



A new mother is visited by a health activist using a mobile phone job aid that guides her to share key information about pregnancy, pregnancy danger signs, referrals and routine immunizations. *Photo by Jen Hardy/CRS*

# Technology with a Human Touch

## IMPROVING THE HEALTH OF MOTHERS AND NEWBORNS IN UTTAR PRADESH

### Context

The Catholic Relief Services ReMiND project is based in India's state of Uttar Pradesh (UP), where about a fifth of the country's population lives.<sup>1</sup> Kaushambi district, one of UP's 75 districts, has some of the worst health statistics, with maternal, newborn and child deaths far greater than the national average.<sup>2</sup> In 2006, the Government of India formed a national network of community health workers known as Accredited Social Health Activists, or ASHAs, to promote improved health practices in rural communities. ASHAs are a critical link between rural households and the health system, and are the main source of vital health information for families.

The goal of ReMiND was to improve maternal, newborn and child health (MNCH) by working through ASHAs and later their supervisors—Sanginis—to provide more frequent and higher-quality health-related home visits. The project provided ASHAs with mobile phones loaded with Dimagi's tailored, open-source CommCare software, equipping them with multimedia job aids to support their work. The Sanginis used an app that digitized the government's tools to enhance their supervisory support of ASHAs. According to an external endline evaluation,<sup>3</sup> Sanginis came to be viewed by families as reliable providers of health information, increasing trust in the government health system, while National Health Mission (NHM) staff found the data gathered by the project rapid, complete and trustworthy.

### PROJECT AT A GLANCE

<b>Project</b>	Reducing Maternal and Newborn Deaths (ReMiND)
<b>Location</b>	Uttar Pradesh, India
<b>Duration</b>	September 2011 – September 2019
<b>Partners</b>	UP Department of Health and Family Welfare, Vatsalya, Sarathi Development Foundation and Dimagi
<b>No. of beneficiaries</b>	1,832 ASHAs, 79 Sanginis, 78,444 mothers, 71,862 infants

1. Office of the Registrar General & Census Commissioner, India. 2011. Population and decadal change by residence: 2011.

2. State of the World's Children 2012; 2010/2011 Annual Health Survey data.

3. CRS. August – October 2018. *ReMiND: Reducing Maternal and Newborn Deaths Project Endline Evaluation Report*.

## Key project pillar: Supportive supervision

Technology was integral to shifting community perception of ASHAs from that of an uninformed peer to a knowledgeable health worker. But CRS did not rely on technology alone; a key pillar of the project was the supportive supervisory structure accompanying the app. Sanginis supported ASHAs with regular in-person visits that included monitoring of records, home visit observation, and supportive conversations.

According to the external evaluation, there were significant increases in key indicators from the midline:

- *The percentage of ASHAs who received a **supervision visit** from a Sangini in the last month increased by 5.9%. A contributing factor was the fact that visits to ASHAs helped to determine Sanginis' incentive payments. Also, the visit reports were shared in monthly block-level meetings—attended by ASHAs, Sanginis and government officials—adding a layer of public accountability.*
- *The percentage of ASHAs who reported that, during their last supervision visit, the Sangini **checked their records and reports** rose by 3.3%. This may have been due to a mandatory expected beneficiaries form in the app and mandatory functionality indicators that could only be updated after checking ASHA records.*
- *The percentage of ASHAs who reported that during their last visit the Sangini **observed a home visit** rose by 81%, exceeding the target. ASHAs liked the hands-on support and communication in the accompanied home visits. Families came to view the Sanginis as reliable health professionals and such trust may have convinced Sanginis of the value of the observation visits and increased their confidence.*
- *The percentage of ASHAs who reported that during her last supervision visit, the Sangini **discussed the problems they encountered** fell by 1.8%. However, the way the question was phrased invited multiple answers, which may have affected the result. Accompanying qualitative data indicated that both ASHAs and Sanginis felt they communicated freely and openly, and were comfortable discussing problems and giving and receiving advice.*

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“ReMiND is very much in line with National Health Mission priorities. Changes have been made to the app based on NHM suggestions and ASHA feedback, to make it more user-friendly.”  
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National Health Mission official



An enumerator interviews a new mother during the CRS endline evaluation data collection. Photo by Satish Srivastava/CRS

## ReMiND achievements

The results of the external endline evaluation suggest that ReMiND may have contributed to significant improvement across most indicators from the midline:

- *The percentage of women who received three or more antenatal care visits rose by 40%. This figure was still relatively low considering the fact that a primary purpose of ASHA home visits is to mobilize pregnant women to seek antenatal care from health professionals. Possible reasons that this number was not higher include the threshold of three visits; traditional beliefs held by some influential family members discouraging women from leaving the house during pregnancy, or about traditional care providers; ASHAs' workload or focus on other counseling priorities during home visits, or women traveling to stay with extended family during part of their pregnancy.*
- *Tetanus injection rates during pregnancy rose by 10%. In the qualitative research, ASHA influence was strongly credited with improvements in tetanus vaccination rates earlier on in pregnancy, including general awareness and encouragement, and a cascade effect as ASHAs convinced a few women to get vaccinated, whose experience was witnessed by the community, convincing more women that the vaccination was safe and worthwhile.*
- *The percentage of women with post-partum complications visiting an appropriate care facility rose by 45%. The large jump may have been enhanced by increased awareness of availability of additional government services and ambulance transportation options, as well as the introduction of the government-led Home-Based Newborn Care intervention.*



Among other indicators, there were increases that did nevertheless not reach targets:

- *The percentage of infants born in the previous six months who were seen by a skilled provider within three days of birth rose by 45%. ASHAs may not have made their visits in the recommended timeframe, or the result may have been affected by women returning to their hometown to give birth. While Sanginis claim to cross-check ASHA visits, the discrepancy in ASHA-reported data versus survey data may demonstrate a need for more formal follow-up of ASHAs by Sanginis in the field.*
- *The percentage of infants with danger signs who were taken to an appropriate care facility within the first six weeks of delivery rose 25%. While increased awareness and trust in government health services combined with the availability of ambulances through a government scheme may have boosted uptake, traditional restrictions on post-partum travel, and families' preference for traditional medicine may have affected this trajectory.*

Challenges

- Strongly held cultural beliefs negatively affected MNCH behavior change across communities as well as the willingness of pregnant women to register with ASHAs.
- When Sanginis had to supervise more than 22 ASHAs or focus on activities other than their core mission, performance and morale began to degrade. The endline evaluation found that when Sanginis were assigned too large a group of ASHAs to supervise, project impact could decrease despite cost savings.
- Staff turnover at the NHM and at partner organizations presented a challenge to continuity and quality.
- Technology obsolescence and the need for frequent technical support to workers poses a potential but not insurmountable obstacle to sustainability, assuming the government budgets to replace phones as they age. Improvements in network coverage and speed will help increase project usefulness, particularly in remote areas.

Overcoming barriers of tradition

Strongly held cultural beliefs can negatively affect mother and child health behavior change. ASHAs often encounter the use of traditional medicine and the observance of the caste system, and face similar challenges as their beneficiaries, such as illiteracy and proscriptions on women's behavior and decision-making. ASHA visits were sometimes constrained by caste rules. Sanginis mediate the impact of these social practices on service provision.

“The older generation do not trust us and keep a strong hold on other family members and control their decisions.”

ASHA, Manjhanpur

Lessons learned and good practices

Careful planning, phased rollout, and iterative development are important to success. Project staff were rigorous in planning project elements before piloting them, and obtained the full buy-in and cooperation of government stakeholders. The CRS ReMiND team first developed and rolled out a basic app in phases to small groups, continuing to review data and adjust the design of the next phase of the project. ReMiND was co-created by a team of technical experts, users and government officials.

“The power of supportive supervision is borne out by analysis of survey data showing that, for the majority of indicators, the Sangini intervention rather than the ASHA CommCare intervention is what has driven much of the improvement in key project indicators.”

External endline evaluation

A project like ReMiND can have unintended positive effects on participants. A notable aspect of ReMiND is that it had unanticipated positive effects on communities and especially on ASHAs and Sanginis beyond the expected results of increasing adoption of key MNCH practices, improving quality of services, and strengthening support structures. Increased exposure to ASHAs and Sanginis, and access to information perceived as interesting and trustworthy presented through appealing technology, may have helped improve adoption of recommended behaviors and increase trust in government health institutions. Providing functionally illiterate ASHAs with an app that required some reading and typing skills can improve literacy skills and user confidence. ASHAs and Sanginis also report increased confidence from their interactions with colleagues, the community and local government officials, and increased assertiveness in advocating for improved MNCH practices.

The emphasis on supportive supervision distinguishes ReMiND from a standard digital health project. The principles of supportive supervision and emphasis on soft skills enabled Sanginis to support ASHAs in their daily work, and ASHAs to begin to carefully track and learn from their own performance data. The power of supportive supervision is borne out by analysis of survey data showing that, for the majority of indicators, the Sangini intervention rather than the ASHA CommCare intervention is what has driven much of the improvement in key project indicators in Kaushambi. Sanginis' supportive supervision practices bolster ASHAs' work quality, confidence and morale and greatly amplify the effectiveness and impact of the day-to-day work of ASHAs in their communities.



ASHAs came to be viewed by families as reliable providers of health information. Photo by Jennifer Hardy/CRS

## Technological considerations

- The app must remain current and useful to maintain the enthusiasm and full buy-in of users. CRS, in collaboration with the National Health System Resource Center, should continue to update the apps to ensure that they remain aligned with current National Health Mission MNCH implementation guidelines.
- The NHM should ensure that mobiles are properly serviced, maintained and replaced at reasonable intervals so that users do not become discouraged and frustrated by non-functional or slow mobiles.
- CRS and the NHM should ensure that beneficiary data security is a priority and aligned with India's forthcoming data privacy law. A breach could damage community and government trust.

## Positive government response

Quantitative data from the external endline evaluation showed that ReMiND helped improve ASHA and Sangini capacity and increase community utilization of government health services and schemes. It was well-received by National Health Mission (NHM) field and supervisory staff at all levels, who increasingly relied on it for assessment and decision-making. Frequent consultation between the ReMiND team and NHM staff kept the app's design and data-gathering goals simple, lean and focused on NHM priorities.

**“Another thing the CRS team does very well is that they are building capacity within the government health system.”**

National Health System Resource Center staff member

## Scale-up considerations

- CRS should advocate with the NHM for scale-up of the Sangini intervention within the state and other states interested in adopting supportive supervision due to its high level of impact at a relatively lower cost than the ASHA intervention.
- When the project is scaled up in other locations, it should be careful not to assign Sanginis more than 19 to 22 ASHAs to supervise. Supportive supervisory performance, visit coverage and job satisfaction decrease when Sanginis are required to supervise more than this number.
- A cost-benefit analysis should be considered to quantify the value for money of the “Sangini-only”<sup>4</sup> intervention at scale.
- CRS and its partners should work to build capacity within government systems in such a way that when direct project support is gradually withdrawn, the intervention does not lose the supportive supervision touch that differentiates it from other digital health projects.
- Structures to maintain the supportive supervisory ecosystem at scale should not wholly depend on government health staff, who are likely to be frequently transferred. The project could consider a Sangini mentorship component in which very experienced, high-performing Sanginis with higher levels of education and/or communication skills train and mentor newer Sanginis in supportive supervision best practices.
- The app design should always take into account that, to be manageable on a large scale, data collection and forms should be standardized rather than customized. Custom elements, such as features that differ by community, seriously hamper the ability to make updates and maintain the app for all users.

4. In “Sangini-only” blocks, Sanginis used their app to support ASHAs who did not use an app but performed the same tasks as other ASHAs.