Dissertation
At
NHM (National Health Mission) Gujrat
Amreli District

Performance Assessment of Nutrition Rehabilitation Centre in Amreli District of Gujrat (2016-2017)

by

Dr. Chintan Parikh

Under the guidance of

Prof. S D Gupta

MBA in Hospital and Health Management

2015-2017

IIHMR UNIVERSITY

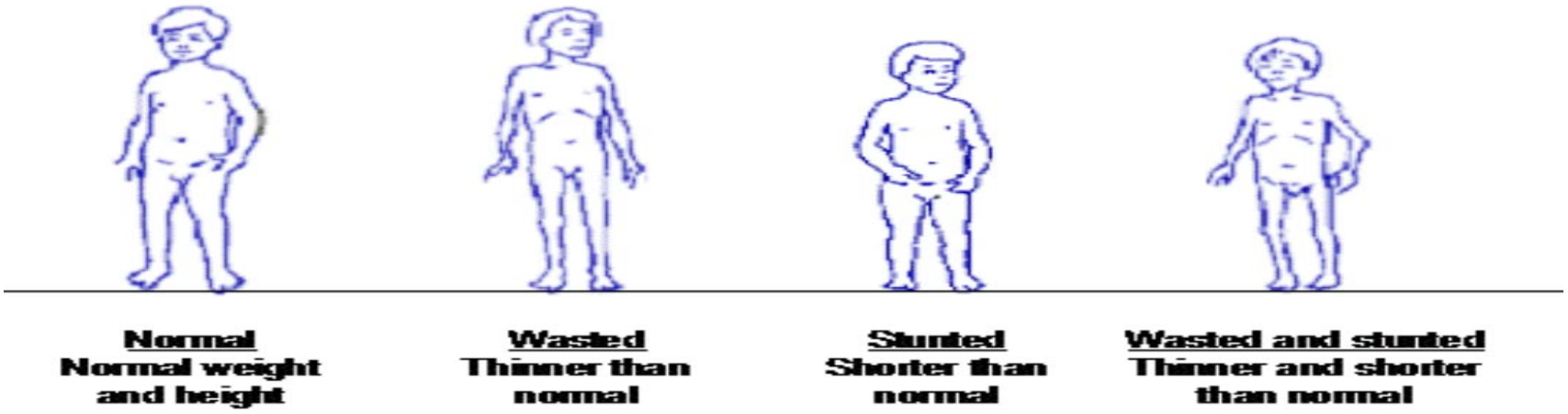
PROFILE OF AMRELI DISTRICT

- Amreli district is one of the 33 administrative districts in the state of Gujrat in western India.
- The district headquarters are located at Amreli
- Population of 15,14,190 of which 22.45 percent were urban.
- The district comprises of 11 talukas.

Source : Census of India, 2011

STATUS OF MALNUTRITION IN AMRELI DISTRICT

- 37.8 percent of children under 5 years of age are stunted (height-for-age)
- 24.6 percent of children under 5 years of age are wasted (Weight-for-height)
- 6.4 percent of children under 5 years of age are severely wasted (Weight-for-height)
- 31.7 percent of children under 5 years of age are underweight (Weight-for-age).



Source : National Family Health Survey, 2015-16

BACKGROUND

WHO and UNICEF in their joint statement have recommended two major approaches to address children with SAM:

1. Facility/hospital-based care for children with SAM and medical complications

2. Home/community-based care for children with SAM but without medical complications.

Curative Aspects of Gujarat State Nutrition Mission – a 3-tier approach

I. The Intensive Nutrition Care Centre (INCC) as "Bal Shaktim Kendra"

II. The Child Malnutrition Treatment Center as "Bal Sewa Kendra" at PHC/CHC/ Sub District level

III. Nutrition Rehabilitation Center as "Bal Sanjeevani Kendra" at District Hospit Medical College

NATIONAL RURAL HEALTH MISSION
2012-2017
NRHM Gujarat

INTRODUCTION

- Nutrition Rehabilitation Centre is a special unit, located in the District Hospital of Amreli and dedicated to the initial management and nutrition rehabilitation of children with severe acute malnutrition.
- Patient area to house the beds.
- Play and counseling area
- Kitchen and food storage area
- Attached toilet and bathroom facility for mothers and children.

STATEMENT OF THE PROBLEM

There seems to be a gap in overall monitoring and assessment of performance of NRC with respect to key output indicators (as per operational guidelines).

Also, the admission rates shows that there has been a gradual decrease in the number of cases admitted to NRC over the last two years

RESEARCH QUESTIONS

Q1. What is the performance of Nutrition Rehabilitation Centre with respect to key output indicators in Amreli district of Gujrat in the year 2016-17?

Q2. What are various managerial issues and challenges hindering the effective implementation of the program at NRC?

OBJECTIVES

1. To analyze the output indicators of Nutritional Rehabilitation Centers to assess its performance.

2. To explore various managerial issues and challenges hindering the effective implementation of the program at NRC.

METHODOLOGY

Study Design : It is a cross-sectional descriptive study. A mixed method research design was used which included mixing of qualitative and quantitative data and methods in congruence with the research question asked.

Quantitative – Performance Assessment using key output indicators

Qualitative – Conducting in-depth interviews

Study Location and Duration

The study was conducted in Nutrition Rehabilitation Centre of District Amreli of Gujarat over a period of three months starting Feb'17

QUANTITATIVE STUDY

Study Subjects

Unit of observation:

Health Records of all the Children with Severe Acute Malnutrition admitted to the NRC. (in the reporting period)

Sample Size

A sample size of 85 children was undertaken for the study. (n=85)

Sampling Technique

Total Population Sampling technique was observed as all the children admitted to NRC in the financial year 2016-2017 were included in the study.

Data Collection Tools &Techniques :

Retrospective review of records of key elements forming performance output indicators that are to be assessed.

Data collection sources:

1. SAM Register
2. NRC Register
3. Admission and Discharge Register

DATA ANALYSIS

	Element	Quality Characteristic	Standard	Indicator
1	Recovery Rate (at discharge)	Satisfactory	> 50% beneficiaries have recovered	Percentage of beneficiaries that have reached discharge critera (target weight gain of 15%)within the discharge period
2	Recovery Rate (at follow-up)	Satisfactory	> 75% beneficiaries have recovered	Percentage of beneficiaries that have reached discharge critera (target weight gain of 15%) within the follow-up period
3	Death rate/ Case Fatality rate	Negligible	< 5% beneficiaries have died	Percentage of children who died within the reporting period
4	Defaulter rate	Minimal	< 15% beneficiaries have defaulted	Percentage of beneficiaries that have not attended the NRC for 3 consecutive days
5	Average Weight gain	Proportionate	≥ 8g is the average weight gain of all the beneficiaries	Sum of weight gains (g/kg/d) of all the children discharged during the month

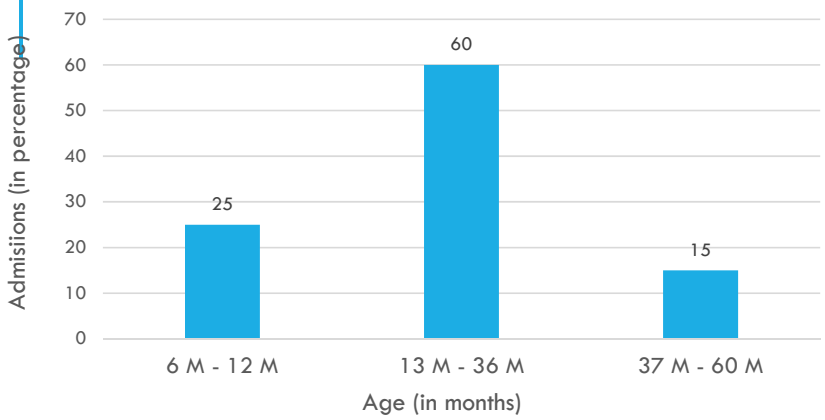
6	**Average Length of stay**	**Optimal**	**1-4 weeks is the average length of stay for all beneficiaries**	**Total inpatient days of care i.e. Sum of each daily inpatient census for the time period examined**
7	Relapse rate	Minimal	< 10% beneficiaries have shown relapse	Percentage of patients who have been discharged as cured from the programme 7within the last 2 months but is again eligible for NRC.
8	Bed occupancy rate		No standard given in the guidelines	(Inpatient Days of Care / Bed Days Available) x 100
9	Medical Transfer Rate	Minimal	< 15% beneficiaries have been transferred due to medical complications	Percentage of patients transferred to a health structure outside the feeding programme (hospital, health centre etc.) regardless of the level of the health facility s/he is referred to.
10	Non-Respondent Rate	Negligible	< 10% beneficiaries fail to respond to the treatment e.g. the patient remains for a long period of time under the target weight (target weight taken as 5 %)	Percentage of patients who fail to respond to the treatment

11	**SAM Criteria at Admission (Atleast 2 out of the 3) (MUAC, Z Score & Illness)**	**Satisfactory**	**> 95 % beneficiaries fulfill atleast 2 (out of 3) criteria at the time of admission**	**Percentage of patients fulfiiling atleast 2 (out of 3) criteria at the time of admission**
12	SAM Criteria at Admission (All the Three) (MUAC, Z Score & Illness)	Satisfactory	> 75 % beneficiaries fulfill all the 3 criteria at the time of admission	Percentage of patients fulfilling all the 3 criteria at the time of admission
13	SAM Criteria at Discharge (All the Three) (MUAC, Z Score & Illness)	Minimal	< 5% beneficiaries still fulfill all the SAM criteria	Percentage of patients still fulfilling all the 3 SAM criteria at the time of discharge
14	SAM Criteria at Discharge (Atleast 2 out of the 3) (MUAC, Z Score & Illness)	Minimal	< 15% beneficiaries still fulfill atleast 2 (out of 3) SAM criteria	Percentage of patients still fulfilling atleast 2 (out of the 3) SAM criteria at the time of discharge.
15	Follow-up Rate	Maximum	> 95% beneficiaries have completed all the 3 follow-ups	Percentage of patients who completed all the 3 follow-ups

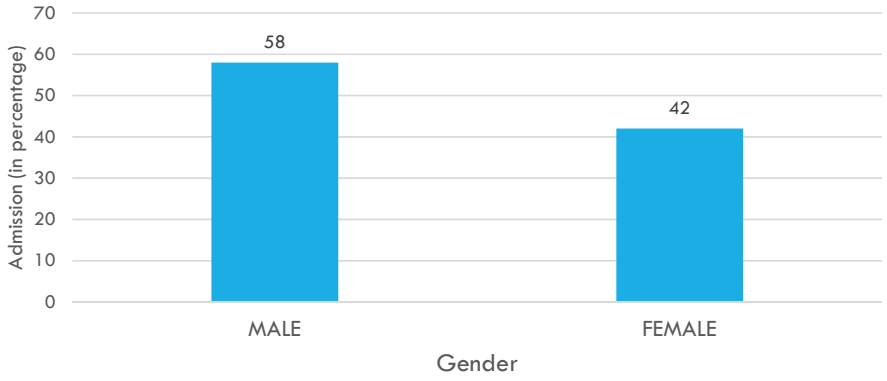
RESULTS

A. GENERAL PROFILE OF BENEFICIARIES

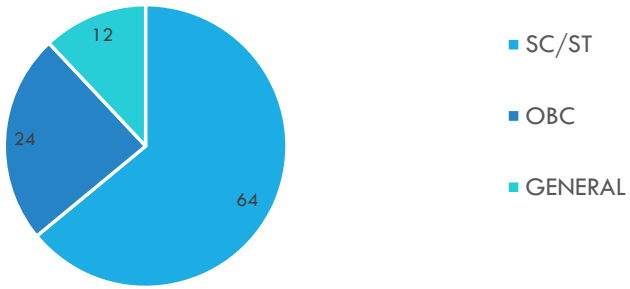
Age-wise Distribution
(fig 1.1)



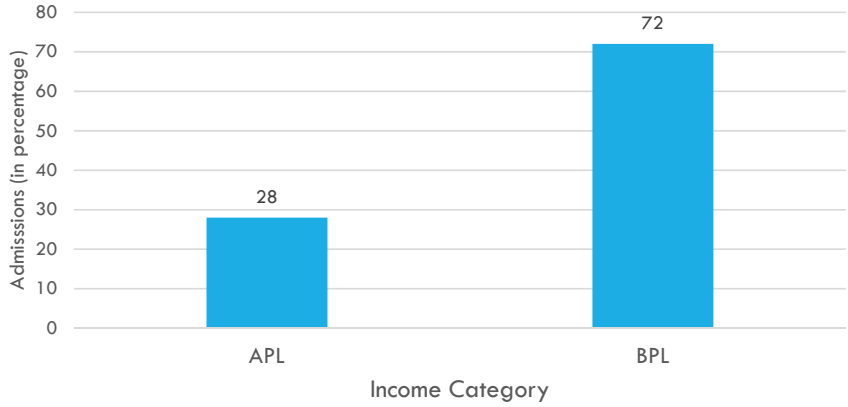
Gender Distribution
(fig 1.2)



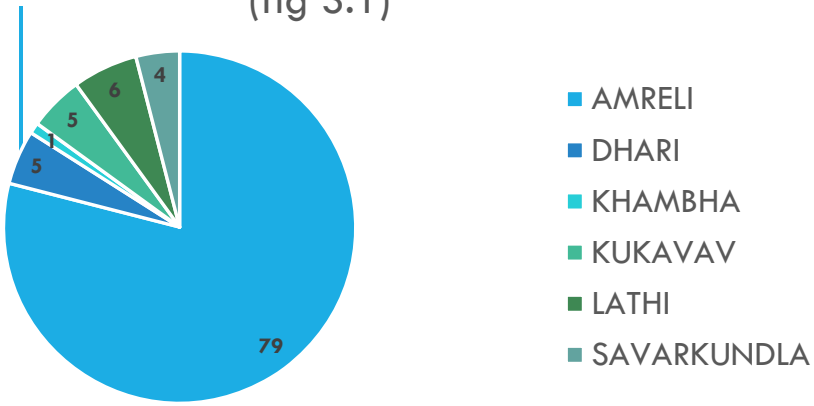
Caste Distribution
(Admissions in percentage)
(fig 2.1)



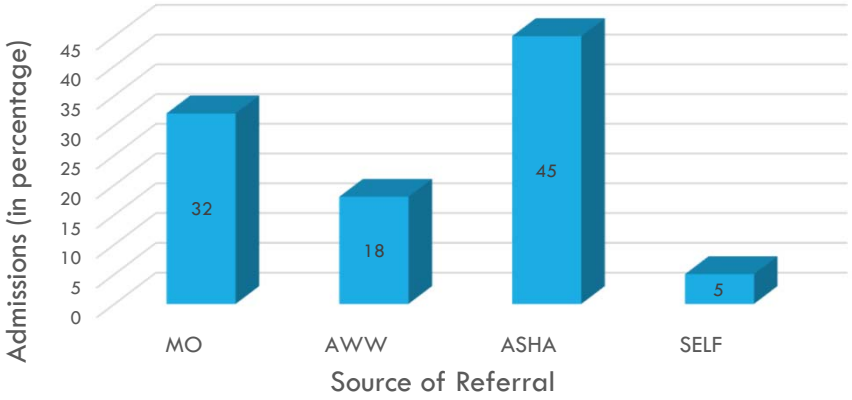
Income Distribution
(fig 2.2)



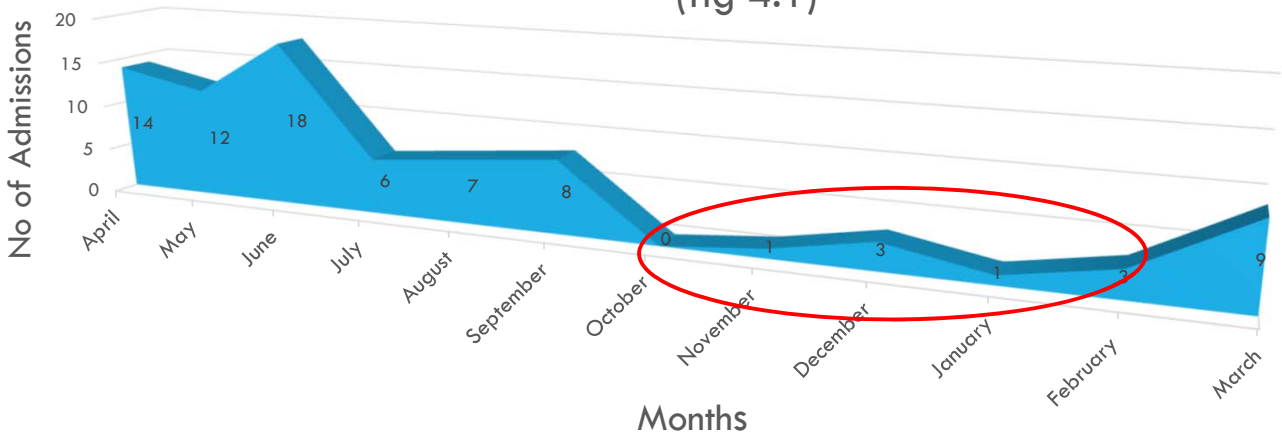
Taluka-wise Distribution (Admissions in percentage) (fig 3.1)



Referral Source (fig 3.2)



Admission Rate over the year 2016-17 (fig 4.1)



B. PERFORMANCE OUTPUT

Sr.No	Element	Indicator Value	Remarks (as per standards)
1	Recovery Rate (at discharge)	9.45 %	The recovery rate is very poor as it far below the standard criteria. Only one-tenth of the beneficiaries have met the "target weight gain" criteria.
2	Recovery Rate (at last follow-up)	20.54%	The recovery rate is very poor as it far below the standard criteria. Only one-fifth of the beneficiaries have met the "target weight gain" criteria even at the last follow-up.
3	Death Rate/ Case Fatality Rate	Nil	The NRC has shown a remarkable performance to avert deaths within the facility.
4	Defaulter Rate	10%	The defaulter rate is good as it meets the standard criteria
5	Average Weight Gain	3.2 g/kg/day	Average weight gain is poor. It reflects the inadequacy of the facility to fulfill standard treatment protocols
6	Average Length of Stay	13 days	In 95 percent of the cases the duration of stay was 14 days. However, in a few cases, the beneficiaries stayed within the facility for 21 days.
7	Bed Occupancy Rate	30.82 % i.e 31%	The bed occupancy rate is very poor. At any point of time, 7 beds are "unoccupied". Only 3 are occupied.
8	Relapse Rate	1%	The relapse rate is excellent as it fulfills the criteria. However, the tracking of beneficiaries post discharge and follow-up requires further exploration.

9	**Medical Transfer Rate**	**6.49 %**	**The Medical Transfer Rate is good as it meets the standard criteria. It reflects the potential of the facility to manage most of the complications on its own.**
10	Non- Respondent Rate	34.74%	Non-Respondent rate is poor as one-third of the respondents have failed to respond to the treatment. However, it may also be due to any other underlying medical complications/pre-existing illnesses.
11	SAM Criteria at Admission (Atleast 2 out of the 3) (MUAC, Z Score & Illness)	100%	All the beneficiaries fulfill the criteria of Z-score <3SD and having Illness
12	SAM Criteria at Admission (All the Three) (MUAC, Z Score & Illness)	50.58%	Almost half of the respondents do not fulfill the criteria for MUAC>11.5 cm
13	SAM Criteria at Discharge (All the Three) (MUAC, Z Score & Illness)	Nil	None of the beneficiaries fulfill all the SAM Criteria (of admission) at the time of Discharge. This means that all the beneficiaries have shown atleast an optimal level of improvement during the stay
14	SAM Criteria at Discharge (Atleast 2 out of the 3) (MUAC, Z Score & Illness)	9.33%	Almost one-tenth of the beneficiaries fulfill (Atleast 2 out of the 3) SAM Criteria (of admission) at the time of Discharge. This means that almost 90 percent of the beneficiaries have shown a satisfying level of improvement during the stay
15	Follow-up Rate	100%	The follow-up rate is excellent. The provision of incentives to the beneficiaries during the follow-up phase has helped to achieve a 100 percent follow-up rate

QUALITATIVE STUDY

STUDY SUBJECTS

THE STUDY SUBJECTS INCLUDED THE VARIOUS STAKEHOLDERS OF NRC AT DIFFERENT MANAGERIAL LEVELS OF THE HEALTH SYSTEM.

State Level - Nutrition Program Officer

District Level - Reproductive Child Health Officer(RCHO)
Nutrition Program Associate
Program Officer (ICDS)
District Finance Officer
Public Health Nurse

Facility Level - NRC In-charge Medical Officer
Paediatrician (District Hospital)
Nutrition Assistant
Cook at NRC
Staff Nurse
Operator (Finance)
Maid

Block Level – Block Health Officer
Block Health Visitor/Supervisor

PHC/Sub-centre - Medical Officer
Female Supervisor
FHW/ANM

Field Level – ASHA
Anganwadi Worker

Sample Size

A sample size of 20 was undertaken for the study keeping in mind the general rule of "Theorotical Saturation" which says that the same stories, themes, issues, and topics emerge from the interviewees, when a sufficient sample size (of 20) has been reached.

Sampling Technique

.Purposive Sampling Technique was adopted to include all the important stakeholders of NRC at different managerial levels of the health system.

Data Collection Tools &Techniques

All the in-depth interviews were conducted using the "Informal Conversational Interview approach".

The interviews were documented by writing key notes and phrases and later expanding them immediately after the interview. Direct quotes, if found to be meaningful or controversial were recorded separately.

DATA ANALYSIS

The interview data was analysed by reading through interview responses and categorizing them into various themes and sub-topics.

The following themes and sub-topics emerged out from the interview responses/quotes of the participants.

- Field Visits
- Facility Level Issues
- Financial Provisions and Incentive Structure
- Software Monitoring and Reports
- Pay-scale of job and Job Satisfaction
- Authority/Power

RESULTS

INTERPRETED AND PRESENTED IN THE FORM OF QUOTES

FIELD LEVEL ISSUES

- "The Medical Officer at PHC has to spare a few extra minutes from his regular OPD, and put some serious effort into convincing the mothers of SAM children to seek treatment at NRC"
- "It is the job responsibility of Female Health Worker to go door to door and actively screen for SAM children, but unfortunately that doesn't happen"
- "There were many intances in the past where I have reported malpractices occurring on the field to higher authorities, but all in vain. There was no outcome as higher authorities never took any action. This is the reason why I don't feel motivated enough to go for field visits."

FACILITY LEVEL ISSUES

- "The selection criteria is not fully followed during admission. Even if the child is borderline SAM, the child is admitted to the facility. That is the only solution to ensure atleast a minimal level of admission rate"
- "Since the facility doesn't have a Staff Nurse, the NRC remains closed during the night. The patients are discharged everyday in the evening itself. Patients who cannot travel home back and forth daily reside in the Paediatric ward of the hospital in the night. The officials believe keeping them in the NRC would be unsafe as they would be on their own without the presence of any staff."
- "The Medical Officer in-charge of the NRC rarely visits the facility".

RESULTS

INTERPRETED AND PRESENTED IN THE FORM OF QUOTES

FINANCIAL PROVISIONS AND INCENTIVE STRUCTURE

- "Almost Forty percent of the grant given to NRC always remains unspent at the end of the year and is therefore often used under other budget heads."
- "The parents of the beneficiaries don't find the existing incentive structure sufficient enough to motivate them to seek treatment at NRC."
- "The incentive mechanism needs to be revised in those cases when a parent admits more than one of his/her children to the NRC at the same time. They should be reimbursed for each and every child that is admitted to the NRC."

SOFTWARE MONITORING AND REPORTS

- "We don't show cases of "drop-out" children in the quarterly reports as it would reflect poor performance"
- "The data uploaded on e-mamta at the field level is highly unreliable."
- "Initially, monitoring was more frequent as reports were made and sent to the state at monthly intervals. The reporting formats and intervals change according to the officer in- charge at the state level.
- "The taluka and district level authorities have no interest in monitoring the monthly reports"

RESULTS

INTERPRETED AND PRESENTED IN THE FORM OF QUOTES

PAY-SCALE AND JOB SATISFACTION

- "We have requested the district and state authorities many times to increase our pay-scale which has been stagnant ever since the time we joined the health system."
- "Job satisfaction is less since I'm unable to use my knowledge into doing something meaningful and constructive."
- "I have never received any motivation or appreciation for the work I have done"

AUTHORITY AND POWER

- "The final authority regarding implementation of any strategy lies with the Class 1 officers. The unfortunate part is that none of them have any interest in bringing about any change. NRC is not a priority for them."
- "I wish I had the authority to take disciplinary action against Medical Officers who are not doing their jobs properly on the field. The sad truth is that the ones who have don't use it at all. "

LIMITATIONS

- Because program or clinic staff might want to "prove" that a program is working, their interview responses might be biased. Responses from community members and program participants could also be biased due to their stake in the program or for a number of other reasons.
- Generalizations about the results cant be made because small samples are chosen and random sampling methods are not used

CONCLUSION

- ✓Strengthening our screening procedures, both at the community and facility level.
- ✓Engagement of field level staff in active screening of SAM cases. The field level staff should be periodically sensitized regarding the program and its associated benefits.
- ✓Develop effective strategies for supportive supervision and monitoring at the facility level.
- ✓The operational guidelines given by NRHM should be religiously followed to ensure correct formulation and timely administration of feeds.
- ✓Counsel the parent on how to prepare feeds and monitor the health of the child during the "Follow-up" phase.
- ✓The authorities should be actively involved in solving the various managerial issues related to finance and Human Resources that often go unnoticed and neglected
- ✓Consolidated efforts from all the key stakeholders at various levels of healthcare system

REFERENCES

1) Guidelines for Management of Severe Acute Malnutrition (SAM) Children at Nutrition Rehabilitation Centre, National Rural Health Mission, Ministry of Health & Family Welfare, Government of Gujrat, 2012.

2) District Fact Sheet, Amreli, Gujrat, National Family Health Survey, 2015-2016, Indian Institute of Population Sciences.

3) Taneja G, Dixit S, Khatri A K, Yesikar V, Raghunath D, Chourasia S. A study to evaluate the effect of nutritional intervention mesasures on admitted children in selected nutritional rehabilitation centres of Indore and Ujjain divisions of the state of Madhya Pradesh (India). Indian J Community Med 2012;37:104-15

4) Colecraft EK, Marquis GS, Bartolucci AA, Pulley L, Owusu WB, Maetz HM. A longitudinal assessment of the diet and growth of malnourished children participating in nutrition rehabilitation centres in Accra, Ghana. Public Health Nutr 2004;7:487-94.

5) Grobler-Tanner C, Collins S. Community therapeutic care (CTC): A new approach to managing acute malnutrition in emergencies and beyond. Washington DC: Food and Nutrition Technical Assistance Project, Academy for Educational Development; 2004.

6) Kadam DD, Kulkarni RN, Subramanium P. Anthropometric and socio-economic profile of children referred to nutritional rehabilitation centre. Indian Pract 2001;54:476-85.

7) Beghin ID, Viteri FE. Nutritional rehabilitation centres: An evaluation of their performance. J Trop Pediatr Environ Child Health 1973;19:403-16.

8) International Institute of Population Sciences. National Family Health Survey -3. Mumbai: IIPS, ORC Macro; 2005.

9) Kumar R, Singh J, Joshi K, Singh HP, Bijesh S. Hospitalized Children with Severe Acute Malnutrition in Rewa District. Indian pediatrics August 2013[e-pub ahead of prints]:1-5

THANK - YOU