A study on developing an m-Health solution as an alternate recording and reporting system for Auxiliary nurse midwives in Udaipur district of Rajasthan.

By

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Academic year, 201[illegible]

IIHMR UNIVERSITY

The Big Problem

Half of India's children are not getting routine vaccinations, Centre admits

By MAIL TODAY BUREAU

PUBLISHED: 22:50 GMT, 13 May 2015 | **UPDATED:** 22:52 GMT, 13 May 2015

Significant Vaccination Delay can Occur Even in a Community with Very High Vaccination Coverage: Evidence from Ballabgarh, India

World Journal of Vaccines, 2015, 5, 69-78
Published Online May 2015 in SciRes. http://www.scirp.org/journal/wjv
http://dx.doi.org/10.4236/wjv.2015.52009

Scientific Research Publishing

High Immunization Coverage but Delayed Immunization Reflects Gaps in Health Management Information System (HMIS) in District Kangra, Himachal Pradesh, India—An Immunization Evaluation

Gap's: Receiver

- Poor maintenance of MAMTA CARD
- Lack of awareness about the benefits of immunization among mothers
- False cultural belief

Opportunity:

- Increased Mobile subscription in rural areas.

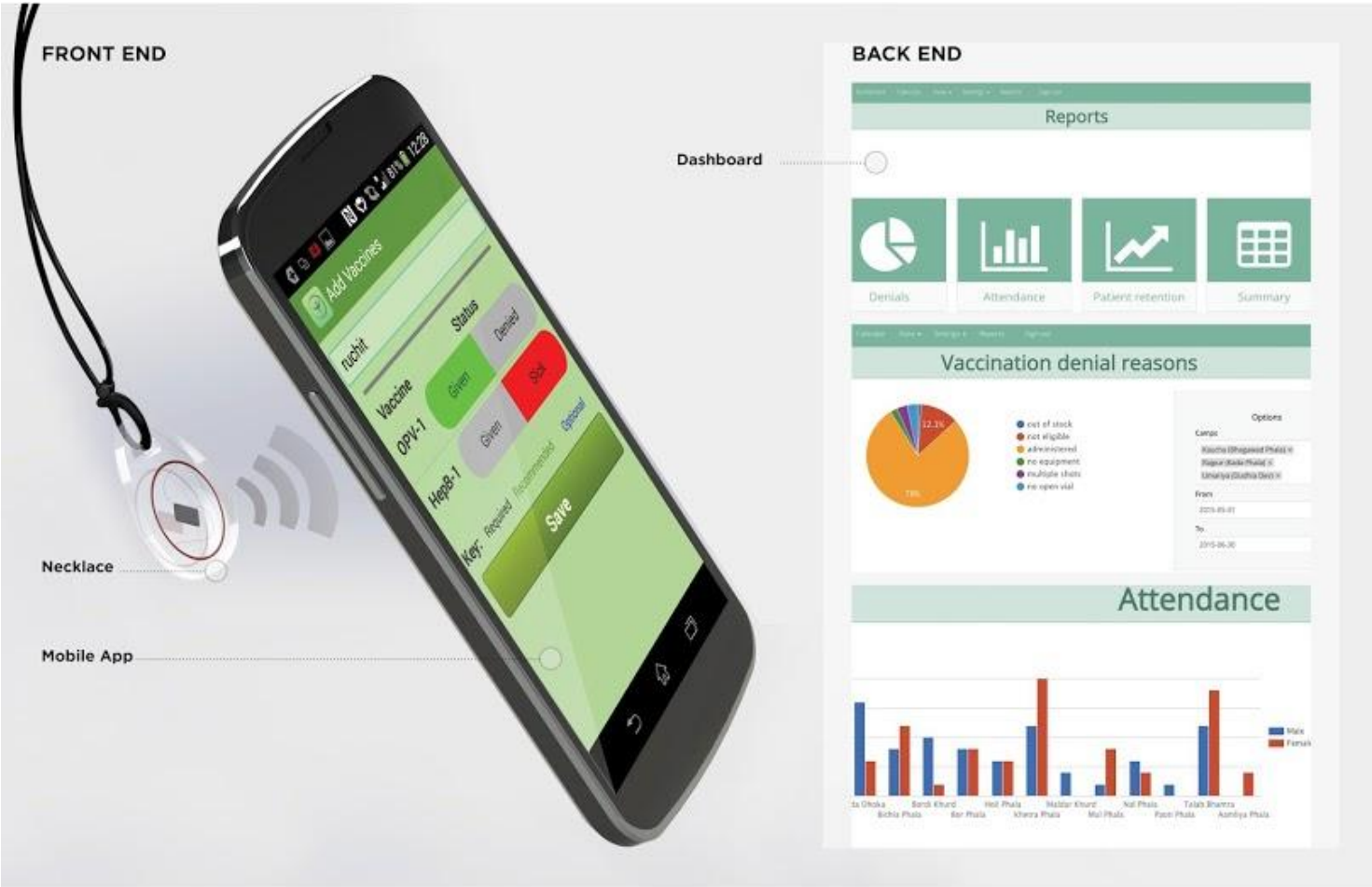
Gap's: Provider

- An inefficient record keeping and management system.
- Lag of 30 days to analyze records.
- Poor inventory management.
- Discrepancies due to manual error.
- Non standardized vaccine schedule.

Opportunity:

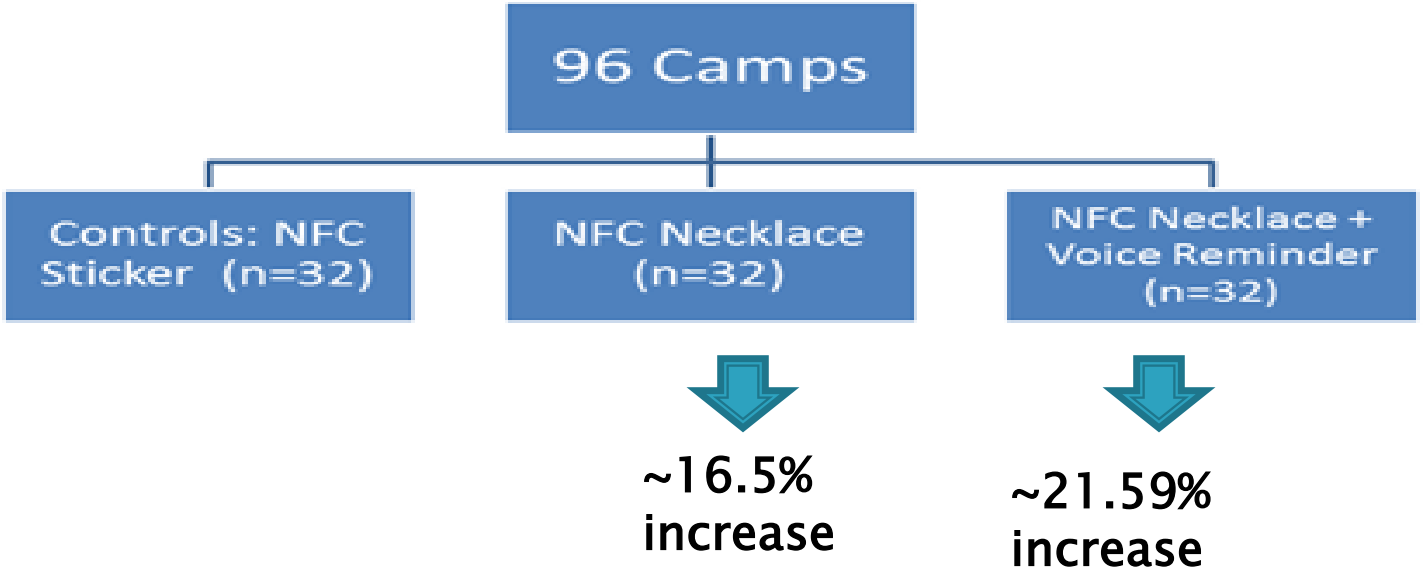
- Increased Smartphone usage by health workers

About the organization
Khushi Baby: m-Health solution



Pilot 1 Study: Mid line result.

(2015-16)
At Seva Mandir, Udaipur



Next Step

Trail Study 2 (2016 onwards)

- Support of Ministry of Health, Udaipur scale up to 318 villages.
- Incorporate mothers Antenatal Care along with the Immunization

Immediate Step

To develop a user friendly mobile application as per the need by the maternal and child health program and to facilitate the Auxiliary nurse midwives by simplifying the MIS using the m-health solutions.

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MCHN DAY

- Maternal child health nutrition day is a government of India initiative and is the most significant platform for providing essential care to maternal and child health care
- Providing the first point of contact for receiving primary health care
- There is expected to be one MCHN day every month in a village of 1000 population.
- every Thursday's of the week is allotted as MCHN day for a particular village in Rajasthan.

Research Question

1. What is the current process of MCHN day/ VHND?
2. Who are the key stakeholders involved and what are their roles, responsibilities?
3. What are the challenges faced by the auxiliary nurse midwives in conducting MCHN day?
4. What are the views of the auxiliary nurse midwives on Khushi baby's mobile health prototype?

Objectives:

1. To study the process of MCHN Day
2. To understand key stakeholders involved in conducting MCHN day.
3. To study the challenges faced by ANMs in conducting MCHN day, especially maintaining records and preparing report.
4. To find out feasibility of an alternative m-health solution through prototype testing with the auxiliary nurse midwives.

Methodology

Study Type:
Qualitative and Exploratory
In order gather preliminary information that would help to define problems faced in conducting MCHN day camp from the perspective of the user i.e. the auxiliary nurse midwives (ANM) and to design and test a prototype of a mobile health application as an alternate solution that accounts for user preferences to overcome those challenges, exploration was required.

Study Area:. Included Three blocks of Udaipur.
Total number of Maternal and child health nutrition day visits (Badgaon): 7
Total Sub centres (Badgaon): 6
Total CHC: 2 (Rishabhdev and Girwa)

Participant (n)	Purpose	Methods of data collection	Data collection Tool	Remarks
ANM (30)	To identify the challenges faced by ANMs in recording and reporting data of mother and children during MCHN day. To conduct usability test of a low fidelity mobile app prototype and get their feedback.	In depth Interview Secondary literature	Semi-structured interview schedule Checklist of mobile application steps	The interview was conducted with 30 ANM (7 from MCHN Day, 6 Badgaon sub centre, 3 ANM from meeting at Rishbhdev and 12 ANMs from meeting at Girwa.) User test was conducting on 10 ANMs of Girwa during their monthly meeting.

The Process

1. The Context: MCHN Day

- What is the current process of MCHN day? Who are the key stakeholders involved and what are their roles, responsibilities ?

2. Problem identification of user: ANM

- What are the challenges faced by the auxiliary nurse midwives in conducting MCHN day?

3. Alternate solution: Mobile app

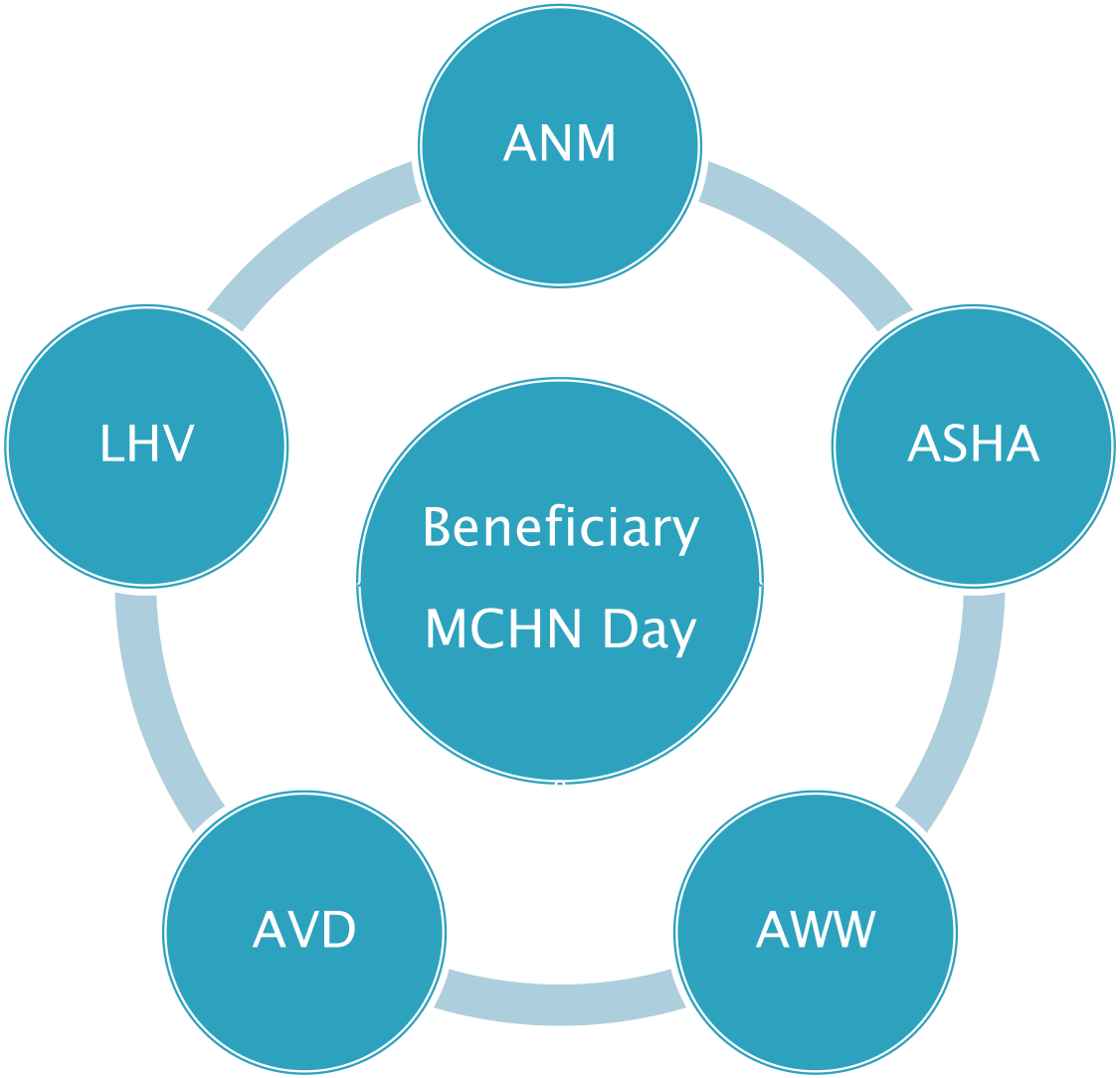
- How can the khushi baby's mobile app be the alternate solution.

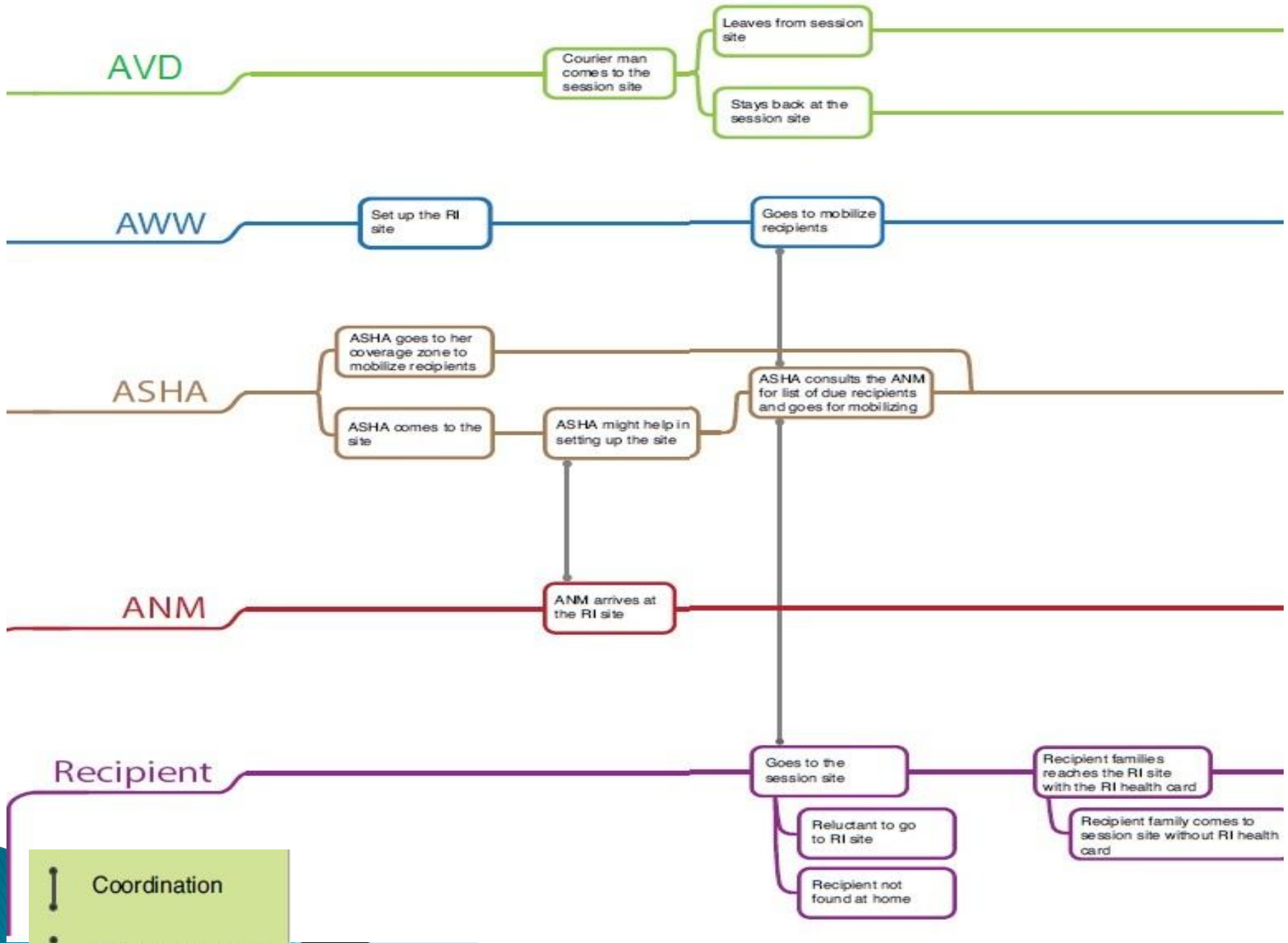
4. Test and Evaluate

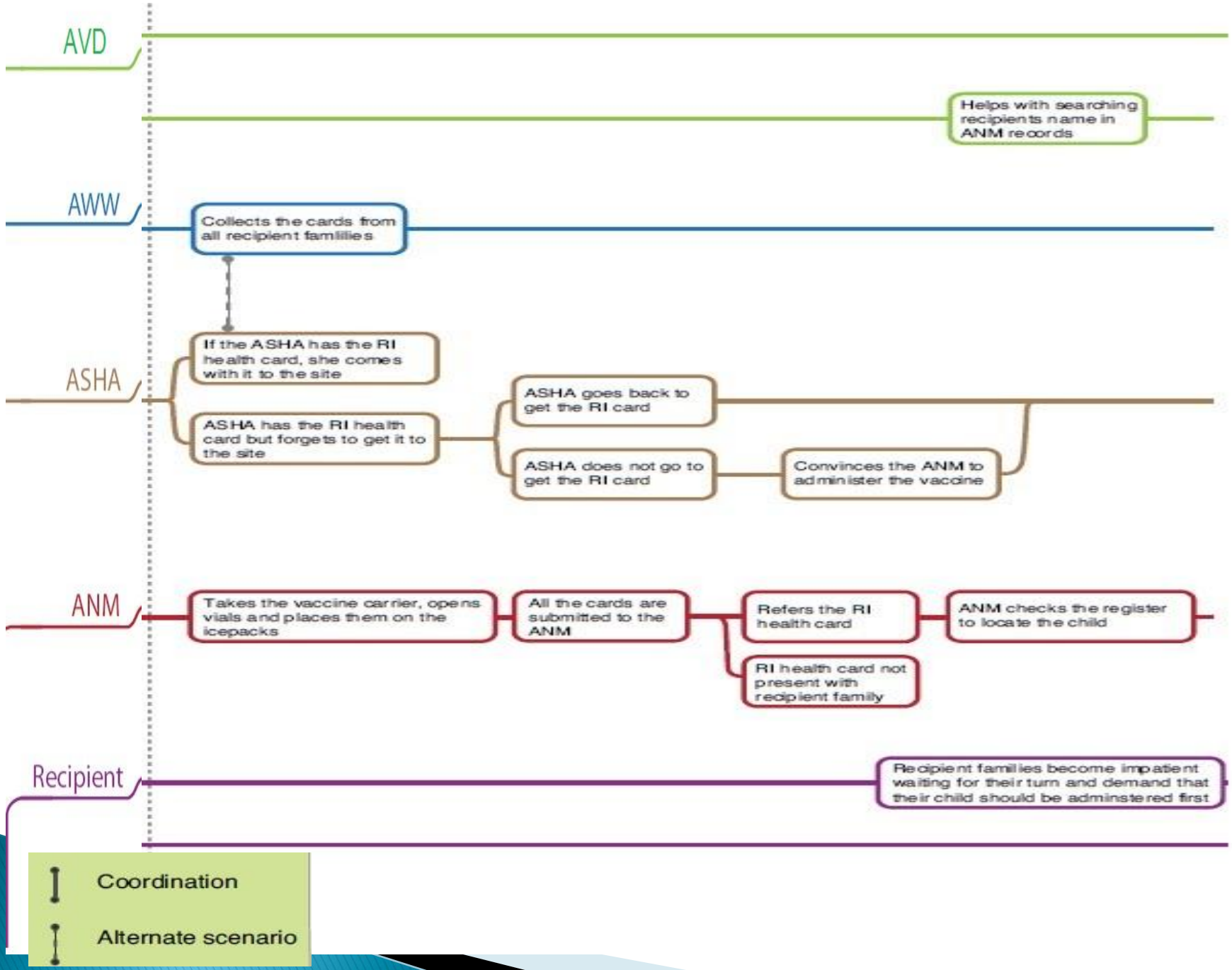
- What are the views of the auxiliary nurse midwives on Khushi baby's mobile health prototype?

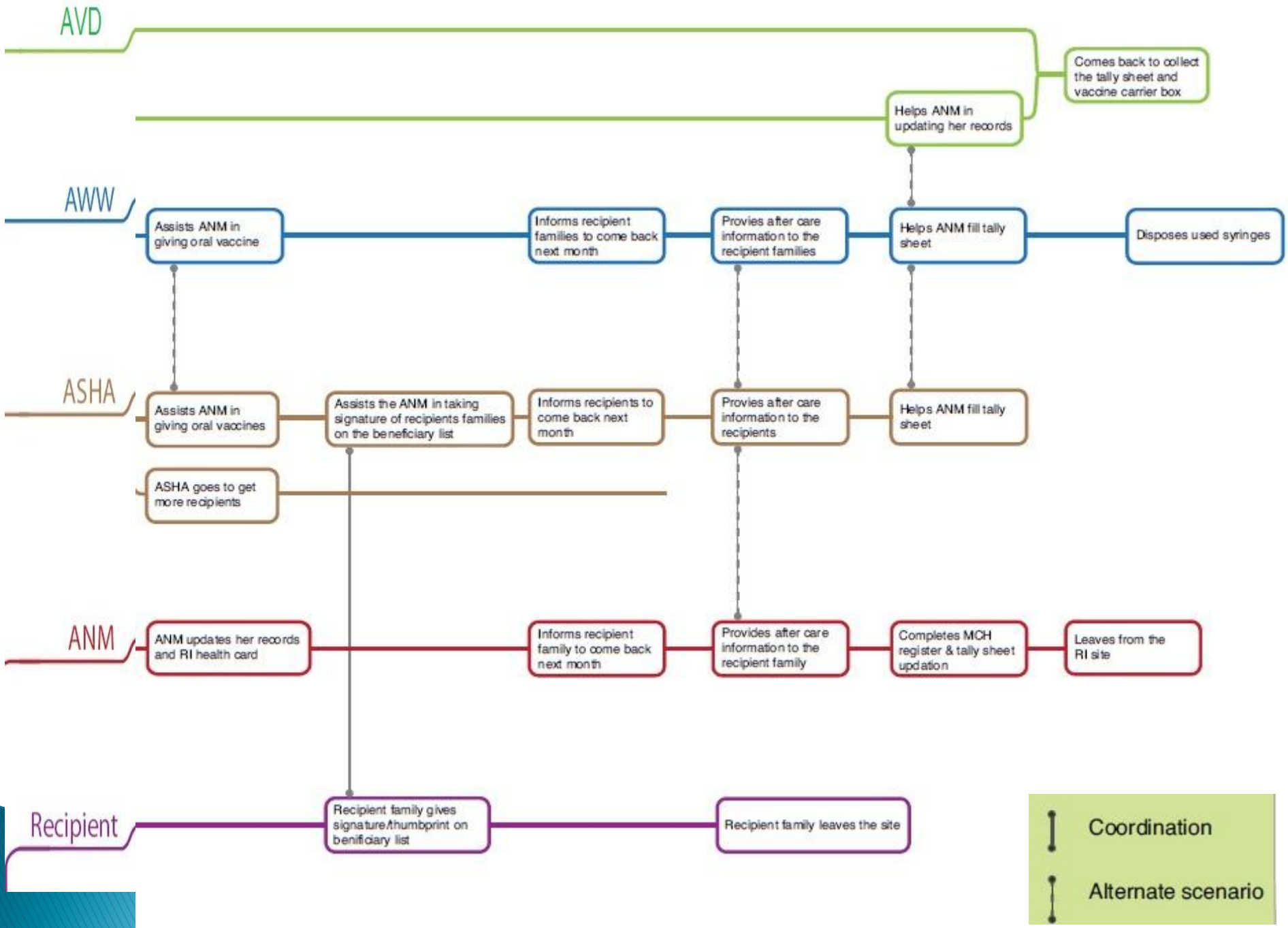
Findings

Key stake holders at the MCHN Day site



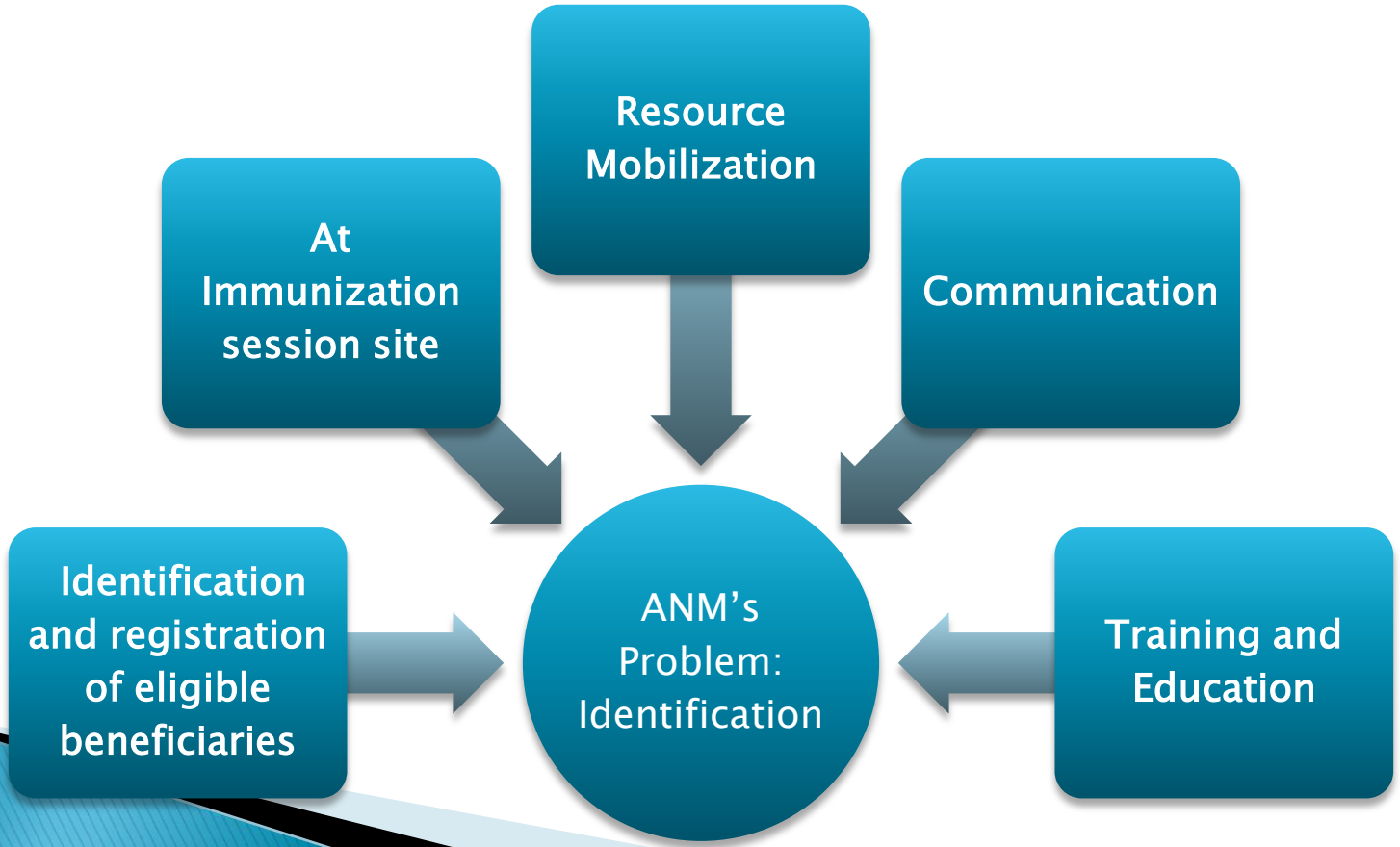

AVD
Courier man comes to the session site
Leaves from session site
Stays back at the session site
AWW
Set up the RI site
Goes to mobilize recipients
ASHA
ASHA goes to her coverage zone to mobilize recipients
ASHA comes to the site
ASHA might help in setting up the site
ASHA consults the ANM for list of due recipients and goes for mobilizing
ANM
ANM arrives at the RI site
Recipient
Goes to the session site
Recipient families reaches the RI site with the RI health card
Recipient family comes to session site without RI health card
Reluctant to go to RI site
Recipient not found at home
Coordination
Alternate scenario


AVD
Helps with searching recipients name in ANM records
AWW
Collects the cards from all recipient families
ASHA
If the ASHA has the RI health card, she comes with it to the site
ASHA has the RI health card but forgets to get it to the site
ASHA goes back to get the RI card
ASHA does not go to get the RI card
Convinces the ANM to administer the vaccine
ANM
Takes the vaccine carrier, opens vials and places them on the icepacks
All the cards are submitted to the ANM
Refers the RI health card
ANM checks the register to locate the child
RI health card not present with recipient family
Recipient
Recipient families become impatient waiting for their turn and demand that their child should be adminstered first
Coordination
Alternate scenario


AVD
Comes back to collect the tally sheet and vaccine carrier box
Helps ANM in updating her records
AWW
Assists ANM in giving oral vaccine
Informs recipient families to come back next month
Provies after care information to the recipient families
Helps ANM fill tally sheet
Disposes used syringes
ASHA
Assists ANM in giving oral vaccines
Assists the ANM in taking signature of recipients families on the beneficiary list
Informs recipients to come back next month
Provies after care information to the recipients
Helps ANM fill tally sheet
ASHA goes to get more recipients
ANM
ANM updates her records and RI health card
Informs recipient family to come back next month
Provides after care information to the recipient family
Completes MCH register & tally sheet updation
Leaves from the RI site
Recipient
Recipient family gives signature/thumbprint on benificiary list
Recipient family leaves the site
Coordination
Alternate scenario

2. Problem Identification of User: ANM

Based on the secondary review, field visits, responses and data collected the overall problem identification was organized into 5 key areas.

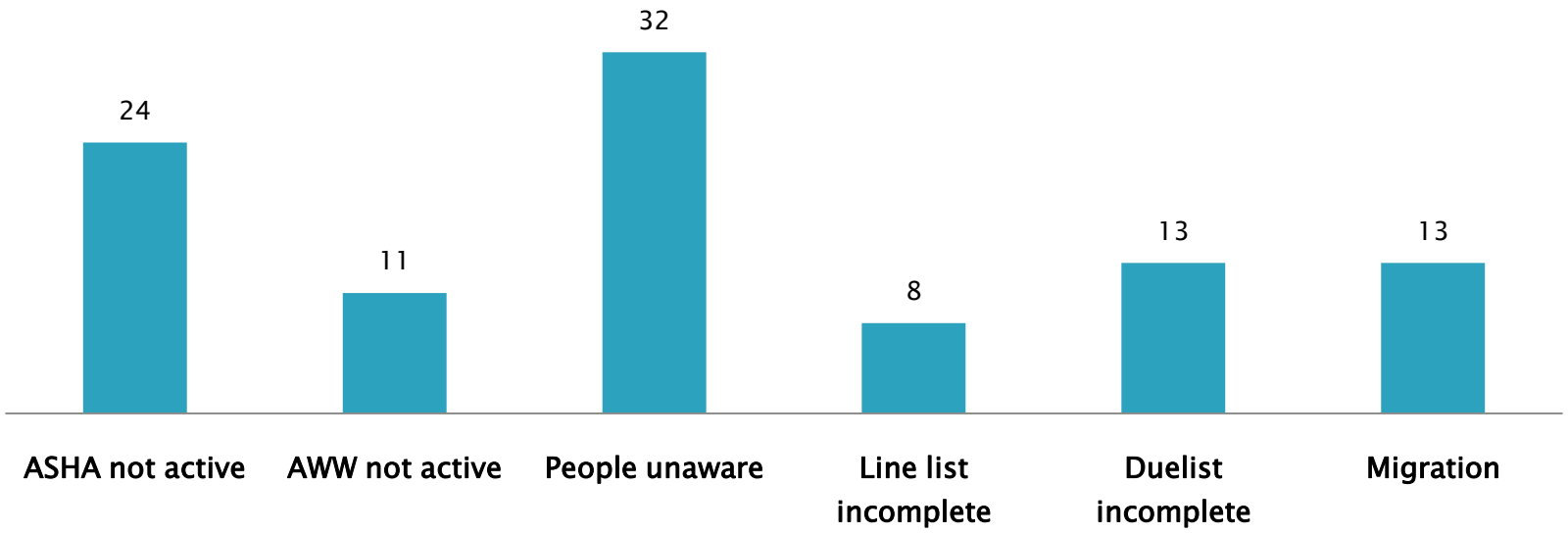


i. Identification and registration of eligible beneficiaries

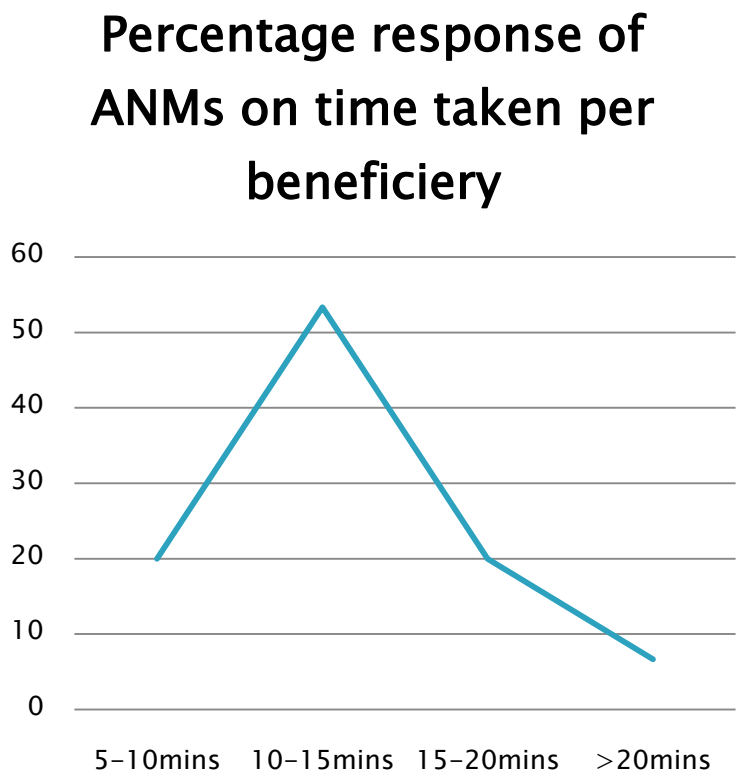
The number of ANC and Immunization check up is always found to be less than expected. When asked for possible reasons as to why the beneficiaries do not receive timely services their responses were

N= 30

Percentage distribution of ANMs by reasons given for not receiving timely services.



ii. At Immunization session site



•27 out of the 30 ANMs said that they have to do multiple entries using the RCH register.

•The average time taken by the ANMs per patient is approx. 10-15 mins and More than half of them said that the data documentation time over exceeds the time taken to deliver services to the patient.

•ANMs do not provide complete services that is supposed to be given at the MCHN Day like the abdomen and fundal examination, urine test, Hb test etc. They said It was found that it was due to lack of proper training, guidance and lack of equipments like bed, Hb meter etc at the site.

iii. Resource Mobilization

- Micro planning is intended to drive factors as allocation of coverage areas for both ANMs and ASHAs and provides targets for number of ANC and children to be vaccinated. It is also critical for accurate resource planning – for instance, allocation of vaccine quantities and other equipment at sessions.

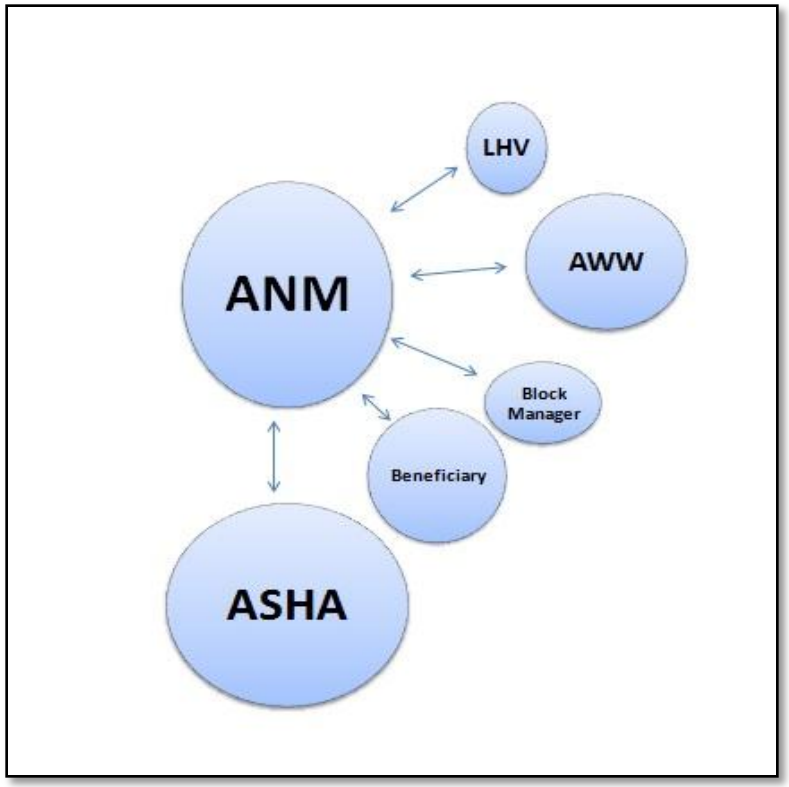
- Most if the ANMs said that they do face stock outs when more beneficiaries come than expected.

- This planning is dependant on the data provided by the frontline workers however there exits loopholes in the information flow Ideally, ASHAs performing their mobilization rounds, or yearly household survey data collected by Anganwadi Workers, would provide updated information about new pregnancies or births in their coverage areas, which would then be incorporated as the “true denominator” into the planning process.

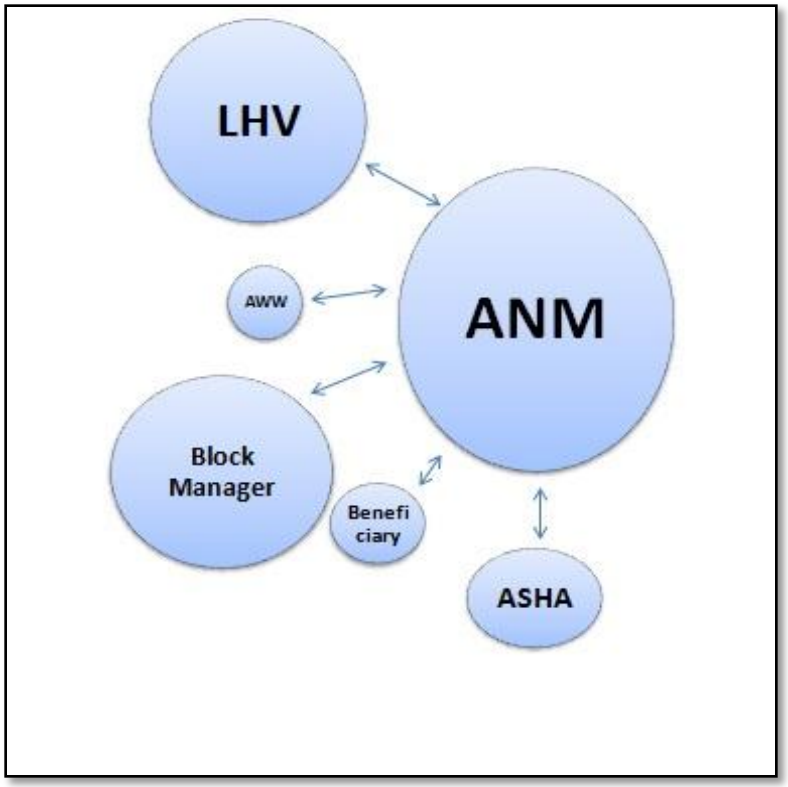
- There are instances where the estimation of monthly target of beneficiaries in the micro plan is made from population census data.
- Although she is very closely involved on filed but there is No involvement of ANMs in the planning process.

iv. Communication

ANMs frequency of meeting other key players.



In order of the rank in decision making.

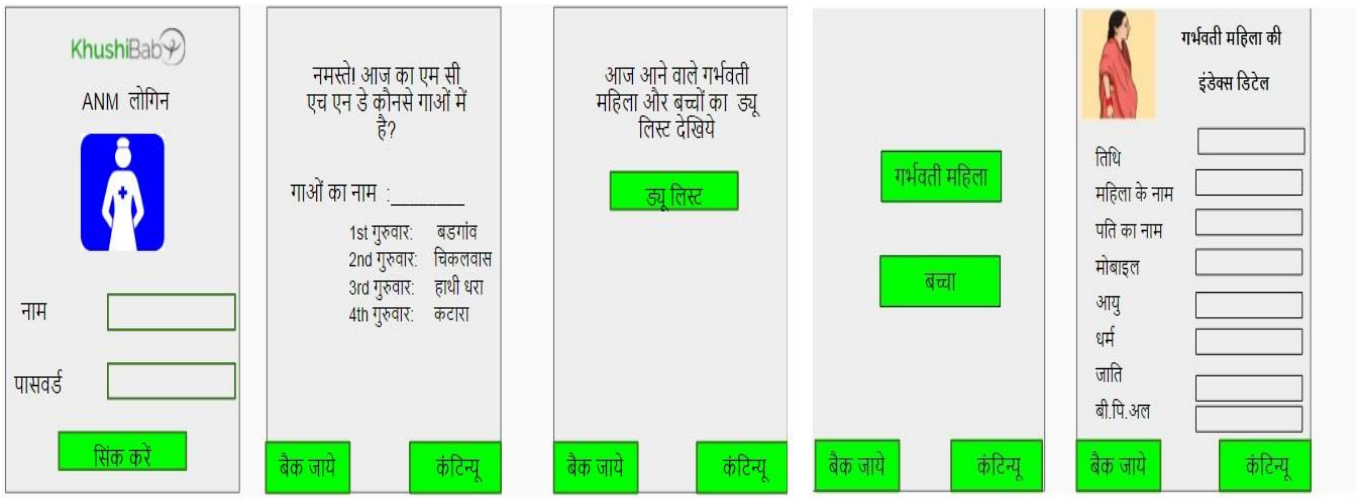


It was found that the frequency of meeting ASHA is the maximum while ANM does not consider them the highest rank for decision making. While on the other hand the frequency of meeting LHV is the least while she considers her to be the most superior for decision making. The influential role of the LHV, block manager over the ANM for decision and support is greater than the ones she meets more frequently i.e the AWW, ASHA

v. Training

- The ANMs said that they are not confident in deliver some ANC services. No one really comes to train on field where they require the most.
- For example, frontline health workers forget to provide after care instructions to mothers after vaccine administration, they are not sure of providing fundal examination, Hb test even though they are instructed to do so in training sessions.

3. Alternate solution: Mobile application



Based on the findings from the in-depth interviews the problems encountered by the ANM a prototype of the mobile application that can be an alternate solution to record the data during MCHN day for pregnant mothers and children.

4. Test and Evaluation:

	Age	Remarks
Group 1	**25-35yrs**	**3 out of 5 have used android phones in the past.**
Group 2	**>35 yrs**	**2 out of 5 had used android phones in the past.**

- All the users were able to complete the process of login, checklist, due list, new registration of pregnant woman and child.
- However the user of group 1 was able to understand the prototype faster and completed each step in lesser time as compared to users of group 2.
- Individual user feedbacks were taken and overall satisfaction level of the user was very good.

Conclusion

- The purpose of the study was to understand the challenges face by the user and be able to create a platform that can help overcome those challenges.
- The study helped in providing details on the workflow and process which was a stepping stone to build a prototype of the mobile application.
- The prototype is easy, inexpensive yet a very powerful method to understand the user and co-create with the user.
- The overall insights on the user problems identified from the study will be taken up to add more features to the mobile app.

Way Forward

Continued iterative development of the mobile application and Incorporate features like:

- Checklist for better resource mobilization
- High risk identification and counseling guide
- On- site Training videos for ANMs
- Voice call reminder messages (IVRS)
- Automated self generating due list and other reports
- Check-in for electronic monitoring

Thanks