



The Impact of mHealth in Angola

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m e m b e r o f

Alliance 2015

towards the eradication of poverty

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1 The mHealth programme in Angola

PIN and UNITEL’s mHealth program is the only one of its kind in Angola. Its use of voice messaging based on Interactive Voice Response technology overcomes illiteracy barriers (only 6 in 10 women in Angola are literate). The automated voice messages are read by actors that have created culturally appropriate characters, so it provides an enjoyable service, effective at changing behaviours. This gives it an advantage over similar technologies such as SMS-based services. The 30-60 second voice messages are typically conversations between the actors on a specific health, nutrition or hygiene topic. The mother usually begins receiving messages after giving birth and continues to receive the messages for the first 6 months of the child’s life. The topics of the messages are scheduled to suit the stage of growth of the child in order to provide **timely information that supports the mother and father to provide the best possible start to a child’s life.**

How were the mothered registered into mHealth	%
Traditional Birth Attendant	0.4%
During a pre-natal consultation	28.7%
After giving birth at the maternity	45.2%
During the baby’s first vaccination visit	22.6%
Doesn’t remember	3.0%

MHEALTH MESSAGES PROVIDE INFORMATION ON THE FOLLOWING TOPICS:

Breastfeeding and Infant Nutrition



- Giving breastmilk immediately after birth
- Exclusive breastfeeding
- Continuing breastfeeding during pregnancy
- Feeding a baby after 6 months

Maternal Health and Nutrition



- Mother’s health danger signs post-pregnancy
- Foods to eat during breastfeeding

Health



- Vaccinations
- Postnatal visits
- Recognizing and responding to baby sickness
- Protecting from malaria
- Diarrhea – recognizing and treatment

Hygiene



- Hygiene around the baby (play area/away from animals/clean baby’s tableware)
- Use of diapers and baby faeces disposal

Childcare and Development



- Playing and interacting with the baby

2 Methodology

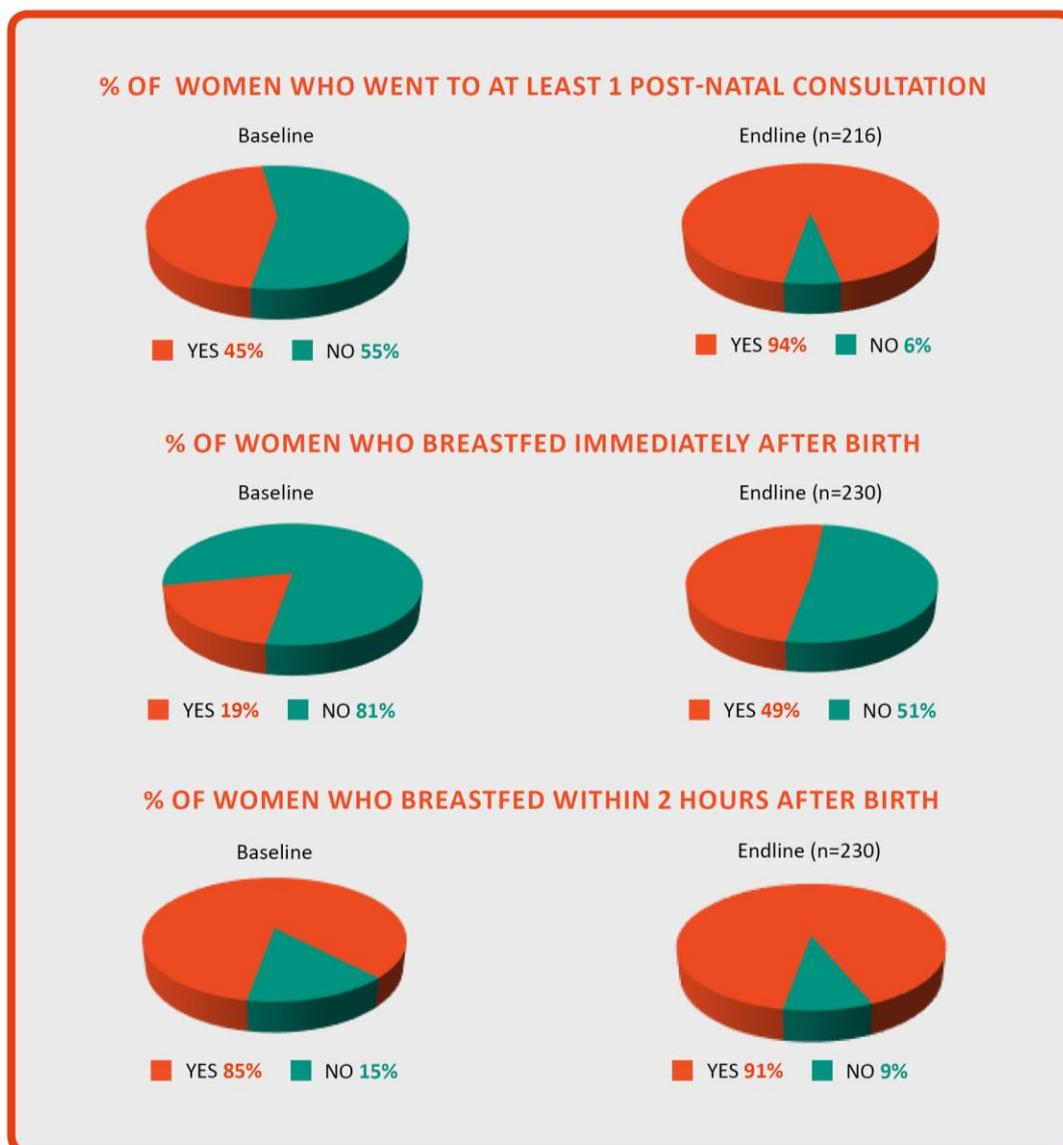
The mHealth endline survey was designed to provide comparable results to the baseline survey conducted in 2015. The endline survey included questions to measure changes in key maternal and child health knowledge and practices as well as questions to receive feedback on the quality and satisfaction of the mHealth programme.

The target respondents for the survey were the mHealth users that had received the full 6 months of the mHealth messages. The survey was administered via telephone to the mHealth user. By having the registration process done primarily through the health centres, typically we are reaching only women. However many women registered the telephone number of their partner (either as well as theirs or because only their partner had a telephone). Therefore many men had received the mHealth messages, and so PIN also administered the questions on quality and satisfaction to understand the engagement of men in the programme.

Seven external data collectors were trained for one day and a half, which included also the pre-test on the final half day. The five best-performing data collectors were selected to then continue with the full survey. The mHealth project staff did not administer any of the surveys in order to minimize any risk of bias.

3 Impact on practices

The survey found that the mHealth intervention has had a significant effect on post-natal visit coverage, vaccination coverage and breastfeeding practices.

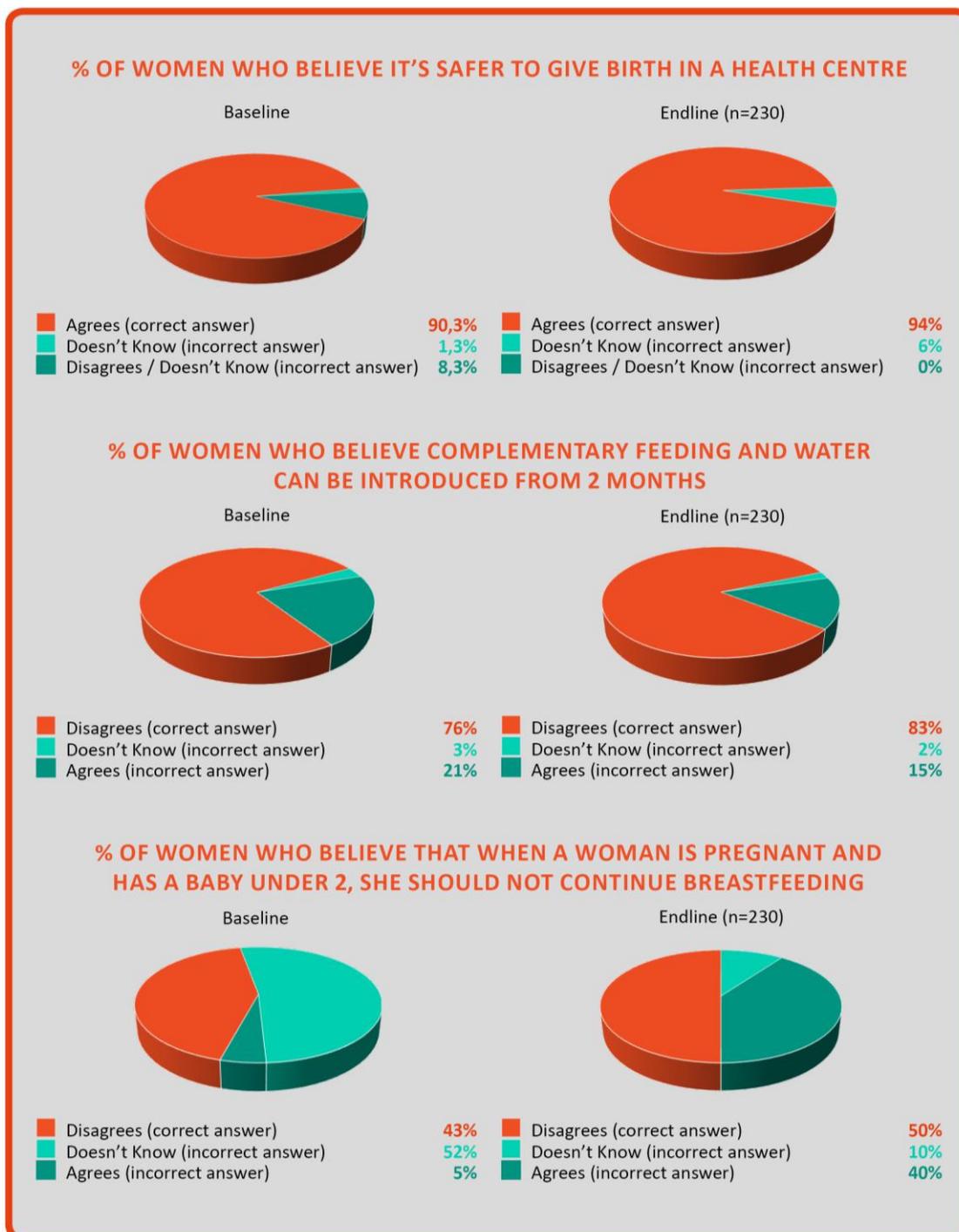


Impact on vaccinations: By the age of 6 months, a child should have received at least 4 vaccinations: at birth (BCG and Polio), at 2, 4 and 6 months (Polio and Pentavalente). According to the national IIMS survey (2015-2016), vaccination coverage, the percentage of infants that can have received these 4 rounds of vaccinations is no more than 40%¹. PIN did not take a baseline measurement of vaccination coverage but the endline survey found 61% of mothers had taken their child to at least 4 vaccinations, which is a significant improvement compared to the national average.

¹ See p.150 of Angola Inquerito de Indicadores Multiplos e de Saude (IIMS) 2015-2016

4 Impact on knowledge

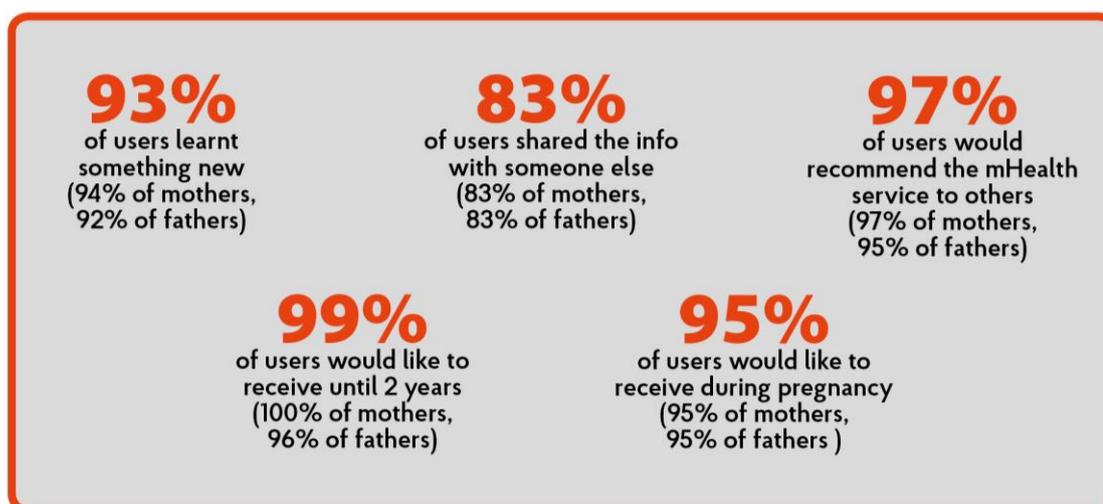
The endline survey found improvement in knowledge of the importance of giving birth in a health centre, exclusive breastfeeding and continued breastfeeding during pregnancy.



5 User satisfaction, wider impact and gender

As well as measuring changes in practices and knowledge, the survey also asked questions to explore user satisfaction and engagement. The survey found high levels of satisfaction: the vast majority would recommend the mHealth service to others, felt they had learnt something new and would like to expand the duration of messages to receive them during pregnancy and up until the child is 2 years old. The high proportion of users that shared the information they received with others also demonstrates the wider impact mHealth is having.

An interesting feature of the mHealth intervention is also the high engagement of fathers. Typically, health interventions focus entirely on the mother and child and struggle to achieve the active participation of men. This therefore has limited impact on increasing the knowledge of men on key health and nutrition issues. Men understanding the importance of these practices can have a significant impact by supporting and enabling the mother to access the required time or material resources to do so.



6 Annex 1: Sampling Methodology

Sample Size Calculation: For the measurements of changes in maternal and child health knowledge and practices, the target population was considered as female mHealth users who had received the full 6 months of mHealth messages. At the time of the survey, this was 1,111 users. A total number of 230 mothers were interviewed which provides a 95% confidence level and 6 % confidence interval according to the formula below.

$$ss = \frac{z^2 \times (p) \times (1 - p)}{c^2}$$

Where:

Z = Z value (e.g. 1.96 for 95% confidence level)

p = percentage picking a choice, expressed as decimal (.5 used for sample size needed)

c = confidence interval, expressed as decimal (in our case .05 = ±5)

Sampling Procedure: The survey team randomly selected survey respondents from the list of 1,111 mHealth users. However, there was a high non-response rate (because telephones were switched off or numbers no longer existed). Attempts were made to call back the selected users with some success, however the high non-response rate meant that all 1,111 users were called. At baseline and endline we took measurements of the socio-economic status of the respondents e.g. access to electricity and level of education.

In order to ensure that the data from the baseline and endline surveys were comparable and correct for socio-economic differences in the samples a post-stratification process of non-response weighting scheme was selected. Non-response weighting is used to compensate for that fact that people with certain characteristics are not as likely to respond to the survey (in this case respondents with lower education are less likely to respond to the call because, for example, they live in a remote area and don't have network or electricity to charge it).

In order to adjust the endline data to make it comparable to the baseline, the answers on the health practices and knowledge given by different respondents were re-weighted according to their education level. This weighting system of the endline data gave a greater weight to responses from illiterate/primary/preparatory school-level respondents compared to high school and university-level respondents. The calculation of the exact value of the weight for each education level is provided in the table below.

Education level	Baseline proportion	Endline proportion	Weight (baseline divided by endline)
Illiterate	5.58%	0.46%	12.0455
Primary school	37.25%	8.80%	4.23512
Preparatory school	34.52%	16.20%	2.1305
High school	20.56%	60.65%	0.33903
University	2.09%	13.89%	0.15023
Total	100%	100%	

After the relevant weight was assigned to the answers of each respondent, the weighted data was analysed using Stata software.



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