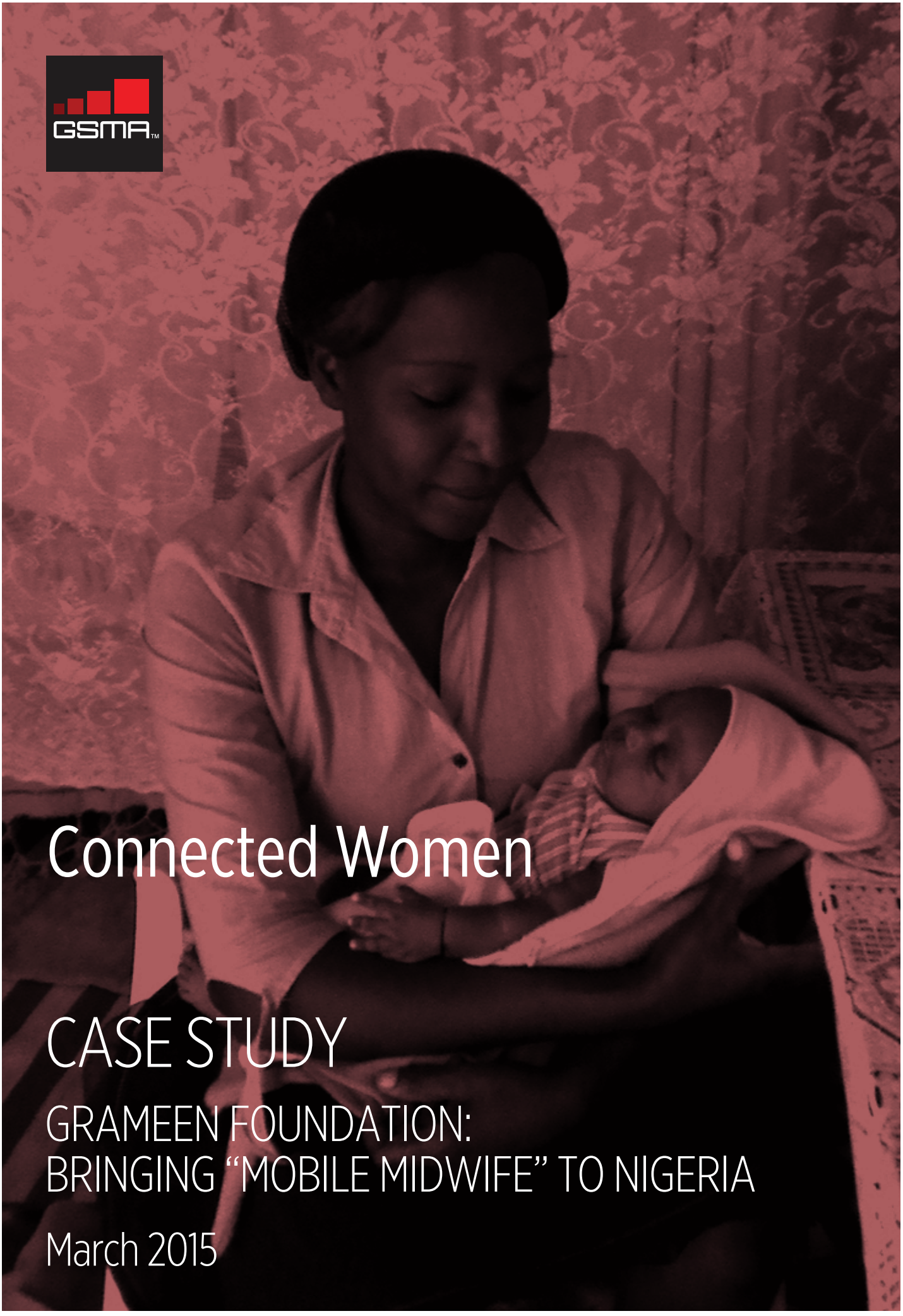

Connected Women

CASE STUDY

GRAMEEN FOUNDATION: BRINGING "MOBILE MIDWIFE" TO NIGERIA

March 2015

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Introduction

In 2014 Grameen Foundation was awarded a GSMA Connected Women Innovation Fund grant to launch a mobile maternal and child health information service in Nigeria. Having already launched a similar service in Ghana, "Mobile Midwife", the aim of the grant was to replicate the service in Nigeria and address the country's high rate of maternal and child mortality. The project was designed to generate the following insights:

- **How to adapt and localise existing content** to make it applicable and useful in another market. Given that a great deal of high-quality general information is already available on maternal and child health, the content does not need to be re-written, but it needs to be appropriately adapted.
- **How to design a business model** that is both commercially viable and enables the poor to access the service. In Ghana, Mobile Midwife is free to the end user, but in Nigeria the goal was to make the service a profitable, value-added service (VAS) for local mobile operators.

Executive summary

One in eight children born in Nigeria dies before the age of five and this number is even higher in rural areas. The country also has one of the highest maternal mortality rates in the world, with approximately four women dying in childbirth every hour. Since women in Nigeria traditionally make most household decisions about health, childcare and food,[1] Grameen Foundation saw an opportunity to use the Mobile Midwife service to provide women with medically sound information that could ultimately lead to better health outcomes for themselves and their children.

The success of Mobile Midwife in Ghana is due to its trusted, timely information tailored to the user's stage of pregnancy or baby's age, combined with recorded voice messages that make the information accessible to those with low literacy levels. Although Mobile Midwife is a free service in Ghana, Grameen Foundation wanted it to be commercially sustainable in Nigeria, so it selected a business model that required the end user to pay a small fee.

Grameen Foundation began by localising existing Mobile Midwife content and translating it into several Nigerian languages. It then partnered with VAS2Nets, a Nigerian VAS aggregator that hosts the Mobile Midwife service on its platform, and Airtel Nigeria launched the service on its networks in October 2014. So far, uptake has been limited. Apart from a brief stint of radio and print advertising in the weeks immediately after launch, marketing efforts have been restricted to blast SMS. There have also been no mechanisms to attract and retain users, such as a free trial period or incentives to continue to subscribe. However, the average revenue per registered user (ARPU) has been higher than expected since more users are staying with the service and continuing to pay for content than originally projected.

[1] GSMA Intelligence, June 2014, "Country Overview Nigeria".

Early monitoring and evaluation (M&E) results are promising and may help to explain the 'stickiness' of Mobile Midwife. In phone surveys of Mobile Midwife users, 75% of female respondents said they were likely to continue to use the service (Grameen had projected only 60%). The vast majority—84%—also said they liked the service, 87% thought they had learned something new, and 90% said it added value to their lives. It is clear female users consider the content useful and relevant, and that Mobile Midwife is addressing a market need in Nigeria for stage-based, culturally-appropriate pregnancy and child health information.

The coming months will be critical for the long-term viability of Mobile Midwife. Following an initial six-month exclusivity period with Airtel Nigeria, the service will be offered to other Nigerian mobile operators from March 2015. The GSMA mHealth team, which has an established presence in the country, will provide ongoing support. Nigeria is one of the focus countries of the GSMA Pan-African mHealth Initiative and, with the continued support of the Connected Women team, GSMA mHealth will work with Grameen Foundation, VAS2Nets, and local operators to launch an updated version of Mobile Midwife. Basic content will be free across all networks, with paid add-on services offering extra information or the option to speak to a healthcare professional. These premium services will act as differentiators and revenue generators for Nigeria's mobile operators.

"Wonderful, you feel as if a doctor is speaking to you."

"It has really helped me to know a lot about healthy nutrition and also caring for baby after birth."

Feedback from female Mobile Midwife users in Nigeria

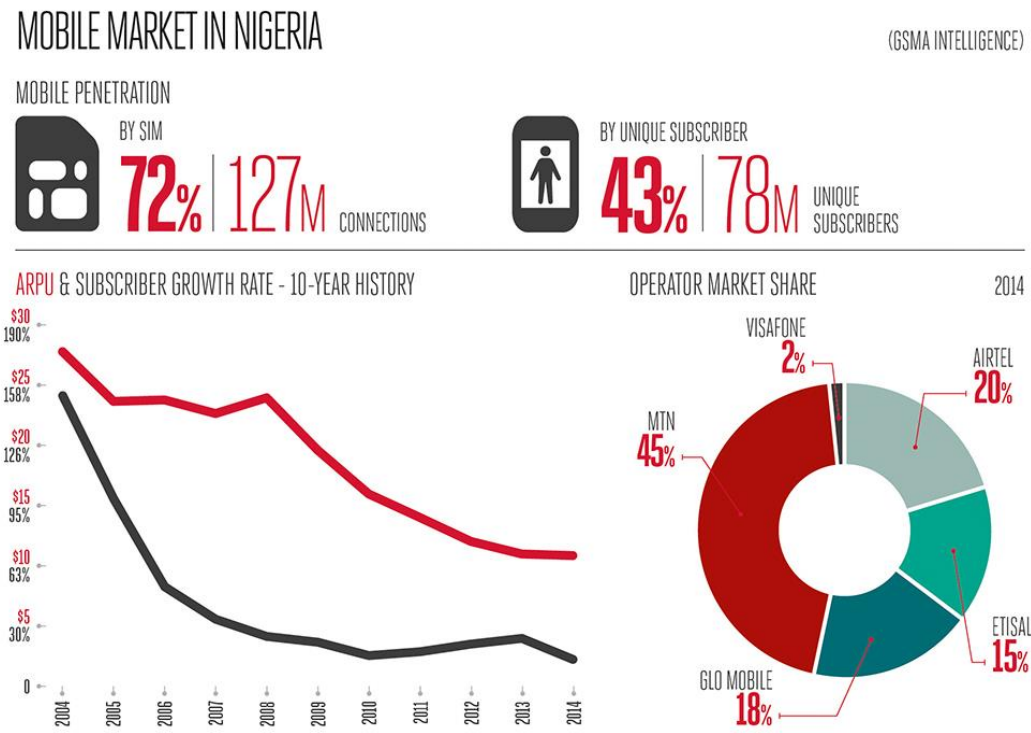
Country context

Nigeria is Africa's most populous country and largest economy, with a GDP of over USD 500 billion in 2014. The country's relatively high GDP per capita ($5,602)[2] masks significant income disparities, however. Over 60% of the population live on less than $1.25 a day. The country struggles to provide its people with basic amenities and its United Nations Human Development Index is lower than the average for Sub-Saharan Africa.[3] More than half of Nigerians do not have access to electricity and just over a quarter have "improved sanitation facilities" (i.e. proper toilets) available where they live.[4] Nigeria continues to cope with longstanding ethnic and religious tensions, and although the 2003 and 2007 presidential elections were marred by significant irregularities and violence, Nigeria is in its longest period of civilian rule since independence.[5]

[2] World Bank, 2013, GDP per capita, PPP (current international $).
[3] UNDP, "Human Development Report 2013: Nigeria".
[4] GSMA Intelligence, June 2014, "Country Overview Nigeria". The World Bank defines "improved sanitation facilities" as flush/pour, flush (to piped sewer system, septic tank, pit latrine), ventilated improved pit (VIP) latrine, pit latrine with slab, and composting toilet.
[5] CIA, "The World Factbook: Nigeria".

Nigeria has significant regional differences, with the north generally more rural, less accessible, and poorer than the south. Average poverty rates range from 30% in the wealthier southwest, where large cities such as Lagos are located, to 60% in the impoverished northeast.[6] As GSMA Intelligence explains, "*Southern Nigeria, which is primarily Christian, is the more prosperous of the two halves owing to the presence of the Niger delta and thriving financial centres such as Lagos that contribute to more than half of the business activities in the country. On the other hand, the predominantly agricultural northern half struggles with religious tensions and poor social and health situations.*"[7]

The mobile market in Nigeria



As the largest country and mobile market in Africa, Nigeria has attracted a diverse group of players. The top three operators—MTN, Airtel, and Globacom (Glo Mobile)—have been in the market since the early growth years and now account for approximately 85% of the market. This has not changed much over the last 10 years, although Etisalat has become a competitive force since it launched in 2008/09, aided by the introduction of mobile number portability in May 2013. As in other areas of Sub-Saharan Africa, ARPU and subscriber growth have dropped steadily over the past decade,

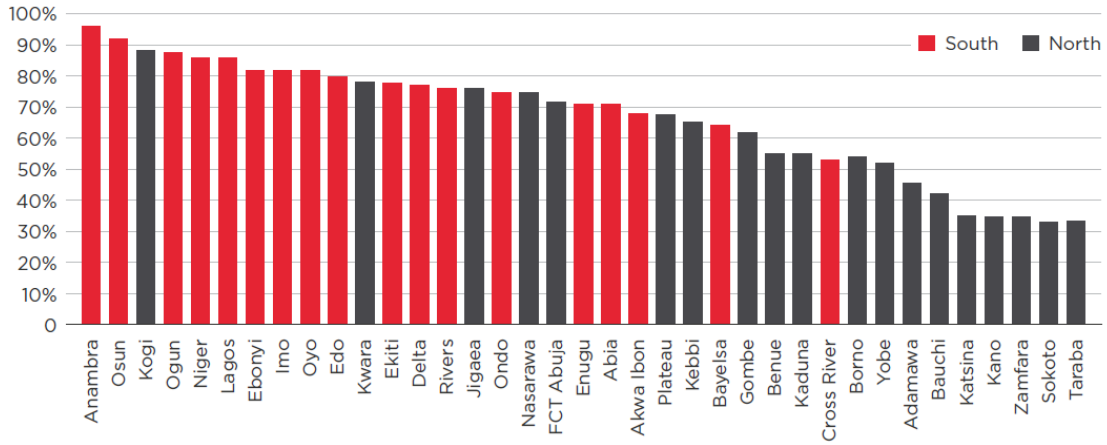
[6] Tolu Ogunlesi, 18 April 2014, "Rebasing highlights Nigeria's inequalities", *Financial Times*.
[7] GSMA Intelligence, June 2014, "Country Overview: Nigeria".

prompting operators in this competitive market to search for non-voice revenues, new customers, and/or ways to reduce churn. At first glance, mobile penetration in Nigeria is high at over 70 percent However, on a unique subscriber basis, which is a better proxy for individual ownership, penetration is much lower at 43 percent.[8]

Mobile access varies significantly across the country, particularly between urban and rural areas and the north and south. The southern states, including Lagos and those clustered around the oil-rich Niger Delta, generally have much higher access than in the north. On coverage, the country is well provisioned in urban areas, but many rural areas still lack infrastructure, especially in the north. This is due to a combination of challenging terrain, vast distances, lack of electricity, poor road access, and persistent security threats.

Figure 1 shows the regional differences in household access to mobile phones in Nigeria. "Access" is defined as either ownership or access to a mobile without ownership, such as sharing between family members (a widespread practice in Nigeria). Additional information on the Nigerian market and the role of value-added services can be found in the GSMA Intelligence Country Overview of Nigeria, published in June 2014.

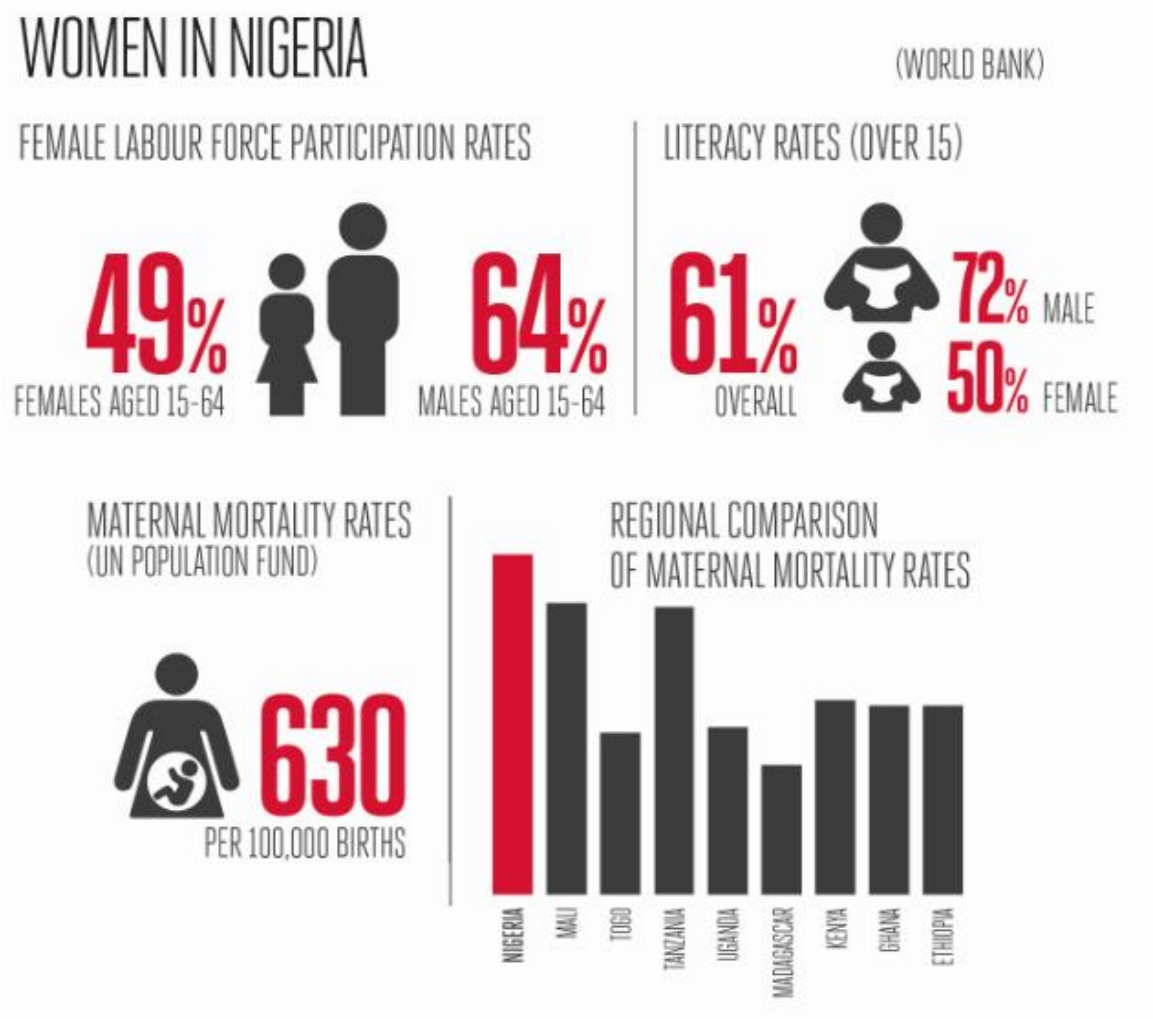
Figure 1: Household access to mobile phones: Nigeria's north-south divide



Source: GSMA Intelligence, Nigeria Bureau of Statistics, 2014

[8] Important: This is 43% of Nigeria's total population, not the adult or addressable market.

Women in Nigeria



The female labour force participation rate in Nigeria is low: 49% for women aged 15–64, compared to 65% in other Sub-Saharan African countries.[9] By comparison, the male labour force participation rate is 64% in Nigeria and 77% in other parts of Sub-Saharan Africa.

Health indicators for Nigerian women are also poor. The country has one of the highest maternal mortality rates in the world, with 630 maternal deaths per 100,000 live births, or about four every hour. To put this in perspective, the average rate of maternal deaths in Sub-Saharan Africa is 500 per 100,000 live births.[10] For more information on maternal and child health in Nigeria, please consult the GSMA mHealth 2014 Country Feasibility Report.

[9] On average, for women of the same age bracket.
[10] UNFPA, Trends in Maternal Mortality, 2010.

There is a stark gap in literacy rates between men and women in Nigeria. Among 15–24 year olds, the literacy rate for men is 76%, but just 58% for women.[11] This gender gap narrows only slightly in younger age groups.

The Global Gender Gap Index,[12] which tracks gender disparities by country, ranked Nigeria 106th out of 136 countries in 2013. As Table 1 shows, Nigeria is near the bottom of Sub-Saharan African countries (19th out of 25) when it comes to gender equity in the economy, health, politics, and education.

Table 1: Gender Gap Index, Sub-Saharan Africa, 2013

SUB-SAHARAN AFRICA		
Country	Overall score	Overall rank
Lesotho	0.7530	16
South Africa	0.7510	17
Burundi	0.7397	22
Mozambique	0.7349	26
Malawi	0.7139	39
Cape Verde	0.7122	41
Namibia	0.7094	44
Uganda	0.7086	46
Madagascar	0.7016	56
Tanzania	0.6928	66
Senegal	0.6923	67
Ghana	0.6811	76
Kenya	0.6803	78
Botswana	0.6752	85
Angola*	0.6659	92
Mauritius	0.6599	98
Cameroon	0.6560	100
Burkina Faso	0.6513	103
Nigeria	0.6469	106
Zambia	0.6312	113
Ethiopia	0.6198	118
Benin	0.5885	126
Mali	0.5872	128
Côte d'Ivoire	0.5814	131
Chad	0.5588	134

[11] UNESCO, 2008, "Country Profiles: Nigeria".

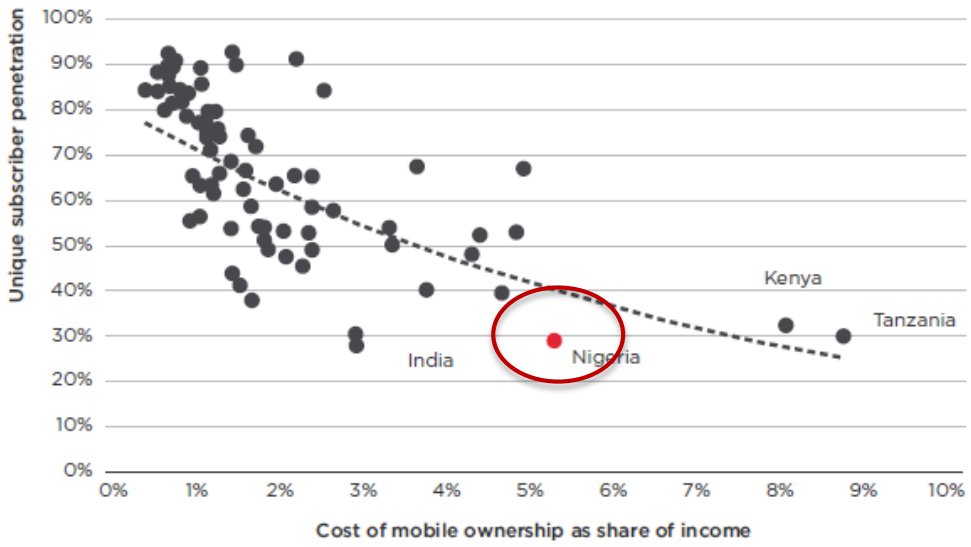
[12] The Global Gender Gap Index (not to be confused with the gender gap in mobile access and use) was introduced by the World Economic Forum in 2006. The Index is a framework for capturing the magnitude and scope of gender-based disparities and tracking progress. The Index benchmarks national gender gaps according to economic, political, education and health criteria, and provides country rankings that allow for effective comparisons across regions and income groups, and over time.

Mobile adoption for women in Nigeria: Key barriers and challenges

Research ICT Africa estimated the gender gap in mobile phone ownership in Nigeria at 22% in 2012, with 77% of adult men and 55% of adult women owning a mobile phone.[13]

Cost is a common barrier to mobile adoption for women across Nigeria. As Figure 2 shows, having a mobile phone in Nigeria uses about 5% of personal income, well above the threshold of 2–3%, below which penetration starts to rise sharply.[14] This statistic does not account for gender differences by income level. According to the World Economic Forum's 2013 Global Gender Gap report, the average estimated earned income for Nigerian women was $1,940, compared to $3,357 for men. This means, for women, the cost of having a mobile is far higher than 5% of their income.

Figure 2: Cost of mobile ownership as share of income



Source: GSMA Intelligence (includes cost of handset and cost of airtime)

In addition to the challenges low-income women face, those living in more conservative regions may face cultural barriers to mobile adoption. Anecdotal evidence suggests some men link mobile usage to infidelity, and these fears or suspicions lead them to discourage women in their household from owning a mobile.

[13] Research ICT Africa, 2012, "Lifting the Veil on ICT Gender Indicators in Africa", Policy Paper 13.

[14] GSMA Intelligence, June 2014, "Country Overview: Nigeria".

Overview of service

What did Grameen Foundation do in Ghana?

In 2010, Grameen Foundation worked with the Ghana Health Service and Columbia University's Mailman School of Public Health to launch the Ghana Mobile Technology for Community Health (MOTECH) initiative. The project focused on using mobile phones to increase the quantity and quality of prenatal and neonatal care in rural Ghana and, in doing so, improve health outcomes for mothers and their newborns.

The MOTECH initiative developed two mobile applications:

1. **Mobile Midwife:** A free mobile service that enables women and their families to receive SMS and/or voice messages—every week and in their own language—that provide relevant and timely information throughout pregnancy and the first year after birth. By using interactive voice response (IVR) to deliver the information, Mobile Midwife is also able to reach women with low literacy levels. Topics include hygiene, nutrition, immunisation, malaria, and warning signs. Some messages address husbands specifically and provide practical advice and information on how to support their wives.

> *"Your wife is getting closer to delivery time and it is best to be prepared for when your baby comes. Mommy can't do everything by herself, so it is time for husbands and other family to help. Do you have transportation arranged for when the time comes and money for it? Do you have the contact details for the doctor or midwife for when labour starts or for any emergency?"*
>
> Example of Mobile Midwife message for men

2. **Nurses Application:** A service that helps community health workers to record and track the care delivered to women and newborns in their area. Nurses enter data about a patient's clinic visit into a mobile phone and send it to the MOTECH servers. The MOTECH system then checks the patient's healthcare information against the schedule of treatment recommended by the Ghana Health Service. If the system sees that a patient has missed care on the schedule, the Mobile Midwife service sends a message to remind the patient to go to a clinic to receive that care.

Grameen's task was to adapt the Mobile Midwife service from the Ghanaian to Nigerian context, creating a commercially viable service that local mobile operators would launch and incorporate into their value-added services (VAS) portfolios.

What did Grameen Foundation do in Nigeria?

Grameen Foundation took the following steps to adapt the Mobile Midwife service and design a business model for the Nigerian market. (For full details on the process, please see this Connected Women Snapshot).

- **Localise content:** This began with desk research on health indicators, which revealed significant disparities between northern Nigeria and the rest of the country, with the north exhibiting poorer maternal and child health indicators. Then, to ensure content was locally relevant, Grameen conducted in-depth consumer insights research on the behaviours, attitudes, and cultural myths surrounding pregnancy, delivery, and nursing in Nigeria. Once this was completed, Mobile Midwife content used in Ghana was adapted to the Nigerian context, taking into account differences in healthcare infrastructure, cultural myths, diet, and attitudes and behaviours about pregnancy and nursing. Some examples of these myths are included in Table 2 below.

Table 2: Examples of pregnancy-related myths in Nigeria and how Mobile Midwife messages address them

Examples of myths about nutrition during pregnancy, as revealed by qualitative research in Nigeria	Example of Mobile Midwife content used in Nigeria to address myths
"Women should not eat banana/plantain because it will make the baby's head soft." *"Snail is good but it will make the child drip saliva."* *"Pineapple will cause eczema in baby."* *"When a woman is having vaginal bleeding, she will be told not to eat some foods, such as okra or egg, and when she stops eating those foods the bleeding will stop."*	*"The early part of your pregnancy is very important as your baby's body parts are forming. Eating well ensures that your baby develops properly and that you stay strong for delivery. There is no medical proof that eating certain foods like snail, banana or pineapple, directly affect your baby's skin, head or make them drip saliva. Be sure to eat a lot of greens and vegetables, such as spinach, garden eggs, okra, and tomatoes."*

- **Translate and record content:** With so many languages spoken across Nigeria (250 tribes and 280 languages), Grameen had to determine which regions needed the information most and then translate it into the local languages first. Since the research clearly showed the northern region had the greatest need for reliable maternal and child health information, Grameen ensured the service design was appropriately tailored to the needs of the women living there. The team worked with local actors to record the content in English, Pidgin, Yoruba, Igbo, and Hausa—the language spoken in the northern region.

- **Determine affordable pricing:** Since the Mobile Midwife service needed to be commercially sustainable, it was decided that users would be charged a fee for accessing the content. Pricing was determined by reviewing the cost of existing mobile information services in the country and interviewing VAS managers at local mobile operators to

get recommendations on appropriate pricing. Grameen then tested these recommendations in the consumer insights research by asking potential users what they were willing to pay for such a service.

In the end, Nigeria's Mobile Midwife service had the following features:

- **Cost:** A subscription costs N30 per week (15 cents).
- **Content delivery:** Each week, users receive one voice call from the platform with a recorded message tailored to their stage of pregnancy or baby's age. Each call lasts 1 minute 45 seconds. Users also receive a daily SMS with a summary of that week's voice message and related information.
- **Registration:** Users dial a short code to register and then follow voice prompts, which include entering their gender and selecting their preferred language: English, Pidgin, Hausa, Yoruba, or Igbo.

Key challenges and barriers

- **Limited presence on the ground.** Since Grameen Foundation does not have Lagos-based staff or a local office in Nigeria, team members were not able to meet with Airtel Nigeria face-to-face as often as they would have liked to address concerns and facilitate the overall process. Although the team made many trips to Lagos, not having a consistent on-the-ground presence slowed the progress of the project.

- **Engaging with local operators.** Grameen Foundation expected to work with a Nigerian operator on an exclusive basis to co-design the service, using the operator's local expertise and market knowledge. However, local operators expected that Grameen Foundation would approach them with a VAS that was ready to launch, rather than a blueprint for a service that would be co-designed with input from both partners. VAS managers are typically very busy and therefore tend to support services that are quick to launch and do not deviate from normal processes. To solve this, Grameen Foundation worked with VAS2Nets—a local VAS provider that had already launched services with all the main Nigerian operators. Because of its existing relationships and a technical team that was already aware of the specific requirements for local operators, it could help navigate the complex processes of launching a VAS service in Nigeria. This provided a solution closer to what local operators were accustomed to: a VAS provider approaching them with a service that is ready, or almost ready, to launch, and discussions focused on revenue share.

- **Target markets were not aligned.** Grameen Foundation and GSMA Connected Women had the objective of reaching Hausa-speaking women in Nigeria's more culturally conservative northern regions, since these women have higher rates of child and maternal mortality and lower incomes and literacy levels than their southern counterparts. In practice, however, these women were difficult to reach due to unreliable GSM coverage in the north. Also, this customer segment is often of limited interest to operators who see high investment for low potential revenues. This is especially true in Nigeria, where some operators believe the higher ARPU market in urban areas is not yet saturated. At the time of writing, Mobile Midwife was being used primarily by well-educated, English-speaking customers in Lagos state.

Launching the service

Overview of the process

Because Airtel Nigeria was engaged early on, it was decided it would be the first operator to launch the service. Grameen Foundation and VAS2Nets awarded Airtel Nigeria a six-month exclusivity period, after which Mobile Midwife would be offered to other local operators as well. The service was launched on Airtel Nigeria's networks across the country in October 2014.

Mobile Midwife was marketed through the following channels:

- **Blast SMS:** sent to female Airtel Nigeria subscribers.
- **Radio:** 30-second radio advertisements were played across the country six weeks immediately after launch, in both English and Nigerian languages. The adverts were scheduled during either early morning or evening drive time, or in some cases during relevant programmes, such as "Baby and You" on Inspiration Radio (Lagos).
- **Newspapers and magazines:** Print advertisements (see Figure 3) ran in a variety of Nigerian publications for eight weeks after launch, including Punch, The Guardian, This Day, The Sun, Motherhood Magazine, and Indulge Magazine.

> *"When I first found out I was pregnant I did two things – first, I told my husband, second, I subscribed to Airtel Mobile Midwife. For just 30 Naira a week I get a call from Airtel Mobile Midwife service which gives me pregnancy and nutrition tips to support my health and that of my growing baby."*
>
> Excerpt from a 30-second radio advertisement by Airtel Nigeria

Figure 3: Airtel Nigeria poster to advertise Mobile Midwife

Early results

To assess the commercial and social impact of Mobile Midwife, GSMA Connected Women conducted two main monitoring and evaluation (M&E) activities in February 2015: quantitative phone surveys and qualitative in-depth interviews, both with users of the Mobile Midwife service. Additional information was provided by VAS2Nets.

Early results indicate those who are using Mobile Midwife like it and are learning from it. The vast majority of female phone survey respondents—87%—said they had learned new things from the messages and approximately two-thirds had taken action as a result. 75% of female phone survey respondents said they were likely to continue to use the service and 54% had recommended it to a friend or family member. The combination of medically sound information, localised to the Nigerian context, and tailored to a woman's stage of pregnancy or child's age seems to be appreciated by those who have used the service. Behavioural changes and the impact of Mobile Midwife on maternal and child health will

require further research after the service has been used for a longer period. The same people should be followed in future studies, preferably with a control group for comparison.

It is interesting to note that far more men signed up for the service than expected, both on behalf of their wives and to learn more themselves. This supports the idea that providers should focus on both men and women when designing and marketing maternal and child health information services.

Direct commercial impact

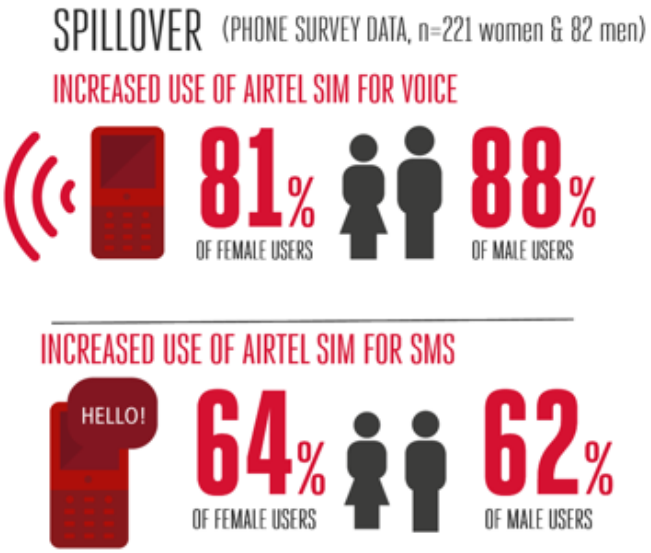
Mobile Midwife currently has very low user numbers and has generated low absolute revenues. This is due to limited marketing and distribution efforts, both in terms of advertising campaigns and partnerships with potential sales channels, such as health clinics. It is hoped this will improve in the coming months when the service is launched on other networks in Nigeria.

However, ARPU is higher than expected, since more users are staying on the service and continuing to pay for content than originally projected. For example, as of May 2015, approximately 30% of users had been registered on the service for 90 days or more and had paid for content in the past 14 days, which suggests recent activity. This is a higher proportion than anticipated, and although it is too early to draw conclusions it may support early findings that users value the service and are willing to pay for it over a sustained period. It may also indicate the service could become commercially viable once user numbers increase. However, it should be noted that lower ARPU was predicted based on higher uptake of Mobile Midwife in the lower income, northern region of Nigeria, where the service has actually seen limited uptake. The strongest uptake has been amongst higher income, urban customers in Lagos, which raises questions about whether the service is currently reaching those who need it most.

Indirect commercial impact

Once a second or third choice, Airtel SIMs have become the primary SIM for Mobile Midwife users. Connected Women and Grameen wanted to test the hypothesis that customers used their Airtel SIM more for voice and SMS once they began using the Mobile Midwife service. Respondents were asked: "*How much more frequently do you think you use your Airtel SIM for voice and SMS, compared to before you started using Airtel Mobile Midwife*?" The choices were "*more frequently"*, "*same as before",* and "*less than before".* The results are summarised in Figure 4. It should be noted that the wording of the question may have encouraged respondents to respond "more frequently", and that higher use rates may simply be due to the new messages coming from Mobile Midwife rather than additional calling or texting. As with any self-reported user data, it needs to be corroborated by operator data.

Figure 4: Percentage of respondents who report more frequent use of their Airtel SIM for voice and SMS since they began using Mobile Midwife

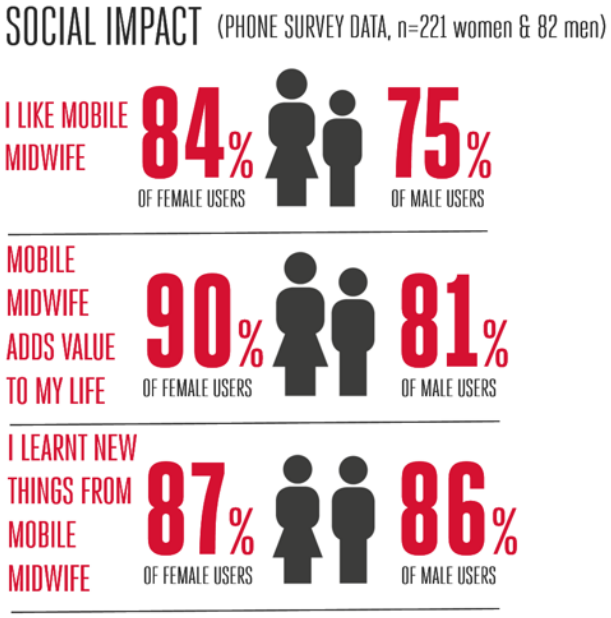


Social impact

Figure 5 shows how respondents to the phone survey perceive Mobile Midwife. These early results suggest users are generally satisfied with the content and delivery: 90% of female respondents said the service adds value to their lives and 87% said they had learned from it. During the qualitative interviews, female users were asked to provide feedback on the service and most felt it was straightforward and easy to understand. When asked why they liked the service, female users explained they appreciated that information was delivered both by voice and text message, as *"it is more educative when you read and then listen to voice messages*." During in-depth interviews, many respondents said the Mobile Midwife messaging was more culturally appropriate and relevant to the Nigerian context, than the more generic information they had found on the internet. It is also interesting to note that 81% of male respondents said that Mobile Midwife adds value to their lives, when the vast majority of the messages are aimed at improving the health of women and their babies. This indicates that men value and appreciate this type of information, and that service providers should actively engage with them on topics related to pregnancy and child care.

> *"I look forward to the messages, it's been helpful and helps me to know what to ask when next I go to the clinic. It gives me firsthand information. I asked one of the nurses during ante-natal on how to deal with urinary pain but she was rude and I was able to get better information from the service."*
>
> Female Mobile Midwife User, Lagos

Figure 5: User perceptions of Mobile Midwife from phone survey



As a follow-up to whether they had learned new things from Mobile Midwife, respondents were asked open-ended questions to ascertain whether they could recall any of the messages from the service and had acted on any of them. Almost three-quarters (74%) of all respondents (male and female) could recall at least two messages, and 67% stated they had acted on the messages. The topics respondents recalled were fairly broad, such as immunisation, preparing for delivery, fever, malaria, diarrhoea, and myths about pregnancy. The following are examples of the messages respondents recalled and the changes they said they had made because of Mobile Midwife.

Examples of messages recalled

"Get my baby immunized."

"Problems during pregnancy are medical problems and are not caused by bad spirits or the evildoings of others."

"If you get strong cramps, fever or bleeding or feel like fainting, you need to visit your clinic."

Examples of changes made as a result of Mobile Midwife

"Drinking more water."

"Going for check-ups and not missing the doctor's appointment."

"Not to stress my wife during pregnancy."

Respondents were also asked to list their top three sources for pregnancy and child health information. The most common responses from female respondents were:

1. Health facilities: 22%
2. Doctors: 15%
3. Mobile Midwife: 13%

Female respondents said they saw Mobile Midwife as a useful complement to what they were learning elsewhere and appreciated that they could store the Mobile Midwife text messages, creating a *"data store that you can read over and over again because you can forget what you have been told at the clinic"*. They also liked the ease of accessing information through Mobile Midwife compared to other sources. *"Mobile Midwife delivers the message straight to you, while you need to visit the others to get it."*

Finally, respondents were asked about the likelihood of them continuing to use the service: 75% of female respondents and 77% male respondents indicated they would. More than half of all male and female respondents said they had recommended Mobile Midwife to a friend or family member: 54% of women and 62% of men. These positive early results bode well for the future of the Mobile Midwife service, as long as it is marketed appropriately.

Lessons learned and recommendations for mobile operators

Lessons learned

- **Personalise sender ID.** Initially, text messages from Mobile Midwife appeared on a subscriber's phone as being from "561". This was confusing for customers and some assumed these messages were spam and deleted them before reading them. The sender ID was changed from "561" to "Mobile Midwife" for SMS, but it was not possible to make this change for calls made from the platform, which still came from "561". This should have been correctly configured from the start, and shows the importance of testing the full user experience and ensuring it is as user-friendly and personal as possible.

- **Think broadly about partnerships.** This project already has a number of partners: GSMA Connected Women, Grameen Foundation, Airtel Nigeria, and VAS2Nets. However, additional partnerships could help to drive uptake of the service, which is currently very low. Such partnerships could include health clinics in Nigeria, Ministry of Health initiatives, or baby care product providers such as PZ Cussons, which may be interested in advertising through the Mobile Midwife service. One woman who was interviewed recommended that *"Airtel should go to the ante-natal clinics and advertise there….and it doesn't cost anything. Go to the public health clinics and locate more women where the target market can be found."*

- **Ensure the timing of calls is appropriate.** On the day users are due to receive their recorded voice message, the Mobile Midwife service calls users three times until they answer the call. Some users have complained they are being

called at night, which is not only potentially disruptive, but also may require them to explain repeated calls to suspicious husbands. Airtel should look at reducing the frequency of these types of calls, and ensure that calls from the platform are not made after a certain time, for example, 9:00 pm, to maximise user engagement and reduce drop-out rates.

- **Incentives and marketing efforts are needed to attract and retain users.** According to VAS2Nets, the platform gets about 4,000 hits per day that are not being converted to paying users. This means that people are dialing the short code to find out more, but are then not willing or able to pay the subscription fee of N30 per week. These potential customers need to be shown the value of Mobile Midwife, for example, through a free trial during which they can listen to sample voice messages and receive sample text messages. This type of "try before you buy" incentive is often necessary to convince people to subscribe to a service. Once customers start to use Mobile Midwife, further incentives should be offered to stay with the service. These could include airtime bonuses or free baby care products, for example.

- **Take cultural practices into account.** The difficulties encountered in collecting monitoring and evaluation data and conducting the consumer insights research indicate that Nigerian women do not like to tell people they are pregnant until it is very obvious; this is because of fear of the "evil eye"—a belief that an evil or envious person can cause harm to a pregnant woman or her baby. Pregnant women may therefore be unwilling to register for a service such as Mobile Midwife unless it is made clear in the marketing campaign that it will remain confidential.

- **Reaching the rural poor is difficult**. Lack of GSM connectivity and low ability to pay for services such as Mobile Midwife make it very difficult to reach those who need maternal and child health information the most. Current Mobile Midwife users are predominantly from in and around Lagos, not more remote areas. After it had completed the monitoring and evaluation activities, local research agency, Auricle Services, noted, *"The project target was to serve the hard-to-reach women with limited access to health information or facilities; however this service reached a more educated, middle income, population with multiple SIMs. Though the services were provided in local languages, messages were text messages that only educated people could read. The voice messages that could have served the purposes of people with lower levels of education were rarely received and often missed with no option for a call back."* Once a free basic version of the service is launched this will tackle the cost barrier, but until more investment is made in cell towers the connectivity barrier will remain.

Recommendations for launching a mobile maternal health service

- **Check what existing content is available.** A great deal of high-quality content has already been produced in this sector and much of it can be accessed at little or no cost. Examples include babycenter, MAMA, and MOTECH. Consider which organisation you could partner with to access medically sound content.

- **Study national and regional health indicators** when adapting content to the local context. The Nigeria experience has shown there can be stark differences between regions, and there can be intra-regional differences as well, such as religion or income disparities. Sources for this type of information include GSMA mHealth country reports, UN data, and national statistics bureaus.

- **Conduct follow-up qualitative research to localise the content and the service** based on the themes identified by the health indicators. This should include focus group discussions and/or in-depth interviews with all those who influence a pregnancy: mothers, other pregnant women, mothers-in-law, village chiefs, landlords, husbands, and traditional birth attendants. The objective of the research would be to identify the effects of a pregnancy and birth on each group, the challenges and worries each experiences, how decisions are made and by whom, existing support networks and information sources for each group, the role and priority shifts that happen as a result of the pregnancy, traditions and beliefs surrounding pregnancy and childbirth, and knowledge gaps. This research does not have to be conducted with large groups of people, but it is important that the various cultural and religious groups in the target market are represented.

- **Ensure the service is user-friendly** by conducting user testing at multiple stages. For example, test the voice of the recording to ensure it conveys the appropriate balance of authority and trustworthiness. In Ghana, Grameen found that "*voices that sounded too educated were not accepted as they were not seen as being from a place that would enable them to fully understand the daily struggles of life in the users' area. Meanwhile, users disliked voices with accents from 'deep in the village' as they were not trusted as being knowledgeable enough."* Based on this testing, Grameen chose an older, soft voice that reminded users of a trusted, experienced, and sympathetic "auntie", and users in Nigeria were found to have the same preferences. Additional trials should be conducted to ensure users are able to navigate the Mobile Midwife service (e.g. the USSD menu) and understand how to register, pay for, and access content. Users should also be asked to summarise the messages they have listened to in order to check whether they have absorbed and understood the content.

- **Don't forget the men,** even though it may seem like the target audience is women. In both Ghana and Nigeria, Grameen Foundation found that men can have a significant influence on behaviours related to women's health. This is apparent from the numbers of men subscribing to the Mobile Midwife service. When discussing family planning, for example, a Hausa community leader said, "*It is good to give birth but it depends on the interest of the husband because the wife has nothing to say. Some husbands like giving birth to children and do not like family planning. While some other ones take their wives for family planning."* If sustained behaviour change is the objective of information services like Mobile Midwife, statements like these underscore the importance of involving and engaging husbands and other male guardians. For more information, please consult the Connected Women Snapshot on MAMA in Bangladesh, which successfully integrated men in its offering.

Conclusions

Early results indicate Mobile Midwife is valued by Nigerian users and fulfils a need for medically sound maternal and child health information that is tailored to the local context and delivered through widely accessible technology: mobile. Although the service has not reached large numbers of users, those who are using it are more loyal than expected and have shown a willingness to pay for the content. The next step is to increase the number of users to reach scale and sustainability while ensuring those who need it most—especially in the more rural or remote areas of Nigeria—will also benefit from it. This could be achieved through a combination of the following:

- **Launching Mobile Midwife on multiple Nigerian operator networks.** This will happen after March 2015 and should help to increase uptake.
- **Increasing marketing and distribution efforts.** These could include simple tactics, such as a free trial, partnerships with government clinics, or offering an airtime bonus if a customer subscribes to Mobile Midwife.
- **Creating a basic free service with premium features.** There was a discussion at the most recent stakeholder meeting to launch a basic free service with core Mobile Midwife content across all networks, with one short code if possible. This would make it easy for consumers from across Nigeria to access the service. Each operator could then add premium features for those who can afford it, such as the ability to speak to a doctor, locate the nearest health facility, or receive additional nutritional advice.

This project is a great example of the intersection between GSMA mHealth and GSMA Connected Women, and the two teams will continue to work together to create a commercially viable service that helps to improve maternal and child health behaviours and, ultimately, health outcomes.

About the GSMA

The GSMA represents the interests of mobile operators worldwide, uniting nearly 800 operators with more than 250 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and Internet companies, as well as organisations in adjacent industry sectors. The GSMA also produces industry-leading events such as Mobile World Congress, Mobile World Congress Shanghai, and the Mobile 360 Series conferences.

For more information, please visit the GSMA corporate website at www.gsma.com.
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About Mobile for Development – Serving the underserved through mobile

Mobile for Development brings together our mobile operator members, the wider mobile industry, and the development community to drive commercial mobile services for underserved people in emerging markets. We identify opportunities for social and economic impact and stimulate the development of scalable, life-enhancing mobile services.

For more information, please visit the GSMA M4D website at http://www.gsma.com/mobilefordevelopment.

About the GSMA Connected Women Programme

GSMA Connected Women works with partners to deliver socio-economic benefits to women and the broader mobile ecosystem through greater inclusion of women across the industry. The programme is focused on increasing women's access to and use of mobile phones and life-enhancing mobile services in developing markets, as well as closing the digital skills gender gap, attracting and retaining female talent, and encouraging female leadership in technology on a global basis.

For more information, please visit the GSMA Connected Women website at www.gsma.com/connectedwomen.
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