

# Evaluation of a community-based management of acute malnutrition program in urban informal settlements, Mumbai

<b>Submission date</b>	<b>Recruitment status</b>	<input type="checkbox"/> Prospectively registered
13/02/2017	No longer recruiting	<input type="checkbox"/> Protocol
<b>Registration date</b>	<b>Overall study status</b>	<input type="checkbox"/> Statistical analysis plan
16/02/2017	Completed	<input checked="" type="checkbox"/> Results
<b>Last Edited</b>	<b>Condition category</b>	<input type="checkbox"/> Individual participant data
03/09/2019	Nutritional, Metabolic, Endocrine	

## Plain English summary of protocol

### Background and study aims

Globally, India suffers from the greatest burden of malnourished children. Supplementing centralized inpatient models of care with community-based models can allow for a greater number of vulnerable children to be treated for acute malnutrition cost-effectively. Children living in urban informal settlements experience similarly high levels of acute malnutrition as rural children. SNEHA (Society for Nutrition, Education and Health Action), a Mumbai-based non-profit organization, aims to implement a Community-based Management of Acute Malnutrition (CMAM) program, in partnership with the Government of India (GOI) Integrated Child Development Services (ICDS) scheme. The aim is to reduce the prevalence of acute malnutrition among children under age three living in informal settlements of Mumbai, India.

### Who can participate?

Children under the age of three living in informal settlements and residing in the ICDS program service areas

### What does the study involve?

In the intervention areas, a minimum of 10,000 children are expected to participate in the CMAM activities with about 2,000-3,500 children and their caregivers completing surveys at the start and the end of the study. The CMAM activities include screening for acute malnutrition, growth monitoring, home-based counselling, medical screenings, vaccination updates, and referrals to public health facilities such as a municipal nutrition rehabilitation center. In the comparison areas the children receive routine ICDS services, and about 2000 children complete surveys at the start and the end of the study.

### What are the possible benefits and risks of participating?

Participants in the intervention areas receive the benefit of being screened and monitored on their nutritional status. Caregivers of malnourished children receive additional benefits of home-based counselling and medical screenings. Some children experiencing malnutrition receive ready-to-use therapeutic foods; there may be some side effects such as diarrhoea which will be monitored by the SNEHA doctors.

Where is the study run from?

Society for Nutrition, Education and Health Action (SNEHA) (India)

When is the study starting and how long is it expected to run for?

November 2011 to March 2017

Who is funding the study?

1. Forbes Marshall Foundation
2. EPIC Foundation

Who is the main contact?

Dr Anuja Jayaraman

## Contact information

**Type(s)**

Public

**Contact name**

Dr Anuja Jayaraman

**ORCID ID**

<https://orcid.org/0000-0002-7269-2099>

**Contact details**

Behind Building no. 11  
BMC Colony  
Shastri Nagar  
Linking Road Extension  
Santa Cruz West  
Mumbai  
India  
400054

## Additional identifiers

**Protocol serial number**

-

## Study information

**Scientific Title**

In urban informal settlements, can a Community-based Management of Acute Malnutrition (CMAM) approach, integrated with public health systems, reduce prevalence of acute malnutrition rates among children under the age of three?

**Study objectives**

The main goal of the intervention, in partnership with the Government of India program Integrated Child Development Services (ICDS), is to reduce acute malnutrition for children under

three years of age. The study will utilize monitoring and periodic cluster-based to surveys to assess whether there has been a reduction in acute malnutrition in intervention communities for children under the age of three.

### **Ethics approval required**

Old ethics approval format

### **Ethics approval(s)**

The Bandra Holy Family Medical Research Society, 21/09/2015, ref: ECR/196/INST/MH/2013

### **Study design**

Interventional non-randomised study

### **Primary study design**

Interventional

### **Study type(s)**

Other

### **Health condition(s) or problem(s) studied**

Acute malnutrition

### **Interventions**

The intervention area includes informal settlements in Mumbai covered by the Government of India (GOI) Integrated Child Development Services (ICDS). The NGO, SNEHA will coordinate integration of a Community-based Monitoring of Acute malnutrition (CMAM) approach in conjunction with ongoing ICDS services, focusing on children under the age of three. The additional activities in intervention areas include screening for acute malnutrition, growth monitoring, home-based counselling, medical screenings, vaccination updates, referrals to public health facilities such as a municipal nutrition rehabilitation center. Screening is an ongoing process of case finding and enrollment of all children under three years of age and pregnant women into the CMAM program.

The comparison area is a quasi-control area that has not been randomly allocated. The comparison area will include informal settlements in another part of Mumbai where the NGO does not provide any additional services to community, but ICDS services are being delivered. Participants for the study are selected randomly (cross-sectional cluster-based random samples) from the comparison areas.

#### **Intervention Areas:**

Pilot Phase One Areas: (population ~ 90,000) ran a full intervention from February 2012 through February 2014 and a limited intervention from March 2014 to March 2016. Follow up evaluations conducted in February 2014 and October 2015.

Pilot Phase Two Areas: (population ~60,000) ran a full intervention from February 2013 through December 2014 and a limited intervention from January 2015 to March 2016. Follow up evaluations conducted in December 2014 and October 2015.

Scale-Out Phases: (population~150,000). Baseline survey conducted from March-July 2014. Full intervention conducted until November-December 2015. Endline survey conducted November-December 2015. Limited intervention conducted from January-March 2016.

**Comparison Areas:**

Baseline survey conducted September - November 2014. No additional intervention and endline conducted October-December 2015.

**Intervention Type**

Other

**Primary outcome(s)**

Acute malnutrition:

For full intervention: Monthly growth monitoring of anthropometry will be conducted by intervention staff. Gender, weight in kilograms, and height in centimetres will be collected to measure acute malnutrition status based on WHO 2006 WHZ scores.

For evaluation surveys at baseline, follow-up and endline, anthropometry will be conducted by investigators. Gender, weight in kilograms, and height in centimetres will be collected to measure acute malnutrition status based on WHO 2006 WHZ scores.

Equipment used for both intervention and evaluation anthropometry include: Bubble levels (manufactured by Freemans Measures Pvt. Ltd.) to verify flat weighing locations. Children under two years of age lay or sit on an electronic baby weighing scale (manufactured by Nitiraj Engineers Pvt. Ltd.) and their lengths are measured on an infantometer (manufactured by Meditrin Instruments Pvt. Ltd.). Children over two years of age are weighed on an adult mechanical weighing scale and their heights are taken using carpenter measuring tapes. All measurements are taken by pairs of investigators.

**Key secondary outcome(s)**

Uptake of ICDS services by children under the age of three, assessed during the cluster-based cross-sectional evaluation surveys by asking the sampled caregiver whether her youngest child (under age 3) received services from ICDS in the previous month with further probing on what services were received. Measured at baseline, follow-up and endline.

**Completion date**

31/03/2017

## Eligibility

**Key inclusion criteria**

1. Boys and girls
2. Under the age of three years
3. Living in the service areas of ICDS

**Participant type(s)**

All

**Healthy volunteers allowed**

No

**Age group**

Child

**Upper age limit**

3 years

**Sex**

All

**Key exclusion criteria**

Does not meet inclusion criteria

**Date of first enrolment**

01/02/2012

**Date of final enrolment**

31/03/2016

## Locations

**Countries of recruitment**

India

**Study participating centre**

**SNEHA (Society for Nutrition, Education and Health Action)**

Behind Building no. 11

BMC Colony

Shastri Nagar

Linking Road Extension

Santa Cruz West

Mumbai

India

400054

## Sponsor information

**Organisation**

Society for Nutrition, Education and Health Action

**ROR**

<https://ror.org/014jj9v53>

## Funder(s)

**Funder type**

Charity

**Funder Name**  
Forbes Marshall Foundation

**Funder Name**  
EPIC Foundation

**Funder Name**  
Breadsticks Foundation

**Funder Name**  
The Impact Foundation

**Funder Name**  
Maitri Trust

**Funder Name**  
HDFC Bank Ltd.

**Funder Name**  
Comic Relief

**Alternative Name(s)**

**Funding Body Type**  
Private sector organisation

**Funding Body Subtype**  
Other non-profit organizations

**Location**  
United Kingdom

**Funder Name**  
Give Foundation

**Funder Name**  
West Wind School

**Funder Name**  
Blue Cross Laboratories

**Funder Name**  
Dimension Data India Ltd.

**Funder Name**  
Lubrizol Advanced Materials Pvt. Ltd.

**Funder Name**  
HDB Financial Services Ltd.

**Funder Name**  
Australian Consulate

**Funder Name**  
Nihchal Insrani Foundation

**Funder Name**  
Cipla Foundation

**Funder Name**  
Care Foundation

**Funder Name**  
Vishwanath Rao Birewar Foundation Trust

**Funder Name**  
Jashn Jewels Ltd

## Results and Publications

### Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are/will be available upon request from Dr Anuja Jayaraman

### IPD sharing plan summary

Available on request

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#"><u>Results article</u></a>	results	30/03/2018		Yes	No
<a href="#"><u>Results article</u></a>	results	05/04/2018		Yes	No
<a href="#"><u>Results article</u></a>	results	01/01/2019	03/09/2019	Yes	No
<a href="#"><u>Basic results</u></a>		07/04/2018	14/05/2018	No	No
<a href="#"><u>Participant information sheet</u></a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes