Experiences from a Mobile-based Behaviour Change Campaign on Maternal and Child Nutrition in Rural India

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Maternal and Child Health and Nutrition

- Bihar lags behind the national average in health indicators

<table>
<thead>
<tr>
<th></th>
<th>India</th>
<th>Bihar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant Mortality Rate (2016)</td>
<td>34</td>
<td>38</td>
</tr>
<tr>
<td>Maternal Mortality Rate (2014-16)</td>
<td>130</td>
<td>165</td>
</tr>
<tr>
<td>Under-5 Mortality Rate (2015)</td>
<td>29</td>
<td>37</td>
</tr>
</tbody>
</table>

- Children in India:
  - 33% percent are born with low birth weight
  - Under 5: 43% are underweight, 48% are stunted, 20% are wasted
  - Under 3: 75% are anaemic, 62% are vitamin A deficient

Sources: Census of India, World Bank, Niti Aayog, Wikipedia
Social and Behaviour Change Communication (SBCC)

- Problem: awareness and behaviour at household and individual levels
- SBCC: communication strategies to promote positive behaviour outcomes
  - e.g. handwashing, dietary diversity, breast feeding
- Involves careful planning, segmentation of users, testing of materials, use of mass media (TV, radio, print) and inter-personal channels (FGDs)
- TV and radio penetration is low, can participatory media be leveraged to reinforce SBCC messages?
SBCC over Mobile-based Participatory Media

• Mobile Phone penetration is increasing: has potential to scale
• Facilitates on-demand, intra-household content consumption
• IVR based participatory media (Mobile Vaani): not dependent on Internet or text-literacy, runs over simple voice calls

• Challenges:
  • Does the target group have access to mobile phones?
  • Does the target group have the capability to use technology?
Methodology

- **Target group:**
  - Primarily (pregnant) women, women with infants
  - Also men and SHG members for support and household and community level communication on nutrition

- **Targeting maternal and child nutrition behaviour**
  - Core Content: Maternal Dietary Diversity, Complimentary Feeding, Social Entitlements, ORS and diarrhoea management

- **Channel:**
  - **Mobile Vaani:** IVR-based participatory media
JEEViKA Mobile Vaani

JEEViKA SHG network
JEEViKA Mobile Vaani

Community Mobilisers (CMs) (~100 households)

Women Self-Help Groups (SHGs) (10-12 households)

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PCI (technical partner)

Offline SBCC

Health and nutrition

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Technology Layering on top of offline SBCC

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System Design

• Implementation in 6 blocks in the Nalanda district in Bihar

• IVR based participatory media: *Mobile Vaani*
  • Users play an active role in generating and disseminating content (User Generated Content: UGC)
  • Potentially more powerful than mainstream media because it is a two-way platform

• **Content Designed** in partnership with technical (PCI) and field partners (JEEViKA)
  • Drama, infotainment, info capsules
Observations and Take Aways

- Reporting Results of a one-year implementation from April 2017 to March 2018 (Quarters 1-4)
- 0.45M+ missed calls, 0.24M+ push calls answered, 32k+ unique users
- Complexities of conducting SBCC over mobile phones:
  - Technology adoption
  - Content Diversification
  - Concurrent Monitoring
  - Mobilisation pathways
Technology Adoption
Technology Adoption: Problems

- Female phone ownership is low, phones are shared within family
  - Formative research: ~50% women have shared phone usage
- Phone usage capabilities are poor
  - Formative research ~80% women unable to dial a number
- SHG members attending the meeting are usually older women
  - Not interested in adopting technology tools
Technology Adoption: Recommendations

- It takes time, persuasion and nurturing to develop a culture of phone usage
- Sustained training is important
Technology Adoption: Recommendations

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Quality of Contributions with Training

CDF of %users for whom UGCs were rejected. Users able to make better content contributions with time and training.
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Content Diversification
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- Phone survey at the end of Q2 revealed self-selection
  - Only women who were pregnant or had infants were participating
  - This hindered the goal of promoting intra-household, SHG-level and community-level communication on nutrition
- It was decided to diversify the content
- Local news, children’s education and agricultural advisory (non-core content) appealed to the audience
## Participation in Q3, Q4 after diversification

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- Average minutes of usage of non-core content went up in Q4, but not at the cost of core content
- Both male and female users called more in Q4 compared to Q3
- An average increase in calls of 65% for male users and 39% for female users
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Concurrent Monitoring and Remedial Actions

• To monitor and improve the implementation quality
Concurrent Monitoring and Remedial Actions

- To monitor and improve the implementation quality

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Identify active and inactive CMs
### Concurrent Monitoring and Remedial Actions

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<td>Is platform usage translating into behaviour change?</td>
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*Notes:*
- **Inputs** refer to the inputs required for the process.
- **Outputs** are the expected outcomes from the inputs.
- **Outcomes** are the desired results or impacts of the process.
**Inputs**

- CM rating is computed based on CM performance metrics (trainings, calls, contributions): helps in identifying active and inactive CMs

- Inactive CMs were pushed additional training modules, active CMs were recommended for advanced training
• Helps to identify which themes and formats are working and which themes need more push

• Content strategy was modified based on skip-rates, quality of UGCs, theme-wise UGCs
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• Content strategy was modified based on skip-rates, quality of UGCs, theme-wise UGCs
Outcomes

- IVR surveys: KAP (Knowledge, Attitude, Practice) surveys of users who have listened to the content (exposed) vs users who have not-listened to the content (unexposed)

34%
Outcomes

- IVR surveys: KAP (Knowledge, Attitude, Practice) surveys of users who have listened to the content (exposed) vs users who have not-listened to the content (unexposed)

How can you check if the food is of the correct consistency?

- Food sticks to the spoon
- By stirring the food
- By observing the food
- All of these
- Can't say

<table>
<thead>
<tr>
<th></th>
<th>0.00%</th>
<th>20.00%</th>
<th>40.00%</th>
<th>60.00%</th>
<th>80.00%</th>
<th>100.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unexposed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposed</td>
<td>20%</td>
<td>36%</td>
<td>34%</td>
<td>34%</td>
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How can you check if the food is of the correct consistency?

- **Unexposed:**
  - Food sticks to the spoon: 20%
  - By stirring the food: 20%
  - By observing the food: 20%
  - All of these: 20%
  - Can't say: 20%

- **Exposed:**
  - Food sticks to the spoon: 36%
  - By stirring the food: 36%
  - By observing the food: 36%
  - All of these: 36%
  - Can't say: 36%

How many bowls of daal should a pregnant woman eat in a day?

- **Unexposed:**
  - More than 3 bowls: 34%
  - 3 bowls: 34%
  - 2 bowls: 34%
  - 1 bowl: 34%
  - Can't say: 34%
  - Whatever is available at home: 34%

- **Exposed:**
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Did You Know episodes created and pushed for targeted awareness and reinforcement of key messages

How can you check if the food is of the correct consistency?

How many bowls of daal should a pregnant woman eat in a day?
Mobilisation Pathways
Non-SHG Mobilisation

- **Non-SHG arm**: second implementation arm; does not leverage the SHGs for mobilisation
- Volunteers directly mobilise end-users
- **Problem**: Volunteers primarily male: difficult to reach female audience
  - Only 20% users in the non-SHG arm are female
- *Child Journalism* programme was started to reach families through school students
- Evidence of learning happening through the male users too
• **SHG: High precision, low recall**: able to reach women, but SHG members attending the meeting are older and not open to adopting technology: low utilisation of training bandwidth

• **Non-SHG**: harder to reach women (target group)
• **SHG: High precision, low recall**: able to reach women, but SHG members attending the meeting are older and not open to adopting technology: low utilisation of training bandwidth

• **Non-SHG**: harder to reach women (target group)
• SHG: Migrant and labour-dependent families might not be attending SHG meetings
• Non-SHG: able to reach more labour-dependent families
Conclusions

- **Technology adoption** takes time and needs continual persuasion, training and nurturing.

- **Diversification of content** helps in deepening participation and avoids self-selection.

- **Concurrent monitoring** helps in improving implementation of programme.

- **Mobilisation**: Hard to reach women users. SHG is a good pathway. However, SHG misses out marginalised groups.
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