Positive Deviance Inquiry:

Identifying positive practices to empower communities to improve nutrition in Western Province, Zambia

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What enables some poor members of the community to out-perform their neighbours?

We must learn what they are doing right!

This report provides the following information:

1. How we identified very poor, poor, average and rich households
2. How we identified Positive and Negative Deviants using weight screening data
3. The questionnaire used for exploring the Positive and Negative Deviant practices
4. Key Positive Deviant practices found by the Positive Deviance Inquiry
5. Next steps agreed with the community to set up PD Hearth sessions
6. The key steps of a PD Hearth session developed with the community
7. Monitoring and follow up actions needed

WHAT IS POSITIVE DEVIANCE?

Positive Deviance (PD) is based on the principle that some solutions to prevent malnutrition already exist within the community and just need to be discovered. Behaviors change slowly, so the solutions discovered within a community are more sustainable than those brought into the community from the outside. During a Positive Deviance Inquiry the community representatives and project staff explore together to identify the practices of the Positive Deviant households that enables them to have well-nourished children.

WHAT IS PD/HEARTH?

Hearth or home is the location for the nutrition education and rehabilitation sessions

PD/Hearth sessions aim to:

→ **Rehabilitate** identified malnourished children in the community
→ Enable their families to **sustain the rehabilitation** of these children at home on their own
→ **Prevent** malnutrition in future children born in the community

With the information collected in the Positive Deviance Inquiry, together with the community we

1. Develop Hearth menus using foods seen in Positive Deviant households and other nutrient-rich, locally available and affordable foods
2. Conduct 12 days long Hearth Sessions every 1-2 months
   - only for small groups of moderately malnourished children & their caregivers
   - prepare together and feed children with Hearth menus
   - discuss the other positive deviant practices e.g. hygiene practice

1. WEALTH RANKING

PIN staff, Community Leaders and Health Workers discussed together to define criteria of rich, average, poor and very poor households.

	RICH	AVERAGE	POOR	VERY POOR
	Iron roof on the house House doesn't have a mud floor Owns assets such as: mattress, cattle, oxen, TV, solar panel, batteries, radio	Grass thatched roof (some may have iron roof) Mud floor. Less valuable assets	Grass thatched roof, poor construction Mud floor. Lack of good clothes. No productive assets (even no chickens)	Poor construction or even no shelter Mud floor. Lack of good clothes. No productive assets (even no chickens)
	Owns land in upland and lowland areas. Grows a diversity of crops	Owns land in upland areas, some may have lowland land as well	Cultivates small land e.g. 0.5 lima	Very little or no cultivation. Sometimes receives food from neighbours.
	Has a small business such as: a shop, fishing, cattle	Partially successful business	"Piece work" / daily labour work e.g. cutting grass	No productive activities
	Children go to secondary school Sometimes can afford to send children to college	Children go to primary school, but irregular attendance/drop out of secondary school	Children drop out of school during primary school	Children drop out of school during primary school
	Household size is about 4	Household size is 5-6	Household size up to 9-10	Varied size, may have disability or mental illness
	3 meals/day	2 meals/day (lunch and supper, irregular use of oil)	1 meal/day (no cooking oil)	1 meal/day (no cooking oil).

2. IDENTIFICATION OF PD, ND AND NPD HOUSEHOLDS

Community Health Workers and Volunteers conduct weight screening of under 5 children every month in their community. They use weight for age, by plotting weight against age (in months), on a growth card to determine the nutrition status of a child. PIN therefore proposed to use the same method of measurement (weight for age z scores) to identify malnourished children. Often we find that the coverage of the weight screening of under 5 is not complete, therefore PIN staff supported the Community Health Volunteers to ensure maximum coverage of the weight screening data that would be used for this research.

PIN established the following definitions:

PD = Positive Deviant = Poor/Very Poor households with a child with a well-nourished child (>-1 Weight for Age z-score)

ND = Negative Deviant = Average/Rich households with a malnourished child (<-2 Weight for Age z-score)

NPD = Non-Positive Deviant = Poor/Very Poor households with a malnourished child (<-2 Weight for Age z-score). In case we can't find enough NDs for the survey, we also can use NPDs.

The table provided in Annex A shows the results of assigning each household in the community to a wealth group, the weight and age of each child, their Weight for Age z score and the assignment to PD, ND and NPD status. This data also provides baseline information on the prevalence of undernutrition in the community.

A summary of the results from one community is provided here:

	Number	%
Children severely underweight (<-3 z score)	4	4.9 %
Children moderately underweight (<-2 and >-3 z score)	9	11.1 %
Total children underweight (<-2 z score)	13	16.0 %

	Number	%
Rich households	9	11.1 %
Average households	31	38.3 %
Poor households	36	44.4 %
Very poor households	5	6.2 %

	Number	%
Positive Deviants	23	28.4 %
Negative Deviants	7	8.6 %
Non-Positive Deviants	5	6.2 %

3. CONDUCTING THE POSITIVE DEVIANCE INQUIRY

Household observations were conducted to understand the practices of the Positive Deviant households that enables them to have well nourished children, and explore the differences in practices between Positive and Negative Deviant households.
Teams of 2-3 were composed of PIN staff, community leaders and community health workers/volunteers. Each team was allocated 3 households to visit: 2 Positive Deviant and 1 Negative Deviant. In the cases that we could not find the ND Households members, and there weren't other ND Households available, they were replaced with a Non-Positive Deviant household (NPD). NPD households are poor/very poor households that have an underweight child so the comparison between them and PD households that have similar wealth status as NPDs but with well-nourished children remains interesting.
The teams spent 1-2 hours observing the practices in the home and talking with the family members primarily over the lunch meal times in order to observe feeding practices. With the objective of trying to capture the real practices, the teams had to ensure the household members felt relaxed and free to go about their usual routine. The household visit protocol is provided in Annex B.
The observation report form had 3 main sections to it: Feeding Practices, Caring Practices and Health Practices. It is provided in Annex C.

Questioning gender norms: PIN male staff helping with pounding

Pounded fish being sieved to remore bones

A variety of locally available nuts and beans rich in protein and fat

Pumpkin leaves are very nutritious dark green vegetables.

Locally available fish roasted directly onto the remnants of the hot coals, after the nsima is cooked

4. KEY FINDINGS FROM THE POSITIVE DEVIANCE INQUIRY

PIN staff, community leaders and the health workers/volunteers analysed the results of their household findings together. Each group of practices (feeding, caring and health) were discussed and each team compared the differences between PD and ND/NPD households they had visited. Although there are many possible practices under each of these groups, the practices listed below are the key differences found between Positive and Negative/Non-Positive Deviants.

Positive Deviant Feeding Practices

- → The caregiver actively supervises feeding and encourages the child to eat
- → Good management of feeding when the child has a low appetite, especially when the child is sick
- → Providing freshly cooked food for the child (rather than e.g. cold food from the evening before)
- → Eating a variety of different food including: nuts (Groundnuts, local Mungongo nuts), small fish, dark green leafy vegetables (amaranthus and pumpkin leaves), tomatoes, cow peas and other local "traditional" peas, hibiscus (sindambi/lumanda) as well as staples (nshima which is ground maize or cassava).

Positive Deviant Caring Practices

- → The father is engaged in the nutrition of the child:
  - ensuring nutritious food is available,
  - supervision of the child eating if the mother is busy,
  - interacting and playing with the child.

Positive Deviant Health Practices

- → Correct treatment of diarrhea:
  - Providing Oral Rehydration Salts (with Zinc) available for free from the health clinic
  - Providing a thin liquid porridge
  - Continuing to breastfeed during the illness
- → A clean compound and correct disposal of child faeces around the home

Based on the foods found in Positive Deviant households the following recipes were developed:

1.

Sorghum, fish and ngongo nut porridge

Pound the ngongo nut with some water and sieve the juice after

Bring 2 cups ngongo nut juice to boil, then add another cup of water

Mix 1 cup of sorghum flour in the pot

Add in 2 table spoons of pounded fish

Simmer for 30 minutes and serve when ready

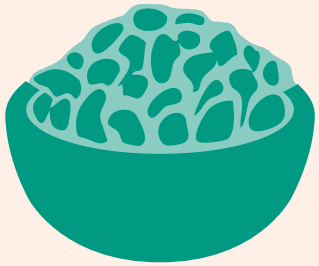
2.

Sweet potatoes mixed with pounded roast groundnuts

Peel about 200g of sweet potatoes and boil

Roast 1 cup of groundnuts and pound them

Add the cooked potatoes in the mortar and pound them together, then serve



3.

Pounded rice, fish, groundnuts and local beans porridge

Bring to 2 ½ cups of water to boil

Add in 1 cup of pounded rice

Add in 1/4 of cup of pounded local beans and 1/4 of cup of pounded groundnuts

Add in 2 table spoons of pounded fish

Serve when ready

5. NEXT STEPS AGREED WITH THE COMMUNITY TO SET UP PD HEARTH SESSIONS

Identify underweight children during the next weight screening day
(locally called the "under 5", happens at the end of every month)

Inform the households of the underweight children that:

- → Their child's weight is too low
- → They are invited to a 12 day rehabilitation session
- → Invite both parents, if the father is not there invite grandmother or other secondary caregiver
- → We will use locally available foods during the sessions and ask them what food they could spare for the session
- → They should bring the child's weight growth monitoring card
- → The date, time, location (agree a place that is convenient for all)

Organise materials needed for the sessions:

- → Cooking equipment and plates for participants
- → Salter weighing scale, weighing bag and pole if needed
- → Attendance register and place for recording weights
- → Water, soap and handwashing facility

6. THE KEY STEPS OF A PD HEARTH SESSION DEVELOPED WITH THE COMMUNITY

1. Introduce the session.

We are here to:

- Learn how to cook nutrient-rich meals for children from locally available food
- Talk about good feeding and hygiene practices
- To rehabilitate our children from Moderate Acute Malnutrition (MAM) with locally available food and be able to prevent it from happening again

2. Children should be weighed on the 1st, 6th and 12th day.

Say the result to the mother (confidentially) and record in the attendance register. We should see a weight gain of at least 400 grams.

3. Explain the different food groups and what they do.

Ask: where can you get the foods of these different food groups from?

4. Cook together

5. Before eating, talk about handwashing and the importance of preventing diarrhea

(in future sessions the treatment of diarrhea can also be discussed)

6. Everyone washes their hands with soap

7. Taste the food

(this is a cultural obligation)

8. Serve the food:

- show the quantity of food that is enough for the children
- encourage the caregivers to actively feed and supervise the children while they eat

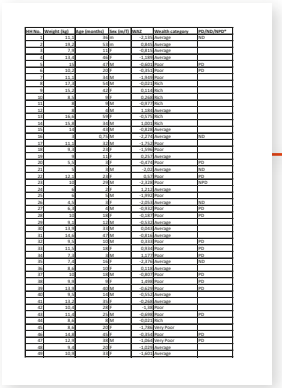
9. Discuss the following questions

(you can pick 1 or 2 from the list and discuss others on other days):

- What do you do when your child is not eating enough?
- How many times a day should the child of, for example, 1 year eat?
- What role can the father play if the mother is not around so the child can eat?

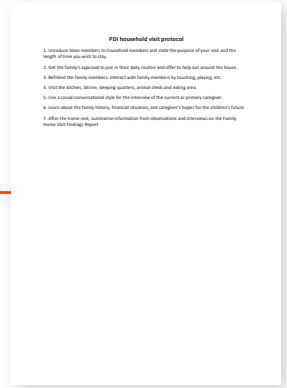
7. MONITORING AND FOLLOW UP

- → In the case that the child does not gain enough weight between the 1st and 12th day, follow up households visits by the Community Health Volunteers should be carried out.
  In the case that the child loses weight between the 1st and 12th day, discuss with the caregiver the different key practices: e.g. whether they were eating more, active supervision and encouragement of the child eating at home. In serious cases the Community Health Volunteer should refer to the health post.
- → Remember to ensure the work of the Community Health Volunteers/Workers is recognised by the District Health Office. This is essential for the sustainability of these sessions.
- → Monitor the coverage of the monthly "under 5" weight screening sessions to make sure all children under 5 are being weighed monthly. Discuss with the Community Leaders and Health Workers/Volunteers any problems in coverage and how to solve them.
- → Agree with the Community Leaders and Health Workers/Volunteers the date of the next set of PD Hearth sessions.
- → Record the names and weight data from the sessions into an Excel file. In the next set of sessions check whether there are any children that have relapsed i.e. they have already attended sessions because they were underweight before, and now they are underweight again. Record the names and number of children relapsed and make sure they receive extra household visits to ensure the good practices discussed and shown in the PD Hearth sessions are taken home.
- → Compare the prevalence of underweight children at the end of the project to the prevalence found during the Positive Deviance Inquiry (see section 2 of this report) to see if your sessions have had an impact. Remember that prevalence of underweight children can be influenced by seasonal factors and ideally the comparison should be done with data from the same month of the year.

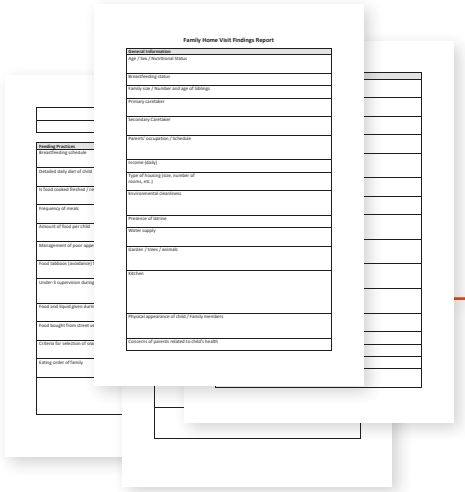


Annex A: Identifying PD, ND and NPD

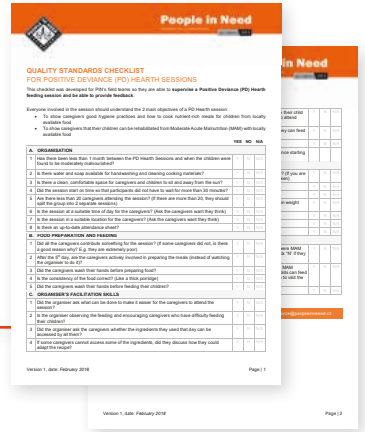
Note that the blanks are where there are rich or average households with well-nourished children, these households are neither PD, ND or NPD



Annex B: PDI household visit protocol



Annex C: Family Home Visit Findings Report



Annex D: Quality Standard Checklist – PD Hearth sessions