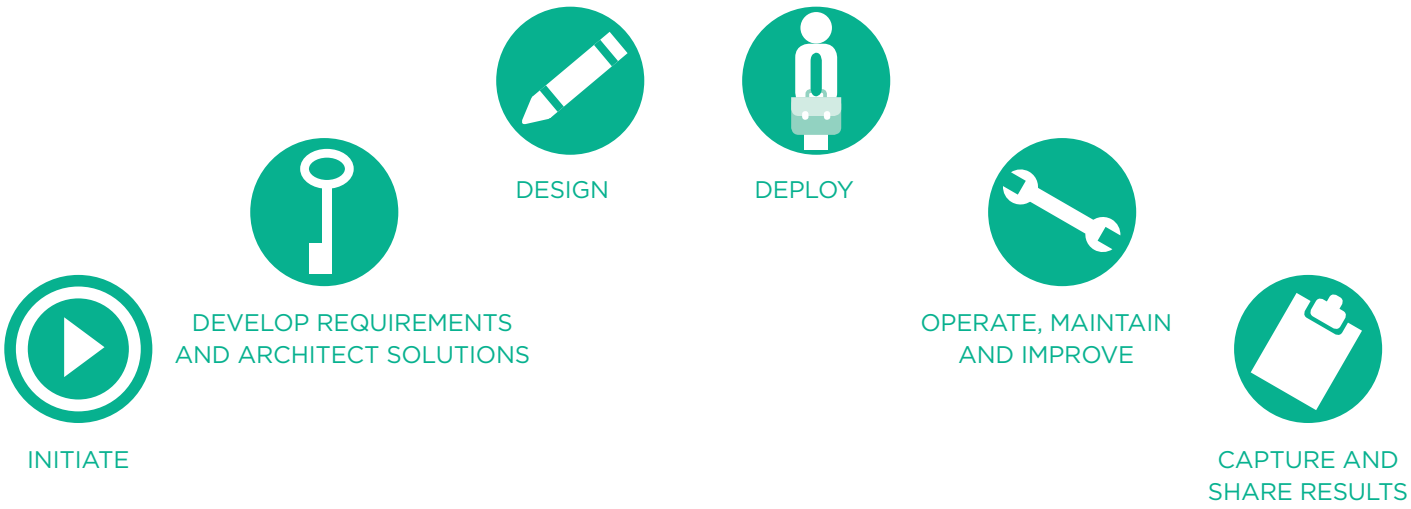

Six steps to mHealth success

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Six steps to mHealth success: How ReMiND catalyzes system transformation

The ReMiND project offers solutions to community-level health systems bottlenecks in India and globally. The six key steps in ReMiND's design and deployment are described below according best practices from the *Organizational Guide to ICT4D* (Nethope 2014). Some of these steps have been completed, and some are ongoing, as the project is still active.

1. INITIATE

Successful ICT4D interventions start with a common understanding among all stakeholders of the purpose and scope of the project, roles and responsibilities and the anticipated outcomes. ***The ReMiND project started out as a testing ground for Dimagi's beta version of their CommCare app. CRS and Vatsalya provided project structure. The partnership allowed Dimagi to build the ReMiND team's capacity in mHealth from the outset.***

The team saw potential in a mobile-based approach.

CRS has worked in Uttar Pradesh in the area of maternal and child health for many years, with strong networks across a number of districts. Prior to ReMiND, CRS had an SMS reporting system for the Sure Start project. This was very small, but the team saw potential in a mobile-based approach. CRS and Vatsalya were also partners in USAID's Vistaar Project (2006-2012), working in Kaushambi, which had a strong focus on strengthening community-level systems through improved supervision. These past projects helped refine the team's focus for the ReMiND project.

Dimagi and CRS started working together when Dimagi used one of CRS's project sites to test a pregnancy checklist for eventual deployment in Afghanistan. Later, CRS had already started designing an mHealth project when they received a call to partner on testing Dimagi's beta CommCare app, providing an ideal opportunity for further collaboration.

The CommCare app was tested in Kaushambi with 10 ASHAs in 2011, until mid-2012. Initially, Dimagi provided most of the support. A team member from Dimagi stayed in the district to keep working with the ASHAs, and adapt and refine the app to better meet their needs. CRS and Vatsalya helped with user testing and content development.

2. DEVELOP REQUIREMENTS AND ARCHITECT SOLUTIONS

At this stage, it's important to understand current practices and the requirements for change – including technical and functional requirements. ***The ReMiND project worked with different stakeholders to understand system constraints and user needs – clearly defining the requirements for a phone-based solution.***

When the project started in 2011, the team reviewed a report from the National Health Systems Resource Centre/National Health Mission that identified some of the key reasons for the poor performance of the ASHA program in Uttar Pradesh (NRHM 2011). There was insufficient capacity,

no support, and no management structure. No one was responsible for checking the ASHA records. CRS also conducted additional assessments, which backed up these findings. In addition, from 2006 to 2011 (when the Sangini cadre was introduced), no one was checking the ASHA records, and they were largely left to themselves in terms of problem solving.

The CommCare ASHA counselling app provides a solution to these systems bottlenecks by supporting improved, structured interpersonal communication between ASHAS and beneficiaries, and consequently between ASHAs and their supervisors – Sanginis. Consulting with different stakeholders to assess needs and opportunities allowed the ReMiND team to get a thorough understanding of the requirements for an mHealth solution, and build broad commitment.

"The big difference with the ReMiND team is that they don't have their own agenda. Right from the beginning, they said to me 'what do you need?'"

Dr. Rajesh Jha
General Manager, Community Processes, NHM, Uttar Pradesh

3. DESIGN

An agile incremental approach to designing, developing and testing the solution ensures an intervention that best meets the needs of users. ***The ReMiND team created ongoing iterations based on user experience, feedback and emerging needs.***

Designing the ASHA app

The initial blueprint of the app was developed by CRS, based on government training modules that describe the ASHA's job role. It was then converted into an app-based format by Dimagi's US-based team. This blueprint was an Excel spreadsheet that mapped out all the definitions, questions and interactions on the app. It defines the fields for data entry and the sequence. The ReMiND team designed the initial ASHA app collaboratively with Dimagi over a year, working with 10 ASHAs on a daily basis; this made it easy to understand their roles and needs. The small number of ASHAs involved meant it was easy to keep adapting and changing the app in constant iterations, in a way that would be more difficult with a larger group.

This close working with ASHAs at the outset was in itself a big step away from traditional programming, as they were usually at the receiving end of a program – or may have been brought in for a token consultation at the end. All the content was taken straight from the government guidelines, and then converted into an app-based format by Dimagi. The app started with just the ASHA pregnancy module, because at that stage, the ASHAs themselves were only trained on that module.

"For a lot of projects we have to convince partners that we need an iteration phase. However, CRS immediately understood this and allowed a whole year to get the app right. A lot of our best practices come from this phase – how audio and visuals are used."

Stella Luk
Country Director, Dimagi

Despite working so closely with the ASHAs, after a year of continual iteration the team found the app was still not suitable. At the first training, it was discovered that about 35 percent of the ASHAs were not literate. This shocked the team as their qualifications had all been checked and they all had the required qualifications (8th or 10th standard pass). The 10 ASHAs who we were working with at the design phase were high-performing ASHAs – and the team learned that what could work with them might not necessarily work with the whole cadre.

After the team realized the low literacy level, they had to include more voice components and additional visuals. Initially the voice of one of the Lucknow team members was used for the voice part. But it was quickly realized that it was more compelling to women if it was in a local person's voice, using local vernacular – so they recorded the voice of an ASHA. The women felt like it was their friend talking to them, and when the phone

was held up so they could listen, they all leaned their heads forward to hear better.

The project design and content all adhered closely to government guidelines, so the project was completely interoperable with existing systems. Even the level of supervisory contact the ReMiND Sector Facilitators had with the ASHAs was according to government guidelines; so this is doable with the available resources. This is key to the sustainability and scalability of the project. **The main difference is the ethic of support and mentorship.**

Designing the Sangini app

One of the key ways ReMiND catalyzes system transformation is through building capacity. The supportive supervision by the Sector Facilitators is a key pillar of this effort. ReMIND designed this position to help the government envision what an ASHA supervisor would look like, in anticipation of the new Sangini cadre (CRS 2014, Dimagi & CRS 2015). At the project's outset, the Sector Facilitators were ReMiND project staff, providing the main link between the ASHAs and the ReMiND team at headquarters. These project team members accompanied the ASHAs on field visits, helped them with technical issues with the phone, and provided ongoing handholding support. They supported the ASHAs in building their confidence and overcoming caste and social barriers, so they were able to extend their coverage (CRS 2014). Every morning and evening, the Sector Facilitators sat together and shared their experiences and, in this way, cross-learning took place.

To create the app that supports this supervisory job-role, the ReMiND team approached the staff of the National Health Systems Resource Centre in 2013 to ask them what they had in mind for the role of the ASHA Facilitator (or Sangini). The NHSRC had developed a list of 10 indicators to define whether an ASHA was functional or not (NHSRC 2014). The ReMiND team took this checklist and put it in an app-based format. They then developed the definition sheet and subsequent iterations were made internally. The app was initially deployed by the Sector Facilitators and then – once the Sangini cadre was introduced – handed over to them.

The Sector Facilitators were replaced by the Sanginis in 2014. ReMiND then created a new cadre of project staff called Block Mentors, who provide supervisory support to the Sanginis using another app – the Supervisory Monitoring app.

4. DEPLOY

*In deployment, an incremental approach that allows adequate time to address solution issues and respond to user feedback is preferable to a "big-bang" implementation approach****. In the ReMiND project, training became a strong focus in building user capacity, and enabled feedback on the extent to which the solution met user needs.***

Alongside the sector-facilitators, ReMiND also built capacity through training. The training program best exemplified ReMiND's rigorous approach to implementation planning, with every aspect carefully mapped out in advance. A lot of logistics and planning goes into setting up such a training; phones, screen guards and SIM cards are required, the phones need to be configured, the app needs to be

Photo by Jen Hardy/CRS

"In such a big state with 820 blocks, and 150,000 ASHAs, costs can be very high. Giving every ASHA a 4,000-rupee [about US$60] phone is an expensive proposition and difficult to get approved. Instead, having one phone for every 20 ASHAs with the ASHA supervisors is more cost effective and will still improve ASHA performance. While there were many other apps on the market for ASHAs and community health workers, there were no other apps for supervisors."

Dr. Rajesh Jha
General Manager, Community Processes, NHM, Uttar Pradesh

"Smart-phone based applications are an idea whose time has come in healthcare at the frontline level. ASHA Sanginis, among all the ASHAs, can be treated as the first standard group for the introduction of this kind of ICT initiative."

Amit Ghosh
IAS, Mission Director, NHM

installed, and the SIM cards need to be activated and inserted. The team developed a rigorous training preparation process. Dimagi took the lead in developing the initial training materials, suggesting many components such as using local terms and metaphors for phone features (Dimagi 2012). In the following instance, Dimagi explained: "*Demo-mode should be used when we are learning or training, not when we are doing our real work in the field. For example, when we learn how to stitch and sew for the first time, we do not start sewing on the expensive cloth to begin with, we start with making stitches on paper.*" They had a training preparation checklist, which was combined with CRS' "seven steps" for planning a training, and tailored to the ReMiND project. These were captured in a facilitation guide developed collaboratively by all partners (this is included in the online ReMiND toolkit).

The capacity-building process started with helping ASHAs to simply feel comfortable with the phone and the new technology. There was a lot of initial discomfort with the phones.

After the first month, when the team members revisited the ASHAs, they found that many still had their phone kept safely in its box. The ASHAs felt their job was to keep the phone nicely, not necessarily to use it. The same thing was observed when the government gave the ASHAs weighing scales – they kept them in the box and on the shelf. No one wanted to be responsible for a breakage. So initially the team just followed up to understand what was stopping the ASHAs from using the phone.

In the first session, the ASHAs were not very vocal, but after multiple visits and after being treated respectfully, they spoke up. They came to realise that no one was going to scold them, so they became more confident. The confidence made it easier to identify their knowledge gaps and provide support.

However, adjustments also had to be made to the training along the way. The team had to thoroughly revise the training approach to accommodate the low literacy levels. They conducted literacy tests and then put the ASHAs into separate, small groups – literate and non-literate. For the non-literate ASHAs, family members were invited so they could also provide support. They also used a lot of visual material. The ASHAs were trained in small groups of about 15 so they could be given individual attention. Fast learners were paired with slow learners and small groups of 3s and 4s were set up to help people learn from each other. Supervisors were also included in the training so they could learn and provide follow-up support where required.

Now refined, **the training methodology is an essential component in how the project helps ASHAs realize their potential.** The first day covers counselling, and how important counselling is. On the second day, the phone is introduced as a counselling job aid, and the trainers explain how the phone can help them with interpersonal communication. Initially, many of the ASHAs did not even realize that they were supposed to do counselling and field visits as part of their role.

"People say to me 'I never thought you would have such a big phone!' They are proud of us. Earlier when I didn't have a phone, I was scared of phones. There was one phone in the family, but I hardly got to touch it. Very rarely, I would attend a call. At first, I didn't think I would be able to handle using the phone – but now I can. I can send forms to the server, put the phone on silent, and add contacts to the contact list.."

ASHA
Kaushambi district

Photo by Umesh Gupta/CRS

Equity benefits through focusing on those who need it most

One of the significant achievements of the ReMiND project is the equity benefits: low-performing ASHAs benefit the most. This is achieved through individual attention and support.

ASHA Salma was a quiet, shy person and never talked much with other ASHAs or beneficiaries. Due to this, her performance as an ASHA was limited. During the first ASHA app training under the ReMiND project, there were group exercises and role plays. During these sessions, her fellow ASHAs and the ReMiND team focussed on supporting Salma. She was asked to lead different exercises, and slowly, with this support, she spoke up and interacted more. After this training her confidence level increased, she chatted with people happily; the other ASHAs were surprised to see the change. This confidence boost also led to increases in her home visits, and improved her relationships with the community.

One of the significant achievements of the ReMiND project is the equity benefits: low-performing ASHAs benefit the most.

Government liaison for scale-up

In April 2012, the ReMiND project scaled up to the whole of the Manjhanpur block in Kaushambi district. From the first day, the team liaised closely with government officials at the block and district level to build support for ReMiND, and ensure that they were committed to ReMiND's success.

Lesson learned: While liaison with the government happened from the outset at the block, district and state level, on reflection, members of the ReMiND team acknowledged that they probably needed to advocate at the state and national levels earlier and more frequently.

5. OPERATE, MAINTAIN AND IMPROVE

Building and sustaining the capacity to operate, maintain, support and improve the ICT solution over its life cycle is critical. This includes adapting the solution to a changing context. ***The ReMiND project achieved an unusually high level of agility and responsiveness through the team's commitment to ongoing learning.***

Usually in any program or project, there is an initial formative research phase, then a planning phase and then an implementation phase. However, **the ReMiND project made a constant and ongoing effort to understand the needs of ASHAs and Sanginis, and to revise the solution design accordingly.** At every step, the team regularly stops to reflect and learn about what is working and what is not working, seek various stakeholder inputs, and make necessary course adjustments. After every training, there is an immediate debriefing to address any challenges. This happened even at the scale-up phase where some components were dropped to streamline the scale-up process.

One example of how the app changed with feedback was a reduction in counselling topics. Initially, in the pilot, there was a checklist of health behaviors, and then the ASHAs were supposed to provide counselling on all the topics in the checklist. However, this was time-consuming and boring for both ASHAs and the mothers.

"The team are always gathering feedback and thinking of ways to improve the app to make it more relevant in the state."

Dr. Rajesh Jha
General Manager, Community Processes, Uttar Pradesh

ASHAs were struggling to hold mothers' attention. After ASHAs' feedback, the ReMiND team altered the app so that now, after filling out the checklist, the app provides three counselling topic choices, and encourages the ASHA to select one. This way they can go into more depth, and the mothers are more likely to remember the messages. Most ASHAs selected the first option, so they ensured the most important messages came first. Most importantly, this shorter protocol is easier and more comfortable for both the ASHA and her client, and the ASHA does not wear out her welcome.

This ongoing reflection is necessary in the pilot stage, to ensure the project is on track. Once all these lessons have been learned, the intervention has been institutionalized, and scale has been achieved, these iterations can be reduced for the sake of efficiency.

ReMiND dispelled doubts

Even to the ReMiND team, success was not a forgone conclusion. However, the project experience demonstrates what works in strengthening community health systems. This is an account by Satish Srivastava, Health and Nutrition Manager, CRS (Lucknow).

When ReMiND was in the planning stage, I was very doubtful that it could make an impact. I didn't think the ASHAs would be comfortable using the phone as a work-tool as many were illiterate. I saw the ASHAs were already overworked and overwhelmed, and by giving them a phone and asking that they visit pregnant women more often, we were giving them even more work without an additional incentive payment. I was sure they would not use it.

When we did the training and found that 35 percent of ASHAs were illiterate, this was a big setback, and our doubts increased – but still we adapted our training and continued on. I voiced my concerns to different people internally at CRS, but still we proceeded and we all put in our best effort to see how this would turn out.

Once the project was implemented, I was surprised by its success – surprised to see that we were able to train illiterate ASHAs to use the app, and surprised to see the frequency of the ASHA visits increase – even higher than our targets.

What was really eye-opening was that with the phone, the illiterate ASHA, who seemed overwhelmed and a bit lost, was transformed to someone with increased skills and confidence, who was effective in her work and respected in her community. The transformation I have seen through ReMiND highlights the untapped potential of all the other ASHAs who could do as well if they had support, such as through the ReMiND project.

"Once the project was implemented, I was surprised by its success – surprised to see that we were able to train illiterate ASHAs to use the app."

Satish Srivastava
Health and Nutrition Manager,
CRS (Lucknow)

6. CAPTURE AND SHARE RESULTS

Capturing results and lessons learned from the implementation of ICT projects is critical in accelerating adoption and ensuring future success. ***In the case of ReMiND, lessons learned have not just helped internal improvements, but have also made strong contributions to the mHealth knowledge base.***

ReMiND has a comprehensive monitoring and evaluation system that feeds into ongoing quality improvements. The project team compiles monthly and quarterly reports against indicators, for sharing with the team, health managers, government counterparts and partners. This data is shared in monthly meetings and used for project refinements, performance management and resource allocation.

The lessons learned from ReMiND have not only been used for internal quality improvement. Experience from this project has helped CRS, Dimagi, the Ministry of Health in Uttar Pradesh, and other partners understand how to implement mHealth projects in different contexts, both within Uttar Pradesh and globally.

ReMiND was unique in its commitment to learning, and building the global mHealth knowledge base. All along, it mobilized resources and built relationships with research partners to support additional studies and assessments to understand what worked in terms of ICTs and community health workers. For example, USAID funded an impact evaluation carried out by the Post Graduate Institute of Medical Education and Research, Chandigarh (Prinja 2016). Another example is a study on how phones are used outside of work (Schwartz 2013). Case studies of ReMIND have been included in a number of toolkits and frameworks, such as Keislings the *mHealth field guide for newborn health,* and WHO's *The MAPS Toolkit: mHealth assessment and planning for scale* (see bibliography for details). Though these research and documentation efforts, the ReMiND project has established itself as a benchmark for mHealth success in the field of maternal and child health, and its lessons learned are applied all over the world.

The ASHAs were happy, enjoying their work more because they were effective, respected and supported by the community.

Impacts diffuse to other blocks

ReMiND has demonstrated how motivated Sanginis can do well and will go out of their way to build their skills and get the support they need.

In Bakshi Ka Talab block, Nidhi, a Sangini, had settled into her role comfortably. Structured monthly review meetings were held regularly, and ASHAs were supported to collaborate to find solutions to work challenges. Nidhi was doing such a good job of supporting and mentoring her ASHAs; she was turning all the low-performing ASHAs into high-performing ones.

The ASHAs were happy, enjoying their work more because they were effective, respected and supported by the community. Word spread, and two Sanginis from nearby Chinhat block started coming to Nidhi's monthly Sangini meetings with the Block Health Education Officer so they could also improve their work. The Chinhat Sanginis reported that nothing much was happening in their block, but they were keen to keep learning, so they travelled to attend the meetings in Bakshi Ka Talab.

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