Evaluation of the Informed Consent Process for Male Circumcision Scale-up in Zambia

ADDITIONAL MATERIALS AVAILABLE

- Quantitative surveys
  http://www.popcouncil.org/pdfs/2011HIV_ZambiaMaleCircIC_Quantitative.pdf
- Qualitative surveys
  http://www.popcouncil.org/pdfs/2011HIV_ZambiaMaleCircIC_Qualitative.pdf
- Participant consent forms
  http://www.popcouncil.org/pdfs/2011HIV_ZambiaMaleCircIC_ConsentForms.pdf
- Lexicon
  http://www.popcouncil.org/pdfs/2011HIV_ZambiaMaleCircIC_Lexicon.pdf

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Population Council

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Principal investigators for this study were Barbara Friedland and Paul C. Hewett (Population Council, New York and Zambia) and John Manda (Society for Family Health, Zambia). Co-investigators were Louis Apicella and Katie Schenk (Population Council, Zambia and Washington, DC). Meredith Sheehy (Population Council, Washington, DC) was study coordinator. Kelvin Munjile (Population Council, Zambia) managed field work and conducted key informant interviews. James Banda, Kolala Chilele, Mulenga Kaemba, Walumweya Mubitana, Patrick Nawa, and Shimeo Sakanya implemented the quantitative comprehension assessment; and Michael Kabaghe, Lason Kapata, Janet Mulilo, Given Nakalonga, Patrick Nkhata, and Nchimunya P. Nkwengele conducted the semi-structured interviews with male circumcision (MC) clients and focus group discussions with parents and guardians. Paul C. Hewett directed the Population Council's MC research and evaluation program, and Naomi Rutenberg (Population Council, Washington, DC) served as Senior Technical Advisor.

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ABBREVIATIONS AND ACRONYMS

ABC	abstinence, be faithful, use condoms
AE	adverse event
AES	advanced encryption standard
AIDS	acquired immune deficiency syndrome
CI	confidence interval
CT	HIV counseling and testing
EDC	electronic data capture
FGD	focus group discussion
HIV	human immunodeficiency virus
HPV	human papillomavirus
IC	informed consent
IEC	information, education, and communication
IPC	interpersonal communication
IRB	institutional review board
Jhpiego	Johns Hopkins International Health NGO (not an acronym)
MC	male circumcision
MC Partnership	Male Circumcision Partnership
MIS	management information system(s)
MOH	Ministry of Health
MSI	Marie Stopes International
NGO	non-governmental organization
PC	Population Council
PEPFAR	President's Emergency Plan for AIDS Relief
PI	principal investigator
PSI	Population Services International
SFH	Society for Family Health
SMS	short message service
SSI	semi-structured interview
STD	sexually transmitted disease
STI	sexually transmitted infection
UNAIDS	The Joint United Nations Programme on HIV/AIDS
UNZA	University of Zambia
UTH	University Teaching Hospital (Lusaka)
WHO	World Health Organization
YWCA	Young Women's Christian Association (of Zambia)

EXECUTIVE SUMMARY

The Male Circumcision (MC) Partnership was established with the support of the Gates Foundation and PEPFAR to scale up MC services in Zambia, in collaboration with the Zambian government. The MC Partnership is a five-year project led by Population Services International (Society for Family Health, in Zambia), in partnership with Jhpiego, Marie Stopes International (MSI), and the Population Council. The MC Partnership works closely with the Ministry of Health (MOH) in Zambia to advance the National MC Policy and Strategy to scale up MC services in the public, private, and non-governmental organization (NGO) sectors, including a focus on increasing demand for MC services through social marketing and behavior change communication campaigns. The MC Partnership includes a strong focus on research and evaluation to measure uptake in MC services, ensure that quality of services is high, and maximize the effectiveness and efficiency of MC services.

Study Objectives

An evaluation of the MC informed consent process was undertaken by the Population Council between December 2009 and March 2010 as services were being scaled-up by the MC Partnership. The objectives of this study were to:

1. Assess male clients' comprehension of key concepts in the informed consent process;
2. Examine social norms and practices regarding informed consent for adolescents;
3. Investigate how MC clients (adults and adolescents) who had recently undergone circumcision felt their experiences compared to their expectations; and
4. Make recommendations to the MC Partnership for improving, standardizing, and streamlining the IC process while adhering to WHO, UNAIDS, and other accepted guidelines.

Methods

Quantitative methods

Using a post-test design, a ten-question, true/false comprehension test was administered to male circumcision clients after counseling and prior to undergoing the MC surgery. Statistical tests were used to test the hypothesis that 90 percent of the clients could score at least 80 percent or better (answering at least eight out of ten questions correctly). Scores were also compared between adult and adolescent clients.

Qualitative methods

Semi-structured interviews were conducted with MC clients one week after their MC surgery. Focus group discussions (FGDs) were conducted among 36 parents/guardians of adolescents 13–17 years old: half who chose MC for their sons and half who did not. Interviews were also conducted with 13 key informants involved in MC service delivery or who were viewed as community leaders.

Results

Background demographics

Data were included from 228 MC clients who participated in the comprehension assessment and 62 clients who participated in the semi-structured interviews. The majority of clients were single and averaged approximately 22 years of age. Levels of literacy and education were high among the client population, who came from a mix of tribal backgrounds. (Demographic data was not collected from parents and guardians in FGDs, nor from key informants.)

Decisionmaking process

Friends had the strongest influence on clients' decision to undergo MC, which was generally made prior to coming to the clinic for the actual surgery. Most clients were motivated to undergo MC for hygiene and disease prevention; HIV was not mentioned as a specific motivating factor by the majority of participants, possibly because clients understood MC to be only partially protective against HIV. Traditional MC had a mixed impact on the decisionmaking process; clients (and parents/guardians) from traditionally circumcising tribes often decided on medical MC because it was less risky and cheaper than traditional circumcision, whereas respondents from non-circumcising tribes were more likely to express reservations and fear about MC due to their limited knowledge of traditional circumcision.

Counseling

Clients reported that, in general, counselors did a good job providing information that facilitated decisionmaking, and helped prepare them for MC surgery and recovery. There were some reports, however, of inappropriate comments made by counselors related to the impact of MC on sexual activity and some adolescents reported feeling uncomfortable during discussions of sexual activity and HIV risk, even when counselors acted professionally. Although not all clients received both group and one-on-one counseling, it was clear that the two complemented each other; clients reported feeling encouraged by the camaraderie of group sessions while benefitting from the ability to ask personal questions in one-on-one counseling. Counseling also helped to calm and reassure many clients who, despite having made the decision to be circumcised, were still nervous and anxious before the procedure.

Comprehension

Results of the quantitative comprehension assessment indicated that male circumcision clients comprehend most key concepts in the informed consent process; approximately 89 percent of clients participating in the true/false comprehension assessment passed the test. Areas that seemed to be understood best were the need to continue safer sex practices and aspects of wound care and healing. The concept of partial protection is not well understood; although many clients know that MC reduces male's risk of HIV by 60 percent, few seem to recognize that they are at "lower" versus "low" risk of getting HIV. In addition, many clients believe that MC is partially protective against HIV, but fully protective against other STIs and cervical cancer in women, and there is a lack of awareness that MC does not protect female partners from HIV, except indirectly. In addition, benefits seemed to be better understood than risks.

Informed consent

Among clients interviewed in semi-structured interviews, all adults and all except one adolescent had chosen to undergo MC voluntarily, with many emphasizing that it had been their own choice, free from pressure or coercion. Clients were less clear about the meaning of their signature on the informed consent form; some clients thought signing the form was freeing the service providers of all liability, whereas other clients did not recall signing a form providing consent. Interviews with clients, parents/guardians, and key informants indicated that consent procedures for minors are not well understood and are not being implemented consistently. In some cases, there is lack of awareness about the age of consent (18 and older) and in other cases, parents have a strong influence regardless of the child's age.

Procedure, recovery, and healing

Most clients felt that counseling had prepared them for the procedure and healing process; however, many clients were surprised by the level of pain they experienced during administration of anesthesia, during the surgical procedure (if anesthesia wore off too quickly), and during healing. A number of clients had a range of complaints related to pain killers. Several clients complained that Panado (paracetamol/acetaminophen) provided for the immediate post-surgery healing period was insufficiently strong, and requested something with a more powerful analgesic effect. A number of clients also complained of a shortage of pain killers at the clinic site, stating that the clinic had run out and they had needed to purchase pain killers on their own. Clients noted the importance of strengthening supply systems to ensure that drug shortages are avoided. Many clients felt the healing process was progressing more quickly than they had expected, whereas others felt it was going slowly, despite reassurance at follow-up visits that the wound was healing appropriately. Clients did not seem to have a good sense of what type of complications constituted an adverse event (AE), and what to do should they experience an adverse reaction. Although clients knew they were supposed to abstain from sexual activity or masturbation for six weeks post-MC, there was limited understanding that initiating sexual activity too soon could increase HIV risk.

Recommendations

Based on the evidence gathered through this study, the following recommendations are offered to improve the informed consent process for male circumcision services. Recommendations from preliminary findings have already been incorporated into updated counselor training manuals by the MC Partnership and the MOH (see Appendix F).

Expand outreach messages

As the informed consent process begins during community sensitization, it is recommended that outreach be expanded, as follows:

- Emphasize risks and benefits equally in client information booklets;
- Reinforce partial protection messages in settings with women; additional efforts should be made to emphasize lack of proven effect in reducing HIV risk among women and that protection against cervical cancer is only partial;
- Acknowledge that most clients will experience some pain during or after the MC surgery;

- Include more specific information about healing, such as length of healing, anticipated pain level, impact on activities, and aspects of wound care;
- Include practical information about service delivery, such as expected waiting time, female service providers, and the confidential nature of the services that are free of charge.

Enhance counseling process

- Renew efforts to ensure that clients receive both group and one-on-one counseling, even when clients opt out of HIV counseling and testing (CT);
- Consider expansion of visual aids (video, illustrations, and/or PowerPoint presentations);
- Tailor counseling sessions for adolescents—counselors must address sex in a neutral, non-judgmental way to reflect the various stages of sexual activity among adolescents; adolescents who are not yet sexually active should not feel pressured to start having sex, and adolescents who have had prior sexual experience should not feel embarrassed;
- Increase emphasis to improve client understanding of critical concepts, including:
  - Partial protection applies to STIs and cervical cancer, in addition to HIV;
  - Focus more on MC leading to "lower" risk vs. "low" risk of HIV (and other STIs) rather than on the actual number, or 60 percent reduced risk;
  - MC does not protect female partners from getting HIV; and
  - Use alternative language for "risk" of HIV/STI—such as "chance" or "possibility"—to distinguish between "risks" of MC surgery and "reduced risk" of HIV/STI.
- Clarify instructions about adverse events—make sure clients know how to recognize AEs and what to do should an AE occur; and
- Administer a comprehension quiz pre-MC. While it would be burdensome to implement a quiz for every client going through MC, perhaps a "spot check" system could be adopted with the quiz administered to random clients to ensure that key messages are being adequately understood.

Improve aspects of the informed consent process

- Reinforce authorization of decision—consider developing a discrete informed consent form for clients to sign that is separate from the other elements of the intake form; or, if infeasible, have a laminated card that the provider could read together with the client before he signs to reinforce that he understands the risks and benefits and is agreeing voluntarily to undergo MC;
- Conduct refresher training for providers on age of consent (18 and older);
- Publicize consent regulations/requirements for minors during outreach—it is important for communities to know that minors under 18 must have the written informed consent of a parent or legal guardian above 21; and
- Actively seek assent from minors, even if formal written documentation is not required, including establishing a mechanism for ensuring adolescents who have trepidations receive counseling necessary for them to provide assent.

INTRODUCTION

Three recent randomized controlled trials demonstrated that male circumcision (MC) reduces the risk of HIV infection among heterosexual men by about 60 percent (Auvert et al. 2005; Bailey et al. 2007; Gray et al. 2007). Based on these results, a WHO/UNAIDS Technical Consultation recommended that MC be implemented in areas with high prevalence of HIV infection (WHO/UNAIDS 2007). The largest impact on the AIDS epidemic is projected for southern Africa, where HIV prevalence is high and MC rates are low.

Health activists, human rights advocates, researchers, and policy makers, however, emphasize that MC is only partially effective against HIV and other sexually transmitted infections (STIs), and that HIV-positive men who are circumcised can still transmit HIV to a sexual partner. Therefore, UNAIDS and other organizations have emphasized promotion of MC in combination with other risk reduction methods, such as consistent condom use, partner reduction, delayed onset of sexual initiation, and HIV counseling and testing (CT). UNAIDS recommends a human rights-based approach to introducing and expanding MC services to ensure that procedures are carried out safely, with sound informed consent, and without discrimination (UNAIDS 2008).

The Male Circumcision Partnership

The MC Partnership was established with the support of the Gates Foundation and PEPFAR to scale up MC services in Zambia in collaboration with the Zambian government. The MC Partnership is a five-year project led by Population Services International (Society for Family Health, in Zambia), in partnership with Jhpiego, Marie Stopes International (MSI), and the Population Council. The MC Partnership works closely with the Ministry of Health (MOH) in Zambia to advance the National MC Policy and Strategy to scale up MC services in the public, private, and non-governmental organization (NGO) sectors, including a focus on increasing demand for MC services through social marketing and behavior change communication campaigns.

In Zambia, circumcision prevalence was estimated to be 16 percent prior to the establishment of the MC Partnership (Buckner et al. 2006). The MC Partnership is mindful that cultural and traditional factors need to be considered in the introduction and scale-up of MC services, because MC is sometimes tied closely to ethnic identity. Further, given that MC is not fully protective, counseling and services aim to minimize the initiation of risky sexual behaviors (e.g., decreased condom use or increased number of partners), which could undermine efforts to reduce HIV prevalence. The MC Partnership includes a strong focus on research and evaluation to measure uptake in MC services, ensure that quality of services is high, and maximize the effectiveness and efficiency of MC services.

Informed Consent

As the only biomedical intervention shown to reduce HIV transmission by up to 60 percent, there is great interest in introducing MC quickly and widely in areas of high HIV prevalence. Such enthusiasm, however, should not undermine the need for true informed consent. As outlined by Lavori and colleagues (1999), the informed consent (IC) process should encompass five key elements: 1) evaluation of a patient's competence to make a decision; 2) disclosure of relevant information about the proposed procedure; 3) assessing a patient's comprehension of the information; 4) ensuring the patient is choosing voluntarily; and 5) authorization of the patient's decision and, if choosing to undergo the procedure, signing of the IC form (Lavori et al. 1999).

Typically, areas of high HIV incidence are also characterized by high economic vulnerability and low literacy levels, which present additional challenges to ensuring informed consent (de Zoysa et al. 1998; Bayer 2000; Benatar 2002; Fitzgerald et al. 2002; Woodsong and Abdool Karim 2004; Molyneux et al. 2004). Special consideration must be given to ensuring that service providers continue to offer the most effective counseling possible to confirm that participants are fully informed, understand the information provided, and voluntarily consent to undergoing MC.

Ethical Issues Related to Minors

Youth aged 15–24 account for more than 40 percent of new HIV infections each year (UNAIDS 2008). Therefore, the WHO/UNAIDS Montreux Consultation (WHO/UNAIDS 2007) recommended prioritization of scale-up among adolescents and young men; the MC Partnership targets males aged 13–29. The circumcision of minors, however, presents additional ethical issues. Under international human rights laws, according to the Convention on the Rights of the Child, a child is defined as anyone under the age of 18 (UNHCHR 1989). Thus, many of the minors targeted for MC would qualify as children.

Although a parent or guardian must provide written consent for an adolescent to be circumcised, UNAIDS advocates that all efforts should be made to ensure that minors are involved in the decisionmaking process, that they are fully informed of the risks and benefits appropriate to their age, and that they provide assent (UNAIDS 2008).

Study Objectives

This evaluation of the MC informed consent process was undertaken as services were being scaled up by the MC Partnership. The objectives of this study were to:

1. Assess male clients' comprehension of key concepts in the informed consent process;
2. Examine social norms and practices regarding informed consent for adolescents;
3. Investigate how MC clients (adults and adolescents) who had recently undergone circumcision felt their experiences compared to their expectations; and
4. Make recommendations to the MC Partnership for standardizing and streamlining the IC process while adhering to WHO, UNAIDS, and other accepted guidelines.

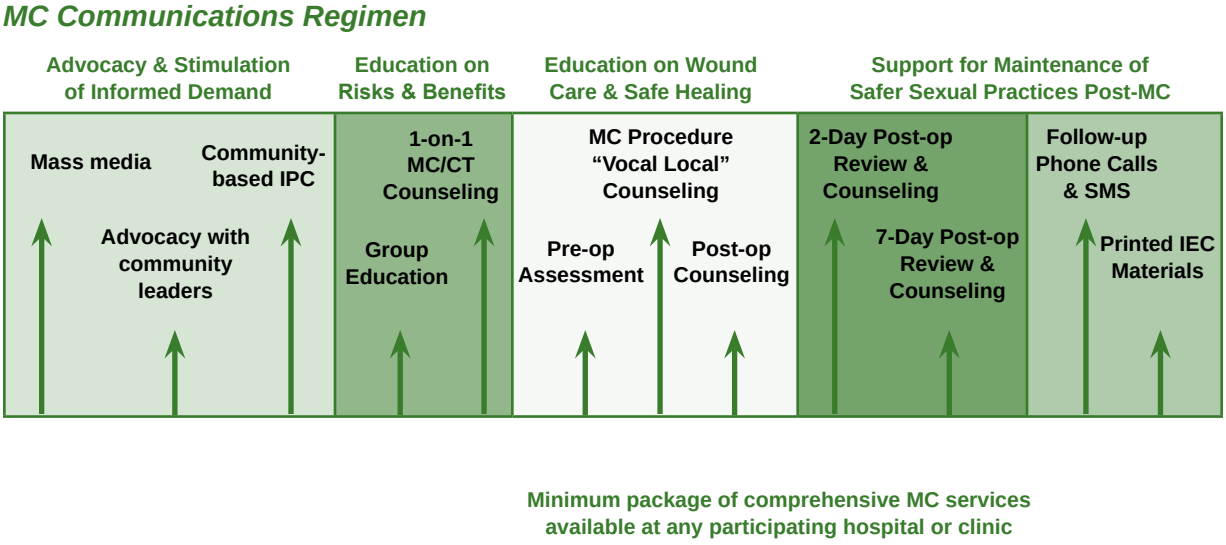
METHODS

A mix of quantitative and qualitative methods was used to address the study objectives (see Appendix A for objectives, associated research questions, and methods employed to address each):

1. Quantitative comprehension assessment among MC clients (adults and adolescents);
2. Semi-structured interviews with MC clients (adults and adolescents);
3. Focus group discussions (FGDs) with parents/guardians of circumcised adolescents and FGDs with parents/guardians who did not elect to have their minor circumcised; and
4. Key informant interviews with community leaders, ethics experts, and MC providers.

The study was implemented in a mixture of settings in Lusaka. Specific sites were selected in collaboration with the MC Partnership, and the study was incorporated into the standard procedures for clients undergoing MC at the participating clinics. Figure 1 illustrates the comprehensive communication package designed by the MC Partnership for clients before and after MC.

Figure 1. MC comprehensive communication package



Study Instrument Development

Instruments were developed based on key messages contained in MC Partnership materials, all of which are available in English, and pre-tested prior to initiation of data collection. Input on concepts to emphasize and specific wording of questions was sought from MC Partnership counselors and staff. The comprehension test was available in Bemba, Nyanja, and English, the most common languages spoken in urban households, and clients could choose from among those three languages. For the qualitative components, often a mixture of languages was used. (Questionnaires are available at: www.popcouncil.org/projects/211_MaleCircumcisionPartnership.asp#/Resources.)

Interviewer Training

Twelve interviewers (six quantitative and six qualitative) attended a week-long training workshop conducted by Population Council staff from Zambia and the US, with additional participation from MC Partnership counselors. The training agenda included:

- Overview of the MC IC study objectives;
- Review of study instruments and research consent forms in all languages, for all cohorts;
- Exercises to elicit knowledge about HIV and AIDS;
- Presentation about MC and the MC Partnership;
- Question-and-answer session with counselors from the MC Partnership;
- Tour and introductions at two of the MC Partnership sites (Kudu and YWCA);
- Role plays to practice interviewing; and
- Training on hand-held computers for quantitative data collection.

Recruitment

MC clients

Male circumcision clients were recruited on the day of their MC surgery, before undergoing any other procedures (see Figure 2). After registering at reception, adult clients (18 and older) were told by clinic staff about the opportunity to participate in a study. Population Council interviewers explained the study in detail to interested clients, and obtained written informed consent for participation. Clients participating in the quantitative comprehension assessment were interviewed after completing counseling (Figure 2, steps 2–3), but before providing written consent for the MC surgery.[1] Semi-structured interview (SSI) participants were asked for written consent to be contacted post-MC. Separate written consent was obtained for the actual interview, which was usually conducted during the client's seven-day post-op follow-up visit (Figure 2, step 9) or in his home, if he preferred.

[1] At the time of the study, counselors rather than clinical providers sometimes administered informed consent.

Adolescents (13–17 years old) were invited to participate if they presented at the clinic with a parent or legal guardian. Written parental/guardian consent and adolescent assent were both required for study participation. (See Appendix B for targets and actual enrollment.)

FGD participants

Focus group discussions (FGDs) were conducted with parents/guardians of adolescents 13–17 years old, half with respondents who chose MC for their sons and half with those who did not. Recruitment occurred at the clinic, prior to the procedure, for respondents who had chosen MC, and in conjunction with community outreach activities for respondents who had not chosen MC for their sons. Up to ten people were recruited to ensure at least six respondents attended all FGDs, which were scheduled for a mutually convenient time and location for participants.

Key informants

Key informants were identified by Population Council researchers and contacted by the local study coordinator who requested a one-on-one interview. Key informants represented a broad range of individuals with influential and/or relevant opinions about male circumcision and the IC process.

Figure 2. Standard procedures for clients undergoing MC at participating clinics

1. Clients register with reception.
2. Clients undergo MC counseling (generally group counseling, followed by one-on-one counseling).
3. Clients 16 and older are also encouraged to undergo HIV testing and counseling.
4. Clients are examined by a nurse or clinical officer who takes their medical history and examines them to ensure they are eligible for circumcision [or do not have any contraindications for MC].
5. Clients usually sign the IC form* in the assessment room prior to entering the operating theatre with the provider who performed the assessment. On occasion, the client is assessed on the operating table and signs the IC form with the provider who will be performing the MC procedure.
6. Clients undergo MC surgical procedure.
7. Clients are taken to recovery area where vitals are taken and pain medication is distributed.
8. Clients return for 2-day post-MC follow-up visit when bandage is removed.
9. Clients return for 7-day post-MC follow-up visit to ensure wound is healing well.

*See Appendix G for the MC Client Intake Form.

Quantitative Methods

Research questions

The primary research question for the quantitative comprehension assessment was:

- Can at least 90 percent of MC clients correctly respond to at least eight out of ten questions (score 80 percent or better) on a ten-question true/false test?

Secondary research questions explored whether there were significant differences in comprehension scores between:

- Adults (18 years and older) and adolescents (13–17 years old);
- Clients attending static vs. outreach clinics; and
- Clients attending high-volume (15 or more MC surgeries per day) vs. low-volume (fewer than 15 procedures per day) clinics.

Sample size and study population

The comprehension assessment was administered to MC clients (adults and adolescents) at participating MC Partnership clinics between December 2009 and January 2010. In a post-test design, MC clients who had received MC counseling but had not yet signed the MC IC form responded to an interviewer-administered ten-question, true/false comprehension test (see Table 1).

A sample size of 86 people per cohort (adults and adolescents) was calculated to be sufficient for statistical tests with 80 percent power and an alpha of 0.05 to evaluate the null hypothesis that 90 percent of clients could pass the comprehension test (score 80 percent or better). The alternative hypothesis was whether 80 percent of clients or fewer could pass. The sample was increased from 86 to 100 per cohort (adults and adolescents) to ensure sufficient completed questionnaires for analysis. The adult cohort was further increased to 300 to allow for multiple comparisons between static vs. outreach, and high- vs. low-volume clinics.

Table 1. Comprehension assessment test: True/false comprehension questions

Question	Answer	Keyword (as used in results)
1. Before a man's foreskin is removed during the circumcision procedure, an injection is given at the base of the penis to prevent pain.	[True]	Injection
2. It is possible to have pain, swelling, and bleeding after the circumcision procedure, but resting for 1–2 days after the surgery will help the wound heal.	[True]	Wound
3. There are no risks involved in male circumcision surgery.	[False]	No risks
4. A man who is circumcised no longer needs to use condoms during sex to prevent him from becoming infected with HIV.	[False]	Condoms
5. All circumcised men are HIV negative.	[False]	HIV negative
6. An HIV-negative man who is circumcised should continue to reduce his number of sexual partners to lower his chance of getting HIV.	[True]	Sexual partners
7. Male circumcision can help lower a man's chances of getting penile cancer.	[True]	Penile cancer
8. A circumcised man who is HIV positive cannot pass HIV to his female partner.	[False]	Female partner
9. A man can start having sex after being circumcised when he feels better, even if it is sooner than 6 weeks after his circumcision surgery.	[False]	Six weeks
10. Male circumcision increases a man's chance of getting some STIs.	[False]	STI

Data management and analysis

Responses were entered directly into hand-held computers that were programmed for electronic data capture (EDC) using Perseus Survey Solutions 7 software. Data was downloaded daily to the study coordinator's laptop, backed up onto an external hard drive, and emailed to the data manager. All devices and drives were password protected. Files sent via email were protected using WinZip's 128-bit AES encryption. Only the secure data was distributed, making all reasonable efforts not to breach confidentiality. Stata version 10.1SE was used for data analysis.

Participants received one point for each correct response, with scores ranging from zero (0 percent correct) to ten (100 percent correct). A variable was created to code participants who answered eight or more questions correctly with a "1" (pass) and those who did not with a "0" (fail). A one-sided t-test was used to test the hypothesis that 90 percent of respondents passed the comprehension assessment versus less than 80 percent. Pearson's chi-square was used to test individual questions separately and the combined pass/fail indicator. Bivariate statistics and logistic regression were used to examine the relationship(s) between socio-demographic and other relevant factors that may have had an impact on scores.

Qualitative Methods

Research questions

Qualitative research questions addressed comprehension of key concepts in the MC IC process, social norms around consent for minors, and how MC clients' experiences compared to their expectations. (See Appendix A for detailed research questions.)

Sample size and study population

Between December 2009 and March 2010, a convenience sample of MC clients (adults and adolescents) and parents/guardians of adolescents aged 13–17 took part in SSIs and FGDs, with the aim of interviewing a sufficient number of respondents until saturation was reached. In contrast, the sample of key informants was selected to represent a broad range of opinions.

Data management and analysis

Semi-structured interviews (SSIs), FGDs, and key informant interviews were recorded and transcribed, and those conducted in Bemba and Nyanja were translated into English. Transcripts were reviewed by Population Council researchers on an ongoing basis and all queries were resolved prior to importing the transcripts into ATLAS.ti (Version 5.2), a computer program that aids in the sorting and management of qualitative data. A code book was developed based on key domains outlined during the design phase of the research, with additional codes added as themes emerged from the actual interviews. To ensure quality and inter-coder reliability, 10 percent of the SSI transcripts were coded by all team members, and at least two team members coded each of the FGD and key informant interview transcripts. Once transcripts were coded, researchers conducted an analysis of key themes that emerged from the data.

Ethical Considerations

The study protocol, informed consent forms, and all amendments were reviewed and approved by the Institutional Review Board (IRB) of the Population Council and the University of Zambia (UNZA) Research Ethics Committee; the Ministry of Health was informed about the study prior to its initiation. All participants provided written informed consent to take part in any component of the study. Participants in SSIs and FGDs were compensated for transport. MC clients were reassured that if they did not wish to participate, their health services or future medical care would not be affected. All interviews were conducted in private. Participant names were not entered into any data files, personal identifiers were removed from all transcripts, and all identifying information was kept in a secure location with only authorized personnel having access. Once SSIs, FGDs, and key informant interviews had been transcribed, recordings were erased.

For components involving adolescents, parental/guardian consent was sought first, followed by adolescent assent. Only adolescents whose parent/legal guardian was present on the day of the MC procedure were eligible to participate. Research activities involving adolescents were conducted based on guidance outlined in *Ethical Approaches to Gathering Information from Children and Adolescents in International Settings: Guidelines and Resources* (Schenk and Williamson 2005).

Limitations

First, the participants in this study (both quantitative and qualitative) were generally well-educated and not necessarily representative of the population of Lusaka, nor of Zambia. Therefore, it may not be possible to generalize study results beyond the participants in this study.

Second, inconsistent implementation of the comprehension assessment, described further below, reduced the quantitative sample size so that there was insufficient power for comparing outcomes between high- and low-volume clinics or between static and outreach clinic sites, as originally intended, nor by type of counseling.

Finally, qualitative data from the SSIs and FGDs are from a small, non-random sample of MC clients, parents, and guardians. Clients and parents/guardians were recruited from several participating clinics in Lusaka and represented a convenience sample of the first people agreeing to participate. It is possible that those who decided to be interviewed were biased in favor of MC and wanted to share their positive experiences, yet it is equally plausible that those interviewed were more likely to be dissatisfied and agreed to be interviewed in order to air their grievances. Therefore, findings should be interpreted as illustrative of the types of experiences men and adolescents are having, rather than representative of the broader client population.

RESULTS

Background and demographics are presented separately for each study component (quantitative comprehension assessment, SSIs, FGDs, and key informant interviews). Quantitative and qualitative results are then presented together, where relevant, according to the specific stage of the MC process, as follows:

1. Decisionmaking process;
2. Counseling;
3. Comprehension;
4. Informed consent;
5. Procedure and recovery;
6. Healing and wound care; and
7. Client input on service delivery.

Findings related to decisionmaking, counseling, comprehension, and informed consent (Steps 1–4) include both quantitative and qualitative data, whereas data on procedure and recovery, healing and wound care, and client satisfaction and recommendations (Steps 5–7) was collected in the qualitative interviews only.

BACKGROUND DEMOGRAPHICS

Quantitative Comprehension Assessment

A total of 426 MC clients (311 adults, 115 adolescents) participated in the comprehension assessment. Upon review of the preliminary results, however, it emerged that, contrary to the protocol, some clients had been interviewed for the study prior to completing MC counseling procedures. Because it was not possible to assess the type of counseling offered to clients, only clients who had one-on-one counseling and/or CT (with or without group counseling) were included in the primary analysis (n = 228). The reduced sample was sufficient for answering the primary research question: can at least 90 percent of clients pass the comprehension test (score ≥ 80 percent). However, the reduced sample was not sufficient for statistically evaluating scores between high- and low-volume clinics, nor between static and outreach sites, and provided reduced power (71.8 percent) for comparing adults and adolescents.

The majority of the comprehension assessment clients had completed secondary education and more than 90 percent passed both numeracy (91.7 percent) and literacy (99.1 percent) tests, reflecting higher than average literacy rates compared to the general population (74.1 percent) as reported by the 2007 Zambian DHS (CSO 2009). The average age was 22.6 years old (25.7 years, adults; 15.4 years, adolescents) and most participants had never been married. Tribal distribution was mixed, with Bemba having the greatest representation (23.3 percent). (Detailed demographic information can be found in Appendix C, Table 1.)

Semi-structured Interviews with MC Clients

Semi-structured interviews were conducted seven days post-MC with 64 clients (34 adults and 30 adolescents); however, due to problems with two adolescent transcripts, only 28 adolescents were included in the analysis. The majority of the respondents were single (59 percent of adults; 97 percent of adolescents) and averaged 21.4 years of age. Approximately 80 percent of the adults had completed at least upper secondary school and 24 percent had completed some post-secondary education. Most adolescents were currently enrolled in junior or upper secondary school; one adolescent reported having stopped school after Grade 5. The majority (60 percent) of interviews were conducted in English. English mixed with either Bemba or Nyanja was used in 24 percent of interviews, and Nyanja only was used in 16 percent of interviews. (Detailed demographic information can be found in Appendix C, Table 2.)

Focus Group Discussions with Parents/Guardians

Six FGDs were conducted among 36 parents and guardians of adolescents aged 13–17. Each FGD had six participants, with a mixture of males and females, and a variety of relationships to the children. (For details on FGD members, see Appendix C, Table 3.)

Key Informant Interviews

Interviews were conducted with 13, predominantly male, key informants from religious and educational institutions, youth organizations, leadership from compounds in urban Lusaka, MC service delivery NGOs, and an ethics committee member. (Details can be found in Appendix C, Table 4).

DECISIONMAKING PROCESS

Information Sources

MC clients, parents, and guardians reported first hearing about male circumcision from a range of sources (see Appendix D, Figures 1–4 for details). Among MC clients participating in the quantitative comprehension assessment (n = 228), adults cited friends (63 percent) and the media (50 percent) most frequently, whereas the majority of adolescents cited their parents (61 percent); 11 percent of clients said they had been referred by an SFH mobilizer. MC clients who participated in SSIs (n = 62) learned about MC at school, from parents or other family members, and the media, but most said that a close friend who had recently been circumcised led them to choose MC.

> *At first I heard at school, then even at college when we went for a seminar—they were talking about circumcision, but I never took it serious. Then I also heard it from friends, they were saying they have gone for MC, so I also decided to go for it.*
>
> Adult client, aged 26, Kafue, Group MC counseling and CT

Traditional circumcision was most commonly cited by parents and guardians in **FGDs** as the way they had first learned about MC, whether or not it was part of their own background.

> *It's part of our tradition and I knew it from the time I was born…. They used to call it "d-day"—which means the death day…so I was waiting for the death day to come…so after that, I knew about male circumcision.*
>
> Brother of a 14-year-old boy, circumcised, YWCA

Motivating Factors

SSI participants generally cited several reasons for choosing MC; hygiene was mentioned most frequently by adults, and disease prevention (non-specific) by adolescents. Adults and some sexually experienced adolescents also said they had been motivated to protect their partners (current or future) from cervical cancer, to improve their sexual prowess or increase their partners' sexual pleasure, to prevent premature ejaculation, and to cure painful sex. Although very few clients emphasized HIV prevention as the reason for seeking MC, a thorough reading of transcripts indicated that HIV risk perception played a role in the decision for more than half of the SSI participants. Some clients seemed to downplay the HIV prevention aspect of MC because they understood that it is only partially protective, while others seemed to have difficulty admitting—to themselves or the interviewers—that they were at risk. One client said he was not worried about HIV, despite talking about it a lot during his interview.

First thing, it reduces the chances of contracting HIV and AIDS. And which is not a driving effect on me. Ah I decided to have it done; ah I think I did it more for health reason not prevention of HIV per se, ah but because it is healthier.

Adult client, aged 26, Kara, Group MC counseling only

Many **parents/guardians who chose MC** for their sons said it was for hygiene and disease prevention. Several respondents said their children had gone for MC and then told them after the fact, but that they were supportive of the decision. Two parents said they had chosen to have their sons circumcised so they would have a better chance of attracting a wife or would make better husbands when they got married in the future. Although many parents/guardians did not talk about HIV/STI prevention specifically, an HIV-positive mother spoke poignantly about wanting her sons to be protected from HIV, even though she knew that it was only partially protective.

Sometimes we could sit down and wonder, but me I am this positive and have this status…. If I take them [for HIV testing] and then they are positive, I will die. Let me be sick alone and not my children. So when I heard of this [MC] program, I said this is the right time…the young brother was saying, mummy I will not go for it, then I told him that sweetie do it for me, not for yourself but for me....

Mother of a 16-year-old boy, circumcised, YWCA

For **parents/guardians who chose not to circumcise** their children, the most commonly cited reason was that it was not a part of their tradition, as described in detail below. Many parents also cited fear of death or serious complications; respondents from Kafue seemed to be particularly terrified because a child had recently died during MC at Kafue District Hospital.[2] Several respondents expressed a lack of confidence in the skill of MC providers.

If people are not professionals, they may use the same laser to two boys, then this other boy may be HIV infected, it will even infect the other boy who is OK. So these are the accidents I think can occur in these circumcisions.

Aunt of a 17-year-old boy, not circumcised, Kudu

Several parents/guardians had not chosen MC, saying their children were old enough to make their own decisions, and that they (female relatives) could not care for the wound. One adolescent's aunt, who is his guardian, said:

We are looking at 13 years to 17 years—these boys can make their own decisions already…to force my son to go for MC if he is not ready…it is not possible. Two, cleaning of the wound—it's to be done by the owner, or the father or uncle…me, I am the mother, it's difficult to take care of a big boy, according to tradition, it's taboo.

Aunt of a 17-year-old boy, not circumcised, Kudu

[2] Parents/guardians reported that a seven-year-old child had gone for medical MC and had died—either due to the anesthesia or some other allergic reaction. The FGD moderator noted that it had been difficult to recruit respondents for the Kafue FGDs because of this incident.

Finally, several parents were concerned that MC would lead to promiscuity.

> *If my son asks the reason why I am taking him for MC, I will tell him that the risks of contracting sexual diseases will reduce…it's like I am now encouraging him to be promiscuous.*
>
> Father of a 15-year-old boy, not circumcised, Kudu

Impact of Traditional MC

Traditional MC, which was spontaneously mentioned by about half of the MC clients (adults and adolescents) in SSIs, and by the majority of FGD respondents, seemed to have both positive and negative influences on the decision to undergo MC. One adult client said he looked forward to improved sexual prowess because his friend, who had been traditionally circumcised, always had a certain "sexual class." Another adult said his brother-in-law and his girlfriend, both from circumcising tribes, had encouraged him to go for MC to lower his risk of diseases.

A few MC clients (one adult and two adolescents) and parents/guardians from circumcising tribes, and several key informants discussed a movement toward merging traditional and clinical MC. Clients and parents/guardians said that although circumcision was part of their tradition, medical MC had been chosen because it was safer and less costly. Several key informants explained that often groups of children are taken by tribal elders for medical MC, after which they continue with the rest of the rituals associated with traditional circumcision.

> *I just wanted to do it under surgical, meaning coming here where they observe some precautions as far as diseases are concerned. Because under tradition, there are a lot of risks, the same knife they are using to maybe 10 or 100 people….*
>
> Brother of a 14-year-old boy, circumcised, YWCA

> *My father wanted me to go for the traditional one, then my mother refused and said there was no money for them to pay for me, so my mother then advised me to go to the hospital because it was free.*
>
> Adolescent client, aged 13, Kafue, Group MC counseling and CT

> *They still retain the traditional part—many of them now want their child to be circumcised in a medical centre, then they continue with the traditional elsewhere.*
>
> Male key informant, MC provider,
> University Teaching Hospital (UTH), Lusaka

For many adolescent clients, knowledge of traditional circumcision seemed to have led to heightened anxiety about MC, including fear of excessive pain and bleeding, fear of death, and worry that the lengthy wound healing would preclude school or work for many months.

My first reaction [to MC] was, like I said, I can't do it…because people die, come on…if you take it more traditionally, people usually die with such kind of stuff, because the bleeding thing—if you are not told how to keep it, you can easily lose blood.

Adolescent client, aged 17, Kudu, Group MC counseling only

Traditional MC seemed to prompt the greatest concern among parents/guardians who chose not to circumcise their sons. Several respondents from non-circumcising tribes said that even discussing MC is taboo; others simply stated that MC was out of the question because it was not part of their tradition. Key informants commented that traditional MC was sometimes a barrier to medical MC, particularly among less-educated Zambians.

I am refusing as a parent because according to our tradition, we don't do circumcision. So there is no way I can accept my son, just because it's [a] new generation….

Father of a 13-year-old boy, not circumcised, Kudu

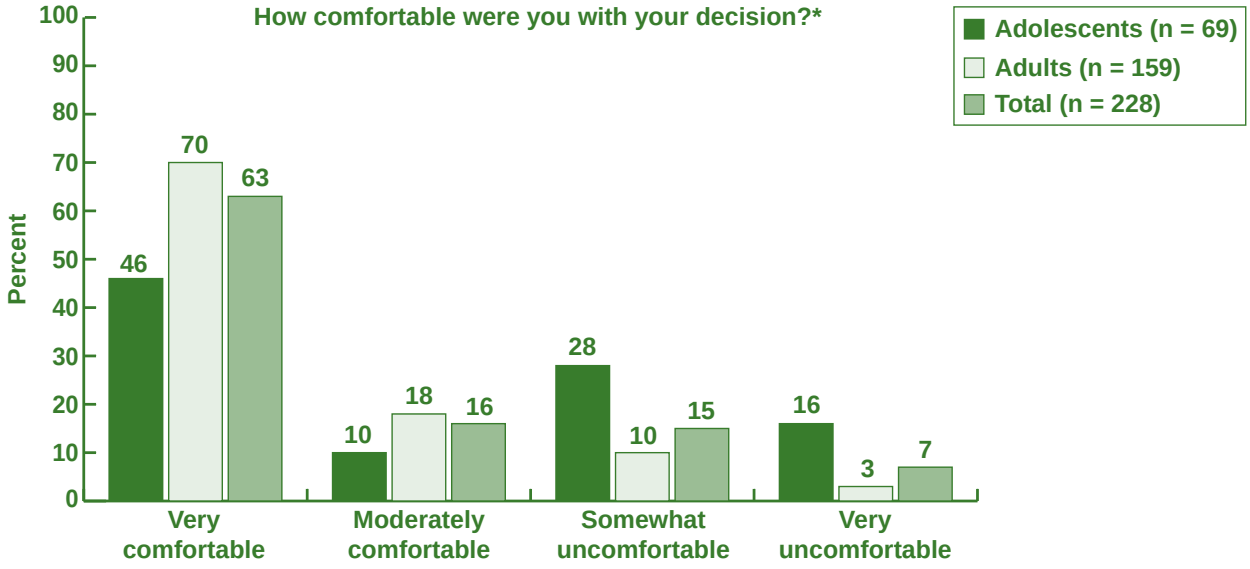
There are some communities that are saying, no, circumcision is a tradition and when you talk about it to them, they don't even want to hear anything about male circumcision, they consider it as if it's a taboo.

Male key informant, MC counselor, Kudu

On the other hand, some parents/guardians indicated that rather than actively refusing circumcision, they had not felt well-enough informed to make a proper decision, because MC was not part of their tradition. Some of these parents/guardians opted against MC because of fears that were exacerbated due to their limited knowledge of traditional circumcision, including a father who had heard that someone had died during traditional circumcision, saying "He died because it was traditionally done at the pit muganda, so as a result, that gave me fear and I noticed that [MC] was not good."

Decision Comfort

Figure 3. Decision comfort reported by quantitative comprehension assessment of participants, by age group and overall (n = 228)



*Responses were significantly different between adults and adolescents (Chi-square, p-value < 0.000).

Clients participating in the **quantitative comprehension assessment** were asked several questions about their decision to undergo MC before responding to the true/false test. As shown in Figure 3, the majority of participants (63 percent) reported being very comfortable with the decision to undergo MC. Statistically significant differences were noted between adults and adolescents, however, with more adolescents reporting being somewhat or very uncomfortable about the decision—44 percent versus 13 percent. Most clients (73 percent) reported that they had made their final decision prior to coming to the clinic on the day of the MC procedure, with more than two-thirds saying they felt they could change their minds (see Appendix D, Figures 6 and 7 for more detail).

Many **adult SSI participants** said that it had been difficult to choose MC, saying they were afraid of the pain or lacked sufficient information, particularly about risks and benefits of the procedure. Adult clients talked about how they had needed time to research MC, to consult with friends and family, and, ultimately, meet with MC counselors to decide if MC was right for them. One 18-year-old Lunda from a tribe practicing traditional circumcision explained that his uncle, with whom he lived, had made the decision for him to go for MC. The client himself had been against MC initially for religious reasons and concerns about impact on his activities, but had ultimately decided to have the procedure after encouragement from his father and other family members.

In the first place, I didn't want to get circumcised, reason being I take my Bible as my code of conduct…. And second, I am in Grade 12…. I am [a] predetermined person so I had a plan that by this time I should be through with the syllabus and for that reason I didn't want to be circumcised and then I was convinced by my father to come for circumcision because it is a privilege to be circumcised because, one, to be clean and hygienic purposes, and for pleasure.

Adult client, aged 18, YWCA, Group MC counseling and CT

More than two-thirds of **adolescent SSI participants** reported that undergoing MC had been their choice; the majority of these adolescents said they had discussed the decision with their parents and had received their approval or permission, with fewer saying they had gone on their own without their parents' prior knowledge. A number of adolescents said their parents had suggested MC, and they had agreed, whereas one adolescent had to convince his father to let him go for MC.

It was my idea…[but] I had to ask him if it was okay with him, because I can't just make a decision without him knowing….

Adolescent client, aged 17, Kudu, Group MC counseling and CT

I made this decision because I heard of the benefits…but my father was refusing that you can't go there, giving some reasons, but I was determined, telling myself that it's my life, I think these things will benefit me in future, so that's how I started talking about it and at last he said okay, I will take you.

Adolescent client, aged 17, Kudu, Group MC counseling only

Several adolescents explained that it had been their parents' decision for them to be circumcised and that, although they had not initially wanted to undergo MC, they had agreed to it and reflected that it had been the right decision. One 14-year-old boy, despite articulating the benefits of MC (disease prevention), was still upset one week after the procedure and described how his father had pressured him.

…I never wanted to, to be circumcised…I thought it was very painful…I didn't even know much about it, I never used to even think about it, since he [father] just told me and he left it just there, never talked about it again. He [father] was insisting that I should go for the operation. (So how did that make you feel?) Bad…I didn't want it…. (He became very emotional at this point and his eyes became reddish.)

Adolescent client, aged 14, YWCA, Counseling type unknown

Although many **SSI participants** said it had been a difficult decision, nearly everyone said they had felt comfortable with the decision to undergo MC. A number of clients, however, acknowledged that even though they were comfortable with the decision, they were still nervous about potential complications, pain, and how well they would handle the procedure and healing process.

I was very comfortable…when I made up my mind I was comfortable and I had concluded every possible option.

Adult client, aged 25, UNZA, Group MC counseling only

I would say that I was comfortable and never had any pressured.…the only fear I had was on the story I had of a child who died while they were still operating on him.

Adult client, aged 18, Kafue, Group MC counseling only

In contrast to the quantitative comprehension assessment participants, almost all of the adult SSI clients, and the adolescents who were asked, said that they did not feel they could have changed their minds once they had made the decision to undergo MC. However, it was clear from the interviews that clients (except for the few adolescents mentioned above) had made the decision for themselves, with many specifically saying they had not been pressured or coerced. Instead, it seemed that most clients had made a commitment to go through with the procedure, and it had not occurred to them to change their minds.

I wanted this, like for two years, now I can't just stop when I am going, so I had to face the consequences.

Adult client, aged 18, Kudu, Group MC counseling and CT

No, I never felt any pressure—it was my own choice, from the bottom of my heart and it was one of the resolutions for 2010 that I must do this thing.

Adult client, aged 35, Kudu, Group MC counseling only

A few clients indicated that changing their minds would have disappointed someone—usually the person who had encouraged them to get circumcised. Several clients said that changing their minds would have been a sign of cowardice; either they would have felt ashamed of themselves or they feared they would have been accused of being a coward by others.

…I could have been disappointed to myself, then especially my girlfriend because she had put up a good fight, she encouraged me, she wanted me to go for male circumcision.

Adult client, aged 18, YWCA, Group MC counseling and CT

I would say it was my own choice, but there was also some pressure…my friends would be asking why I have decided not to go after all the discussions we had… they would really be disappointed and I would have felt so ashamed.

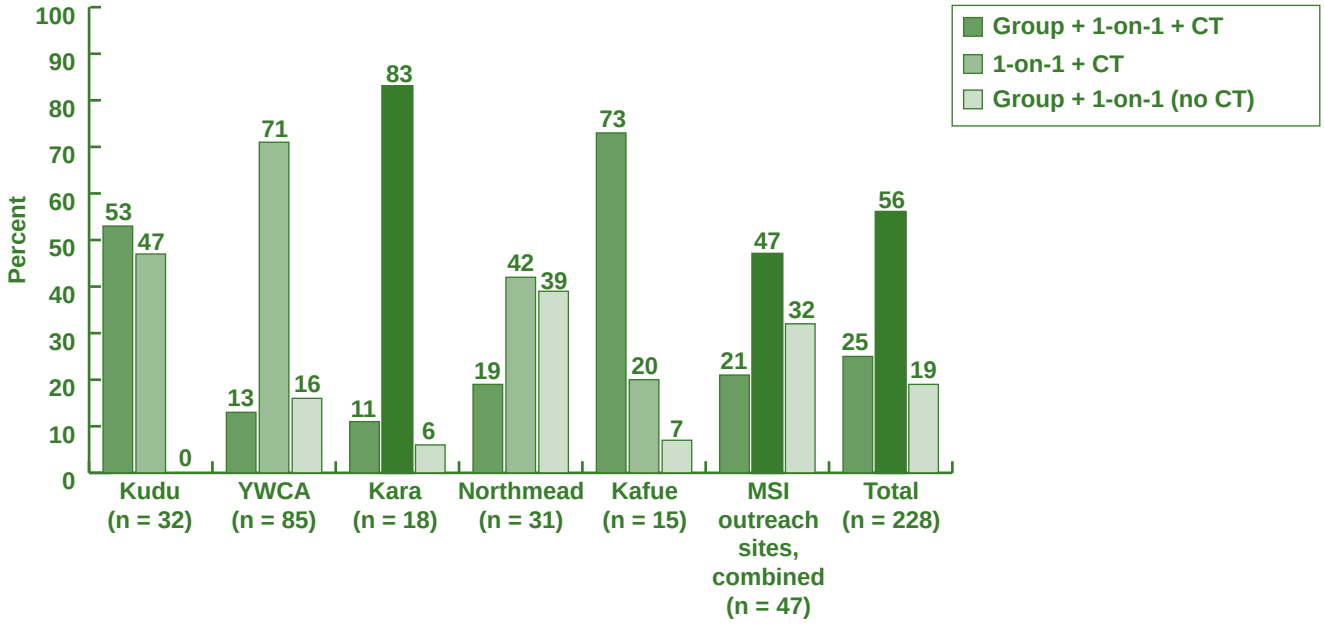
Adult client, aged 18, Kafue, Counseling type unknown

COUNSELING

Type of Counseling Received

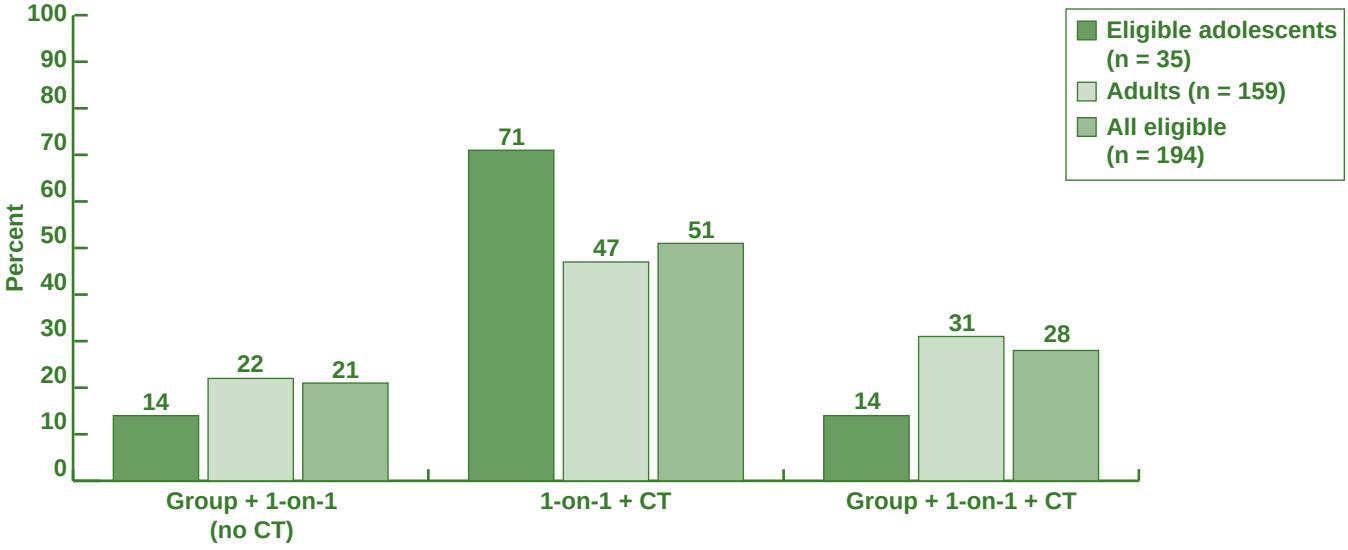
The counseling package recommended by the MC Partnership includes a group education session and one-on-one MC counseling plus voluntary counseling and testing for HIV for clients who are 16 and older. Figure 4 illustrates the counseling package reported to have been received by MC clients who participated in the **quantitative comprehension assessment**; one-quarter reported receiving the recommended package—group and one-on-one MC counseling, plus CT. Of the 194 clients who were eligible for CT, 40.2 percent (44 percent of adults; 22.9 percent of 16–17-year-old adolescents) reported having had CT (data not shown). As indicated in Figure 5, 31 percent of adults compared to only 14 percent of eligible adolescents had the recommended counseling package.

Figure 4. Type of counseling reported by MC clients participating in the quantitative comprehension assessment (adults and adolescents combined), by site (n = 228)



Note: Data do not add up to 100 percent because clients could receive multiple types of counseling.

Figure 5. Counseling package received by quantitative comprehension assessment participants, by age group, and overall (n = 228)



The MC counseling process was explored in depth with SSI participants, although not all clients were asked specifically to enumerate the type of counseling they had received (group, one-on-one with or without CT). In the cases where interviewers probed, approximately one-quarter of clients (adults and adolescents) reported having had both group and one-on-one/CT counseling whereas approximately half of clients reported only meeting in a group.

Comfort and Rapport

The vast majority of **SSI participants** reported feeling comfortable with counselors. One adult, however, who said he had felt comfortable in general, noted that the counselor had joked around too much when discussing the impact of MC on sexual intercourse and sexual pleasure.

> *The only problem with the counselor—he was just too jovial so he was just joking a lot saying, you know the benefits are that the dick is always clean and when having sex with a girl you can enjoy….*
>
> Adult client, aged 21, Beit Cure, Group MC counseling only

A few adolescents had been uncomfortable during the discussion of sexual activity, although most said that counselors were professional and straightforward. Only one adolescent complained, saying:

> *I just did not feel good hearing the counselor saying that you should [have] been having sex, it was like I was been suspected of having sex but I have never done it before.*
>
> Adolescent client, aged 14, Kafue, Group MC counseling and CT

Reassurance against Fears

An important theme that emerged was how counseling eased clients' fears. Twelve participants (seven adolescents and five adults) said they had been nervous, scared, or anxious before coming for MC, and spontaneously explained how the counseling process had greatly reduced or eliminated their fears. A number of clients indicated that getting concrete information during counseling led to the alleviation of their fears.

> *I was a little bit afraid but when I entered the counseling room I was there and everything was changed….the information helped me a lot, because before I was afraid but after that information I felt cooled, because I was encouraged there.*
>
> Adolescent client, aged 17, Kudu, Counseling type unknown

Impact on Decisionmaking

Nearly all of the adults and most adolescents said that counseling had helped them to affirm or make a final decision to undergo MC. (Several adolescents were not asked the question when it became clear that the decision had not been theirs.) In particular, the majority of clients reported that the risks and benefits of MC had been presented adequately.

> *I think I got all the information I needed because before we got circumcised…we should understand that it's painful and there are situations and circumstances where the wound takes longer to heal… So, I had a chance to think about everything.*
>
> Adult client, aged 21, UNZA, Group MC counseling only

The majority of clients said all of their questions had been answered, with many clients commenting that they had no questions because the counseling had been so thorough.

> *The counselor explained well such that I, very few people had questions.*
>
> Adult client, aged 29, Kafue, Group MC counseling only

Very few clients said that they had not received sufficient information during counseling, including five who did not think risks and benefits had been thoroughly covered. One adult client noted, however, that he was comfortable with his decision because he had had enough information prior to coming for the MC procedure.

> *We didn't have that much information…. One hour is too short to convince a person that you have to do it. As for me, I came prepared. If it was my first time to come here…I couldn't have done it….*
>
> Adult client, aged 21, Beit Cure, Group MC counseling only

Complementary Nature of Group and One-on-one Counseling

Another theme that emerged was the complementary nature of group and one-on-one counseling. A number of clients noted that the group counseling session was helpful for the

camaraderie and support of knowing one is not alone. Clients also mentioned that group counseling was useful because other people might ask questions they had not thought of or were too embarrassed to ask. One drawback of group counseling, however, is that counselors may need to manage a discussion in multiple languages.

> *I was nervous but as I went through the session, I became calm. Yah because of the support of the other guys I was saying that ok I am not the only one going through this and based on what the counselor told us.*
>
> Adult client, aged 26, Kara, Group MC counseling only

Advantages of one-on-one counseling included not having to compete with assertive clients monopolizing group sessions, less anxiety talking than in a group setting, and not being embarrassed to ask sensitive questions.

> *It was going to be better if they did it one person at a time because certain questions are difficult to say when they are a lot of people around.*
>
> Adult client, aged 19, Kafue, Group MC counseling only

> *There was one man…asking a lot of questions, such that we cannot have a chance to ask.*
>
> Adolescent client, aged 16, Kafue, Group MC counseling only

Use of Visual Aids

Some clients noted the limitations of the wooden penis model for explaining the circumcision procedure and suggested that a video or PowerPoint presentation would be especially helpful for demonstrating the required steps of wound care.

> *I think they should, the teaching models, maybe they should put them on the PowerPoint…so that people should be seeing the process, how it is being done [rather] than bring a wood[en model].*
>
> Adult client, aged 35, Kudu, Group MC counseling only

> *Maybe they have a video tape, then they show how to clean a wound of circumcisions....*
>
> Adult client, aged 43, Kara, Group MC counseling only

Overall Impressions

All clients (31 adults, 21 adolescents) who were directly asked said the counselor had done a good job.

> *The attitude is good when they're counseling you, it's like it's a brother, it's a big brother and a small brother talking, so I think they're good.*
>
> Adolescent client, aged 15, YWCA, Group MC counseling and CT

Several clients qualified their responses by grading the counselor, or noting a specific area for improvement. One client gave the counselor a score of 75 percent, saying:

> *He was a little bit fast…I don't know whether we were too many or I think he has his own reasons why he was that fast…. Okay I can say he was just giving us the main points. He didn't shed more light on them. I was expecting him to shed more light on these points.*
>
> Adult client, aged 18, YWCA, Group MC counseling and CT

COMPREHENSION

Key Concepts in the MC Partnership Materials for Clients

Comprehension of key concepts, as outlined below, was evaluated quantitatively and qualitatively.

What is MC?

- MC is one of oldest, most common medical procedures, often done in traditional settings;
- MC can be performed from just after birth to adulthood, but newborn MC is simpler with quicker recovery and fewer complications;
- An injection of local anesthetic is used; MC can also be done with a general anesthetic (client asleep).

Benefits

- MC provides some, but not 100 percent, protection against HIV. Researchers estimate circumcised men are 60 percent less likely to get HIV, but it is still possible to get HIV/STIs after MC.
- Circumcised men are also less likely to get STIs like syphilis and chancroid;
- Women whose partners are circumcised are less likely to get cervical cancer;
- MC provides some protection against penile cancer and urinary tract infections in infants.

Risks

- MC is a surgical procedure with some risks;
- MC provided by a trained health care provider is a very safe procedure; complications are rare and most patients don't have any problems;
- Typical problems include: pain, bleeding, swelling, reaction to the medicine, infection.

MC procedure

- Important to know HIV status; MC not recommended for men who are HIV positive;
- Pre-operative physical exam necessary to make sure client is healthy;
- Injection given at base of penis so no pain felt during removal of foreskin.

Healing process

- Keep wound clean and dry until two-day follow-up visit;
- Take pain killers if needed; urination can help to alleviate painful erections;

- No sex/masturbation for six weeks post-MC or wound can be damaged/take longer to heal;
- MC does not give 100 percent protection—still important to protect with condom, abstinence, and being faithful to one partner.

Quantitative Comprehension Assessment Results

Most MC clients (88.6 percent) were able to pass the comprehension test with a score of 80 percent or better (see Figure 6), which, although less than the 90 percent hypothesized, was not a statistically significant difference ($p = 0.51$). Although a higher percentage of adolescents (89.9 percent) than adults (88.1 percent) passed the test, overall, Figure 7 indicates that significantly fewer adolescents than adults ($p < 0.05$) responded correctly to the two questions that posed the greatest problem for adolescents and adults, "Are there any risks to undergoing the MC surgery" and "All circumcised men are HIV negative" (see also Appendix E, Table 1).

Figure 6. Percentage of quantitative comprehension assessment clients passing the test (≥ 80 percent), by age group, and overall (n = 228)

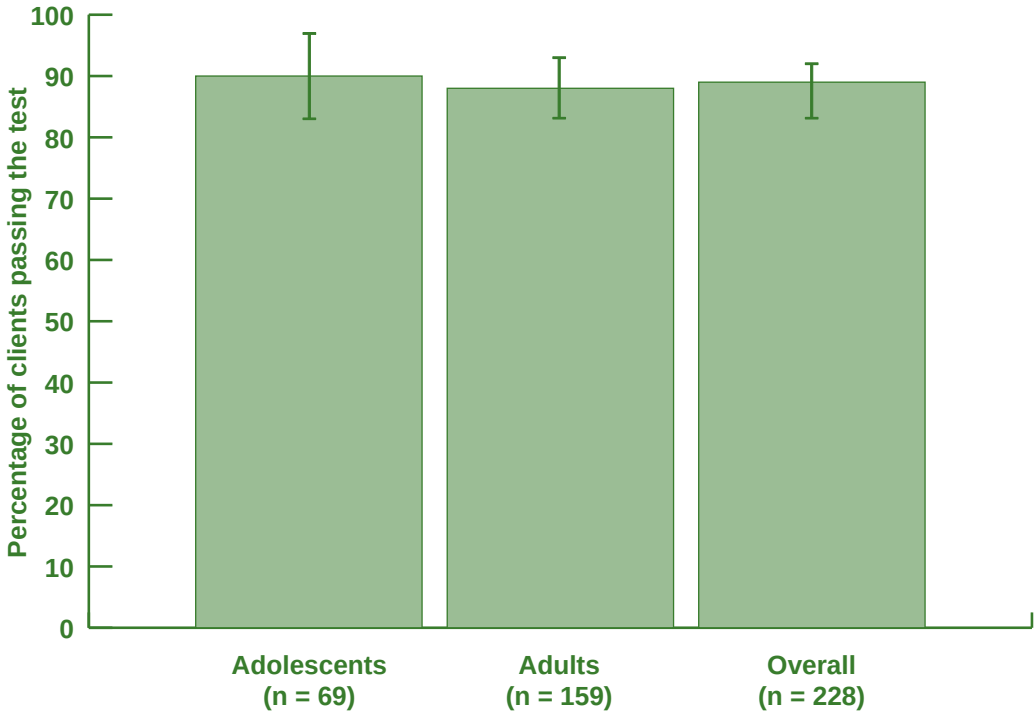
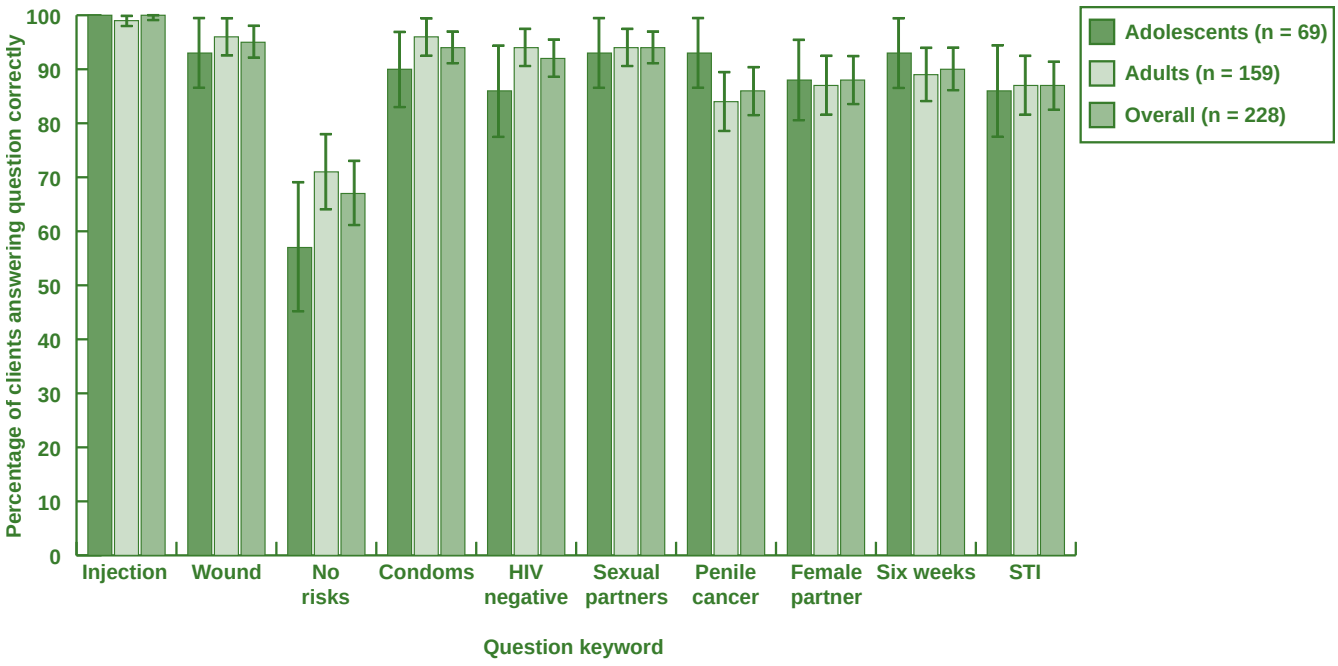


Figure 7. Percentage of quantitative comprehension assessment participants responding correctly to each of the 10 questions, by age group, and overall (n = 228)



Logistic regression was used to examine factors associated with passing the comprehension test (see Appendix E, Table 2). Three factors were significantly associated with increased odds of passing the test: clients who were able to read the entire sentence of the literacy test were six times more likely to pass compared to those who were not able to read some or all of the sentence (OR 6.09; 95 percent CI 1.52, 24.37); clients who had completed at least upper secondary education were nearly five times more likely to pass compared to clients who had completed junior secondary or less education (OR 4.70; 95 percent CI 1.32, 16.67); and clients counseled in the language in which they were most comfortable were nearly three times more likely to pass the test compared to those counseled in another language (OR 2.84; 95 percent CI 1.02, 7.94). In addition, clients circumcised at high-volume sites were approximately one-third as likely to pass the test compared to clients circumcised at low-volume sites, a finding with borderline significance ($p < 0.10$).

Concepts Explored in SSIs

Comprehension was also explored in the SSIs with MC clients; analysis includes spontaneous comments from MC clients in addition to responses to specific comprehension questions posed by the interviewers.

Risks

Almost all **SSI participants** recognized that there were risks associated with the MC procedure, although some respondents required substantial probing by interviewers

to understand what was meant by "risks." The majority of clients identified one or two risks, with fewer participants able to describe three or more potential risks (see Table 2). Adults were more likely to mention bleeding and complications, including death, whereas adolescents were more likely to emphasize infection due to improper wound care, and pain.

> *He said definitely pain was going to be there, yes, that's basically one of the things [risks] and then if you are sexually active…you have to make sure you go for probably six weeks without having sexual intercourse with any partner...and then one of the negative things that he said was that…before you are operated on there going to be an injection…that can also inflict a bit of pain, just a bit of pain for them to start the operation properly. Well the risks for example for other people, you know, we have different bodies like for others maybe the wound might take a bit of time to heal; others, it might just be quick….*
>
> Adult client, aged 30, Kudu, Counseling type unknown

Table 2. Risks of MC identified by adult and adolescent MC clients in SSIs (n = 62)

Risk	Adults (n = 34)	Adolescents (n = 28)	Total (n = 62)
Pain (of procedure, injection, healing)	8	19	27
Not caring for wound leads to infection	9	14	23
Bleeding	13	8	21
Complications, including death	11	5	16
Swelling	6	2	8
No sex (disadvantage)	4	1	5
Confuses risk of MC with reduced risk of HIV	4	1	5
Infection	2	3	5
Not caring for wound leads to prolonged healing	2	1	3
Allergy to anesthesia	1	1	2
Sex too soon could cause injury	1	0	1

Note: Participants could mention more than one risk.

One client reported that he was not told of any risks during counseling, but when the interviewer asked if he was aware of any risks from other sources, he was able to articulate several. Only four clients (three adolescents and one adult) could not list any risks, even with substantial probing. However, all four were clearly aware of potential risks although they may not have understood the word or concept of "risk" as applicable here. Each of the four talked about risks or complications that factored into their decisionmaking process (fear of complications) or that they encountered (pain, swelling) during the MC surgery or healing process.

Often, when asked to describe the risks they had been told about by counselors, clients listed one or two risks, but then talked about a different risk being most relevant to them. Many adolescents reported that proper wound care was emphasized during counseling, but said pain or bleeding had been more of a concern for them.

In several interviews, clients mentioned that risks were not discussed until coming to the clinic and that the information they received previously focused on the benefits only.

> *Ok, according to the conference [group counseling] which we had, many of us I think we were ignorant about the disadvantages. We were just concentrating on the advantages only. So when the counselor asked us about the disadvantages, no one answered…*
>
> Adult client, aged 21, YWCA, Group MC counseling and CT

Several participants considered partial HIV protection to be a risk rather than a benefit of MC. These men explained that adopting risky behaviors (multiple partners, not using condoms) would be a risk of undergoing MC if men were to think they are protected when they are not.

> *…not just because you have been circumcised...you are 100 percent [safe] from contracting diseases...[if] you start having sex anyhow and say you can't contract any disease, the risks are there for you...so if you abstain continue doing that.*
>
> Adult client, aged 32, Kudu, Group MC counseling only

Several participants described the process of weighing the risks and benefits of MC, noting that risks were short-lived and worth dealing with during the procedure or the healing period, compared to the long-term benefits.

> *I think I just wanted to be circumcised because I was convinced by my father and I was given the advantages, but having looked at the advantages and disadvantages, the advantages were more than the disadvantages.*
>
> Adult client, aged 18, YWCA, Group MC counseling and CT

Benefits

Benefits of MC were described spontaneously by most **SSI participants** throughout their interviews, particularly in the context of describing what had motivated them to get circumcised. Upon direct probing, most clients were able to list at least three benefits, although adolescents tended to list fewer benefits than adults. As shown in Table 3, the benefits mentioned most frequently were prevention of STIs and HIV.

> *Important benefits are that I can't get STDs and it reduced the risk of HIV/AIDS.*
>
> Adolescent client, aged 16, YWCA, Group MC counseling only

A few clients did not consider HIV prevention to be a benefit, because the protection provided by MC was only partial.

> *You will prevent yourself from contracting STIs, but you can still get AIDS if you still play around with girls.*
>
> Adolescent client, aged 13, Kafue, Group MC counseling and CT

Table 3. Benefits of MC reported by adult and adolescent clients in SSIs (n = 62)

Benefit	Adults (n = 34)	Adolescents (n = 28)	Total (n = 62)
(Partial) prevention of STI	30	27	57
(Partial) prevention of HIV	26	24	50
Hygiene	28	19	47
Protect partner from cervical cancer	21	5	26
Improve sexual performance/please partner	12	0	12
Prevent premature ejaculation/prolong erection	7	1	8
Enjoy sex more/reduce (his) pain during sex	6	2	8
Be healthy	4	0	4
Protect partner from STI/HIV	2	1	3
Prevent penile cancer	2	0	2
Cosmetic (looks nicer)	1	0	1
Free (no cost to do MC)	1	0	1
Painless procedure	1	0	1
Finding out he's HIV negative	1	0	1

Note: Participants could mention more than one benefit.

The majority of clients also listed hygiene as a benefit of MC; several clients equated improved hygiene with reduced susceptibility to disease and staying healthy.

> *I knew that if I got circumcised I wouldn't be contracting diseases and again I just felt that getting circumcised is a good thing…because there are times when certain diseases and lack of hygiene also causes diseases…so I just wanted to be clean.*
>
> Adolescent client, aged 15, YWCA, Group MC counseling and CT

Many clients—predominantly adults—listed prevention of cervical cancer as a benefit, believing that if they were circumcised, they were completely eliminating the potential for their partners to get cervical cancer. A few clients seemed to think they themselves could be infected with cervical cancer (rather than human papillomavirus).

> *Now if you are circumcised you can't have the cancer and you can't give the cancer. That is the benefit, yes.*
>
> Adult client, aged 21, Beit Cure, Group MC counseling only

Some adults also considered improved sexual performance, prevention of premature ejaculation, and increased pleasure or reduced pain during sex to be benefits of MC.

> *They said that it offers protection from STIs and that you will not be a "chicken releaser"…for example, if you are married and then you ejaculate very fast, then you are a chicken releaser.*
>
> Adult client, aged 18, Kafue, Counseling type unknown

Partial protection against HIV and STIs

All of the adult SSI participants, but only 19 (out of 28) adolescent SSI participants, seemed to understand that MC is not 100 percent protective against HIV. About two-thirds of the adults reported the correct level of protection against HIV (50–65 percent); some mentioned "60 percent," but seemed to be confused as to whether 60 percent of men were protected or at risk of getting HIV after MC; and a few adults and one adolescent thought the percentage of people protected was higher than the evidence has shown (70 percent or greater).

Although many clients were relatively accurate about the level of protection afforded by MC, many did not seem to understand how to translate the information to their own level of risk. Some clients seemed to believe their chances of getting HIV were now almost nil.

> *… Now since I am circumcised it means that…. For me to get the HIV and AIDS virus the chances are very slim, yah…*
>
> Adult client, aged 21, YWCA, Group MC counseling and CT

Only a few adults (and no adolescents) seemed to have a clear understanding of partial protection and risk of HIV infection post-MC.

> *Because when circumcised, it doesn't mean you can't get the virus… when they say 60 percent it doesn't mean 100 percent. You can be among the 40 percent who could get infected. Six out of ten, you can be the unlucky four. It's a game of chance, it's a game of dice, it's a game of poker—you never know. You could win or lose. Chances are good that you are going to succeed, but chances are also that you may not…you are going to be unlucky. So, that is why it's always good that you wear a condom.*
>
> Adult client, aged 29, MSI Northmead, Group MC counseling only

Adolescents, in particular, talked about the need to continue safer sex practices, yet seemed to believe they were now at low (versus "lower") risk of getting HIV, because they were circumcised.

> *They [counselors] also explained that circumcision is one way, but it doesn't say it's 100 percent, they said it's only 60 percent so you still have to wear a condom during sex, safe sex. I find that MC is there so in my future I wouldn't have to worry much about getting HIV and AIDS…and these sexually transmitted infections.*
>
> Adolescent client, aged 13, YWCA,
> Group and one-on-one MC counseling

Many clients seemed to be confused about the level of protection against STIs other than HIV. Some thought MC also reduced the risk of other STIs and cervical cancer by 60 percent, whereas others seemed to think that MC completely eliminated their risk of acquiring STIs and their partners' risk of cervical cancer, while only partially protecting against HIV.

Circumcision will only protect partners from cancer and other STIs disease, but HIV it will not protect you, you can still contract it.

Adult client, aged 35, Beit Cure,
CT before MC, Group MC counseling

Protection for female partners

When asked if MC protects female partners from getting HIV, nearly half of **SSI participants** (30 out of 62) either thought MC would protect their partners or said they did not know and had not been told anything about MC's effect on women.

Yes, I am told it protects [female partners] by 60 percent.

Adult client, aged 35, Kudu, Group MC counseling only

It would affect her well...because she wouldn't want to have HIV, no one would want to have HIV, so you find that a guy like me with my wife, my wife will feel more happy and comfortable that I went for MC, yes male circumcision, so she'll feel more comfortable that it won't be easy for her to get infected.

Adolescent client, aged 13, YWCA,
Group and one-on-one MC counseling

Only ten participants (9 adults, 1 adolescent) clearly understood that MC does not protect female partners against HIV.

From HIV….ahhh, women, it doesn't protect them. For instance, if a circumcised man has HIV a woman is not protected, but that 60 percent only applies to circumcised men.

Adult client, aged 30, YWCA, CT before MC, Group MC counseling

Unfortunately, interviewers did not probe in the other 22 interviews to see if participants understood that MC provides no direct protection against HIV for female partners.

Safer sex practices

The majority of SSI participants (33/34 adults; 23/28 adolescents) acknowledged the need to continue safer sex practices post-MC. Approximately half of the adults compared to only four adolescents spontaneously mentioned some aspect of safer sex during their interviews.

Condoms

Almost all clients (32/34 adults, 23/28 adolescents) mentioned the importance of using condoms even after circumcision. Adolescents who were not yet sexually active seemed to focus more on continued abstinence, although, with probing, most seemed to understand that MC would not eliminate the need for condoms in the future. In some cases, it was difficult to discern whether clients thought the need for condoms was temporary during the immediate post-healing period, or that condoms should be used even after healing.

… after having been circumcised, there is a grace period that they give that is six weeks…. After you have managed not to have sex for six weeks, after qualifying for that period, you can sleep using a condom. That is the only thing I can tell the guys that guys just use condoms for a while. ….

Adult client, aged 21, Beit Cure, Group MC counseling only

Partner reduction

More than half of the clients—both adults and adolescents—understood the importance of partner reduction after MC. Some noted that having multiple partners during healing would be especially risky. While more adults than adolescents tended to emphasize monogamy as a risk-reduction strategy, more adolescents than adults focused on continued abstinence after circumcision.

The amount [of protection from MC] is 60 percent, as I told you earlier on, and also if you want to add on 60 percent, you should have only one partner.

Adult client, aged 22, YWCA, Group MC counseling only

I have to continue with my same practice—no changing of girls, condoms… using protection or staying away from sex, that's the easiest one of all.

Adolescent client, aged 17, Kudu, Group MC counseling only

Some clients talked about MC as an opportunity to start a new life; a negative HIV test was seen as an inspiration to get circumcised and be even safer in the future.

…it is not to say that when you are circumcised that's when you increase the number of partners. It's actually the time you reduce the number [of] partners, because it will be very embarrassing to say that we are circumcised [and] after that you have HIV….

Adult client, aged 40, YWCA, CT before MC, Group MC counseling

Post-procedure abstinence

The majority of **adult SSI participants** indicated comprehension of the instruction to avoid sex and masturbation for at least six weeks following circumcision. This restriction was less important among the adolescents, many of whom said they were not yet sexually active. Reasons given by adults for avoiding sex during this period focused on promoting healing and avoiding disturbing the wound. Clients indicated that they understood that avoiding sex for six weeks would allow time for internal healing, even if pain had lessened and the external wound seemed to have healed.

If you don't religiously follow the weeks that you were given, may be you sleep with a girl, you would think you are safe. But inside...where the stitches were removed from is where the problem will come from. You will look at yourself on the outer part and think you are ok but inside there is where the problem is because you are forcing it. The wound is not fully healed inside there….

Adult client, aged 21, YWCA, Group MC counseling only

Clients described the main risk of sex during the healing period as being the risk of re-opening the wound due to friction. However, only one client explicitly acknowledged any elevated risks of HIV transmission during this period.

> *You should not have sex during the healing process. One, you can get HIV. Two, you cannot be healed fast when you are having sex with somebody…maybe you were almost healed, so that friction which goes on between the penis and vagina, it will cause some problems.*
>
> Adult client, aged 22, YWCA, Group MC counseling only

Acknowledging that people experience pain and healing differently, several clients expressed fear that six weeks might not actually be long enough, and seemed to be considering abstaining for longer. Some clients said that counselors had indicated that six weeks is a minimum, and that avoiding sex for longer might be even better.

> *We were told that it should be after six weeks [to resume sex] but I would tell him [friend] to even go up to two months so that you are really sure that you are heal[ed] because some people's wounds take time to heal …*
>
> Adult client, aged 22, YWCA, Group MC counseling only

However, some clients used the same reasoning (variability of individual experience) to suggest they might be ready to have sex earlier than six weeks post-MC, while other clients suggested they would tell others to follow the clinic instructions (avoid sex for at least six weeks) even if that was not what they themselves would do (have sex as soon as they feel ready).

> *… our libidos as men are different. Mine is very hard, so much so that I will tell the man whenever you feel you are okay, your wound is fine, go for it. Even if it is after one week or even if it's two weeks, don't wait for six weeks, that is what I would say honestly. But ah, speaking from the medical point of view, I think I would tell them to just follow the instructions that they have been told…*
>
> Adult client, aged 26, Kara, Group MC counseling only

INFORMED CONSENT

As outlined in the introduction, most elements in the informed consent process place the responsibility on the provider, as follows:

1. evaluation (by provider) of patient's decisionmaking capacity;
2. disclosure of relevant information (by provider) about the proposed procedure;
3. assessment (by provider) of a patient's comprehension of the information;
4. assurance (by provider) that the patient is voluntarily choosing to undergo the procedure;
5. authorization of the patient's decision by signing the IC form.

Although MC clients (and parents/guardians) only had control over the final step—authorization—their impressions about the IC form and process were important aspects of this evaluation. A broader picture of the MC IC process was gained by including perspectives from key informants.

Adult Clients' Perception of the MC IC Process

Adult clients predominantly described the signing of the MC IC form as an indication that they had decided they were ready to proceed with circumcision, and that they were confident with the decision. Some clients mentioned that they had understood and accepted the risks outlined by the counselor, while others emphasized that signing the form signified their willingness to proceed with the surgery. Upon probing, all adults and most adolescents confirmed that their agreement had been voluntary, without coercion or any threat to future services.[3]

> *It meant I was very serious with circumcision; I wanted the circumcision so it's what it meant to me.*
>
> Adult client, aged 32, Kara, Group MC counseling only

> *I think it was very important because it shows that I knew what I was getting myself into. I had been told of what the repercussions are, what the benefits are, and I was doing this out of my [own] hand, free will. No one was coercing me, no one was forcing me to do it, but I made an informed decision to say ok, I am going to do this. So signing that consent form was that I am doing this because I want to do this.*
>
> Adult client, aged 26, Kara, Group MC counseling only

[3] During the data collection period for this study, both SFH and MSI were using performance-based incentives to compensate and motivate community health promoters to encourage potential clients to walk into male circumcision centers.

Many clients indicated that signing the IC form signified that they would be personally responsible for any undesired outcomes arising from the surgery, and that no one else could be held accountable for any adverse events.

> *They just asked me some questions, now I didn't know the kind of the form I was signing. It was just a form. …It was like if maybe if anything happens, it is my fault, I came here on my own. Maybe like something went on during the operations. Maybe I lose a lot of blood, it's my fault. That is what I thought was the meaning of that form, so I should sign.*
>
> Adult client, aged 26, Beit Cure, Counseling type unknown

However, some clients appeared to have only hazy memories of signing a form, and were vague about what it had meant to them (see Appendix G, MC Client Intake Form). One client even indicated that the form had been signed on his behalf by the counselor.

Several key informants indicated that the concept of informed consent was poorly understood by clients and community members because of their low levels of education. Another stakeholder commented that it was the responsibility of the MC providers to acknowledge the obstacles to comprehension arising from low education levels and infrequent exposure to surgical consent, and thus to present the informed consent process in an appropriate manner befitting the client. A youth representative indicated that young clients might commonly sign without understanding, and indicated that the technical language used to describe the consent process presented a barrier to comprehension.

> *I think that a lot of the people that come for such services don't really understand what informed consent is. They will be ready to make a decision on the minimum of information availed to them as long as they are convinced that they would like to have this particular procedure…so it is really up to the provider to sit them down and give them all the information that is necessary for them to make a decision, regardless of how keen they are to have the procedure… you have to take into consideration the level of education of the people who are coming forward, their exposure to such facilities, and even to deduce the drive, the motivation for having the circumcision, all those have a role to play when they are making a decision, yah.*
>
> Male key informant, Member, UNZA Ethics Committee,UTH, Lusaka

> *Our communities, I think, do not understand. If you can explain what informed consent is to them in our local language, they should be able to know what is the importance of the concept. But if we are going to use terms like 'consent'…even learned people…they will have very little understanding.*
>
> Male key informant, Youth representative, Youth Forum Zambia

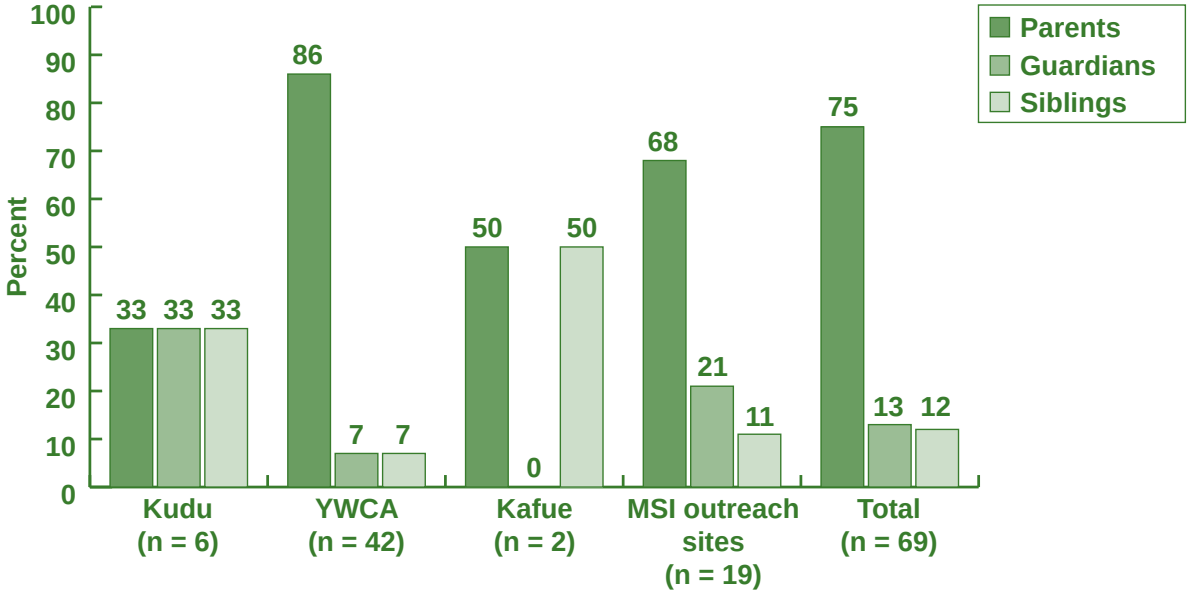
Consent for Adolescents

Zambian law requires that a parent or legal guardian must be present to formally give their written consent to the MC procedure for clients who are minors (under 18 years of age).

Verbal assent (agreement) of the minor may also be sought, but documentation is not officially required.

As shown in Figure 8, the majority of adolescents who participated in the quantitative comprehension assessment reported that a parent had signed the MC IC form.

Figure 8. Person who signed MC informed consent form as reported by adolescent participating in the quantitative comprehension assessment, by site (n = 69)



Similarly, most adolescents **SSI participants** reported they had been accompanied to the clinic on the day of the circumcision procedure by someone able to sign for them, usually a parent, but also older siblings, uncles, or cousins.

> *It was my uncle, my mother told him to go and represent her when it came to signing…I was happy because I knew that they will not say that I need anyone to sign for me, so that I get circumcised, because he was there for me.*
>
> Adolescent client, aged 13, Kafue, Group MC counseling and CT

> *If they could allow anyone to sign for himself, I would have done that but he [older brother] was just there to sign for me, the decision was mine.*
>
> Adolescent client, aged 16, Kafue, Group MC counseling and CT

However, several 16–17-year-olds reported that they had arrived at the clinic either alone or with friends, and had proceeded with the circumcision without being asked for additional permission from a parent or legal guardian. Some key informants indicated awareness that adolescent clients were regarded as too young to provide consent to surgery on their own, whereas others asserted that community knowledge of the requirement that minors be accompanied to the clinic by a parent or guardian (over 21) was limited. An MC service

provider pointed out that inexperience (both institutionally and individually) was a potential reason for some of the inconsistencies in applying the informed consent process among youths.

> *… I think over time as more sites become more experienced, am sure when the community become more aware, we are going to strike a very good balance, so it is a thing that will take a bit of time just as we have had with other surgical procedures.*
>
> Male key informant, MC provider, UTH

At the facility level, it was evident from interviews with key informants that the legal requirements of consent for minors were either not well understood or were being implemented inconsistently at various MC clinic sites. Clinic staff indicated that the age threshold for consenting to the circumcision of a minor were not well known in the community, and was potentially discordant with traditional norms related to parent-child relationships and decisionmaking. As a result, MC counselors administering the informed consent process reported difficulties in implementing the legal requirements for youth consent. One source of confusion, explained by a current MC provider, may be that the consent procedures were still being developed and refined as MC was being scaled up. An official from the Ministry of Health's Ethics Committee admitted to difficulties and inconsistencies in the implementation of the law and was one of several key informants calling for more attention to documenting the assent of the minor. However, other key informants from the community strongly asserted the traditional rights of the parent to make decisions overruling their children if they feel it is in their best interests.

> *The majority age in Zambia is 18 years [which is] not too well known, because in the village even a boy of 18 or 22 years is still a child, the parents will still want to know, because I have seen even adults saying 'No, I can't sign, let me wait for my uncle to come,' so there we still have a lot of work to do to educate the communities.*
>
> Female key informant, Nun, Catholic Church Secretariate, Lusaka

> *We emphasize that…they should have assent before you can consider the parental consent. …The minor will have to live with these consequences for the rest of their lives you know, so they will have to understand exactly is happening from the onset.*
>
> Male key informant, Member, UNZA Ethics Committee, UTH, Lusaka

> *They [children] should follow what their parents want them to do, because they themselves might not be able to see the benefit or even understand the benefits, but as a parent I would be able to appreciate the benefits, so I strongly feel a child is a child, therefore should be silent on issues of health.*
>
> Male key informant, Chairman,
> Ward Development Committee, Urban Lusaka

A key informant pointed out the importance of explaining the procedure to the child, even if his consent is not formally required, saying:

> *…I feel for someone who is 10 years old, you can find out the view of that child but maybe I need to have a better explanation to [tell] the child because the child first and foremost won't understand the precaution; you talked to the fear which will be there in the child—I am going to be cut, I will feel pain—so those are the things you see; so mainly a child would object, but not knowing what you are trying to do for his future of course….*
>
> Male key informant, Social Welfare Officer,
> Ministry of Community Development and Social Services, Urban Lusaka

While some key informants felt MC surgery is no different from any other surgical procedure and ought to have the same stringent consent requirements, others made the case for relaxing the consent process for MC because of its elective and preventative nature, and because it is a straightforward procedure.

> *Male circumcision doesn't pose any danger to human life, but these other operations you sign to say if the person dies, well, it is okay....*
>
> Male key informant, Chairman,
> Ward Development Committee, Urban Lusaka

In contrast, an MC provider cited some of the identical factors as justification for making the consent procedures increasingly rigorous, saying:

> *The consent for minors in male circumcision presents some grey areas because the child has no disease and you are trying to prevent disease… We are trying to prevent a disease so the consent process must be more rigorous….*
>
> Male key informant, MC Provider, UTH

Another key informant suggested that the IC process was not well understood, because key elements may have been skipped in the effort to meet MC targets:

> *…some people might try to do short cuts because they want to achieve the targets they want, the donors who wants to say for all the money we want you to reach this targets so in that there [are] dangers….*
>
> Male key informant, Salvation Army,
> Public Relations Manager, Salvation Army Headquarters

Parent/Guardian Perceptions of Signing the Consent Form for Adolescents

Parents and guardians who had signed the IC forms for their sons emphasized understanding and acceptance of the MC procedure, with less explicit discussion of the concept of voluntary choice.

…so it was more like a go-ahead, telling the doctors or whoever was operating [on] the children to say go ahead now, because we understand. It is for our own benefit and for our children.

Mother of a 16-year-old boy, circumcised, YWCA

Similar to comments from adult clients, many parents seemed to be under the impression that consenting to the MC surgery meant accepting full responsibility for any and all consequences, exonerating the service provider of any liability in the event of an adverse outcome.

It meant that whatever situation my son will be found in, I will bear the consequences.

Father of a 15-year-old boy, circumcised, Kudu

Other parents indicated that the IC process was an opportunity to formally seek comfort and reassurance for their worries about the surgery, invoking the roles of fear, trust, and prayer.

I did not fear anything because I had signed everything beforehand.

Father of a 13-year-old boy, circumcised, Kudu

PROCEDURE AND RECOVERY

Preparation for Procedure

All except two **SSI participants** (one adult, one adolescent) said that MC counseling had prepared them adequately for the procedure.

> *According to what they told me and when I was in the theatre, it was enough… they will inject you with a needle; you will feel the first one, like the pain, but it won't be much. Thereafter, you won't feel the second…that's how I was told and that's what happened.*
>
> Adult client, aged 18, Kudu, Group MC counseling and CT

Despite saying they had been prepared, however, some clients said they had been surprised by multiple injections, local versus general anesthesia, and the procedure taking longer than expected.

Anesthesia

Adolescent and adult clients both said that the injection of anesthetic was painful, with many stating that it had been the most difficult part of the procedure. Several adult and adolescent clients complained that they had not been prepared for so many injections, in a process that took a long time, and expressed a preference for a single, quick, long-lasting injection.

> *The injection[s] they give to prevent the pain. Those are really something else. You experience the first one, then the [next] one, and so on. It's really painful, so if they can [do] just one injection then like it takes away all the feeling, I think that will be great.*
>
> Adult client, aged 21, UNZA, Group MC counseling only

> *She told us that they were only going to give us two injections on the bottom and on the upper part, but to my fate they were…five, she should have told me to the truth to better prepare me.*
>
> Adolescent client, aged 17, Kudu, Group MC counseling and CT

One client described how the idea of the injection was such a powerful disincentive that:

> *A lot of people do not go for circumcision for fear of the injection.*
>
> Adult client, aged 19, Kudu, Counseling type unknown

Several clients said topical or oral routes of administration would have been preferable to an injection at such a sensitive site. Others said they would have preferred receiving a general anesthetic for the duration of the surgical procedure.

Maybe if they can introduce some other oral medicine to stop the pain, penis from feeling anything when they are circumcising because that is the most thing that people fear, injection.

Adult client, aged 22, Kudu, Group MC counseling only

They just have like to make someone sleep completely like the way they do at when you are going for the operation… so that he will not feel that pain.

Adult client, aged 21, YWCA, Group MC counseling and CT

Surgery

Several adult and adolescent clients expressed surprise that, following the administration of the anesthetic, they had not experienced any pain during the removal of the foreskin. Most clients reported that the actual cutting had been the easiest part of the procedure for them.

When I was going there the only thing on my mind was that I was going to feel pain, but to my surprise there was no pain at all, I just heard the doctor say I have finished.

Adolescent client, aged 16, Kudu, Group MC counseling and CT

For other clients, however, descriptions of their perceptions of pain indicated that the amount of anesthetic provided for the procedure had not been sufficient. Some clients stated that the procedure had taken so long that the anesthetic had begun to wear off, with a number of clients reporting that the suturing had been one of the most difficult parts.

Towards the end of the operation I think the anesthetic started to wear off, so I could feel them stitching.

Adult client, aged 25, UNZA, Group MC counseling only

Many clients requested a longer-lasting anesthetic and others suggested a stronger dosage be given before the procedure started.

There should be an improvement on the drug dosage, so that at least when you are going through an operation you don't feel that itching…others may even grab the one who is doing the operation (laughter).

Adult client, aged 40, MSI Northmead,
Group MC counseling only

When they where operating on me, at a certain point I started feeling the pain and I told the doctor that I think I can feel some pain. I didn't know if it's the slowness of them or that's the way it is, but at a certain point there was some pain and I am sure they had to inject some more medicine to neutralize that pain….

Adult client, aged 35, Beit Cure,
CT before MC, Group MC counseling

Recovery

While some clients felt that they had not been well-prepared to expect the pain that occurred immediately following the surgery, others indicated that the level of pain experienced post-surgery had been manageable.

> *The same after you are done, when the foreskin has just been cut, then you get into the recovery room where the power of the medicine [anesthetic] is done. After I went in there, I fell down [fainted]. After I slept, that is when I recovered.*
>
> Adult client, aged 21, YWCA, Group MC counseling only

> *Since I got circumcised, I only felt pain once after circumcision… it was just like an hour, that's all. At the end, I was not feeling any pain but only, you have to be careful, just sitting the whole day, so I got used to it.*
>
> Adolescent client, aged 16, YWCA, Group MC counseling only

Clients emphasized the importance of ensuring the availability of an adequate supply of analgesic drugs for all clients, from the completion of the surgery when the anesthetic began to wear off, through the post-surgical recovery period at home.

> *After the whole procedure is done, maybe [there] should be a strong pain killer, because immediately after the whole surgical operation is done, there is a considerable amount of pain that one experiences. Maybe that's the only part I would advise to improve upon.*
>
> Adult client, aged 25, UNZA, Group MC counseling only

HEALING

MC Partnership counseling materials emphasize the following instructions for healing and wound care:

- Rest for one or two days post-surgery
- If bathing, don't let dressing get wet
- Return to the clinic two days post-procedure for the dressing to be removed
- Don't pull or scratch the wound/sutures
- Do not masturbate or have sexual intercourse for six weeks
- Drink water to pass urine to relieve painful erections
- Contact the clinic if there are any problems

Table 4 lists the instructions mentioned by **SSI participants**. Resting and restricting movement immediately following circumcision were excluded from the table, because this instruction was typically taken for granted given the level of pain and discomfort clients were experiencing.

Table 4. Frequency of healing and wound care instructions mentioned by adult and adolescent clients in semi-structured interviews (n = 62)

	Adults (n = 34)	Adolescents (n = 28)	Total (n = 62)
Use Lifebuoy soap	33	21	54
Wash 2–3 times per day	21	17	38
No sex (or masturbation) for 6 weeks	24	10	34
Drink water	20	6	26
AE contact instructions	14	12	26
Avoid getting wound wet	9	5	14
Face wound upwards	7	5	12

Client comments reflected high levels of motivation in carrying out the instructions that they had received at the clinic, as they emphasized the importance of keeping the wound clean. Some clients, particularly adolescents, seemed to indicate that fear of consequences (such as infection [rotting], pain, complications) played a role in motivating them to follow instructions.

> *If you are not keeping your sore clean it might get rotten and pus might come out and before the sore is healed whenever you have sex you might damage your penis.*
>
> Adolescent client, aged 16, Kudu, Group MC counseling and CT

One adolescent client, however, seemed to be confused between the counselor's wound care instructions and the risks/benefits of MC, saying:

> *The counselor said that if you don't clean it you will rot or even have cancer.*
>
> Adolescent client, aged 14, Kafue, Group MC counseling and CT

Virtually all adult clients and the majority of the adolescent clients talked about the importance of using Lifebuoy soap to keep the wound clean. Although Lifebuoy soap was acknowledged as readily available, one adult client suggested that the clinics should provide it to make sure that clients use the right product. And, although awareness of the Lifebuoy soap recommendation was high, there was limited understanding of why that particular brand was preferred. One client even suggested that Lifebuoy had been responsible for an infection, saying:

> *Maybe if somebody was to explain properly why other disinfectant chemicals or medicines are not recommended except Lifebuoy. Because everybody has been asking Why Lifebuoy? Because when you are using Lifebuoy, there is something which is coming like pus, and it is like the same Lifebuoy where they did the wound (stitches), the Lifebuoy goes inside and when you are washing it, it comes out like pus the following day. To me I don't think it is very much good.*
>
> Adult client, aged 30, YWCA, CT before MC, Group MC counseling

Clients also talked about the need for frequent washing of the wound, approximately 2 to 3 times per day, although one adult seemed to have been confused, saying:

> *We were [told]…that we need to be cleaning it twice a week.*
>
> Adult client, aged 26, Kafue, Group MC counseling and CT

Some clients mentioned using bare hands, without any cloth (although they did not focus on washing their hands). The need to change underwear often was also frequently mentioned.

> *I was told to bath[e] it using non-medicated soap, Lifebuoy preferably. We were told to gently wash it with, you get and then you form up paste foam that is the same that you would use with the finger to clean around the wound…*
>
> Adult client, aged 26, Kara, Group MC counseling only

Some clients seemed to want to tailor wound care to their individual circumstances. For example, one adult client described his preference for using cotton wool dipped in water to clean his wound, despite being told to use his bare hands, because he found it to be cleaner and easier. Avoiding getting the wound wet and facing the wound upwards were mentioned less frequently.

> *Because they told us how to take care of it, it's supposed to be up all the time, apart from when you are bathing…because if you leave it down you might bleed and also the under part might swell.*
>
> Adolescent client, aged 17, Kudu, Group MC counseling and CT

After cleaning it [the wound]…don't dress up. Wait until it's dry…

Adolescent client, aged 15, YWCA, Group MC counseling only

Many clients reported having been given wound care advice from family and friends. Suggestions that were compatible with clinic recommendations included warm water for cleaning, ice for numbing pain, exposing the wound to fresh air, and healthy eating; some adults also mentioned avoiding drinking alcohol. Several clients, however, reported that they had been told to use baby powder, "spirit" (alcohol), or other aids to dry out the wound. Those who reported discussing such invasive strategies with counselors indicated that they had been told to avoid them, although not all clients knew which advice to ignore.

Some clients reported that they had found it helpful to use salt water to clean their wound, while others acknowledged that they had been explicitly told not to use salt during counseling.

The wound, I was told about drinking a lot of water and urinating, and then about using only one soap, that is Lifebuoy and with just warm water, no other soap should be used, no spirit should be used, only that soap. Or else you can use salt, adding it to water... although salt I am afraid most of the time to use it, but it is very helpful.

Adult client, aged 35, Beit Cure, CT before MC, Group MC counseling

And I was told to, not here at the clinic, but home I was told to use salt. But I refused, that salt is not for putting on sores, it is for putting into the relish and yah.

Adult client, aged 21, Beit Cure, Group MC counseling only

The majority of clients reported that they had cared for the wound themselves, sometimes with practical support from household members. One adolescent client mentioned that his mother had paid a caregiver who had previously been circumcised to help him. Another adolescent indicated that family members, whose support was critical during the healing process, had not received instructions at the clinic, but from the client himself.

We just told him [father], like after we got home when we got circumcised we told him about the soap Lifebuoy…the green one has chemicals. We told him about the red one and he bought it for us, so when it's time to bath[e] he prepares water for us.

Adolescent client, aged 15, YWCA, Group MC counseling only

Clients acknowledged the importance of following instructions, despite individual variation.

As we come in numbers, so we were told the wound which I will be healed, it's not the same wound the other person will be healed, because it will depend [on] the way you will be cleaning it, while some will keep on bleeding while others they will won't…

Adult client, aged 43, Kara, Group MC counseling only

Despite the simplicity of specific instructions, a number of clients acknowledged that there were many steps to remember in the process. Some adolescents seemed to have been overwhelmed by the information and were confused trying to recall all the details they had received.

> *I can't remember some of the things, because the man said a lot of things.*
>
> Adolescent client, aged 14, MSI Northmead, MC counseling with father

One adult client indicated that although the instructions he had received from the counselor had been helpful, he would have appreciated having more information earlier when his fears of the arduous healing process might have influenced his decisionmaking.

> *I would have liked to know how the wound was supposed to be cared for. I only came to learn about it in the counseling session…. Because I thought it was another hard task....*
>
> Adult client, aged 18, Kafue, Group MC counseling only

Pain Management at Home

Several adult and adolescent **SSI participants** complained that Panado (paracetamol/acetaminophen) provided for the immediate post-surgery healing period was insufficiently strong, and requested something with a more powerful analgesic effect.

> *After circumcision, they should change the medicines they give, they shouldn't just give Panado. They should give us stronger pain killers.*
>
> Adult client, aged 26, Beit Cure, Counseling type unknown

Some clients complained of a shortage of pain killers at the clinic site and identified the need to strengthen supply systems to ensure that drug shortages are avoided.

> *Then there was a case when pain killers were not given enough, they can tell you that no you can come and get later or you can buy yourself. I think that one thing they should consider that the person is in pain, maybe the following day he may even fail to walk. So they need to provide enough pain killers….*
>
> Adult client, aged 21, UNZA, Group MC counseling only

Some clients sought a topical cream to administer at home after the surgery to promote healing.

> *I would really appreciate if there was like medicine that could be given for the people that are coming for, for MC, because after they operate on you...they put their own medicine, but I wish there could be some medicine that can be given to somebody to say, maybe while they are cleaning the wound, they can also apply this medicine around the penis for the wound to be healed fast.*
>
> Adult client, aged 30, Kudu, Counseling type unknown

The majority of adults and some adolescents mentioned being told to drink water to promote urination, which would help them to avoid painful erections during healing.

> *When the penis erects, those tightened stitches on you will be the position of being forced to come out, and that is when you experience a lot of pain. You can even cry if you are not strong enough. So to avoid that you need…some water and when you feel that it has erected (penis), you need to go and urinate… Even when you are urinating you would feel it, immediately when you are done urinating the pain reduces.*
>
> Adult client, aged 21, YWCA, Group MC counseling only

Yet some clients sought additional strategies for avoiding the pain of involuntary erections.

> *I think they have to introduce the pills which someone has to take when going for bed which will make the penis not to erect.*
>
> Adult client, aged 21, YWCA, Group MC counseling and CT

Adverse Events

When asked if they knew what to do in the event of complications during the healing process, fewer than half of the **SSI participants** felt confident contacting the MC provider or clinic site. Comments from several clients reflected confusion about whom to contact in case of an emergency, and when. Many clients were unsure of what constituted an adverse event (AE), including an adult from Kudu who indicated that he was not sure if he should seek help for bleeding and inability to urinate. On the other hand, one adult client from Beit Cure clearly described being helped when he returned to the clinic with excessive bleeding, and others indicated that they had phoned the doctor for help or reassurance after experiencing problems.

> *I took a walk for about 30 minutes but then I realize[d] that my penis got stuck somewhere in the bandage.… So I panicked I didn't know whether I was suppose to remove it or anything. So he [MC provider] is the first person I called. I was like what am to do—then he told me that I can remove the bandage, and if bleeds I should call him. If it doesn't bleed then [I] am fine, I can take a bath. So I removed slowly I never bled, so I called him and told him what happened, then he said you are fine you can take a bath.*
>
> Adult client, aged 29, MSI Northmead, Group MC counseling only

One client from UNZA said the clinic had run out of follow-up appointment cards, leaving clients without written contact details. A number of clients indicated that they sought advice from friends, relatives and colleagues who had already been circumcised. For example, a client from YWCA said:

> *Because I don't have any phone number from here whereby I can contact maybe the doctor or what. So I normally get to contact my friend who was already circumcised.*
>
> Adult client, aged 27, YWCA, Group MC counseling only

For adolescents experiencing an AE, the first point of contact was a parent or guardian who would provide permission or assistance before calling clinic staff.

> *You inform your parents and then your parents inform the doctor. If you're an adult you just call the doctor, the doctor will attend to you immediately, maybe if you can be treated that side at home he'll tell you through the phone.*
>
> Adolescent client, aged 13, YWCA, Group and one-on-one MC counseling

Post-Surgical Follow-up Visits

Most clients said their post-surgery follow-up visits had been helpful and reassuring.

> *Yes, they are being helpful. When I come, they [are] suppose[d] to see whether or not the wound is giving a problem. So as for me the time I came, I was told that it is ok, go and wash it. Then I came to complain to them on those areas where there are some sores and they told me that it is ok. It will be able to heal so quickly.*
>
> Adult client, aged 21, YWCA, Group MC counseling only

Although the majority of clients expressed satisfaction with the attention that they had received during their follow-up visits, a few clients complained that service providers were rushed and impersonal. Some clients complained that attention had been perfunctory and that the provider had not taken the time to talk as much as he wanted.

> *…she just came and checked you, then said okay, that's it, take good care of yourself, you should just be cleaning and go. Not like they allow you to ask, or they ask how are you feeling, how is the pain and how are you walking, how are keeping yourself?*
>
> Adult client, aged 21, Beit Cure, Group MC counseling only

Counseling Preparation

The majority of **SSI participants** said counseling had prepared them well for the requirements of wound care and what to expect during the healing process. Clients indicated that the instructions provided by the counselor had been helpful for learning what to do to keep the wound clean, and for addressing their fears about how the healing process would affect daily activities.

> *I had fear maybe it would take me so long to, for the wound to heal and that would delay me going to school…that information addressed my fears because the guy explained everything, so, that would make me change my mind.*
>
> Adolescent client, aged 15, YWCA, Group MC counseling and CT

We were told that the healing process takes about six weeks. So it can show signs of healing outside but inwards there can be slowly progress of healing so we should take our time. So that was a good assurance, at least one is aware of what he is going to go through and what he is facing, that was a good advice.

Adult client, aged 40, MSI Northmead, Group MC counseling only

Clients especially appreciated the frank discussion of the level of pain to expect during the healing process. Counselors who addressed the stages of healing—specifically, an acknowledgement that pain would lessen over time—seemed to have inspired confidence in the gradual healing process. Clients acknowledged that the counselor's predictions were accurate, which motivated them to continue following the instructions they had been given.

I think I followed what they told me. I am just seeing the change bit by bit. So the pain went, even when it erects these past two days I haven't received any pain as compared to these other days. So I have seen that according to what they have, they told me at the first review [follow-up visit], I have benefited.

Adult client, aged 21, YWCA, Group MC counseling and CT

Only two clients expressed strong dissatisfaction with the counselor's preparation, with one client complaining that:

I found out a lot about the healing process personally not through the clinic. For starters, I wasn't told about clothing. I felt that if I wear a boxer…my penis will have freedom of movement, but after [reading] that…it should have more like firm footing, so a brief would be nice. I wasn't told about that, so I went the same [day] and bought some briefs and have been comfortable with it.

Adult client, aged 29, MSI Northmead, Group MC counseling only

Experience Versus Expectation

More clients judged the healing process to have been easier than expected than harder, with one adult client saying it was exactly as he had expected. Clients who felt healing was going faster than expected focused on the visible signs of healing as they observed their wound. In addition, despite experiencing pain from involuntary erections, during bathing, or when cleaning the wound, many clients said the healing process had not been as painful as expected.

I was under the impression that it takes six weeks for me to see any results of healing but that was not the case. Six weeks are for the complete recovery which is what I have come to find out because this is just about a week and a couple of days and already I am healed and the stitches are falling off.

Adult client, aged 29, MSI Northmead, Group MC counseling only

There is a difference to what I expected, I thought maybe the wound would take long to heal, that I would bleed a lot but to my surprise the healing process is so fast.... It's not a difficult thing, it goes in stages, you would find that today you feel much better tomorrow you feel a bit of some pain, things change every day.

Adolescent client, aged 17, Kudu, Group MC counseling only

Those who judged the healing process to have been more difficult than expected focused primarily on the pain of involuntary erections. Clients described how an involuntary erection would cause the sutures to stretch out the still-healing wound, causing great pain and even sleepless nights.

Every time I had an erection I woke up because I felt pain…. So I had to get ice, I slept with ice in my bed. Whereby if it just wakes up I stand up and it went down, then I could breath. I think I slept at 30 minutes intervals. They should tell people that's going to happen. Because I didn't expect that.

Adult client, aged 29, MSI Northmead, Group MC counseling only

Several clients expressed frustration and impatience, feeling that the healing process was going too slowly, even when wound care and healing were judged to be proceeding well during follow-up visits.

According to my thinking, I thought healing will take a week or two weeks, that was the difference which I saw.... The difference is I was thinking that I will heal fast, but healing, I am healing slowly, I am healing well. So from today's reviews [follow-up visit], they said I should continue caring for myself as we were told.

Adult client, aged 32, Kudu, Group MC counseling only

In addition, some clients felt unprepared for the appearance of the wound, and the difficulty they would have manipulating the bandaging to urinate.

I'm just worried because as the stitches are falling off, the skin is not looking good, it is leaving some marks.

Adult client, aged 19, Kafue, Group MC counseling only

And it is funny, even when urinating, you will find that I wouldn't be urinating in one direction, it is like a sprinkler, it will go everywhere! So…actually I made a funnel, there is no manual which told me how to do it, until I read that its actually normal for it to piss in a sprinkler direction because of the swelling and so forth, they didn't tell me that.

Adult client, aged 29, MSI Northmead, Group MC counseling only

CLIENT INPUT ON SERVICE DELIVERY

MC clients who took part in SSIs, FGD participants, and key informants were asked their opinions about how to improve service delivery. Many respondents also provided spontaneous recommendations.

Community Sensitization

Expand outreach

Clients commented that current outreach and mass media efforts to publicize the availability of MC services should be expanded, including posters, dramas, and radio. One participant suggested strategically prioritizing areas where prevalence of sexual risk behaviors was perceived to be high. Another emphasized the importance of messaging from an early age through schools.

> *Maybe go in schools start talking about it…talk to boys about MC, so the boys will also tell their parents so that will also be helpful to the world, it would reduce the amount of the spread of HIV....*
>
> Adolescent client, aged 13, YWCA, Group and one-on-one MC counseling

One client suggested that inviting men who have undergone circumcision to talk about their own experiences during the outreach process would be very helpful to prospective clients.

> *Us who have been circumcised, maybe we should have an organization in the compound there where I came from like the way I have got a group, the circumcised group and that we can distribute information to the guys… and then you go out there and you explain to people, the people are, are very comfortable with looking to a person who was circumcised, they see the product of the program.*
>
> Adult client, aged 35, Beit Cure, CT before MC, Group MC counseling

Clients recommended that outreach information should stress the confidentiality of MC services, provide a general timeframe for recovery (such as how many days off work), and inform people that MC services are free. In addition, some clients said that more information during the outreach process about wound care and healing would help to allay fears among prospective clients. Last, several clients noted that it was important to explain what was going to happen to the foreskin after the procedure.

> *About the foreskin; there they should properly educate people because I would say outside, out there people are not well informed about, the, the skin, even me as I am here...having been operated on I still fail to explain when people said what about if those people are Satanist and they don't know where they are taking your skin….*
>
> Adult client, aged 35, Beit Cure, CT before MC, Group MC counseling

Quality of Care

Surgical procedure

Overall, clients seemed pleased with the quality of care provided during the surgical procedure. Clients seemed appreciative that staff members were willing and able to answer questions during the surgery; however, they expressed mixed opinions as to whether they wanted to receive more explanation about what was happening during the procedure itself.

> *Well the doctor…he was very open, even when he was operating on me I was asking questions and it was a very friendly debate.*
>
> Adult client, aged 35, Beit Cure, CT before MC, Group MC counseling

> *I think one thing they should have done is they should have explained the use of some machines they were using when assessing me because I didn't know those machines and their names….*
>
> Adult client, aged 18, YWCA, Group MC counseling and CT

One client expressed discomfort with a student observer who he felt had not acted appropriately in front of clients awaiting surgery, saying:

> *There was a student there, who I could see…even if I was outside, the student could come out from the inside shaking his head, calling his friend on the phone saying that this thing is bad and so on. This was quite discouraging on the part of those doing it for the first time.*
>
> Adult client, aged 29, MSI Northmead, Group MC counseling only

Clinic capacity and staff training

Many clients from various sites reported that facilities were overloaded, with potential clients being turned away because of lack of service availability. Some clients reported that they had been turned away at their first visit to the MC clinic, and had to return to the clinic (some even multiple times) in order to be circumcised. Clients made various suggestions about the need to expand service coverage by providing more clinics at more sites, employing more staff, and operating on more days.

> *I would just say on the manpower, there is less manpower and in the Society for Family Health many people are bouncing back.*
>
> Adult client, aged 22, Kudu, Group MC counseling only

> *The MC providers should be operating every day, not once in a week, and we need MC providers that are based here in Kafue. So that any person can go at any time, because sometimes there are so many people that come for MC such that they have to send some back home.*
>
> Adult client, aged 29, Kafue, Group MC counseling only

Meanwhile, a dissenting voice from Kudu reported that the focus on expanding clinic capacity to perform as many circumcisions as possible to meet clinic targets was compromising the quality of the services provided to individual clients. He suggested limiting the number of clients to assure quality of care for each client, saying:

> *I think first they need to have a limited number of people they need to operate on daily basis…because if you can see for example a certain number of people, you will take your time on each and every patient. So I think that is very important because I know of some places, they just go on operating on whoever comes so they just do it quickly and harsh, which is, which is very bad so that is one way in which they can improve service delivery.*
>
> Adult client, aged 30, Kudu, Counseling type unknown

A number of clients also emphasized the need to ensure that staff are appropriately supervised until they have become sufficiently experienced.

> *They have to make sure that they put qualified staff. The people who know what they are doing. And those people who are starting the procedures should be supervised until they are conversant with the operations. Because by so doing they will reduce the pains which are experienced by the patients.*
>
> Adult client, aged 30, YWCA, CT before MC, Group MC counseling

Uneasiness with female staff

Many MC clients (adults and adolescents) were initially surprised to see female staff, explaining that, for reasons of modesty, the idea of women seeing and touching their genitals was inappropriate.

> *They should remove the women in handling circumcision, let the male staff handle it… It is just not appropriate for women to be touching men's penis, it's not normal according to human nature.*
>
> Adult client, aged 18, Kafue, Counseling type unknown

Although the most pronounced feelings of discomfort related predominantly to female doctors and nurses in the operating theatre, other clients indicated that their discomfort extended to discussing MC with a female counselor.

> *I cannot be comfortable with a lady, no matter how frank…because ok most of the women besides, they are that age of my mother and I would not feel comfortable speaking those things with my mother.*
>
> Adult client, aged 22, Kudu, Group MC counseling only

> *We will be open to our fellow men, not women. The male will be more understanding than a female because you are similar.*
>
> Adult client, aged 19, Kafue, Group MC counseling only

Despite the initial surprise, difficulties, and resistance, some clients seemed to have ultimately accepted the idea of female staff. Some men said they would have appreciated advanced warning, so that they would not have been surprised upon entering the operating theatre.

> *You know it is not easy anywhere in our African culture to talk about these things especially if you're a grown man…. And later on having a woman look at my manhood, but when you sit down then you think this is my health, this is for my benefit, there is nothing sexual attached to this, and then the fear just disappeared.*
>
> Adult client, aged 26, Kara, Group MC counseling only

Clinic Access and Logistics

Clinic time management

A common complaint from adult and adolescent clients at a range of sites was that the MC process took much too long. Having made the difficult decision to undergo circumcision and often traveling long distances to reach the clinic, clients were disappointed to spend so much time waiting. Some suggested that such prolonged waits, where one often witnessed clients emerging from the procedure in obvious pain, led potential clients to become fearful, change their minds about MC, and leave the clinic. Other clients were aware that potential clients had been turned away once the clinic reached capacity. Some clients suggested streamlining the process, perhaps by having more staff or scheduling the counseling and the procedure on different days.

> *I would love it if we did counseling on another day, so that when the day come for you to do circumcision you just go and get circumcised and you go back. Because the longer someone waits at the clinic the more anxious they get.*
>
> Adult client, aged 25, UNZA, Group MC counseling only

Some clients were annoyed that people had not been seen in the order in which they had arrived, and recommended strict adherence to a first-come, first-served system. Another suggestion to avoid long waits was the introduction of an appointment system.

> *The staff should make sure that they stick to the first-come first-served. Because the first-come first-served is not enforced. There is just spoken but it is not enforced.*
>
> Adult client, aged 30, YWCA, CT before MC, Group MC counseling

> *It's very slow, because they don't have like computers there to use, as in just to make things quick, because there are many people who go there, there like many people have been like registering, when you go there it's full.*
>
> Adolescent client, aged 17, YWCA, Group MC counseling and CT

Complaints about waiting time at the clinic also extended to follow-up visits.

> *There is only one room for the review [post-MC follow-up] so you have to wait for a long time since there are many people, so they should improve on that.*
>
> Adolescent client, aged 15, YWCA, Group MC counseling only

Transport assistance to increase access

Several clients from a range of clinics reported that they had travelled long distances and that transport assistance would have helped to access care—both on the day of the MC procedure and for follow-up visits. Clients noted that transport assistance would have been especially helpful immediately after the procedure when they were in pain and mobility was limited.

> *They should render some transport because…when going home I am sure I had some pains here and there, so there maybe in future they can have transport to take people to their places.*
>
> Adult client, aged 35, Beit Cure, CT before MC, Group MC counseling

> *Like when you go for male circumcision there, they tell you that they will give you a lift back home, but on the second day of circumcising you, that is when they come to remove the bandages…you need to be bringing the people in vehicles because you will find that maybe it is the usual program that they bring you with cars and you don't have transport to come back home.*
>
> Adolescent client, aged 16, Kafue, Group MC counseling only

KEY FINDINGS

Decisionmaking Process

- ***Clients seek MC for hygiene and disease prevention***—clients and parents/guardians seek MC for improved hygiene, which is often related to disease prevention in general. HIV prevention is not often cited as the primary reason for choosing MC, perhaps because clients, parents, and guardians are aware that it is only partially protective. On the other hand, some parents opt against MC for fear that it will lead their sons to become promiscuous.
- ***Word of mouth is the most common source of information about MC***—most clients (and parents/guardians) hear about male circumcision through friends and family, with mass media playing a lesser role; clinic outreach does not seem to have a big impact.[4]
- ***Clients choose MC prior to coming to the clinic***—choosing to undergo MC is often a lengthy and difficult decision, influenced by friends and family. Most clients have already made a firm choice by the time they come to the clinic for MC, and are committed to going through with the procedure, despite any lingering fears.
- ***Insufficient information in the community hampers decisionmaking***—clients would appreciate access to more information in the community (versus only at the clinic) about risks and benefits, the confidential nature of MC services, and the fact that MC is offered for free. More details about healing and wound care (particularly length of time and amount of pain to anticipate) would also be helpful for people when they are making a decision.
- ***Traditional MC has mixed impact on decisionmaking process***—many parents and guardians decide not to circumcise their children because it is not their tradition; in some cases, it is seen as taboo, whereas in other cases, parents from non-circumcising tribes do not feel well-enough informed about MC. The decisionmaking process is often drawn out due to fears related to traditional MC and insufficient information about the differences between traditional and medical MC. Clients (and parents/guardians) from circumcising tribes, however, are typically more knowledgeable about MC; many choose medical MC as a safer and less costly alternative to traditional circumcision now that clinical MC services are being rolled out.

Counseling

- ***Group education and on-on-one counseling are both important***—few clients receive both group and one-on-one MC counseling, despite their complementary nature. Group sessions provide camaraderie and support, and the opportunity to gain insights from other clients. One-on-one sessions offer the privacy for clients to ask potentially embarrassing questions, particularly related to sexual activity and risk.
- ***Volume of information may be too much for the day of MC procedure***—many clients know what to expect because they have learned about MC previously; however, for those who hear the details for the first time at the clinic, there is often too much information to absorb.

[4] Note that data collection had been completed before the media campaign was launched by the MC Partnership in October 2010.

- ***Clients seek more practical information***—clients would like practical information, especially concerning how long they will need to take off from work, and how quickly they can return to their usual level of activity. Clients would also appreciate advice about comfortable sleeping positions, dealing with the bandage during urination, and the appropriate type of underwear to use during healing.
- ***Managing expectations is an important part of counseling***—honest and open discussion of the level and duration of pain that can reasonably be expected from the MC surgery (and healing process) helps to manage client expectations. Clients prefer to know in advance that there will be multiple injections, that these will be painful, and that they will experience pain during healing. Such information engenders trust in the counselors, the providers, and the process as a whole.

Comprehension

- ***Most clients are able to pass (getting 8/10 questions correct) a true/false test of key concepts***—clients are more likely to respond correctly to questions related to concrete information, such as safer sex practices and wound care, whereas questions about more theoretical concepts, such as partial protection or risk, pose greater challenges.
- ***Clients understand the need for safer sex practices post-MC***—clients understand the need to continue safer sex practices—abstinence, fidelity, ongoing CT, condom use—after MC, primarily because they understand MC is only partially protective against HIV. Some clients view MC as an opportunity to start anew once they have tested negative for HIV.
- ***Clients are unaware of increased risk of HIV during six-week post-procedure period***—although all clients can articulate the need to abstain from sex during the six weeks after MC to allow for complete healing, there is a general lack of understanding that not following this instruction can increase HIV risk.
- ***"Risk" is not well understood***—many clients say they are unaware of the risks of the MC surgery until coming to the clinic, yet the majority of clients have no trouble articulating their fear of pain, bleeding, lengthy wound healing, or complications. Clients often seem to be confused by the term "risk" because it is used both in reference to lowered chances of getting HIV and in describing possible consequences of the MC surgery itself.
- ***Confusion about "partial protection"***—although adults (clients, parents/guardians) know MC is not 100 percent protective against HIV, the degree to which people understand the level of actual protection varies. Among adolescents, the concept of "partial protection" is not well understood. Some adults and adolescents are confused about MC's protection against other STIs and cervical cancer; many people believe that circumcision eliminates the chance of their getting STIs or of their partner getting cervical cancer, whereas others believe the 60 percent reduced risk applies to HIV as well as to other STIs and to cervical cancer.
- ***Clients are unclear about protection for female partners***—many clients do not understand that MC does not protect female partners against HIV. Some clients incorrectly believe that being circumcised means an HIV-positive man cannot infect his partner. Others mistakenly think that circumcision eliminates the risk of cervical cancer and that this must also mean they cannot give their partners other STIs, including HIV. A minority of clients understand that MC only protects women indirectly, because if a man is protected by MC from getting HIV, then he won't infect his partner either.

Informed Consent

- ***MC is voluntary***—there is no evidence that clients are being coerced into undergoing MC. Although clients have generally made a decision before coming to the clinic, it is clear that MC service providers, especially counselors, emphasize that it is a personal decision, up to each individual.
- ***Lack of clarity about IC form***—although clients understand the voluntary nature of circumcision, there is a lack of clarity about the meaning of the informed consent form (see Appendix G). Some clients have no recollection of informed consent, as their signature on a form is just one of many procedures on the day of the MC surgery. Other clients, however, seem to equate signing the consent form with assuming all risks associated with the surgery, which could be one reason that clients express confusion about how to manage adverse events post-MC (see below).
- ***Inconsistent consent procedures for minors***—legal requirements for consent among minors do not seem to be well-understood, and are inconsistently implemented. Minors (under 18 years old) seem to be allowed to proceed with circumcision without written parental/guardian consent; many parents/guardians agree that by the time adolescents reach a certain age, they are old enough to make decisions for themselves. However, it is also apparent that some adolescents who do not want to go for MC are pressured by a parent/guardian, without their active assent.

Procedure and Recovery

- ***Clients unprepared for level of pain experienced***—although clients have a good understanding of what they will experience during the MC surgery, many clients are completely unprepared for the level of pain experienced during injection of the anesthetic prior to surgery. Many clients perceive the injection as the most difficult aspect of the process, particularly because they are surprised by the multiple injections administered. In some cases, anesthesia wears off too soon, leaving clients vulnerable to pain during suturing or shortly after the procedure is over.
- ***Lack of effective pain medication post-procedure***—clients would like more effective pain medication in the immediate post-recovery period. In addition, some clients leave the clinic without any pain tablets because clinics run out of supplies.

Healing

- ***Clients have mixed experiences with healing process***—some clients find the healing process to be easier and faster than they had anticipated because they understood that it takes six weeks to be healed (and start having sex again). Other clients are surprised to find the process to be more arduous than anticipated, despite knowing that it would take several weeks for complete healing. In particular, although clients are aware that drinking water to promote urination will help alleviate pain of involuntary erections, many would appreciate additional strategies, particularly to help them sleep at night.
- ***Clients are unsure about how to manage complications***—clients are told that they may experience pain, swelling, and bleeding but they do not always know the difference between what is expected and what is considered a complication. In addition, because clients view giving their consent as taking responsibility for any adverse outcomes, they may believe they have no recourse because they agreed to the procedure and accepted potential consequences.

RECOMMENDATIONS

Recommendations from preliminary findings have been incorporated into updated counselor training manuals by the MC Partnership and the MOH (see Appendix F). It is our hope that this extensive list of recommendations will provide useful information to support MC demand creation, strengthen the informed consent process, and improve service delivery.

Expand Outreach Messages

Informed consent starts with community sensitization. As documented in this study, the majority of clients have already made the decision to have MC before coming to the clinic. Therefore, it is critical to include key messages in community outreach and education campaigns to ensure that clients are making sound decisions, based on accurate information, and do not encounter surprises. The better informed clients are prior to coming to the clinic, the more realistic their expectations will be, which has benefits for both clients and service providers.

Balance presentation of risks and benefits

- ***Separate page for risks***—the client information booklets include a separate page on benefits, whereas risks are incorporated into the page describing what to expect from the procedure and from healing. A separate page may help clients focus more clearly on specific risks.
- ***Pain***—the client information booklet states "most patients don't have problems" (listing pain, bleeding, swelling, reaction to the medicine, and infection as typical problems), yet nearly all clients experience some level of pain before, during, or after the procedure. Clients would feel more prepared if there was an acknowledgement that most clients will experience some pain during the injection(s) of anesthesia or after the procedure and during healing.

Simplify information about partial protection

- ***Focus on "lower" versus "low" risk***—materials distributed and community sensitization should emphasize that chances of getting HIV and other STI are reduced, but not eliminated. In addition, materials and outreach should place more emphasis on the concept of reduced risk than on actual numbers. Materials should be clear that MC lowers the risk of HIV and other STIs and cervical cancer, with less emphasis on the findings from research showing MC to be 50–65 percent effective. Instead of separating HIV from other STIs and cervical cancer, convey the message that MC provides partial protection against several diseases and conditions.
- ***MC and women***—include information in all materials that MC does not protect women from HIV. Include information about increased risk of HIV—to males and their female partners (if one is HIV-positive)—if men resume sex before six weeks post-MC.

Include concrete details about healing

More specific information about healing during clinic outreach/education campaigns would be helpful, as lack of awareness about what to expect can impede clients' decisionmaking process.

- ***Length of recovery period***—clients are aware that it takes six week for complete wound healing, but it would be useful for them to know in advance how long they will need to take off from work (or school) and whether or not a medical certificate can be provided for their employer or school.
- ***Emphasize differences between traditional and medical MC***—because some clients anticipate lengthy and complicated wound healing from what they know about traditional MC, it would be helpful to explain that the wound is stitched after the foreskin is removed, which makes the healing period shorter with less chance of complications.

Include practical information about service delivery

- ***Clinic waiting time***—inform clients that they will need to spend several hours at the clinic on the day of the MC surgery. Currently, the short duration of the MC procedure is emphasized, which leads many clients to be surprised by the overall amount time spent at the clinic including registration, MC counseling, CT (if applicable), pre-operative exam, surgery and recovery, as well as waiting time between steps.
- ***Service providers***—build client confidence by emphasizing that all MC providers are trained professionals from Zambia and other countries; broaden awareness that many women, including professional counselors, nurses, and clinical officers, are involved in MC service delivery.
- ***Confidentiality***—stress that all services are confidential, including counseling, CT, and the results of physical examinations.
- ***Services are free of charge***—actively publicize availability of free services.

Enhance Counseling Process

Standardize group plus one-on-one counseling package

MC clinics should renew efforts to ensure that clients receive both group and one-on-one counseling whenever possible. Clients benefit tremendously from having the opportunity to discuss MC with a group of peers for camaraderie and exchange of information, while also having the chance to talk privately with a counselor about their own fears and questions. Strategies to consider include:

- ***Scheduling group education sessions before the day of MC surgery***—this could alleviate bottlenecks in service delivery and enable clients to undergo the surgery as quickly as possible.
- ***Using a video for group education***—a video could be shown in waiting rooms at fixed clinics or on laptops at outreach centers to standardize counseling and ensure that all clients get the same information. The use of a video for initial client education could also help to free up counselors' time to devote more of their effort to one-on-one counseling.

Improve counseling for adolescents

- ***Neutral tone***—group education sessions must address sex in a neutral, non-judgmental way to reflect the various stages of sexual activity among adolescents; adolescents who are not yet sexually active should not feel pressured to start having sex, and adolescents who have had prior experience should not feel embarrassed. Strategies for engendering comfort among adolescents might include:
  - Counseling adolescent clients separately from adult clients;
  - Allowing adolescents to talk privately with a counselor, without their parent or guardian; and
  - Having counselors acknowledge that some people may have had sex already and others may not, but that the information provided applies to everyone.
- ***Actively assess understanding***—employ participatory counseling/education sessions and engage youth to ensure they understand the information being provided.

Ensure clients understand that "partial protection" applies to STIs and cervical cancer

- ***Underscore partial protection against STIs***—because many clients are confused by the level of protection against HIV (60 percent), and believe they are 100 percent protected from getting other STIs, it may be more effective to de-emphasize partial protection against HIV and create a broader message that MC is partially protective against HIV and STIs for the clients, and against cervical cancer for their female partners.
- ***Emphasize that MC's protective effect against cervical cancer is greatest prior to sexual initiation***—messages should be refined so that clients understand that their partners will be less likely to get cervical cancer if the men were circumcised before sexual initiation. For men who have been sexually active, it is less clear how well MC reduces risk of HPV and, ultimately, cervical cancer. In addition, the older the female partner is, the less impact MC will have on reducing her risk of cervical cancer.

Emphasize that MC does not protect women from HIV

The majority of clients interviewed were unaware or unsure about the protection against HIV for female partners; few understood that MC protects partners only indirectly. Clients need to be informed that MC has no impact on women, and that having sex before being fully healed can put their partners (and themselves) at increased risk for HIV infection. Strategies for conveying this message include:

- Adding information on lack of protective effect on women to client booklet;
- Ensuring sufficient discussion about lack of protection during group and one-on-one counseling; and
- Emphasizing the importance of HIV testing before MC, because partners of HIV-positive men are at increased risk of HIV if men who are circumcised resume sex before six weeks.

Distinguish between "risks" of MC surgery and "reduced risk" of HIV/STI

Clients' comprehension of risk is critical to both the decisionmaking process prior to MC surgery and to successfully staying HIV negative after surgery. While "risk" is a complex concept to communicate to clients during the informed consent process, it is particularly difficult in the context of MC, where the term "risk" is used to describe potential negative consequences of the MC surgical procedure, as well as reduced chances of getting diseases as a result of MC.

- ***Explore use of different words or expressions to describe surgical risks vs. risk of HIV***—for example, it might be clearer to people if "chance" or "possibility" was used in relation to lowered chances of getting HIV, and "risk" was used in the context of the surgical procedure.
- ***Use analogies to help clients understand the concept of probability***—one client understood that if he was circumcised, there was a chance he could still get HIV, and that it was out of his control (unless he used condoms all the time). The client compared his chance to a game of luck, such as poker or lotto, which might be useful for helping other clients to understand the meaning of reduced risk of HIV.

Prepare clients for pain during procedure, recovery, and healing

Although counseling messages should continue to stress the diversity of possible client experiences, it is important for counselors to acknowledge that some clients will experience pain during the surgery, so that those who do experience high levels of pain will not lose their confidence in the MC providers and will continue to trust the MC clinic staff for follow-up care.

- ***Acknowledge clients' fears as risks***—many clients are able to articulate fears about the MC procedure or healing process, but don't equate them with risks of the procedure. Counseling can help individual clients deal with their fears and acknowledge the likelihood of specific risks.
- ***Prepare clients for multiple injections of anesthesia***—it is important to prepare clients for the pain they will experience during administration of anesthesia. Clients would appreciate a realistic picture of what to expect, including:
  - It is likely to require several injections to numb the penis;
  - The first injection is likely to be very painful; and
  - Once the anesthesia takes effect, clients should not experience pain during the procedure.
- ***Expand discussion of pain during healing***—Counselors should ensure to take time describing the gradual reduction of pain during the healing process. Clients who knew to expect pain and understood that it would disappear over time were better able to manage the experience.
- ***Stress the increased HIV risk from resumption of sex too soon***—counselors should inform clients that in addition to disturbing the wound, delaying healing, or potentially causing infection, there is evidence that HIV risk is increased during the immediate post-healing period—for men, if a female partner is infected with HIV and for female partners, if men are infected with HIV.

- ***Consider use of additional visual aids***—clients sometimes feel overwhelmed about remembering the steps of wound care. Illustrated information that reminds clients to keep the wound upright, how to wash, not to get the bandage wet, to drink water to prevent painful erections, and other steps would be helpful. In addition, some clients felt that a video showing the steps of wound care would help them remember what to do. Last, clients may be frightened by the sight of the healing wound—it would be helpful for clients to know how the wound will look during stages of healing.

Clarify instructions about adverse events

- ***Provide guidance for recognizing AEs***—make sure clients know how to recognize AEs. Clients are told to expect pain, bleeding, and swelling, but they have trouble distinguishing between what is and is not expected. If concrete indications could be developed, these would help clients know when they need to seek care. For example, clients could be told that if their pain is a certain number on a scale of 1 to 10 and lasts for more than a particular amount of time without relief from Panado, they should contact the provider. Another possibility is presenting clients with illustrations or photos of what the wound should or should not look like during healing.
- ***Contact details should be provided for all clients***—clients should know whom to contact; inadequate supplies of contact cards should be addressed and alternative methods should be considered. For example, clients could enter the contact number into their cell phone before leaving the clinic so they have immediate access to a provider.

Improve Aspects of the Informed Consent Process

Informed consent form

- ***Reinforce authorization of decision***—because clients are asked to sign the intake form while answering a variety of questions, many clients do not recall a particular point at which they have authorized their decision to undergo the MC surgery. Ideally, a separate IC form would be developed in the most common local languages. However, if it is not feasible or standard practice at clinics to have a separate IC form for clinical procedures, then it would help to reinforce the consent process by having a card or form that the provider could read with the client before he signs to reinforce that he understands the risks and benefits and is agreeing voluntarily to undergo MC.
- ***Ensure clients know they have recourse for AEs***—during the IC process, providers should ensure that clients understand that signing the IC form does not mean they cannot seek care and support if they experience adverse events post-MC.

Adolescent consent procedures

As evidenced by this study, the consent procedures for adolescents are not being implemented consistently. The following are recommendations for strengthening and standardizing the IC process for minors:

- ***Conduct refresher training for providers on age of consent (18 and older)***—the age of consent was recently lowered from 21 to 18, and many people in the community are unaware of the change. All providers involved in MC should be aware of who may choose MC on his own, and what permission is required for minors.

- ***Publicize consent regulations/requirements for minors during outreach***—it is important for communities to know that minors under 18 must have the written informed consent of a parent or legal guardian above 21.
- ***Seek assent from minors***—even if formal written documentation of a minor's consent is not required, it would be appropriate and practical to seek the assent of minors.
- ***Establish a mechanism for ensuring that adolescents who have concerns or are fearful receive counseling necessary for them to provide assent***—guidelines should be established for handling cases where a minor is not comfortable undergoing the MC procedure, either by providing additional counseling or by having the client meet with youth representatives.

APPENDIX A. STUDY OBJECTIVES, RESEARCH QUESTIONS, AND METHODS

Research questions	Quantitative methods—comprehension test		Qualitative methods—SSIs		Qualitative methods—FGDs		Qualitative methods—interviews with key informants
	Adults	Adole-scents	Adults	Adoles-cents	Parents who chose MC	Parents who did not choose MC	
Decisionmaking/ informed consent							
Why do adults choose to undergo MC?			✓				✓
How do adult males perceive signing the MC form?			✓				✓
How is the decision made for adolescents to undergo MC? To what extent are adolescents involved in the decision to undergo MC? To what extent are their parents/guardians involved?				✓	✓	✓	✓
Who signed the consent form for the adolescents?				✓	✓		✓
How did parent/guardian perceive signing the IC form?					✓		
What is the adolescent's perspective on consent/assent?				✓			
What are the social norms around age of consent?			✓	✓	✓	✓	✓
Comprehension							
Are at least 90% of MC clients able to score 80% on a quantitative true/false test?	✓	✓					
Are scores significantly different between adults/ adolescents?							
Are scores significantly different between fixed/outreach clinics?	✓	✓					
Are scores significantly different between clients attending high- vs. low-volume clinics?	✓	✓					
How well do MC clients understand key concepts in the MC IC process?			✓	✓			
Do clients understand instructions for healing? (Wound care, abstinence)			✓	✓			
Expectations/satisfaction							
How satisfied are clients with MC counseling?			✓	✓			
Do MC clients feel they were prepared for procedure, recovery, healing based on counseling?			✓	✓			
What recommendations do clients have for how they could have been better prepared?			✓	✓			

APPENDIX B. RECRUITMENT TARGETS AND ENROLLMENT

SITE	CLINIC CHARACTERISTICS		ADULTS				ADOLESCENTS			
			Quantitative		Qualitative		Quantitative		Qualitative	
	Type	Volume	Target	Actual	Target	Actual	Target	Actual	Target	Actual
Kudu	Fixed	High	50	63	5	6	34	26	10	12
YWCA	Fixed	High	50	56	5	8	33	45	10	10
Kara	Fixed	Low	50	34	5	4	0	0	0	0
MSI Northmead	Fixed	Low	50	41	5	2	0	0	0	1
Kafue	Outreach	High	50	32	5	6	33	8	10	7
UNZA	Fixed	High	0	0	2-3	2	0	0	0	0
Beit Cure	Fixed	Low	0	0	2-3	6	0	0	0	0
Matero*	Outreach	Low^	[50]	14	0	0	0	5	0	0
Chelstone*	Outreach	Low^	[50]	34	0	0	0	19	0	0
Chilenje*	Outreach	Low^	[50]	17	0	0	0	8	0	0
Kanyama*	Outreach	Low^	[50]	14	0	0	0	4	0	0
Kalingalinga*	Outreach	Low^	[50]	6	0	0	0	0	0	0
Low-volume outreach sites combined*	N/A	N/A	50	85	0	0	0	36	0	0
Totals	N/A	N/A	300	311	30	34	100	115	30	30

* Target sample for MSI outreach sites = 50 in total; sites pooled for analysis.

^ Operate once per week.

APPENDIX C. BACKGROUND INFORMATION ON STUDY PARTICIPANTS

Table 1. Background demographics for quantitative comprehension assessment participants

Characteristic	Adolescents (n = 69)	Adults (n = 159)	All (n = 228)
Mean age (range)	15.4 (13–17)	25.7 (18–58)	22.6 (13–58)
Highest level education completed			
None	1.5%	0.0%	0.4%
Primary (grades 1-7)	17.4%	5.7%	9.2%
Junior secondary	40.6%	13.2%	21.5%
Senior secondary	39.1%	37.1%	37.7%
Post-secondary	1.5%	44.0%	31.1%
Marital status			
Single, never married	100.0%	73.0%	81.1%
Ever married (includes divorced, widowed)	0.0%	27.0%	18.9%
Tribe*			
Bemba	24.6%	22.6%	23.3%
Ngoni	16.0%	14.5%	14.9%
Nyanja	11.6%	12.0%	11.8%
Tonga	8.7%	13.8%	12.3%
Lozi	2.9%	9.4%	7.5%
Other	27.5%	20.1%	22.4%
Most comfortable spoken language			
Bemba	18.8%	11.3%	13.6%
English	29.0%	50.3%	43.9%
Nyanja	47.8%	30.2%	35.5%
Other (Lozi, Tonga, Lunda, Kaonde, Chewa)	4.4%	8.2%	7.0%
Additional spoken languages*			
Nyanja	63.8%	73.6%	70.6%
Bemba	42.0%	74.2%	64.5%
English	47.8%	35.2%	39.0%
Tonga	13.0%	22.0%	19.3%
Other (Lozi, Ngoni, Lunda, Kaonde, Luvale)	2.9%	13.8%	10.5%
None	2.9%	0%	0.9%
Languages read and written*			
English	88.4%	90.6%	89.9%
Nyanja	30.4%	45.3%	40.8%
Bemba	17.4%	37.7%	31.6%
Tonga	8.7%	11.3%	10.5%
Other (Lozi, Ngoni, Lunda, Kaonde, Luvale)	0.0%	6.9%	4.8%
Contributed to household income	1.5% (1)	42.8%	30.3%
Monthly contribution, mean (range)	20 (20–20)	747 (1–9000)	737 (1–9000)
Passed literacy test	100.0%	98.7%	99.1%

* Multiple response, can add up to more than 100%.

Table 2. Description of MC clients (adults and adolescents) participating in semi-structured interviews (n = 62)

Descriptive characteristic	Adolescents (n = 28)	Adults (n = 34)	All (n = 62)
Mean age in years (range)	15.7 (13–17)	26.2 (18–43)	21.4 (13–43)
Marital status*			
Single	97%	59%	76%
Girlfriend or fiancée	3%	15%	10%
Married or living together	0%	26%	14%
Highest level education completed*			
None	0%	0%	0%
Some primary (grade 1–6)	18%	0%	8%
Grade 7	18%	0%	8%
Junior secondary (grade 8–9)	50%	18%	32%
Upper secondary (grade 10–12)	14%	56%	37%
Higher than secondary	0%	24%	11%
No information available	0%	6%	3%
Language of interview			
English	50%	71%	61%
English and Bemba	0%	6%	3%
English and Nyanja	21%	21%	21%
Nyanja only	32%	3%	16%

*Due to rounding, percentages may add up to more than 100 percent.

Table 3. Description of respondents participating in focus group discussions

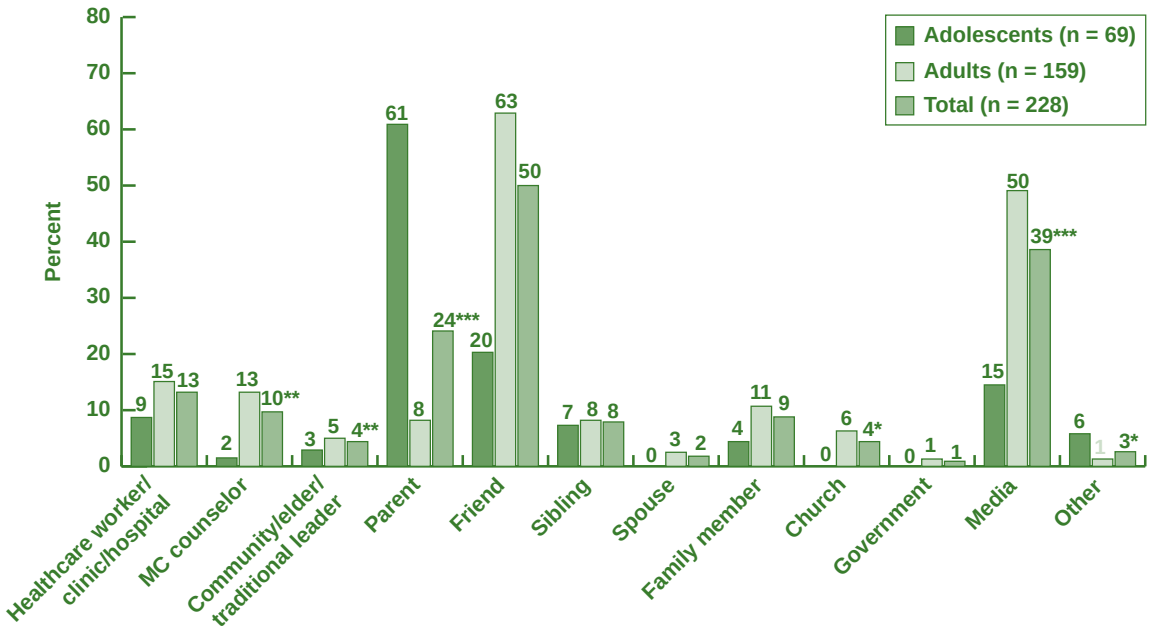
Clinic site	Yes/No MC	Relation to adolescent	Age of adolescent	Language of FGD
Kafue	Yes	Mother	17	Nyanja
		Mother	15	
		Grandmother	13	
		Uncle	16	
		Mother	13	
		Mother	15	
Kafue	No	Mother	17	Nyanja
		Uncle	15	
		Mother	13	
		Father	14	
		Mother	15	
		Father	16	
Kudu	Yes	Father	15	Nyanja
		Father	13	
		Mother	13	
		Grandmother	13	
		Grandfather	14	
		Uncle	13	
Kudu	No	Mother	16	Nyanja
		Mother	15	
		Aunt	17	
		Father	15	
		Father	13	
		Father	13	
YWCA	Yes	Brother	14	English and Nyanja
		Father	17	
		Mother	16	
		Uncle	17	
		Uncle	13	
		Mother	13	
YWCA	No	Mother	14	Bemba and Nyanja
		Mother	15	
		Mother	15	
		Aunt	14	
		Mother	15	
		Father	14	

Table 4. Key informants

Respondent title/role	Sex	Organization
Nun	Female	Catholic Church Secretariat
Chairman	Male	Ward Development Committee, Urban Lusaka
Chairman	Male	Ward Development Committee, Urban Lusaka
Member	Male	University of Zambia (UNZA) Ethics Committee, University Teaching Hospital (UTH)
MC Counselor	Male	Kudu
MC Provider	Male	University Teaching Hospital (UTH)
MC Trainer	Male	Jhpiego
Public Relations Manager	Male	Salvation Army Headquarters
School Manager	Male	Basic School, Urban Lusaka
Social Welfare Officer	Male	Ministry of Community Development and Social Services, Urban Lusaka
Traditional MC Provider	Male	Urban Lusaka
Youth Representative	Male	Youth Forum Zambia
MC Counselor	Female	YWCA

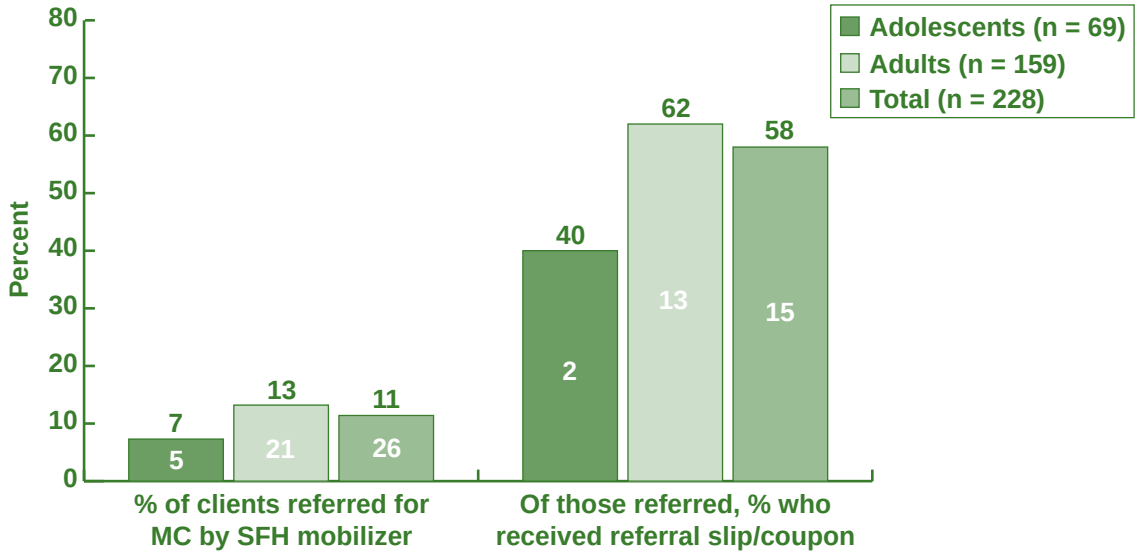
APPENDIX D. DECISIONMAKING PROCESS

Figure 1. Information sources reported by quantitative comprehension assessment participants, by age group, and overall (n = 228)



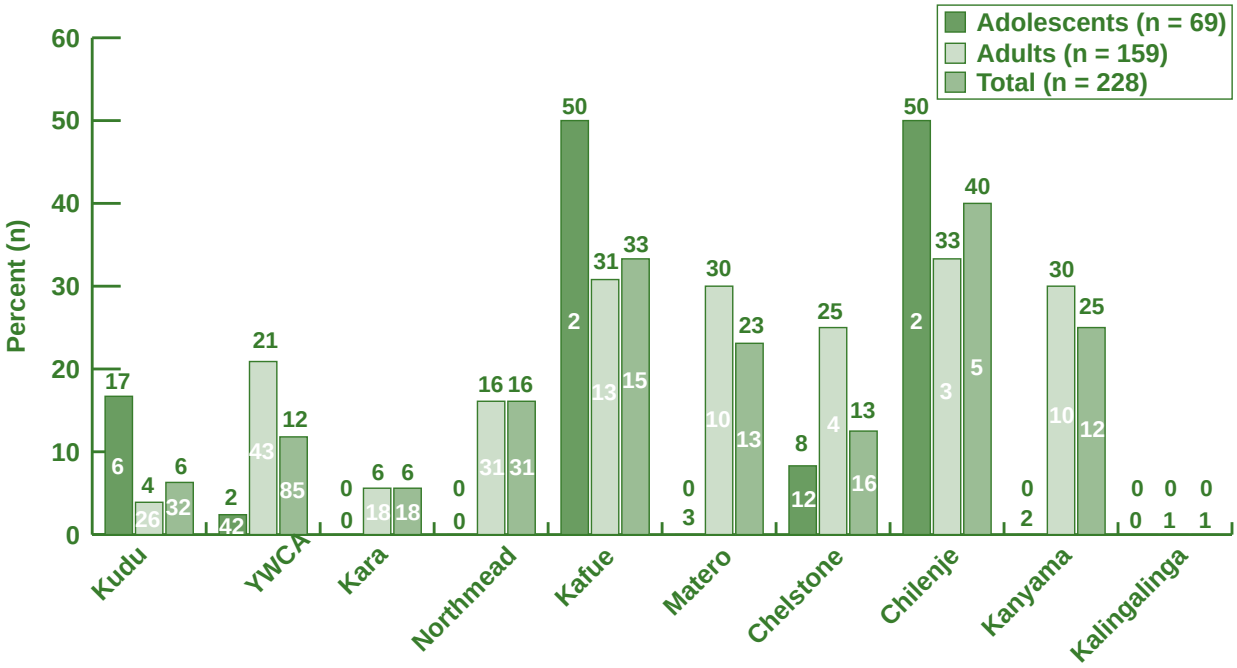
*p < 0.05; **p < 0.01; ***p < 0.000 (Chi-square test of significant differences between adults and adolescents).

Figure 2. Percentage of quantitative comprehension assessment participants who reported being referred by MC mobilizers, by age group, and overall (n = 228)



Note: Percent of those referred by a mobilizer or receiving referral slips shown at the top of each bar; total number of clients referred/receiving referral slips shown inside each bar.

Figure 3. Previous experience with clinic site reported by quantitative comprehension assessment participants, by age group, and overall (n = 228)



Note: Percent of those who reported previous experience shown at the top of each bar; total of those who went to site shown inside each bar.

Figure 4. Information sources reported by MC clients (adults and adolescents) participating in SSIs, by age group, and overall (n = 62)

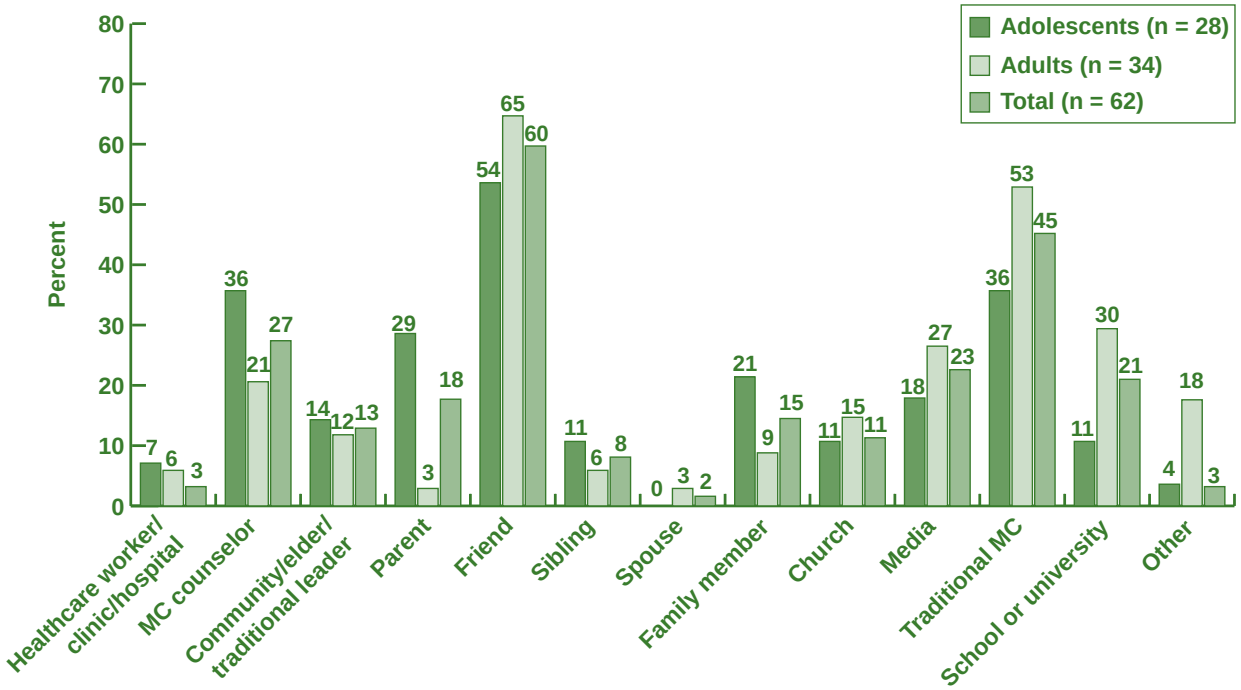


Figure 5. How parents/guardians of adolescents (13–17 years old) participating in FGDs first learned about MC, by whether or not they chose MC, and overall (n = 36)

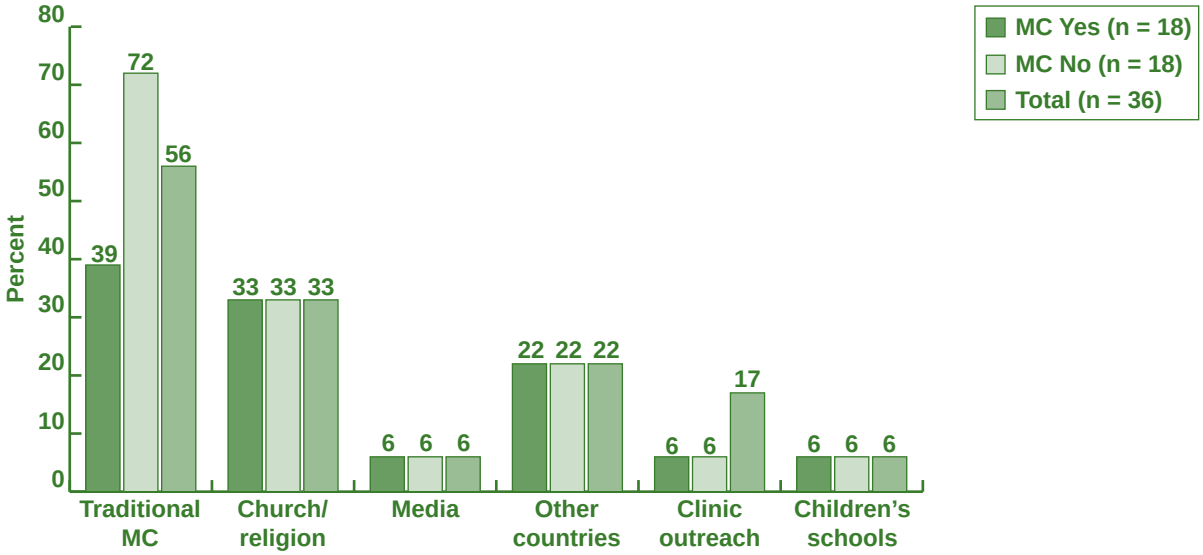
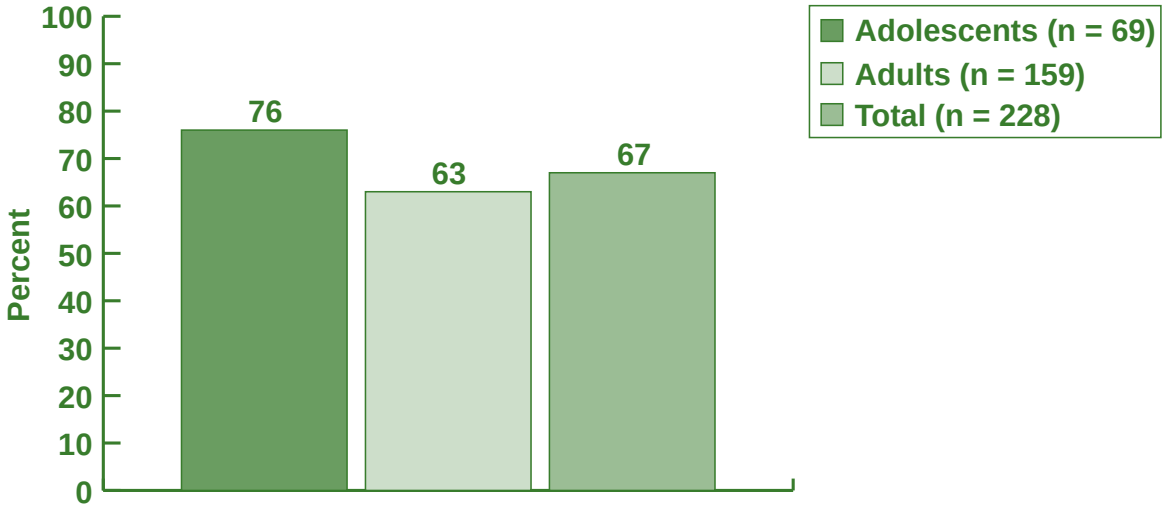


Figure 6. Timing of decision reported by quantitative comprehension assessment participants, by age group, and overall (n = 228)

Figure 7. Percentage of quantitative comprehension assessment participants who felt they could change their minds about MC, by age group, and overall (n = 228)



APPENDIX E. QUANTITATIVE COMPREHENSION ASSESSMENT: ADDITIONAL RESULTS

Table 1. Percentage of quantitative comprehension assessment clients responding to specific questions correctly and passing the test, by age group and overall (n = 228)

Question		% adolescents getting question correct (95% CI) (n = 69)	% adults getting question correct (95% CI) (n = 159)	% overall getting question correct (95% CI) (n = 228)
1	Before a man's foreskin is removed during the circumcision procedure, an injection is given at the base of the penis to prevent pain.	100 (100–100)	99.4 (98–100)	99.6 (99–100)
2	It is possible to have pain, swelling, and bleeding after the circumcision procedure, but resting for 1–2 days after the surgery will help the wound heal.	92.8 (86–99)	95.6 (92–99)	94.7 (92–98)
3	There are no risks involved in MC surgery.*	56.5 (45–69)	71.1 (64–78)	66.7 (61–73)
4	A man who is circumcised no longer need to use condoms during sex to prevent him from becoming infected with HIV.	89.9 (83–97)	95.6 (93–99)	93.9 (91–97)
5	All men are HIV negative.*	85.5 (77–94)	94.3 (91–98)	91.7 (88–95)
6	An HIV-negative man who is circumcised should continue to reduce his number of sexual partners to lower his chance of getting HIV.	92.8 (86–99)	94.3 (91–98)	93.9 (91–97)
7	MC can help lower a man's chances of getting penile cancer.	92.8 (86–99)	83.7 (78–89)	86.4 (82–91)
8	A circumcised man who is HIV positive cannot pass HIV to his female partner.	88.4 (81–96)	87.4 (82–93)	87.7 (83–92)
9	A man can start having sex after being circumcised when he feels better, even if it is sooner that 6 weeks after his circumcision surgery.	92.8 (86–99)	88.7 (84–94)	89.9 (86–94)
10	MC increases a man's chance of getting some STIs.	85.5 (77–94)	87.4 (82–93)	86.8 (82–91)
Proportion passing test		89.9 (83–97)	88.1 (83–93)	88.6 (84–93)
Mean score		8.77 (8.37–9.17)	8.97 (8.78–9.17)	8.91 (8.73–9.09)
Range		2–10	4–10	2–10

* Chi-square test comparing adolescents and adults with p-value ≤ 0.05

Figure 1. Distribution of number of correct responses on quantitative comprehension assessment, by age group, and overall (n = 228)

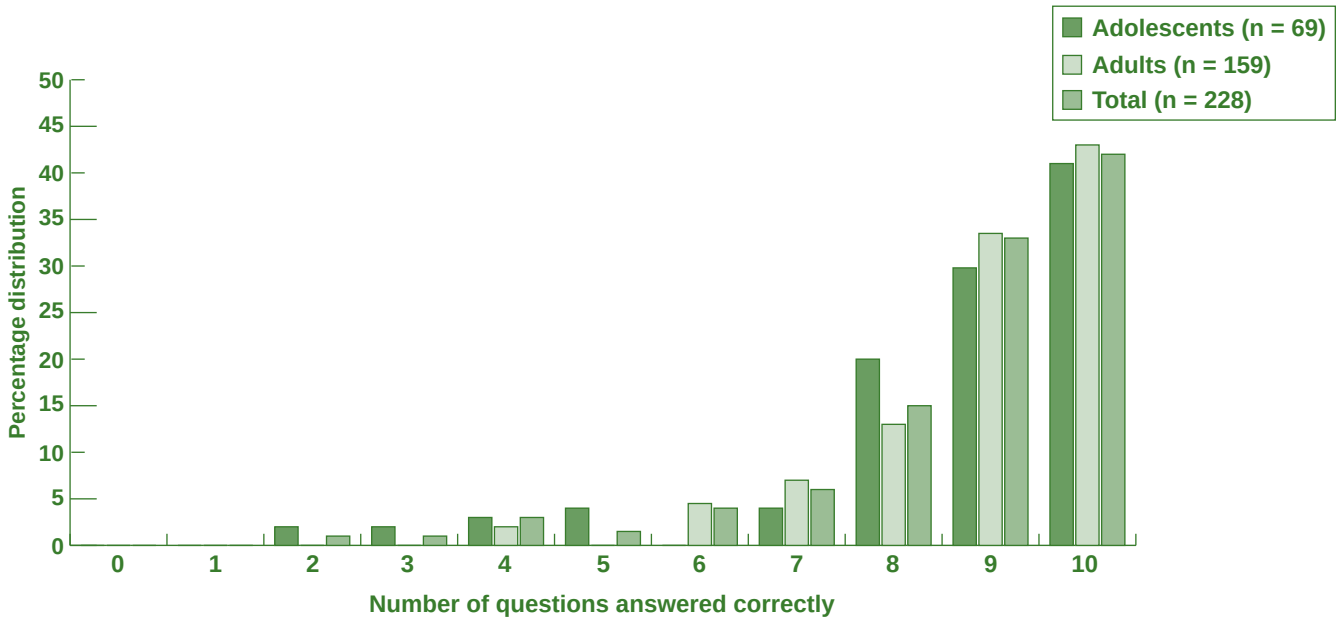


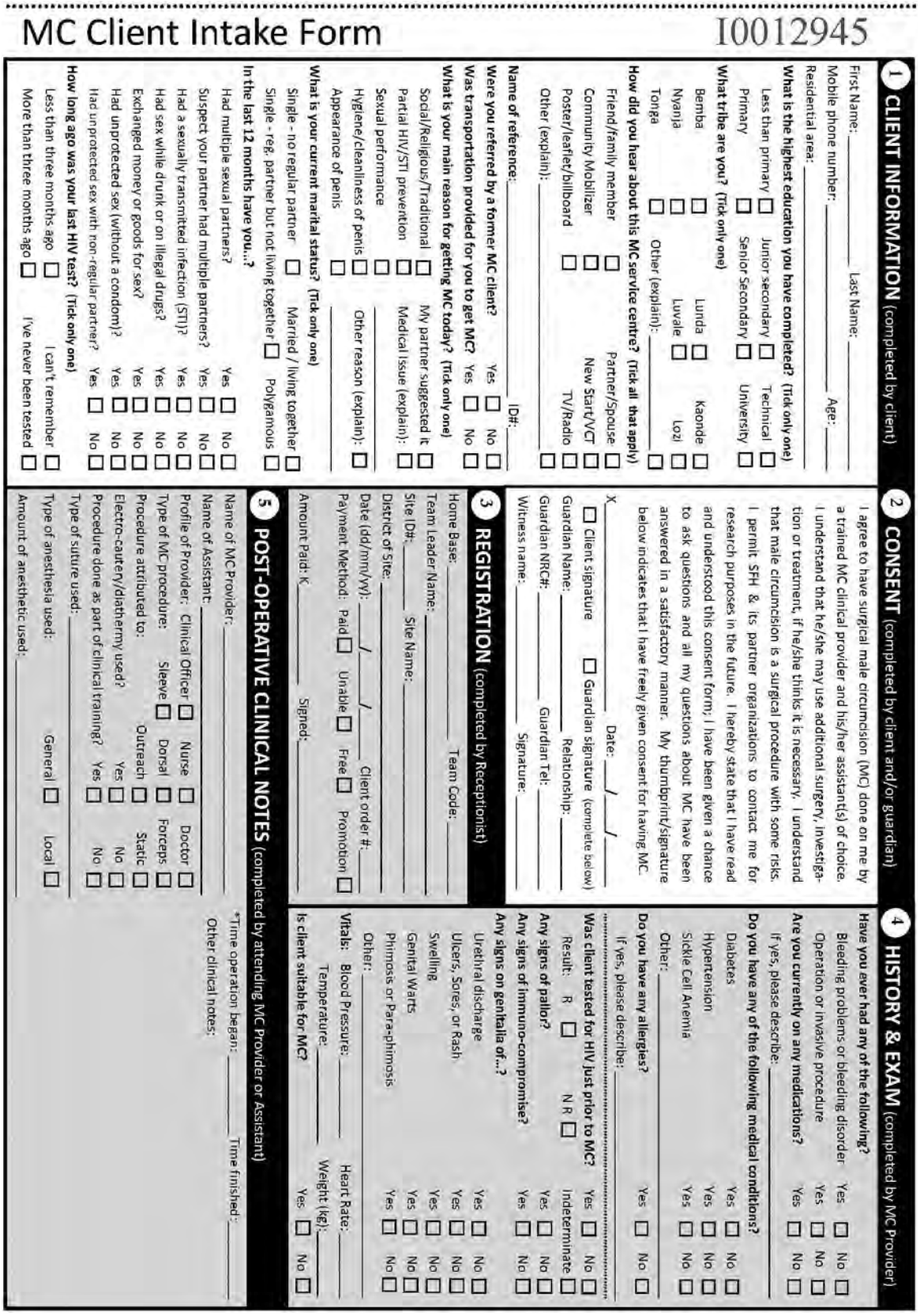
Table 2. Logistic regression modeling the odds of passing the quantitative comprehension assessment (n = 228)

Variable vs. referent group	Odds Ratio	OR 95% Conf. Interval		Std. Err.	P>|z|
Variables that were found to be significantly associated with achieving a passing score (at least 8 out of 10) on the comprehension test (p < 0.05)					
Able to read whole sentence vs. not	6.09	1.52	24.37	4.31	0.011
Upper secondary or higher vs. none through junior secondary	4.70	1.32	16.67	3.034	0.017
Counseled in most comfortable language vs. not	2.84	1.02	7.94	1.490	0.047
Variables that were not found to be significantly associated with achieving a passing score (at least 8 out of 10) on the comprehension test					
High- vs. low-volume clinic	0.28	0.77	1.04	0.188	0.058
Counseling (1-on-1/CT vs. 1-on-1/CT plus group)	2.24	0.67	7.5	1.381	0.193
Fixed vs. outreach clinic	2.48	0.62	9.96	1.759	0.200
Received health services from clinic before vs. not	0.42	0.11	1.68	0.298	0.221
Felt they could change their mind vs. felt could not	1.89	0.59	6.04	1.12	0.281
Divorced/widowed/separated vs. never married	0.28	0.02	3.56	0.363	0.326
Adult (18+) vs. adolescent (13–17)	0.51	0.13	1.97	0.352	0.329
Married vs. never married	0.72	0.17	3.07	0.531	0.655
Moderately comfortable with decision vs. very comfortable	0.77	0.17	3.51	0.596	0.736
Somewhat uncomfortable with decision vs. very comfortable	0.76	0.14	4.13	0.657	0.751
Very uncomfortable with decision vs. very comfortable	1.21	0.12	12.75	1.45	0.873

APPENDIX F. PROGRAMMATIC ADJUSTMENTS TO MC PARTNERSHIP PROCEDURES BASED ON THE POPULATION COUNCIL INFORMED CONSENT STUDY

- SFH has made a change in policy to require medical staff to solicit informed consent after the clinical assessment (history and genital inspection) where clients are offered the chance to ask questions about the potential risks of the surgery in a more detailed and personalized manner. This will be offered in addition to the lay counselor providing an initial reading of the informed consent towards the end of the one-on-one counseling session.
- SFH has introduced a longer-lasting local anesthetic (2–3ml of Bupivocaine 2 percent) in addition to the existing Lignocaine 2 percent (5–10ml) to improve pain management during and after the MC procedure, in response to findings from the IC.
- SFH is revising the MC counseling guidelines and training manual to include a section aimed at improving adolescent comprehension of key messages.
- SFH is translating MC consent forms into five local languages to improve fidelity to the original text when communicating with non-English-speaking MC clients.
- SFH printed and disseminated large posters to all participating community clinics that include information on potential risks of MC, as well as key benefits.
- SFH has modified the text in the MC information booklets for men and women as well as take-home booklets for clients and a comic book for adolescents to include more information on what to expect during surgery and the healing process, including:
  - Messages about multiple injections of pain medicine prior to the procedure;
  - More messages about potential risks;
  - Messages about pain expectations during and after the procedure; and
  - More messages to explain how the wound continues to require time to heal under the skin even after it begins to look and feel completely healed.

APPENDIX G. MC CLIENT INTAKE FORM



MC Client Intake Form

I0012945

1 CLIENT INFORMATION (completed by client)

First Name: _____ Last Name: _____

Mobile phone number: _____ Age: ____

Residential area: _____

What is the highest education you have completed? (Tick only one)

Less than primary ☐ Junior secondary ☐ Technical ☐

Primary ☐ Senior Secondary ☐ University ☐

What tribe are you? (Tick only one)

Bemba ☐ Lunda ☐ Kaonde ☐

Nyanja ☐ Luvale ☐ Lozi ☐

Tonga ☐ Other (explain): _____

How did you hear about this MC service centre? (Tick all that apply)

Friend/family member ☐ Partner/Spouse ☐

Community Mobilizer ☐ New Start/VCT ☐

Poster/leaflet/billboard ☐ TV/Radio ☐

Other (explain): _____ ☐

Name of reference: _____ ID#: ____

Were you referred by a former MC client? Yes ☐ No ☐

Was transportation provided for you to get MC today? (Tick only one) Yes ☐ No ☐

What is your main reason for getting MC today? (Tick only one)

Social/Religious/Traditional ☐ My partner suggested it ☐

Partial HIV/STI prevention ☐ Medical issue (explain): ☐

Sexual performance ☐ _____

Hygiene/cleanliness of penis ☐ Other reason (explain): ☐

Appearance of penis ☐ _____

What is your current marital status? (Tick only one)

Single - no regular partner ☐ Married / living together ☐

Single - reg. partner but not living together ☐ Polygamous ☐

In the last 12 months have you...?

Had multiple sexual partners?	Yes ☐	No ☐
Suspect your partner had multiple partners?	Yes ☐	No ☐
Had a sexually transmitted infection (STI)?	Yes ☐	No ☐
Had sex while drunk or on illegal drugs?	Yes ☐	No ☐
Exchanged money or goods for sex?	Yes ☐	No ☐
Had unprotected sex (without a condom)?	Yes ☐	No ☐
Had unprotected sex with non-regular partner?	Yes ☐	No ☐

How long ago was your last HIV test? (Tick only one)

Less than three months ago ☐ I can't remember ☐

More than three months ago ☐ I've never been tested ☐

2 CONSENT (completed by client and/or guardian)

I agree to have surgical male circumcision (MC) done on me by a trained MC clinical provider and his/her assistant(s) of choice. I understand that he/she may use additional surgery, investigation or treatment, if he/she thinks it is necessary. I understand that male circumcision is a surgical procedure with some risks. I permit SFH & its partner organizations to contact me for research purposes in the future. I hereby state that I have read and understood this consent form; I have been given a chance to ask questions and all my questions about MC have been answered in a satisfactory manner. My thumbprint/signature below indicates that I have freely given consent for having MC.

X_____ Date: ___/___/____

☐ Client signature ☐ Guardian signature (complete below)

Guardian Name: _____ Relationship: _____

Guardian NRC#: _____ Guardian Tel: _____

Witness name: _____ Signature: _____

3 REGISTRATION (completed by Receptionist)

Home Base: _____ Team Code: ____

Team Leader Name: _____

Site ID#: _____ Site Name: _____

District of Site: _____

Date (dd/mm/yy): ___/___/___ Client order #: ____

Payment Method: Paid ☐ Unable ☐ Free ☐ Promotion ☐

Amount Paid: K_____ Signed: _____

4 HISTORY & EXAM (completed by MC Provider)

Have you ever had any of the following?

Bleeding problems or bleeding disorder	Yes ☐	No ☐
Operation or invasive procedure	Yes ☐	No ☐
Are you currently on any medications?	Yes ☐	No ☐

If yes, please describe: _____

Do you have any of the following medical conditions?

Diabetes	Yes ☐	No ☐
Hypertension	Yes ☐	No ☐
Sickle Cell Anemia	Yes ☐	No ☐

Other: _____

Do you have any allergies? Yes ☐ No ☐

If yes, please describe: _____

Was client tested for HIV just prior to MC? Yes ☐ No ☐

Result: R ☐ NR ☐ Indeterminate ☐

Any signs of pallor? Yes ☐ No ☐

Any signs of immuno-compromise? Yes ☐ No ☐

Any signs on genitalia of...?

Urethral discharge	Yes ☐	No ☐
Ulcers, Sores, or Rash	Yes ☐	No ☐
Swelling	Yes ☐	No ☐
Genital Warts	Yes ☐	No ☐
Phimosis or Para-phimosis	Yes ☐	No ☐

Other: _____

Vitals: Blood Pressure: _____ Heart Rate: ____

Temperature: _____ Weight (kg): ____

Is client suitable for MC? Yes ☐ No ☐

5 POST-OPERATIVE CLINICAL NOTES (completed by attending MC Provider or Assistant)

Name of MC Provider: _____

Name of Assistant: _____

Profile of Provider: Clinical Officer ☐ Nurse ☐ Doctor ☐

Type of MC procedure: Sleeve ☐ Dorsal ☐ Forceps ☐

Procedure attributed to: Outreach ☐ Static ☐

Electro-cautery/diathermy used? Yes ☐ No ☐

Procedure done as part of clinical training? Yes ☐ No ☐

Type of suture used: _____

Type of anesthesia used: General ☐ Local ☐

Amount of anesthetic used: _____

*Time operation began: _____ Time finished: _____

Other clinical notes: _____

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