Role of Social Mobilization (Network) in Polio Eradication in India

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In 2009, India contributed to over half the global cases of poliomyelitis. Many believed that India would be the last country to be polio free. India proved them wrong and was certified polio free in 2014. In January 2016, India celebrated 5 years of being polio free. One of the major reasons behind the interruption of polio transmission in the Polio endemic states of Uttar Pradesh and Bihar was the deployment of Social Mobilization Network (SMNet). A three tiered structure, the 7300 strong SMNet is now the gold standard in public health communication. It mobilizes communities by spearheading civil society participation; and works at district, block and community levels. The SMNet's social mobilization has evolved into an accelerated approach for achieving results with principles of mobilization at its core. The SMNet targets resistance to polio immunization through a multipronged approach by using local religious leaders, community influencers, interpersonal communication, counseling, mothers meetings, announcements from religious institutions and rallies. The success of the SMNet has been its ability to identify and convert resistant families into advocates for polio immunization. Deeply respected in the community, the SMNet mobilizers (98 percent of whom are women) are themselves models for gender empowerment. The SMNet model shows how mobilization techniques can be harnessed for short term and long term goals and can be replicated in other health programs to achieve the same results as were achieved for Polio.

Keywords: *India, Poliomyelitis-free India, Social mobilization network (SM Net)*.

After many years of battling with poliomyelitis, India was finally declared polio-free in 2014 [1]. With an annual birth cohort of 27 million and a total 170 million children below 5 to be reached in every polio round, this victory was hard won and was a result of years of concerted efforts led by the Government of India with strong support of partners and tireless efforts by the millions of frontline workers [2]. India's Polio program is a remarkable public health achievement that overcame programmatic, economic, social and cultural challenges by constantly innovating and seeking out-of-the box solutions combined with unrelenting focus and rigor that allowed the program to reach every child.

One of the innovation and major contributing factors to the elimination of polio transmission in India was a social mobilization network (SMNet) managed by UNICEF in the two States with the highest burden; Uttar Pradesh (UP) and Bihar [3]. West Bengal has a similar structure that started as an emergency preparedness response in 2011 in wake of the Howrah wild poliovirus (WPV) case.

The decision to set up a social mobilization network had its origins in the analysis of the epidemiological data of wild poliovirus cases. An unprecedented outbreak in 2002 gave rise to 1600 polio cases. More than 80% of the polio cases in the world were in India and 86% of WPV cases in India occurred in two States - Uttar Pradesh and Bihar [4]. Further analysis revealed that over 59% of cases in Uttar Pradesh belonged to the Muslim community, while according to 2001 census Muslims comprise approximately 18% of the population in the State [5]. Data showed that a Muslim child was 5 times more likely not to receive even one dose of OPV [5,6]. Studies and refusal analysis also showed that there was deep rooted mistrust within the community that resulted in misconceptions and refusals of OPV. Caregivers also complained about the lack of trust in the health system and misbehavior of service providers towards them [5,7,8].

This article is based on a review of primary and secondary data sources that include SMNet MIS, various researches, evaluations and technical reports, as well as working papers that document communication efforts for polio eradication in India. NID/SNID monitoring data was also reviewed and used. Other sources of information analysed include country data presented at India Expert Advisory Group (IEAG) meetings and Polio communication reviews. Reports on Polio eradication efforts in other countries were also reviewed.

This review examines social mobilization efforts for polio eradication program in India with following objectives:

- To describe social mobilization strategies and models which have resulted in polio eradication in India.
- To acknowledge the role of social and community mobilizers in addressing community resistance and

enhancing community participation for improving public health programmes through an enabling environment for immunization.

POLIO COMMUNICATION CHALLENGES

The polio eradication campaign initially used a media heavy approach through celebrity endorsements and branded IEC materials. In the early stages, mass media was effective in reaching out to the public - the early and late majority as defined by the Diffusion of Innovations [9]. But despite the reach of the campaign, some resistant pockets remained. These pockets tended to be reservoirs of not just polio viruses but also circulating myths and misconceptions [8].

A social mobilization network was a felt need to complement the communication activities being undertaken through mass media channels and use of IEC materials. It was intended that a network of community based mobilizers could be best suited to counsel and convince resistant families to accept polio immunization. The mobilizers had to be persons of trust from within the community who could open closed doors and were acceptable locally [8].

THE SOCIAL MOBILIZATION NETWORK (SMNET): OBJECTIVES AND ADAPTIVE MODELS

The SMNet was conceived as a strategic mobilization ground cadre that used the conventional principles of community mobilization in an accelerated framework. It was first established in UP in 2002 and then expanded to Bihar in 2005-06 with the objective of increasing OPV uptake among children under 5 years of age in these states. In West Bengal, following the last polio case in 2011, the SMNet was established for emergency preparedness in response to the wild poliovirus case in Howrah (***Fig.* 1**) [10].

Apart from families that refused immunization, there were other children who lacked access to services. Belonging to mobile, migrant and hard to reach families, these were the missing children that needed to be mapped and brought back into the polio immunization net. The Social Mobilization Network (SMNet) thus gained shape as a cadre of mobilizers that could strategically reach out to resistant or left out families to ensure polio immunization.

Surveillance data were used to systematically map and identify pockets of underserved and high risk areas/ groups to determine areas for the SMNet operation. The selection of appropriate advocates was based on negotiations and discussions with several implementing partners as well as beneficiaries. The surveillance and supplementary immunization activity (SIA) data provided case profiles, AFP non polio cases, X marked houses and houses that reported no eligible children. For example, a row of 10 or more houses reporting no eligible children under the age of five were considered suspicious and eligible for intensified mobilization and advocacy efforts. These were known as P0 (zero) houses, and

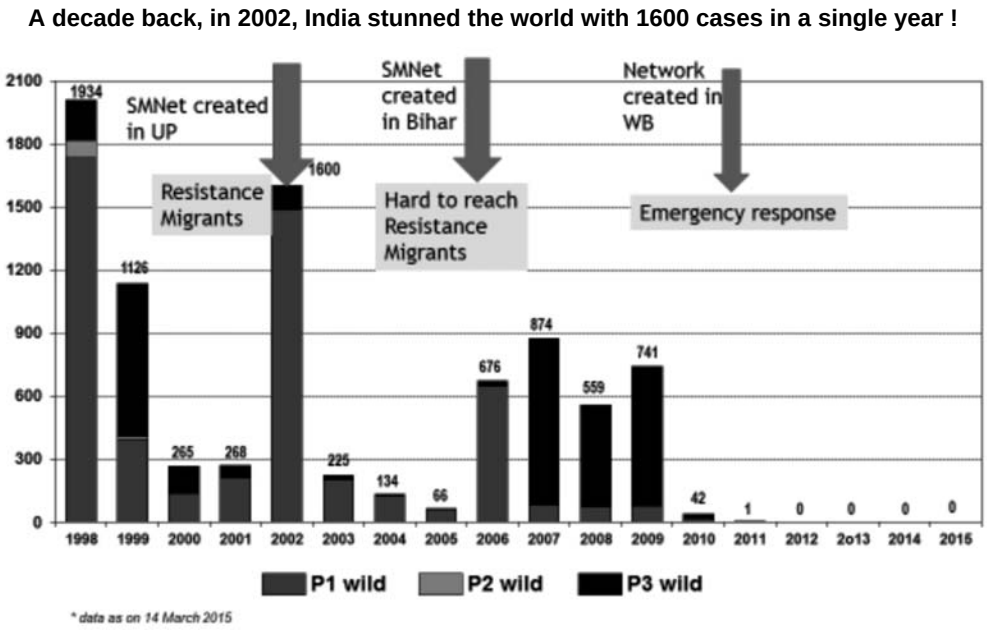

FIG. 1 *Wild Polio Virus cases in India and Social Mobilization Network [10] (Source- GOI/NPSP-WHO Polio Update).*

during monitoring it was often seen that when in clusters, most houses actually had children in them, indicating a silent or passive refusal in that the houses did not reject the vaccine outright but merely claimed to have no children. WHO then modified monitoring analysis to capture this as a risk area.

In UP, the factors that contributed towards its high polio burden included poor hygiene and sanitation with high rates of diarrhea, a dense population with a high birth rate, low uptake of breastfeeding, and resistance to vaccination among many of the Muslim communities. Bihar contained pockets of resistance and the same sanitation and health challenges, but an additional barrier in Bihar was the difficult geographical terrain (*i.e.* the Kosi river basin, which is prone to flooding), which leads to hard-to-reach populations and migrants, including brick kiln and construction workers, and slum dwellers [11].

The SMNet deploys community mobilizers in areas identified as high risk to work with resistant communities and to encourage uptake of the oral polio vaccine (OPV) during supplementary immunization activities (SIA). The objectives are to:

- Maximize the impact of communication efforts at the national state, district and block level through strengthened coordination amongst partners and effective advocacy.
- Ensure that children most at risk - particularly those under the age of two, Muslim and boys - are adequately protected from polio by intensifying efforts in blocks where wild polio virus (WPV) transmission is sustained.
- Increase the total number of children immunized and turnout at the booth by achieving a critical mass of communication activities in all high-risk areas of priority blocks in states with on-going wild poliovirus transmission.
- Ensure polio eradication by strengthening communication for routine immunization especially in polio-endemic states.

Using a three tiered structure, the 7300 strong SMNet works at district, block and community levels. The community mobilizer coordinators (CMCs) of the SMNet belong to the communities that they serve. Responsible for 350-500 households, they go house to house to engage families through interpersonal communication and counseling sessions - addressing myths and misconceptions and ensuring correct knowledge about polio [12,13]. They also mobilize families before every SIA round to ensure that all children below 5 years get OPV. Holding mothers' meetings and religious meetings to advocate for repeated polio immunization, coordinating temple and mosque announcements and conducting polio classes in schools, *madrasas* and other congregations are just some of the mobilization activities that a CMC regularly undertakes. In between rounds, they counsel families where children were missed, tracking pregnant women, registering newborn and tracking them for polio and routine immunization.

SMNet also includes strong supervisory structures at block, district, division and state levels. Block mobilization coordinators (BMCs) are for mentorship and supportive supervision of CMCs (1 BMC per 10-15 CMCs); District mobilization coordinators (DMCs) and District undeserved coordinators (DUCs) are responsible for monitoring district level data and for forming partnerships; Sub-Regional coordinators (SRCs) provide regional leadership and report to the state level polio units.

The SMNet also reaches out to community assets to extend their footprint – an army of 31,000 community influencers to build trust and goodwill for the polio program while its 26,650 informers help notify movement of migrant communities. [12,13]. Today, UNICEF's SMNet reaches over 2.2 million under 5 children in some 3 million households of Uttar Pradesh, Bihar and West Bengal [12, 13].

A. SMNet: Strategies that Delivered Results

SMNet focuses on reaching the most vulnerable, migrant, mobile, underserved and marginalized children in high risk and hard to reach communities using a range of strategies in response to the data and evolving issues:

1. *Underserved strategy*

The underserved strategy was initially conceptualized to actively reach Muslim populations and was later expanded from including Muslim sub-sects to also including hard to reach and migratory communities who had limited access to information or health services. These included groups like nomads, brickkiln and construction workers, slum dwellers etc. This strategy comprises both ground-up community and social mobilization and a top down advocacy component. Religious leaders and mosques were actively engaged to disseminate positive information and address myths. Over 31,000 community influencers are regularly tapped to build community trust and goodwill for the polio program while some 26,650 informers help notify movement of migrant communities [12,13]. These

influencers help in mobilization and also accompany vaccination teams during biphasic/ follow-up activities. Influencers include religious leaders, doctors, rural medical practioners (RMPs), shopkeepers and even housewives – each with their own perspectives and experiences who are able to counsel resistant households for acceptance [14].

2. *Tracking of beneficiaries and high risk groups*

WHO and UNICEF jointly identified 400,000 high risk areas using specific criteria and some 17 indicators [14]. Community mobilizers track immunization status of all 0-5 years old children and pregnant women in these high risk areas with special focus on newborns and guest children. The 'X' code used to mark missed households, has been expanded to allow CMCs to identify the causes for not immunizing a child. This has allowed a targeted strategy for converting 'X' households to households where all children have received OPV in the current immunization round. CMCs also record information about these beneficiaries and their immunization status in the field book.

3. *Counseling and mobilization activities*

CMCs visit every household before the polio round and provide counseling focussing on previously resistant households. Each CMC conducts monthly mothers' meetings, Polio classes in schools, children's calling groups (*bulwa tolis*) and coordinates with mosques and other institutions for regular announcements. The CMC is also responsible for display of IEC materials during polio rounds ensuring high visibility for the program.

4. *Evidence based planning at block and district level*

Evidence based planning using real time monitoring data is used to develop and update house-level microplans for tracking the immunization progress of every single child. Communication micro plans are developed at block and district level using evidence generated through CMCs field book and monitoring data.

5. *Capacity building and supportive supervision*

The supportive supervisory structure provides supportive supervision and handholding. These block and district level mobilizers visit each CMC area on regular basis and mentor them, provide on job training and jointly solve problems related to their job. Refresher trainings ensure that the mobilizers are always updated with the latest tools and techniques.

6. *Monitoring and MIS management information system (MIS)*

UNICEF supports a robust monitoring system for polio communication activities and social mobilization activities using many indicators by various partners at the local, state and national level to continually adapt plans and strategies, address bottlenecks and monitor progress.

7. *Strengthening routine immunization and convergent health issues*

The SMNet has been supporting polio end game strategy, by focusing on routine immunization RI and other convergent health issues. In addition to the polio messages, the SMNet mobilizers dovetail convergent child survival messages on routine immunization, exclusive breast feeding, ORS and zinc and handwashing at critical times.

B. SMNet: Social Impact

At the core of SMNet lies co-opting the community. The SMNet uses the members of the community to seed networks with change. The acceptability of the CMC as she is a part of the community that she seeks to change is key to the success of the SMNet. In the context of India, with its socio-cultural complexities, this in itself, is a mammoth and complex task requiring different approaches for different groups. The SMNet also triggered sociological changes as welcome by-products of the polio program and has proved to be an entry point to larger social and health benefits:

1. *Empowering women*

Several women, in particular, those from minority or underprivileged communities gained livelihoods and social confidence through interacting with community members outside of their initially circumscribed circumstances. Increased awareness, particularly of health and hygiene issues has equipped them better not just to improve the health and well-being of their own families, but also to champion these in their communities.

2. *Empowering children*

In the traditional Indian social setup, children usually do not have agency to act on their own. The SMNet programme, through its *bulawa tolis* which co-opts children, has not only helped them gain their voice, but also established the groundwork and consciousness for their future participation in similar programs.

3. *Mobile and migrant populations*

Migrant populations have typically been the toughest outreach category to access during any program. The SMNet has established a network of informers conscious of their social responsibilities and a process that allows migrant families access to polio vaccines. The network

can be further leveraged for several other uses also – like other healthcare outreach programs, education etc.

4. *Religious leaders*

SMNet has served to create and intensify a larger social, public role for religious leaders through their co-option into the program. This should subsequently, not only broaden their role to intensify a focus on public health, but also other social good programs and serve as agencies for repudiating myths that form obstacles to public health and development programs.

C. SMNet: Results

An independent assessment of SMNet in 2013 concluded that it has been "effective and efficient" at achieving its goals of increasing the total number of children immunized against polio and ensuring that those most at risk are protected. Between 2007 and 2015, resistant households declined 77% in Bihar and 86% in UP, where now less than 0.5% of households resist vaccination (***Fig.* 2** and **3**) [13,15].

About 76% of the children less than five years of age in CMC areas of Uttar Pradesh (no booth activity in Bihar) were vaccinated at booths in every round, in comparison to this only 43% of the children vaccinated at booth in non-CMC areas. The average number of children vaccinated at booth was consistently above 268 in CMC area almost double of non-CMC areas (148) [16].

Findings and analyses also suggested a high relevance of the network, SMNet design and interventions are aligned with community needs. The approach has been relevant to achieve the results of the polio eradication program by reducing resistance to vaccination and reaching the unreached in polio endemic states of UP and Bihar.

A value for money (VfM) analysis that was undertaken in 2014 revealed that SMNet has utilized funds in an economical manner and has indicated allocative efficiencies. The outputs of SMNet in terms of coverage and unit costs indicate a cost-efficient and fairly economical program. Forecasted costs of SMNet for the next decade support a strong case for continuing eradication interventions as the most cost-effective option [3].

Analysis of knowledge attitude, behavior and practices (KABP) through a study for polio eradication, 2009 revealed that the SMNet has led to consistent and significant increase in knowledge attitude behaviour practices with the access of communities to FLWs and CMC visits. (Meta-Analysis of KABP studies showed a strong linear relationship (Correlation coefficient (r) =0.51 for KA and r=0.90 for BP [17].

D. SMNet: Replication and Similar Programs

The SMNet is already supporting routine immunization program and other convergent health issues like diarrhea, handwashing and exclusive breastfeeding – areas that converge with its core programming. The polio program is naturally transitioning in scope programmatically, geographically, financially and in its human resources management. The Indian Government is already applying the polio assets and learnings in routine immunization (RI) and other convergent activities. Recognized by the global polio eradication initiative (GPEI) for its effectiveness, SMNet has been replicated in other Indian states and polio-endemic countries.

- *Vertical health system strengthening model*: In Uttar Pradesh, a parallel outreach system was established to work alongside and more intensively with government efforts considered sub-scale (or even non-existent), similar to models applied in parts of Pakistan, Nigeria and Afghanistan.
- *HIV programming*: In the context of the complexities involved in the uptake of intervention services in HIV prevention, particularly in Asia, social mobilization evidence has demonstrated that service

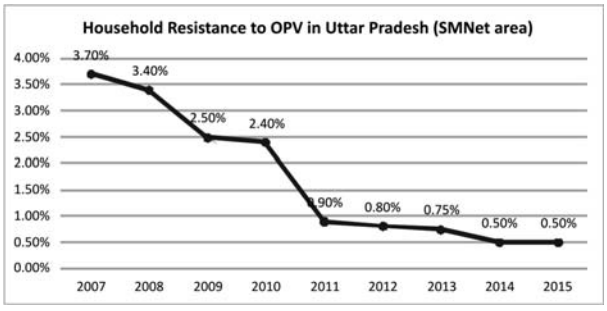

FIG. 2 *Household resistance to OPV in Uttar Pradesh (SMNet Area) [13,15].*

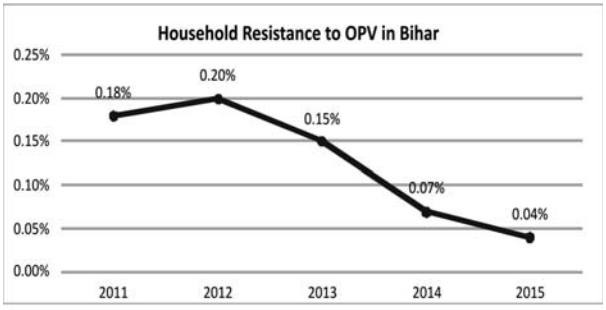

FIG. 3 *Household resistance to OPV in Bihar (SMNet Area) [13,15].*

needs to be driven by people rather than targets. An example is the shift in focus from "for the community" to "by the community" the AVAHAN program by the Bill and Melinda Gates Foundation which has been able to achieve a significant increase in the uptake of condoms and reduction in STIs [18].

- *Sanitation in Odisha*: Engagement with the treatment villages targeted to increase routine latrine use and acceptance was done through community mobilization, leveraging a combination of shaming and subsidy techniques. Findings over the baseline indicate a significant influence on routine latrine use and acceptance [19].
- *Immunization in Southern Sudan*: In the highly underserved county of Kajo Kenji, an accelerated immunization program was carried out over three months with the goal of doubling the county's immunization coverage of 13% - this, within a limited budget of USD 6000. In addition to radio spots, each field supervisor was partnered with one community mobilizer who travelled to churches, markets, and individual houses to inform the community about the immunization campaign, using megaphones in some areas. After the three month acceleration campaign, vaccine coverage increased to 35.1%, up from 13.8% [20].

CONCLUSION AND WAY FORWARD

The SMNet made significant contributions to India's polio eradication by addressing community resistance. The network not only helped in achieving in an accelerated time line, an impossible task of interrupting transmission of polioviruses in high risk areas but also seeded change in the communities. Community mobilizers helped bring change by being a part of the change process themselves. Community influencers, religious leaders, teachers, managers and other such influential groups can be important allies in change. Human resource management techniques and an ongoing capacity development can lead to building up of social capital that can be harnessed for social change. Vertical programs can be successfully expanded to convergent areas once initial strategic objectives are achieved. And possibly the most important universal take-away from the SMNet programme is that the community trust is critical to the success of any behavior change programs. Externally imposed agencies fail to bring about long term change without the trust of the community and this trust can be built only if the members of the network are integral to the community.

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