A study to understand the acceptability and use of ANMOL Application in Madhya Pradesh

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Introduction

- "ANMOL (Auxiliary Nurse Midwife Online) or ANM online is a solution which aims to bring better healthcare services and better consultation to millions of pregnant women, mothers and new born in INDIA."
- ANMOL is an android based application, developed to facilitate seamless work of ANMs as well as to ensure collection of good quality data & its digitalisation at its source. This is developed for the Ministry of Health and Family welfare and is synchronised with web based RCH portal. This works offline and can also be synchronised with the web portal as automatically when connected with internet and also on user request.
- ANMOL will also facilitate in identification and tracking of high risk pregnancies and children with low birth weight. ANMOL woks offline so dependency on the internet connectivity is very limited and ANMs need to worry about the network and electricity connectivity.

Why ANMOL application required?

- Effective and timely delivery of services of quality, specially to rural population, to ensure better healthcare.
- Bringing awareness to the remotest urban population, urban slums and unserved community through images, videos and educating them about Government initiatives on health, maintenance of good hygiene, basic health care & precautions.
- Establish better communication of ANMs with beneficiaries and Doctors tough remote assistance which will improve the quality of services."

KEY PERFORMANCE INDICATORS

- **Age at Marriage**

From ANMOL, we can get village wise information of Age at Marriage, so as to take up the area specific awareness campaign on Age at Marriage to improve the Mean Age at Marriage.

- **In Mother care**

Data on HB%, weight of Mother is being recorded in ANMOL from the date of registration and to the date of delivery. This data can be utilised by both ANM & AWW in monitoring the Anaemic status of the Mother. Provision is incorporated in the portal to give Alerts to the ANM and Mother, if Mother, is identified as Anaemic at any status of Pregnancy.

- **In Infant Care**

The weight of infant is being recorded in ANMOL during all the 7 PNC visits of Infant. This information can be utilised for growth monitoring of the Infant by the both ANM & AWW Immunization status of both Mother and Infant can effectively monitored by the ANM & AWW using the RCH Portal, if the Convergence of ANM & AWW is done.

Conceptual framework

- **"Acceptability"** refers to the ANMs' perception on whether the application is satisfying and suitable for their work.
- **"Perceived Ease of Use**: the degree to which the ANMs believes that using the ANMOL Application would be free of effort;
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- **Perceived Usefulness**: the degree to which the ANMs believes the ANMOL Application would enhance her job performance, improve her knowledge, self-efficacy, or may be useful for others;
- **Social Influence**: the degree to which the ANMs perceives that important others, such as family, patients, peers and supervisors believe that she should use the ANMOL Application;
- **Contextual Facilitators and Barriers to Use**: the degree to which the ANMs believes that infrastructural, organizational and any other related factors in the implementation context facilitate or impede use of ANMOL Application. Guided by this conceptual framework I will assess whether ANM perceive ANMOL tools as easy to use, useful, in which case we assume that ANMs accept ANMOL Application. Furthermore, we will explore what barriers they perceive in the implementation context, which may impede or facilitate the actual use of ANMOL Application."
- **"Acceptability"** refers to the ANMs' perception on whether the application is satisfying and suitable for their work.

Rationale

- Since last few years Government of India is more focusing to get every small detail regarding various National Health programmes on online platforms the role of IT is increased at rapid pace as it helps to improve the health indicators and tracking everything so easily. Maintaining the standards and quality of data helps in providing better care to patients and improving the health indicators of country. mHealth Application exist in large numbers today, but oftentimes, health workers do not continue to use them after a brief period of initial usage, are averse toward using them at all, or are unaware that such apps even exist and reduced their work load to an extent. The number of operators reduced for compensate this the need of ANMOL Application came up as in this daily updation of data is there. The purpose of my study was to examine and qualitatively determine the design and content elements of ANMOL application that facilitate or impede usage from the ANMs' Knowledge, perceptive, Experience.

- Hence it is required to carry out this study to assess the information regarding why it is performing so different in different districts so that some action can be carried out for the improvement the data quality, empowerment of ANMs and to resolve the problems ANMs.

Objective

- To study the knowledge of ANMs about ANMOL Application
- To study the perceptions of ANMs about ANMOL Application.
- To study the experience of ANMs about ANMOL Application
- To provide recommendations to improve Anmol Application furtherly.

Research question

- What factors facilitate or impede ANMs perception of ease of use and are likely to lead to their acceptance and use of ANMOL Application ?
- What factors facilitate or impede ANMs perception of usefulness and are likely lead to their acceptance and use of ANMOL Application
- What factors in the implementation context (infrastructural, organizational) do ANMs in Madhya Pradesh perceive that may facilitate or impede their use of ANMOL Application?

Methodology

- Study Design: A qualitative exploratory approach is deemed appropriate to answer these study's research questions, as qualitative research allows capturing the lived experience of the ANMs, while taking into account the complexity of interactions with both others and the implementation context. The study is exploratory in nature as it aims to discover the personal contexts of the ANMs, and to understand how their personal views are embedded within these contexts, So a **cross sectional descriptive study** is undertaken to complete this study.

- Study area: Bhopal (Phanda block), Sehore(Shyampur, Ashta block)

- Duration of study: (5^{th} april-19^{th} may 2018).

- Study population: ANMs to whom ANMOL Tablet was given a year ago.
- Sample size : 55 ANMs were interviewed through focus group discussion.

Data Collection

Data were collected in the month of May. Eleven focus groups discussion were held for data collection.

Sampling strategy

- **Inclusion criteria** ANMs whom Anmol Application are provided are accepted to take part in this study.

- **Exclusion criteria** ANMs who are working at facilities and at Urban area.

- **Focus group discussions**

Fiftyfive ANMs participated in the focus group discussions that were organized during the week of data collection. Eleven FGDs (5 participants each) were held in the Bhopal and Sehore district. In Bhopal 3 FGD held at Phanda block and 9 FGD were organized at Sehore district ,4 FGD were organized at Shyampur block and 5 FGD were held at Ashta block and lasted 40-45 minutes each. The focus group discussions allowed for a refinement of perceptions, barriers both through the interaction with other participants.

- **Data Analysis**

The qualitative data from the interviews were audio recorded and common responses were grouped and analysed on basis of content.

Key findings

- Most of ANMs are unable to locate their village on ANMOL Application
- Around 20 ANMs which share same village under them are unable to fetch which beneficiaries are registered by herself.
- The list of ASHAs are not clearly defined as the mapping of ASHA in ANMOL are not correct because of which ANMs are unable to fetch the details of ASHA under them.
- In many cases the entry done by ANMs are not visible on RCH Portal.
- Many ANMs don't even know how to reset password and don't bother to ask someone regarding it and happily continuation of work in registers.
- The Application runs offline but after filling one entry for jumping to next Internet connectivity is required without internet the form is not submitted and it will go further for next entry.
- Tablets are not in use still ANMs have them and not used by them
- The tablet is used for multipurpose work(for gaming and calling) which further reduces the battery backup.

- ANMOL Application launched to reduce the workload of ANMs but it double the workload of ANMs as ANMs still entry the details in registers and then entry done on ANMOL or by operators in most of cases.

- As previous ANMs leave or transferred to other place the work due by her is get pended and new ANMs unable to locate previous entry .

- Loss and missing data even ANMs entered the data in ANMOL Application.

- In some cases data were entered but ANMs still not able to fetch that filled data as it not updated on ANMOL itself.

- In many cases eligible couple entry was an issue as ANMOL unable to proceed their data input and create unusual errors.

- Application crash in between most of times not responding.

- Synchronization issues are there as the data are not automatically updated

- There is no evidence of reference videos for maternal and child care.

- There is no technical staff there to help ANMs regarding their Mobile tablets and ANMOL Application.

- Data is not updating even if net connectivity is there
- Duplicacy of RCH ID as in some cases same ID is not able to use again if same women pregnant again.
- In some cases the details of 2nd ANC not filling as it unable fetch details of 1st ANC.
- In some cases if a mother who undergo abortion and pregnant again within same year the ANC is not created for her.
- Data validation problem is there as ANMs are unable to use application they handover to someone else to entry the data through ANMOL Application.
- In some cases ANMOL Application is working good but ANM not entry data on it as they not remember the password and unable to recover it and don't even tell the supervisor regarding it.
- In some cases ANMs are not able to track the previous entries as all entries are not updated.
- In some cases the MPWs are doing work of ANMs.

- As the entries done by previous ANM are not filled properly the work load get doubled. Not easily tracking of previous entries

- As proper not given ANMs don't. know where to find previous cases.

- Some ANMs are not doing their work as they are unaware that it works n both Hindi and English
- Most Mobile tablets are unrepaired become burden than convivence.

- Records of ANMOL application are vary with RCH Portal as the entries done on ANMOL Application not shown on RCH portal.

- No availability of spare parts of Tablets in case any Anmol tablet crashed.

- Hardware issues are the most as many ANMs already return their ANMOL tablets as they are not working, some of them crashed, some have overheating issue, some have charging issue, Some have screen touch issues, In some cases the keyboard not working.

- As the entries done by previous ANMs are not filled properly the load of work gets doubled as it is not easy to track the previous cases easily.

- There is no auto updation of ASHA in ANMOL Application.

- Acceptance of ANMOL is there but the quality of tablets is low.

Recommandations

- Mapping should be done correctly for those villages which were not showing under particular ANMs .
- Mapping of ASHAs under each ANM should be correctly done.
- Data must be shown immediately on RCH portal as the ANM complete entry of one case.
- The list of various beneficiaries must be happened as per to VILLAGE WISE SO that population of each village can be segregated.
- Auto updation of ASHA option can be there and ANM can be allowed to update the details of new ASHA workers in their village.
- The work of ANMs who share same village must be defined clearly.
- The amount of pending work load is high ;ANMs are unable to fetch details of every beneficiary by name in this case the name of people can be sorted as per village wise.

- As burden of work increases as ANM first make entries in registers than on ANMOL there can be provision of extra battery back-up so that their work load reduces on filed and spare parts of tablets must be made available to ANMs as it discourages them to work on ANMOL.

- As if no spare parts there the crashed tablets of ANMs can be exchanged with other tablets available by which the motivational level of ANMs regarding working on ANMOL not low down

- A team can be formed separately for resolving the various problems of ASHA WORKERS and OPERATORS.
- Provision of training at regular intervals helps and motivate them to use ANMOL Application.
- The Play store can be locked and a link of software download send to them through message and also for further updates as they not at all aware of this.

Conclusion

- ANMs were happy as the work come online but the system is not working up to the mark that they feel less motivated to do such load of works on ANMOL for this continuation and best improvements must be done on ANMOL Application
- This data entering tool is convenient as its details directly update to the central server so it's a transparent system.
- The implementing organization could have thought of an alternative solution, such as the development of a user manual.
- The application allowed for more dynamic data collection; maintained data integrity; supported data transmission and storage; facilitated data organization and processing; and provided greater reliability in the analysis of results.
- Reduction in time in long data entry procedure.
- Chances of error are still there as they fill some wrong details during the whole process.
- Unacceptability regarding new technology among some ANM can be a problem for more better performance of ANMOL Application.
- Performance of Block/ PHC Health Supervisors has been improved.
- Traceability of high risk pregnancy in ANMs Sub-centre area can be easily done.
- ANM doesn't required to go to operators for data entry and updation.

- ANMs acceptability and demand for an Anmol application and electronic forms are high if technical issues sorted.
- Nontechnical challenges are also difficult to solve when introducing an ANMOL application to ANMs for primary health care
- With the current context of the Madhya Pradesh health care, ANMOL application and electronic forms can be used for routine collection of health and epidemiologic data and transfer at large scale.

Limitations

- The study was conducted in Bhopal and Sehore which is quite peri-urban setting and the contextual finding may not be transferable to strictly rural contexts. Data were collected within 1 month, which might have limited findings of acceptability, for example with ANMs who worked for just one month and less than one month can't able to provide appropriate finding for this study. Because of many defective Mobile tablets not all ANMs could be observed in how they used the application and what might be their experience of working on ANMOL Application clearly defined. Morever the study would have been further enriched if the data of all ANMs regarding their work on ANMOL Application was made available. Last the positive findings of study may have been affected by social desirability bias although I stressed confidentiality, included observations and encouraged participants to describe real experiences."

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Annex I: Interview Guide

Q.1 What do you know about ANMOL Application?

Q.2 What do you think what is the purpose behind launching ANMOL Application?

Q.3 What are the barriers that you were facing before ANMOL application?

Q.4 What are the benefits of using ANMOL Application?

Q.5 What is your experience of using ANMOL application?

Q.6 What do you think what improvements can be done regarding ANMOL Application?

Q.7 Is there anything else you'd like to say about the Anmol Application?

अनुलग्नक II: साक्षात्कार गाइड

प्रश्न 1. अनमोल एप्लिकेशन के बारे में आप क्या जानते हैं?

प्रश्न 2. अनमोल एप्लिकेशन लॉन्च करने के पीछे क्या उद्देश्य है आपको क्या लगता है?

प्रश्न 3. अनमोल एप्लिकेशन का उपयोग करने से पहले आप किस बाधाओं का सामना कर रहे थे?

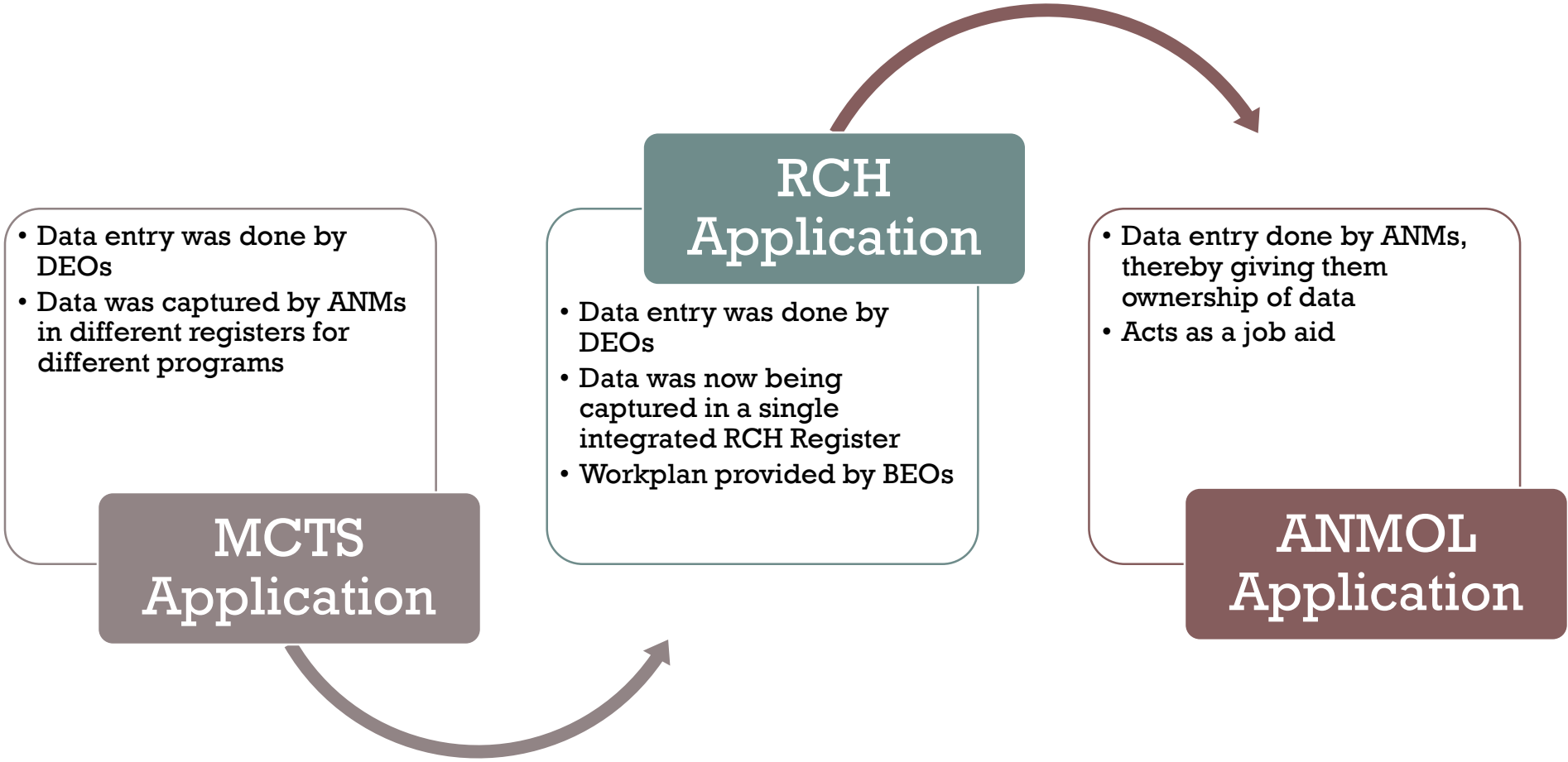
प्रश्न 4. अनमोल एप्लिकेशन का उपयोग करने के क्या फायदे हैं?

प्रश्न 5. अनमोल एप्लिकेशन का उपयोग करने का आपका अनुभव कैसा है?

प्रश्न 6 आपको क्या लगता है कि अनमोल एप्लिकेशन के संबंध में क्या सुधार किए जा सकते हैं?

प्रश्न 10 क्या आप अनमोल एप्लिकेशन के बारे में कुछ और कहना चाहते हैं?

Annex III: journey to Anmol



Annex iv :key modules in Anmol application

- **Eligible Couple**
  - Registration
  - Tracking of Family Planning Services
- **Pregnant Women**
  - Registration
  - ANC Services
  - Delivery details
  - PNC Services
- **Child**
  - Registration
  - Tracking of Immunization Services
  - Child Medical

- **Dashboard**
  - Registration
  - Family Planning
  - ANC Services
  - Delivery Outcome
  - PNC Care
  - Immunization
  - Critical Indicator
  - KPI Factsheet

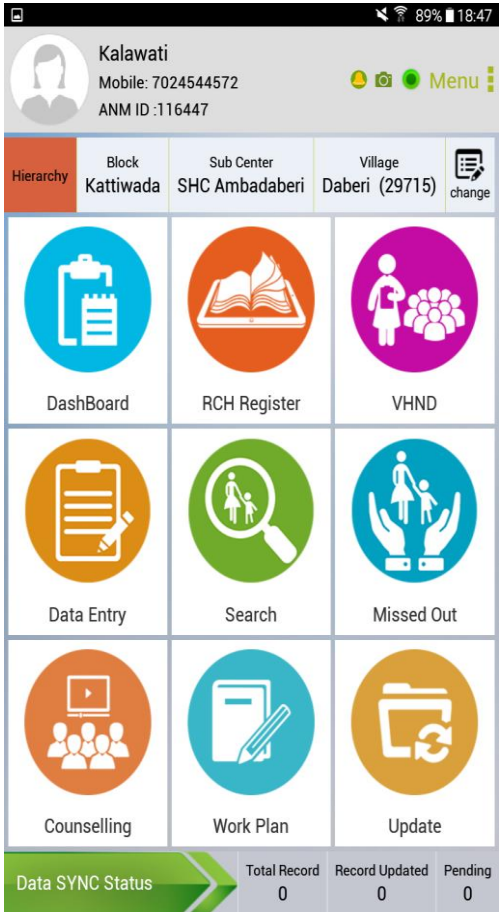
- **Counseling**
  - Video
  - Audio
  - eBooks
  - eTutorials
  - User Manual

- **Workplan**
  - Sub Centre wise
  - Village wise
  - Service wise
  - ANM wise
  - ASHA wise
  - Beneficiary wise
  - High Risk Pregnant Women
  - Low Birth Weight Children

- **VHND**
  - Due List
  - Logistic Planning
  - Logistic Used

Annex v: Homepage

ANM Details



Hierarchy details of the ANM

Syncs data on the server

Annex vi : ANMOL Application Menu list


Thanks!