Positive Deviance/Hearth Essential Elements

A Resource Guide for Sustainably Rehabilitating Malnourished Children (Addendum)

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Working Together in Health for Mothers, Children, and Communities

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Abstract
A Positive Deviance/Hearth Nutrition Program is a home- 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 Addendum updates the CORE Group's February 2003 *Positive Deviance/Hearth Manual*. It gives an overview of appropriate settings for and essential elements of a PD/Hearth intervention.

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I. Introduction

Though global child mortality has seen a significant decline in the past two decades, childhood malnutrition remains a nagging problem. Many nations in sub-Saharan Africa report high percentages of undernourished children, while South Asia continues to confront increases in absolute numbers of children with under-nutrition. In Latin America, nearly half of children from ethnic minorities suffer from chronic under-nutrition.

Community members can play a critical role in improving child nutritional status; their impact is extended when they work in tandem with facility-based health staff. This addendum to CORE's PD/Hearth Manual explains how to support this community-based approach through use of the Positive Deviance/Hearth methodology. It discusses how PD/Hearth interacts with other nutrition and child health interventions, provides essential elements for implementation of an effective program, and guides the reader to resources for further information.

II. What is Positive Deviance/Hearth?

Positive Deviance/Hearth is a community-based approach to address malnutrition with three inextricably linked goals:

1. Rehabilitate malnourished children.

2. Enable families to sustain the rehabilitation of these children at home on their own.

3. Prevent malnutrition among the community's other children, current and future.

The Positive Deviance (PD) process identifies affordable, acceptable, effective and sustainable practices that are already used by at-risk people and that do not conflict with local culture. Through learning what their neighbors with equally limited resources are doing to prevent malnutrition, families are empowered to adopt better practices even with very limited access to health services.

The Hearth part of PD/Hearth is an intensive behavior change intervention targeting families of children with moderate to severe malnutrition to introduce the locally-discovered positive deviant practices as well as promote other practices essential to child health. Hearth sessions incorporate a number of approaches for behavior change including mother-to-mother support, counseling,

negotiation, adult learning principles, skills building, motivation through visible results, and community mobilization.

PD/Hearth can be an entry point to mobilize communities to address malnutrition or an intervention for rehabilitating large numbers of malnourished children identified through routine growth monitoring promotion (GMP) programs. PD/Hearth targets the families with malnourished children, knowing that these families may be those least likely to participate in regular community nutrition education or to access health services. It is, in essence, a "mop-up" program to eliminate the pool of ever-malnourished children not usually affected by more generalized programs, not only through rehabilitation but also by permanent behavior changes in their families which prevent malnutrition in future siblings. It is the second and third goals that make PD/Hearth unlike other nutrition rehabilitation programs.

PD/Hearth will be most successful in contributing to overall reductions in child malnutrition and improvements in child health if the program is linked to other health and nutrition interventions for all families within the target communities. Complementary programs include breastfeeding promotion and support, maternal nutrition, growth monitoring and promotion, immunizations, micronutrient supplementation and de-worming, general health and nutrition education, water and sanitation, and income generation or food security interventions such as promotion of home gardens and small animal production. PD/Hearth, with its strong community focus, can be included as part of the Essential Nutrition Actions strategy, and be a logical companion project within a Community IMCI[1] strategy. Before entering the Hearth, families are required to take children to the health facility for de-worming, micronutrient supplementation, and needed immunizations. PD/Hearth volunteers reinforce continued use of health services through referrals and counseling. If a growth monitoring program did not exist previously in the community, the PD/Hearth program must work with the health facility to establish one.

PD/Hearth does require careful implementation including selection of sites where families live in relatively close proximity, where there are a significant number of moderately and severely malnourished children (30% or 100 children), and where community leaders can be mobilized to take an active role. PD/Hearth is not appropriate for emergency settings, but can be implemented in the post-crisis, relief-to-development phase.

PD/Hearth was evaluated extensively in Vietnam with support from Save the Children, LINKAGES, BASICS and other agencies.

In PD/Hearth project areas, the prevalence of severe malnutrition decreased from 23% to 6% ($p<0.001$) and the prevalence of normal weight-for-age increased from 42% to 56% ($p<0.001$). Children between 18 and 23 months at baseline (n=244) improved their weight-for-age (mean Z score: -2.475 at baseline vs. –1.844 after year one, $p<0.001$) and maintained the improvement after graduating from the program. When researches returned five years after the PD/Hearth program ended, they found that PD/H children tended to be better nourished than their counterparts, and their younger siblings were significantly better nourished than those in the comparison group (based on weight-for-age and weight-for-height z scores). Mothers that went through the program reported feeding their younger siblings more often (main meals and number of snacks) than their counterparts, and washed their hands more often than comparison mothers. Growth-promoting behaviors identified through PD studies and practiced through neighborhood-based rehabilitation sessions persisted years after program completion. Their sustained behaviors contributed to better growth of younger siblings never exposed to the program. Additionally, in his assessment of scaling up for BASICS II, David Pyle found that the PD/Hearth training and experience enabled national NGO and government health staff to use active learning techniques, collaborate more with subordinates and the communities, and to carefully plan and monitor other projects.

III. Essential elements and why they are essential

There are several elements that are essential to the implementation of an effective PD/Hearth program. Experience repeatedly shows these elements cannot be adapted, modified, or skipped altogether without seriously diminishing the effectiveness of the program.

1. Each and every community conducts a Positive Deviance Inquiry using community members and staff. The Positive Deviance Inquiry (PDI) is a learning opportunity for the community, not just fact-finding for the project staff. It is meant to provide an opportunity for community members (e.g., Hearth volunteers, health staff, community leaders) to “discover” that very poor families have certain good practices, which enable them to prevent malnutrition, and these practices can be done by any family with similarly scarce resources. In order for *every* community to take ownership, the discovery process must take place in *every* community. Just as adult learning theory dictates the need to discover by doing, so do communities need their own PDI to discover their PD practices. Many programs have tried to save time by extrapolating the PDI results from one community to another, thus losing the process of

the community's discovery from the PDI. If there are no poor families with well-nourished children in a particular community, the PDI may need to look at very poor families with only mildly malnourished children. Alternatively, if the community can identify a nearby community with the same culture, socioeconomic conditions and, perhaps, blood relationships, the volunteers can be taken there to identify positive deviant families with whom to conduct the PDI. Since family coping may change with the seasons, it is advisable to repeat the PDI during different seasons of the year.

Care must be taken to assure that appropriate criteria are used to select the poorest families for the PDI. Ordinary community members, not just leaders or health workers, may be most able to determine which families are poorest. Once this is done, positive deviants can be identified.

The PDI, as described in the PD/Hearth Manual, consists of both questioning the family members and making careful observations of the situation. The lists of questions given are best used as discussion guides, rather than interviews. With sufficient practice, the PDI team may not need to take them along, but rather, just take some notes during the visit. A second or third person from the PDI team can concentrate on observing actual practices related to child care, hygiene and sanitation, food preparation, as well as what foods and materials are available in the home. Programs need to allow sufficient time to prepare for and conduct PDI visits to obtain the most useful information. The practices identified through the PDI are those which affect child growth.

2. Utilize community women volunteers to conduct the Hearth sessions and the follow-up home visits. Mothers will learn best with a peer, with whom they feel comfortable and who understands local customs and conditions. The volunteer can be any woman in the community with a good reputation, credibility, healthy children (can be grown up), and a willingness to take on the necessary responsibilities.

Note: Mothers of positive deviant children are not necessarily the Hearth volunteers. The PDI derives a composite of PD practices from multiple PD families; it is extremely rare that one mother would model all the PD practices. (We are not looking for PD persons, but rather PD practices.) In many cultures, identifying individuals or families as models or "better" will result in social rejection by their peers.

3. Prior to the Hearth sessions, de-worm all children, update immunizations, and provide needed micronutrients. Children

are more assured of quick recuperation when these important health interventions are taken care of prior to the Hearth session. Families should be referred for these services to the local health facility with whom the program is collaborating. These activities are kept separate from the Hearth session so that families don't attribute the child's nutritional status improvement to these rather than to the food and feeding practices. In areas of high malaria prevalence, children may need diagnosis and treatment before attending the Hearth sessions. During the PDI, if it is evident that very poor families are using ITNs, it will be useful to discuss how they afford them in order to share that information with the Hearth participants.

4. Use growth monitoring to identify newly malnourished children and monitor nutritional status of participants who have graduated from the Hearth. A growth monitoring program may not exist in the community when PD/Hearth is initiated, but should be instituted in time to begin monitoring the children who complete the Hearth session as well as all other children in the community. The growth monitoring program must include good nutrition counseling and explanations of the child's growth for the caregivers.

5. Ensure that caregivers bring a daily contribution of food and/or materials to the Hearth sessions. One of the fundamentals of PD/Hearth is that families learn they really can afford to feed their children nutritious food. Obtaining and bringing the foods is practice to reinforce that idea. In addition, requiring contributions makes the program non-paternalistic while also making it possible for a community to implement without outside material support. If the community is to own the PD/Hearth, the ideal is for participants to contribute all food. However, in areas of exteme poverty or food insecurity, this may not be realistic; in which case, the emphasis should be on mothers contributing at least a small portion, particularly foods which they do not commonly procure for their children. If the foods used in the menus are not affordable, then, the menus need to be revised to use only foods that can be acquired by the poorest families, and/or the mothers taught the strategies used by the positive deviant families to enable them to afford the healthy foods.

6. Design Hearth session menus based on locally available and affordable foods. Participating families must be able to replicate meals in their own homes with limited resources. This is the only way they will be able to sustain the improved nutritional status of their children and prevent future malnutrition in the family. The affordability of foods is verified through the PDI, which investigate the foods that are used by the poorest families with well-nourished

children, and the market survey, which investigates the costs and nutritional content of foods available in the market. Volunteers will need assistance from staff members to plan menus.

7. The Hearth session menus must provide a special nutrient-dense meal sufficient to ensure rapid recuperation of the child. The daily menu including the snack must contain the listed amounts of calories, protein and micronutrients per child. These amounts are based on a formula, calculated on the supplementation necessary to rehabilitate a malnourished child. Required levels by age are listed in the guide. Consider the Hearth meal as "medicine;" this is the dosage prescribed. If the Hearth supplemental meal does not meet this minimum standard, then weight gains are compromised.

Calories	600-800 kcal
Protein	25-27g
Vitamin A	400-500 RE (RE=retinal equivalent)
Iron	10mg
Zinc	3-5 mg
Vitamin C	15-25mg

The meal is an extra supplement, not a meal substitute. The additional calories and protein are needed for "catch-up" growth of the child. Eventually, this "extra" energy and protein-rich meal will not be necessary when the child is no longer malnourished. However, to sustain the rehabilitation gains, regular family meals need to be more balanced and nutritious. The caregivers learn how to do this during the Hearth sessions.

8. Have caregivers present and actively involved every day of the Hearth session. Involvement promotes ownership and active learning and builds self-confidence. The most important idea is to repeatedly use the new practices. By learning and internalizing the new practices, not only will the improved nutritional status of the participating child be sustained at home but also, malnutrition will be prevented among future children. Attendance of caregivers at each day of the Hearth rotation is also necessary to achieve adequate weight gain.

9. Conduct the Hearth session for 10-12 days within a two-week period. Within 8-12 days of starting the Hearth rehabilitation (which provides the extra, nutrient-dense meal), mothers will see notable improvement in their children. They may need some guidance to recognize the changes in improved appetite and energy level, less irritability, level of alertness, etc. This recognition of the child's improvement serves as a major motivator in the caregiver's

adoption of the new feeding, caring and health practices. If the child is not fed the special extra meal over sequential days, recovery will be so slow that the mother will not be rewarded and motivated by seeing the changes. There may be breaks of one or two days in the sequence of days for weekends, holidays, or market days *(e.g., 4 days + market day + 4 days + market day + 4 days)* with the family encouraged to prepare the special meal at home on the days off.

10. Include follow-up visits at home for two weeks after the Hearth session *(every 1-2 days)* to ensure the average of 21 days of practice needed to change a new behavior into a habit. The caregivers will need continued support to implement the new practices in their own homes. During home visits, the volunteers or staff can help them think of solutions to any difficulties they are encountering or respond to concerns about their child's progress.

11. Actively involve the community throughout the process. Community leaders and a village health committee can provide support in organizing the weighing of all children in the target age group, recruiting volunteers, conducting the PDI, contributing materials, utensils, and food for the sessions, assuring that eligible caregivers attend the Hearth session regularly, and encouraging other community members to support the families with malnourished children in adopting new practices. The community can participate in monitoring program implementation and results. The higher the exposure of the Hearth, the greater the impact on the overall nutritional status of the community. It provides "living proof" of the effects of good nutritional inputs on malnourished children, which raises the consciousness of community members and empowers them to prevent malnutrition from within their own community.

12. Monitor and evaluate progress. At a minimum, programs should monitor attendance, entering and one-month weights, and the percent of children who graduate after one session or after two sessions. [Depending on community goals and national protocols, graduation may be determined as: 400g weight gain in one month; a decidedly upward growth trend on the growth curve during two months; moving up one level (i.e. from moderate to mild); or achieving normal weight-for-age.] Programs are encouraged to monitor the longer-term impact by measuring weight gain of participants two months and then six months or a year after graduation, and tracking growth of younger siblings. Programs may wish to develop other indicators to monitor the quality of implementation, community support, etc. Many examples of such indicators are given in the CORE PD/Hearth Manual.

13. If a child doesn't gain weight after two 10-12 day sessions, refer the child to a health facility to check for any underlying causes of illness such as tuberculosis, HIV/AIDS, or other infection. Some programs may opt to have all children checked for underlying illness prior to entering the Hearth to screen for diseases that can be treated first. If the child does not have an illness, families may need to be directed to other social services or to income generation programs.

The average number of sessions it takes to graduate a child varies between programs, but there should be a cap on the total number of sessions a caregiver can attend (i.e. two) as caregivers may start to become dependent on the Hearth and not be actually internalizing new behaviors. A sense of urgency to rehabilitate a malnourished child should be instilled and encouraged.

14. Limit the number of participants in each Hearth session. As with all educational programs, having a limited number of participants provides a "safe" environment in which rapport can be built and all caregivers have an equal opportunity to participate in all activities. Experience has shown that Hearth sessions are most successful when limited to ten caregivers, with six to eight being an ideal number.

IV. Resources

For more information on starting a PD/Hearth program, please refer to the following resources:

Positive Deviance / Hearth: A Resource Guide for Sustainably Rehabilitating Malnourished Children. Nutrition Working Group, The CORE Group, December 2002.

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. Available in English, French, Spanish, Portuguese, and Bahasa Indonesian.

CORE Group Website
http://www.coregroup.org/working_groups/pd_hearth.cfm
This site includes electronic copies of the manual (and other resources referenced here), frequently asked questions about PD/

Hearth application, workshop reports, and research and evaluation papers.

Positive Deviance / Hearth Consultant's Guide: Guidance for the Effective Use of Consultants to Start up PD/Hearth Initiatives. Nutrition Working Group. The CORE Group, October 2003.

This short paper provides program managers with a check list to determine if the PD/Hearth approach is right for their program area and step-by-step guidance on using consultants to start up a PD/Hearth program.

Positive Deviance / Hearth Facilitator's Guide: Orientation and Training Curriculum for Staff Backstopping Positive Deviance / Hearth Programs. Nutrition Working Group, The CORE Group, October 2003.

This guide contains the curriculum for a two and a half day workshop to provide program managers with a solid understanding of the principles of and criteria for a successful PD/Hearth program. It helps programmers determine whether to pursue a PD/Hearth approach for their specific program area and clarifies essential considerations for successful programming. It is not sufficient for field staff that will actually implement a PD/Hearth program. More information on such trainings is available on the CORE website at www.coregroup.org.

Endnote

[1] Community Integrated Management of Childhood Illness (C-IMCI) is a strategy composed of three interlinking elements based on a multi-sectoral platform: 1) partnerships between health facilities and the communities they serve; 2) appropriate and accessible care and information from community-based providers; and 3) integrated promotion of key family practices critical for child health and nutrition.

Positive Deviance/Hearth is a successful home- and 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 behaviors 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.

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