

Jacaranda Health's vision is a world where all women and their families experience childbirth safely and with dignity.



Impact of WhatsApp Groups for
Pregnant Women in Peri-Urban
Nairobi, Kenya

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Outline

- The Challenge
- Jacaranda's Model
- Mobile Health at Jacaranda
- Peer Support Group Evidence
- WhatsApp Group Key Questions
 - Feasibility
 - Design
 - Content
- Evaluation
- Preliminary Results
- Considerations for Scale

2017-12-01



The challenge

In Kenya births in facilities have gone from 40 to 60% in the last 5 years. But maternal and infant mortality is still **100x higher than in Europe.**

Why? Poor facility-based care, **lack of accurate/trusted sources for health information**, accessibility barriers.

Penetration and use of mobile smartphones in Kenya is the 2nd highest in Africa: how do we leverage this phenomenon to deploy **sustainable solutions** that improves **delivery of high quality care** to pregnant women, new mothers and babies?

Jacaranda Health Model

Our model designs and tests innovations within our facilities, adapts and validates at public facilities and builds partnerships for scale

Adapt and validate

*Iterate for a broader context,
test, measure impact*

1,200 babies

delivered in our
facility every year

*Design better
systems within
our facility*

*Test, improve,
measure impact*

**30,000 women
& babies**

Served in our partner
government hospitals

Build partnerships

*Government, academic,
non-profit and private
partners*

Achieve Scale

Influence the delivery of
affordable high quality
maternity care



SMS-based Mobile Health Activities

Validating an SMS-based postpartum checklist at 3 public facilities in 2017

RCT w

Pilot showed 23% increase in postnatal care-seeking

sms

Appointment reminders, health tips, male involvement messages for our clients

Stand

Study at Jacaranda showed 43% increase in care-seeking

sms

Non-Facility-based SMS Service

D

Plan for scale in January 2018

sms



Peer Support Groups

Group-based models for care have shown promise to improve care-seeking behavior and health outcomes for pregnant women



Group Antenatal care^{1,2,3}

Increased adherence to antenatal visit
Increased postpartum family planning uptake
Increased breastfeeding uptake
Increased patient satisfaction and social support during pregnancy

Decreased rates of preterm birth

Can we use an **online platform** to generate a similar feeling of **social support** and **improved health outcomes**?

1. Ickovics J, Kershaw T, Westdahl C, et al. Group antenatal care and perinatal outcomes: a randomized controlled trial. *Obstet Gynecol.* 2007;
2. Hale N, Picklesimer AH, Billings DL, Covington-Kolb. The impact of Centering Pregnancy Group Antenatal Care on postpartum family planning. *Am J Obstet Gynecol.* 2014
3. Wadhwa PD, Entringer S, Buss C, Lu MC. The Contribution of Maternal Stress to Preterm Birth: Issues and Considerations. *Clinics in perinatology.* 2011

Key Questions Around A WhatsApp Group Model

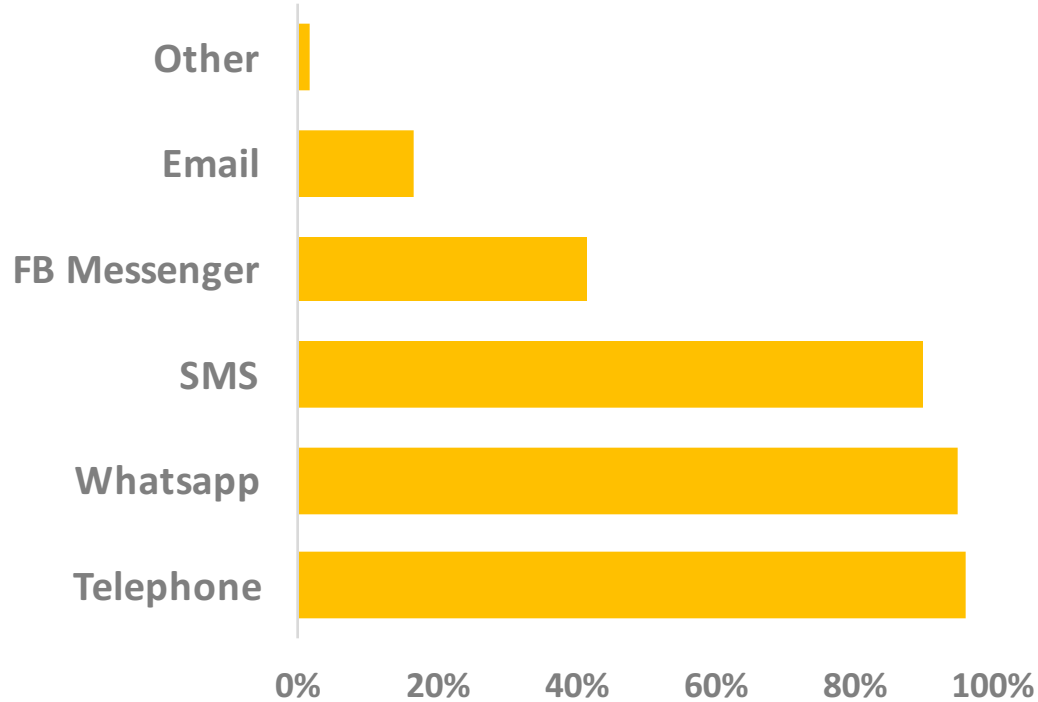


- Is use of a **group chat for pregnancy support feasible** in the Jacaranda context?
- How should we **design the experience**, and ensure **integration with care**?
- Will pregnant women share pregnancy experiences?
- Will the tool have an impact on **health outcomes**?

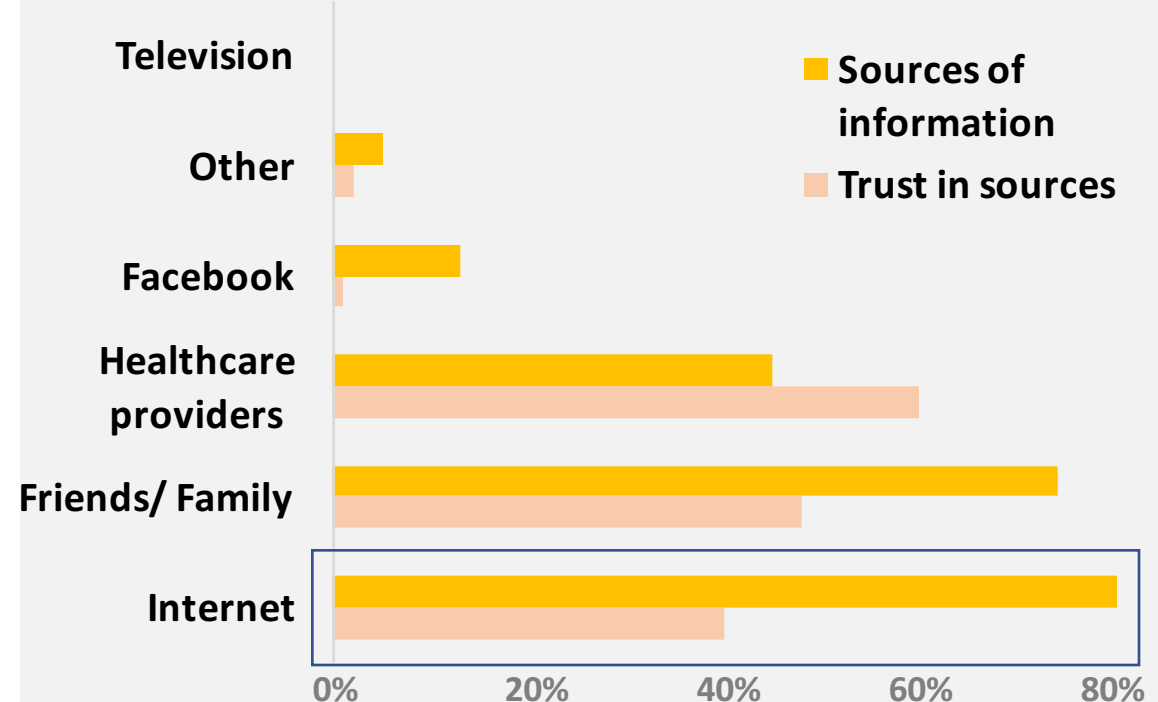
Chat platforms for pregnancy support: Feasibility



What are our clients' preferred modes of communication?



Where do they get their health information?
Which sources of information do they trust?

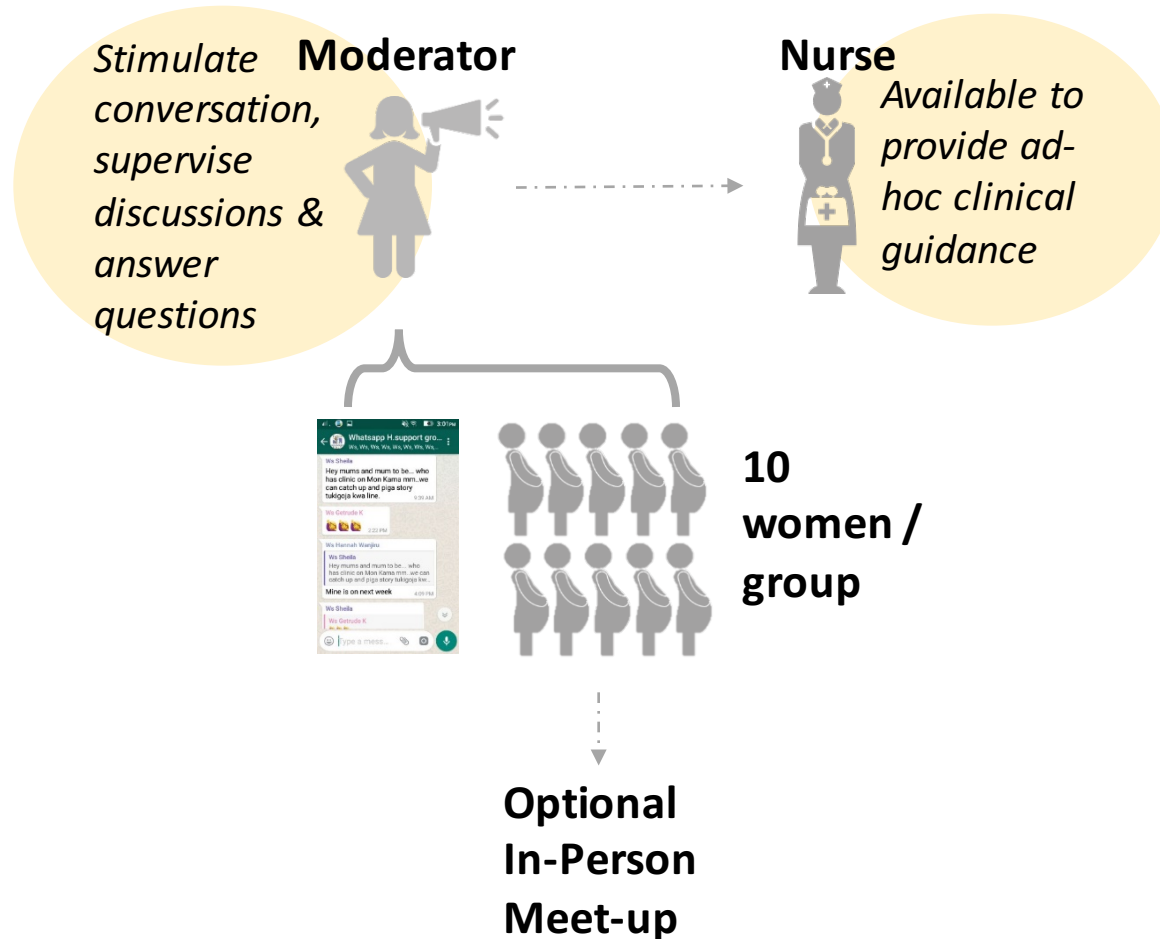


The **majority of women at our facility use WhatsApp every day**. Although the internet is used most frequently as a source of health information, there is a **lack of trust** in the content found.

Chat platforms for pregnancy support: Design



WhatsApp group model



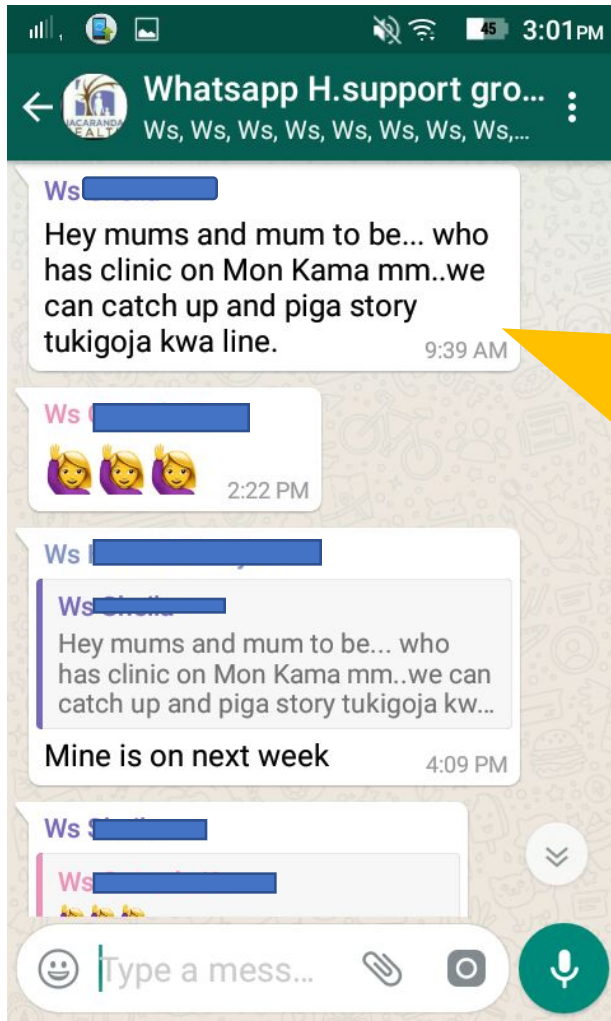
Key element: presence of a moderator

- Reinforces trust
- Ensure that discussions stay focused on the pregnancy experience
- Questions can be answered when necessary

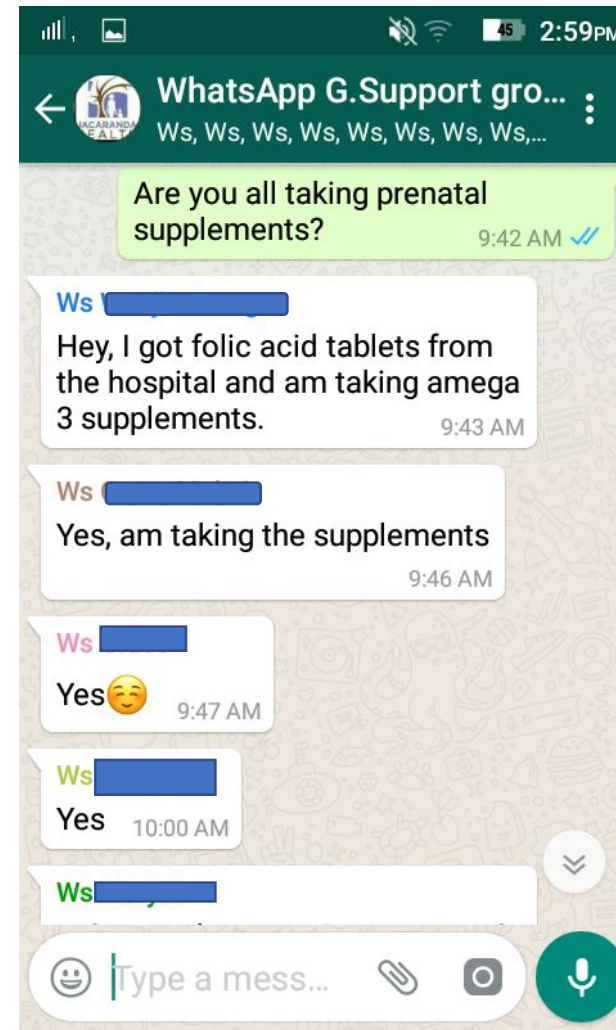
Groups are not a clinical service (emphasis is on SOCIAL SUPPORT)

- However, as a healthcare provider it is important to have clinical advisory support in case of serious clinical questions

Example Message content



"Who has clinic on Monday like me? We can catch up and tell stories while we wait in line"



After 18 weeks, we have 11 groups...

79 messages sent per week on average

326 messages per week sent in most active group

142 questions received that have a clinical theme



Evaluation Design

Pilot

- 5 groups, 50 women

Evaluating:

- Design
- Feasibility
- Acceptability
- Trends in health outcomes



Randomized Controlled Trial

- 15 test groups, 10 women per group
- 150 control group
- 243/300 women enrolled to date

Evaluating:

- ANC Care-seeking
- Postnatal care-seeking,
- Postpartum family planning
- Sense of social support



Evaluation Status

Complete



Women reported a positive experience¹

In progress



- 11 WhatsApp groups active
- 9 have completed their in-person meetup
- Very positive feedback from participants
- We will have 50+ endline surveys **complete mid January²**



Note: IRB Approval was granted through AMREF Kenya

¹n=12, end-line interviews

²surveys occur 8 weeks after delivery

Chat platforms for pregnancy support: Preliminary Results

Social support during **one stage of pregnancy** has an impact on the **entire care continuum**



Pilot
results



30% increase in ANC visits¹



2x FP visits²



- Participation in WhatsApp groups during pregnancy has a **positive impact on care-seeking behaviour** during pregnancy and after delivery
- Early results from the RCT show similar trends in access to services at Jacaranda. We **anticipate** that our formal **end-line survey to reveal a stronger impact**, as it will capture health-seeking behaviour at other facilities

¹4.1 visits vs. 3.08 JH average during the same period. Results from an analysis of Jacaranda's internal records.

²24% of clients vs. 13% JH clients during the same period have an FP appointment within 6 weeks. Results from an analysis of Jacaranda's internal records.

Preliminary Qualitative Results



In-Depth Interviews with 12 participants from pilot study

- Demand for Continuation of Service
- Conflicting Feedback of Moderator Activity

Benefits: Informational support, companionship, less worry, increased health-seeking

“My experience was good because if you asked any questions they were answered. And we even had members who had experience who were helping us and telling us what to do because obviously in that group we have women who were more experienced than myself” -IDI with Pilot Participant



WhatsApp Pregnancy Support Group In-person Meetup at Jacaranda in August 2017

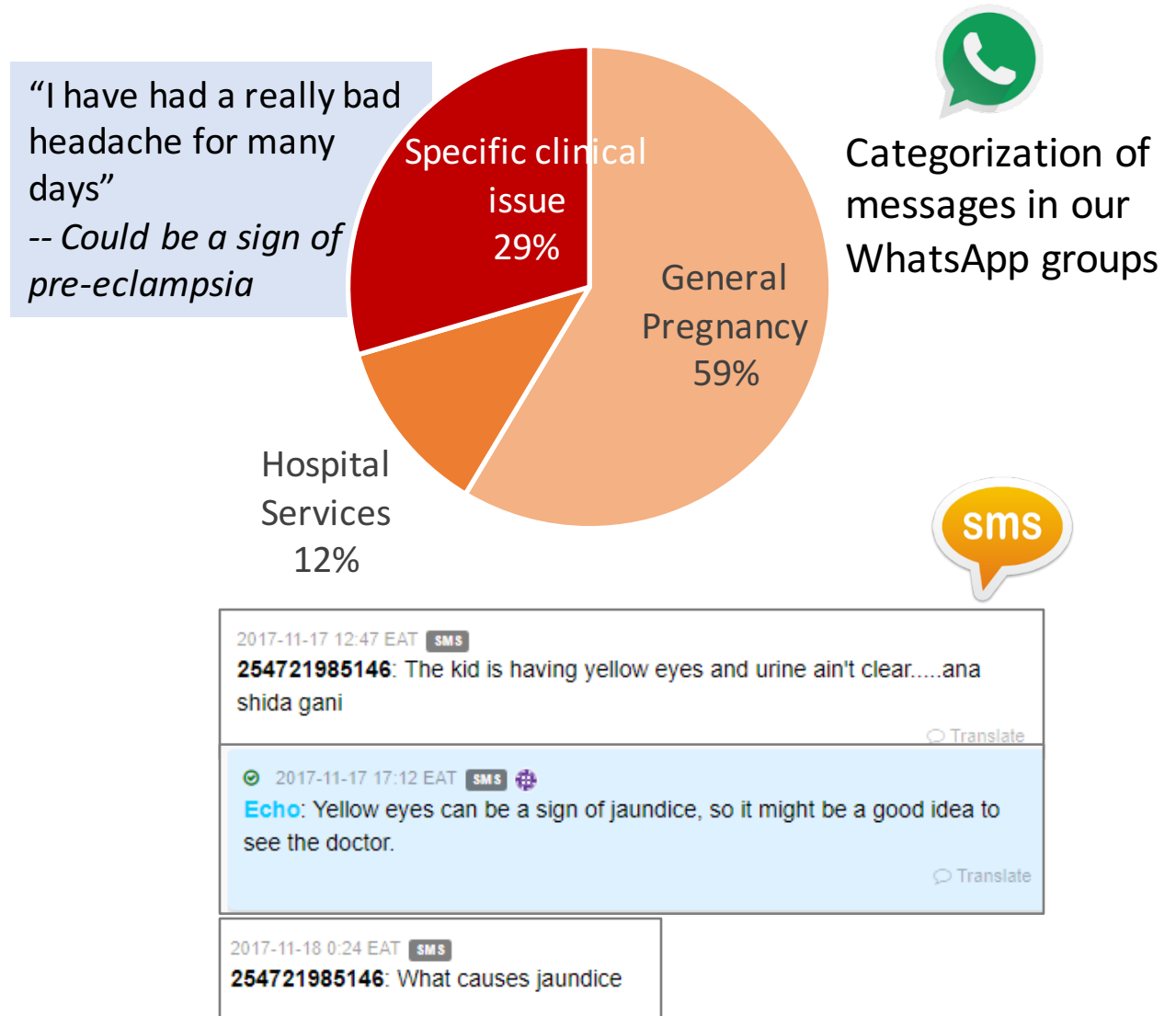
Considerations for scaling technology: Maintaining high quality support

Questions of a clinical nature have posed a challenge for both our group chat and sms solutions:

- They *may* need a **rapid response**
- They need a **medically accurate response**: unfortunately, many women in our group chat will offer 'medical' advice from their own experience, which may not be appropriate

Moderators in our WhatsApp groups can respond to these questions, but this is resource-intensive (time, cost) and response times may vary

How can we maintain a high quality of personalized support as we scale these services?



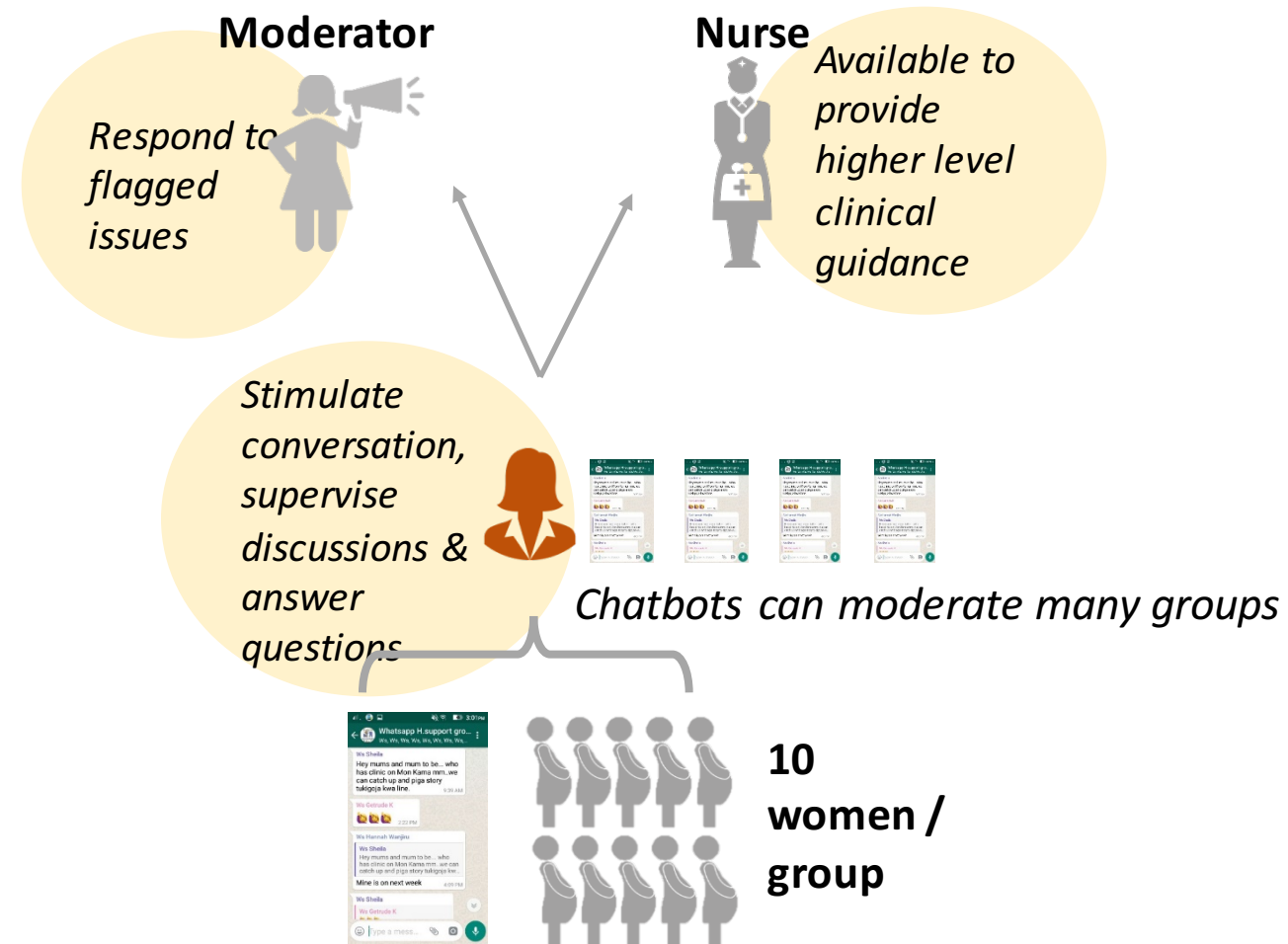
Considerations for operating at scale: Virtual Assistants



Virtual assistants, 'chatbots', can be embedded within groups to moderate discussions

- We have been exploring the use of chatbots with sophisticated natural language processing systems to be able to monitor WhatsApp conversations
- The goal of the chatbot is to
 - (1) identify 'red flag' clinical questions (e.g. indication of pain)
 - (2) provide an appropriate response as designed by our clinical staff and
 - (3) If necessary, flag the question for a moderator to follow-up

Chatbot approach



Conclusion

- Social support groups via digital platforms has the potential promote care-seeking behaviors
 - Antenatal Care, Postnatal Care, Postpartum Family Planning
- In-person meetups enhance experience, but not absolutely critical
- Participants desire timely, medical-focused answers from moderator, even if purpose of groups is social support
- Chatbots: Acceptable method for women to receive health advice? Will it work in a context where local languages mix with English?
- More results to follow at conclusion of RCT in early 2018!

Thanks!

Team: Shalini Subbiah, Dr. Suha Patel, Lucille Omwodo, Teresa Ogolla, Sathy Rajasekharan, Nick Pearson



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