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MATERNITY foundation

POLICY BRIEF

TAKING THE SAFE DELIVERY APP TO NATIONAL SCALE IN INDIA

Rolling out a digital tool to support on the job learning can be done in various ways. From experiences across India, one thing is clear: resources need to be prioritized to support the roll-out for sustainable usage of the digital tool.

Despite impressive progress in reducing the maternal mortality ratio and infant mortality ratio over the past decades, some areas in India lack behind. Innovative solutions are needed to support these areas. The Government of India (GoI) has launched several quality improvement initiatives, but found that ensuring easy access to updated clinical protocols remained a challenge. To overcome this, GoI partnered with Maternity Foundation to integrate the Safe Delivery App into quality improvement initiatives.

Maternity Foundation has provided technical support to various states and partners when rolling out the Safe Delivery App. This brief illustrates various roll-out approaches from the most successful states in India and provides recommendations for state administrators looking to launch the Safe Delivery App.

RECOMMENDATIONS

- **Invest in initial training**: introductory trainings are necessary to ensure a basic level of familiarity with the App.
- **Dedicate time to follow-up:** Plan follow-up activities and set aside resources from the outset. Follow-up visits or sessions can help trouble-shoot technical issues and encourage users to keep learning.
- **Motivate through recognition and healthy competition**: Official recognition of users achieving Safe Delivery Champion certification motivates learners to continue working to this end.
- **Institutionalise the app to anchor through professional journey** from nursing studies to at the job.

Digital tools for quality improvement

The development in maternal and newborn health indicators in India has been positive in recent decades. The Maternal Mortality Ratio (MMR) has been declining over the past decades and so has the infant mortality rate which was reduced from 47 per 1000 live birth in 2010 to 34 per 1000 live birth in 2016[1]. However, some areas in India lack significantly behind the national average MMR and IMR as Table 1 illustrates. Despite positive progress over the past decades, room for improvement remains in various areas.

Table 1: Maternal mortality ratio (MMR) and infant mortality ratio (IMR) in states with MMR above the national MMR[1]

Area	MMR per. 100,000 live births 2016-2018	IMR per 1,000 live births 2016
India overall	**113**	**34**
Assam	215	44
Uttar Pradesh	197	43
Madhya Pradesh	173	47
Rajasthan	164	41
Chhattisgarh	159	39
Odisha	150	44
Bihar	149	38
Punjab	129	21

To support the areas lacking behind the Government of India launched the *Transformation of Aspirational Districts* programme targeted at 115 districts across 25 states. The programme aims to lift the level of basic amenities including infrastructure and health services and lift the standard of living in the targeted districts.

In the past, many efforts went into improving access to services to reduce IMR and MMR but in India today, inadequate **quality of care** has been identified as one of the main drivers of MMR and IMR. The Government of India has taken various steps to improve the quality of Maternal and Newborn Health Care (MNH) to improve health outcomes. Several government-led programs have included Quality Improvement (QI) initiatives.

QUALITY IMPROVEMENT INITIATIVES

Dakshata: a 3-day capacity building program for the health system and workforce to improve intrapartum and immediate postpartum care of pregnant women and newborns.

Daksh Skills Labs: 5 skills labs established at national level as state of the art maternal and newborn health skills training centre that focus on critical MNH training for medical officers and health care workers.

LaQshya: an initiative to improve quality of care in labour rooms and maternity operating theatres in public health facilities. LaQshya is a focused and targeted approach that starts with an initial training (Dakshata or Daksh skills lab) followed by post-training mentorship.

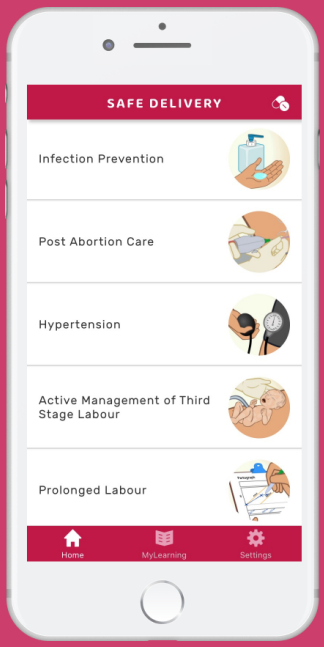
Despite extensive efforts, gaps in the knowledge of staff posted at public health facilities and in their access to the latest national guidelines persists. To address this challenge the Government of India has integrated the Safe Delivery App into the LaQshya programme with support from Maternity Foundation. Maternity Foundation and the Ministry of Health and Family Welfare collaborates to ensure that the content in the App is always aligned with the national clinical guidelines.

THE SAFE DELIVERY APP

A free smartphone application developed by Maternity Foundation in partnership with University of Copenhagen that guides skilled birth attendants in the most common childbirth and neonatal emergencies as well as COVID-19.

- Free, digital training and learning – web and app
- Simple and intuitive, animated instructions and videos
- Works offline
- Personalized and gamified learning
- Reaches remote healthcare workers
- Country-specific versions
- Interactive and engaging

Through the App, skilled birth attendants have constant access to evidence-based and up-to-date clinical support — either on the job, in their spare time or as part of their training. Once downloaded, all the content is accessible offline.



1: MMR available at https://censusindia.gov.in/vital_statistics/SRS_Bulletins/MMR%20Bulletin%202016-18.pdf, IMR: http://www.niti.gov.in/content/infant-mortality-rate-imr-1000-live-births

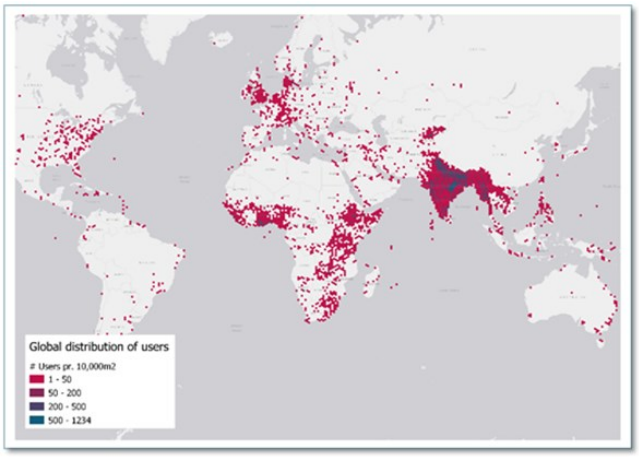
A well tested tool for knowledge strengthening

The Safe Delivery App is used by skilled birth attendants across the globe (Figure 1). The effectiveness of the App as a learning tool is well documented and significant knowledge increases have been observed in several research projects (Lund et. al, 2016, Bolan et all, 2018, Klokkenga et. Al, 2019) and consistently through project M&E. A recently published article sheds light on the role of the digital clinical support tools in improving quality of intrapartum and postpartum care in two states in India. The paper describes the findings from implementation of "ASMAN" (The Alliance for Saving Mothers and Newborns) which includes the introduction of technology interventions to facilitate timely and correct clinical decision-making by providers. The Safe Delivery App is one of the components of ASMAN. The paper concludes that the ASMAN suite of interventions has delivered positive results:

"In multivariate logistic regression analysis, the introduction of technology yielded significant improvement in adherence to key clinical practices. We have observed reduction in fresh still births rates and asphyxia, but these results were not statistically significant in interrupted time series analysis. However, our analysis showed that identification of maternal complications has increased over the period of program implementation and at the same time referral outs decreased."
(Usmanova et. Al, 2021)

In India, the App's effectiveness has been assessed in public facilities in Bihar, Uttrakhand and Jharkhand through a research project led by USAID –Vriddhi and IPE Global and another by CARE India.

Figure 1: Global distribution of App users



The research tested two roll-out approaches in 30 facilities across 5 districts in Uttrakhand and Jharkhand. In 15 facilities the App was rolled-out with facilitation which included technical trouble-shooting and reminders about the SDA learning material. In the other 15 facilities the App was rolled out without further support. The preliminary analysis of the results suggests that both roll-out approaches showed increases in learners' knowledge and confidence after the training, with slightly higher increases in the facilitated group. The final analysis to be published by USAID- Vriddhi IPE Global will shed further light on this. The immediate feedback from the participants is positive. One user shares:

"*Previously we were not sure whether we should take risk of managing bleeding in the hospital, but now we take steps confidently and manage the patients in our facility*"- Healthcare worker*, Uttarakhand.*

THE SAFE DELIVERY APP IN INDIA

12 MODULES

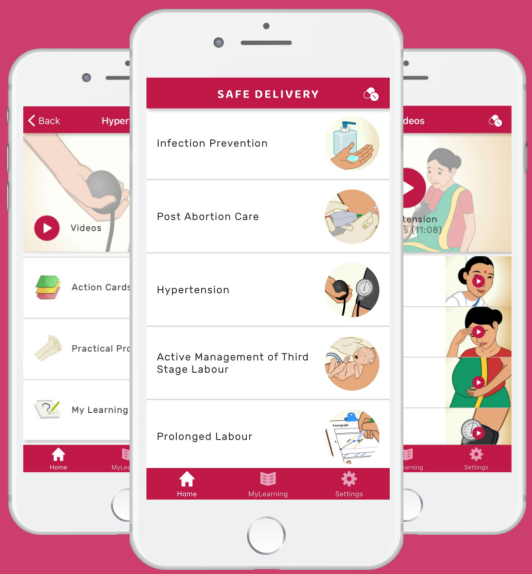
Infection Prevention, Post Abortion Care, Hypertension, Active Management of Third Stage of Labour, Prolonged Labour, Post-Partum Hemorrhage, Manual Removal of Placenta, Maternal Sepsis, Neonatal Resucitation, Care of Sick Newborn, Low Birth Weight, COVID-19.

9 LANGUAGES

English, Hindi, Gujrati, Marathi, Bengali, Kannada, Odia, Telugu, Assamese

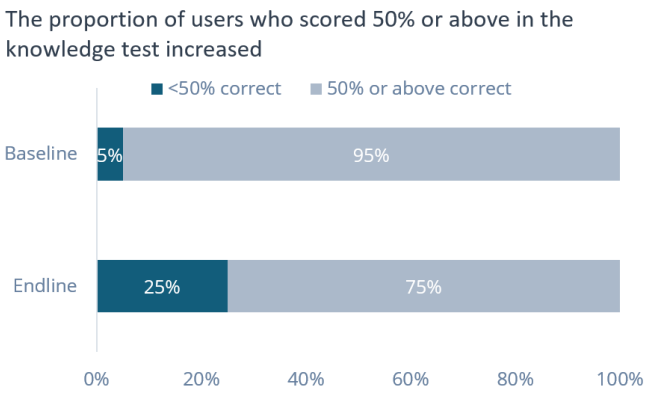
PROPOSED LANGUAGES

Tamil, Malayalam



Findings from another study are also promising. As part of the collaboration with the Government of Bihar CARE India and Maternity Foundation conducted a pilot study to explore the effectiveness of using the Safe Delivery App in Bihar's public health facilities. 229 nurses from 33 facilities took part in both the pre-training assessment and in the post-training assessments three months later. The project saw a significant reduction of nurses with poor results in the knowledge test (Figure 2). However, at the endline many nurses still scored poorly in the knowledge test, especially neonatal resuscitation remained an area for knowledge improvement. Continued targeted use of the learning content can help close persistent knowledge gaps over time.

Figure 2: Knowledge test results, Bihar



Realising the full potential of the Safe Delivery App requires effort

Based on the successful roll-out of the App in several Indian states we provide recommendations on what other states should consider when launching the App as a part of the LaQshya programme or other quality improvement initiatives.

Invest in initial training: The level of tech familiarity of health care workers varies, and introductory trainings are necessary to ensure all workers are equally equipped to make the most use of the Safe Delivery App's suite of content and features. Maternity Foundation has supported the roll-out in several states through introductory trainings or through Training of Trainer approaches equipping state administrators or partners to lead the introductory trainings in their states.

Dedicate time to follow-up: Plan follow-up activities and set aside resources from the outset. States that set aside staff time to carry out onsite or telephonic follow-up support have seen higher number of MyLearners and Safe Delivery Champions. During follow-up visits the facility staff can ask questions and technical issues can be overcome. The follow-up visits also encourage the staff to keep using the App and progress in the MyLearning section of the App, working towards the Safe Delivery certification.

Motivate through recognition and healthy competition: by celebrating nurses who achieve the Safe Delivery certification in MyLearning, the App's self-directed learning universe, the State Government sends a clear signal that the knowledge the nurse has acquired is recognized by the State. State supported celebrations not only recognize the nurses' achievements but also motivates users across districts and has proved to create positive competition between districts.

Institutionalise the App and anchor throughout the professional journey: The App can also be used by teaching institutions and serve as useful support to students during their learning journey. Introductory training to resident and staff nurses at government medical colleges Amritsar and Patiala launched wider use of the App among teachers and students in the classroom. When the students finish their degree, they leave with a familiar job-aid in their hands that they can continue to use at the health facilities.

Areas of App adaptation into LaQshya

Self-directed learning and job-aid: The Safe Delivery App is used by the health workers between the Quality Improvement cycles where they complete the assigned MyLearning levels. During visits, Mentors ask if the mentees completed the MyLearning levels and support them if they need help.

Drills: The mentor uses the Safe Delivery App either before, during and after a drill on complications management to support learning. For example, during the drill, staff use the App to look up information, and after the drill, they use it to watch videos and discuss what they did will and what they missed in e.g. practicing how to resuscitate a newborn.

Discussion: The App is referenced and used in numerous ways to facilitate discussions. For example, when discussing a specific topic, mentees look up information and review their peers' responses.

Objective Structured Clinical Examination (OSCE) The App is used to prepare for upcoming OSCEs or review performance afterwards by reviewing the App's content.

MyLearning
Is an individualised learning component where users can test their knowledge in the clinical topics covered in the App. Each clinical topic contains three test levels: Familiar, Proficient and Expert. To move to next level, the user needs to pass the previous level.
When a user has achieved Expert level in all clinical topics the certification exam is unlocked.

Safe Delivery Champion
The certification exam contains 15 clinical cases with 1-7 questions each. The full examination takes 1-2 hours to complete. To become a Safe Delivery Chamption a score of minimum 70% must be achieved and no *deadly* answers given to critical questions.

Experiences from the States

Supportive follow-up in Chhattisgarh: In Chhattisgarh, the Maternal Health Division asked the District Public Health Nurses to supervise the App's roll-out, including MyLearning after the trainings. The roll-out activities were supported by USAID VRIDHHI. The number of users increased dramatically post training which highlights the strength of rolling out the App through a structured training and follow-up approach. In collaboration with district officials, the GoC conducted monthly reviews, and the districts were requested to conduct Safe Delivery App trainings across all delivery points, including LaQshya facilities. The number of App users in the state further increased after system level integration and successful transition of App ownership and implementation from state-level to district-level authorities.

Positive competition in Punjab: To stimulate use after the initial introductory trainings in Punjab, the Government of Punjab (GoP) set up state and district level ceremonies to celebrate the nurses who have achieved the Safe Delivery Champion status within the App. The Champions receive their certificates and a Safe Delivery Champion badge during the ceremonies. The ceremony not only recognizes the nurses but also motivates others to keep learning and work towards achieving the Safe Delivery Champion certification.

Pre-service learning with the Safe Delivery App
At the Government Medical College, Patiala, Punjab, the App is used by teachers in the classroom. All modules are being utilised and it is reported that the videos make learning easy.

"I'm the oldest Safe Delivery Champion in the hospital. I'm 55 years old and graduated in 1985. We were introduced to the Safe Delivery App through Laqshya. All the young nurses know the latest procedures and guidelines, and I used to struggle to keep up. But now I'm updated about all the latest knowledge through the Safe Delivery App, and now I'm on the same level as them."

- Rajinder Kaur, nursing sister, Mata Kaushalya Government Hospital, Patiala, Punjab

"I introduced the App to all staff at the college. In intro trainings we introduce the App to everyone. The videos are very good and informative, they make it simple to learn. It is also a good teaching tool. The animated videos leave a sustained impression. It leaves an impact, learning becomes easy."

- Assistant Professor Sangeeta, Government Medical College, Patiala, Punjab

What does the App data say

When we follow the App user-data we can see that the states that invested in strong roll-out activities have seen high number of users and a high number of MyLearners and SafeDelivery Champions.

The roll-out approach in Chhattisgarh has been particularly successful in introducing users to MyLearning, the self-guided assessment platform where the knowledge acquired can be tested. More than half the users in Chhattisgarh have signed on to MyLearning, which is twice the global rate of 26.5%.

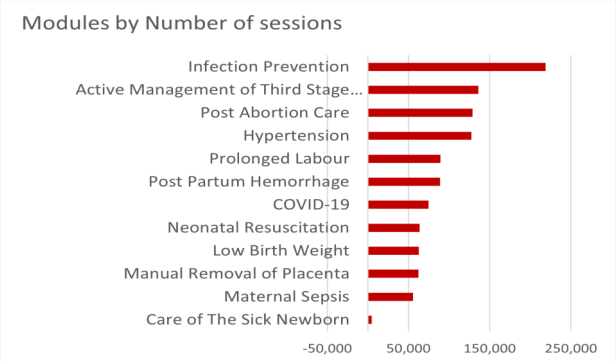
For Chhattisgarh, Haryana, Punjab, Madhya Pradesh, Gujarat and Jharkhand we also see a higher rate of SafeDelivery Champions among the MyLearners. Between 15-28% of the users in these states have passed the SafeDelivery Champion certification test as compared to a global average of 11% of MyLearners.

Table 2: Users, MyLearners, Safe Delivery Champtions by State

State	#Users	#MyLearners	#Champ.	%Champ.
Chhattisgarh (CG)	13213	7079	1349	19%
Uttar Pradesh (UP)	7478	1973	175	9%
Bihar (BR)	5058	1442	147	10%
Haryana (HR)	3303	1434	235	16%
Punjab (PB)	2564	1380	331	24%
Maharashtra (MH)	3827	1094	61	6%
Madhya Pradesh (MP)	2928	973	147	15%
Gujarat (GJ)	2536	722	200	28%
Jharkhand (JH)	2300	622	95	15%

Across states more than 60,000 users have been active on the App in India. The most commonly accessed module is Infection Prevention, but also the modules on Active Management of Third Stage Labour, Post Abortion Care and Hypertension have been accessed more than 100,000 times (Figure 3).

Figure 3: Modules ranked by number of times visited



The preferred feature among the Indian App users is MyLearning followed by watching specific video chapters or full videos.

The high level of use in the areas where the App has been rolled-out suggest that it App successfully addresses a need. With 7 additional language version being launched in 2021 more health workers will be able to access relevant clinical content in their preferred language.

Conclusion

There is no silver bullet; different roll-out approaches have worked well in different regions. Experience across states shows that the roll-out has been most successful when time and resources are invested in rolling out the digital solution.

We recommend integrating the Safe Delivery App into relevant programs and ensuring it is used as part of regular program monitoring. Supportive supervision and appreciation of achievers has also proved useful. Maternity Foundation provides access to monitoring dashboards that enables the appointed administrators to track progress in real-time and can support roll-out activities with introductory trainings.

CONTACT DETAILS

Dr Tarun Singh Sodha,

Country Director, Maternity Foundation India

1108, Tower A, I thum Tower, Sector 62, Noida

Uttar Pradesh 201301, India

Email: tarun@maternity.dk