INNOVATION THROUGH TELEMEDICINE TO IMPROVE MEDICATION ABORTION ACCESS IN MUSANZE DISTRICT, RWANDA

RESEARCH BRIEF – FEBRUARY 2023

INTRODUCTION

Telemedicine provides a unique opportunity to improve abortion care in Rwanda by allowing for service provision at primary care level. Efficacy of medication abortion is well established in healthcare, yet research in Rwanda is still needed to determine the effectiveness and safety of management of first trimester medication abortion cases at health centers. While current services are only available in district hospitals, services at health centers would decrease referrals for first trimester medication abortion. This strategy will also reduce costs of service provision and address shortages of medical doctors in health centers. Currently, only medical doctors are authorized to provide abortions.

RESEARCH OBJECTIVES

1. Demonstrate that telemedicine medication abortion services can be effectively and safely provided at health centers.
2. Establish the guidelines for telemedicine medication abortion service provision at health centers.
3. Establish the guidelines for telemedicine medication abortion service provision by mid-level provider.
4. Assess the level of acceptability of the telemedicine medication abortion service provision at health centers and client satisfaction.

The Rwanda Health Initiative for Women and Youth (RHIYW), in collaboration with the Rwanda Biomedical Center, Rwanda Society of Obstetricians and Gynecologists, and Bixby Center for Populations, Health and Sustainability at the University of California, Berkeley designed and tested a service delivery model whereby nurses or midwives in health centers, who are remotely connected to doctors in district hospitals via telemedicine, provide medication abortion in the first trimester. The intervention aims to improve health system's capacity in the provision of comprehensive abortion care. As such, services would be closer to women at health centers, while enabling doctors to provide guidance and authorize medication abortion remotely, in compliance with Rwandan legal framework.

Feasibility, program effectiveness, safety and client acceptability were assessed during program implementation over 15-month period from October 2021-December 2022. The research project was implemented in 7 health centers in Musanze District: Muhoza (Ruhengeri), Karwasa, Bisate, Gataraga, Kinigi, Kabere, and Kimonyi.

RHIYW
RWANDA HEALTH INITIATIVE FOR YOUTH AND WOMEN

rbc Rwanda Biomedical Centre
Healthy People, Wealthy Nation

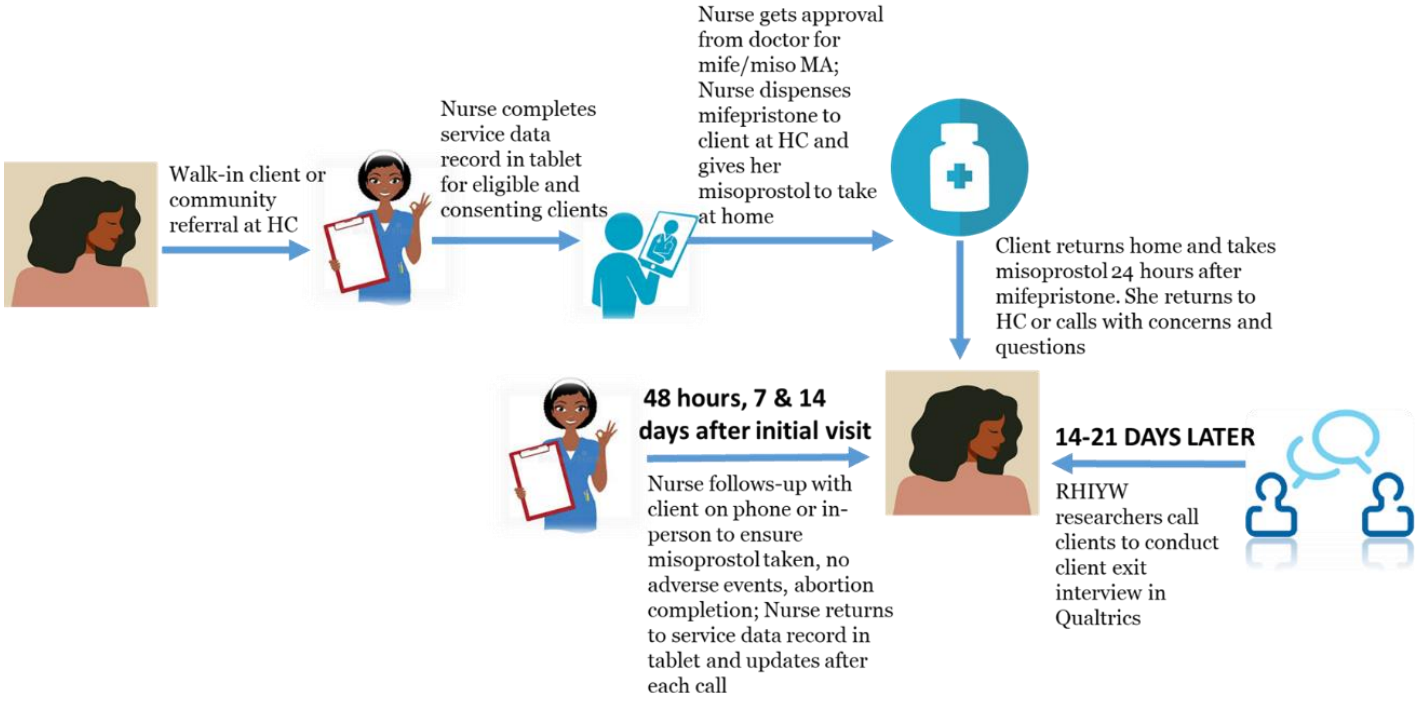
RSOG
Rwanda Society of Obstetricians & Gynaecologists

PROJECT DESCRIPTION

Clients requesting medication abortion services at health centers and consenting to be in the study participated in a joint consultation with a health center nurse/midwife and an authorized doctor at the district hospital connected via telemedicine. Teleconsultation included the following: review ultrasound image to establish gestational age and rule out the ectopic pregnancy, discuss lab results, make decision for termination of pregnancy, and prescribe methods to be used for termination of pregnancy, or decide on need for referral. After a medical decision by the doctor, the nurse/midwife provided the misoprostol-mifepristone combination tablets and followed the approved clinical protocol to manage the case. The nurse/midwife at health center conducted three telephone follow up consultations using a questionnaire guide: 1) 48 hours after mifepristone intake to confirm the client took the misoprostol; 2) 7 days after the medication abortion to ensure no complications and progress towards completion; 3) 14 days after medication abortion to assess completion of abortion and establish condition at discharge. The client also had the ability to call the nurse when needed and return to the health center if it was found necessary during the telephone consultations. A doctor was available to the nurse/midwife to address concerns related to outcome and medication side effects during the follow-up appointments.

Enrollment started in October 2021 and lasted 15 months. Final data extracted on January 11 2023. Client exit interviews were conducted through a telephone interview, 2-3 weeks after the client completed the procedure by a researcher that did not provide services after discharge.

Figure 1. Service delivery model for telemedicine research project



DATA COLLECTION

1. **Electronic patient record** (REDCap): For eligible participants providing consent/assent to enroll in the study, a service data record form was completed using the REDCap online platform, which enabled the doctors and nurses to review the client's clinical information together during teleconsultation, as well as revisit and update the form during follow-up phone calls. The forms in REDCap collected information on medical history, results from physical examination, details from telemedicine consultation, and list of medication and treatment provided.
2. **Client exit interviews** (Qualtrics): For eligible participants who consented to be contacted for an interview after discharge, client exit interviews were conducted over the phone to evaluate client acceptability and satisfaction with the project, perceived quality of care and counseling, as well as other indicators to capture other aspects of their abortion experience.
3. **Health provider survey** (Qualtrics): Providers who participated in the project completed a survey at the final program review meeting. The survey captured their feelings and experiences related to implementation of the telemedicine project, including challenges and recommendations for the future.

KEY FINDINGS

FEASIBILITY

- **Training and competencies**: All nurses/ midwives successfully completed the training that included: values clarification and attitudes transformation; use of ultrasound in obstetrics; study procedures (enrolment, informed consent); telemedicine protocol; clinical procedures (clinical protocol, case management, patient follow-up); and data collection using an electronic patient record.
- **Patient management**: All providers demonstrated their ability to follow the study protocol including: conduct telemedicine consultation with the district doctor; perform ultrasound exam; dispense mifepristone-misoprostol combination therapy; patient follow-up, referrals, treatment of incomplete abortion and pos- abortion family planning.
- **Teleconsultation:** All health centers were appropriately equipped with laptops, internet and air time, making teleconsultation a success and example to follow. The providers in the project were connected using different information communication technology (ICT) platform including email, phone call, and WhatsApp for immediate communication. In addition, all had access to Zoom.

EFFECTIVENESS

- **Service delivery outcomes**: All eligible women receiving services at health centers received correct treatment for their termination of pregnancy, including hospital referrals according to protocol (e.g. gestational age limit); patient follow up (48 hours, 7 and 14 days after procedure); treatment of incomplete abortion post procedure, assessment of continued pregnancy cases and its management; and management of side effects when necessary.
- **Patient follow-up**: Determined during the first visit with the provider, the modality for follow-up decided by provider or client included: 92% cellphone; 5% in person; and 3% not determined during first visit.

Table 1. Service delivery outcomes among abortion clients served at 7 health centers in Musanze District

N=277	Number	Percentage
Referred cases to hospital	**35**	**13.1%**
Second trimester services	16	45.7%
Gender based violence services	4	11.4%
Supply chain issues (no reagent for required blood testing)	1	2.9%
Trained provider not available	2	5.7%
Clinical observations (uterine scarring, low platelets, Rh-)	3	8.6%
Ectopic pregnancy	2	5.7%
Ultrasound abnormalities*	7	20.0%
Total case eligible for abortion at health centers	**242**	**90%**
Abortion successfully completed	233	96.3%
Lost to follow-up	1	0.4%
Abortion failure (continued pregnancy required additional treatment)	2	0.8%
Treatment of incomplete abortion	6	2.5%

*Abnormalities included: fetal abnormalities, molar pregnancy, missed abortion, blighted ovum

SAFETY

- **Screening capacity:** Correct implementation of clinical protocol excluded non-eligible clients, those with additional needs that only the hospital could provide; ultrasound screening effectively identified ectopic pregnancies and other abnormalities.
- **Case management**: All women undergoing pregnancy termination received their dose of mifepristone- at the health center and were followed up 48 hours later with a phone call to ensure misoprostol was taken and determine presence of any side effects that needed additional interventions.
- **Side effects**: Clients were counselled on what to expect as side effects and could at any time contact the provider. Pain medication and sanitary pads were also provided. Vaginal bleeding (36%) and abdominal pain (41%) were the most common symptoms; most medication taken was for abdominal pain; overall only 10% of clients needed to see a provider due to side effects.
- **Post-procedure complications:** Only 2 cases were reported: one incomplete abortion that required referral to hospital and one case of infection treated at the health center.

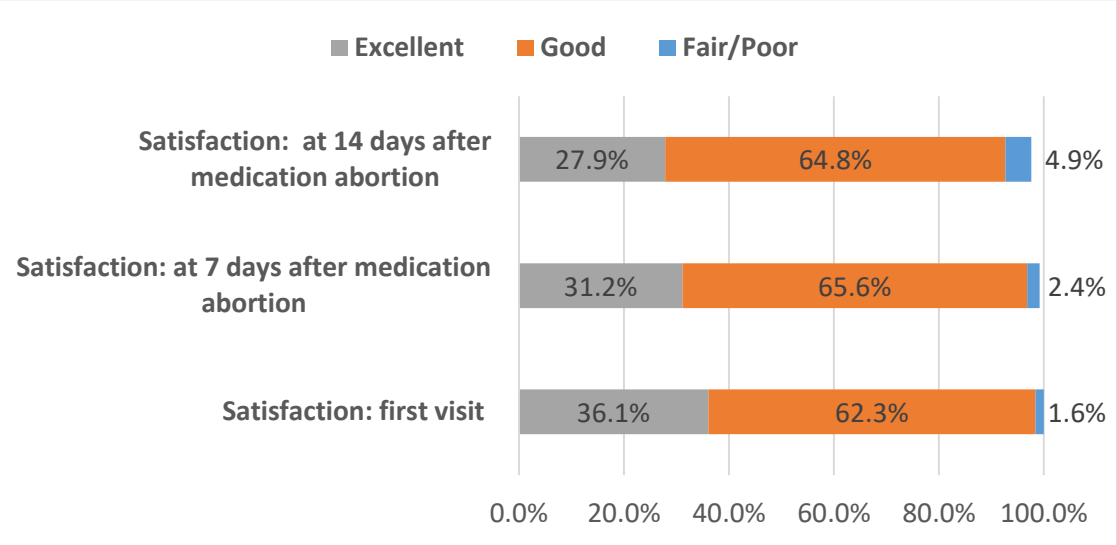
Table 2. Clinical side effects and management among abortion clients served at 7 health centers in Musanze

N=242 clients						
Symptoms	**No. Cases**	**% Cases**	**No. took medication**	**% took medication**	**No. saw a provider**	**% saw a provider**
Nausea	9	3.7	2	0.8	0	0.0
Vomiting	5	2.1	1	0.4	0	0.0
Shivering	4	1.7	0	0.0	2	0.8
Vaginal bleeding (more than expected)	87	36.0	17	7.0	8	3.3
Abdominal pain (more than expected)	98	40.5	61	25.2	13	5.4
Total	**203**	**83.9**	**81**	**33.5**	**23**	**9.5**

CLIENT ACCEPTABILITY

Client Satisfaction: The majority of the interviewed clients (N=122 out of 236 who consented to be contacted after discharge) rated their satisfaction with care in all three categories assessed as excellent or good.

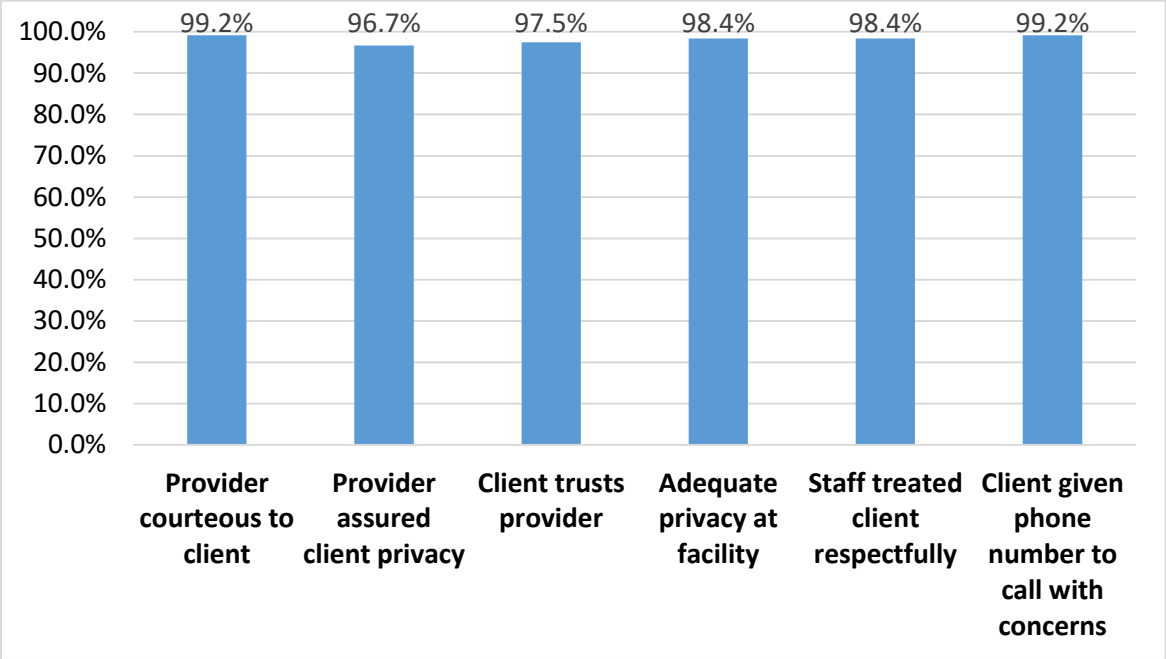
Figure 2. Client responses related to satisfaction with care among 122 women who completed client exit interview



Quality of care: Client's perception of overall quality of care was very high. High quality abortion care also includes quality counseling: 97.5% of respondents felt the information and explanations they received were adequate; 94.3% recalled that providers discussed sexually transmitted infections; 94.3%

recalled discussion of family planning and warning signs after initiating medication abortion (data not shown).

Figure 3. Client responses related to quality of care among 122 women who completed client exit interview



KEY STUDY RESULTS

- Medication abortion in the first trimester can be safely and effectively provided by nurses and midwives in health centers using telemedicine.
- The clinical protocol for medication abortion tested in Musanze has a high degree of adherence and is very effective at terminating a pregnancy of first trimester.
- Health centers have the capacity to address potential side effects; vaginal bleeding and abdominal pain are the prevalent symptoms.
- Post-procedure complications are very rare and can also be managed at health centers.
- Overall client satisfaction with services was very high and perceived quality of services was also very high.