

Performance Assessment of Nutrition Rehabilitation Centre in Amreli District of Gujarat (2016-17)

By

Chintan Parikh

*Dissertation submitted for the partial fulfillment of the
MBA Hospital and Health Management*

Academic year, 2015-2017



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TO WHOMSOEVER IT MAY CONCERN

This is to certify that Dr. Chintan Parikh, student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone internship training at National Health Mission, Gujrat from 6th February to 5th May, 2017.

The Candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish him success in all his future endeavors.



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Dr. S.D. Gupta

Chairman

The IIHMR University, Jaipur

The certificate is awarded to

Dr. Chintan Parikh

In recognition of having successfully completed his
Dissertation at

NHM-Gujrat (Amreli District)
(Feb 2017 – May 2017)

And has successfully completed his Project on

Performance Assessment of Nutrition Rehabilitation Centre

He comes across as a committed, sincere & diligent person who has a
Strong drive & zeal for learning

We wish him all the best for future endeavors



Dr. K P Patel

Chief District Health Officer

District Health Society, Amreli

THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled "Performance Assessment of Nutrition Rehabilitation Centre in Amreli district of Gujrat (2016-17) and submitted by Dr. Chintan Parikh Enrollment No. IIHMR-U/01/2015-17/0321 under the supervision of Dr. SD Gupta for award of MBA in Hospital and Health of the University carried out during the period from 6th February to 5th May embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.



Signature

CERTIFICATE BY SCHOLAR

This is to certify that all ethical issues have been considered while collecting data for my dissertation titled "Performance Assessment of Nutrition Rehabilitation Centre in Amreli district of Gujrat (2016-17) .



Signature of student

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Dr. Chintan Parikh

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LIST OF ABBREVIATIONS

1	ASHA	ACCREDITED SOCIAL HEALTH ACTIVIST
2	AWW	ANGANWADI WORKER
3	AWC	ANGANWADI CENTRE
4	ANM	AUXILLARY NURSE MIDWIFE
5	CHC	COMMUNITY HEALTH CENYTE
6	CMTC	CHILD MALNUTRITION CENTRE
7	DH	DISTRICT HOSPITAL
8	MO	MEDICAL HOSPITAL
9	MOHFW	MINISTRY OF HEALTH AND FAMILY WELFARE
10	NFHS	NATIONAL FAMILY HEALTH SURVEY
11	NHM	NATIONAL HEALTH MISSION
12	PHC	PRIMARY HEALTH CENTRE
13	SDH	SUB DISTRICT HOSPITAL
14	SAM	SEVERE ACUTE MALNOURISHMENT
15	UNICEF	UNITED NATIONS CHILDREN’S FUND
16	WHO	WORLD HEALTH ORGANIZATION

INTRODUCTION

Malnutrition is associated with high rates of mortality and morbidity and is an underlying factor in almost one-third to half of all children under five years who die each year of preventable causes. Many of these deaths are on account of severe malnutrition. Strong evidence exists on synergism between under nutrition and child mortality due to common childhood illnesses including diarrhea, acute respiratory infections, malaria and measles. To prevent deaths due to severe acute malnutrition (SAM), specialized treatment and prevention interventions are required. WHO and UNICEF in their joint statement have recommended two major approaches to address children with SAM: ^[1]

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.

In order to improve the current status of nutrition, Gujrat State Nutrition Mission initiated preventive and curative strategy keeping in view the various stages of desirable interventions namely adolescence, 9 months of pregnancy to first 2 years of age (critical 1,000 days) and for children up to 6 years having Severe Acute Malnutrition to reduce child mortality.

Curative Aspects of Gujarat State Nutrition Mission – a 3-tier approach for integrated management of malnutrition across different levels by creation of three different levels of infrastructure.

1. The Intensive Nutrition Care Centre (INCC) as "Bal Shaktim Kendra" at Anganwadi centers for malnourished children without any medical needs.
2. The Child Malnutrition Treatment Center as "Bal Sewa Kendra" at PHC/CHC/ Sub District level for malnourished children.
3. Nutrition Rehabilitation Center as "Bal Sanjeevani Kendra" at District Hospital/ Medical College for malnourished children with significant medical care.

Operational Definition

Nutrition Rehabilitation Center (NRC) is a unit in a health facility where children with Severe Acute Malnutrition (SAM) are admitted and managed. Children are admitted as per the defined admission criteria and provided with medical and nutritional therapeutic care. Once discharged from the NRC, the child continues to be in the Nutrition Rehabilitation program till she/he attains the defined discharge criteria from the program (described in technical guidelines). In addition to curative care, special focus is given on

timely, adequate and appropriate feeding for children; and on improving the skills of mothers and caregivers on complete age appropriate caring and feeding practices. In addition, efforts are made to build the capacity of mothers/caregivers through counseling and support to identify the nutrition and health problems in their child.

District Profile of Amreli

Amreli district is one of the 33 administrative districts in the state of Gujarat in western India. The district headquarters are located at Amreli. The district occupies an area of 6,760 km² and has a population of 15,14,190 of which 22.45 percent were urban. The district comprises of 11 talukas. The total no of children under 5 years of age is 1,51,419, which is about ten percent of the total population.

According to National Family Health Survey (2015-2016), the district fact sheet of Amreli highlights the following indicators with respect to Malnutrition. ^[2]

- 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).

Structure of NRC at Amreli

NRC 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. At a district hospital, NRC has 10 beds. The NRC unit is a distinct area within the health facility and is in proximity to the pediatric ward/in-patient facility.

The NRC has the following facilities-

- ☐ Patient area to house the beds; in NRC adult beds are kept so that the mother can be with the child.
- ☐ Play and counseling area with toys; audiovisual equipment like TV, DVD player and IEC material
- ☐ Nursing station
- ☐ Kitchen and food storage area attached to ward, with enough space for cooking, feeding and demonstration
- ☐ Attached toilet and bathroom facility for mothers and children along with two separate hand washing areas.

The approximate covered area of the NRC is about 150 square feet per bed, plus 30% for ancillary area.

NRC has a cheerful, stimulating environment and is child friendly. Walls are brightly painted and decorated. Ward has sufficient space for all mothers /caregivers staying with the children to sit together and be given cooking and feeding demonstration.

REVIEW OF LITERATURE

The Nutrition Rehabilitation Centre at Amreli was conceptualized and brought into function in June 2013..

The following have been the total no of admissions in the NRC in the past four years.

YEAR	NO OF ADMISSIONS
2013	144
2014	154
2015	127
2016	96

According to the operational guidelines of NRC issued by NRHM, the performance of NRCs may be assessed based on the criteria described below. The overall functioning of the NRCs can be monitored against the sphere standards.

Indicators	Acceptable	Not Acceptable
Recovery rate	>75%	<50%
Death rate	<5%	>15%
Defaulter rate	<15%	>25%
Weight gain	≥8g	<8g
Length of stay (weeks)	1-4	<1 and >6
Relapse rate	<10%	>15%
Bed occupancy rate	-	-

With the help of these established indicators, a number of researchers have conducted various studies to assess qualitative and quantitative parameters of Nutrition Rehabilitation Centres.

In a study conducted in Madhya Pradesh, 100 children admitted to seven different NRCs in Indore and Ujjain divisions were observed during their stay at NRCs and the follow-up period to analyze the effect of interventional measures on select anthropometric indicators. 93 children were analyzed for anthropometric indicators following a dropout rate of 7%. A statistically significant difference was obtained between the weight of children at admission and discharge ($t=14.552$, $P<0.001$); difference of mid upper arm circumference (MUAC) at admission and discharge was statistically significant ($t=9.548$, $P<0.001$). The average weight gain during the stay at the centers was 9.25 ± 5.89 g/kg/day.^[3]

Weight has been taken as the main anthropometric measure as an improvement in weight of severe malnourished children has the most significant effect in reducing the mortality among them. Colecraft *et al.* in a study at four day care NRCs also reported a significant increase in weight for age for the admitted children.^[4]

A qualitative study conducted by Collins *et al.* demonstrated that NRCs cannot be the only tool to combat malnutrition; the study results showed that the NRCs have had a positive impact on the selected anthropometric indicators of severe malnourished children but lag behind in the educational aspect and ensuring proper follow-up visits. Linking of NRCs with the community-based Core Model of Management of severe malnourished children needs to be put into place as soon as possible.^[5]

The duration of stay at NRC is also one of the critical indicators for performance assessment.

In a study conducted by Kadam *et al.* on Socio-Economic profile of children referred to NRC, the median duration of stay at the centers was 14 days, which is much less than earlier programmes for children with severe Protein Energy Malnutrition (range from 6 weeks to 8 months). The study showed that short duration of stay not only decreases costs but also minimizes the absence of mothers from their homes which has important implications at the society level. Effectively, the duration of stay needs to be balanced between the chances of cross exposure to infection and the readiness of the mothers to effectively manage their children at home.^{[6][7]}

Lastly, in addition to these performance indicators, the social status and economic profile of children admitted to NRC have also been analyzed by many researchers. A study conducted by IIPS, Mumbai showed that a major proportion of the admitted children belonged to the marginalized population groups. The findings are in accordance with that of NFHS-III, which states that children belonging to the SC, ST, and OBC and that those with illiterate mothers have the highest rates of malnutrition.^[8] A study done by Rakesh Kumar et al among 104 malnourished children admitted in a hospital in Rewa district showed that around 75% families belonged to lower socio-economic status.^[9]

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

RATIONALE OF THE STUDY

According to data shown in National Family Health Survey (2015-2016) of Amreli District of Gujarat, it looks clear that even with the establishment of a 3-tier approach for integrated management of malnutrition, Severe Acute Malnutrition is still prevalent in the community. A plausible explanation for this could be the ineffective implementation and monitoring of the program at NRC.

Since its inception in 2013, supportive supervision and monitoring of NRC at Amreli has been executed only through monthly and quarterly reports comprising of linelisted beneficiaries showing clinical improvement of individual cases

A performance assessment of all the key indicators (as per NRHM guidelines) will enable an effective and comprehensive evaluation of the facility. At the same time, it will help the district/state program officers to address the technical gaps in a better way.

Additionally, a qualitative study will provide an in-depth knowledge of the management system of NRC and various barriers hindering its successful implementation.

RESEARCH QUESTIONS

Q1. What is the performance of Nutrition Rehabilitation Centre with respect to key output indicators in Amreli district of Gujarat 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.

RESEARCH 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)

Inclusion criteria: Children aged 6-59 months having SAM fulfilling the following criteria: (a) bilateral pitting edema and/or (b) weight-for-height < -3 SD and/or (c) mid-upper-arm circumference <115 mm.

Exclusion criteria: Patients discharged on request for personal and social reasons were excluded from the study.

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 :

The data of all the children with SAM admitted in the NRC was analyzed retrospectively through review of records of key elements forming performance output indicators that are to be assessed. (For Template, refer Annexure “A”)

Unit of observation: Health Records of all the children having SAM (in the reporting period)

Data collection sources:

- SAM Register
- NRC Register
- Admission and Discharge Register

Data analysis procedure

Data was collected and cross checked for any incomplete or partial filling. Using Microsoft Excel 2013, the collected data was then edited, coded, and calculated to constitute the measurable indicators (For calculation formulas and techniques given in the operational guidelines of NRC, refer Annexure B).

The following standards and measurable indicators were used for data analysis as per the technical guidelines for management of SAM at NRC (given by NHM, Gujarat)

	Element	Quality Characteristic	Standard	Indicator
1	Recovery Rate (at discharge)	Satisfactory	> 50% beneficiaries have recovered	Percentage of beneficiaries that have reached discharge criteria (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 criteria (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	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

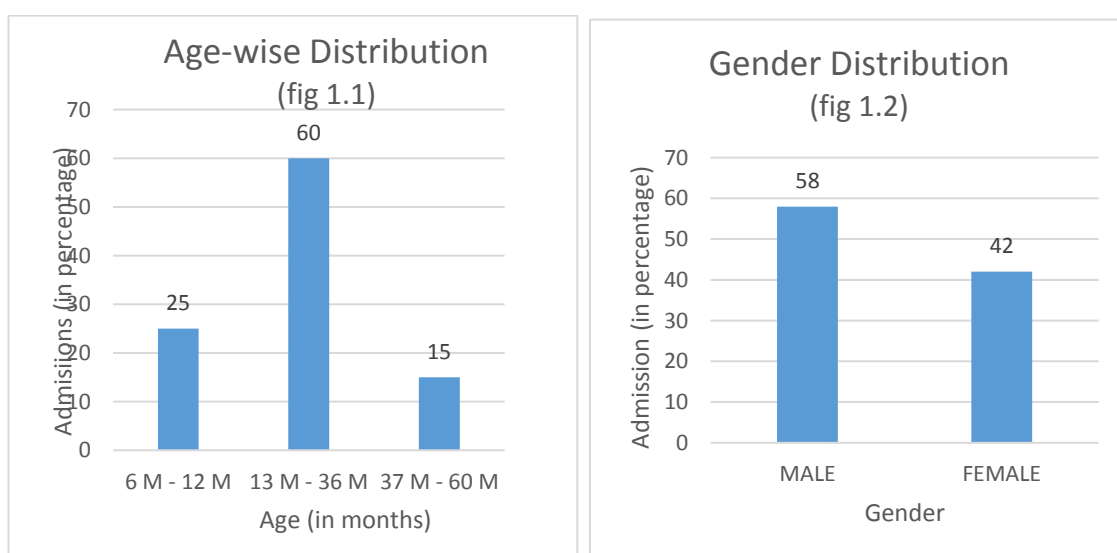
				facility s/he is referred to.
10	Non-Respondent Rate	Negligible	< 10% beneficiaries fail to respond to the treatment e.g. the patient remains for a long period of time under the target weight (target weight taken as 5 %)	Percentage of patients who fail to respond to the treatment
11	SAM Criteria at Admission (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 fulfilling 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 the Beneficiaries

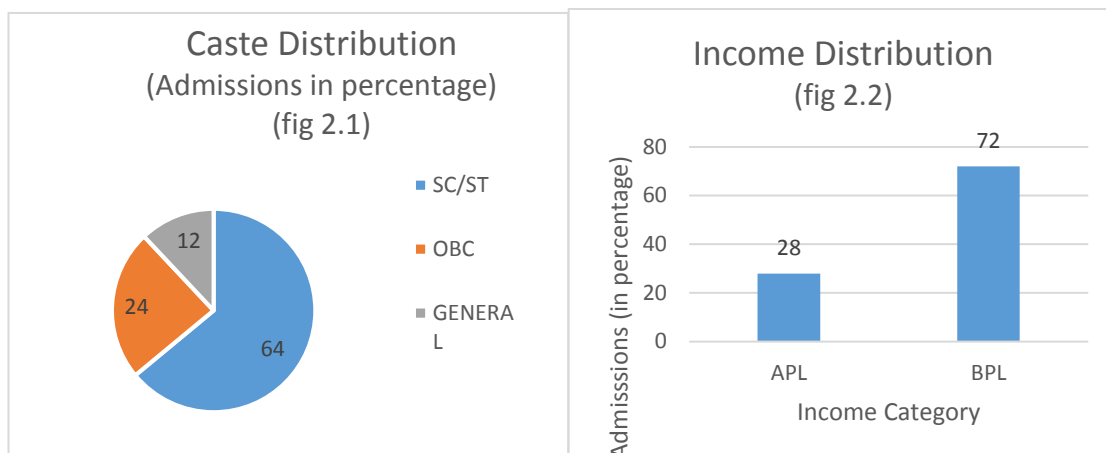
1. Age & Gender Distribution



While Sixty percent of the beneficiaries admitted to NRC belonged to the age group of 13-36 months, 25 percent and 15 percent beneficiaries belonged to the age group of 6-12 months and 37-60 months respectively.

Of the total no of beneficiaries, 58 percent were Males and 42 percent were females.

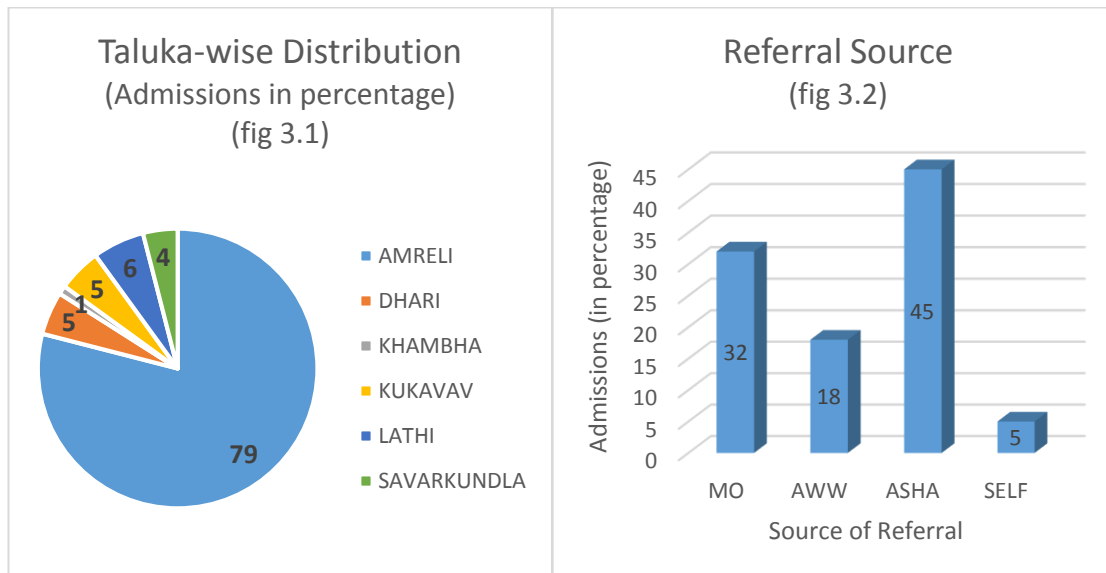
2. Caste & Income Distribution



Out of the total no of beneficiaries, 64 percent belonged to SC/ST, 24 percent belonged to OBC and 12 percent belonged to General category.

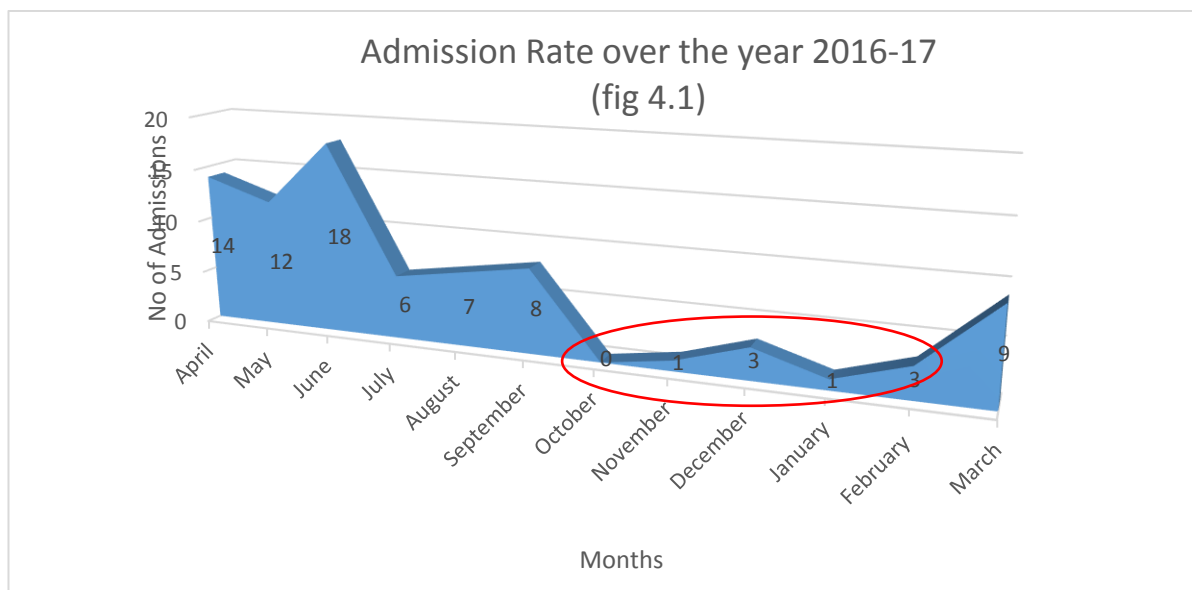
Also, a majority of 72 percent beneficiaries were Below Poverty Line and 28 percent were Above Poverty Line.

3. Taluka-wise Distribution & Source of Referral



While a vast majority, i.e 79 percent of referrals were received from Amreli Taluka itself, a fair proportion of them were referred by ASHA and MO. (45 percent and 32 percent respectively).

4. Month-wise Distribution



The trends in the month-wise distribution shows that the admission rate was highly fluctuating over the entire year with months of October, November, January having number of admissions as low as 0,1 and 1 respectively.

B. Performance Output (with respect to Key Indicators)

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)	Nil	None of the beneficiaries fulfill all the SAM Criteria (of admission) at the time of Discharge. This means that all the beneficiaries have

	(MUAC, Z Score & Illness)		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 (using in-depth interviews)

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 “Theoretical 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”.

At the start of the interview, informed consent (oral) from the interviewee, the purpose of the interview, why the stakeholder has been chosen, expected duration of the interview, how the information will be kept confidential, was explained to build trust and evade the inhibitions of the participants.

But once the in-depth interview started, it was deliberately conducted in such a way that it resembled a chat, during which the informants sometimes forgot that they were being interviewed. Most of the questions asked flowed from the immediate context. Probing was used wherever necessary.

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 responses that seem to have been given with enthusiasm, as opposed to those that the participants answered in only a few words were identified. The following themes and sub-topics emerged out from the interview responses/quotes of the participants.

1. Field Visits
2. Facility Level Issues
3. Financial Provisions and Incentive Structure
4. Software Monitoring and Reports
5. Pay-scale of job and Job Satisfaction
6. Authority/Power

ETHICAL CONSIDERATIONS

Informed Oral consent was taken before starting the interview. If anyone disagreed to become part of the data collection process they were not forced by any means. Confidentiality was ensured to all participants.

RESULTS

The results have been interpreted in the form of direct observations and quotes clubbing each in to various themes and sub-topics.

1. Field Visits

A majority of the participants stressed upon the involvement of field level staff (Medical Officer at PHC and Female Health Worker) in active screening and referral of children with SAM.

QUOTES

- “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”
- “In my opinion, the issue of less referral and admissions at NRC can be solely attributed to ‘low interest’ of field level staff”
- “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 instances 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.”

2. Facility level Issues

Though all the participants agreed with the fact that the facility is well equipped and has everything in place (as per the technical guidelines), a few participants pointed out some critical operational issues that require to be addressed.

QUOTES

- “Since the facility receives very few referrals from the field, only 3-4 beds are occupied at any given point of time.”
- “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 at least 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”.
- “There are times when the facility hardly receives even 2-3 new admissions per month.”

3. Financial Provisions and Incentive Structure

The prevalent feeling among majority of the participants was that a sufficient amount of budget was allocated to NRC but the terms and conditions of the “Incentive Structure” should be revised.

QUOTES

- “With such a good amount of budget dedicated to NRC, its successful implementation still continues to be a challenge”.
- “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.”
- “Most of the beneficiaries are more concerned with the incentive being offered and less about the care and treatment provided at NRC. The current incentive being offered for wage loss is Rs 100/day. However, even a labourer earns wages upto 200Rs/day. Thus, 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.”

4. Software monitoring & Reports

A majority of the participants were clueless about the reporting system and the existing software.

QUOTES

- “We don’t show cases of “drop-out” children in the quarterly reports as it would reflect poor performance”
- “Recently, the e-mamta software has been modified to include details of children with SAM. Technically, it can be so useful in identifying and tracking those children at regular intervals during the screening phases. But unfortunately, the field level staff doesn’t realise the importance and is least bothered.”
- “The data uploaded on e-mamta at the field level is highly unreliable.”
- “The taluka and district level authorities have no interest in monitoring the monthly reports”
- “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.

5. Pay-scale of staff & Job Satisfaction

The views, opinions, and expectations regarding salary structure and job satisfaction varied highly among all the different levels of stakeholders. While a few participants were happy with the money they earned and the nature of work, majority of them were highly dissatisfied.

QUOTES

- “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.”
- “They should be really thankful to us that we are giving services wholeheartedly at such meagre wages.”

However, a couple of participants were happy with their salary structure

- “We are getting more than what we really deserve, keeping in mind the amount of work that we’re doing. To those that are unhappy with the salary they are earning, they should self-introspect their educational qualification and worth in the market and realize whether they could earn even ‘that much’ anywhere else”
- ”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”

6. Authority/Power

The prevalent feeling among most participants was that they considered themselves to be less powerful to bring about any transformation in the existing system.

QUOTES

- One of the participants quoted “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 OF THE STUDY

- 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

There is no doubt to the fact that Nutrition Rehabilitation Centre can play a very vital role in reducing the burden of morbidity and mortality associated with Malnutrition on the community, provided active screening and prompt treatment is done well.. For this to happen, it becomes important to strengthen our screening procedures, both at the community and facility level. This study makes us realize the importance of 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.

Once the screening and referral procedures are taken care of, it becomes necessary to develop effective strategies for supportive supervision and monitoring at the facility level. The “low” Indicator values of Recovery Rates and Average Weight Gain reflects the inadequacy of the treatment methods being offered at the facility. To address this issue, the operational guidelines given by NRHM should be religiously followed to ensure correct formulation and timely administration of feeds. Also, the staff at the facility should properly counsel the parent on how to prepare feeds and monitor the health of the child during the “Follow-up” phase.

The authorities that have the power to bring transformation as well as the key policy makers should take keen interest in developing innovative approaches to address various barriers and challenges affecting successful implementation of the program at NRC. At the same time, they should be actively involved in solving the various managerial issues related to finance and Human Resources that often go unnoticed and neglected. The budget allocated to NRC under NRHM should be conserved and used rationally.

Thus, in conclusion, we can say that, with consolidated efforts from all the key stakeholders at various levels of healthcare system, Nutrition Rehabilitation Centres can be established as an effective intervention to curb the menace of Malnutrition and its associated complications and render good health and well-being to all its beneficiaries.

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Annexure - A

Template Card for Data Collection

Performance Assessment of Nutrition Rehabilitation Centre, District Hospital, Amreli, Gujrat 2016-2017

Case No:

General Information

Age : Gender
:

Caste : Income
:

Taluka :
Referred by :

Treatment Details

At Admission		At Discharge		At Follow-up	
Date		Date		Date	
Height		Height		Height	
Weight		Weight		Weight	
MUAC		MUAC		MUAC	
Z- Score		Z- Score		Z- Score	
Oedema		Oedema		Oedema	
Illness		Illness		Illness	

Whether

Drop – out : Referred to higher facility
:

Date of Drop-out : Date of referral to Higher
Facility :

Total Duration of Stay

Annexure – B (Guidance for Calculations)

Case Fatality Rate

To calculate the case-fatality rate:

- Determine the number of children (patients) admitted to the ward in the past month(s).
- Determine the number of those children (patients) who died. (Wait to count deaths until the outcomes for the patients are known.)
- Divide the number of deaths by the number of children admitted and express the result as a percentage.

The objective of a NRC should be to achieve a case-fatality rate of less than 5%. A case fatality of >20% is unacceptable and causes of death should be reviewed.

Bed Occupancy Rate

To calculate the average bed occupancy rate for a reporting period, two data item are needed.

(Inpatient Days of Care / Bed Days Available) x 100

Definitions of these two items are as follows:

Inpatient Days of Care: Total Inpatient Days is the sum of each daily inpatient census for the time period examined. For e.g. if the time period examined is taken as a week, and the daily inpatient census was as follows: Day 1 = 7, Day 2 = 8, Day 3 = 6, Day 4 = 10, Day 5 = 10 Day 6 = 9, Day 7 = 8. Then the Total Inpatient Days of care for one week would be 7+8+6+10+10+9+8.

Bed Days available: The maximum number of inpatient days of care that would have been provided if all beds were filled during the year. If 10 beds were available for use each day during the year, bed days available would be 10 x 365 = 3650.

Average Length of Stay

(Total inpatient days of care / Total admissions) = Average length of stay (in days)

Total Inpatient Days of Care - Sum of each daily inpatient census for the time period examined. For instance, if the time period examined is a week, and the daily inpatient census was as follows: Day 1 = 7, Day 2 = 8, Day 3 = 6, Day 4 = 10, Day 5 = 10 Day 6 = 9, Day 7 = 8. Then the Total Inpatient Days of care for one week would be 7+8+6+10+10+9+8 or 58 total inpatient days.or 204 total inpatient days.

Total Admissions - The total number of individuals formally accepted into inpatient units of the hospital during the time period examined.

Weight Gain (g/kg/d)

Weight gain = (discharge weight in gms - minimum weight in gms) / (minimum weight in kg x number of days between date of minimum weight and discharge day)

The rate of weight gain for an individual is calculated as the discharge weight minus the minimum weight multiplied by 1000 to convert the weight gain to grams. This is then divided by the admission weight to give grams of weight gained per kilo body weight. Lastly, this total weight gain is divided by the number of days from the date of minimum weight to the date of discharge, to give g/kg/d.

e.g. Ramu a two year boy was admitted and weighed 7.3 kg at admission and 8.2 kg at discharge; Ramu stayed for 17 days at the NRC

Weight gain for Ramu = $(8.2 - 7.3) \times 1000 / 7.3 \times 17 = 8.8 \text{ gm/kg/day}$

Ramu's weight gain is 9 gm/kg/day

Average weight gain (of the NRC for the month)

Sum of weight gains (g/kg/d) of all the children discharged during the month/ total number of children discharged during the month

Annexure – C Weight – for- Length Reference Card

(below 87 cm)

Weight-for-Length Reference Card (below 87 cm)

Boys' weight (kg)					Length (cm)	Girls' weight (kg)				
-4 SD	-3 SD	-2 SD	-1 SD	Median		Median	-1 SD	-2 SD	-3 SD	-4 SD
1.7	1.9	2.0	2.2	2.4	45	2.5	2.3	2.1	1.9	1.7
1.8	2.0	2.2	2.4	2.6	46	2.6	2.4	2.2	2.0	1.9
2.0	2.1	2.3	2.5	2.8	47	2.8	2.6	2.4	2.2	2.0
2.1	2.3	2.5	2.7	2.9	48	3.0	2.7	2.5	2.3	2.1
2.2	2.4	2.6	2.9	3.1	49	3.2	2.9	2.6	2.4	2.2
2.4	2.6	2.8	3.0	3.3	50	3.4	3.1	2.8	2.6	2.4
2.5	2.7	3.0	3.2	3.5	51	3.6	3.3	3.0	2.8	2.5
2.7	2.9	3.2	3.5	3.8	52	3.8	3.5	3.2	2.9	2.7
2.9	3.1	3.4	3.7	4.0	53	4.0	3.7	3.4	3.1	2.8
3.1	3.3	3.6	3.9	4.3	54	4.3	3.9	3.6	3.3	3.0
3.3	3.6	3.8	4.2	4.5	55	4.5	4.2	3.8	3.5	3.2
3.5	3.8	4.1	4.4	4.8	56	4.8	4.4	4.0	3.7	3.4
3.7	4.0	4.3	4.7	5.1	57	5.1	4.6	4.3	3.9	3.6
3.9	4.3	4.6	5.0	5.4	58	5.4	4.9	4.5	4.1	3.8
4.1	4.5	4.8	5.3	5.7	59	5.6	5.1	4.7	4.3	3.9
4.3	4.7	5.1	5.5	6.0	60	5.9	5.4	4.9	4.5	4.1
4.5	4.9	5.3	5.8	6.3	61	6.1	5.6	5.1	4.7	4.3
4.7	5.1	5.6	6.0	6.5	62	6.4	5.8	5.3	4.9	4.5
4.9	5.3	5.8	6.2	6.8	63	6.6	6.0	5.5	5.1	4.7
5.1	5.5	6.0	6.5	7.0	64	6.9	6.3	5.7	5.3	4.8
5.3	5.7	6.2	6.7	7.3	65	7.1	6.5	5.9	5.5	5.0
5.5	5.9	6.4	6.9	7.5	66	7.3	6.7	6.1	5.6	5.1
5.6	6.1	6.6	7.1	7.7	67	7.5	6.9	6.3	5.8	5.3
5.8	6.3	6.8	7.3	8.0	68	7.7	7.1	6.5	6.0	5.5
6.0	6.5	7.0	7.6	8.2	69	8.0	7.3	6.7	6.1	5.6
6.1	6.6	7.2	7.8	8.4	70	8.2	7.5	6.9	6.3	5.8
6.3	6.8	7.4	8.0	8.6	71	8.4	7.7	7.0	6.5	5.9
6.4	7.0	7.6	8.2	8.9	72	8.6	7.8	7.2	6.6	6.0
6.6	7.2	7.7	8.4	9.1	73	8.8	8.0	7.4	6.8	6.2
6.7	7.3	7.9	8.6	9.3	74	9.0	8.2	7.5	6.9	6.3
6.9	7.5	8.1	8.8	9.5	75	9.1	8.4	7.7	7.1	6.5
7.0	7.6	8.3	8.9	9.7	76	9.3	8.5	7.8	7.2	6.6
7.2	7.8	8.4	9.1	9.9	77	9.5	8.7	8.0	7.4	6.7
7.3	7.9	8.6	9.3	10.1	78	9.7	8.9	8.2	7.5	6.9
7.4	8.1	8.7	9.5	10.3	79	9.9	9.1	8.3	7.7	7.0
7.6	8.2	8.9	9.6	10.4	80	10.1	9.2	8.5	7.8	7.1
7.7	8.4	9.1	9.8	10.6	81	10.3	9.4	8.7	8.0	7.3
7.9	8.5	9.2	10.0	10.8	82	10.5	9.6	8.8	8.1	7.5
8.0	8.7	9.4	10.2	11.0	83	10.7	9.8	9.0	8.3	7.6
8.2	8.9	9.6	10.4	11.3	84	11.0	10.1	9.2	8.5	7.8
8.4	9.1	9.8	10.6	11.5	85	11.2	10.3	9.4	8.7	8.0
8.6	9.3	10.0	10.8	11.7	86	11.5	10.5	9.7	8.9	8.1

Annexure – D Weight – for- Length Reference Card (87 cm and above)

Weight-for-Height Reference Card (87 cm and above)

Boys' weight (kg)					Height	Girls' weight (kg)				
-4 SD	-3 SD	-2 SD	-1 SD	Median	(cm)	Median	-1 SD	-2 SD	-3 SD	-4 SD
8.9	9.6	10.4	11.2	12.2	87	11.9	10.9	10.0	9.2	8.4
9.1	9.8	10.6	11.5	12.4	88	12.1	11.1	10.2	9.4	8.6
9.3	10.0	10.8	11.7	12.6	89	12.4	11.4	10.4	9.6	8.8
9.4	10.2	11.0	11.9	12.9	90	12.6	11.6	10.6	9.8	9.0
9.6	10.4	11.2	12.1	13.1	91	12.9	11.8	10.9	10.0	9.1
9.8	10.6	11.4	12.3	13.4	92	13.1	12.0	11.1	10.2	9.3
9.9	10.8	11.6	12.6	13.6	93	13.4	12.3	11.3	10.4	9.5
10.1	11.0	11.8	12.8	13.8	94	13.6	12.5	11.5	10.6	9.7
10.3	11.1	12.0	13.0	14.1	95	13.9	12.7	11.7	10.8	9.8
10.4	11.3	12.2	13.2	14.3	96	14.1	12.9	11.9	10.9	10.0
10.6	11.5	12.4	13.4	14.6	97	14.4	13.2	12.1	11.1	10.2
10.8	11.7	12.6	13.7	14.8	98	14.7	13.4	12.3	11.3	10.4
11.0	11.9	12.9	13.9	15.1	99	14.9	13.7	12.5	11.5	10.5
11.2	12.1	13.1	14.2	15.4	100	15.2	13.9	12.8	11.7	10.7
11.3	12.3	13.3	14.4	15.6	101	15.5	14.2	13.0	12.0	10.9
11.5	12.5	13.6	14.7	15.9	102	15.8	14.5	13.3	12.2	11.1
11.7	12.8	13.8	14.9	16.2	103	16.1	14.7	13.5	12.4	11.3
11.9	13.0	14.0	15.2	16.5	104	16.4	15.0	13.8	12.6	11.5
12.1	13.2	14.3	15.5	16.8	105	16.8	15.3	14.0	12.9	11.8
12.3	13.4	14.5	15.8	17.2	106	17.1	15.6	14.3	13.1	12.0
12.5	13.7	14.8	16.1	17.5	107	17.5	15.9	14.6	13.4	12.2
12.7	13.9	15.1	16.4	17.8	108	17.8	16.3	14.9	13.7	12.4
12.9	14.1	15.3	16.7	18.2	109	18.2	16.6	15.2	13.9	12.7
13.2	14.4	15.6	17.0	18.5	110	18.6	17.0	15.5	14.2	12.9
13.4	14.6	15.9	17.3	18.9	111	19.0	17.3	15.8	14.5	13.2
13.6	14.9	16.2	17.6	19.2	112	19.4	17.7	16.2	14.8	13.5
13.8	15.2	16.5	18.0	19.6	113	19.8	18.0	16.5	15.1	13.7
14.1	15.4	16.8	18.3	20.0	114	20.2	18.4	16.8	15.4	14.0
14.3	15.7	17.1	18.6	20.4	115	20.7	18.8	17.2	15.7	14.3
14.6	16.0	17.4	19.0	20.8	116	21.1	19.2	17.5	16.0	14.5
14.8	16.2	17.7	19.3	21.2	117	21.5	19.6	17.8	16.3	14.8
15.0	16.5	18.0	19.7	21.6	118	22.0	19.9	18.2	16.6	15.1
15.3	16.8	18.3	20.0	22.0	119	22.4	20.3	18.5	16.9	15.4
15.5	17.1	18.6	20.4	22.4	120	22.8	20.7	18.9	17.3	15.8

Annexure – E

