

# Learning From the Community to Improve Maternal–Child Health and Nutrition: The Positive Deviance/Hearth Approach

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The “traditional” use of the Positive Deviance approach to behavior change involves studying children who thrive despite adversity, identifying uncommon model behaviors among Positive Deviant families, and then designing and implementing an intervention to replicate these behaviors among mothers of malnourished children. This article presents the results of a literature review designed to gather information on the role of the Positive Deviance/Hearth methodology in social and behavior change. Examples of how the methodology has been applied beyond infant and child malnutrition to address other health areas, such as improving pregnancy outcomes, are explored. An analysis of Positive Deviance programming being carried out by Project Concern International in Guatemala and Indonesia is conducted. The role of cultural context in the design and implementation of Positive Deviance/Hearth, as well as the role of Positive Deviance in affecting social and behavior change, require further exploration. The issues related to cultural context and the challenges for monitoring and evaluation of program outcomes are presented. *J Midwifery Womens Health* 2007;52:376–383 © 2007 by the American College of Nurse-Midwives.

**keywords:** behavior change, behavioral research, infant and child nutrition, maternal nutrition, Positive Deviance/Hearth, qualitative research, socio-cultural factors, vulnerable populations

## INTRODUCTION

The Positive Deviance/Hearth methodology has been used by maternal and child health programs since the 1970s as a way of addressing childhood malnutrition by learning from and scaling up what is working rather than focusing on what is not working. The methodology is based on the finding that in many resource-poor communities, some community members use unique, beneficial practices that enable them and/or their children to enjoy better nutrition than their similarly impoverished neighbors. The methodology identifies “Positive Deviants,” defined as individuals who share the same socioeconomic characteristics as their peers/other members of the community and yet manage to find ways to overcome barriers and actually practice positive behaviors without external interventions. These Positive Deviants are encouraged to help socialize, disseminate, and share these behaviors and promote their replication and adoption by other community members. To date, the methodology has been primarily utilized to address childhood malnutrition; however, the concept that answers to community problems lie within communities themselves has great potential for improving a number of health and nutrition behaviors. This article reviews the experience of utilizing the methodology and explores opportunities that exist for improving and adapting the approach for use in support of additional health and nutrition outcomes. Lessons learned from public and private sector health partners who are jointly implementing child health projects con-

tinue to provide new and more effective ways of applying the methodology to improve maternal and child health.

## BACKGROUND

Gretchen and Warren Berggren first documented earlier versions of the approach through their work in Haiti with the Center for Education and Nutritional Rehabilitation (CERN). Researchers from Columbia University described a project that: 1) identified “Positive Deviant” families in order to observe their care and feeding behaviors; 2) taught the behaviors to mothers of malnourished children; and 3) subsequently evaluated the impact on the children’s nutritional status.<sup>1</sup> While no reports of the project or its achievements have been published, Berggren and Wray discuss the contributions these Columbia University researchers made to the development of the methodology.<sup>1</sup> They mention that “successful mothers” were given the title “Positive Deviants” because their children were in the upper quartile of both weight-for-age and height-for-age measurements, and their deviation from the norm was in a positive direction.<sup>1</sup>

Extensive observations of Positive Deviant behavior among Yoruba and Javanese families and their relationship to children’s nutritional status were published in the early 1990s.<sup>2,3</sup> At the same time, in Haiti, the *Ti Foyer* or Hearth neighborhood model for rehabilitating children in nearby home kitchens was evolving through the Hospital Albert Schweitzer’s community health program in response to the economic embargo in that country.<sup>4</sup> Other authors documented applications in Pakistan and Vietnam later in that same decade.<sup>5,6</sup> Within the last 5 years, the methodology has become increasingly popular with

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staff of international programs that focus on improving child survival.

## THE POSITIVE DEVIANCE/HEARTH METHODOLOGY

The Positive Deviance/Hearth methodology is based on the idea of “success in spite of hardship.”<sup>7</sup> Positive Deviance uses community-based solutions to address health problems, such as malnutrition in pregnant women, malnutrition in infants and children under the age of 3, and HIV/AIDS prevention. The method is also used to promote neonatal and child health through interventions such as promotion of exclusive breastfeeding. It is an asset-based approach that focuses on what is positive and possible, then draws upon the resources and solutions inherent in a community rather than focusing on problems and needs that can only be addressed with outside intervention. It tends to be more empowering and less dependency-creating than many traditional development approaches, and because practical solutions are found within the community and promoted by the community, behavior change is often more likely to be maintained by the community members.

Results from some studies have indicated that the impact of changes in nutrition behaviors may transcend to community members not directly involved in the interventions, and/or disseminate to younger generations born years after project interventions have ended.<sup>6</sup> For example, during a study on sustained Positive Deviant child care practices in Vietnam between 1998 and 1999, Save the Children demonstrated that 3 to 4 years after the program’s departure, older children tended to be better nourished than their counterparts in a comparison community. Also, younger siblings were significantly better nourished than those in the comparison group (even though they had never been directly exposed to the program). The mothers who had previously participated in the program reported feeding their younger children more than their counterparts did (2.9 main meals vs. 2.2); they also reported washing their hands more often (100% vs. 75%), and the adjusted mean weight-for-age Z scores were -1.82 versus -2.45 for the younger children.<sup>6</sup>

The “traditional” use of the Positive Deviance approach for improving childhood malnutrition entails studying children who thrive despite adversity, identify-

- Program managers meet with community health staff and volunteers to discuss the methodology, decide whether the approach is feasible in the community, and plan the interventions.
- Previously trained program managers and community health staff conduct a Positive Deviance/Hearth workshop for field staff, health partners, and community volunteers.
- Prepare for and conduct Positive Deviance Inquiries (via wealth ranking of families and a nutritional baseline assessment of all children to identify the malnourished and Positive Deviant individuals and behaviors in the community).
- Program managers supervise community volunteers in conducting and assessing the results of Positive Deviance Inquiries (these in-depth interviews and observations conducted with mothers and other caregivers during home visits reveal the key feeding, caring, hygienic, and health-seeking behaviors of positive deviant families in the community) to determine what uncommon practices contribute to the good health of the Positive Deviant children.
- Program managers and community volunteers design and conduct 2-week-long Positive Deviance/Hearth sessions based on the results from the interviews.
- Community volunteers conduct two weeks of home visits to follow-up on the mothers and encourage them to maintain the new Positive Deviance behaviors.
- Community volunteers continue to track progress of the children and evaluate the effectiveness of the intervention.
- Program managers and community volunteers repeat the Hearth 2-week sessions as needed and expand to additional communities.

Figure 1. Steps in the Positive Deviance/Hearth methodology.

ing uncommon model behaviors among Positive Deviant families, and then designing and implementing an intervention to replicate these behaviors among mothers of malnourished children. The “Hearth” is a common intervention to address childhood malnutrition, which brings mothers together to practice new feeding and caring behaviors under the encouragement of community volunteers.<sup>8</sup> The basic steps involved in the Positive Deviance/Hearth methodology are listed in Figure 1.

Members of the Child Survival Collaborations and Resource Group (CORE), a network of partners working in maternal and child health and nutrition, have developed a *Resource Guide for Sustaining Malnourished Children* to explain the methodology in detail.<sup>9</sup>

## POSITIVE DEVIANCE METHODOLOGY IN MATERNAL AND CHILD HEALTH PROGRAMS

A Positive Deviance inquiry implemented in Egypt was designed to identify factors associated with the achievement of good pregnancy outcomes, despite limited resources. Eleven pregnant women who participated in this program and who gained appropriate weight throughout their pregnancy (weight gain > 1.5 kg per month in the second trimester of pregnancy) were more likely than women with poor weight gain to report multiple antena-

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tal care contacts (80% vs. 43%) and increased rest during pregnancy (67% vs. 7%). These same women reported more meat (33% vs. 13%) and vegetables consumption (82% vs. 37%). They were also less likely to report symptoms consistent with urinary tract infection (50% vs. 90% with dysuria, and 0% vs. 57% with cloudy or reddish urine).<sup>10</sup> Ahrari et al.<sup>10</sup> used the Positive Deviance/Hearth methodology to identify positive behaviors among low-income women in a more economically advantaged community, and found similar distinguishing characteristics in those mothers whose newborns weighed more than 3 kg (n = 18) when compared with mothers of smaller newborns (n = 18).

The model has also been applied to determine healthy eating strategies in low-income pregnant women in the United States.<sup>11</sup> Fowles et al.<sup>11</sup> used a descriptive evaluation design consisting of small group interviews with low-income pregnant women. The method was successful in providing policy guidance for the development of interventions to improve women's diets to enhance their own health and that of their unborn children. The Positive Deviance inquiries found that women with healthy diets knew to eat balanced meals, had family support, were willing to prepare foods that were different than what other family members ate, and ate at home more frequently than did the women with unhealthy diets.

The Positive Deviance model was used between the years 1999 and 2000 in Vietnam to identify key factors that either discouraged or encouraged mothers who work outside the home to exclusively breastfeed their babies. Dearden et al.<sup>12</sup> interviewed a total of 120 mothers with infants less than 6 months old in northern Vietnam during two phases, the first in November/December, 1999 (when maternal labor demand was expected to be low) and the second phase in June, 2000 (when maternal labor demand was expected to be high). Because the results from each phase were similar, data from both phases were combined. Factors identified in the exclusively breastfeeding mothers who worked included the following: 1) all of these mothers felt they had enough milk; 2) they all knew the appropriate time to introduce foods and liquids; and 3) most were supported in their breastfeeding decisions by community health workers and family members.

The model has also been used to study newborn care practices among Afghan refugees and Pakistanis in Haripur District, Pakistan.<sup>13</sup> This study found that the Positive Deviance approach for newborn care is more complex than when used to assess pregnant women's health or infant and child nutrition. Positive Deviance inquiries entailed in-depth interviews focused on identifying uncommon behaviors among surviving asphyxiated newborns, thriving low birth weight babies, surviving newborns who had danger signs of neonatal mortality, and normal newborns. Positive Deviant indi-

viduals, families, and birth attendants modeled good maternal care and immediate, routine, and special newborn care (including clean delivery, thermal control, immediate and exclusive breastfeeding, and fathers' involvement). As a result of the application of the approach, the communities of Pakistani and Afghan refugees in the two project areas showed their commitment to change their behaviors and formed neighborhood support groups to help birth attendants and families promote, demand, and apply better newborn care practices. One of these practices included hygienic delivery. The application proposed a conceptual framework for recognition of danger signs, hygienic delivery, thermal care, and immediate and exclusive breastfeeding support at the household level; provided tools and methods for information gathering; identified Positive Deviants in two settings; convinced staff in the community, district, and at the organizational level of the potential for the approach; and mobilized communities to promote the above mentioned newborn care practices that would improve newborn health. These and other examples reveal the variety of potential applications for the model.

#### **APPLICATIONS OF THE POSITIVE DEVIANCE/HEARTH METHODOLOGY FOR OTHER HEALTH OUTCOMES**

The Center for Development and Population Activities applied an advocacy angle to the Positive Deviance approach for experimental work aimed at decreasing the incidence of female genital cutting in Egypt in the late 1990s.<sup>14</sup> The program demonstrated a 100% increase in advocacy skills among 40 members of partner nongovernmental organizations, identification of more than 100 Positive Deviants (parents, girls, and clergy), and most importantly, the eradication of the practice in two villages over the following 2 years. The two factors identified that enabled Positive Deviance adults to refrain from female genital cutting were: the negative psychological impact of the practice (e.g., the daughter's sense of betrayal and loss of trust in the parents) and the successful search for validation of personal conviction by medical or religious figures.

While several programs have applied the Positive Deviance approach in HIV/AIDS programs, few have published documentation regarding the process or results of these applications of the methodology. Save the Children utilized Positive Deviance in Vietnam to identify behaviors to inform HIV/AIDS prevention interventions. In this adaptation, peer educators identified Positive Deviance behaviors from five commercial sex workers. Examples included successfully negotiating condom use by telling the customer that she was concerned about the customer's family getting ill, and if no condoms were readily available, telling the customer that she wanted to put on something more attractive for him, while requesting that a coworker go to the pharmacy and

buy condoms. Positive Deviance behaviors demonstrated by injectable drug users included bending the needle after use to prevent reuse and sniffing the drug rather than injecting it if a clean syringe was not available. The peer educators agreed to share the behaviors with their peers through role plays and group meetings. While outcome results were not included in the article (published when the intervention was in its early stages), the Positive Deviance inquiries show potential for improving behaviors because peer educators were able to identify successful practices to control HIV/AIDS that could be shared and adopted by additional members of these high-risk groups.<sup>8</sup>

## POSITIVE DEVIANCE/HEARTH PROJECTS IN INFANT AND CHILD MALNUTRITION

A closer review of the articles presenting the most common use of the methodology in interventions to combat infant and child malnutrition provides in-depth insight into the methodology, its origins, evolution, and limitations.

The model originated in Haiti in the early 1970s, through the *Projet Intégré de Santé et de Population* (PISP) under Haiti's Division of Family Hygiene. The PISP adapted a previous model (the CERN model) to make it more practical and affordable. The early model employed daily contact with mothers over a 3-month intervention session in which mothers used local foods to rehabilitate their malnourished children. PISP's adaptation of the model was integrated into a community health program, which included family registration, growth monitoring and counseling, periodic deworming, immunization, maternal education, and temporary distribution of food supplements to children whose growth had faltered. The CERN activities were reduced to 2 weeks, which included intensive daily training sessions for groups of mothers and their malnourished children. During the sessions, volunteer mothers assisted *monitrices* (community health volunteers) in nutrition and child-feeding "learning tasks." Mothers committed themselves to continue the rehabilitation process in their own homes and the child's progress was followed during ongoing community health growth monitoring and counseling sessions. During the 2 weeks of intensive training, participants noted that the child's appetite returned, edema disappeared, and the previously malnourished children began to run and play again. The positive results were not limited to the training period alone; children in the program grew better than children in the control/comparison group after 1 month (68% of children in the program were growing at or better than the international median rate of weight-for-age; children not in the program were not growing at that rate). Many children who had been faltering at month 1 were, in fact, recovering from illness and clearing edema. Children in the program

continued to gain weight through months 2 and 6 (40% of the children had gained weight at 2 months and 60% of the children had gained weight at 6 months).<sup>4</sup>

The Poverty Alleviation and Nutrition Program was implemented in 10 communes in Thanh Hoa Province, Vietnam, from 1993 to 1995. Components of the program included community registration, growth monitoring, and promotion for all children under 3 years of age; a Positive Deviance inquiry; interviews and observations of primary caretakers of Positive Deviant children that enable volunteers to identify key growth promoting practices; and a nutrition education and rehabilitation program. End-of-program evaluation results showed that severe malnutrition had been reduced from 23% to 6%.<sup>6</sup>

A re-evaluation conducted 2 years following the end of this program in Vietnam found that those children who had participated in the program and their siblings who were born after the project ended were better nourished than their neighboring counterparts. In addition, mothers who had participated in the program reported having applied the Positive Deviance practices to their younger children. More mothers from the previous intervention group reported breastfeeding than those in the control group (41% vs. 20%); more mothers fed snacks to their children in addition to main meals (96.2% vs. 52%); hygiene and health-seeking behaviors were better; and they reported introducing a variety of weaning foods at a more optimal age as compared with their counterparts. In summary, nutritional status improvements experienced by program beneficiaries were sustained up to 4 years after the program had ended.<sup>6</sup> In addition, the approach was successful in terms of acceptability, affordability, and sustainability.<sup>15</sup>

The model was used in Pakistan to identify behaviors associated with good nutritional status in Afghan refugee children 6 to 24 months of age in the Northwest Frontier Province.<sup>5</sup> Most refugees in this area are ethnic Pashtun who come from provinces bordering Pakistan. They have low levels of formal education and require women to live in strict *purdah* (isolation). The model compared a case control study with the Positive Deviance approach to identify infant and child feeding behaviors. Results showed that through the Positive Deviance inquiries with caregivers in eight households, programmers identified 12 uncommon feeding, caring, and health-seeking behaviors, whereas the case control study (using 50 mother-child pairs) only identified six significant associations. The Positive Deviance inquiries identified complex phenomena (active feeding and maternal affect), whereas the case control study was only able to confirm the beneficial use of health services. In summary, the authors found the Positive Deviance approach to be an affordable, participatory, and valid method to identify feeding behaviors and other factors related to good nutrition.<sup>5</sup>

The "Keno Parbo Na" project, implemented in West Bengal, India, focused on the prevention and reduction of

**Table 1.** Results of the Positive Deviance/Hearth Implementation in Guatemala

Location	N	Level of Malnutrition		% of Group With Weight Gain
		Pre	Post	
Buena Vista Chancolin	12	17%	0%	83%
Pajon	9	22%	0%	100%
Mapa	6	17%	17%*	83%
Piol	8	38%	25%	38%

\*The one malnourished child did gain weight, although not sufficiently.

malnutrition among children under 3 years of age. Behavior change strategies employed in this Positive Deviance intervention included participatory learning and community mobilization. A steady reduction in the moderate and severe level of malnutrition was noted in all of the districts in which the model was implemented. A notable finding was that there was a preponderance of female children entered into the program at the onset, which suggests that female children had a higher level of malnutrition when the program started. However, program outcomes also suggested that Positive Deviance might be an important strategy in reducing the gender gap in malnutrition, as there was an observable closure of the gender gap at the project's end.<sup>16</sup>

#### PROJECT CONCERN INTERNATIONAL'S EXPERIENCE WITH POSITIVE DEVIANCE PROGRAMMING

Project Concern International, an international health and development agency founded in 1961 in San Diego, California, and currently operating maternal and child health programs in the Americas, Africa, and Asia, has adapted and applied the Positive Deviance/Hearth methodology for improving infant/child malnutrition in several countries, most notably in Guatemala and Indonesia. Positive Deviance/Hearth was implemented in four communities in three municipalities of the Department of Huehuetenango, Guatemala during 2004 and 2005, as part of its US Department of Agriculture (USDA) funded "Familia Sana" program. In these communities of the rural highlands bordering Mexico (Buena Vista Chancolin in Barillas; Mapa and Piol in San Sebastian; and Pajon in Todos Santos Cuchumatan), the indigenous Mayan people live in extreme poverty. Within this marginalized population, women and children are the most vulnerable, lacking access to basic education and health services, battling malnutrition, and repressed by traditional prejudices that diminish their quality of life. Mayan women struggle to survive, living subjugated lives from which there can seem little hope of escape. A quarter never attend school; few know about reproductive health and family planning; over 40% report their

first of up to an average of 10 pregnancies before the age of 19; and 90% of births occur at home, with only a third involving the presence of a skilled attendant. Consequently, maternal and child mortality rates are double the national average, malnutrition rates are unacceptably high, and widespread domestic violence and abuse often prevent women from seeking out a better life for themselves and their children.<sup>17</sup>

A key goal of the Familia Sana program was to promote the growth and development of healthy women and children in the high risk and extremely impoverished areas of Huehuetenango through the implementation of a community-based integrated growth monitoring and promotion program, which included training and education in nutrition and hygiene. The Positive Deviance/Hearth methodology was chosen as an important strategy for engaging women in a sustainable and cost-effective effort to improve the health and nutrition of their malnourished children. A key aspect of this strategy was the need to counter the widely-held view that malnutrition is a normal, acceptable condition, and that good nutrition and food security are therefore not high priorities.

Specific characteristics of the Mayan culture were relevant to the viability of this approach. Mayan cultures are both patrilocal and patriarchal. Women are subordinated to the authority of their fathers and husbands, and the social control of their husband's families. Mayan men make most household decisions, including how many children the couple will have, how the household income will be spent, and whether or not women can leave the house. Indigenous men may prevent their wives from seeking modern medical services for themselves or their children, largely for the same reasons that women themselves do not seek modern health services, including a fear of the unfamiliar, language and cultural differences between them and the health care providers, financial and transportation barriers, and a feeling that they are not treated with respect.<sup>17</sup> Although the method succeeded in improving weights and levels of malnutrition (Table 1), there were several factors that limited its success, including a lack of program participation by both parents and failure to share child care responsibilities among program participants, thus negatively impacting meeting attendance. Results were less positive in situations where the participation of both men and women was limited and irregular, and commitments were not kept. The latter was often because of the fact that the husbands were not supportive of the program and their wives' participation in it, and they were frustrated by the time their wives needed to devote to the Positive Deviance/Hearth process, and their unfulfilled expectations for food donations. Women sometimes expressed skepticism about the acceptability of the new food by their children, and it was clear that a lack of support by their husbands contributed to a lack of punctuality in arrival at many of the sessions.

Project Concern International has adapted Positive

Deviance/Hearth for implementation as part of its US-AID Child Survival and Health Grants Program-funded Child Health Opportunities Integrated with Community Empowerment project in Indonesia. The project is being carried out in Pandeglang, Banten Province, where the prevalence of malnutrition is high (53%). Positive Deviance/Hearth was applied in nine health post (*posyandu*) catchment areas in 13 villages between November 2004 and March 2005. The program worked with 249 malnourished children under age 5. Fifty-eight percent (58%) of these malnourished children gained significant weight ( $\geq 400$  g) after participating in the first Positive Deviance/Hearth session. From January through June 2006, Positive Deviance/Hearth was expanded to 48 *posyandus*, and 945 children under 5 years of age who were malnourished. More than one-third (35.7%) of these children gained significant weight ( $\geq 400$  g) after participating in the first Positive Deviance/Hearth session in January, and an additional 31.5% gained more than 400 grams after the second session in February. Eighty-four children moved out of the malnourished category (“graduated”) over the 6-month period.

These results, however, are less favorable than those from similar countries in the same region. One possible reason posited by evaluators of the program is that the sociocultural factors that are predictors of success might be sufficiently different in Indonesia, such that positive changes will be more muted. A primary example of this is that in Indonesia, there is a strong preference for consensus and a cultural aversion to showcasing any one particular person or family as being “better” than another.

## DISCUSSION

Despite marked successes, the Positive Deviance/Hearth programs have some limitations. The use of community-specific solutions to improve health and provide policy guidance was an underlying theme in all of the articles reviewed, including those describing applications to other programs not related to infant and child malnutrition, such as improved practices during pregnancy and improved newborn health. For those Positive Deviance applications related to infant and child malnutrition, the literature revealed a common outcome, sustained child growth, and a reduction in child malnutrition. However, only one of the articles included in this review offered any discussion regarding actual testing of the results of Positive Deviance inquiries to focus interventions efficiently when utilizing the approach. None of the articles on the use of the methodology to reduce malnutrition identified the contribution of Positive Deviance beyond improved nutrition to broader programmatic outcomes.<sup>9</sup>

A more pointed and comprehensive focus on gender considerations is warranted in situations such as those found in Guatemala where women are isolated, male

dominance in decision-making is prevalent, and mistrust of “outsiders” is high. Cultural attitudes and behaviors, such as machismo and paternalism, can have a particularly negative impact when food and feeding is seen as the purview of women only and therefore considered relatively unimportant. A father in Guatemala noted that, “Our young children aren’t malnourished. The older children are the same and they are alive and well.” Careful and culturally-appropriate methods of convincing fathers to participate and to allow their wives to participate must be developed and implemented. The process of community entry and sensitization must therefore go beyond the community at large, or even the community leaders, to specifically include husbands of participating women. The men of the family should be considered as actual participants in the process and not as just another element of the community at large. The women and men must be jointly engaged in the search for high potential solutions. It is also vital to involve as many local volunteer personnel (e.g., midwives, community facilitators, and health workers) as possible to help bridge the divide between a proven methodology such as Positive Deviance/Hearth and the unique and complex set of cultural values, perspectives, attitudes, and behaviors at work within a particular community. Without sufficient investment in this particular aspect of the methodology, the potential for putting the entire project at risk exists.

Traditional Positive Deviance-informed programs have, to date, focused on a health status outcome (such as better child growth) instead of looking at the broader picture, including sociocultural influences that need to be considered when applying the methodology, as well as impact of the approach on overall behavior change. Programmers have yet to fully explore how behavioral determinants may affect the success of the methodology. Evaluators also need to determine how to monitor and measure the effectiveness of the methodology in terms of acceptability, affordability, and sustainability, as well as the overall impact that goes far beyond nutritional status. Most importantly, program designers and implementers should adapt the Positive Deviance/Hearth methodology to more fully address challenges faced by maternal-child health practitioners the world over, including lactation, pregnancy, maternal nutrition, teen pregnancy, sexually transmitted infections, and neonatal health.

It is clear that the Positive Deviance/Hearth methodology is more complex and comprehensive, both in its implementation and its results, than is apparent at first glance. In addition to improved nutritional status in children,<sup>18</sup> other, more generally applicable results include increasing the incidence of exclusive breastfeeding, feeding children with patience and loving care,<sup>19</sup> hand washing, hygienic storage and preparation of food, early infant and young child stimulation, positive parenting interactions, care during pregnancy, and HIV preven-

tion.<sup>20</sup> The importance of good nutrition leads to an expanded definition of good parenting, not only for the target child, but for all other members of the family, including future children.<sup>21</sup> In addition, beyond the individual parenting behaviors, Positive Deviance/Hearth programs sensitize participating women to the value of mother-to-mother support and the importance of working as a team and as a community to solve the most important and challenging problems they face. However, just as Positive Deviance/Hearth results seem to have beneficial effects beyond improved nutritional status, other factors,<sup>22</sup> such as sociocultural issues of gender dynamics and the larger context of family dynamics (e.g., how families succeed in maintaining child nutrition in the face of adversity),<sup>23</sup> must be taken into account when designing Positive Deviance/Hearth programs.

Because the benefits of Positive Deviance/Hearth are broad, the strategies for measuring those benefits and its ultimate impact on the child, the mother, the family, and the community at large must be expanded. Methods for monitoring the process and providing immediate feedback are needed so that program designers and implementers can make midstream adjustments for maximum efficacy and results. However, it is also important to design and disseminate methods for tracking impact, including how best to address the challenge of attribution within such a dynamic and complex system.

It is important to engage local communities in the process of designing and implementing Positive Deviance/Hearth programming to ensure optimal success in the short run. It is also important to realize that the experience of civil society members in learning about and improving their understanding about the communities within which they work can be utilized in other work unrelated to Positive Deviance/Hearth. For example, improved understanding about cultural viewpoints and practices related to gender, socialization, empowerment, parenting, health, hygiene, nutrition, and food security can have an important far reaching impact when applied broadly and strategically.

Finally, the methodology itself has potential for adaptation and use with other health conditions, such as tuberculosis, HIV/AIDS, and malaria. As an example, the Positive Deviance approach could be adapted for use with orphans and vulnerable children, or with people living with HIV or AIDS on antiretroviral therapy, and certainly for pregnant women who are HIV-positive and who need counseling about newborn and infant feeding. Aspects of the methodology that could be applied include: 1) identification of "Positive Deviant" persons living with HIV or AIDS with better health and nutrition status than others living in comparable situations; 2) studying those Positive Deviants to understand the factors at work; and 3) applying those positive factors to others using a group process. The process could include Hearth-like nutrition rehabilitation peer sessions, which

focus on locally available foods for the chronically ill that are easy to prepare, are highly nutritious, and easy to chew, digest and absorb. They could also include discussion of alternatives to breast milk that are acceptable, given the environmental and sanitation context of the community.

In summary, research and Project Concern International experience has suggested that the Positive Deviance methodology has much to offer as a powerful means of changing behaviors and improving health and nutrition status for mothers, infants, children, and families. However, there are a number of key issues that must be addressed by implementers and researchers if we are to fully maximize Positive Deviance as a behavior changing and life-saving methodology. Without a more in-depth understanding of the methodology and what it has to offer to maternal and child health in the context of other adverse health conditions, the power that appears inherent in this assets-based approach will remain relatively limited and underutilized.

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This photo was taken about three years ago in the Central Plateau of Haiti. When I am not working in clinic a lot of my time is spent walking through the mountains and countryside of Haiti doing home visits. I mainly visit HIV-infected pregnant women but as one walks for hours through the narrow paths in the countryside many people approach you and ask you to come to their house. This day a family asked me and the other medical team that I was working with to come look at their mother. We found this woman lying on the floor barely conscious. It was unclear immediately what she was suffering from, perhaps TB or malaria, but regardless we knew we needed to hydrate her and get her to clinic. This is a picture of me talking to her and getting ready to start an IV.

Julie Mann, CNM