

MOMENTUM

Private Healthcare Delivery



■ Learning Brief

USING INTEGRATED DIGITAL NUDGES TO STRENGTHEN AWARENESS AND DEMAND FOR POSTPARTUM FAMILY PLANNING AND IMMUNIZATION

INTRODUCTION

Background

Integration of postpartum family planning (PPFP) with childhood immunization services is a promising High Impact Practice (HIP), and evidence suggests that integrating family planning (FP) and immunization services can lead to increased FP uptake.¹ Short message service (SMS) and audio messages using interactive voice response (IVR) sent as ‘digital nudges’² have also been shown to be an effective demand-side intervention for PPFP³ and a key contributor to a promising HIP on using digital approaches in social and behavior change.⁴ The evidence related to the effects of nudges on health-related outcomes is substantial.^{5,6} However, there is limited literature on how digital nudges can be leveraged to support FP/immunization integration, especially among postpartum women. In addition, there is limited evidence about how the private sector – both health care providers or other commercial businesses – can be leveraged to support FP/immunization integration for postpartum women and couples.

The MOMENTUM Healthcare Delivery Project (MPHD) collaborated with a local Indian partner, [Suvita](#), to extend its successful platform of lower-cost digital SMS nudges for childhood immunization to support postpartum women’s access to FP information and services. This learning brief summarizes the implementation of the FP-related results of, and lessons learned, from this partnership.

Context

As India’s third most populous state, Bihar accounts for 9% of the country’s total population, or nearly 104 million people. Over four-fifths (84%) of the households are in rural areas, and women face a number of health-related challenges. With maternal mortality rates of 118 per 100,000 live births and infant mortality rates of 47 per 1000 live births, Bihar continues to lag behind national averages for important maternal and child health indicators.

While 56% of married women aged 15-49 use contraception, female sterilization accounts for 35% of use, and 11% use traditional methods—meaning use of modern methods for birth spacing is low.⁷ Further, Bihar also has the second highest adolescent (10-19 years) pregnancy indicators in the country.⁸ Among adolescent girls aged 15-19, 11% in Bihar are pregnant for the first time or already have had one child. Half of men in Bihar agree that the female partner should be the only one in the relationship concerned with contraception.⁹

Within this context, social and gender norms play a major role in decisions around childbearing and leave little personal agency for women to negotiate whether, when and how many children to have. Only 18% of women aged 15-49 in Bihar are employed, and 37% of women believe spousal violence is justified in certain circumstances. A strong preference for boys/sons often drives the social pressure for women to continue childbearing. Last, high rates of illiteracy (especially for young girls and women) compound the difficulty in accessing high quality evidence-based information.¹⁰ Contexts such as these thus present multi-faceted challenges to shifting social norms or to precipitating behavior change for nuanced topics such as fertility and contraceptive use.

PROGRAM IMPLEMENTATION

To address some of these challenges, MPHD partnered with Suvita to operationalize this activity in four districts of Bihar. Working together, MPHD and Suvita leveraged its existing immunization SMS reminder digital platform. Parents who recently delivered a baby opt into the platform by providing a mobile phone number, to which automated SMS reminder messages to bring the child to a referral site are sent out seven days and again one day before a vaccine is due. With MPHD support and inputs from the Government of Bihar, women and couples received the existing SMS nudges on immunization schedule adherence, with FP messages newly introduced at five different time periods, along with referral information for further contraceptive services at nearby pre-screened facilities.

To start, MPHD conducted a district and facility inventory assessment to develop the baseline of FP services available at public and private sites currently participating in Suvita's immunization platform. This exercise also established partnerships with facilities who would serve as referral facilities in the immediate catchment area to engage with new mothers in the first two years of their child's life (0-24 months post-delivery).

Once partner referral sites were identified, Suvita collected the mobile contact information of new parents through facility-based registers who then consented to receive the PFP messages. Once these lists were generated, parents who were in the intervention area received this newly crafted series of SMS immunization and PFP 'nudges.'

These messages included content related to spacing, return to fertility, contacting the nearest community health worker for contraception, as well as on exclusive breastfeeding as part of the lactational amenorrhea method (LAM). Materials reinforcing the same messages were placed in relevant hospital/clinic wards at activity sites. Metrics on messages sent and referrals were tracked in a dashboard, which included details related to message delivery rate, unique caregiver engagement, message volume, and demographic segmentation.

Advancing Localization

To select a local expert for this activity, MPHD assessed the capabilities of local partners and identified Suvita, whose digital platform for childhood immunization programming was designed to reach women in their extended postpartum stage. Under this new partnership, MPHD provided additional operational support to help Suvita successfully receive its first-ever USAID-funded grant.

With Suvita as a co-lead and in alignment with USAID's vision to strengthen local leadership, this activity was designed and implemented in close collaboration with the Health Department of the State Government of Bihar. At the request of the Bihari Health Department, MPHD also provided technical support in the design and distribution of information, education and communication (IEC) materials to be placed at service delivery points to reinforce the information provided through SMS nudges.

To maximize the opportunities to tap into local systems and knowledge in the implementation of this work, MPHD applied a human-centered design approach to many of the design steps, with extensive consultations with state government officials as well as focus groups with community members informing the development of the messages.

Advancing Private Sector Engagement

With the support of MPHD, Suvita partnered with two private Indian telecom companies, Telerivet and Textlocal, to automatically schedule and send the integrated schedule of messages to new parents based on their child's birthdate. Between September 1, 2023 (when FP messages were first sent) and June 4, 2024, Suvita delivered approximately 348,000 total FP messages to nearly 100,000 caregivers across the four districts. Additionally, to counter challenges due to low literacy, MPHD partnered with Kilkari, a private health education messaging service implemented by the Government of India in 13 states (including Bihar), to deliver IVR messages directly to families' mobile phones via automated robocalls. These IVR messages were rolled out alongside SMS messages so that clients who were not literate also received access to evidence-based high quality FP information during the postpartum period.

In addition to working with the 90 public sector facilities that the Bihari Health Department were supportive of engaging in this work, MPHD also encouraged stakeholders to include and strengthen links with private health sector facilities, expanding access to a greater number of people. As an entry point to this discussion, two private hospitals were introduced to the initiative. While MPHD sought to increase the number of engaged private facilities, the recent enactment of the 2023 Digital Data Protection Act by the Government of India created additional complexity in how clients of private healthcare facilities could be engaged and consent to taking part in digital interventions.

FAMILY-PLANNING RELATED RESULTS

MPHD conducted endline assessments at the conclusion of the activity in two of the four districts. FP-related results are compiled below, along with lessons learned. While the raw numbers of those surveyed were limited (n = 300), and the period of implementation was relatively short (nine months), the results demonstrate that even in a remote, rural, hard-to-reach context like Bihar, where deeply entrenched social, cultural and gender norms play important roles in decision making, digital nudges that integrate FP and immunization messaging can support both immunization and FP/RH goals.

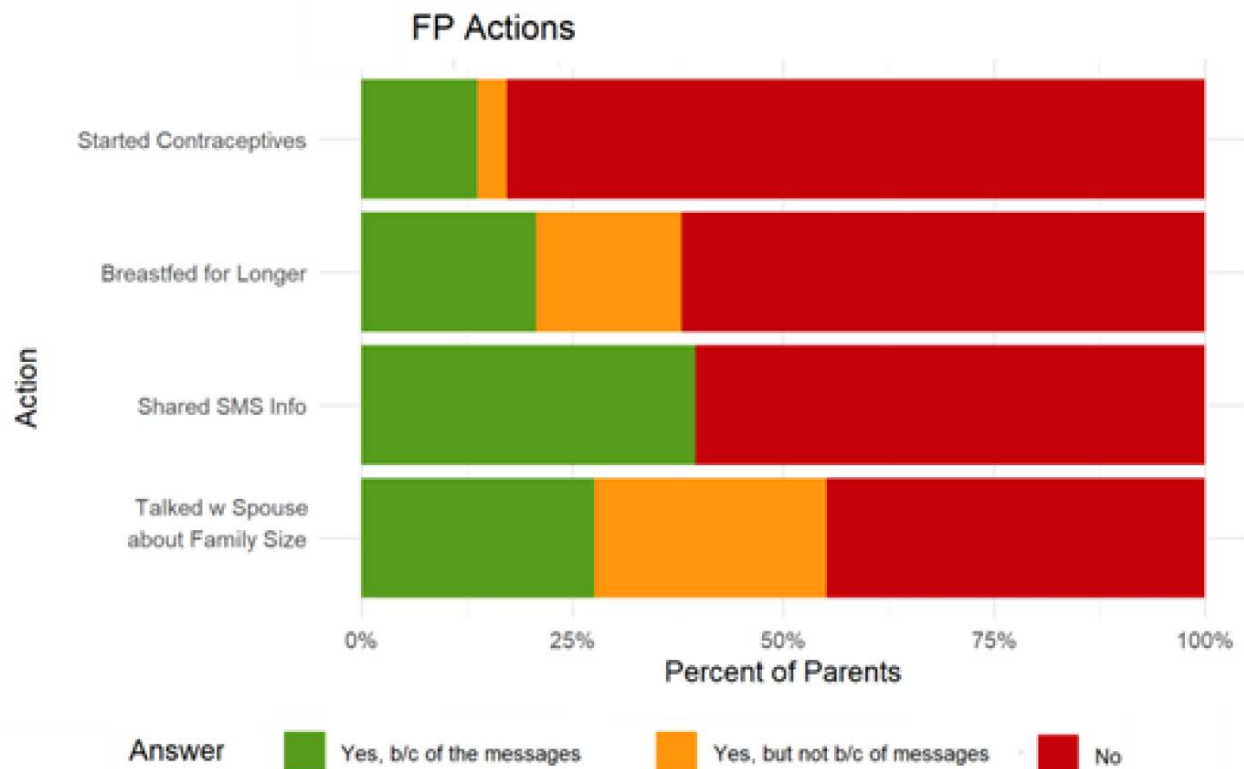
FP DEMAND AND PRACTICES AMONGST THE STUDY POPULATION: Results from the assessment suggested a desire among respondents for smaller families and for spacing; few families wanted more than three children, and 48% of families wanted to maintain a gap of three years or more between their future children, with 79% wanting a gap of at least two years. This desire was shared between male and female respondents. This stated desire suggests a significant demand for FP services for both spacing and limiting. However, only 29% of respondents reported ever having used an FP method. Further, 25% of parents surveyed had their first child when they were 19 or younger, with more than 75% of families having their first child before the age of 23. This data correlates with national survey data for Bihar on early marriages and desired family size and reveals a dissonance between fertility preferences and modern contraceptive use for birth spacing.¹¹

FP RECALL: Of the caregivers who remembered receiving any messages, about 40% were able to recall an FP message. Furthermore, among those who recalled receiving SMS or IVR nudges at all, 85% of respondents accurately recalled messaging about breastfeeding and LAM. Recall rates for FP were weaker compared to those for immunization (which was about 88% of those who recalled receiving any messages). This result was not unexpected by the intervention team, as at least two messages were sent for every scheduled vaccination during the nine-month period. Still, the FP recall figures correlate with past Suvita immunization-only campaigns¹² and other studies^{13,14} that show similar improvements in FP knowledge after exposure through SMS nudges. In comparison with commercial SMS marketing data and target engagement rates, the recall percentages are also within a promising range, especially considering the contextual factors in Bihar.^{15,16,17,18}

FP ACTIONS AS A RESULT OF RECEIVING DIGITAL NUDGES: Among the parents/caregivers who recalled receiving SMS nudges, 43% stated that they learned something new about FP topics. When asked a follow-up question around actions taken due to new FP information received via SMS, as depicted by the graph (Figure 1) below:

- 14% of caregivers began using contraceptives
- 21% of caregivers breastfed for longer
- 28% of caregivers talked with their spouse about their desired family size¹⁹

Figure 1: FP actions taken as a result of receiving Digital Nudges



While it is not possible to attribute these results solely to the effect of the digital nudges, these numbers align with the effect of digital technologies on contraceptive information and use found by the other studies mentioned above.

LITERACY AND RECALL: When controlling for other variables, MPHDP saw that increased levels of literacy and phone ownership (in terms of whether the respondent owned the phone that received messages) were associated with higher odds of recalling the receipt of any messages. Further, male and female respondents were equally likely to remember receiving messages. Interestingly, while phone ownership was not associated with recall of vaccination messages (meaning even if a respondent did not own their phone, they recalled the immunization message), phone ownership was associated with remembering FP messages. This suggests that intra-household sharing of FP content is less likely. For many families in a context like Bihar, this result may indicate that FP is an uncomfortable and complex topic to discuss, and complementary efforts supporting social norm change related to FP use may be necessary to effect change within such contexts.

LESSONS LEARNED

INTEGRATED DESIGN AND DELIVERY OF DIGITAL SMS/IVR MESSAGES, TIMED AND TARGETED FOR THE POSTPARTUM STAGE OF THE MOTHER, CAN CONTRIBUTE TO BOTH IMMUNIZATION AND FP GOALS, AS ILLUSTRATED BY THE 'FP RECALL' AND 'FP ACTIONS' RESULTS IN THIS INTERVENTION

This activity showed that integrating FP messages into a successful immunization messaging platform did not cause a deleterious effect on immunization recall and immunization-related actions taken. These results suggest potential cost efficiencies and scalability opportunities for health communication programs seeking to address multiple health priorities through unified digital platforms, while maintaining message effectiveness for each health domain.

WHEN INTEGRATING NEW TOPICS INTO EXISTING SMS CAMPAIGNS, FACTORS LIKE PHONE OWNERSHIP, LITERACY RATES AND PRIVACY MAY HAVE DIFFERENT IMPORTANCE THAN THEY DID PRE-INTEGRATION

Digital technology, which generally appeals to younger people, may be a particularly useful tool in places like Bihar where the population skews young and adolescent pregnancy rates are higher. Additionally, complementing SMS with IVR can address potential barriers to access of high-quality information posed by lower rates of literacy. As recommended in the Digital Health for Social and Behavior Change HIP,²⁰ successful SMS nudge campaigns consider end-user literacy levels, privacy, format preferences, and other contextual factors in their interventions. However, when integrating different health topics together, implementers should re-evaluate these factors before integrating messages into an existing SMS campaign platform, particularly where the messaging includes sensitive or stigmatized content. In settings where social norms may inhibit contraceptive seeking behavior, and with data showing that women continue to lag behind in mobile ownership,²¹ factors related to privacy and anonymity may become more influential on the effectiveness of integrated FP-immunization messaging than of immunization messaging alone. The sensitivity of FP topics in these communities may necessitate additional privacy safeguards and careful message framing that may not be as critical for immunization-only communications.

SMS-BASED SOCIAL AND BEHAVIOR CHANGE COMMUNICATION (SBCC) INTERVENTIONS, PARTICULARLY WHERE SOCIAL AND GENDER NORMS PLAY IMPORTANT ROLES IN CONTRACEPTIVE DECISION MAKING, SHOULD BE PART OF A MULTI-CHANNEL SBCC STRATEGY

Evidence has shown that while SMS and IVR health messaging can offer a low-touch, low-cost SBCC option to increase contraceptive knowledge, these digital approaches alone may not be sufficient to drive changes in contraceptive use.²² This is especially relevant in a context like Bihar, where FP remains a sensitive and complex topic bound by cultural taboos. Multi-component SBC interventions have demonstrated greater effectiveness in addressing the complex web of interpersonal, community-level, and social norm-related factors that influence reproductive health behavior.²³ While this initiative was designed to generate positive outcomes and learning with a limited set of resources while capitalizing on digital technologies, the stakeholders involved recognized the potential limitations of digital nudges. MPHD therefore added to the intervention by developing complementary IEC print materials through a co-creation process with the Bihari State government, health facility staff, and community-based health workers. These materials, deployed at partner referral sites, provided in-person reinforcement of digital messages while creating opportunities for direct engagement with patients around FP decisions.

IN SIMILAR CONTEXTS, FP MESSAGES ASSOCIATED WITH FERTILITY AWARENESS MAY BE MORE RESONANT, POTENTIALLY CREATING PATHWAYS TO BROADER ACCEPTANCE OF OTHER MODERN CONTRACEPTIVE METHODS FOR BIRTH SPACING

Given the high recall rate of breastfeeding and LAM specifically within the series of FP messages, focusing on fertility awareness messaging may help convey a foundation of body and fertility literacy, opening possibilities for further conversations about contraception. Within societies like in Bihar where use of modern spacing methods is low and restrictive gender and social norms prevail, myths and misconceptions may ultimately foster resistance to more continuous and long-acting FP methods for spacing. Focusing messages first on fertility goals rather than on contraception may be more resonant and perceived as supportive of a woman's existing cultural values and belief systems in similar contexts. While this intervention did not directly measure whether fertility awareness messaging led to adoption of other contraceptive methods, previous research has suggested that improving understanding of fertility and reproductive health can increase openness to various FP options.²⁴

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
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Photo credit and caption: A new mother at a health center in Bihar watches as Neelam, an auxiliary nurse midwife prepares a vaccination to administer to her child. Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0). September 2022.

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