

# Meanings of SMS Reminders for Adherence Support Among Adults Initiating ART in Rural Southwest Uganda

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# SMS Text Messaging As Adherence Support

- SMS text messaging is a promising tool for adherence support in Africa.
- Results from RCTs to date have been mixed.

*(Lester, Lancet, 2010; Pop-Eleches, AIDS, 2011; Mbuagbaw, PLoS One, 2013; Shet, BMJ, 2014)*

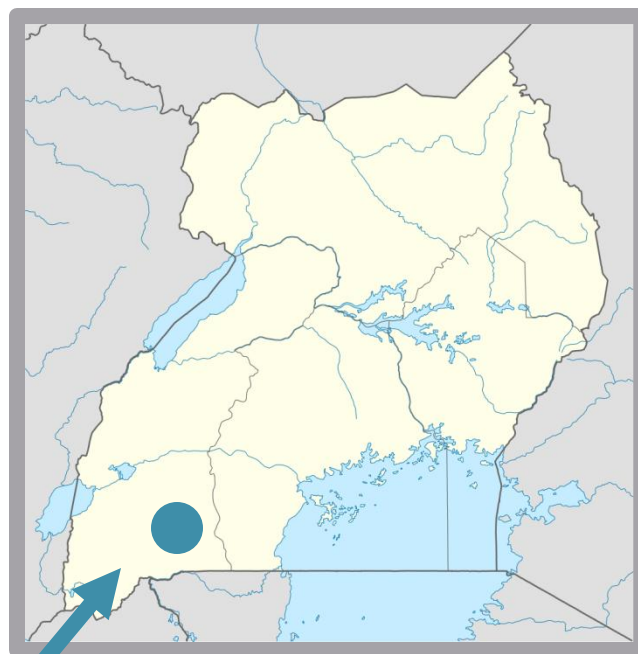
- The *mechanism of effect* – how and why SMSs may promote adherence – has yet to be explained.

# Description of the Study

- A pilot randomized controlled trial to develop SMS interventions to improve ART adherence
- Jessica E. Haberer, MD, MS Principal Investigator
- Aim: to assess the impact of SMS reminders and SMS-triggered social support on adherence, as measured through real-time electronic monitoring with Wisepill.
- Using qualitative data from the study, this presentation describes what receiving SMS reminders meant to study participants—working toward formulating a mechanism.

# Study Site & Participants

- HIV-specialty clinic in a large teaching hospital, Mbarara, rural southwest Uganda
- Sixty-three HIV-positive adults initiating ART



**Mbarara, Uganda**

# Experimental Study Design with Qualitative Interviewing

--A three-armed trial with 9 mos. of follow-up

Months	Arm A (scheduled SMS + real-time monitoring)	Arm B (triggered SMS + real-time monitoring)	Control (real-time monitoring only)
1	Daily SMS	SMS for missed doses	No SMS
2	Weekly SMS		
3			
4	SMS for missed doses + social supporter notification (48 hr lapse)	SMS for missed doses + social supporter notification (48 hr lapse)	
5			
6			
7			
8			
9			

# Message Content

- Individualized, content selected by recipients
- Local language (Runyankole) or English
- Examples:
  - “This is your reminder!”
  - “Have you swallowed your pills?”



# Qualitative Data Collection

- **122 open-ended qualitative interviews:**
  - All participants in Arm A and Arm B at Month 3
  - All participants who had a 48-hour lapse in Months 4-9
  - Social supporters of participants with 48-hour lapses



# Qualitative Data Collection-2

- Interviews covered:
  - Experiences with the Wisepill real-time monitoring device
  - Experiences of SMS messages
  - Social support received

# Personal Characteristics of Study Participants

	<b>Total</b>
Female gender, N(%)	<b>40 (65%)*</b>
Age in years, median (IQR)	25 (30-35)
Education: Primary or greater	57 (92%)
Median (IQR) CD4 cells/mm <sup>3</sup>	309(231-397)
Depression (Hopkins)	30 (48%)

\* Arm A: 15 (71%), Arm B: 7 (35%), Control: 18 (86%)

# SMSs as Dosing Reminders

- **Receiving an SMS message reminds people to take their medication.**

- *R: “There are times when I get caught up doing other things but when I get the message, I am reminded to take the drugs. For example one day, I had worked a lot that day and was very tired so I forgot about taking the drugs but then received a message to remind me. I had been home alone that day so if it were not for the message, I would have missed taking medicines.”*

# A Habit of Good Adherence

- **Scheduled daily SMSs at initiation of treatment help develop a habit of good adherence.**

*I: “How were the daily messages?”*

*R: “They made me get used to taking my medicine on time.*

*So I developed the habit of taking my medicine on time.”*

*I: “How were the weekly ones different from the daily ones?”*

*R: “By the time the weekly ones started coming, the daily ones had put me in the habit. [So] when they stopped I didn’t wait for the message, I would keep looking at the time and take my medicine.”*

# SMSs as Expressions of Personal Caring

- **Participants interpret SMSs as expressions of personal caring by message senders.**

*“...I was still at my business working and I received an SMS. I read it and became happy and told myself, “These people remember me. They care about me.”*”

*“The SMS messages are very helpful. They make me know that someone cares about me.”*

# Feeling Cared About Energizes Adherence

- **Feeling cared about energizes the adherence process.**

--Recipients feel “encouraged” for adherence when they receive an SMS.

*“Every time I receive this message I feel encouraged to continue taking my medicine. Knowing that there are people who care about my health. “*

# Multi-level Meanings of SMS Messages



# Conclusions

- As adherence support, SMS messages are more than reminders; they also have positive emotional significance for this group.
- A mechanism explaining how SMSs function for adherence support in Africa should take emotional as well as cognitive meanings into account.



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