feces **# (%) Hearths** with health education given according to standard X (X = appropriate message, interactive method, culturally appropriate, etc.) **# (%) Caregivers** who contribute food at Hearth on X number of days/session **# (%) Caregivers** who feed child at Hearth on X number of days/session **# (%) Caregivers** who help prepare Hearth meal on X number of days/session **# (%) Hearth** facilitators with data X (X = name, gender, age, weight, etc.) **# (%) Hearth** facilitators who know X (X = purpose of food contribution, caregiver's responsibility, goal of Hearth, PD foods and behaviors, etc.) **# (%) Hearth** facilitators who report practicing key household behavior X **# (%) Hearth** facilitators who implement Hearth according to standard X **# (%) Hearth** facilitators who report receiving supervisory visit according to standard X (X = #, form, feedback, training, problem-solving, record review, etc.) **# (%) Hearth** facilitators who conduct Hearth follow-up activities according to standard X
Demand	
# (%) Caregivers who understand the significance of the colored zones on X (X = road to health care, community scoreboard, etc.) **# (%) Caregivers** who know child's nutritional status **# (%) Caregivers** who believe that they can successfully reduce X (X = their child's or their community's childhood malnutrition problem, etc.) **# (%) Caregivers** who value child wellness (to be determined)	**# (%) Caregivers** who know X (X = purpose of food contribution, caregiver's responsibility, goal of Hearth, PD foods and behaviors, etc.) **# (%) Caregivers** who believe that they can transfer new problem-solving or mobilization skills to other community challenges
# (%) Communities that received X (X = scales, logs, IEC material, etc.) **# (%) Volunteers** trained in GMP skills **# (%) Volunteers t**rained in GMP supervision **# (%) Communities** with Community Management Team	**# (%) Communities that** received X (X = Hearth food, logs, IEC material etc.) **# (%) Volunteers** trained in Hearth facilitation skills **# (%) Volunteers t**rained in Hearth supervision **# (%) Communities** with Community Management Team

4 **Availability and quality** of services refer to the specific interventions.

5 **With the exception of knowledge, the demand** side indicators may be difficult to measure with confidence. Several indicators are valid for either intervention.

6 This row is separated from the body of the table because it does not illustrate results but represents key inputs for each intervention.

Once you select strategies and activities, you can review the sample indicators to identify a short-list of potentially suitable ones. Adapt them to your local setting, establish targets, determine how you will track them, and try them out. Indicators are only useful if they inform decision-making. If the selected indicators are useful in guiding your project, keep them and continue monitoring. If they are not useful, either modify them or select different indicators.

2. Establish Targets

Determine the target levels for each indicator and the point in time at which you plan to achieve these levels. Targets are based on an understanding of the current situation (i.e., percentage of malnourished children, percentage of caregivers breastfeeding exclusively for almost six months, etc.) and a realistic assessment of what is possible to achieve within a timeframe. The Ministry of Health, UNICEF and other agencies should have data available from other programs that will help you decide the level of change you can realistically expect.

Targets are based on an understanding of the current situation and a realistic assessment of what is possible to achieve within a timeframe.

TABLE 8.2 Sample Indicators and Targets for Projecting Healthy Growth

	Indicator	Target	Result Type
1	Children <24 months of age with normal nutrition (> -2 Z WFA)	60%	Health Status
2	Children < 24 months of age severely underweight (< -3 Z WFA)	<1%	Health Status
3	Exclusive breastfeeding among children 0-6 months of age	40%	Behavior
4	Complementary feeding among children 6-9 months of age	75%	Behavior
5	Use of community Hearth sessions by eligible children and caregivers	95%	Service Use
6	Caregivers attending Hearth sessions contribute food	80%	Service Quality
7	Community growth monitoring volunteers correctly weigh children	90%	Service Quality
8	Caregivers know local positive deviance foods and behaviors	80%	Knowledge

Note that the selected indicators cover all tiers of the results framework from health status to knowledge. By listing the indicators, it becomes clear that the eight results are ambitious, require gathering data from different populations, call for varied measurement strategies, and leave at lot of other results unmeasured.

3. Determine How to Track the Indicators

Let us next consider how we might track these indicators. A good starting point is a monitoring system planning matrix (Table 8.3) which lists for each indicator: who will gather the information, where it will be gathered, the source of the data, the form to be used, how often the data is to be collected and its ultimate use.

This Planning Matrix makes clear that even with just eight indicators, the monitoring system is complex. Four different cadres of workers will collect data in three different settings using various informants and forms. When the Program Designer confronts these demands, s/he may decide to simplify to an even shorter list of indicators.

The "Use" column relates to the UNICEF "Triple A" cycle for continuous monitoring:

Assessment,

Analysis and

Action

(see page 164).

TABLE 8.3 Monitoring System Planning Matrix

	Indicator	Who Gathers	Where	Data Source	Form Used	Frequency	Use
1	% < 24 mos with normal nutrition	GMP Supervisor	Community Management Team Meeting	Aggregated nutritional status of all children < 24 mos	Summary GMP attendance	Every month	Assess trend in light of all other data and targets
2	% < 24 months with severe malnutrition	GMP Supervisor	Community Management Team Meeting	Aggregated nutritional status of all children < 24 mos	Summary GMP attendance	Every month	Assess trend in light of all other data and targets
3	% Exclusive breastfeeding 0-6 mos	GMP Volunteers	GMP	Convenience sample of 10 caregivers	Behavioral monitoring tool	Every other GMP	Review, modify BCC activities at GMP and Hearths
4	% Complementary feeding 6-9 mos	GMP Volunteers	GMP	Convenience sample of 10 caregivers	Behavioral monitoring tool	Every other GMP	Review, modify BCC activities at GMP and Hearths
5	% Use of Hearth	Hearth Supervisor	Community Management Team Meeting	Aggregated participation of malnourished children < 24 mos	Summary Hearth attendance	Every month	Review, modify quality, availability, community mobilization
6	% Care givers contribute food at Hearth	Hearth Supervisor	Hearth	Hearth facilitators' report of contributions	Hearth volunteer roster book	1 to 2 days (unannounced) about every other Hearth session	Recognize exemplary and lagging practice (and retrain as needed)
7	% Volunteers weigh correctly	GMP Supervisors	GMP	Convenience sample of 3+ different weights by each volunteer	Weighing monitoring tool	Every other GMP	Recognize exemplary and lagging practice (and retrain as needed)
8	% Knowledge of PD foods/ behaviors	GMP Volunteers	GMP	Convenience sample of 10 caregivers	Behavioral monitoring tool	Every other GMP	Determine penetration of method and need for re-mobilization

4. Select, Adapt and/or Develop Monitoring Tools to Measure Results

An effective monitoring system needs good monitoring tools. Tools are forms with clear instructions for completion, computation and use. Following are examples of tools that can be used based on the indicators selected in Table 8.3. It is impossible to foresee all the monitoring tools that managers may require. Our examples serve only as guides to stimulate thinking.

HEALTH STATUS INDICATORS

Community-wide nutritional status (in our example: "percentage of target children < 24 months with normal nutrition status" or "percentage of target children less than 24 months with severe malnutrition") is calculated based on data from regular growth monitoring of the target group.

e.g.: (# children <24 mos. with severe malnutrition / total # children weighted) X 100 = percentage of children <24 months with severe malnutrition

Numerators come from the numbers of children in each nutritional status category, while the denominator is the total number of children weighed at the given GMP. Low participation levels, however, will make the resulting percentages difficult to interpret because the most malnourished children are typically among the least likely to use services. Therefore, the calculated percentage of children with severe malnutrition may be underestimated.

Low participation levels will make the resulting percentages difficult to interpret because the most malnourished children are typically among the least likely to use services.

In order to address this issue, we need to include an indicator of service use (in our example: "percentage of eligible children and caregivers using GMP").

e.g.: (# children < 24 mos. weighed at GMP session / total # of children < 24 mos. in community) X 100 = percentage of children <24 mos. using GMP service

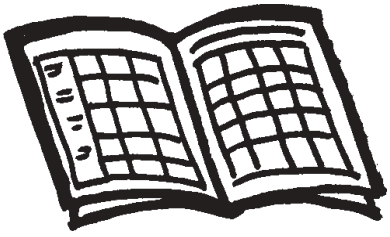
Again, the numerator is the number of children weighed at a given GMP. This is not straightforward, however, since the membership in the target group is fluid. Once children are older than the cut-off (i.e., 24, 36, 60 months), they should not be included in either the numerator or the denominator. The denominator presents challenges, too, since it increases through births and in-migrations and decreases as children leave the target group through death, out-migration, and aging. Thus, tracking vital events to adjust the denominator of the target population is important. This can be complicated and costly, however. Quarterly updates should suffice.

e.g.: 12/50 children < 24 mos. were found to be severely malnourished in a growth monitoring session (24%); however there were 80 children <24 mos. identified in the community meaning that only 50/80) children used the service (63%). This will tell you that it is very likely that the percentage of malnutrition in the community is greater than 24%, and that you will need to work with the community to seek out those children who did not attend, weigh them, and offer their caregivers the opportunity to participate in a Hearth if they meet the criteria.

Vital Events Monitoring
Forms 8.1, 8.2 and 8.3 provide samples of forms for monitoring births, deaths, and in/out migrations respectively. These are useful for calculating the denominators needed in several indicators.

GMP and Hearth Rosters
Forms 8.4 and 8.5 provide samples of GMP and Hearth roster books. These books are kept throughout the intervention and provide the volunteers with a place to track weight, nutritional status, Hearth contributions, etc. by child.

GMP and Hearth Tools for Compiling Results
Forms 8.6, 8.7 and 8.8 provide samples of forms for compiling and calculating GMP and Hearth results across villages and time.



Books are kept throughout the intervention and provide the volunteers with a place to track weight, nutritional status, Hearth contributions, etc. by child.

USE OF HEARTH SERVICES
The indicator "percentage of eligible children using Hearth," uses numerators and denominators from two different sources. The numerator is the number of children actually attending the Hearth sessions or the number of children enrolled in Hearth. While the number of enrollees is easier to calculate, it will overestimate use of the service since not all enrollees attend. Moreover, not all attendees use the service enough to actually benefit. Thus, the manager will have to define "usage" of the program. One solution might be to count children who attended 85% (i.e., 10 of 12 days) of a given Hearth session.

While the number of enrollees is easier to calculate, it will overestimate use of the service since not all enrollees attend. Moreover, not all attendees use the service enough to actually benefit, thus the manager will have to define "usage" of the Hearth program.

The denominator is the number of children identified in the nutritional assessment as having a specific malnutrition status (specific status defined by the project). The percentage of children with this malnutrition status who attend Hearths (at an intensity defined by the manager) yields the indicator, "percentage of eligible children using Hearth." Note that the definition of "use" can vary over the life of the project. It could start with the number of enrollees as a measure of initial community involvement. With demonstrated community buy-in, it could count

any attendee, regardless of level. Later it could, after increased mobilization, have a higher standard to count only optimal attendance. Remember though, that indicators can only be compared over time when the definition of the numerator and denominator remain constant.

BEHAVIORAL MONITORING TOOL

The proposed indicators to monitor behavior ("percentage of target children zero to six months of age being exclusively breastfed" and "percentage of target children six to nine months of age receiving complementary feedings") can be calculated by using the behavioral monitoring tool (Form 8.9). Directions for computing the indicator are included with the form at the end of this chapter. This format can be modified to track the reported practice or knowledge of other key project messages. The age range can be adjusted based on the target behavior and total population size. This method of data collection is not a substitute for a survey. The sample is small and not random and the method of interview is uncertain. Nonetheless, if aggregated from several sites, over time, this tool can allow the manager to cautiously conclude whether there are persistently low levels of the target behavior or if there has been improvement. At worst, it is an "intervention" indirectly promoting the key behavior by asking about its existence. In addition, behavior change can be matched to a quantitative indicator of success (weight gain or reaching desired nutritional status).

The behavioural monitoring tool is not a substitute for a survey. Nonetheless, if aggregated from several sites, over time, it allows managers to cautiously conclude whether there are persistently low levels of the target behavior or if there has been improvement.

WEIGHING MONITORING TOOL

The final example, a Weighing Monitoring Tool (Form 8.10), informs our selected indicator, "percentage of volunteers who weigh children correctly." Again, the manager will have to decide the definition of "correct weighing," an admittedly complex process. Note that, as in the attempt at monitoring behavior described above, monitoring weighing skills will provide an excellent opportunity to refresh these skills. Indeed, after one or two such monitoring episodes, the manager may observe ideal behavior and want to decrease the intensity of tracking this particular quality indicator and add others, ideally selected in dialogue with those who will be monitored. Unannounced "surprise" monitoring of earlier mastered skills may further motivate volunteers to maintain proficiency.

Monitoring weighing skills will provide an excellent opportunity to refresh these skills. Indeed, after one or two such monitoring episodes, the manager may observe ideal behavior.

5. Compare the Indicators to the Pre-set Targets

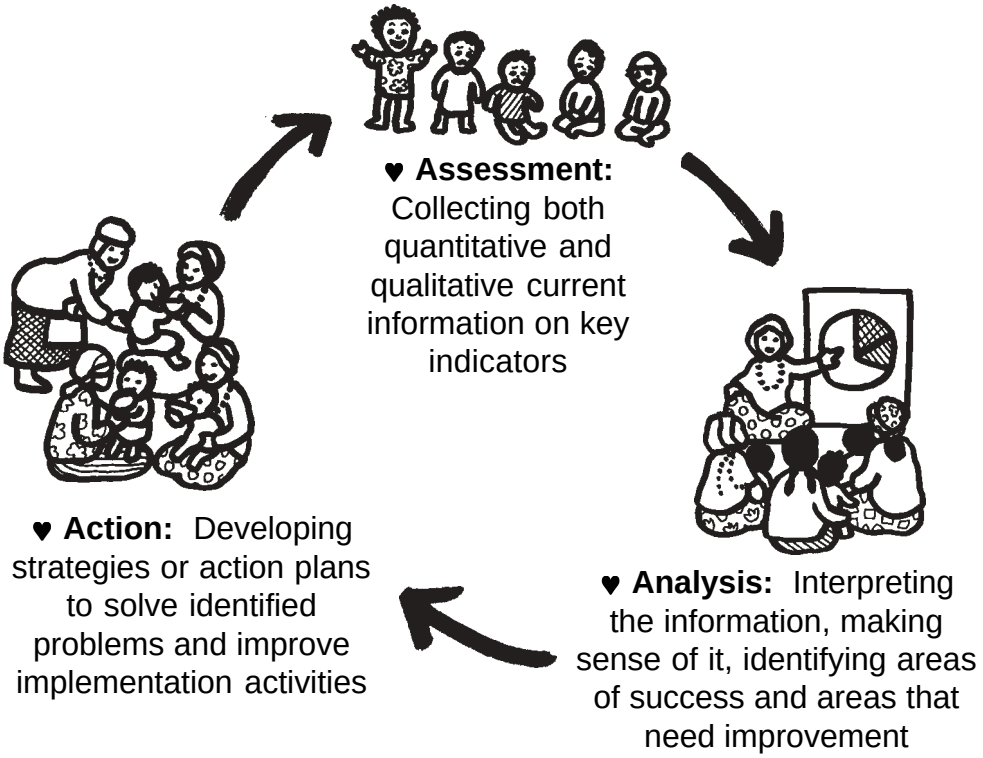
A simple graph, with actual performance plotted against pre-plotted targets by quarter, can clearly communicate progress for the Project Manager and others.

6. Report Back on Program Progress to the Community

Feedback to the community, or community monitoring of the project, is essential to motivate individuals, mobilize groups, increase community ownership, stimulate discussion and problem-solving, and celebrate achievement. Monthly or bi-monthly meetings using UNICEF's "Triple A" cycle of assessment, analysis and action complete the cycle of the continuous monitoring process. The "Use" column for indicators in Table 8.3 relates to the Triple A cycle.

Feedback to the community, or community monitoring of the project, is essential to motivate individuals, mobilize groups, increase community ownership, stimulate discussion and problem solving, and ... celebrate!

The Triple "A" Cycle Consists of:



Community "scoreboards" can track key indicators, especially those identified by the project committee with community input. The results to track would clearly include the level of child malnutrition. Scoreboard methods should allow tracking key measurements over time. Chapter 3 provides several methods for graphically presenting data to the community.

C. Evaluate the Effectiveness and Reach of the Program

Evaluation literally means to assess the value of something. It is a very important step in the overall process, providing an opportunity for all the stakeholders and actors to take ownership of the achievements and successes of the project, identify and analyze any problems, and provide recommendations for future implementation.

Evaluations answer specific questions. The type of evaluation is determined by the questions being asked, who is asking them, and what resources are available to answer them. The following series of questions illustrates various

evaluation strategies. For more information on carrying out a participatory evaluation, see Chapter 6 of *How to Mobilize Communities for Health and Social Change* (see Resource Section).

Did the Hearth project deliver its planned results?

Internal project monitoring, especially in relation to health status changes, will suffice in certain situations. If the project was well implemented, the gratifying improvement in health status is expected. Another scenario could be the one-hundredeth iteration of a project that had had multiple earlier evaluations that supported the effectiveness of the model. In this case, internal project monitoring might satisfy even the most discerning critics, such as government or multilateral partners.

Did the Hearth project REALLY deliver its planned results?

The distinction here is that the questioner will not settle for internal monitoring alone, either because the model or the setting is new, because s/he is interested in outcomes not reliably measured by monitoring alone (e.g., household behaviors), or because s/he has a legitimate reason to doubt the conceptual basis of the model. Such a situation calls for external measurements supported by additional resources. Typically, baseline and final surveys shed light on these questions. Researchers pay careful attention to sample size, among many other considerations, so that the design has the biostatistical power to detect the anticipated change in the indicator(s) related to the central question. Stronger designs employ similar measurements in comparison (control) communities who do not receive the intervention. The difference in the results between the experimental (Hearth) and control communities allows the researcher to factor in changes due to non-program effects, such as weather, socioeconomic factors, and the like (confounding variables). Still stronger designs randomly assign communities to either Hearth or control status to equalize confounding variables and to quantify the certainty of the findings.

Under some circumstances, finding out if the Hearth project really delivered its planned results may call for external measurements, supported by additional resources, typically baseline and final surveys.

How much better was the Hearth project than the non-Hearth project?

This common evaluation question calls for comparing two models – a reasonable question in the common context of scarce resources and possibly – exaggerated claims. This design requires two or even three arms, (i.e., a Hearth arm, a non-Hearth intervention arm, and possibly a control arm with neither intervention to allow comparisons). An important embellishment could include a cost analysis, since the more effective model might be too expensive.

How did the Hearth project deliver its planned results?

This question aims to understand how the good results actually came about. For example, internal project monitoring has repeatedly confirmed that Hearth programs improve the nutritional status of their beneficiaries; however, few evaluations have measured the intermediate behaviors, let

alone incidence of morbidity. No Hearth evaluation, to our knowledge, has attempted to measure both behavior change and behavioral determinant change. Answering this family of questions would likely require a combination of quantitative baseline and final surveys and qualitative techniques, such as key informant interviews and focus group discussions with caregivers, community leaders/opinion-makers, and volunteers.

Which indicators of Hearth quality are the most useful?

This illustrates a specific, but practical, question that deals with the process of Hearth implementation. As stated above, good indicators have certain characteristics, one of which should be a strong association with higher-level results. In other words, which Hearth quality indicators best predict improved caregiver behavior or child nutritional status? If there were a handful of key quality indicators (such as mothers' daily contributions, attendance, or knowledge of PD foods), then program quality monitoring could be more efficient. This special study would require linking Hearth quality data with other results, resources permitting.

An evaluation of Hearth sustainability at the community level might assess health status among former beneficiaries or among those born after the project ceased, household behavior change, attitude change among key community members, or community management structures, among others.

Are the Hearth results sustainable?

Sustainability evaluations are uncommon since scarce resources are rarely allocated to study communities that a project no longer targets. Sustainability at the community level could assess health status among former beneficiaries or among those born after the project ceased, household behavior change, attitude change among key community members, or community management structures, among others. Quantitative surveys could measure anthropometric (weight and height) measurements and reported household behavior. Qualitative inquiries could look at whether there were changes in attitude like: complacency about child malnutrition, confidence of caregivers and volunteers, community problem-solving including applying PD to new challenges, status and function of relevant community structures, and the like.

It is advisable to conduct a summative evaluation with an external evaluator and team after one to two years of Hearth implementation. Table 8.4 provides a sample summative evaluation framework with objectives, indicators, and methods/tools to be used.

RESULTS FROM THE FIELD

Save the Children has carried out programs in various countries. Results of several country evaluations are listed here. (1)

Egypt

SC (Save the Children) conducted a PDI in Al Minia Governorate of Upper Egypt in 1999. This PDI discovered PD foods, including salad, eggs, cheese, and vegetables, along with the practice of providing complementary foods to children under the age of one. The program incorporated the findings into a Hearth program similar to those in Vietnam (see case study in Overview). An external assessment completed in 1999 documented program impact, with a decrease in malnutrition from 47 to 13% in intervention communities compared to no change in a non-intervention community (48 to 46%). The evaluator suggested scaling up the approach through the living university strategy that was successfully used by Save the Children in Vietnam. In 2000, researchers returned to the intervention site and confirmed that SC activities had the desired effect. Their account stated that the change of attitude in mothers, husbands, and mothers-in-laws in particular was impressive. This success motivated the SC team to expand the program to target women during pregnancy.

In Mali, after six months 60% of mothers practiced appropriate weaning techniques, and 85% of children had improved nutritional status. Prior to using the PD approach, growth monitoring sessions had had little success with malnourished children.

Mali

In March 1999, SC conducted a PDI with health committee members from the villages of Falabula and Sogola in Bougouni District in Sikasso Region. Some of the behaviors and practices identified through the method included the father playing an active role in child feeding, supervision of the child during meals, six meals a day, and handwashing before meals. PD-informed Hearth sessions commenced in May. Program data showed a significant improvement, a full standard deviation (from 2.8 to 1.8 in weight-for-age Z scores), in the nutritional status of children who participated in Hearth vs. no change (static at a 2.5 weight for age Z score) among a comparison sample. Moreover, the improved weight gain persisted. After six months, 60% of mothers practiced appropriate weaning techniques, and 85% of children had had improved nutritional status. Prior to using the PD approach, growth monitoring sessions had little success with malnourished children. SC continues to use the PD approach for child nutrition and plans to add fourteen new villages in 2002.

Pakistan

In collaboration with Emory University, SC conducted a first of its kind study in 1999 comparing the findings from a PDI with a case control study (CCS) to determine factors associated with nutritional status among Afghan refugee children in Pakistan. Analysis showed that both the PDI and the CCS isolated two behaviors identified with good nutritional status: increasing breastfeeding when the child had diarrhea and increasing feeding during the illness and recovery periods. However, only the PDI captured complex behaviors, such as active

feeding, while only the CCS identified factors such as use of growth monitoring and immunization services, child age, and desire for more children. The authors concluded that the PDI might have been better than the CCS in capturing attitudes (i.e., mother's affect) and complex behaviors, both of which are more amenable to measurement by the PDI's participant observation approach. The study confirmed that the PDI approach was an affordable, participatory, and valid method to identify feeding behaviors and other factors associated with good nutrition. These findings helped refine existing nutrition interventions and added to the understanding of the methodology.

Generally, PD families in Ethiopia were more involved in their communities and showed more paternal involvement in childcare. Despite their profound food insecurity, it was encouraging to discover the PD families and their adaptive behaviors.

Ethiopia

SC conducted a PDI in October and November 2000 in the chronically food-insecure Liben District of Oromia Region in southern Ethiopia. Six communities representing two different ethnicities were studied to identify adaptive PD behaviors and practices that could be replicated despite the inadequate food supply. Identified PD behaviors included initiation of immediate breastfeeding after delivery and exclusive breastfeeding for four to six months. Generally, PD families were more involved in their communities and showed more paternal involvement in childcare. Despite this profoundly food-insecure situation, it was encouraging to discover the PD families and their adaptive behaviors. Findings from the PDI are being integrated into existing programs that address both the manifestations and root causes of malnutrition.

Bolivia

In 1999, SC and Emory University partnered to evaluate the PD methodology as described in SC's field guide, *Designing a Community-Based Nutrition Program Using the Hearth Model and the Positive Deviance Approach*. The pilot project was set in six rural highland communities in Oruro. The methods revealed special foods, such as carrot juice, turnips, radishes and cabbage, and good health practices, such as exclusive breastfeeding for six months and hygienic preparation of food. PD programming continues in Bolivia despite challenges inherent in the highland setting. The dispersed population makes neighborhood-based group learning (as in the Hearth) difficult. In addition, the primary nutrition problem, stunting, necessitates creating new indicators for program entry and graduation based on height. Detecting improvements in height is more difficult than for weight. Future steps include a more rigorous community and team vetting of the PDI findings since the identified PD vegetables in the pilot PDI are unlikely to explain much of the observed child health impact.

Additional results from monitoring and evaluation efforts can be found in Table 8.5 on the next page.

TABLE 8.5 Nutritional Impact of PD/Hearth in Several Countries

COUNTRY	RESULTS
Haiti	Reduction in 3rd degree malnutrition from 26% to 6% three years after Hearth participation. Weight-for-age Z-score gain was 0.34 between entry and follow -up (2 to 6 months after participating in Hearth). Nine thousand children were rehabilitated over two years with reduced mortality noted among participant children (2).
Guinea	Weight gain of participants after 2 months: 57% demonstrated catch-up growth and 26% showed adequate growth (3).
Bangladesh	Weight gain of participants after 2 months: 43% showed catch-up growth and 47% had adequate growth (2).
Vietnam	Elimination of severe malnutrition (3% to 0%), moderate malnutrition rates down (12% to 5%), and mild malnutrition down (26% to 21%) two years after the implementing agency ceased involvement(two thirds of these children were born after that time). Overall nutritional status improved by weight-for-age Z-score 0.3. A case-control study revealed a 40% reduction in malnutrition compared to a similar socio-demographic zone that did not receive the Hearth intervention (2).
Nepal	73% improved from moderate or severe to mild or normal categories, and the improved status was retained by 70% as long as 18 months later. (4)

Linkages Needed

More operations research is needed in the area of the linkages between relief and Hearth. Moves are afoot to create programs in emergencies that are philosophically aligned to the Hearth, through what is being called the Community Therapeutic Care (CTC) approach. This approach focuses on a community-oriented approach to treating severe malnutrition, even at the height of a crisis. Trials to date have met with success. While imported food would be needed in the interim period, the theory is that a continuum can be formed between relief programs and development programs.

Thus, where Hearth programs exist, these could be used to form the basis of a community-oriented relief approach as a crisis unfolds. In an emergency, the CTC approach could be converted to a Hearth program in the transition period. Since most emergencies are cyclical in nature, this is a critical underpinning. (3)

TABLE 8.6 Sample Summative Evaluation Framework

ACTIVITY	EXPECTED OUTCOMES OBJECTIVES	PROPOSED INDICATORS	METHODS /TOOLS
GMP	50% increase in births & deaths registration	# and % increase in births and deaths recorded	Hearth and GMP rosters
	85% of all children <3 are weighed regularly	# and % of children < 3 weighed at each GMP session	Hearth rosters collected every 2 months
	85% of caregivers know their children's health status	% of caregivers of children < 3 who know their child's nutritional status	Interview of caregivers of children
	90% of volunteers will plot weight accurately	# and % of volunteers who plot accurately	Volunteers' GMP book
De-worming	85% children aged 1-3 are de-wormed twice a year	# and % children aged 1-3 who are dewormed twice a year	Hearth records, GMP roster book
HEARTHS	90 % of identified malnourished children <3 are enrolled in the Hearth	# and % of identified malnourished children involved in Hearth	Hearth records, GMP roster book
	70 % of Hearth participants are rehabilitated	# and % of moderate-ly and severely malnourished children moved to normal nutritional status	Hearth records
	50 % of Hearth participants maintain enhanced nutritional status 6 to 12 months after rehabilitation	# and % of Hearth participants who maintained enhanced nutritional status 6 to 12 months after rehabilitation	GMP results session
	50% increase in girl children who achieved normal nutritional status	# and % of girl children who achieved normal nutritional status	GMP roster book
	20% reduction of overall malnutrition among all children <3	# and % of children who achieved normal nutritional status after 1 year, after 2 years	GMP roster book
Feeding-Practices	Caregivers will introduce complementary feeding around 6 months	% of caregivers of infants 6 to 8 months who know about complementary feeding at 6 months	Interview of caregivers of infants 6 to 8 months
	Caregivers will feed the 12 month child 5 times/day including snack beside breastmilk		Focus group discussion with Hearth graduate mothers or other caregivers
	Caregivers provide the child with variety of food at each meal including PD foods	Hearth caregivers who have reported feeding the child with a new specific (PD) food at each meal, including vegetables and fat	Focus group meeting with Hearth graduate mothers; in-depth interview at home; home visit observation
	Caregivers will provide appropriate feeding (amount and variety) during child's sickness	Hearth caregivers who have reported having developed the new practices of feeding adequately the sick and recovering child	Focus group discussion with Hearth graduate mothers or caregivers

TABLE 8.6 ***(continued)***

ACTIVITY	EXPECTED OUTCOMES OBJECTIVES	PROPOSED INDICATORS	METHODS /TOOLS
Caring Practices	Fathers will participate in childcare and spend more time with their children	Hearth participants' fathers who reported spending more time with child and sharing childcare with mother	Focus group discussion with fathers
Health-seeking practices	Caregivers and other family members will provide cognitive and linguistic stimulation to the child	Hearth participants' relatives reported singing, playing more often with the child; improved vocalization, language,communication skills in child	Focus group discussion with Hearth graduate mothers, caregivers; in-depth interview; home observations
	Caregivers will practice good food hygiene	Participants report developing new hygiene practices: cleaning food before cooking/covering food	In-depth home interview; observations during home visits
	Caregivers will practice good body hygiene for themselves and their children	Participants who have developed new body hygiene practices such as cutting nails and washing hands (with soap) before eating and washing hands after toileting	Focus group discussion with Hearth graduate mothers or caregivers; in-depth interview at home
	Caregivers will identify danger signs (acute respiratory infection and diarrheal disease)	Caregivers who know the danger signs and can identify them accurately	Home observations; focus group discussion with Hearth mothers/ caregivers; in-depth interview
	Caregivers will have young child completely immunized and have child weighed regularly (participation in GMP)	# and % of caregivers who have their child completely immunized, and # and % of children participating in GMP	Vaccination roster, Growth card record, GMP roster list
Monthly review meeting	Steering Committee and Hearth	Participation of all stakeholders at all meetings	Staff monitoring visits
	Volunteers manage, assess and monitor the program effectively	On-site monitoring and supervision activities take place	Report forms
		Accurate reporting	Auditing, monthly financial report
		Funds used appropriately	
		Sustainability of home visits and GMP	Follow-up visits and reports
		Problems identified and solved	Minutes of monthly review meetings

SAMPLE FORMS

Sample form for reporting births every month.

FORM 8.1 Vital Events Monitoring: Monthly Report on Births

Village Tract Name: *Period From:* *To:*

Village	New-born's name	Sex	Father's name	DOB Day / Mo	Wt. (kgs)	Place	# of birth	Comments

FORM 8.2 Vital Events Monitoring: Monthly Death Report of Children and Women

Village Tract Name: *Period From:* *To:*

Village	Name	Sex	Date of Birth		Date Deceased		Age	Comments (i.e., cause of death)
			Month	Year	Day	Month		

Total number of deaths in month: **Signature:**

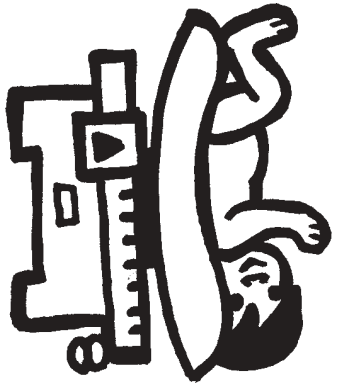
FORM 8.3 **Vital Events Monitoring: Monthly In/Out Migration Report**

*Village Tract Name:*_____
*Period From:*_____ *To:*_____

Village	Child's Name	Sex	Father's Name	Date of Birth		Date of Move	In or Out	From or To	Comments
				Day	Month				

Total Number of In-migrations in the Month:_____
Total Number of Out-migrations in the Month:_____ Signature: _____

FORM 8.3
Vital Events Monitoring: Monthly In/Out Migration Report



FORM 8.4 Sample Growth Monitoring Promotion Roster Book

Name of Volunteer: _____ *Village:*_____

HH #	Name Head of House-hold	Child's Name	Sex M/F	DOB: Month/ Year	GMP date		GMP date		GMP date		Comments
					Weight	Status	Weight	Status	Weight	Status	
1											
2											
3											
4											
5											
6											
7											
8											

Note: Allow at least two lines per family to capture younger siblings

FORM 8.5 Sample Hearth Volunteer Roster Book

Hearth Session Dates: From _____ To_____ Number of Participating Children: _____

Name of Child	Date of Birth	Contribution: Mark zero or check for each day attended:											Date of Entry	Weight Status Entry (Kg)	Weight Status Exit (Kg)	Weight Change (g) + or -	Comments

FORM 8.5
Sample Hearth Volunteer Roster Book

FORM 8.6

Sample Format for Compiling GMP Results at the Village Tract Level

FORM 8.6 Sample Format for Compiling GMP Results at the Village Tract Level

Village	Popula-tion <3	Children Weighed #	Children Weighed %	Normal #	Normal %	Mild (yellow) #	Mild (yellow) %	Severe (red) #	Severe (red) %	Total Malnou-rished #	Total Malnou-rished %	Births*	Deaths*	Move In / Out
TOTALS														

**Include births and deaths which have occured since last GMP session (last 2 two months)*

FORM 8.7 **Sample Format For Compiling GMP Results Over One Year at the Village Tract Level**

GMP Session/ Date	Popu-lation <3	Children Weighed #	%	Normal #	%	Mild (Yellow) #	%	Severe (Red) #	%	Total Malnutrition #	%	Births*	Deaths*
GMP 1													
GMP 2													
GMP 3													
GMP 4													
GMP 5													
GMP 6													
GMP 7													
**Include births and deaths which have occured since last GMP session (last two months)*													

FORM 8.7 **Sample Format for Compiling GMP Results Over One Year at the Village Tract Level**

FORM 8.8 Sample Monthly Monitoring Formats for Compiled Results of Hearths

Hearth Session Dates: From_____ To_____

Village	# Children Enrolled	Graduated #	Graduated %	Weight Gain #	Weight Gain %	No Weight Gain #	No Weight Gain %	Weight Loss #	Weight Loss %	Moved Red to Yellow #	Moved Red to Yellow %	# Returning Children	Comments (deaths, illnesses, etc.)

Use the form above OR this one below:

Hearth Session Dates: From_____ To_____

Village	# Children Enrolled	Graduated #	Graduated %	Catch-Up Growth #	Catch-Up Growth %	Adequate Growth #	Adequate Growth %	Weight Loss #	Weight Loss %	# Returning Children	Comments (deaths, illnesses, etc.)

FORM 8.9 Behavioral Monitoring Tool

#	Name	Age (months)	Exclusive Breastfeeding in Last 24 Hours?		
			Yes	No	Don't Know
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

Behavioral Monitoring Tool Indicator Box

# of caregivers interviewed who answered either YES or NO:	
# of Caregivers Interviewed who answered YES:	
% of Caregivers Reporting Exclusive Breastfeeding in the Last 24 Hours:	

Directions:

At a specific Hearth session, identify children less than 6 months of age who are accompanied by caregivers familiar with their feeding history over the last 24 hours:

- ♥ Interview each caregiver privately.
- ♥ Write down the child's name and age, making sure that the child fits the age criteria set above.
- ♥ Ask the caregiver to recall everything that the child was fed since this time yesterday. If the baby received ONLY breastmilk (and not plain water, formula, other milk, juice, other liquids, cereals, fruits, vegetables, grains, meats, etc.), then place a check in the column marked "Yes." If the child was fed anything other than breastmilk, place a check in the column marked "No." If the caregiver does not have complete information, place a check in the column marked "Don't Know."
- ♥ Continue until you have information on ten children, excluding those in the "Don't Know" column.
- ♥ Add up the total number of both "Yes" and "No" responses and place that number in the corresponding column in the Indicator Box (see sidebar).
- ♥ Add up the total number of "Yes" responses and place the total in the corresponding column in the Indicator Box.
- ♥ Divide the total number of "Yes" responses by the total number of "Yes" and "No" responses and multiple by 100 to figure out the percentage of caregivers reporting exclusive breastfeeding in the last 24 hours.

Weighing Monitoring Tool Indicator Box

# of Volunteers Observed:	
# of Volunteers Weighing All Children Correctly:	
% of Volunteers Weighing All Children Correctly:	

FORM 8.10 Weighing Monitoring Tool

Volunteer	#	Volunteer's Weight	Supervisor's Weight	Disagreement?
	1			
	2			
	3			
	4			
	5			
	1			
	2			
	3			
	4			
	5			
	1			
	2			
	3			
	4			
	5			
	1			
	2			
	3			
	4			
	5			
	1			
	2			
	3			
	4			
	5			

Directions:

- ♥ Ask supervisors/trainers to observe Hearth volunteers weighing children.
- ♥ Write down each volunteer's name.
- ♥ Explain to the caregiver that this child will be weighed twice.
- ♥ Observe the volunteer as she or he weighs the first child and record the weight reported.
- ♥ Re-weigh the child properly (according to protocol) and record the weight you get.
- ♥ Check to see if the two weights are the same. Check the "Disagreement?" column if your weight is more than ___ grams different from the volunteer's weight (determine appropriate difference for the project).
- ♥ Repeat the process for a total of three to five children per volunteer.
- ♥ Discuss your observations with the volunteer.
- ♥ Repeat with the remaining volunteers.
- ♥ Complete the Indicator Box at the bottom of the page (see sidebar).
- ♥ Discuss the findings with the Hearth volunteers who are present.
- ♥ Finally forward the sheet to the community health team with your supervision report.

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ADULT ED

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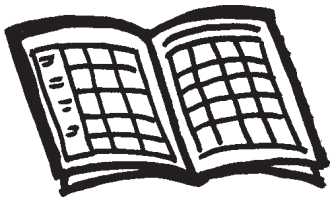

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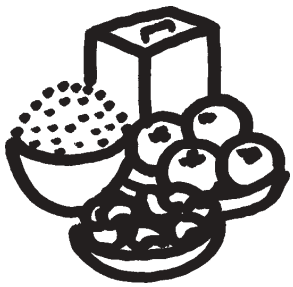

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The CORE Group – A membership organization of US-based non-profits working together to improve maternal and child health. www.coregroup.org

Food and Nutrition Technical Assistance Project (FANTA)– An integrated food security and nutrition programming project. www.fantaproject.org

The LINKAGES Project – A worldwide project to support breastfeeding, related complementary feeding and maternal nutrition, and the Lactational Amenorrhea Method. www.linkagesproject.org

UNICEF – The United Nations Children's Fund infopage on nutrition, strategies, focus areas, and action programs; includes support documents, resources, and links. www.unicef.org/programme/nutrition/mainmenu.htm

World Bank – World Bank's multi-sectoral approach to nutrition; includes related links, project information, key indicators, and working papers. www1.worldbank.org/hnp

World Health Organization – WHO's nutrition infopage addressing emerging issues, research, and topics such as micronutrient deficiencies and infant and young child feeding practices. www.who.int/nut/index.htm

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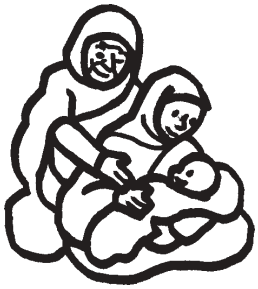

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Positive Deviance/Hearth: A Resource Guide for Sustainably Rehabilitating Malnourished Children

Positive Deviance/Hearth is a successful home-based & neighborhood-based nutrition program for children who are at risk for malnutrition in developing countries. It has enabled hundreds of communities to reduce their levels of childhood malnutrition and to prevent malnutrition years after the program's completion.

The *"positive deviance"* approach is used to find uncommon, beneficial practices by mothers or caretakers of well-nourished children from impoverished families. Once identified, ways are sought to spread these practices and behaviours to others in the community with malnourished children.

A *"Hearth"* is the setting of the nutrition education and rehabilitation part of the program. Suggesting a family around a fireplace or kitchen, Hearths are carried out in home settings where caretakers and volunteers prepare "positive deviant foods". They practice beneficial childcare behaviors and feed malnourished children with extra energy-rich/calorie-dense supplemental meals.

Sprinkled with helpful field examples, useful tools and ideas, this guide explains step by step how to:

- identify at-risk children
- conduct a Positive Deviance Inquiry
- conduct Hearth sessions and
- set up a monitoring and evaluation system

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