

EMBED Impact assessment and Social Return on Investment (SROI): Key takeaways

The EMBED program

Elimination of Mosquito Borne Endemic Disease (EMBED) is GCPL's effort to contribute to India's national goal of malaria elimination by 2030. It aims to reduce morbidity and mortality due to malaria through information and education of communities via behaviour change communication campaigns, and building capacity of healthcare workers on correct diagnosis and treatment of cases. The program is implemented in partnership with Family Health India (FHI), with the support and guidance of the Departments of Health and Family Welfare of the respective intervention states.

Project implementation: April 2016 – March 2019

The EMBED program has been implemented in phases. Phase I was implemented in 209 villages of Mandla and Dindori in Madhya Pradesh for a three-year period.

About the SROI study

An impact assessment and Social Return on Investment (SROI) was executed for these pilot districts through October 2019 – January 2020, almost a year after phasing out and handing over to the local government health system. An SROI study captures the socio-economic impact in terms of behavioural change in the community towards diagnosis, treatment and prevention of malaria and its impact on the overall economic burden of the disease by equating intangible aspects of the impact with tangible financial values. SROI allows us to compare the amount invested in EMBED programme with the value created, by valuing the different outcomes that have occurred.

Location of study and stakeholder engagements

The study covered 543 beneficiaries across Mandla and Dindori districts, in addition to field visit interactions with ASHA workers, ANMs, Rural health care providers, local healers (Ojhas), malaria inspectors, district malaria officers, VBD consultants, block medical officers and local retailers.

EMBED's target population is largely rural, tribal and live in poor resource environments. Of those surveyed, 90% are scheduled tribes, the major source of income is farming and/or daily wages; 95% of the population report annual household incomes less than INR 50,000; 67% own a basic phone, while only 11% own a smart phone and TV, respectively.

Impact assessment

SROI

- The SROI study revealed **that every INR 1 invested in the program created a social impact worth INR 8.38**
- In a **benchmark analysis**, it was found that there were no similar interventions for malaria prevention and control programs. Studies that evaluated the use of BCC in other health programs were used as a proxy. These **programs delivered SROI ratios ranging from**

1:6.5 to 1:8.8; EMBED falls on the higher end of this range, highlighting the merits and impact of its intervention model

Epidemiology

- The study indicates that there has been a **65% increase in beneficiaries approaching health care facilities** in the case of fever. Given this significant increase in testing, it is not surprising that beneficiaries also reported an increase in cases of malaria across both districts from 2016 – 2019. It is likely that positive health-seeking behaviour has resulted in cases that would've otherwise remain undetected to be diagnosed and confirmed as malaria cases
- **Only 1% of households (8) reported a death during this time period**
- Overall, the **government data indicates a sharp decline in the number of cases and deaths** related to malaria, indicating an overall decrease in the malaria burden.
 - In Mandla, annual malaria cases reduced from 5000 in 2015 to 200 in 2018
 - In Dindori, annual malaria cases reduced from 4500 in 2015 to 200 in 2018. Death reduced from 6 in 2016 to 2 to 2018

Community Awareness and Behaviour Change

- Compared to mass awareness campaigns, **EMBED has proven to be effective in bringing about a considerable increase in knowledge and awareness** related to malaria and its symptoms amongst the community
 - **67% respondents became aware about malaria during EMBED's implementation** time period of 2016-2019.
 - **2% and 36% increase in identification of fever and headache**, respectively as the main symptoms of malaria
 - **63% give credit to chaupal sessions** for their increased awareness and **80% hold Godrej/EMBED/FHI responsible for chaupal sessions by recognizing the T-shirt** used by local implementation staff. Chaupal sessions are the cornerstone for community information and education delivery.
- Those who experienced malaria reported:
 - 32% increase in overall health post appropriate and timely treatment
 - 22% reported reduction in absenteeism/loss of work days
 - 17% experiences higher productivity due to quicker recovery
- After a year, the **recall of the mode of delivery and the messaging has been strong, coupled with positive attitudinal shifts** towards personal protection against malaria/mosquitos.
 - **77% of beneficiaries believe it is important to be protect oneself and family** members from malaria/mosquitos.
 - There has been a **marked change in adoption of protective measures**:
 - 51% increase in use of bed nets
 - 20% increase in buying/using of mosquito repellent products
 - 58% increase in keeping home and surroundings clean

- 7% increase in use of natural prevention measures (burning neem leaves, cow dung, using fan, lighting fire etc)

Government health systems

- EMBED's intensive and repeated trainings of health care workers has been effective in improving their knowledge and strengthening the malaria case detection and tracking at the last mile
 - **75% health workers report increase in knowledge on malaria; 63% of give credit to EMBED** and 38% to the government
 - **100% of ASHA workers reported using of Rapid Diagnostic Kits (RDTs)** to diagnose a suspected case from the baseline, **an 18% increase from the baseline.**
 - 63% utilized this increase in knowledge by conducting awareness sessions on VBD prevention and control and keeping stock of RDT kits
- Chaupal sessions and home visits are considered integral to information sharing and awareness generation
 - **75% of ASHAs attribute Godrej/EMBED/FHI with conducting chaupal sessions** and awareness generation activities
 - **38% of them reported that their villages still conduct chaupal sessions,** home visits and awareness rallies

Use of mosquito repellent products

- Given the demographics of these communities, **disposal incomes and purchasing power are low.** It is not surprising that they would **rely heavily on free government services and/or low-cost options for their personal protection.**
 - Keeping the home and surroundings clean, sleeping under a bed net, and using natural measures were considered the most effective means of prevention.
 - **51% don't spend on mosquito repellents**
 - **23% of respondents have used mosquito repellent products after they became aware of malaria.** Of these, 22% also use bed nets. 33% of them continue to use mosquito repellent products, while 67% have discontinued use mainly due to lack of availability (28%) and cost (25%)
 - **All respondents (543) were asked if the efficacy of natural prevention measures:**
 - 29% said natural prevention measures (burning neem leaves, cow dung, wood) were more efficacious than mosquito repellants
 - 10% said natural prevention measures and mosquito repellants were the same in efficacy
 - 1% felt natural prevention were less efficacious than mosquito repellants
 - 60% did not know or declined to respond

Retailers

- Started stocking mosquito repellents in the past 1-2 years

- Incense sticks, fast card and coil are the most sold products, but only during monsoon season
- They don't stock other products like LVs and personal repellents because they are too expensive and not easily available in main town markets

Learnings and way forward

- Start:
 - Stronger marketing and brand recognition of 'EMBED' amongst community members through boards, posters, flags, regular wearing of t-shirt and cap by local implementation staff
 - Facilitating access to low-cost and natural mosquito repellent products
- Continue:
 - The hand-over period to government health workers to ensure long-term sustainability of program impact to prevent lack of recall and continuity of awareness generation activities
 - Strong partnerships with the government to ensure continuous follow-up with local health systems for continuous learnings that can inform their approaches and interventions going forward
- Stop: Village Health and Nutrition Days (VHNDs) as malaria messaging is lost amongst the other services