Exploring the Relationship between Male Circumcision and Sexual Risk Compensation in Kisumu, Kenya

BY
THOMAS HORTON RIESS
BA, University of California at Santa Barbara, 1990
MPH, Yale University, 1999

THESIS
Submitted as partial fulfillment of the requirements for the degree of Doctor of Philosophy in Public Health Sciences in the Graduate College of the University of Illinois at Chicago, 2014

Chicago, Illinois

Defense Committee:
Jesus Ramirez-Valles, Chair and Advisor
Robert C. Bailey, Epidemiology and Biostatistics
Marcia Finlayson, Queen's University
Daniel T. Halperin, University of North Carolina
Nadine R. Peacock, Community Health Sciences
ACKNOWLEDGEMENTS

I would like to thank everybody who has played a role in helping me along my path to completing my PhD. I would first and foremost like to thank Bob Bailey for giving me the opportunity to work on a timely and amazing project. Your support and mentorship throughout my research and writing has provided encouragement and expertise that has nurtured my work and me. I would like to express my sincere gratitude to my chair Jesus Ramirez-Valles, who has pushed me to achieve excellence. The Qual-MAC research team in Kisumu, Maryline Mireku Achieng’, Moureen Atieno and Sam Otieno have made countless valuable contributions and that have enriched this research.

My loving partner, Jenna Grant, has provided much needed support throughout the years I conducted my research and wrote this dissertation. I would like to thank my Kisumu colleagues, friends, sailing mates, and fellow soccer players: Matt Westercamp, Nelli Westercamp, Emma Llewellyn, Diplav Sapkota, Bob Ogollah, Millie Akelo, Caroline Kendi, Erik Schoute, Anja Van’t Hoog, Amy and Kurt Herman-Roloff, Kim Gilsdorf, Evans Otieno, Gemma Aellah, Marissa Young, Liz Cooper, Erwan Pirou, and Marieke Sassen for providing support, friendship, and distraction throughout this process.

I am thankful to the wonderful UNIM Project staff for providing friendship and assistance on this project and carrying out important work. A great big thank you to Albert Plenty, Anh-Thu Runez, and Laura Rusie for assisting with annual human subjects renewals. Lastly, I would like to thank all of the study participants whose participation made this work possible.
ACKNOWLEDGEMENTS (continued)

This research was supported in part by the US Centers for Disease Control and Prevention Training Program Grant #2 T01 CD000189–01.

THR
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. BACKGROUND</td>
<td>.......................................................... 1</td>
</tr>
<tr>
<td>A. Human Immunodeficiency Virus</td>
<td>.......................................................... 1</td>
</tr>
<tr>
<td>B. Male Circumcision and HIV Transmission</td>
<td>.................................................. 2</td>
</tr>
<tr>
<td>C. Biological Mechanisms for HIV Risk Reduction through Male Circumcision</td>
<td>.................................................. 6</td>
</tr>
<tr>
<td>D. Male Circumcision Acceptance and Opposition</td>
<td>........................................ 7</td>
</tr>
<tr>
<td>E. Social Context of Male Circumcision in Kenya</td>
<td>........................................... 8</td>
</tr>
<tr>
<td>F. Risk Compensation</td>
<td>.......................................................... 10</td>
</tr>
<tr>
<td>G. Women and Male Circumcision</td>
<td>.................................................. 12</td>
</tr>
<tr>
<td>H. Purpose of the Study</td>
<td>................................................................ 13</td>
</tr>
<tr>
<td>II. MATERIALS AND METHODS</td>
<td>.......................................................... 15</td>
</tr>
<tr>
<td>A. Study Setting and Design</td>
<td>.......................................................... 15</td>
</tr>
<tr>
<td>B. Data Analysis Methods</td>
<td>.......................................................... 19</td>
</tr>
<tr>
<td>III. &quot;WHEN I WAS CIRCUMCISED I WAS TAUGHT CERTAIN THINGS&quot;: RISK COMPENSATION AND PROTECTIVE SEXUAL BEHAVIOR AMONG CIRCUMCISED MEN IN KISUMU, KENYA</td>
<td>........................................ 21</td>
</tr>
<tr>
<td>A. Introduction</td>
<td>.......................................................... 21</td>
</tr>
<tr>
<td>B. Methods</td>
<td>.......................................................... 24</td>
</tr>
<tr>
<td>1. Setting</td>
<td>................................................................ 25</td>
</tr>
<tr>
<td>2. Sampling and recruitment</td>
<td>.......................................................... 26</td>
</tr>
<tr>
<td>3. Qualitative data collection, management, and analysis</td>
<td>........................................ 26</td>
</tr>
<tr>
<td>C. Results</td>
<td>.......................................................... 28</td>
</tr>
<tr>
<td>1. Male circumcision’s influence on sexual behavior</td>
<td>........................................ 31</td>
</tr>
<tr>
<td>a. Adopting protective sexual behaviors</td>
<td>.................................................. 32</td>
</tr>
<tr>
<td>b. Maintaining same sexual behavior after circumcision</td>
<td>........................................ 34</td>
</tr>
<tr>
<td>c. Risk compensation</td>
<td>.......................................................... 36</td>
</tr>
<tr>
<td>2. Knowledge of male circumcision’s protective effects</td>
<td>........................................ 37</td>
</tr>
<tr>
<td>a. Understanding of circumcision’s partial protection</td>
<td>........................................ 37</td>
</tr>
<tr>
<td>b. HIV counseling and testing and its impact on behavior</td>
<td>........................................ 39</td>
</tr>
<tr>
<td>3. Other male circumcision facilitated changes</td>
<td>........................................ 41</td>
</tr>
<tr>
<td>a. Ease of condom use</td>
<td>.......................................................... 41</td>
</tr>
<tr>
<td>b. Reduced cuts on foreskin</td>
<td>.......................................................... 41</td>
</tr>
<tr>
<td>c. Increased rounds of sex</td>
<td>.......................................................... 42</td>
</tr>
<tr>
<td>D. Discussion</td>
<td>................................................................ 42</td>
</tr>
<tr>
<td>CHAPTER</td>
<td>PAGE</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>IV. WOMEN’S BELIEFS ABOUT MALE CIRCUMCISION, HIV PREVENTION, AND SEXUAL BEHAVIORS IN KISUMU, KENYA</td>
<td>49</td>
</tr>
<tr>
<td>A. Introduction</td>
<td>49</td>
</tr>
<tr>
<td>B. Methods</td>
<td>52</td>
</tr>
<tr>
<td>1. Study context</td>
<td>52</td>
</tr>
<tr>
<td>2. Respondents and data collection</td>
<td>53</td>
</tr>
<tr>
<td>3. Analysis</td>
<td>55</td>
</tr>
<tr>
<td>C. Results</td>
<td>56</td>
</tr>
<tr>
<td>1. Perceived benefits of male circumcision</td>
<td>59</td>
</tr>
<tr>
<td>2. Condom use and male circumcision status</td>
<td>60</td>
</tr>
<tr>
<td>3. Sexual behavior and male circumcision status</td>
<td>61</td>
</tr>
<tr>
<td>4. Male circumcision and knowledge of HIV and sexually transmitted infections susceptibility</td>
<td>62</td>
</tr>
<tr>
<td>5. Circumcision preferences</td>
<td>63</td>
</tr>
<tr>
<td>6. Women’s influence on circumcision uptake</td>
<td>65</td>
</tr>
<tr>
<td>D. Discussion</td>
<td>67</td>
</tr>
<tr>
<td>V. HEALTH PRIORITIES AND SHIFTING NORMS: MEDICAL MALE CIRCUMCISION AMONG THE LUO IN KISUMU, KENYA</td>
<td>72</td>
</tr>
<tr>
<td>A. Introduction</td>
<td>72</td>
</tr>
<tr>
<td>B. Setting and Methods</td>
<td>77</td>
</tr>
<tr>
<td>C. Results</td>
<td>80</td>
</tr>
<tr>
<td>1. Generational differences toward voluntary medical male circumcision</td>
<td>84</td>
</tr>
<tr>
<td>2. Voluntary medical male circumcision for health, not culture</td>
<td>89</td>
</tr>
<tr>
<td>D. Discussion</td>
<td>92</td>
</tr>
<tr>
<td>VI. CONCLUSION AND SIGNIFICANCE</td>
<td>98</td>
</tr>
<tr>
<td>CITED LITERATURE</td>
<td>106</td>
</tr>
<tr>
<td>APPENDICIES</td>
<td>122</td>
</tr>
<tr>
<td>Appendix A</td>
<td>123</td>
</tr>
<tr>
<td>Appendix B</td>
<td>133</td>
</tr>
<tr>
<td>Appendix C</td>
<td>137</td>
</tr>
<tr>
<td>Appendix D</td>
<td>144</td>
</tr>
<tr>
<td>Appendix E</td>
<td>147</td>
</tr>
<tr>
<td>Appendix F</td>
<td>148</td>
</tr>
<tr>
<td>VITA</td>
<td>152</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. DEMOGRAPHIC CHARACTERISTICS OF CIRCUMCISED MALE RESPONDENTS</td>
<td>29</td>
</tr>
<tr>
<td>II. SEXUAL BEHAVIOR CHANGES AFTER CIRCUMCISION OR LEARNING THAT CIRCUMCISION REDUCES TRANSMISSION OF HIV</td>
<td>32</td>
</tr>
<tr>
<td>III. KEY INDIVIDUAL INTERVIEW GUIDE QUESTIONS</td>
<td>54</td>
</tr>
<tr>
<td>IV. DEMOGRAPHIC CHARACTERISTICS OF FEMALE RESPONDENTS</td>
<td>57</td>
</tr>
<tr>
<td>V. DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS</td>
<td>82</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Geographic distribution of HIV prevalence and male circumcision in southern Africa</td>
</tr>
<tr>
<td>2.</td>
<td>Predominant ethnic groups in Nyanza Province, Kenya</td>
</tr>
<tr>
<td>3.</td>
<td>2012 Kenya HIV prevalence among male and female 15–64 years olds by national AIDS and STI control program region</td>
</tr>
</tbody>
</table>
## LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>ART</td>
<td>Antiretroviral Therapy</td>
</tr>
<tr>
<td>FGD</td>
<td>Focus Group Discussion</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>HPV</td>
<td>Human Papillomavirus</td>
</tr>
<tr>
<td>HTC</td>
<td>HIV Testing and Counseling</td>
</tr>
<tr>
<td>MC</td>
<td>Male Circumcision</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
</tr>
<tr>
<td>RCT</td>
<td>Randomized Controlled Trial</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually Transmitted Infection</td>
</tr>
<tr>
<td>UNAIDS</td>
<td>Joint United Nations Program on HIV/AIDS</td>
</tr>
<tr>
<td>UNIM</td>
<td>University of Nairobi, Illinois and Manitoba Collaborative</td>
</tr>
<tr>
<td>VMMC</td>
<td>Voluntary Medical Male Circumcision</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
SUMMARY

Three randomized controlled trials (RCT) and more than 40 observational studies have shown that male circumcision (MC) reduces human immunodeficiency virus (HIV) transmission from women to men through vaginal intercourse by approximately 60%. Following the publication of the results from the three RCTs the World Health Organization (WHO) recommended that voluntary medical male circumcision (VMMC) be part of a comprehensive HIV prevention package. Voluntary medical male circumcision programs are being implemented in 14 sub-Saharan countries, including Kenya.

Related to the promotion of MC there has been concern that men and women would engage in sexual risk compensation by halting or decreasing previous HIV prevention efforts, due to a man’s circumcision status. Risk compensation at significant levels could undermine the effectiveness of MC programs for HIV prevention.

This qualitative study was carried out in Kisumu, Kenya, a site of one of the MC RCTs, in order to explore the relationship between MC and sexual risk compensation. Focus group discussions (N=5) and in-depth individual interviews (N=70) were conducted with circumcised men, uncircumcised men, and women. As a secondary objective we examined perceptions of MC in relation to the MC norms of the Luo ethnic group.

A majority of circumcised male respondents reported either no behavior change or increased protective sexual behaviors, including increasing condom use and reducing the number of sexual partners. A minority of men reported engaging in higher
risk behaviors, either not using condoms or increasing the number of sex partners. Women indicated that they care about men’s circumcision status and that it is a relevant factor in partner selection and condom use. Female respondents perceived circumcised men as cleaner, carrying fewer diseases, and having greater sexual prowess. Our results indicate that communities such as the Luo, which do not traditionally practice MC, will support VMMC programs, particularly when faced with a significant HIV epidemic. Knowledge of the health benefits of MC increased support and acceptance of it as a public health measure.

Male circumcision accompanied by HIV testing and counseling (HTC) appears to foster positive behavior change and maintain sexual behavior. HIV testing and counseling should be provided in conjunction with medical MC to mitigate risk compensation. Knowledge of MC’s HIV prevention benefits, counseling and testing, women’s perceptions, and Luo MC norms are factors that respondents have described as influencing sexual behavior, demand creation, acceptance, and uptake of VMMC. A better understanding of these components can assist in monitoring and the success of VMMC programs.
I. BACKGROUND

Male circumcision, the surgical removal of the foreskin (prepuce) of the penis, is practiced as part of religious and cultural traditions and for medical reasons. Following the results of numerous observational studies and three randomized controlled trials (RCTs) showing that MC reduces the risk of heterosexually transmitted human immunodeficiency virus (HIV) transmission in men by approximately 60%, the World Health Organization (WHO) recommended MC as an effective HIV prevention strategy (Auvert et al., 2005; Bailey et al., 2007; Gray et al., 2007; Siegfried et al., 2005; Weiss et al., 2000; WHO, 2007a). An increase in unsafe sex practices as a result of the protection provided by MC is referred to as risk compensation and could undermine the protective effect of MC (Cassell et al., 2006). This thesis explores the relationship of MC and sexual risk compensation among men and women in Kisumu, Kenya, and how MC is framed in relation to the MC norms of the Luo ethnic group, whose men are not traditionally circumcised.

A. Human Immunodeficiency Virus

Over the past 30 years HIV has been one of the most significant threats to global health. Since HIV was first recognized in 1981 it has taken the lives of more than 35 million people (CDC, 1981; UNAIDS, 2012). As of 2011 the Joint United Nations Program on HIV/AIDS (UNAIDS) estimate that there are 34 million people throughout the world living with HIV (UNAIDS, 2012). Despite a decline in the number of newly
infected people globally, largely due to scaling up antiretroviral therapy (ART), during 2011 2.5 million people became infected with HIV while 1.7 million people died of acquired immunodeficiency syndrome (AIDS) (UNAIDS, 2012).

The African continent bears the highest burden of HIV with two-thirds of the world’s cases. Sub-Saharan Africa has the highest regional prevalence with 4.9% of the population HIV positive (23.5 million people) and, of these, 1.5 million infected people live in Kenya (UNAIDS, 2012). Heterosexual sex is the principal mode of transmission throughout Africa and accounts for a vast majority of all HIV infections (UNAIDS, 2010). The situation in Kenya is characteristic of many countries in sub-Saharan Africa in that its HIV prevention efforts have focused on curbing the HIV epidemic through condom promotion, behavior change, HIV testing and counseling (HTC), information and education campaigns, sexually transmitted infection (STI) treatment, and ART. The national HIV prevalence among Kenyans has decreased over the past decade from a peak of 9.8% in 1998 (among 15–49 year olds) but remains high at 5.6% (among 15–64 year olds) (National AIDS Control Council, 2012). In Kenya’s Nyanza province, home of the Luo ethnic group, the HIV prevalence of adults 15–64 years of age is close to three times the national average at 15.1% (National AIDS and STI Control Programme, 2013).

B. Male Circumcision and HIV Transmission

Examining the rate and distribution of MC globally and comparing it to HIV prevalence presents a geographical relationship, with countries having high MC rates tending to have a lower HIV prevalence and countries with low MC rates having higher HIV prevalence (see Figure 1) (Moses et al., 1990; Njeuhmeli et al., 2011). Ecological
studies in sub-Saharan Africa have illustrated this pattern, whereby countries of high HIV prevalence coincide with countries where circumcision is not widely practiced (Bailey et al., 2001; Bongaarts et al., 1989; Drain et al., 2006). This is seen in Muslim countries of northern Africa where MC is routinely practiced as part of religious beliefs and where HIV prevalence is less than or equal to 0.3%, and among western African countries where HIV prevalence has remained in the single digits and is less than or equal to 5.0% (Glenn, 2005; UNAIDS, 2012; Wilson and de Beyer, 2006). In contrast, less than 20% of the male population is circumcised in the southern African countries of Zambia, Namibia, Zimbabwe, Malawi, Mozambique, Botswana, and Swaziland and they

Figure 1: Geographic distribution of HIV prevalence and male circumcision in southern Africa. (Njeuhmeli et al., 2011).
have some of the highest reported HIV prevalence in the world, ranging from 10.0% in Malawi to 26.0% in Swaziland (Halperin and Bailey, 1999; UNAIDS, 2012). In Kenya there is a stark difference in HIV prevalence between the Central, Coast, Eastern, and North Eastern provinces, where most men are circumcised, and Nyanza Province which has the lowest rate of MC, despite having recently risen to 66%, and the highest HIV prevalence of all provinces (Mwandi et al., 2012).

Numerous studies have documented the protective effects of MC in preventing HIV transmission (Bailey et al., 2001; Siegfried et al., 2005; Weiss et al., 2000). The results of more than 40 observational studies (cross-sectional, case control, and cohort studies) show that a majority of the research reports a statistically significant relationship between HIV prevalence and lack of circumcision. A meta-analysis of 27 observational studies carried out in sub-Saharan Africa from 1987 to 1999 examined the strength of association between MC and HIV and calculated a crude relative risk of 0.52 for 21 of the studies examined (Weiss et al., 2000). When 15 of the studies were adjusted for confounding, the association was stronger with an adjusted relative risk of 0.42. A systematic review of 37 observational studies showed an association between MC and HIV prevalence with odds ratios from 0.21 to 1.90 in 16 studies among the general population and odds ratios from 0.10 to 0.88 among 12 studies with high-risk groups (Siegfried et al., 2005). Observational studies have limits inherent to their design and have been criticized for not being able to control for confounding factors such as sexual behavior, socioeconomic status, as well as religious and ethnic differences. Additionally, self-reporting circumcision status has been a weakness of some of the
studies’ methods. As a result of these methodological limitations three RCTs were initiated to examine MC and HIV incidence.

The results of the three RCTs, conducted in Kenya, South Africa, and Uganda have proven that MC reduces the transmission of HIV from women to men through sexual contact by approximately 60% (Auvert et al., 2005; Bailey et al., 2007; Gray et al., 2007). All three trials were stopped early by their respective data safety monitoring boards when interim analysis showed that MC’s protective effect against HIV was significant, making it unethical to withhold MC from the control group (UNAIDS, 2005; US Department of Health and Human Services, 2006). Evidence from the South Africa RCT, which was halted in 2005, demonstrated that the intervention group of circumcised men had a 60% protective effect over the control group in the intention-to-treat analysis and a 76% protective effect in the as-treated analysis (Auvert et al., 2005). The Kenyan RCT, which was stopped at the same time as the Ugandan RCT, in December 2006, was conducted in Kisumu District, an urban area predominantly inhabited by the Luo, an ethnic group who do not customarily practice circumcision. The Ugandan trial enrolled 4,996 men aged 15–49 from the rural Rakai District with results of the intention to treat analysis showing that MC had a 51% protective effect and the as-treated analysis showed a 55% protective effect (Gray et al., 2007). The results from the Kenyan trial of 2,784 men aged 18–24 showed a 53% protective effect over the control group in the intention-to-treat analysis and a 60% protective effect in the as-treated analysis (Bailey et al., 2007). More recent results from the Kenya trial have shown that the protective effect of MC has remained for 72 months post-circumcision and the Uganda trial has shown effectiveness for almost 60 months, which suggests
that circumcision is likely to provide life-long protection (Gray et al., 2012; Mehta et al., 2013).

Following the publication of the results from the three RCTs the WHO and UNAIDS officially recognized MC as an effective HIV prevention intervention in March 2007 and began promoting it as a method to reduce HIV transmission among heterosexuals in 13 high-HIV prevalence countries with low levels of MC (WHO, 2007b). Kenya’s Nyanza Province was one of the priority areas identified by WHO. Ethiopia was later made a priority country through the United States President’s Emergency Plan for AIDS Relief, making 14 priority countries.

C. The Biological Mechanism for HIV Risk Reduction through Male Circumcision

The biological relationship between HIV and the foreskin is likely to involve a complex interaction of several factors. A greater density of HIV-susceptible Langerhan’s cells on the inner and outer foreskin and frenulum compared to the glans and penile shaft appear to be a key element to increased probability of transmission among uncircumcised men (Szabo and Short, 2000). A study by McCoombe and Short (2006) examined the foreskin tissue of uncircumcised cadavers, recently circumcised men, and recently deceased men and found that the inner foreskin contains HIV-1 susceptible receptors (CD1a, CD4, CCR5, CXCR5, HLA-DR, DC-SIGN) in a more superficial location than in other penile epithelia. Further, their research shows that the mean density of HIV-1 susceptible cells tends to be greater in the inner and outer foreskin. It has been theorized that a thinner layer of keratin, a barrier to HIV, on the inner foreskin,
allowed HIV to reach target cells more easily (Szabo and Short, 2000). However, research by Dinh et al. (2010) has found no significant difference between the inner and outer foreskin keratinization. It has also been reported that this superficial keratin layer is easily sloughed off, so an intact layer is unlikely to play a key role in HIV protection (Dinh et al., 2011).

Another biological factor is the surface area of the foreskin, as one study has reported that the size of the foreskin is significantly correlated with higher HIV incidence rates. Research carried out in Uganda by Kigozi et al. (2009a) concluded that male HIV acquisition increases with a larger foreskin surface area, with men whose foreskin surface areas were in the upper quartile of size (>45.6cm²) having an adjusted incidence rate ratio for HIV acquisition of 2.37 compared to men with foreskin surface areas in the lowest quartile (≥26.3cm²).

D. **Male Circumcision Acceptance and Opposition**

Male circumcision acceptability studies carried out in sub-Saharan Africa prior to the RCTs have shown a considerable level of acceptance and support for MC among the general population. An examination of 13 MC acceptability studies carried out in nine sub-Saharan African countries showed that 65% of men are willing to be circumcised, 69% of women are in favor of their partners circumcision, and 71% of mothers and 81% of fathers are in favor of circumcising their sons (Westercamp and Bailey, 2007). Focus groups carried out among the Luo of Nyanza Province to assess acceptability of circumcision found that a majority of participants were in favor of
promoting MC, with hygiene being the foremost factor for people to favor circumcision (Bailey et al., 2002).

Evidence from the three RCTs and subsequent scale-up of VMMC as brought new attention to the practice of MC and has stimulated debate around the ethics and implications of MC. Religious and cultural reasons for MC have traditionally outweighed medical ones for circumcising infants and adolescent boys. Some opponents of MC consider it a nontherapeutic procedure in which removing healthy functioning tissue is unnecessary and harmful (Boyle et al., 2002). Opponents also point out that there can be complications from the surgery, including penile desensitization (Boyle, 2003) and psychological trauma (Goldman, 1999), which may be long lasting.

The recent findings on MC’s protective effect against HIV and other STIs, have influenced the debate on the ethics of MC. As the health benefits of the operation have become better known, the practice of MC as a preventative health procedure have been strengthened. The medicalization of circumcision as an HIV prevention measure may in turn change the significance of MC for some cultures, which could serve as a barrier to its acceptance in locations where it is a traditional rite of passage, or serve to facilitate its acceptance in HIV-prevalent areas (Mavhu et al., 2012).

E. Social Context of Male Circumcision in Kenya

An overwhelming majority of Kenya’s 43 ethnic groups practice MC with approximately 86% of Kenyan men being circumcised. (Kenya National Bureau of Statistics and ICF Macro, 2010). The Luo, Kenya’s fourth largest ethnic group, do not traditionally circumcise their males, and have the lowest circumcision rate in Kenya at
21.5% (Kenya National Bureau of Statistics, 2010; Kenya National Bureau of Statistics and ICF Macro, 2010). While Luos do not traditionally perform MC, in the past some have practiced partial circumcisions whereby the foreskin is pierced with a thorn or is partially severed (K’Aoko, 1986). Luo men have an HIV prevalence of 17.1% which is reflective of data showing that uncircumcised men in Kenya have HIV rates 3.4 to 4.6 greater than circumcised men (Kenya National Bureau of Statistics and ICF Macro, 2010; Mwandi et al., 2012; National AIDS and STI Control Programme, 2008a).

Because Luo men do not customarily practice MC, other ethnic groups have stigmatized them. Detractors of the Luo often describe Luo men as children because they are not circumcised (Herman-Roloff et al., 2011a). The Luo have also been the victims of violence due to not circumcising as was seen during the post-election violence of 2007–2008 where Luo men were forcibly circumcised (Dixon, 2008; Makabila, 2008).

Following the publication of the Kenya and Uganda RCT results, the Luo Council of Elders and Luo political and cultural leaders, including former Prime Minister Raila Odinga, spent months debating whether the Luo should support MC efforts. In September 2008 the Luo Council of Elders voiced their support for VMMC as an HIV prevention measure. In November 2008 the Kenyan government launched a national VMMC program in Nyanza Province offering free medical MC with a goal to circumcise 80% of all eligible men aged 15–49 years (860,000 men) by 2013 (Kenya Ministry of Public Health and Sanitation, 2009; National AIDS and STI Control Programme, 2008a).
F. **Risk Compensation**

Considerations about the effect MC will have on people’s sexual behavior have been central in the promotion of MC as an HIV prevention intervention. Following the evidence of the three RCTs there has been concern that circumcised men would engage in sexual risk compensation by halting or decreasing previous HIV prevention efforts, such as condom use or reducing the number of sexual partners, or by increasing the levels of high-risk sexual behavior due to a man’s circumcision status, placing themselves or their partners at an increased risk for contracting HIV (Eaton and Kalichman, 2007; Kalichman et al., 2007; Cassell et al., 2006). The premise of risk compensation asserts that people modify their behavior in response to real or perceived changes in risk to themselves.

Risk compensation has been seen with the introduction of safety measures such as seat belts and antilock brakes (Sagberg et al., 1997; Adams, 1994) that decrease the likelihood of an injury from a motor vehicle accident; sunscreen use (Autier et al., 1998); helmet use among cyclists (Messiah et al., 2012; Phillips et al., 2011); and from a risk-reducing intervention’s protective effects against HIV and STIs (Pinkerton, 2001).

Risk compensation has been used to explain sexual behavior following HIV trials and treatment interventions. Research has shown that risk compensation behavior influences sexual risk perceptions and behaviors among participants in vaccine trials (Chesney et al., 1997), microbicide trials (Mantell et al., 2006), and among patients taking ART (Brooks et al., 2012; Dukers et al., 2001; Katz et al., 2002 Stolte et al., 2004), making sexual risk compensation an issue of concern for HIV prevention interventions.
A prospective cohort study, which took place prior to RCT data in 2005, looked at sexual risk compensation following MC in western Kenya (Agot et al., 2007). The study reported there were no differences in the average number of risky sexual partners per month or the frequency of condom use over a 12-month follow-up period among circumcised and uncircumcised men. Data from the three RCTs demonstrated that in the presence of considerable risk reduction counseling there is limited sexual risk compensation. The Kenya RCT reported a decrease in sexual risk behavior from baseline to six and 12 months for both circumcised and uncircumcised men (Bailey et al., 2007; Mattson et al., 2008). The Uganda trial did not find evidence that circumcised men had higher sexual risk behaviors than those in the control group (Gray et al., 2007). It did, however report that at six-months follow-up circumcised men had a slightly greater risk of inconsistent condom use. Auvert et al. (2005) reported that among men participating in the South Africa RCT, intervention group participants reported an increased number of sexual risk encounters than the control group, between four and 12 months, and no decline in condom use or increase in the number of sex partners.

A longitudinal study examining sexual risk compensation associated with MC in the VMMC program in Nyanza Province, Kenya, observed no evidence of risk compensation over 24 months, despite a decline in circumcised men’s HIV risk perceptions (Westercamp, N, 2013). Additionally, two cross-sectional surveys assessing HIV-related risk behaviors among men and women in Kisumu over a three-year period found no association between MC and HIV high-risk behaviors (Westercamp, M, 2013).

Mathematical models have demonstrated that a significant level of risk compensation would need to occur in order for it to outweigh the benefits of MC (Hallett
et al., 2008; Nagelkerke et al., 2007; Njeuhmeli et al., 2011). But it is possible for risk compensation to limit MC’s protective effects and may disproportionately affect women’s risk of HIV in the short-term (Dushoff et al., 2011).

Questions remain about how risk compensation will manifest over one’s lifetime. Circumcising at an early age may affect the impact of risk perception when a boy becomes sexual active, which would alter the behavior he might have practiced if he were uncircumcised. Additionally, among sexually active men there could be behavioral variations in response to social forces during different times in a person's life and during different sexual encounters, which could affect sexual risk behaviors.

G. **Women and Male Circumcision**

While there have been several studies examining acceptability of MC among women (Bailey et al., 2002; Kebaabetswe et al., 2003; Mattson et al., 2005; Scott et al., 2005); and women’s knowledge of MC’s protective effect of female-to-male HIV transmission (Lanham et al., 2012; Maughn-Brown and Venkataramani, 2012) little research has been carried out pertaining to how MC influences women’s sexual behaviors and how women will influence MC (Lagarde et al., 2003). Knowledge about the role of women in relation to MC, including risk compensation, can illuminate aspects of sexual behavior related to MC. This is especially important as women bear a majority of the HIV disease burden in sub-Saharan Africa and Kenya, with Kenyan females 15–49 years old having an HIV prevalence almost twice that of men, 8.0% for women compared to 4.3% for men (UNAIDS, 2012; Kenya National Bureau of Statistics and ICF Macro, 2010). The difference between genders among individuals 15–24 years of
age in Kenya is more pronounced, with a female HIV prevalence of 4.5% being four times greater than male prevalence of 1.1% (National AIDS Control Council and National AIDS and STI Control Programme, 2012).

H. **Purpose of the Study**

With MC recognized as a proven HIV prevention method, a new set of questions about whether MC influences sexual risk behaviors has surfaced. Along with these questions there is also a need to gain an understanding of the broader social and cultural dynamics that are relevant to MC in order to develop acceptable and sustainable medical MC programs (Peltzer et al., 2007).

Due to concerns regarding risk compensation and MC, the primary purpose of this dissertation was to conduct a qualitative investigation of sexual risk compensation among circumcised men, uncircumcised men, and women related to MC. To do so we explored how MC influences sexual risk perceptions, sexual behavior, and contextual factors that influence sexual risk-taking among men and women in Kisumu, Kenya. As more adult men and women view MC as a possible method to reduce the transmission of HIV for themselves and their partners it is important to identify and understand MC sexual risk behaviors for HIV and STIs, including whether previous prevention efforts change. The secondary objective was to explore how MC is framed in relation to Luo MC norms, given that Luo men traditionally do not circumcise.

In the first and primary analysis, we examine risk compensation and protective sexual behavior among circumcised men. This analysis examines how MC influences
sexual risk perceptions and behavior and identifies and describes individual level factors that can facilitate or reduce sexual risk behaviors related to MC.

Secondly, we explore women’s beliefs and attitudes toward MC, and their related HIV prevention and sexual behaviors. We sought to understand how gender influences sexual risk related to MC, as well as women’s perceptions and behaviors related to MC and sexual risk.

Finally, to present a picture of the processes at play as VMMC programs are placed into communities, we present an analysis that describes how men and women consider and manage the intersection of MC as a public health intervention, and Luo MC norms. Because the effectiveness of MC as a prevention measure will not be determined by the risk reduction properties of circumcision alone it is vital that we understand the context that MC programs are placed within.
II. MATERIALS AND METHODS

A. **Study Setting and Design**

From March to November 2008, we conducted a qualitative study consisting of individual in-depth qualitative interviews, accompanied by a structured demographic questionnaire, and focus group discussions (FGD) among circumcised men, uncircumcised men, and women to explore sexual risk perceptions and behaviors related to MC.

The research took place in Kisumu, Kenya’s third largest city, and the capital of Nyanza Province. Kisumu’s population of approximately 470,000 inhabitants is made up predominately of the Luo ethnic group (Kenya National Bureau of Statistics, 2010). The Luo are the fourth largest ethnic groups in Kenya with slightly more than four million members, 77% of whom reside in Nyanza Province, and who make up 10.5% of the Kenyan population (Kenya National Bureau of Statistics, 2010).

Nyanza province has the lowest rate of MC in Kenya at 44.8% and the highest HIV prevalence in the country at 15.1%, more than double the national average of 5.6% (National AIDS and STI Control Programme, 2013; Kenya National Bureau of Statistics and ICF Macro, 2010). According to Kenya’s 2008–2009 Demographic and Health Survey it is estimated that 21.5% of Luo men are circumcised (Kenya National Bureau of Statistics and ICF Macro, 2010). Since Kisumu was one of the RCT study sites that examined MC and HIV incidence it provided a sizeable population of sexually active men who had been recently circumcised as potential research participants.
Men and women were eligible to participate in the study if: (1) they were 18 to 35 years old, (2) had been sexually active (defined as vaginal or anal intercourse) in the past 12 months, (3) resided in Kisumu District, (4) were willing to be audio-recorded, and (5) could provide informed consent. Men and women respondents were recruited from community settings using purposive sampling methods in order to identify younger sexually active men and women (Miles and Huberman, 1994). Participants were also
recruited through snowball sampling methods, whereby respondents were asked to identify potential participants who might be sources of information on sexual behavior related to MC (Patton, 2002). Recruitment locations included: shopping centers, health clinics, circumcision clinics, and on the street. A screening questionnaire was used to identify eligible participants. Both circumcised and uncircumcised men were eligible for the study in order to explore facilitators and barriers to getting circumcised. Women were included in the study in order to better understand their experience with, and perceptions of, MC.

After obtaining written informed consent, individual one-on-one interviews and focus groups were conducted in Dholuo, Kiswahili, and/or English, depending on the respondent’s language preference. The FGDs began in English but if participants began speaking Dholuo or Kiswahili the moderator would change to the language being spoken. The individual interviews and FGDs used semi-structured interview guides that were developed from preliminary findings of the University of Nairobi, Illinois and Manitoba Collaborative (UNIM), and White House (an ancillary UNIM study) studies that took place in Kisumu, conversations with UNIM staff in Kisumu, and from a literature review on MC as an HIV prevention method. The guides were primarily designed to elicit the following information: knowledge and beliefs about HIV; knowledge and beliefs about MC; knowledge of MC’s protective effect against HIV and STIs; reasons for getting, or not getting, circumcised; sexual activity and circumcision; communication with others about circumcision; negative effects of being circumcised; knowledge and beliefs about sexual and circumcision norms in Luo culture; and a description of a recent sexual encounter. Secondary questions pertained to condom usage, descriptions
of wet and dry sex, beliefs about monogamy, and ART knowledge. The FGD and individual interview guides are provided in Appendices A and B.

At the conclusion of the individual interviews participants were administered a 35-item questionnaire. The questionnaire contained questions about: demographic characteristics (such as age, education, profession, ethnicity, and income), HIV knowledge, HIV testing, sexual practices, condom use, and circumcision status for men. The demographic questionnaire is located in Appendix C.

Interviews and FGDs were conducted in a private room and audio-recorded. Respondents were reimbursed 150 Kenyan Shillings (approximately US$2.25) in cash at the end of the interview or FGD for their time.

The research team consisted of one American (male) and two Luo Kenyans (one male, one female). The Kenyan members of the team were social scientists and underwent a five-day training specific to the study led by the principal investigator. The training included moderating and interviewing techniques, confidentiality issues, informed consent procedures, and safety issues. All project staff received training on human subjects and completed the Collaborative Institutional Training Initiative online training course on human subjects protection.

Human subjects approval was obtained from the University of Illinois at Chicago (reference no. 2007-0570) and the Kenyatta National Hospital in Kenya (reference no. KNH-ERC/01/76). Approval letters are located in Appendices D and E.
B. **Data Analysis Methods**

Qualitative data were analyzed using elements of grounded theory data analysis framework employing an inductive analysis in which categories, themes, and patterns emerged from the data (Strauss and Corbin, 1998).

Audio recordings were transcribed verbatim in the language spoken, and then translated into English, if necessary. All transcripts were verified by a second member of the research team for accuracy and any discrepancies reconciled with the original transcriptionist. A collaborative codebook was developed, whereby all three members of the research team developed codebooks independently, using questions and probes from the interview guide as well as patterns, interactions, and themes that emerged from the first 13 interviews. All codes from the three codebooks were evaluated for their relevancy and merged into a single codebook. New codes were developed over the course of the study as new themes and perspectives emerged.

The principal investigator and project staff coded the data using open and axial coding procedures of grounded theory (Strauss and Corbin, 1998). Staff analyzed the interviews using the constant comparative method (Glaser and Strauss, 1967). Fifty percent of transcripts were coded by two members of the research team and any discrepancies in coding were discussed until a consensus was reached, thus reconciling the coding. The principal investigator coded the remaining 50% of transcripts. The transcripts were imported into ATLAS.ti qualitative analysis software and coded electronically for analysis (ATLAS.ti, 2008). The list of codes used for coding is located in Appendix F.
After coding the data in ATLAS.ti, memos were written related to themes and research questions. The study's data were analyzed using an inductive framework in which categories, themes, and patterns emerge from the data.

Four FGDs were conducted at the beginning of the data collection among circumcised men, uncircumcised men, and women. The data from the FGDs was intended to provide direction and inform the questions and probes in the subsequent individual interviews. The data from the FGDs were coded using the same codes as the individual interviews. Ultimately, the FGD data were not used in the data analysis because it was often unclear whether a circumcised or uncircumcised man was speaking, (since we did not ask them to state that information prior to speaking); there was significant cross-talk making transcription impossible at times; and a majority of FGD participants spoke in the third person, which created doubt as to the accuracy of what they were reporting since we were not able corroborate the information provided.

The quantitative data obtained from the demographic questionnaire were entered into SPSS statistical software program (SPSS version 16, 2005), which was used to generate frequencies and proportions.
III. “WHEN I WAS CIRCUMCISED I WAS TAUGHT CERTAIN THINGS”: RISK COMPENSATION AND PROTECTIVE SEXUAL BEHAVIOR AMONG CIRCUMCISED MEN IN KISUMU, KENYA

A. Introduction

Male circumcision has recently become a significant component of HIV prevention efforts after the results of three RCTs demonstrated that circumcised men have an approximately 60% less chance of becoming infected with HIV through unprotected vaginal sex (Auvert et al., 2005; Bailey et al., 2007; Gray et al., 2007). Following the publication of results from the three RCTs, the UNAIDS and WHO recommended that MC be recognized as an intervention for HIV prevention in countries with low MC rates, high HIV prevalence, and where heterosexual sex is the main route of transmission (WHO, 2007b).

Despite WHO and UNAIDS recommendation, and the promotion of MC as an HIV prevention method in sub-Saharan Africa, questions remain about whether promoting MC as an HIV prevention intervention will result in decreases in HIV incidence. A key concern is that promoting MC may lead circumcised men to develop a false sense of complete protection against HIV and engage in risk compensation by halting or decreasing previous protective behaviors such as condom use or partner

1 The contents of this chapter have been previously published, and are included here with the permission of PLoS ONE. (Riess, T. H., Achieng', M. M., Otieno, S., Ndinya-Achola, J. O., and Bailey, R. C. 2010. “‘When I was Circumcised I Was Taught Certain Things’: Risk Compensation and Protective Sexual Behavior Among Circumcised Men in Kisumu, Kenya.” PLoS ONE 5 (8): e12366. doi:10.1371/journal.pone.0012366.)
reduction, causing the protective effects of MC to be reduced or negated (Cassell et al., 2006; Kalichman et al., 2007). Risk compensation is the notion that individuals modify their behavior in response to real or perceived changes in risks. Pinkerton has defined risk compensation as “any behavioral change that acts to offset a reduction in risk resulting from other changes” (Pinkerton, 2001, p. 727). Risk homeostasis theory has been used to describe this phenomenon (Wilde, 1994). Accordingly, sexual risk compensation in the context of MC is characterized by someone knowing they are less likely to contract HIV and responding to this reduced risk by increasing behaviors associated with greater risk of HIV transmission, such as not using condoms, increasing the number sexual partners, increasing the frequency of higher-risk sex (e.g., anal sex versus vaginal sex), or increasing the frequency of sex with high-risk partners (e.g., sex workers).

The terms risk compensation and sexual disinhibition have been used interchangeably in the public health literature. The concept of sexual risk compensation implies that a change in potential harm has occurred and is in turn being countered by a change in one’s level of risk behavior. On the other hand, sexual disinhibition on the other hand denotes that some sort of restraint has been removed, and subsequent behavior is not related to a change in the level of risk, but rather a lowering or removal of such a moderator. The effect of alcohol illustrates disinhibition since it may lower the restraints of certain behaviors and can result in people engaging in sexual behavior that they may be less likely to perform when not inebriated, but the risks of contracting HIV related to sex remain constant. Male circumcision lowers the probability of men contracting HIV and any increase in risk behavior attributable to this known protection
should be considered risk compensation. A preference for the term risk compensation, rather than disinhibition, has been expressed by Hogben and Liddon (2008) and Cassell et al. (2006).

Data from the three African RCTs show varying evidence of changes in sexual risk behavior after circumcision. The Ugandan RCT reported no risk compensation among participants, while the South African trial reported an increase in the number of sexual encounters between four and 21 months after circumcision but no decline in condom use or increase in the number of sex partners (Auvert et al., 2005; Gray et al., 2007). The Kenyan trial reported a decrease in risk behavior among both the circumcised and uncircumcised groups, with the uncircumcised men reporting less unprotected sex and greater condom use at 24 months follow-up (Bailey et al., 2007). Additionally, a subgroup of 1,319 Kenya RCT participants was recruited for a study examining risk compensation over a 12-month period using an 18-item behavioral risk propensity scale and found a significant reduction in sexual risk behavior in both uncircumcised and circumcised men, and no statistically significant difference in the incidence of sexually transmitted infections (STIs) or sexual behavior in the two groups (Mattson et al., 2008).

A prospective cohort study conducted from 2002 to 2004, before the dissemination of RCT findings, looked at sexual risk behavior following MC in western Kenya and found no differences between circumcised and uncircumcised men in the average number of risky sex partners per month or the frequency of condom use over a 12-month follow-up period (Agot et al., 2007).
Given the variability of results from studies examining sexual risk compensation in HIV vaccine trials (Chesney et al., 1997), HIV prevention interventions (Pinkerton, 2001), STI prophylaxis (Farley et al., 2003), ART (Crepaz et al., 2004; Eaton and Kalichman, 2007), and condom promotion programs (Kajubi et al., 2005), and the dearth of research on sexual behavior change related to MC, the objectives of this study were to: (1) explore how MC influences sexual risk perceptions and behaviors, and (2) identify and describe individual level factors that could facilitate or reduce sexual risk behaviors related to MC. In this paper we characterize the sexual perceptions and behaviors of circumcised men and provide context for sexual behavior change related to MC among men in Kisumu, Kenya.

B. **Methods**

Between March and November 2008 we conducted individual in-depth qualitative interviews and FGDs among circumcised men, uncircumcised men, and women to explore sexual risk perceptions and behaviors related to MC. For the purpose of this paper only interviews conducted with circumcised men were used. Men who were recently circumcised provided firsthand accounts of their pre- and post-circumcision sexual behaviors. Men circumcised in their youth provided information on whether learning that circumcision is protective against HIV influenced their sexual risk behaviors.
1. **Setting**

Data for this study were collected in Kisumu, Kenya, the country’s third largest city, and the capital of Nyanza Province. Kisumu’s population of approximately 400,000 inhabitants is made up predominately of people belonging to the Luo ethnic group. It is estimated that 85% of Kenyan men are circumcised but Luo men do not traditionally circumcise (National AIDS and STI Control Programme, 2008b). Nyanza province has the lowest rate of MC in Kenya at 46.7% and the highest HIV prevalence in the country at 15.3%, more than double the national average of 7.4% (National AIDS and STI Control Programme, 2008b). It is estimated that 16.9% of Luo men in Nyanza province are circumcised (Kenya Central Bureau of Statistics, 2004), whereas the ethnic groups that inhabit the area immediately surrounding the Luo in Nyanza Province (i.e., Kisii, Luhya, Nandi, Kipsigis, Kuria, and Maasai) regularly practice male circumcision.

At the time of this study there were several ongoing HIV prevention activities in Kisumu as part of nongovernmental organizations’ (NGO) programs or research, including: counseling and testing, ART, STI treatment, MC, and outreach programs. Additionally, from 2002 to 2006 Kisumu was the site of an RCT that examined MC’s effect on HIV incidence. During the course of our study the Kisumu RCT clinic continued to function as an MC, STI, and HTC clinic. Male circumcision services were also provided by a sexual and reproductive health NGO in Nyanza Province from June 2007 through December 2008.
2. **Sampling and recruitment**

Respondents were recruited from community settings using purposive sampling methods (Miles and Huberman, 1994). To be eligible for the study, respondents needed to be 18–35 years of age, circumcised, have had vaginal or anal sex in the past 12 months, reside in Kisumu District, and be willing to be audio-recorded. A screening questionnaire was used to identify eligible respondents. Recruitment locations included: shopping centers, health clinics, circumcision clinics, and on the street. Interview participants were also recruited through snowball sampling methods, whereby respondents were asked to identify potential participants who may be sources of information on sexual behavior related to MC (Patton, 2002). A diverse sample of circumcised men was recruited in order to explore a wide variety of sexual perceptions and behaviors related to MC.

3. **Qualitative data collection, management, and analysis**

All project staff received training on human subjects and completed the Collaborative Institutional Training Initiative online training course on human subjects protection. The Institutional Review Boards of the University of Illinois at Chicago, USA and the Kenyatta National Hospital, Nairobi, Kenya, approved the study.

After obtaining written informed consent, individual interviews were conducted in Dholuo, Kiswahili, and/or English, using a semi-structured interview guide designed to elicit the following information: knowledge and beliefs about MC; knowledge of MC’s relationship to HIV and STIs; reasons for getting circumcised; changes in sexual activity after getting circumcised and/or learning of MC’s protective effect against HIV;
communication with others about circumcision; negative effects of being circumcised; how circumcision is viewed within their ethnicity’s culture; knowledge and beliefs about HIV; a description of a recent sexual encounter; knowledge and opinions of HIV risk reduction strategies; and condom use. Demographic information was collected via a 35-item questionnaire at the end of the interview. To ensure confidentiality, individual interviews were conducted in a private room. Interviews lasted between 40 and 120 minutes and were audio-recorded. All interviews were conducted anonymously and no names or contact information were collected. Respondents were reimbursed 150 Kenyan Shillings (approximately US$2.25) in cash at the end of the interview for their time.

Audio recordings were transcribed verbatim in the language of the interview, and then translated into English, if necessary. All transcripts were verified by a second member of the research team against the audio recording for accuracy and any discrepancies were reconciled. A collaborative codebook was developed, whereby three members of the research team developed codebooks independently, using questions and probes from the interview guide as well as patterns, interactions, and themes that emerged from the first 13 interviews. All codes from the three codebooks were evaluated for their relevancy and merged into a single codebook. New codes were developed over the course of the study as new themes and perspectives emerged.

Project staff coded the interviews using Glaser and Strauss’ constant comparative method (Glaser and Strauss, 1967). Fifty percent of the transcripts were coded by two members of the research team and were then reconciled between the coders to come up with a mutually agreed upon coding scheme. One member of the research team
coded the remaining 50% of transcripts. Inter-coder reliability scores were not computed. The transcripts were imported into ATLAS.ti qualitative analysis software and coded electronically for analysis.

After coding the interview transcripts using ATLAS.ti software analytical memos related to composite codes were written. Analysis focused on understanding the significance of MC, identifying changes in risk behavior after circumcision, and factors contributing to behavior change. Discussions among the research team were held to reach consensus on data interpretations and resolve discrepancies.

C. **Results**

Table I presents respondent demographic characteristics. Among the 30 circumcised male respondents interviewed (N=30) the median age was 25. Most respondents were not married and not living with a sexual partner (63%), had completed primary school (90%), worked in the service industry (e.g., transportation or security guard) (50%), reported earning 2,000 to 10,000 Kenyan Shillings (approximately US$30–$150) per month (70%), and were from the Luo ethnic group (83%). Among respondents’ sexual behaviors, 60% reported having one sexual partner in the past 30 days; 73% said they had two or more sexual partners in the past year; 67% said that they used a condom during their last sexual encounter, one (3%) reported being HIV positive; and none reported having sex with men in the past 12 months.
### TABLE I

DEMOGRAPHIC CHARACTERISTICS OF CIRCUMCISED MALE RESPONDENTS
(N=30)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>No. of Respondents</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–22</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>23–27</td>
<td>13</td>
<td>43</td>
</tr>
<tr>
<td>28–33</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married living with spouse</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td>Not married, not living with sex partner</td>
<td>19</td>
<td>63</td>
</tr>
<tr>
<td><strong>Highest education level completed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did not finish primary school</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Primary school</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td>Secondary or vocational</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>Beyond secondary</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Health worker</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Service worker</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td>Student</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Unemployed</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Merchant</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td><strong>Average monthly income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;2,000 Shillings</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>2,000–5,000</td>
<td>12</td>
<td>40</td>
</tr>
<tr>
<td>5,001–10,000</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td>&gt;10,000</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td><strong>Ethnic group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luo</td>
<td>25</td>
<td>83</td>
</tr>
<tr>
<td>Luhyana</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Kisii</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Kamba</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>
## DEMOGRAPHIC CHARACTERISTICS OF CIRCUMCISED MALE RESPONDENTS (N=30)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>No. of Respondents</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age at circumcision</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;11</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>11–15</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>16–20</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>21–25</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>26–30</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>31–33</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td><strong>Number of years circumcised</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;1</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>1</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td>2–5</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>6–10</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>&gt;10</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td><strong>Number of sex partners in past 30 days</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>1</td>
<td>18</td>
<td>60</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td><strong>Number of sex partners in past year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>2–4</td>
<td>19</td>
<td>63</td>
</tr>
<tr>
<td>5 or more</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td><strong>Used condom during last sexual encounter</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>20</td>
<td>67</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>33</td>
</tr>
</tbody>
</table>
Respondents were circumcised between 1986 and 2008. A majority of respondents were circumcised from 16 to 30 years of age (80%). The youngest age at the time of circumcision was seven years and the oldest was thirty-three. The period of time that respondents had already been circumcised ranged from two weeks to 22 years, the median being one year. Of the 30 circumcised men, 11 were circumcised at the Kisumu RCT’s clinic (average number of years having been circumcised = 2.4, range = <1–6 years), 10 were circumcised at the sexual and reproductive health NGO’s clinic in Kisumu (average number of years having been circumcised = 0.8, range = <1–2 years), seven were circumcised in hospitals throughout Kenya (average number of years having been circumcised = 10.4, range = <1–22 years), and two were circumcised in ethnic group ceremonies (average number of years having been circumcised = 16.4, range = 14–19 years). Twenty-three (77%) of the respondents were circumcised in Kisumu.

1. **Male circumcision’s influence on sexual behavior**

We classified sexual behavior change into three categories: (1) adopt protective sexual behaviors, defined as reducing the number of sexual partners or increasing condom use; (2) maintain same behavior; and (3) increase in risk behaviors (risk compensation), defined as increasing the number of sexual partners or reducing condom use. Table II lists the frequency of responses for sexual behavior change categories and circumcision venue.
a. **Adopting protective sexual behaviors**

Five respondents reported reducing the number of sex partners they had and six increased their condom use after circumcision. They described changes in their sexual behavior in relation to their knowledge, attitudes, and beliefs about MC and HTC.

**TABLE II**

SEXUAL BEHAVIOR CHANGES AFTER CIRCUMCISION OR LEARNING THAT CIRCUMCISION REDUCES TRANSMISSION OF HIV (N=30)\(^a\)

<table>
<thead>
<tr>
<th></th>
<th>Circumcised at RCT Clinic</th>
<th>Circumcised at Sexual &amp; Reproductive Health NGO clinic</th>
<th>Circumcised at Kenyan Hospital</th>
<th>Circumcised at Ethnic Ceremony</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Adopted protective sexual behavior:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced number of partners (includes abstinence)</td>
<td>3</td>
<td>27</td>
<td>2</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Increased condom use</td>
<td>5</td>
<td>45</td>
<td>1</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Maintained same sexual behavior</td>
<td>4</td>
<td>36</td>
<td>4</td>
<td>40</td>
<td>7</td>
</tr>
<tr>
<td>Increased sexual risk behavior:</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td>Decreased condom use</td>
<td>1</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

\(^a\) Categories are not mutually exclusive as two respondents reported multiple protective behaviors, therefore not all column totals add up to 100%.

A respondent who was circumcised to lower his risk of contracting HIV had been taught about partner reduction during pre-circumcision counseling, and subsequently reduced the number of girlfriends he had.
Now I have reduced bad behavior that I had. I didn’t like my behavior before I was circumcised. I liked girls, so when I received these teachings, some skills and knowledge, which I didn’t have. I realized that I was messing up. I could lose my life. So that is why I decided to change. . . . I had two girlfriends in the past. . . . I took one. (18-year-old circumcised less than one year)

A respondent who took his first HIV test as part of pre-circumcision counseling explained that it was not just the circumcision procedure that changed his behavior but also undergoing HIV testing that served as an impetus to changing his behavior.

Respondent: . . . it’s not just circumcision but it involves a lot about the test . . . before I was circumcised I used to have many girls, you could go [have sex] with many girls. Nowadays I always stick to somebody, to just one person.

Interviewer: Is that because you’re circumcised or because of something else?
R: Yeah, because circumcision also changed my behavior. . . . So I think with circumcision, it’s not specifically circumcision that makes me to behave that way, but it’s like the test I’m taking. So, I always want to remain negative, like that. So it does change but not specifically that because I’m circumcised. Maybe my sex life has changed but what I’m saying is that it is because of my status. (24-year-old circumcised three years)

An 18-year-old man who did not use condoms explained that he learned how to use condoms during pre-circumcision counseling and began using them.

I: So the five women that you mentioned that you had sex with since [being circumcised], so how many of those did you use condoms with?
R: All.
I: . . . And the three women before you were circumcised how many?
R: I was not using.
I: . . . So why did you start using now, after you were circumcised?
R: I learnt that condom helps to prevent some diseases. The other days I was not, I didn’t learn, but nowadays I learnt that it helps prevent some diseases. (18-year-old circumcised one year)
b. **Maintaining same behavior after circumcision**

Seventeen men reported maintaining their sexual behavior after getting circumcised. Seven of these men reported getting circumcised in a hospital and two in tribal ceremonies where MC was not being promoted as an HIV prevention intervention and counseling was not provided. The other eight men did receive counseling, with four circumcised at the RCT's clinic and four circumcised at the NGO clinic.

Despite wanting to get circumcised because he believed women preferred circumcised men, an RCT participant reported that the number of sexual partners he had did not change after getting circumcised.

I: . . . did you think that your sex life would change after you got circumcised?  
**R:** Not really, I was just going to maintain it. So it has just remained the same. It’s not that now I’m circumcised so I have to do it [have sex] quite often, no. It has not changed. (23-year-old circumcised three years)

The man elaborated further acknowledging that he feels more protected against HIV, but that it did not cause him to change his sexual behavior.

I: What about just like your susceptibility to STIs or HIV, do you feel any different about that?  
**R:** Yeah, I do feel that now I’m less susceptible to contracting them than when I was uncircumcised.  
I: So how does that affect your behavior then?  
**R:** It doesn’t affect it. It doesn’t affect my behavior much. Because now I won’t do it [have sex] just anyhow because I know I’m less susceptible. No. I still maintain, I’m still cautious just like I used to be even when I was not circumcised. Because we were made to understand . . . that circumcision will not eliminate totally but it will only reduce the chances. But we were also told that when, if you combine circumcision and maybe the use of condoms that will be a good combination in reducing your chances of getting HIV/AIDS. (23-year-old circumcised three years)
The 20 year-old man quoted below who was circumcised at the sexual and reproductive health NGO’s clinic explained that being circumcised would not cause him to increase the amount of unprotected sex he had. When asked whether he viewed HIV differently after getting circumcised he replied:

. . . even say the girls who, that I have sex with, or those I have been having sex with in the past, most of them I’d use a condom. So now, because of AIDS, I can’t say now that I am circumcised, and because it was said that it reduces the rate of infection a bit, I can just have sex with somebody without protection. (20-year-old circumcised less than one year)

One respondent, who was circumcised because he felt that it would reduce his chances of getting HIV, carried on his risky behavior after getting circumcised. He continued not using condoms, because a bishop had told him that the lubrication used in condoms develops into HIV.

I: . . . did the fact that you didn’t use condoms, did that influence your decision to want to get circumcised at all?
R: Yeah. That one also influenced me to getting circumcised, cause when I hear that now there’s an alternative.
I: An alternative to what?
R: Cause, the version about condoms is that they are, they prevent somebody from getting infection. And also concerning circumcision is that it reduces the risk of somebody getting infected. So you see circumcision was kind of an alternative of using a condom for somebody who has always had a negative attitude towards the usage of condoms. See it was kind of an alternative.
I: So after you were circumcised did . . . you ever think you were going to use them [condoms]?
R: I never even imagined about them. Not at all. (21-year-old circumcised three years)
c. **Risk compensation**

Five respondents reported engaging in riskier sexual behavior after getting circumcised. One man stopped using condoms temporarily after getting circumcised and four men reported an increase in the number of sexual partners, with no change in condom use. All five men were circumcised as part of MC programs for HIV prevention with four being circumcised at the sexual and reproductive health NGO’s clinic and one at the RCT’s clinic.

A respondent who was circumcised at the sexual and reproductive health NGO’s clinic reported having a temporary “testing” period of unprotected sex with his wife after being circumcised. He was aware that circumcision only provided partial protection against HIV but wanted to try sex without a condom before returning to his pre-circumcision practice of using condoms occasionally with his wife to prevent pregnancy and consistently with two other sexual partners.

R: I did not want condoms when testing. ... What’s needed is just the skin against skin. ... Because with testing, there shouldn’t be anything that acts as a barrier.
I: And were you using condoms before circumcision?
R: Yeah, I was using.
I: And after circumcision have you used?
R: Yeah, now after that test, I just went back to normal. (27-year-old circumcised one year)

A man who was circumcised at the RCT’s clinic found that being circumcised made him a more desirable sex partner. He continued to have unprotected sex with his primary girlfriend but reported using condoms with his two new girlfriends. The three other respondents who reported increasing the number of sex partners after circumcision also reported using condoms with their new partners.
I: . . . after you're circumcised what’s different in your life or your behavior, or anything?
R: It can increase the number of girlfriends.
I: So how many do you have?
R: Three.
I: . . . And how many did you have before you were circumcised?
R: One. (20-year-old circumcised one year)

2. **Knowledge of male circumcision’s protective effects**
   
a. **Understanding of circumcision’s partial protection**

   Nearly all respondents expressed an understanding that MC only offers partial protection against HIV and STIs. While only a few respondents could give an accurate figure on the percentage of protection that MC provided, there was widespread understanding that it was not 100% protection, and that other means of HIV prevention should be used in conjunction with circumcision. Men reported that they needed to continue to use condoms, or for men who practiced condom use intermittently, to increase their condom usage, be faithful to one partner, or reduce the number of sexual partners in order to maintain a low-level of HIV risk.

   A respondent who heard about the benefits of MC after the publication of the results of the Kisumu RCT was circumcised at the sexual and reproductive health clinic as an HIV prevention measure. He remained concerned about HIV and felt that circumcision gave him some insurance against condom failure.

   Like the other thing I would say is that I’m less worried in a way. You know even though HIV/AIDS is there but since I have that in mind, that I have 60% protection, at least it gives me some hope, because the issue of HIV/AIDS nowadays is a worry to everybody. . . . You know even using condoms at times, you never know you might not use a condom properly and you might get infected, so at least I know
that if you have 60% to some extent you are a bit safer in a way. (28-year-old circumcised one year)

A Luhya respondent was circumcised eight years earlier in a hospital as part of his ethnic group’s customs. His belief that MC did not provide total protection against HIV was informed by his knowing circumcised men who had been infected with HIV.

I: . . . since you’re a circumcised man do you think that you might at one point—.  
R: Not use a condom? It depends now. But to me I think I cannot risk. I can only risk it after marrying my wife, maybe. . . . But I cannot do it because I’m circumcised now. And I know the risk maybe are lesser compared to somebody who is uncircumcised. I cannot risk.  
I: But have you thought about that before?  
R: I’ve thought about it but to me it’s null and void. . . . You know it’s not good because there are some who have been circumcised but they’re still getting the HIV/AIDS. That’s the reason. (24-year-old circumcised eight years)

A Luo respondent who had been circumcised in a Nairobi hospital mentioned that, since the benefits of MC were not known when he was circumcised, he used condoms as a way to prevent HIV and STIs. He had since learned about the benefits of MC against HIV, but still expressed his vulnerability to HIV as being similar to that of someone who is not circumcised.

R: In fact when I got circumcised, the issue, the relationship between circumcision and HIV and AIDS was not very clear. That was back in 2001.  
I: . . . how did you think being circumcised might change your sex life though?  
R: . . . you know that when you get circumcised, as in after getting to learn the relationships about it, in fact has really made me to know that I’m no better than someone who is not circumcised in relation of HIV and AIDS and other STI infections. . . . what I’m saying is that if someone is circumcised and someone is not circumcised, if they still engage in risky sexual behavior without condoms with someone who is infected with the HIV and AIDS they will still get it. (29-year-old circumcised eight years)
Responses demonstrate that widespread communication about the benefits and risks of MC were taking place and that they go beyond individual counseling. The quotes illustrate that information about MC’s partial protection against HIV is widespread among respondents who were circumcised in different settings and at various points in time. Respondents reported obtaining information about MC through multiple sources, including the media, community health organizations, HIV prevention programs, schools, peers, and MC programs.

b. **HIV counseling and testing and its impact on behavior**

Male circumcision was accompanied by HIV counseling and testing for 21 respondents. The amount of counseling received varied according to when and where respondents were circumcised. The 11 respondents who were circumcised at the RCT clinic reported receiving on-site pre- and post-circumcision counseling and HIV testing, visiting the clinic between one and three times before being circumcised and from 13 to 38 times after being circumcised for trial follow-up visits and medical care. The ten respondents circumcised at the sexual and reproductive health NGO’s clinic were informed of the protection that MC provides against HIV by a recruiter during recruitment. The nine men circumcised at hospitals or in ethnic group ceremonies did not report receiving pre- or post-circumcision counseling because either circumcision was not being offered as an HIV prevention intervention, or for seven respondents, they were circumcised prior to WHO’s advocacy of MC.

Among those who underwent counseling and/or testing as part of their circumcision, some credited this experience with changing their previous high-risk
behaviors. Getting circumcised served as a gateway to knowledge about HIV prevention and transmission and one’s HIV status. Testing HIV negative during pre-circumcision counseling was a relief for some respondents given their past risky sexual behaviors. After getting a negative test result some men expressed a sense of having a fresh start and a desire to stop or reduce their risky behaviors in order to remain HIV negative. The nine respondents who did not undergo counseling as part of their circumcision did not report protective sexual behavior change or risk compensation.

A respondent who was circumcised as a participant in the Kisumu RCT expressed how getting circumcised educated him about HIV and STIs. After he tested HIV negative he wanted to make sure that he would maintain his serostatus so he decided to remain with one sexual partner as a way to reduce his risk behavior. The HIV test also made him more concerned about his health, which drove him to start using condoms more frequently.

I: . . . after circumcision, did your sexual practices change?
R: Of course, I became more careful. . . . I know that I’m HIV negative. Also, I really want to be safe and like be, for as long as it will take. It changed me, it did. (29-year-old circumcised six years)

The same respondent spoke about increasing condom use because of counseling, but after a period of using condoms most of the time he went back to using condoms occasionally because he was monogamous and to prevent pregnancy.

I: . . . after circumcision did you use condoms more or less?
R: More. . . . I used to [use condoms] but not very much. . . . And then when I came here [to the RCT clinic] I got more enlightened on these issues to do with HIV/AIDS and stuff of that sort, STIs. So I became more concerned about my life. So I make
them [condoms] a priority, in fact during those times [while participating in the trial] I used to use condoms so much. (29-year-old circumcised six years)

3. **Other male circumcision facilitated changes**

Some men reported that the anatomical change of removing the foreskin facilitated changes in their behavior and their physical vulnerability to HIV. Men reported it was easier to use condoms, that cuts on the penis during sex no longer occurred, and that they were able to have more rounds of sex.²

a. **Ease of condom use**

Several respondents reported that condom use was easier after getting circumcised. Men described their circumcised penis as smooth and pointed and said that since there was no longer the need to pull the foreskin back to put on condoms, it was easier to use them.

... when you’re not circumcised wearing a condom takes a lot of time. And then you know, normally you find that maybe that when you’re wearing that condom and you take a lot of time, you find you’re losing some erection. As compared to when you’re circumcised, it’s very easy to wear a condom. (27-year-old circumcised four years)

b. **Reduced cuts on foreskin**

Six men reported the elimination of cuts on their penis during sex after being circumcised. Men were not certain as to what caused the cuts and tears when they were uncircumcised but after getting circumcised and no longer getting cuts they attributed the cuts to the movement of the foreskin during sex. Respondents
expressed an awareness that the cuts made them more susceptible to HIV and STIs and were satisfied that circumcision had stopped the cuts from occurring.

I: ... before you were circumcised were there injuries on the foreskin when you were having sex?
R: ... Yes. ... You may sometimes find that it is broken and bleeding.
I: And does that happen nowadays?
R: ... No, no.
I: ... it has reduced or it doesn’t happen at all?
R: It hasn’t happened to me. (18-year-old circumcised less than one year)

c. **Increased number of rounds of sex**

Four respondents reported that after being circumcised they increased the number of rounds of sex and were capable of having one to four additional rounds. In all instances men attributed the increase to the fact that they had been circumcised since it coincided with the procedure.

... I can say that I’ve also improved cause the number of rounds initially two then you are just gone completely. But now I can manage even up to three. I can manage up to three or four. You see, in a night. (21-year-old circumcised three years)

D. **Discussion**

The results of this study illustrate that MC does not necessarily lead to risk compensation, and that there are different behavior change outcomes. Previous studies exploring risk compensation associated with MC have been quantitative in nature, conducted during an RCT, and have provided limited detail about the context of risk compensation and protective sexual behaviors. Our study conducted among RCT participants and men circumcised in other venues provides details of motivations for
changing or maintaining sexual behaviors after circumcision. This study helps in understanding individual sexual risk perceptions and behaviors that may change during the scale-up of MC programs. Our results underscore the need for HIV prevention counseling to be integrated with MC services.

A majority of men reported adopting protective sexual behaviors or not changing their sexual behavior after getting circumcised, or after learning of MC’s protective effects against HIV. Several factors were associated with adopting protective behaviors: becoming aware of one’s sexual risk behavior, HIV and MC counseling and education, HIV testing, and a desire to remain HIV negative. Some respondents reported that MC accompanied by pre-circumcision HTC influenced them to adopt protective sexual behaviors, including reducing high-risk behavior. In other instances counseling seems to have made men aware that some of their past behaviors increased their risk of contracting HIV, which influenced them to adopt risk reduction strategies. All men who mentioned HTC as influencing their behavior had gone through an MC program established for HIV prevention purposes. However, respondents who engaged in risk compensation also received counseling.

Respondents who maintained their sexual behavior may have established limits that they thought were effective in avoiding HIV infection, such as using condoms consistently or being faithful to one partner, and may have resolved to continue with the same sexual practices. We also observed an inverse form of risk compensation from a man who acknowledged high-risk sexual behavior and got circumcised in order to reduce his chance of acquiring HIV. It is likely that other men may not feel the need to change their high-risk behavior because, by being circumcised, they decrease their
chances of contracting HIV and therefore will maintain previous sexual behavior. Given
the varied sexual behaviors reported by study participants, our results support the
guideline that counseling should be tailored to the individual (CDC, 2001).

All respondents who did not attend pre- or post-circumcision counseling
maintained their sexual behaviors. These men were more likely to be circumcised at a
younger age, before their sexual debut, in hospitals, or as part of ethnic group customs.
They did not report receiving risk reduction counseling and did not discuss the process
of getting circumcised as instrumental in changing their sexual behavior, which may be
because these men established HIV risk reduction routines earlier in their sexual lives
prior to knowing that MC was protective against HIV. Importantly, they reported being
aware of MC’s partial protection against HIV, suggesting that information on MC was
reaching the general public and may be effective in mitigating risk compensation.

The fact that little risk compensation was reported may be due to several factors,
including the effects of counseling, HIV testing, knowledge that MC only offers partial
protection, and condom availability. All respondents who demonstrated risk
compensation were circumcised at clinics that offered MC as an HIV prevention
measure roughly one year before their interviews, and received some counseling before
getting circumcised. The respondent who reported sex without a condom after getting
circumcised also indicated that this sexual behavior was similar to his pre-circumcision
behavior. The men who reported increasing the number of sexual partners after
circumcision reported using condoms consistently with their new partners, potentially
offsetting some of the risk of having concurrent partners. In light of these findings, MC
and HTC programs should work to identify individuals during counseling sessions who
are disposed to engage in risk compensation by asking men about their plans to change their sexual behavior following circumcision and emphasizing that MC only offers partial protection.

Behavior change facilitated by the physical and mechanical aspects of removing the foreskin may also have implications for HIV and STI prevention. Respondents reported the ability to increase the number of rounds of sex after being circumcised, which could potentially lead to greater exposure to HIV and STIs through an increased frequency of sexual acts. In the Orange Farm, South Africa trial, the investigators reported an increase in the number of sexual encounters, but no change in the number of sex partners (Auvert et al., 2005). This may reflect an increase in the number of rounds per partner as suggested by the circumcised participants in our study. Despite the greater number of encounters in the circumcised men, there was still a 60% reduction in HIV with circumcision in the South African trial, as well as a reduction in some other STIs (Auvert et al., 2005).

Other reported benefits of circumcision among respondents were that it made condoms easier to use and eliminated penile cuts. This is consistent with findings from the Kisumu RCT cohort in which circumcised men had a 39% reduction in the odds of reporting bleeding, cuts, scratches, or abrasions on their penis acquired during intercourse (Mehta et al., 2010). Reducing or eliminating such penile trauma could be a secondary benefit of MC in reducing the risk of HIV transmission. Also of importance is that some men found it easier to use condoms after being circumcised, which may encourage them to use them more frequently.
Responses illustrate that behavior change is a dynamic process and examining sexual risk behaviors is not a linear exercise. Circumcised men may not just adopt positive behaviors or only increase risk behaviors. Men who reduced the number of sexual partners to one may in turn stop using condoms with that partner. We also saw that respondents who increased the number of concurrent sexual partners subsequently increased condom use with their new partners. That MC may play a role in promoting an increase in concurrent sexual partners is important to recognize since concurrent partnerships have been shown to be instrumental to the spread of HIV in sub-Saharan Africa (Mah and Halperin, 2008; Morris and Kretzschmar, 2000). Also, if these new partners become longer-term partners, condom use is likely to wane, making concurrent partnerships a significant HIV risk (Fergusson et al., 2004; Meekers et al., 2003; Van Rossem et al., 2001; Westercamp, N. et al., 2010). Since MC is not a stand-alone HIV prevention intervention it is vital that messages emphasizing continued condom use and partner reduction accompany MC programs and services.

While counseling and testing was reported by respondents as being instrumental in influencing their behavior, the content and frequency of the counseling provided to circumcised men was not a primary area of inquiry of our study. Therefore we have limited data describing what components of counseling were effective in bringing about behavior change. This is an area that merits further research. Nevertheless, since boys and men in various settings in sub-Saharan Africa are likely to be circumcised for many reasons, in addition to HIV and STI prevention, and counseling can have an impact on sexual risk behavior, as seen in our study, (see also Kamb et al., 1998 and Denison et al., 2008) counseling should be made available with MC services. In settings where MC
is not provided as an HIV prevention measure it is unlikely that hospital staff and ethnic
group circumcisers are trained to provide HIV counseling. Counseling could be realized
by providing training to clinicians and traditional circumcisers, placing counselors in
clinical and traditional circumcision ceremony settings, or establishing referral systems
between MC settings and HIV counseling and testing clinics.

The findings from this study should be viewed within the context of the following
limitations. The results are based on self-reported experiences. People are sometimes
reluctant to share personal information regarding their sexual behaviors, so it is possible
that respondents withheld information or fabricated answers during the interviews.
Recall bias also may have affected responses. It is possible that some of the men we
interviewed were not circumcised since we relied on respondents’ reports of their
circumcision status. However, since uncircumcised men were eligible for the study,
there was no reason for respondents to lie about their circumcision status. Eleven of the
men were participants in the Kisumu RCT examining MC’s protective effect against HIV
and were tested for HIV and received HIV prevention counseling prior to getting
circumcised and after circumcision every six months for two years. Such intense and
repeated counseling is unlikely to be representative of the level of counseling other
adult men being circumcised receive. This research was conducted in the early stages
of scaling up MC, so respondents in our study may have been those most motivated to
seek protection offered by MC and more motivated to avoid risk compensation.
Additionally, because this research was carried out in western Kenya mostly among the
Luo, an ethnic group that traditionally does not circumcise yet are surrounded
geographically by circumcising groups, these results may not be applicable in other
countries or regions where circumcision is less widely practiced.

Despite these limitations, several important findings emerged from our data.
Respondents have illustrated that protective behavior change can result from men being
circumcised. Counseling placed within or related to MC programs appears to be
influential in promoting protective behavior change among participants. We conducted
interviews with respondents who had been circumcised for less than a year up to 22
years, and it is promising to see that men circumcised for longer periods of time
exhibited similar sexual behavior and circumcision knowledge to those more recently
circumcised, because it shows that information about MC is reaching the general
population. In addition to the direct benefit circumcision provides in reducing HIV
transmission there may also be secondary benefits for individuals such as reduction in
penile cuts during sex and easier condom use, resulting in lower risk of HIV infection.
IV. WOMEN’S BELIEFS ABOUT MALE CIRCUMCISION, HIV PREVENTION AND
SEXUAL BEHAVIORS IN KISUMU, KENYA

A. Introduction

The role of women’s sexual behavior as it relates to men's circumcision status is an important component of HIV prevention that requires investigation. Since women make up 50% of persons living with HIV globally, and women’s share of infections is increasing, it is important to understand how MC for HIV and STI prevention can impact women’s sexual practices (UNAIDS, 2010). While the results of three RCTs have shown that MC reduces female-to-male transmission of HIV by approximately 60% during vaginal intercourse, there are also direct benefits for women, including reducing the risk of STIs, cervical cancer, and possibly HIV. (Auvert et al., 2005; Baeten et al., 2010; Bailey et al., 2007; Gray et al., 2007; Hallett et al., 2011).

In addition to providing partial protection against HIV, data have shown that MC reduces the risk of men becoming infected with the human papillomavirus (HPV) by 35%, and herpes simplex virus-2 by 25% (Auvert et al., 2009; Gray et al., 2010; Sobngwi-Tambekou et al., 2009; Tobian et al., 2009). The risk reduction of HPV transmission due to MC offers women protection against cervical cancer since it reduces the prevalence of oncologic strains of HPV among men (Drain et al., 2006; Gray et al., 2009a; Nielson et al., 2009; Wawer et al., 2011). Female partners of circumcised men are at lower risk of cervical cancer caused by persistent infection with high-risk types of HPV (Agarwal et al., 1993; Castellsagué et al., 2002; Mugo et al.,...
Further, MC reduces the risk of bacterial vaginosis and trichomoniasis in female partners of circumcised men (Gray et al., 2009b; Wawer et al., 2009). The fact that MC confers partial protection against some STIs can serve to deter HIV infection since the presence of STIs are known to increase susceptibility to HIV (Grosskurth et al., 1995; White et al., 2008).

The strength of MC’s protective effect for women depends in part on the percent of men that are circumcised. Women would benefit from MC in the long-term at the population level through herd immunity, since having fewer HIV infected men as a result of circumcision will reduce the chances of women becoming infected by men (Hallett et al., 2008; Nagelkerke et al., 2007). But significant population level changes in HIV incidence among women would take several years to occur (Njeuhmeli et al., 2011). In the short-term a woman’s risk for HIV could be significantly reduced if circumcision prevents her male partner from becoming infected with HIV (Baeten et al., 2009).

In contrast, some public health experts argue that through the promotion of MC women will be made more vulnerable to HIV and STIs because circumcised men may believe that, due to the HIV and STI protection afforded them by MC, they can reduce or eliminate condom use or that they may resume sex before the healing process is complete (Feuer, 2010). This could compromise a woman’s ability to negotiate condom use, particularly in contexts where men exert economic and physical power over women (Gostin and Hankins, 2008). Further, women could be blamed or stigmatized as vectors of HIV and STIs, leading to greater feminization of the HIV epidemic as they are accused of introducing HIV into a relationship (Hankins, 2007).
Research exploring the reduction of HIV transmission from circumcised men to women has shown less promising results. An RCT looking at HIV transmission between circumcised and uncircumcised HIV positive men and their female sex partners stopped enrollment after the trial’s data safety monitoring board concluded that the study would not likely show a reduction in HIV risk for women (Wawer et al., 2009). An observational study by Gray et al. (2000), which examined HIV transmission from uncircumcised and circumcised HIV positive men to HIV negative female partners, showed a greater HIV incidence in women with uncircumcised partners (13.2/100 person years) versus in those with circumcised partners (5.2/100 person years), but these results were not statistically significant. The results varied depending on HIV viral load, with viral loads of 50,000 copies/ml and above having equal rates of transmission. A clinical trial conducted in seven eastern Africa countries found that female partners of circumcised men had an approximately 41% lower risk of HIV acquisition compared to female partners of uncircumcised men; these results were borderline significant (Baeten et al., 2010).

Women play an important part in influencing male circumcision uptake. Women have been shown to influence and make decisions about whether their sons are circumcised as well as sway their male sexual partner’s decision to become circumcised (Lagarde et al., 2003; Rain-Taljaard et al., 2003). Acceptability studies have shown that 47%–79% of women in Kenya, South Africa, and Botswana favor circumcision for their sexual partners and an even greater number, 62%–89%, of women were willing to circumcise their sons (Westercamp and Bailey, 2007). Women can also be a source of information about MC for their male partners, and there is evidence that a woman’s
preference for a circumcised partner is influencing male interest in circumcision (Baeten et al., 2009; Obure et al., 2011; Riess et al., 2010).

As MC is being scaled up in many sub-Saharan African countries, little research has been carried out to investigate women’s perceptions of circumcised and uncircumcised men, their influence on MC uptake, and how their sexual behaviors are influenced by MC status. Understanding HIV risk behaviors between women and men in the context of medical MC scale-up deserves attention. This paper presents findings pertaining to how women’s perceptions of circumcised and uncircumcised men and knowledge of MC risk reduction for HIV and STIs influence their sexual risk behaviors and MC preferences.

B. **Methods**

1. **Study context**

   This study was carried out in Kisumu, Kenya, the country’s third-largest city with a population of approximately 470,000. Nyanza Province, of which Kisumu is the capitol, has the highest HIV prevalence in Kenya at 15.1% (National AIDS and STI Control Programme, 2013). The main ethnic group in Kisumu is the Luo.

   Approximately 91% of Kenyan men are circumcised. Luo men do not traditionally circumcise, and it is estimated that 66% of Luo men in Nyanza Province are circumcised, haven risen from 44.8% in 2007 (National AIDS and STI Control Programme, 2013; Kenya National Bureau of Statistics and ICF Macro, 2010). Male circumcision has been promoted in Kisumu since an RCT that examined MC’s effect on HIV incidence was concluded in December 2006. Since the end of the RCT, MC has
become more widely available in Nyanza Province through public and private health facilities and is being more widely adopted among Luo boys and men. This study was conducted from March to November 2008, as MC for HIV prevention was being scaled up.

2. **Respondents and data collection**

We conducted individual in-depth interviews that targeted women 18 to 35 years old, who were sexually active in the past 12 months, resided in Kisumu District, and were willing to be audio-recorded. Respondents were recruited from health clinics, on the street, and at shopping centers using purposive sampling methods (Miles and Huberman, 1994). We sought women from the general population in Kisumu in order to obtain a wide variety of respondents. Interview respondents were also obtained through snowball sampling whereby participants were asked to refer women who would be rich sources of information on sexual risk perceptions and behavior related to MC (Patton, 2002). Potential respondents were screened for eligibility and scheduled for an interview. All respondents received an oral and written explanation of the study’s procedures and objectives and each provided signed consent to be interviewed and audio-recorded.

To guide the interviews, we used a semi-structured interview guide that focused on the respondent's knowledge, experience, and perceptions of MC and HIV prevention. Table III provides a partial list of interview questions and probes. Interviews were conducted in Swahili, Dholuo, and English depending on the respondent’s language preference. Interviews lasted 50 to 96 minutes. At the conclusion of the interview respondents were administered a 35-item demographic questionnaire. All
respondents were reimbursed 150 Kenyan shillings (approximately US$2.25). After completing 30 interviews we reached a point of saturation whereby conducting additional interviews was unlikely to produce new insights.

TABLE III
KEY INDIVIDUAL INTERVIEW GUIDE QUESTIONS

- Tell me what you know about MC.
- What are your feelings about MC? (Probes: What does MC mean to you? Does your tribal/cultural heritage influence how you think or feel about MC?)
- What do you know about circumcision’s relationship to HIV? (Probe: How did you learn what you know about circumcision and its relationship to HIV/STIs?)
- Have your views around circumcision changed since finding out that circumcision reduces the chance of HIV transmission?
- In your own words tell me what are some of the differences between circumcised and uncircumcised men? (Probes: Desirability, Hygiene, Religion, Greater/lower ability to please partners, Perceived risk of HIV and/or STIs, Difference of having sex with a circumcised versus an uncircumcised man?)
- What do you think about sexual partners that are uncircumcised?
- What do you think about sexual partners that are circumcised? (Probes: Is there a difference in your desire to practice safe sex depending on a man’s circumcision status? Do you have a preference for circumcised or uncircumcised men?)
- How has whether or not a man is circumcised influenced how you thought of him? (Probes: Sexual desirability, Hygiene, Religion, Tribal affiliation, Greater/lower ability to please partners, Reduced perceived risk of HIV and/or STIs.)
- Is your regular partner circumcised? (Probe: Has he been circumcised since you have been sexually active with him?)
- Tell me what sexual practices have changed between you and your partner after he was circumcised. (Probes: Type of sex, Condom use, How long did you wait to have sex after his circumcision?)
- What influence did you have on him getting circumcised? (Probes: Did you want him to? Not want him to. Why/Why not? What would he have done with/without your support?)
3. **Analysis**

All audio recordings of interviews were transcribed verbatim in the language of the interview, and then translated into English, if necessary. Transcribed interviews were imported into ATLAS.ti qualitative data analysis software for coding (ATLAS.ti, 2008).

Codes were developed by the research team from activities, relationships, meanings, context, and perspectives that emerged from the interviews using open and axial coding procedures of grounded theory (Strauss and Corbin, 1998). After coding the interviews they were analyzed using the constant comparative method and an inductive framework in which categories, themes, and patterns emerged from the data (Boeije, 2002; Glaser and Strauss, 1967).

A quality assurance protocol was used in order to monitor the accuracy of verbatim transcription and inter-coder reliability. Fifty percent of the transcripts were checked to verify the accuracy of transcription and 20% of interviews were coded by two members of the research team, who coded interviews independently and then met and devised a mutual coding scheme.

Ethical approval for our research was obtained from the University of Illinois at Chicago in the United States and Kenyatta National Hospital in Kenya. All staff received training on ethical research procedures and completed an online training course on human subjects protection.
C. **Results**

We present findings from individual in-depth interviews with 30 women (N=30). Table IV presents respondent demographic characteristics. The mean age of our study respondents was 24.8 years and ranged from 20 to 33 years. A majority of women were from the Luo ethnic group (87%), were not married and not living with a sex partner (84%), had a secondary school education or higher (64%), and earned less than 5,001 Kenyan Shillings (approximately US$67) per month (80%). Respondents accurately identified correct and incorrect routes of HIV transmission and correct and incorrect methods of HIV prevention.

Among the cohort of women 57% reported having one sexual partner and 30% reported having two sexual partners in the past twelve months, 57% have had sex with both uncircumcised and circumcised men, 23% have had sex with circumcised men only, 20% have had sex with uncircumcised men only, and 70% reported that their most recent sex partner was circumcised.

The results of our analysis are presented below as six overlapping themes: (1) perceived benefits of MC, (2) condom use and MC status, (3) sexual behavior and MC status, (4) MC and knowledge of HIV and STI susceptibility, (5) circumcision preferences, and 6) women's influence on circumcision uptake.
<table>
<thead>
<tr>
<th>Characteristics</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20–23</td>
<td>13</td>
<td>30</td>
</tr>
<tr>
<td>24–27</td>
<td>11</td>
<td>50</td>
</tr>
<tr>
<td>28–33</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married living with spouse</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Married not living with spouse</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Not married and not living with sex partner</td>
<td>25</td>
<td>84</td>
</tr>
<tr>
<td><strong>Highest education level completed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did not finish primary school</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Primary school</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>Secondary or vocational</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td>Beyond secondary</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td><strong>Average monthly income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;2,000 Shillings</td>
<td>13</td>
<td>43</td>
</tr>
<tr>
<td>2,000–5,000</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td>5,001–10,000</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>&gt;10,000</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td><strong>Ethnic Group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luo</td>
<td>26</td>
<td>87</td>
</tr>
<tr>
<td>Luhya</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Kisii</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

Respondents accurately identifying correct and incorrect routes of HIV transmission

<table>
<thead>
<tr>
<th>Correct routes of transmission</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex without a condom</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>Blood transfusion</td>
<td>29</td>
<td>97</td>
</tr>
<tr>
<td>Sharing needles</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>During childbirth</td>
<td>27</td>
<td>90</td>
</tr>
<tr>
<td>During breastfeeding</td>
<td>27</td>
<td>90</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Incorrect routes of transmission</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharing meals</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>From a public toilet</td>
<td>21</td>
<td>70</td>
</tr>
<tr>
<td>Mosquito bite</td>
<td>25</td>
<td>83</td>
</tr>
<tr>
<td>Shaking hands</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>Kissing</td>
<td>14</td>
<td>47</td>
</tr>
</tbody>
</table>
## DEMOGRAPHIC CHARACTERISTICS OF FEMALE RESPONDENTS (N=30)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents accurately identifying correct and incorrect methods of preventing HIV transmission</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Correct methods of preventing HIV transmission</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using condoms correctly</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>Being faithful to one partner</td>
<td>28</td>
<td>93</td>
</tr>
<tr>
<td>Abstinence</td>
<td>27</td>
<td>90</td>
</tr>
<tr>
<td><strong>Incorrect methods of preventing HIV transmission</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Praying</td>
<td>24</td>
<td>80</td>
</tr>
<tr>
<td>Using traditional medicine</td>
<td>29</td>
<td>97</td>
</tr>
</tbody>
</table>
1. **Perceived benefits of male circumcision**

Respondents’ awareness that MC provides partial protection against HIV and STIs was sometimes interpreted as meaning that circumcised men were less likely to be infected with HIV. Some women also perceived circumcised men as more hygienic, which they described as the penis having no, or less, odor than an uncircumcised penis. For others MC was perceived as providing men with greater sexual prowess, which in turn made sex more enjoyable for women. The respondent below described multiple perceived benefits of MC for herself.

**Interviewer:** And what are your feelings about male circumcision?

**Respondent:** I think it’s good. Yeah, I think it’s very good. Because, for one it reduces chances of getting HIV. And then I can go on [having sex] for a while instead of just, you’re just starting and there he’s done.

**I:** Any other reasons why you think it might be good?

**R:** Yeah, I think it’s also hygienic.

**I:** Hygienic in what way

**R:** I hear that there is some stuff, which at times remains on the foreskin, and the kind of dirt, they are smelly. (21-year-old Luo woman)

Given that most women believed that they don’t receive any direct health benefit from MC their views sometimes focused on the sexual experience with a circumcised versus an uncircumcised man or on hygiene and not HIV prevention. One woman described this as more important than the risk reduction of HIV and STIs, which she saw as a benefit for the man.

**I:** . . . do you think you were going to gain by having him circumcised?

**R:** . . . See I had already known that circumcised men are good in bed, that is benefit number one of course, the main benefit. The second benefit, maybe for his own good, . . . his risk of contracting HIV/AIDS is low. (25-year-old Luo woman)
2. **Condom use and male circumcision status**

No respondents reported changes in condom use due to a male sexual partner’s circumcision status. Seventy percent of women reported using condoms during their last sexual encounter and 47% said they used condoms in all sexual encounters over the previous 12 months. More than half of respondents (70%) reported that only themselves, or mostly themselves, decided when to use condoms in their sexual relationships. Women who reported not using condoms consistently said this was due to using other birth control methods, being in a long-term sexual relationships, or because condoms decreased sexual pleasure.

A majority of women reported that a man’s circumcision status would not affect their condom use because they were aware that someone could have HIV regardless of circumcision status. As the woman below explained:

I: . . . say you know, a guy is circumcised, have you ever thought, well maybe I don’t need to use condoms with him because he is at lower risk, and you look at a non-circumcised guy and you’re like, oh maybe he’s higher risk, so I have to use a condom?

R: No, no, no, no. You know I can’t say that circumcised men are protected from STIs. Cause maybe the circumcised man is HIV infected while the uncircumcised man is not. (23-year-old Luo woman)

Not knowing a man’s HIV status was reason enough for some women to disregard circumcision status and encourage condom use.

R: . . . if I don’t know their [HIV] status, definitely I have to tell them to use a condom, whether they are circumcised or not. Because you can’t judge whether one is HIV positive or HIV negative. (24-year-old Luhya woman)
No respondents indicated that they would engage in higher-risk sexual activity, including stopping condom use, because a man was circumcised. However, two women said that after learning about MC and its HIV risk reduction properties, they decided it was more important to use a condom with uncircumcised men.

I think it really counts when you use protection like for the uncircumcised. Okay, for the uncircumcised I might really prefer to use a condom. . . . it’s for the hygienic part. I really do feel that maybe I might be prone to more infections with the man who is uncircumcised. (26-year-old Luo woman)

3. **Sexual behavior and male circumcision status**

All but one woman indicated that their sexual behavior would not change because of a man’s circumcision status. Consequently there were no reported increases or decreases in the number of sexual partners related to men’s circumcision status, nor were there any reports of women engaging in higher-risk sex, such as unprotected anal sex, because a man was circumcised and had a lower risk for contracting HIV or STIs. Respondents talked about circumcision status as an indicator of female sexual satisfaction, time to ejaculation, and differences in male libido, but for the most part did not change their sexual behavior due to these factors.

The one respondent who reported that she would change her sexual behavior between circumcised and uncircumcised men said she would not perform oral sex on an uncircumcised man, but would perform it on a circumcised man. This illustrates that some women do differentiate sexual activity that they will engage in with circumcised and uncircumcised men.

I: . . . So are there things during sex that you would be more willing to do with a circumcised guy that you would not do with a non-circumcised guy?
R: Yes. Like when I look at the dick of uncircumcised person, that skin irritates me, like I can’t like even suck it you know. I feel it’s dirty.
I: But for a circumcised guy?
R: Yeah, I’ll willingly do the stuff [perform oral sex]. (23-year-old Luo woman)

4. Male circumcision and knowledge of HIV and sexually transmitted infections susceptibility

Twenty-two women (73%) knew that circumcised men had a lower risk for contracting HIV and STIs. There was not a clear sense among respondents about the percentage of risk reduction that MC provided, with only two respondents knowing that there was approximately a 60% reduction in HIV transmission from women to men and two respondents erroneously stating that MC provided total protection against HIV. Three women did not know about the reduced risk for men contracting HIV and five had heard of such a relationship but did not believe it to be true. Respondents learned about MC’s reduced risk of contracting HIV and STIs from husbands, boyfriends, AIDS service organizations, television, radio, church, friends, and teachers.

Respondents’ reported that MC reduced the risk of HIV transmission by not allowing “dirt,” “diseases,” or vaginal fluids to exist under the foreskin. Thus with circumcised men, since there is no foreskin, there would be no such hidden dirt and diseases, lowering a woman’s risk of contracting HIV and STIs.

R: I believe a circumcised man he’s clean. And this uncircumcised one he’s dirty. . . . The dirt is now remaining on the foreskin.
I: . . . so what does it mean to be clean?
R: As when he’s circumcised I believe he cannot, he’s free from these STDs. And this one who is not circumcised I believe he can contact these STDs very fast. (26-year-old Luo woman)
Some women said that circumcised men were free from STIs and HIV, equating circumcision status with negative HIV or STI status.

What I hear about it [MC] is that it’s very helpful to men. Like I do hear that men who are circumcised, there is no chances of them to contract HIV or these other STIs, like candidiasis, because the foreskin is not there (29-year-old Luo woman)

In some cases women’s knowledge of MC’s protection against HIV and STIs directed their sexual partner selection based on circumcision status, thinking that it would reduce their chance of contracting diseases.

I: And say you get some man who is not circumcised, what will you do?
R: You tell him that circumcision is good, a circumcised person has less chances of getting infected with these diseases, these minor diseases.
I: And if he still refuses?
R: If he refuses you just leave him. (27-year-old Luo woman)

5. Circumcision preferences

Twenty-three (77%) women said they preferred circumcised men, two (6%) women indicated a preference for uncircumcised men, and five (17%) women had no circumcision preference for their sexual partners. Respondents’ reasons for preferring circumcised men varied from their being more hygienic, to taking longer to ejaculate, to providing some level of HIV or STI protection for the woman.

I: Do you desire circumcised men?
R: Of course a circumcised one (laughs).
I: Why not the uncircumcised one?
R: I don’t want diseases. (22-year-old Luo woman)
A respondent who worked as a sex worker had a preference for circumcised men for her romantic relationships, but when it came to sex for money she preferred uncircumcised men because according to her they ejaculated quicker.

I: . . . do you like circumcised ones or the uncircumcised ones?
R: . . . let’s just say that now I’ve got a man and I want sex to satisfy my needs. If you want to be satisfied, . . . you go for the circumcised ones. Now this is just for romantic, for my body’s needs. Because my body needs sex, you go for the circumcised. But when you are going to go for money, we go for the uncircumcised ones.
I: Okay, why would you prefer him [uncircumcised]?
R: Cause they are quick. (26-year-old mixed Kisii and Luo woman)

Health issues besides HIV and STIs were a concern of some women. The woman below justified her preference for circumcised men through a fear of cervical cancer.

R: Because I believe I can’t move on with uncircumcised men. . . . Because I really fear about cancer, cervical cancer. So I believe, men who are not circumcised I can’t be a hundred percent if they’re really taking care of the personal hygiene. . . .
I: So you prefer which?
R: I prefer a man who is circumcised. (24-year-old Luhya woman)

In some cases women did not describe why they preferred circumcised men but rather described undesirable aspects of uncircumcised men. A woman who had both uncircumcised and circumcised sexual partners was critical towards uncircumcised men because she said that they did not please her as much sexually as circumcised men, who she claimed took longer to ejaculate.

. . . no matter how the lubrication is that foreskin will, I don’t know, it moves . . . and then let me say they don’t stay long. . . . Yeah they didn’t stay long when
you guys are the uncircumcised. Out of curiosity I did ask how come you don’t take long. They say like if that skin is moving it makes them crazy and they release so fast, and I said, okay. And then unlike the circumcised people maybe it’s our advantage, the ladies, maybe it could be not to them but I think to our advantage they’ll take long. Like they might make you reach a peak faster than the uncircumcised. (23-year-old Luo woman)

A minority of women felt that there was no difference between sex with a circumcised and uncircumcised man and therefore had no preference.

It all depends, with a man for example if someone is circumcised and he doesn’t know, I mean he is not good in that [sex]. He won’t know. When someone is circumcised it doesn’t mean that he’s now good in bed. And also the one who is uncircumcised, if he is good in bed, he is good in bed. It doesn’t matter. (20-year-old Luo woman)

The two Luo women who preferred uncircumcised men had not had circumcised sexual partners. One reported not understanding, and the other reported not believing the partial protection that MC provides against HIV.

6. **Women’s influence on circumcision uptake**

Some women felt they influenced men to get circumcised by talking to them about circumcision or by insisting that men get circumcised. In some cases it appeared that women were more informed about the benefits of MC than their male partners and they in turn educated men and encouraged them to get circumcised.

Women who have some knowledge, awareness on male circumcision, are really willing for their men to participate. Like my husband was just circumcised recently. If at all the woman is aware or has undergone some of the awareness and know how male circumcision reduces the risk of HIV, like you know nowadays people really fear HIV. . . . So most women, who have at least awareness on that, are really encouraging their husbands to be circumcised. (29-year-old Luo woman)
Five women reported that when they met uncircumcised men with whom they were interested in having a sexual relationship, they insisted that the men get circumcised before they have sex. The respondents who described this situation said they would not have sex with an uncircumcised man. The woman below ended her relationship with a man that she was seeing because he was uncircumcised. She got back together with him five months later, after he was circumcised.

R: Actually, me personally, I hate uncircumcised men.
I: Why?
R: I just feel they are dirty and, . . . this last time, some other guy seduced me, . . . I didn’t know he was uncircumcised. So when we went out a bit for around four months. So it’s this day was he was telling me like we go to bed, after finding out that the guy is uncircumcised I just told him it can’t work. He should go get circumcised first and come back.
I: So how did he react?
R: Well actually he felt bad, but later he came to understand. That is when he went and got circumcised and we are together now. (25-year-old Luo woman)

The respondent below believed that it was important to incorporate women into the MC process because she thought that women could be influential in persuading men to get circumcised. She also felt that women should be able to voice their opinion as to whether a man gets circumcised or not, because a man may get circumcised against the wishes of the woman causing discord in a relationship.

Male circumcision should involve women also, to have a voice and also to learn. Because women are the people who can encourage men to go for circumcision. You know as women, there is a way you can talk to a man to accept something rather than a man coming to you directly, . . . so the best thing also for women to be involved in the awareness, also in the counseling. (24-year-old Luhya woman)
D. **Discussion**

This study set out to investigate women's in-depth beliefs about circumcision and how their views of MC are related to their sexual preferences and behaviors. Our results indicate that women in Kisumu, Kenya, care about men's circumcision status and it is a salient factor in sexual decision-making, including partner selection and condom use. This indicates that women will likely have a significant influence on acceptability and uptake of MC as it is scaled up in western Kenya and elsewhere in sub-Saharan Africa. Respondents were aware that MC provides men partial protection against HIV, but the benefit that they cited most, improved male hygiene and cleanliness, was a reason to prefer circumcised versus uncircumcised sexual partners. Some women also believed that circumcised men have greater sexual prowess or that they are slower than uncircumcised men to ejaculate, thus giving women greater sexual satisfaction. These results are consistent with findings from studies in Nyanza Province, Kenya, (Bailey et al., 2002; Mattson et al., 2005) and in Rakai, Uganda where women were asked about their sexual satisfaction after their male partners were circumcised. Two percent of these women stated that they were more satisfied when their partners were uncircumcised and 37% were more satisfied after their partner was circumcised (Kigozi et al., 2009b). While some women advocate for MC based on their beliefs, there may also be the potential for discrimination against uncircumcised men as circumcision programs continue to scale-up in sub-Saharan Africa. Program implementers should ensure that medical MC promotion campaigns and counseling state clearly that there is no scientific evidence that male sexual prowess is increased or decreased by MC (Krieger et al., 2008; Waldinger et al., 2005; Waldinger et al., 2009).
Risk compensation in the face of widespread promotion of MC is a concern (Cassell et al., 2006). However, higher-risk sexual behavior, including decreasing condom use or increasing the number of partners in response to men getting circumcised was not reported by the women in our study. Respondents had a good general understanding of MC’s protective effect against HIV and STIs. While only two women knew that MC provided a 60% risk reduction for female-to-male HIV transmission, there was a general understanding that MC was only partially protective for men and that being circumcised did not indicate that a man is not HIV infected. Indeed, knowledge that MC is only partially protective was reported as a reason why some women did not engage in higher-risk sex or alter their condom use. The two women who reported they would increase their condom usage with uncircumcised men indicate that women may make decisions about condom use based on a man’s circumcision status. Seventy percent of respondents reported condom use during their most recent sexual encounter. Respondents whose male partners were circumcised during their relationship (N=2) did not report engaging in sex before the man had fully healed, which is a legitimate concern since, during present scale-up of MC programs in Kenya, approximately 31% of men have been found to engage in sex before they are fully healed (Herman-Roloff et al., 2011b; see also Odoyo-June et al., 2013).

Male circumcision programs afford an opportunity to engage men and women in couples counseling. Including women in pre-circumcision counseling can provide an opportunity to dispel myths about uncircumcised and circumcised men. Learning correct information may positively shape their sexual behavior in ways that can decrease the risks of HIV and STI transmission. Based on our results, it will be important to include
information that MC provides only partial protection against female-to-male transmission of HIV and some STIs; that other HIV and STI prevention methods such as condoms need to be used along with circumcision; that MC does not preclude a man from having HIV; and that couples should develop plans for not having sex while the man is healing.

As MC is promoted and scaled up it has the potential to create new social norms around sexuality and HIV prevention behavior in communities that traditionally do not circumcise. Despite having a general understanding of MC’s protective effects our respondents reported varying views about MC. Some women we interviewed perceived a relationship between MC and male sexual performance, libido, hygiene, and incorrectly believed that MC was an indication of reduced probability of being infected by HIV or STIs from circumcised men. Previous research has shown that women who prefer circumcised partners were six times more likely to believe that circumcised men are less likely to be HIV infected (Westercamp M, et al., 2010). The women we interviewed showed an overwhelming preference for circumcised male sex partners and reported being more concerned about the acquisition of diseases from uncircumcised men. Our interviews with mostly unmarried women suggest that there may be a cultural preference developing for circumcised men as sexual partners, based on proven (male risk reduction for HIV and STIs) and unproven (male hygiene, libido, and sexual performance) attributes of circumcision status. It is notable that 70% of the women in our study reported having had sex with a circumcised man in a province with a circumcision rate of around 44.8% at the time of data collection (Kenya National Bureau of Statistics and ICF Macro, 2010). These results are similar to those from a survey conducted in western Kenya where 62% of women said that they would prefer
circumcised partners (Bailey et al., 1999). A much lower percentage of our respondents (23%) reported having had sex with uncircumcised men only, which could indicate that partner selection based on circumcision status is already occurring.

There are limitations to this study. Since we relied on self-reports it is possible that some respondents could have fabricated answers or not fully disclosed information based on what is socially acceptable, particularly on sensitive topics such as sex and HIV. We did attempt to select respondents who were representative of sexually active women ages 18–35 but given the small sample size and geographic location of our research, our data might not be generalizable to other populations, particularly those where MC is not being promoted as HIV prevention. Our intention has been to gain insights into female perceptions and sexual behaviors related to MC in western Kenya in order to inform and improve programs scaling up medical male circumcision for HIV prevention in the region.

Additional research is needed that examines the most effective ways to engage women in maximizing the positive and minimizing the deleterious consequences of MC for themselves and their male sexual partners. Since data were collected for this study the prevalence of MC in Kisumu has risen to 66% (National AIDS and STI Control Programme, 2013) so it would be desirable to replicate this study now that a greater percentage of men are circumcised. Our study identifies areas that merit prevention education efforts targeting women and couples. Collecting further data about women's perceptions and experiences related to MC will assist in developing messages around negotiating safe sex and how MC interfaces with other HIV prevention methods, such as condoms. Further, targeting educational messages to women should help to
increase acceptance of MC by men for themselves and as lovers, partners, and fathers, making significant impacts on both male and female HIV incidence in high prevalence regions.
V. HEALTH PRIORITIES AND SHIFTING NORMS: MEDICAL MALE CIRCUMCISION
AMONG THE LUO IN KISUMU, KENYA

“We are trying not to change a culture, but we must also not bury our head in the sand.” Olago Aluoch, Kisumu Town West Member of Parliament

A. Introduction

In Kenya’s Nyanza Province young adult lives have been shaped by the circumstances of the HIV epidemic. According to the 2003 Demographic Health Survey 75% of men and women in Nyanza Province aged 15–49 know someone personally who has HIV or who has died of AIDS (Kenya Central Bureau of Statistics, 2004). Historically, Nyanza Province has been responsible for one-third of all HIV infections in Kenya despite having only 14% of the country’s population (Kenya Central Bureau of Statistics, 2004; Kenya National Bureau of Statistics 2010). Notwithstanding various HIV prevention activities and programs, the province has been severely affected by the HIV epidemic and has maintained a double-digit HIV prevalence since the mid-90s (National AIDS and STI Control Programme, 2008b). It has the highest HIV prevalence in the country at 15.1% and the lowest rate of MC of all Kenyan provinces recently rising to 66% from 48% in 2007 (National AIDS and STI Control Programme, 2013). The Luo are the major ethnic group in Nyanza Province and notably, 17.1% of Luo men are HIV infected, which is reflective of data showing that uncircumcised men in Kenya have HIV rates five times higher than circumcised men (National AIDS and STI Control Programme, 2013; Kenya National Bureau of Statistics and ICF Macro, 2010; Mwandi et al., 2012; National AIDS and STI Control Programme, 2008b).
After the publication of the results of three RCTs conducted in Kenya, Uganda, and South Africa proving that MC provides men partial protection against HIV by reducing female-to-male transmission by approximately 60%, a VMMC program was introduced as an HIV prevention measure by the Kenyan government in November 2008 (Auvert et al., 2005; Bailey et al., 2007; Gray et al., 2007). Further results from the Kenya trial have shown that the protective effect of MC persists for 72 months post-circumcision and the Uganda trial has shown effectiveness for almost 60 months, which suggests that circumcision is likely to provide life-long protection (Gray et al., 2012; Mehta et al., 2013). Kenya’s 2009 national MC strategy aimed to circumcise 80% of men 15–49 years of age by 2014 (Kenya Ministry of Public Health and Sanitation, 2009). As the government scales up VMMC it is important to understand how Luos view, justify, accept, and reject MC as an HIV prevention method. In this analysis we describe how young men and women consider and justify the intersection of VMMC as a public health intervention and Luo MC norms. Additionally, we explore how a younger generation that has grown up with HIV as a prominent factor in their lives perceive MC. Through exploring Luo identity and MC, we gained insights into the factors that play into the prioritization and cultural meaning of MC.

It is estimated that one-third of the global male population is circumcised (UNAIDS, 2007a). Male circumcision practices in Africa vary, with Muslim countries in northern Africa widely practicing MC, whereas practices differ in sub-Saharan Africa (Drain et al., 2006). In Kenya approximately 91% of men are circumcised, as most ethnic groups practice MC (Kenya AIDS Indicator Survey, 2012; Mwandi et al., 2012). However, the Luo, the fourth largest ethnic group in Kenya, with a countrywide
population of slightly more than four million people, do not traditionally circumcise their males, and have the lowest rate of MC in Kenya at 21.5% (Kenya National Bureau of Statistics, 2010; Kenya National Bureau of Statistics and ICF Macro, 2010).

Figure 3: Kenya HIV prevalence among 15–64 years olds by National AIDS & STI Control Program regions.
(Source: National AIDS and STI Control Programme, 2013)

Because Luo men do not usually circumcise, they have been stigmatized by other ethnic groups. In the landscape of political power in Kenya circumcision has been
used as a cultural, social, and political weapon against the Luo (Musila, 2012). Other ethnic groups commonly refer to Luo men as “boys” because circumcision is considered a procedure that one undergoes to become a “man” (Herman-Roloff, 2011a). Kenyan politicians have made public comments that uncircumcised men cannot lead, which has affected support for Luo politicians (Kenya National Commission on Human Rights, 2006; Njoroge et al., 2011). Evidence of the divide between circumcising ethnic groups and the Luo was seen in 2007 and 2008 during post-election violence that led to some Luo men being forcibly circumcised (Agence France Press, 2008; Dixon, 2008; Makabila, 2008).

Yet, historically, there is precedent for Luo MC. Over time some Luo men have been circumcised for health reasons, for example, to cure phimosis and balanitis; because they follow Muslim or the independent prophetic Luo Nomiya Church religious practices; or due to being in a sexual relationship with a woman from another ethnic group and wishing to accommodate her or her family (Bailey et al., 2002; Riess et al., 2010). It has also been shown that some Luos have practiced partial circumcisions whereby the frenulum is punctured or severed (K’Aoko, 1986).

The promotion and adoption of MC as an HIV prevention method has been frequently reported and discussed in the Kenyan media as the evidence for MC’s protective effects is relevant to HIV prevention in Kenya. The Kenyan government has provided leadership to expand VMMC, including the engagement of traditional and community leaders and the establishment of national and local leadership bodies (Mwandi et al., 2011). In Kisumu there were multiple public forums in 2007 and 2008 with the Luo Council of Elders and Luo cultural and political leaders, including Members
of Parliament and the former Kenyan Prime Minister, Raila Odinga, debating whether the Luo should support MC. Odinga has actively championed VMMC and has returned to Kisumu with Luo politicians to promote MC, with some politicians getting circumcised to show their support (Kwalia and Odunga 2008; Telena 2008). The quote at the beginning of this chapter by Kisumu West Member of Parliament, Olago Aluoch, reflects the quandary confronted by Luos who are trying to adhere to historical practices while also responding to an HIV epidemic and the health benefits of MC (Oywa and Otieno, 2008). In September 2008 the Luo Council of Elders decided to support VMMC as a way of curbing the spread of HIV (Oywa and Otieno, 2008). This support came after months of public deliberations about whether to incorporate MC into Luo practices and debating whether adopting it would amount to not preserving their culture (Daily Nation 2008; Menya and Otieno 2008). Despite the months of discussions about MC its adoption in Kenya has been robust and is the highest among the 14 priority countries where VMMC is being scaled-up, having performed more than 232,000 circumcisions from 2008 to 2010 (Dickson et al., 2011; Hankins et al., 2011; Reed et al., 2012; USAID 2009) and reached more than 600,000 as of September 2013 (Odiero, 2013).

Within the national and international support that has grown for VMMC in Kenya, Luo men who get circumcised, and Luo women who support MC, must navigate norms related to MC being new and not a dominant Luo practice, but being a common practice of other ethnic groups (Justman et al., 2013). Individual agency, which posits that people have the ability to operate independently of the constraints of social structure, provides a framework for understanding how individuals accept and adopt health interventions in the context of competing social demands (Calhoun, 2002). Modern
sociologists, such as Giddens (1995), who argue that agency and structure are inextricably linked, speak of individuals as agents who apply knowledge of their context in their actions, or interactions. This implies that events do not just happen but rather are directed, or made to happen due to conscious application of knowledge and information by individuals. The concept of agency provides a framework for analyzing how men and women in our study interpret Luo MC values and norms to adapt to new circumstances in the midst of an HIV epidemic.

B. **Setting and Methods**

Data were collected during a qualitative study to investigate sexual risk behaviors related to MC among men and women. This research was conducted in Kisumu, Kenya, the country’s fourth largest city and the capital of Nyanza Province. Its population of approximately 470,000 inhabitants is predominately made up of the Luo ethnic group.

During 2008, the time of this study, as a result of the high HIV prevalence in Nyanza Province, there were numerous ongoing HIV prevention projects in Kisumu as part of the Ministry of Health and NGO activities and research, including HTC programs, ART programs, HIV community outreach programs, and VMMC. The Kenya MC RCT began in Kisumu during 2002 and completed enrollment of 2,784 participants in 2005, but the trial’s clinic has continued to function as a clinic for MC, STI treatment and HIV testing. Male circumcision is also performed at other public and private health facilities in Kisumu and throughout Nyanza Province. The number of MC programs in Kisumu and the public debate about circumcision made it a prime location for this study. This
research was based out of the trial’s clinic site and took place as the Nyanza Reproductive Health Society was expanding the provision of VMMC in the province.

From March to November 2008, one American (male) and two Luo Kenyan (one male, one female) researchers conducted qualitative individual interviews. The interviews were conducted in Dholuo, Swahili, or English, depending on the respondent’s language preference. All project staff received training on research with human subjects and completed the Collaborative Institutional Training Initiative online training course on human subjects protection. The Institutional Review Boards of the University of Illinois at Chicago, USA, and the Kenyatta National Hospital, Nairobi, Kenya approved the study.

Men and women respondents were recruited from community settings using purposive sampling methods (Miles and Huberman, 1994). Respondents consisted of men and women 18 to 33 years old, who had been sexually active (defined as vaginal or anal intercourse) in the past 12 months, resided in Kisumu District, and were willing to be audio-recorded. Recruitment locations included: shopping centers, health clinics, circumcision clinics, and on the street. A screening questionnaire was used to identify eligible participants. Both circumcised and uncircumcised men were eligible for the study in order to explore reasoning about getting circumcised or not. Women were also included in the study sample to better understand their thoughts and perceptions about MC. Forty percent of the circumcised participants received extensive pre- and post-circumcision and HIV counseling as part of the circumcision process. Two of the female respondents were the wives of circumcised male participants.
After obtaining written informed consent, individual interviews were conducted one-on-one using a semi-structured qualitative interview guide designed to elicit information about: knowledge and beliefs about MC; knowledge of MC’s relationship to HIV and STIs; communication with others about MC; negative effects of being circumcised; acceptance of circumcision among Luos; and knowledge and beliefs about HIV. To ensure confidentiality all individual in-depth interviews were conducted in a private location agreed upon by the respondent and interviewer. Interviews lasted between 40 and 120 minutes and were audio-recorded.

Although the interview questions and probes were developed in advance, respondents were free to discuss a wide range of topics to the extent that they pertained to MC, HIV, sexual behavior, and Luo beliefs. Responses created a multidimensional picture of the relationships and actions of men and women in the context of community and cultural influences that impacted their way of thinking about MC.

All interview respondents were administered a 35-question demographic questionnaire and were reimbursed 150 Kenyan shillings (approximately US$2.25) in cash for their participation in the study.

All audio recordings of interviews were transcribed verbatim in the language of the interview. Thirty-five transcripts were translated into English. All transcripts were verified by a second member of the research team for accuracy and any discrepancies reconciled with the original transcriptionist. A collaborative codebook was developed using questions and probes from the interview guide and patterns, relationships, meanings, perspectives, and recurrent themes from the first 13 interviews. Each
member of the research team developed a codebook independently and then all codes were evaluated by the research team for their relevancy and merged into a single codebook. New codes were developed over the course of the study as new themes emerged. Project staff coded the qualitative data using open and axial coding procedures of grounded theory (Strauss and Corbin, 1998). Two members of the research team coded 50% of the transcripts and any discrepancies in coding were discussed until a consensus was reached, thus reconciling the coding. Inconsistencies were not common between the two coders so one member of the research team coded the remaining 50% of transcripts. The coded transcriptions were imported into ATLAS.ti qualitative analysis software and coded electronically for analysis (ATLAS.ti, 2008). After coding the data in ATLAS.ti memos were written related to code categories and research questions.

Analysis focused on identifying descriptions, experiences, and beliefs of MC as a public health intervention and how it is perceived in the context of Luo MC culture. Discussions among the research team were held to reach consensus on interpretations and resolve interpretation discrepancies.

C. Results

We conducted in-depth individual interviews with 10 uncircumcised men, 30 circumcised men, and 30 women (N=70). Demographic characteristics of the interview respondents are located in Table V. The average age of male respondents was 25.3 years and of female respondents was 24.8 years. Most respondents were not married and not living with a sexual partner (74%); had completed secondary school or college
(63%); worked in the service industry (for example, transportation or security guard) (51%); reported earning 2,000 to 10,000 Kenyan Shillings (approximately US$30–$150) per month (58%), while Kenya’s gross national income in 2008 was $61 per month (World Bank, 2013); and were from the Luo ethnic group (87%). Among respondents’ sexual behaviors, 80% reported having no (30%) or one (50%) sexual partners in the past 30 days; 60% said that they used a condom during their last sexual encounter; 83% had been tested for HIV; and 7% reported being HIV positive.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No. of Male Respondents</th>
<th>% of Male Respondents</th>
<th>No. of Female Respondents</th>
<th>% of Female Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender:</td>
<td>40</td>
<td>57%</td>
<td>30</td>
<td>43%</td>
</tr>
<tr>
<td>Age:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–22</td>
<td>10</td>
<td>25%</td>
<td>9</td>
<td>30%</td>
</tr>
<tr>
<td>23–27</td>
<td>19</td>
<td>48%</td>
<td>15</td>
<td>50%</td>
</tr>
<tr>
<td>28–33</td>
<td>11</td>
<td>27%</td>
<td>6</td>
<td>20%</td>
</tr>
<tr>
<td>Marital status:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married living with spouse</td>
<td>13</td>
<td>32%</td>
<td>4</td>
<td>13%</td>
</tr>
<tr>
<td>Married and not living with spouse</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>Not married and not living with sex partner</td>
<td>27</td>
<td>68%</td>
<td>25</td>
<td>84%</td>
</tr>
<tr>
<td>Highest education level completed:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never attended or did not finish primary school</td>
<td>3</td>
<td>8%</td>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>Primary school</td>
<td>10</td>
<td>25%</td>
<td>8</td>
<td>27%</td>
</tr>
<tr>
<td>Post primary/vocational</td>
<td>1</td>
<td>3%</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>Secondary</td>
<td>13</td>
<td>32%</td>
<td>10</td>
<td>33%</td>
</tr>
<tr>
<td>College or University</td>
<td>13</td>
<td>32%</td>
<td>8</td>
<td>27%</td>
</tr>
<tr>
<td>Occupation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merchant</td>
<td>2</td>
<td>5%</td>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>Service worker</td>
<td>17</td>
<td>42%</td>
<td>11</td>
<td>37%</td>
</tr>
<tr>
<td>Health worker</td>
<td>5</td>
<td>12%</td>
<td>6</td>
<td>20%</td>
</tr>
<tr>
<td>Professional</td>
<td>7</td>
<td>18%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Student</td>
<td>2</td>
<td>5%</td>
<td>7</td>
<td>23%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>7</td>
<td>18%</td>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>Ethnic group:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luo</td>
<td>35</td>
<td>88%</td>
<td>26</td>
<td>87%</td>
</tr>
<tr>
<td>Luhyua</td>
<td>2</td>
<td>5%</td>
<td>2</td>
<td>6.5%</td>
</tr>
<tr>
<td>Kisii</td>
<td>2</td>
<td>5%</td>
<td>2</td>
<td>6.5%</td>
</tr>
<tr>
<td>Kamba</td>
<td>1</td>
<td>2%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Average monthly income:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;2,000 Shillings</td>
<td>9</td>
<td>23%</td>
<td>13</td>
<td>43%</td>
</tr>
<tr>
<td>2,000–5,000 Shillings</td>
<td>15</td>
<td>38%</td>
<td>11</td>
<td>37%</td>
</tr>
<tr>
<td>5,001–10,000 Shillings</td>
<td>12</td>
<td>30%</td>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>&gt;10,000 Shillings</td>
<td>3</td>
<td>7%</td>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>2%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Ever tested for HIV?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>32</td>
<td>80%</td>
<td>26</td>
<td>87%</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>20%</td>
<td>4</td>
<td>13%</td>
</tr>
</tbody>
</table>
### DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS (N=70)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No. of Male Respondents</th>
<th>% of Respondents</th>
<th>No. of Female Respondents</th>
<th>% of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV Status:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>1</td>
<td>3%</td>
<td>4</td>
<td>15%</td>
</tr>
<tr>
<td>Negative</td>
<td>30</td>
<td>94%</td>
<td>22</td>
<td>85%</td>
</tr>
<tr>
<td>Unknown</td>
<td>1</td>
<td>3%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Number of sex partners in past 30 days?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>12</td>
<td>30%</td>
<td>12</td>
<td>40%</td>
</tr>
<tr>
<td>1</td>
<td>20</td>
<td>50%</td>
<td>15</td>
<td>50%</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>10%</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>5%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>4 or more</td>
<td>2</td>
<td>5%</td>
<td>2</td>
<td>7%</td>
</tr>
<tr>
<td>Used condom during last sex?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>13</td>
<td>41%</td>
<td>7</td>
<td>44%</td>
</tr>
<tr>
<td>No</td>
<td>19</td>
<td>59%</td>
<td>9</td>
<td>56%</td>
</tr>
<tr>
<td>How often used condom in past 12 months?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All sexual encounters</td>
<td>8</td>
<td>20%</td>
<td>14</td>
<td>47%</td>
</tr>
<tr>
<td>More than half of sexual encounters</td>
<td>16</td>
<td>40%</td>
<td>7</td>
<td>23%</td>
</tr>
<tr>
<td>Less than half of sexual encounters</td>
<td>14</td>
<td>35%</td>
<td>6</td>
<td>20%</td>
</tr>
<tr>
<td>Never</td>
<td>2</td>
<td>5%</td>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>Was your most recent sexual partner circumcised? (asked to women only)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>21</td>
<td>70%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>30%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Results highlight how MC is perceived in Kisumu and how perceptions influence opinions and support of VMMC. The publication of the RCT results, support for MC by the WHO and UNAIDS, and the establishment of MC services in Nyanza Province created an environment that allowed men to more easily get circumcised and stimulated both men and women to contemplate and discuss MC and Luo circumcision practices. Respondents described Luo elders as static but talked about support of MC and participation in VMMC in Nyanza Province showing that Luo culture is flexible in terms of MC. Responses show that MC, as a modern intervention, and Luo culture are often discussed and defined in terms of each other. Two themes presented here are generational differences between youth and elders concerning MC, and how VMMC is viewed as a health intervention that is separate from Luo MC norms.

1. **Generational differences toward voluntary medical male circumcision**

   Among several respondents there was a contrast in narratives between the attitude toward MC from the younger generation and their experience and perceptions of what Luo elders thought about MC. Our sample of younger respondents considered themselves to be more informed than elders about MC’s benefits, to be more progressive in their attitude towards MC, and more likely to be accepting or adopt MC. Elders were described by respondents as more likely to argue that MC is unnecessary and that it goes against Luo practices. The uncircumcised man below described education about MC as being paramount to elders’ acceptance of MC as a public health measure.
**Respondent:** The parents are so much against circumcision.  
**Interviewer:** Why are they against it do you think?  
R: They have been brought up with that old culture. That old culture that they were brought up with, maybe is still in them. But with us [youth] at least we are informed and enlightened as much as I would wish. So if you sit down with your parent and you try to explain you won’t reason up because they’re people rooted in that culture, while with us we are out of it [old culture]. So we can’t match unless we take information to them and teach them about those things, it will make them understand. . . . (27-year-old uncircumcised Luo man)

The woman below mentions generational differences and how older people’s views hold more weight. In the case of VMMC she describes the need to educate older men about MC’s health benefits so that they can teach younger men.

> You see in the rural area what an old man thinks matters more than what a young man thinks. When he [elder man] says that this is not right, everybody thinks that this man is right, this man is wise he’s been here for long so he knows when he says it’s not right, it is not right. And I think that if these things were circumcision, maybe they [younger men] could talk to those old men? It’s like they run with the brain of the young men so if you teach them they’ll go teaching the younger ones. (26-year-old Luo woman)

The uncircumcised man quoted below explained that if you were to discuss circumcision with elder Luo men, they would view it as forsaking their culture.

> For men we just have to educate, we Luos ourselves about male circumcision. According to me it’s not bad, it’s not. . . . But you know when we go to some old man in the village and tell him we want to start circumcising our boys, the old man can even curse you, say, why are you leaving your culture. . . . But with circumcision there is nothing wrong. (24-year-old uncircumcised Luo man)

Half of the uncircumcised male respondents spoke of a generational dissimilarity and how the varying viewpoints among the older and younger generations prevent them from getting, or consider getting, circumcised. More uncircumcised respondents than
circumcised respondents discussed different points of view related to generational differences and MC and how these disagreements influenced ones’ decision whether to seek VMMC or not. There were fears of reprisal from an elder male family member if they found out they had been circumcised, particularly from grandfathers.

R: . . . this circumcision, it is good, but with my family I cannot be allowed to do it. They may think that I have abandoned our culture. I don’t know what they will do to me if I go home, to the rural home and they find out that I’m circumcised?
I: . . . Who particularly do you think won’t take it very well?
R: Mostly there is a certain grandfather of ours who can’t tolerate such things. (20-year-old uncircumcised Luo man)

When asked if MC is being incorporated into Luo cultural practices some respondents stated that MC is becoming accepted as a common practice among the Luo. The reasons varied, with some people saying that since MC is already widespread in Kenya among other ethnic groups, it masks the ethnic and cultural significance of MC, allowing Luos to more easily circumcise. Respondents’ quotes illustrate the interpersonal and social processes that are taking place in creating views about MC.

So new concepts do come and when a new concept comes, we cannot just wish it away because it was not part of our culture. Like we used not to do it that way. I think if we embrace that particular kind of idea then we will always remain behind. So when people who are authorities in matters pertaining to health, if they organize those [male circumcision educational] workshops, they sit with those elders then they can make it part of our culture. (23-year-old circumcised Luo man)

Male circumcision is not forbidden among the Luo, but many respondents described Luo culture as not supportive of MC because they do not routinely circumcise. As a result some respondents distanced themselves from traditional Luo practices, such as removing the six lower teeth; widow inheritance, by which a man
assumes responsibility for the social and economic support of a widow upon the death of her husband; and widow cleansing, whereby after the death of their spouse women have unprotected sex. A few respondents referred to these practices as part of an “old culture” or a “fading away culture.” The female respondent below describes how a general shift away from Luo traditional practices, including not circumcising, allows the younger generation to more readily accept MC.

You know what happens with the culture part of it, nowadays people don’t follow those things of culture like long ago. So, these people who are coming up now they don’t really mind the circumcision, considering the advantages of it. So, I think talking to them about it is not difficult. Most of them really accept [male circumcision]. (33-year-old Luo woman)

In contrast to how some respondents relayed disapproval for MC because it’s not considered part of Luo culture, the respondent below pointed out that Luos who are Muslim or members of the Nomiya Luo Church do circumcise. He comments that since Luo who are part of certain religious groups practice MC this makes it acceptable for other Luos and that it should not be viewed as something that is outside the realm of their cultural practices.

... this religion of Nomiya, you find that now if you go to the rural side, I think some are even here in the town, you find their children are circumcised. You find that there are Luos who belong to that church and they are circumcised. Now I see [among them] there is no foul cry or letting down the Luo. (20-year-old circumcised Luo man)

The female respondent below explained that for the younger generation of Luos information about MC and its benefits has become more widespread among youth, which has contributed to the uneven levels of knowledge among younger and older generations.
They [youth] won’t see it like that [as foreign] because nowadays, now that they’ve read it in books and gotten used to it. So they will not see it as very strange. (30-year-old Luo woman)

Several respondents mentioned educating people about the health benefits of MC and implied that those who do not embrace MC are backward or uninformed about what is a considered a modern medical advancement. Education of elders was emphasized as a key way to have MC accepted as a Luo practice. The respondent below characterizes traditional cultural practices as less beneficial to him than new practices such as VMMC.

... culture only changes if people are informed. If you are informed you’ll be willing to change those old cultures and adopt what is good for you. So our people lack information. What I would wish to ask is that there be information for them. HIV, there is a lot of information about HIV and people are trying to change their sexual behaviors or maybe immoral behaviors the same way. The same thing should be done in terms of circumcision. We should start giving information concerning circumcision to those of our people at home because they don’t understand what I know. They know what circumcision is, but they don’t know much about it, we need to educate them and give them facts about circumcision. I believe if they are told that, definitely we will get a few people who will change their behaviors and maybe with time, that kind of culture will change. (27-year-old uncircumcised Luo man)

In summary, respondents considered the views of older people to be less accepting of MC and felt that education was important to make elders more informed about the benefits of circumcision in a similar way that younger people are knowledgeable of it.
2. **Voluntary medical male circumcision for health, not culture**

Respondents repeatedly brought up the dichotomy of MC being performed for health reasons in contrast to cultural reasons. While an individual’s normative framework concerning MC was usually articulated in terms of MC not being a Luo cultural tradition, among respondents there was diversity in how they confronted and accepted MC. A group of respondents were clear that despite belonging to an ethnic group that does not traditionally circumcise, and having MC as conflicting to normative culture practices, they viewed MC as a health measure. Individual agency plays a role throughout this theme as respondents illustrate a need and the ability to act outside of perceived Luo MC norms and support or adopt MC due to more imminent concerns such as HIV and STI prevention.

**I:** Does your cultural heritage affect or influence the way you think about male circumcision?

**R:** No. Because Luos don’t have that culture of somebody is born then somebody is circumcised. It is because these days people are empowered they know the importance of circumcision. Mostly I think it’s just for health reasons. (22-year-old Luo woman)

For many respondents MC was viewed primarily for the health benefits they received for themselves, or secondarily through their sexual partner. Both men and women said that health reasons influenced their perception of MC. Among respondents who considered MC primarily for health reasons there was less concern about how MC related to other aspects of their lives, or they were viewed as secondary to health concerns. Responses illustrate that younger Luo are carving out new social roles and identities in which agency around HIV prevention plays a key part. A female respondent,
who felt that HIV was a looming health threat, believed that accepting MC was essential
to protecting one’s health.

R: When they know the dangers of AIDS, HIV. Then they’ll have to accept circumcision.
I: Do you think that’s happening in Kisumu, in Nyanza?
R: Yeah, nowadays it’s happening.
I: Like you’re a Luo woman, but do you value circumcision?
R: Yeah, me I value circumcision. (26-year-old Luo woman)

Since Luos have not traditionally circumcised, the perspective of some respondents centered around being considered as part of a modern and educated Luo generation who see MC as a means to prevent HIV and STIs. The traditional Luo practice of removing the six lower teeth is no longer followed, allowing a new generation of individuals to have a sense of being modern, which includes getting circumcised for health reasons and cleanliness. Circumcision may also be part of a concept of being cosmopolitan, whereby Luo youth are integrated into a more diverse Kenyan society and are attracted to, and attractive to, other ethnic groups.

From a Luo point of view, generally we are not circumcised traditionally, that’s our culture. We are not circumcised. Our right of passage was removal of the six lower teeth. But with the Luos, I can say they are more modern [than other ethnic groups]. . . . So with Luos we perceive circumcision as a preventive measure of contacting STIs. Cause things like gonorrhea they are being transmitted because of untidiness you see. But once you are circumcised your penis is ever clean. (23-year-old circumcised Luo man)

Another circumcised male respondent talked about the fact that MC helps to prevent the transmission of STIs and HIV, and in turn it has become more of an unquestioned behavior into something that you “just do”.
Now, the way I’m seeing it I think this circumcision is good because there are many diseases. . . . Now you know we are told that when you are circumcised it’s not easy for you to get STIs, even HIV, easily. So you know with us we just do it. . . . (26-year-old circumcised Luo man)

Respondents characterized MC as a method to protect against disease and separated MC from discussions about how it factors into the practices of a non-circumcising ethnic group. The response of the circumcised respondent below, when asked about how MC can be adopted into Luo culture, shows that to him circumcision concerns one’s health and is separate from culture.

I: What do you think needs to happen for circumcision to be accepted, as part of Luo culture?
R: They’ll just be circumcised because if they don’t want to get diseases, they will be circumcised, but not for culture. . . . To be circumcised is to protect you, not a culture. (18-year-old circumcised Luo man)

Respondents illustrate that health concerns pertaining to HIV and other STIs are a salient factor in one’s decision to support circumcision or get circumcised. They also highlight multiple qualities, such as health, cleanliness, and modernity and how people use them to develop an understanding of MC as a preventative health measure.

The responses above explain how people use health as a way to justify MC within Luo culture, but one respondent described how acceptance by friends who belong to other ethnic groups validated MC for him. Since he spent a considerable amount of time outside of Kisumu, a key concern around MC acceptance was how people outside his ethnic group viewed him as an uncircumcised man, rather than how people inside his own ethnic group would view him as a circumcised man. Feeling unencumbered because he no longer faced discrimination from other ethnic groups for
being uncircumcised, he viewed his circumcision as liberating and discussed how it allowed him to more easily have sexual partners from circumcising ethnic groups.

. . . they [non-Luo] tell me now you are a man and all that. At least now they look at you as somebody, I think they look at you in terms of maybe how you can be in bed or how clean you are. I didn’t expect maybe people from other communities would view me differently when I’m circumcised and when I’m not. . . . It makes me feel very, very proud of what I did. I feel like I can meet any lady from any community and feel free. They’ll be okay with me. Rather than when you meet somebody from other communities they feel that now you’re not a man, [because] you’re not circumcised. You know something like that it will maybe demoralize you. I feel more proud being circumcised. (27-year-old circumcised Luo)

This respondent’s positive experience after being circumcised was significant to his identity because for him it did not threatened his Luo identity but removed the minority status label foist upon him because he was not circumcised. This quote illustrates that other cultures can have an influence over whether one decides to get circumcised especially if it is able to break down cross-cultural barriers.

D. Discussion

In this paper we see that individuals in a community that has not traditionally practiced MC will support VMMC, particularly when faced with a significant HIV epidemic. Respondents talked about MC in terms of a generational contrast between elders who viewed MC as contrary to Luo cultural practices, and young Luo adults who are open to or accepting of MC. The uptake and adoption of MC by Luos in this study was facilitated by prioritizing health promotion and HIV prevention.

There were differences among Luo respondents in how they viewed MC since it is not a conventional practice of their ethnic group, and lack of MC is an identifying
feature of Luos. Some respondents prioritized their health needs and demonstrated strategic interpretations of Luo MC norms in response to social challenges they faced supporting VMMC. Respondents in this study who were approving of MC, because it’s neither a Luo custom nor a prohibited practice in their culture, typically viewed it as a disease prevention and health promotion measure, separate or distant from cultural practices. This situation allowed, as some individuals explained, that it is possible to support VMMC or get circumcised because MC is not a forbidden practice among the Luo. Respondents described elders as holding more traditional Luo MC beliefs and felt that MC was unacceptable since it is not a customary Luo practice, but rather a practice of other ethnic groups.

Our group of young respondents may be representative of a cultural change pertaining to MC acceptance among the Luo as their stories illustrate how people construct personal meaning about the significance of MC and its relationship to their sexual health. While institutions, such as the Luo Council of Elders, work to promote and protect cultural norms and established practices concerning MC, if such practices have negative health implications they may be challenged through individual agency as people reinterpret and reprioritize the value of such practices. Respondents demonstrated individual agency by explaining how their motivations to adopt and accept MC are linked to personal attitudes and beliefs around health priorities and a shift in cultural norms. Younger Luo men are circumcising more readily and are exercising agency grounded in concepts of MC and health, which is redefining cultural and individual norms (Gummerson et al., 2013). Ratner (2000) explains that people are active in making and remaking culture, which is appropriate to the growing acceptance
of MC among the Luo. And as one respondent commented, MC is something that you “just do,” indicating that MC was becoming the new Luo MC norm.

Our findings show how some Luos conceptualize their ethnic group’s value of MC and forge interpretations that allow MC to be promoted as a health measure and method to prevent HIV transmission. This is similar to what has been described among Catholic women in Mexico and Poland regarding how they engage in birth spacing and contraception use in ways that allow them to attain personal health goals and limit childbearing, despite the Church’s condemnation of contraceptive methods, while at the same time remaining loyal Catholics (Hirsch, 2008; Mishtal and Dannefer, 2010). In this context women reinterpret religious teachings to prevent pregnancy and take greater control of their reproductive health, despite the wishes of the Church to maintain high fertility rates. Similarly, our respondents presented their interpretations of MC norms in ways that permitted health matters to be prioritized, based on Luo culture and recent events, but without compromising their Luo identity. The context in which respondent’s interpretations of Luo MC norms have been developed are critical, and are likely to have been influenced by the following: that HIV has ravaged their community, in part because of their cultural practice of not circumcising; Luos are discriminated against because they do not circumcise; Luos were targeted for forced circumcisions; and the younger generation of Luos live a more cosmopolitan lifestyle and are integrated with people from other ethnic groups.

As some respondents portrayed themselves as being modern and educated, they indicated that they did not hold traditional Luo beliefs, and equated MC as a contemporary practice. The respondent who spoke about ethnic mixing, sexual
desirability, and social acceptance by other ethnic groups, based on MC status, illustrated that these factors could override the need to feel accepted by his own ethnic group. These factors demonstrates that people will prioritize competing influences over their own culture’s practices, in some cases for acceptance by the wider Kenyan society. This is particularly relevant in a country such as Kenya where a majority of men are circumcised and MC is an essential part of male identity.

In several respects this research serves as a follow-up to MC acceptability studies conducted in Nyanza Province prior to the WHO’s recommendation of MC for HIV prevention, since our results show how some of the acceptability study findings are being played out during VMMC implementation (WHO, 2007a). For example, Bailey et al. (2002) identified cultural tradition as one of the biggest barriers to MC acceptance among the Luo, which is similar to our findings among men who confronted generational differences of opinion around MC and traditional Luo MC practices. Similar to previous studies by Lukobo and Bailey (2007), Ngalande et al. (2006), and Bailey et al. (2002), this study found that a reduced risk of HIV and STIs was a compelling reason for respondents to circumcise or support circumcision, and respondents in our study prioritized MC for health over the practice of not circumcising. Studies show that prior to the RCTs the primary reason given by Luo men and women for MC was hygiene (Bailey et al., 2002; Mattson et al., 2005; Westercamp and Bailey, 2007). Now that the RCT results have been widely disseminated to the general public this appears to have shifted the primary reason for MC to HIV prevention. Similarly the pace of VMMC uptake in Nyanza Province reflects the high-reported preference for MC among men (60%) and women (62%) and that the barriers previously described are being overcome, or are not
substantial enough to override new information about the benefits of getting circumcised (Bailey et al., 1999; Dickson et al., 2011).

The findings from this study should be viewed within the context of the following limitations. This research was conducted in Kisumu, Kenya, an RCT site, so respondents in our study are likely to have been exposed to information and education campaigns about MC, making them more knowledgeable than in other geographic areas. We selected respondents in Kisumu who were 18–35 years of age and sexually active, however, given the small sample size our data may not be representative of the full range of such men and women in Kisumu, and our results may have limited generalizability to other populations. Also, interviews were not conducted with elder Luos, so we are not able to corroborate the generational differences reported by our younger respondents. However, our results are useful for understanding the perceptions of younger people toward their elders, which appears to be important for their adopting MC. Our observations concerning the motivations of Luo men and women to adopt MC in the face of a hyper HIV epidemic, however, may be applicable to other communities where MC programs are being implemented, since most of them are areas where HIV prevalence is more than 10% and mortality due to AIDS-related illness has also been high (Reed et al., 2012).

This paper is intended to provide insights into the discourse about Luo MC practices and perceptions in western Kenya. Indeed, VMMC scale-up in Kenya has outpaced other priority countries and this analysis could provide an understanding of factors at play in VMMC scale-up for other programs (Reed et al., 2012). Future research comparing and contrasting MC introduction and uptake in Kisumu, Kenya, with
other regions that have less successful, or nascent VMMC programs, may provide an understanding of issues at play around demand creation and uptake. Additionally, future research should explore the interplay between individual health priorities and the ways that cultural leaders and institutions function as sources of opportunity and constraint. Communities that do not traditionally practice MC can be receptive to such interventions particularly if the public health implications of such prevention measures are accentuated. This analysis has shown how MC norms can adapt in the face of an epidemic that threatens the health of individuals and the community.
VI. CONCLUSION AND SIGNIFICANCE

The continued devastating impact of the HIV epidemic requires that HIV prevention methods continue to be developed and evolve. It is equally important that factors that impact the effectiveness of HIV prevention methods be explored and better understood. Given MC’s more recent inclusion into the arsenal of HIV prevention methods it is important to study factors that can impact MC effectiveness, including risk compensation, women’s roles, and cultural politics, in the face of widespread MC promotion (Cassell et al., 2006).

The primary objective of this research was to investigate sexual risk compensation related to MC among men and women in Kisumu, Kenya, through qualitative research exploring how MC influences sexual risk perceptions, sexual behavior, and contextual factors that influence sexual risk taking. The secondary objective was to explore how MC is framed in relation to Luo MC norms given that the Luo traditionally do not practice circumcision.

Our empirical findings have extended the literature by providing qualitative insights into risk compensation related to MC among men and women. Additionally, we have illuminated how the MC norms of a traditionally non-circumcising ethnic group play into support and acceptance of MC among young adults.

At the time of this study limited research had been conducted examining risk compensation related to MC. There were no qualitative studies examining risk compensation among circumcised men, and the quantitative research on risk compensation was largely carried out among participants of the three RCTs in Kenya,
South Africa, and Uganda (Auvert et al., 2005; Bailey et al., 2007; Gray et al., 2007; Kong et al., 2012; Mattson et al., 2008) or before MC was widely accepted and promoted as an HIV prevention intervention (Agot et al., 2007). Given the concern that sexual risk compensation could undermine the benefits of MC as an HIV prevention intervention it was important to understand if risk compensation is occurring and what factors influence risk compensating behavior (Cassell et al., 2006; Dushoff et al., 2011; Eaton, et al., 2009; Hallett et al., 2008).

Male circumcision is not solely dependent on the surgical procedure or individual behavior for its effectiveness as a successful population-level HIV prevention intervention (Brooks et al., 2010). There is also relevant local context that comes into play. We examined two contextual factors that impact MC practices—women’s influence in sexual risk compensation and their perceptions of MC, and the cultural politics among the Luo, who do not traditionally circumcise, related to their MC norms. Our research, which examines social context and processes that shape sexual behavior and MC uptake, illuminates contextual factors and offers insights that can make VMMC programs more successful (Hirsch, 2007a).

The results of our research examining risk compensation among circumcised men demonstrate that MC does not necessarily lead to risk compensation. A majority of respondents reported either adopting protective behaviors or maintaining their existing behavior. A minority of men increased risk behaviors but reported doing so on a temporary basis or reported increasing the number of sexual partners but used condoms consistently with these partners, which possibly offset the increase in the number sexual partners. Respondents also reported secondary health benefits to MC,
including a decrease in cuts on the foreskin and easier condom use, both of which can lower the risk of HIV infection.

Building on the results of the three RCTs, as well as past studies that did not find evidence of risk compensation (Agot et al., 2007; Mattson et al., 2008), our findings are supported by recent studies that reported little or no evidence of risk compensation among recently circumcised men (Forbes et al., 2012; Grund and Hennink, 2012; Kong et al., 2012; Westercamp M., 2013; Westercamp N., 2013). This includes data from a compelling longitudinal study in Nyanza Province examining risk compensation following MC, which found no evidence of risk compensation among men 24 months after being circumcised (Westercamp et al., 2012; Westercamp N., 2013). Our research, along with the above-referenced studies has illustrated that risk compensation is not occurring to a significant enough degree to undermine the level of HIV risk reduction provided by MC.

Men in our study were circumcised in different settings: as part of the Kisumu MC RCT, at hospitals and health centers, and in ethnic group ceremonies. These different settings may offer some explanation as to how MC program delivery may influence changes in, or maintaining of, sexual behavior after circumcision, since men circumcised at hospitals, a sexual and reproductive health NGO clinic, and in ethnic ceremonies received little or no counseling. Circumcised male respondents reported counseling and testing as instrumental in influencing their behavior, underscoring the need for HIV prevention counseling to be integrated with VMMC services. This finding is echoed by Grund (2012), who found that counseling played an important role in circumcised men's sexual behavior in Swaziland and by N. Westercamp (2013) in
Kenya. Male circumcision accompanied by HTC appears to foster positive behavior change or maintain sexual behavior, and should be provided to mitigate risk compensation.

The fact that our study, and other studies examining risk compensation in Kisumu (Westercamp, N., 2013), reported HTC as a contributing factor to reducing or maintaining risk behavior does raise questions as to what elements of circumcision counseling and HTC influence a client’s risk behavior. This is an important matter to investigate further in light of the fact that studies have shown that HTC has a limited effect on risk reduction and incidence, particularly with people who test HIV negative (Corbett et al., 2007 Cremin et al., 2010; Matovu et al., 2005) and that the fact that the seven respondents who were circumcised in ethnic ceremonies and at hospitals where no HTC was provided maintained the same sexual behavior.

Women’s beliefs about MC, HIV prevention, and sexual behavior show that women care about men’s circumcision status and they are a salient factor in sexual decision-making, including partner selection and condom use. Risk compensation via higher-risk sexual behavior, including decreasing condom use or increasing the number of partners in response to a man’s circumcision status, was not reported by the women in our study. Respondents were aware that MC provides men partial protection against HIV and STIs and partial protection was reported as a reason why some women did not engage in higher-risk sex or alter their condom use. But some respondents mentioned that it was more important to use condoms with uncircumcised men because they perceived they were more likely to be HIV infected. The benefit of MC women cited most was improved male hygiene, and cleanliness was reported as a reason to prefer
circumcised versus uncircumcised sexual partners. Although research has shown that MC does not increase or decrease male sexual prowess (Waldinger et al., 2005, Waldinger et al., 2009), some women reported that circumcised men have greater sexual prowess and that they are slower than uncircumcised men to ejaculate.

Women are integral to MC programs, as their beliefs about MC can influence sexual risk behavior and MC uptake (Lanham et al., 2012; Layer et al., 2013). Our data of women's perceptions of circumcised and uncircumcised men and knowledge of MC's HIV risk reduction properties illustrate women's influence on MC preferences and sexual behavior, and how they shape men's motivation to get circumcised. Since women account for a majority of HIV infections, with sub-Saharan African women representing 58% of the people living with HIV in the region, and HIV increasingly affecting women (UNAIDS, 2012), it is important that a gendered intervention such as MC, which initially primarily benefits men, is scaled up to maximize benefits for women. The intersection of gender and MC remains a critical area for further research in order to better understand the roles and behavior of women related to a man's MC status and sexual behavior. There is a need to further examine gender dynamics around MC and how they impact women's sexual risk.

Including effective outreach methods that engage women and maximize the positive consequences of MC for women will be valuable to the overall success of MC as an HIV prevention intervention. Based on our results, it will be important to provide educational information that emphasizes that: (1) MC provides only partial protection against female-to-male transmission of HIV and other STIs; (2) additional HIV and STI prevention methods such as condoms need to be used along with MC; (3) MC does not
preclude a man from being infected with HIV; and 4) couples need to develop plans for not having sex while the man is healing.

Little research has been carried out examining MC cultural norms and how they influence perceptions of MC. We set out to explore how younger men and women, who have grown up with HIV as a pronounced factor in their lives, perceive the intersection of MC as a public health intervention and Luo MC norms, in a context where MC is not traditionally practiced.

The publication of RCT results and subsequent international support for MC has created an environment that allows men to more easily get circumcised in Kenya, but Luo men who get circumcised, and Luo women who support MC, navigate norms related to MC being a non-dominant Luo practice, while being a common practice of surrounding ethnic groups. Our findings show how some Luos are reconceptualizing their ethnic group’s MC norms to allow MC to be promoted as an HIV and STI prevention intervention. Results show that prioritizing MC’s health benefits, including HIV prevention, facilitates acceptance and adoption of MC by Luos. The language used by respondents indicates younger people are accepting of MC and their knowledge of the health benefits of MC affects their support and acceptance, while at the same time being informed by Luo MC norms. Respondents reported Luo elders’ views of MC as static but they also described support of VMMC by the Luo Council of Elders, which showed acceptance of MC. We found that a community that does not traditionally practice MC can be receptive to VMMC programs, particularly if the public health implications of such prevention measures are accentuated. This may be relevant to the rollout of MC in other locations and could also be relevant to other HIV and health
interventions where the social barriers and lack of knowledge curb acceptance and scale-up.

In the current era of HIV prevention a combination of interventions are called for based on site-specific contexts (UNAIDS, 2007b; Wilson and Halperin, 2008). Voluntary medical male circumcision, as an individual-level and population-level intervention, can be a core component in reducing HIV incidence and has been called one of two fundamental pillars of HIV prevention (Warren and Bass, 2013). While there has been progress in scaling up VMMC, gaps exist with regard to understanding factors that influence MC uptake and how to best promote VMMC to achieve the greatest effectiveness. Learning more about the social context where VMMC programs are initiated can help to achieve greater uptake (Brooks et al., 2010; Mwandi et al., 2011). Additionally, since the social impacts of MC scale-up will be an outcome of the process, as well as mediate the process, having a better understanding of the diverse social factors at play will likely permit for VMMC HIV prevention programs to be more successful (Hirsch et al., 2007b). As MC becomes more widely adopted among the Luo it may influence other norms and practices beyond HIV prevention. Results of our study suggest that MC is affecting community sexual norms related to penile cleanliness and sexual pleasure. Similarly, MC may be transforming sexual relationships across ethnic groups which may affect partner selection and interethnic relations. These evolving areas are appropriate to monitor as VMMC programs expand and are recommended for further study. Our research has illustrated that knowledge of MC’s HIV prevention benefits, counseling and testing, women’s perceptions, generational differences, and Luo MC norms and the setting in which they unfold, constitute aspects of MC programs
that influence sexual behavior and demand creation, acceptance, and uptake of MC. A better understanding such components can assist in the success of VMMC programs.

In conclusion, this research shows that neither men nor women are engaging in risk compensation close to a level that would undermine the protective effects of MC. We found that MC does not necessarily lead to risk compensation and that a majority of circumcised men adopted protective sexual behaviors or did not change their sexual behavior. Women in the study did not report higher-risk sexual behavior, such as decreasing condom use with circumcised men or increasing the number of sexual partners they have. Results also demonstrate that MC will be prioritized as a health promotion and HIV prevention method among an ethnic group that does not traditionally circumcise. Additionally, our data illustrate the encompassing factors such as ease of condom use, beliefs about sexual prowess, penile hygiene, reduction of foreskin cuts, and interethnic relations that also serve as drivers of MC acceptance and adoption. These findings should inform programmatic work to: improve counseling strategies to mitigate risk compensation, increase MC uptake, and assist in determining what roles women play in MC interventions. Lastly, our data provide a foundation for future MC research examining women’s influence in VMMC and cultural elements that can impact VMMC roll-out.


APPENDIX A

Sexual Disinhibition Related to Male Circumcision in Kisumu, Kenya

Individual Interview Guide—Version 3

Introduction
Welcome participant and introduce yourself

Explain the study
  • Gathering information about beliefs of risk for HIV infection and behaviors related to male circumcision

Inform participant that the interview will be audio-recorded and you will be taking notes
  • All information is confidential not shared with anybody outside the research team
  • There are no right or wrong answers
  • You don’t have to answer any questions that you don’t like or don’t feel comfortable talking about
  • Do you have any questions before starting?

[Interviewer: Set up the interview by explaining to the participant that you want them to answer questions with as much detail as possible, as if they were telling a story. The interview should flow like a conversation not a question and answer session. Use the listed prompts if these details are not forthcoming during their response. Let them answer the questions with as little interruption a possible. Keep track of the prompts as they provide the details for each question. At the end of each question, when they have told you as many details as they can remember, then ask the prompts for the details they omitted.]

START AUDIO RECORDING NOW

Living Situation (ice breaker question)
Could you describe where you live?
  Location, neighborhood
  What’s it close to? Proximity to transportation, market, movie theater
  What’s your favorite thing about where you live?
  How long have you lived in current place?
  Who do you live with?

What health or medical facilities are near where you live?
  Do you go to this facility when you are sick? Why or why not?
  What sort of treatment do they provide?
    Types of illnesses/conditions seen?
  Do they take care of people with HIV/AIDS?
APPENDIX A (continued)

HIV Context
When you hear about HIV/AIDS what does it make you think of?
   Why?

How has HIV/AIDS affected you? Your family? Your community?
   Worry, fear
   Dealing with sick friends and relatives
   Effect on your sexual relationships?
      Abstinence, condom use, monogamy

What do you feel is your biggest risk to getting HIV?
   How does knowing this affect your behavior?

Where did you learn what you know about HIV transmission and prevention?
   Friend, school, radio, TV, internet, outreach worker, hospital/clinic, parents, media
   When did you learn this information?

Male Circumcision (MC)
Tell me what you know about MC
   Where did you learn what you know about MC?

What are your feelings about MC?
   What does MC mean to you? (how is it significant in your life?)
   Does it mean different things to men and women?
   Does your tribal/cultural heritage influence how you think or feel about MC?

What do you know about circumcision’s relationship to HIV?
   How did you learn what you know about circumcision and its relationship to HIV/STIs?
   How widely known is this information?
   How well do you think MC will be in preventing HIV transmission?

[Interviewer: SKIP THIS QUESTION IF, participant is not aware of the protective effects of MC on HIV Transmission]
Have your views around circumcision changed since finding out that circumcision reduces the chance of HIV transmission?
   How?

ASK MEN ONLY
Are you circumcised?
   If YES, Where were you circumcised?

QUESTIONS FOR CIRCUMCISED MEN
Tell me what it’s like to be circumcised.
APPENDIX A (continued)

Why did you want to get circumcised?
   Knowledge around MC providing protection against HIV
   Social norms/peer pressure/cultural elements/religious influence
   Cost of procedure
   Hygiene
   What did you perceive as the benefit of being circumcised before you were circumcised?
      Did this/these things turn out to be true?
      What do you like about being circumcised?

How did you think being circumcised might change your sex life?

What has changed in your life as a direct result of being circumcised?
   Has your health changed? How?
   Are there different things that you are aware of that you weren’t aware of before being circumcised?
   Friend/Family reaction support to getting circumcised
   Any unexpected outcomes after being circumcised?

How do you view HIV after being circumcised?
   How is that different than the way you viewed HIV before you were circumcised?

What have been the negative consequences of being circumcised?
   Did you perceive these as being negative effects of being circumcised before you were circumcised?
   What do you dislike about being circumcised?

If you could change things would you prefer not to be circumcised?
   Why/why not?

Circumcision and Sexual Behavior
Tell me what sexual practices of yours have changed after getting circumcised.
   Have them contrast with life before circumcision—How is it different than before?
   Number of partners—increase, decrease, or stay same
   Type of partners
   Where meet partners
   Type of sex
   Number of times having sex (number of rounds)
   Condom use
   Easier/harder to use?
      Use more/less frequently—Why?
   What would you say is the difference in sex before and after MC?
      Change in sensitivity of penis; More/less sensitive?
      Change in sexual pleasure for self; more or less pleasure?
      Change in ability to give sexual pleasure; more/less pleasure?
      Change in ejaculation; faster/slower ejaculation?
      Change in cuts, abrasions, bruises; more or less?
   Partner’s reaction
APPENDIX A (continued)

How many days/weeks did you wait to have sex after being circumcised?

What differences are there in your ability/desire to practice safe sex (i.e., use condoms and be monogamous) because you are circumcised?  
*What contributes to that?*

Did you talk about circumcision with your partner(s) before getting circumcised?  
*If NO, why not?—didn’t care, fear, awkward, don’t value their opinion, they wouldn’t be supportive*  
*If YES, what did you talk about?*  
*How did what they thought influence your decision?*  
*Who brought it up?*  
*Who else did you talk to/tell?*

What do your sexual partners think of you being circumcised?  
*How do you know that? Do they tell you, tell a mutual friend?*  
*How does what others say or think make you feel?*  
*Have women/men you’ve had sex with treated you differently or acted differently toward you since you’ve being circumcised?*  
*What have they done that’s new or different?*  
*What have they said that’s new or different?*

What factors have influenced changes in your sex life, since being circumcised?  
*Increase in income*  
*More free time*  
*Change of residence*  
*Greater ability to please partners*  
*Reduced perceived risk of HIV and STIs*

What’s the difference between a circumcised man and somebody who’s just thinking about getting circumcised, but hasn’t done it?

**QUESTIONS FOR UNCIRCUMCISED MEN**

Have you ever thought about getting circumcised?

What would make you want to get circumcised? What would be the benefit of being circumcised?  
*MC providing protection against HIV*  
*Social norms/peer pressure/cultural elements/religious influence*  
*Perceived as less/more desirable*  
*Friends are circumcised*  
*Hygiene*  
*Greater sexual satisfaction*
What are some reasons that would make you not want to get circumcised? What are the negative consequences of being circumcised?

- **Pain**
- **Cost**
- **Influence of family, social norms, peer pressure, religion**
- **Goes against tradition or culture**
- **Partner not supportive of MC**
- **Make sex worse**
- **Will make you more promiscuous**
- **Fear of medical establishment**
- **Happy being uncircumcised**

What's the difference between a circumcised man and somebody who's just thinking about getting circumcised, but hasn’t done it?

Do you feel less protected against HIV and STIs than a circumcised man?

What do you think about men who are circumcised?

- **More/less promiscuous**
- **Betray Luo culture**
- **Hygienic—cleaner**
- **More desirable to women**
- **Fit certain age group or demographic characteristics**

**Circumcision and Sexual Behavior**

How do you think being circumcised might change your sex life? How would sex be different for you if you were circumcised?

What sexual practices do you think you would change after being circumcised? How would sex be different?

- **Number of partners**—increase, decrease, or stay same
- **Type of partners**
- **Where meet partners**
- **Type of sex**
- **Sexual pleasure**—to self or partner
- **Penile sensitivity**
- **Condom use**
  - Easier/harder to use?
  - Use more/less frequently—Why?

What difference do you think there would be in your desire/ability to practice safe sex (i.e., use condoms and be monogamous) if you were circumcised?

- **Why? What contributes to that?**

Have you ever talked about MC with your partners?

- **If NO, Why not?**—didn’t care, fear, awkward, don’t value their opinion, they wouldn’t be supportive

Would you talk with your partner(s) before getting circumcised?
APPENDIX A (continued)

If YES, What would you talk about?  
How would what they thought influence your decision?  
Who else would you talk to/tell?

How do you think your sexual partners would feel about you being circumcised?  
How do you know that? Do they tell you, tell a mutual friend  
How does what others think or say make you feel about MC?  
Would people you’ve had sex with treat you differently or act differently toward you if you were circumcised?

QUESTIONS FOR WOMEN

In your own words tell me what are some of the differences between circumcised and uncircumcised men?
  Desirability  
  Hygiene—cleaner  
  Religion  
  Greater/lower ability to please partners  
  Reduced perceived risk of HIV and/or STIs  
What difference is there in having sex with a circumcised versus an uncircumcised man?

What do you think about sexual partners that are uncircumcised?
What do you think about sexual partners that are circumcised?
  Is there a difference in your desire to practice safe sex depending on a man’s circumcision status?  
  Do you have a preference for circumcised or uncircumcised men?  
    Why do you prefer…?

How has whether or not a man is circumcised influenced how you thought of him?
  Sexual desirability  
  Hygiene—cleaner  
  Religion, tribal affiliation  
  Greater/lower ability to please partners  
  Reduced perceived risk of HIV and/or STIs (does a man’s circumcision status give you any indication to his HIV status?)

Have you ever had sex with a circumcised man? An uncircumcised man?

Tell me about it (possibly use this/these person(s) for sexual narrative)

Is your regular partner circumcised? Has he been circumcised since you have been sexually active with him?

Interviewer: SKIP IF, they were not sexually active with partner prior to circumcision or if partner is not circumcised]
APPENDIX A (continued)

Tell me what sexual practices have changed between you and your partner after he was circumcised.

  Have them contrast with life before circumcision—How is it different than before?
  Type of sex
  Condom use
    Easier/harder to use?
    Use more/less frequently—Why?
  How long did you wait to have sex after his circumcision?

What influence did you have on him getting circumcised?

  Did you want him to? Not want him to.
  What would he have done with/without your support?
  What did you think you were going to gain by him being circumcised?
    Did that occur?

QUESTIONS FOR ALL

What is Luo culture to you? Define it for me in your own words.

  What part of Luo culture is related to sex
  What needs to happen for circumcision to be accepted into Luo culture?
  How do older Luo cultural practices and beliefs stop?

READ: Now I’d like to ask you some questions about your sexual behavior by having you describe a recent time you had sex. I realize that this is a very personal subject, but your answers are very important to our study. Your answers will be confidential and we will not use your, or your partner’s, names in any reports or share their names with anybody outside the research team.

[Interviewer: Have the participant describe the most recent episode of (1) sex without a condom with a non-regular partner in the past 12 months. If that has not occurred, have them describe the most recent episode of (2) sex without a condom with a regular partner in the past 12 months. If that has not occurred, have them describe the most recent episode of (3) sex with a condom with a non-regular partner in the past 12 months. If there is no sex with a non-regular partner or unprotected sex with a regular partner in the past 12 months have them describe the (4) most recent sex episode.]

Have you had unprotected vaginal or anal sex with a non-regular partner in the past 12 months? *(If response is YES have participant describe this event. If NO ask next question.)*

Have you had unprotected vaginal or anal sex with a regular partner in the past 12 months? *(If response is YES have participant describe this event. If NO ask next question.)*

Have you had protected vaginal or anal sex with a non-regular partner in the past 12 months? *(If response is YES have participant describe this event. If NO ask them to describe most recent sex episode)*
APPENDIX A (continued)

READ: Think back to that time and try and remember as much as you can. Tell me in your own words the story of what happened. Who you were with, where you were, what you were thinking and feeling? Describe the time from when you met, the sex, and what happened afterwards.

[Interviewer: Let the participant tell their story without interruption and then go back and probe for information not mentioned.]

Before Sex:
  Meeting: Where? How did you meet? Who were you with?
    Who was your partner? age, gender
      Characteristics of partner—Boy/Girlfriend, Husband/Wife, Common-law, Sex worker, Hook-up
    Duration and nature of relationship
    Previous sex with this partner?
    How does where you meet a partner influence the type of sex you have? especially condom use
    Discuss HIV/AIDS/STIs?
    Discuss birth control?

During sex:
  Where did you have sex?
  How did you decide what type of sex you would have? Oral, vaginal, anal, mutual masturbation/touching, Dry versus Wet
  Condom negotiation: did you discuss using a condom? Did you want to use a condom? Why/Why not?
  What factors contributed to you using, or not using, a condom?
    If male partner was he circumcised?
  Were either of you using alcohol or drugs? How did this influence the sexual encounter?

After Sex:
  Is there anything you wanted to happen differently? What?
  Generalizability—typical or unusual compared to other sexual encounters with this person or with others?
  Given gifts or money?
  Was this typical or unusual compared to most of your other sexual interactions?
  How did knowing or not knowing your partner’s HIV status affect having sex this time?

Risk Reduction
  Tell me what you think of condoms.
    Do you like to use them? Why or why not?
    Do you have trouble getting condoms?
    Are they reasonably priced?
    Are they convenient to use?
    What would make you use them more?
APPENDIX A (continued)

Have you ever used a female condom?
   What did you think of it?
   Where did you get it from?
   Are they easy to find/affordable?
   What are the advantages of using the female condom?

How do you make a decision about when to use a condom?
   When do you consider it appropriate to use a condom?
   In what circumstances do you use condoms more/less?
   If circumcised, do you use condoms more, less, or about the same after being circumcised?
   What do you do if your partner doesn’t want to use a condom?
   How do you negotiate condom use with your sex partners?

Tell me what you think of monogamy or being faithful to one partner.
   Is it realistic? Why/why not?
   What is needed for a relationship to be monogamous?
   Does circumcision status affect whether you are monogamous?
   Is monogamy something that you’ve talked about with your partner? Why/why not?
   Are you monogamous?
   Is your partner?

In your own words can you explain what the difference is between dry and wet sex.
   How often do you have one type of sex over the other? What/who decides that?
   In your sexual relationships who dictates whether you have dry or wet sex?
   When do people have wet sex?
   When do people have dry sex?

ARV Knowledge
Tell me what you know about antiretroviral therapy.
   Availability, cost
   Do you hear other people talking about ARV? What are they saying about it?
      Side-effects, can cure HIV, increases/decreases sexual drive
   Do you know people who are on it/take it
   What is the attitude in your community about ARV?
   Are people taking ARV pills as pre-exposure prophylaxis?
   Would you take it if you had HIV? Are you taking it?
   Now that ARVs are becoming more available does that change how you think about HIV? What about your risk for HIV?
   How would taking it affect your sexual behavior?
      More partners
         Unprotected sex—use condoms less
      Type of sex—oral, vaginal, anal

How do people who take ARV feel with regard to susceptibility to transmitting HIV/AIDS?
   Protected? Reduced transmission

How would somebody’s sex life change after they start taking ARVs?
Recruitment Referrals

Do you think any of your sex partners would be willing to be interviewed for this research study if they are eligible?

[INTERVIEWER: END OF QUALITATIVE INTERVIEW. CONTINUE WITH DEMOGRAPHIC QUESTIONNAIRE]
APPENDIX B

Sexual Disinhibition Related to Male Circumcision in Kisumu, Kenya

Focus Group Guide

Welcome and Introductions

Welcome participants, introduce facilitators:
- Emphasize role as facilitator
- Go around and have everyone introduce themselves

Explain the study:
- Gathering information about beliefs of risk for HIV infection and behaviors related to male circumcision
- We will be also conducting individual interviews. So this is one step in the data collection.
- Because we will be gathering information from other sources, these focus groups will make sure we are not missing anything important and let us know if are we collecting the right data. You are our “experts.”

Inform participants that the group discussion will be audio-recorded and that there is also a note taker who will be observing the proceedings. Discuss ground rules of the group discussion.
- We want everyone to be comfortable sharing their ideas. The aim of today’s group discussion is not to reach consensus. The more opinions and perspectives we have the better our understanding will be. There are no wrong or right answers.
- We also hope everyone feels secure that the ideas expressed here are not shared with others outside the discussion group here today. Everybody needs to respect the confidentiality of what is shared here. Please do not discuss what is discussed with people outside this room.
- Please take turns while talking so that we can all hear what is said clearly. We want to make sure everyone has a chance to talk.
- You don’t have to answer any questions that you don’t like or don’t feel comfortable talking about.
- Do you have any questions before starting?
- If you don’t have any further questions, we would like to start the tape recorder now.

START AUDIO RECORDING NOW
**APPENDIX B (continued)**

**HIV Context**
When you hear people talk about HIV/AIDS what are some of the things they say about it?

What do people do to prevent themselves from getting HIV?

**Male Circumcision (MC)**
When people discuss MC, what do they talk about?
- What are some of the reasons they discuss circumcision?
- What are some of the things they discuss about circumcision with one another?
- When does it get brought up? Around the time of sex, talking about their children, talking about HIV prevention?
- Who is more likely to bring it up for discussion the man or the woman?

Imagine that two Luo men are having a conversation about MC. What are some of the things they are saying?
- What do they mean by MC?
- Are they discussing circumcision in the context of Luo culture?
- Are they discussing what circumcision does to a man’s sexual performance?
- Are they discussing what women think of circumcised men?
- What other things might they be discussing?

Why would a man want to get circumcised?
- What are the pros and cons of getting circumcised?
- How do people in Kisumu learn about MC?
- What is known about male circumcision’s relationship to health (HIV and STIs)?
- Have people heard misinformation about MC?

What are your views about MC?
- Have your views around circumcision changed since it was found that circumcision reduces the chance of HIV transmission?
- What are some of the ways in which their views may have changed?

What do women in this community think of circumcised sexual partners/men versus uncircumcised sexual partners/men?
- What are some of the difference in having sex with a circumcised versus an uncircumcised man?

What happens to a man once he gets circumcised?
- What sexual behaviors that might change?
- Might beliefs or attitudes about circumcised men change?
- Will the use of condoms change?
- Might beliefs or attitudes about uncircumcised men change?

- If MC is made available, what are some of the things it might change?
APPENDIX B (continued)

Male and Female Sexual Behavior
Tell me what people think of condoms and condom use.
What makes people use condoms more/less?
Are they easily accessible? Reasonably priced?
What do men do if a woman/partner does not want to use a condom?
What does a woman do if her partner does not want to use a condom?
With what type of partner is it considered appropriate to use/not use a condom?

What are some of the ways that someone can change their sexual behavior to protect themselves from getting HIV/AIDS?
What is the most common thing that people do in Kisumu to protect themselves from HIV?
What are the most effective ways?

What are some of the places or situations in which people talk about sex?
If two people (man and woman; 2 men; 2 woman) meet (in a bar, club, restaurant, or other place) and start talking about sex what are they likely to be talking about?

When people in this community refer to dry and wet sex, what are they talking about?
What is meant by dry sex?
What is meant by wet sex?
Do most men in Kisumu have a preference for dry sex? Wet sex?
How about women, do most prefer dry sex? Wet sex?
What are some of the reasons that men or women prefer dry sex?
What are some of the reasons that men or women prefer wet sex?
What are some of the ways in which people can practice dry sex? Do they do anything special to stay dry?
In a sexual relationship who dictates whether you have dry or wet sex?

ARV Knowledge
Tell me what people know about antiretroviral (ARV) therapy.
Do people believe that ARVs are becoming more available?
Are there many people taking ARVs?

How might the fact that more people are taking ARVs change how people think about HIV?
What about people’s risk for HIV?
Would you take it if you had HIV?
When people take ARVs, in what ways might it affect their sexual behavior?
Do you think they will have less or more sex?
More or fewer partners?
More of less condom use?
Might they change the kind of sex that they practice?
Oral, vaginal, anal

Do you think that people who take ARV feel that they are less or more likely to pass HIV to others?
APPENDIX B (continued)

Interview Preferences
If you were to be interviewed one-on-one about your sexual risk behaviors and activities would you prefer to be interviewed by a man or a woman?

If you were to be interviewed one-on-one about your sexual risk behaviors and activities would you prefer to be interviewed by an older person, younger person, or someone about your age?

Debriefing Statement
[To be read to participants at the end of the focus group discussion.]

Thank you for your participation in this focus group discussion. This research is being conducted because after studies have confirmed that MC provides protection against HIV transmission from women to men during vaginal sex, we want to know if circumcised men and their sex partners are changing their sexual behavior. We are trying to better understand men’s and women’s beliefs, attitudes, and practices related to MC. Your knowledge and experiences are very important to us in understanding this subject.
APPENDIX C

Sexual Disinhibition Related to Male Circumcision in Kisumu, Kenya

Demographic Questionnaire

1. Participant # ____ ____ ____
2. Date of interview ____ ____ - ____ ____ - 2008
   Day    Month    Year
3. Interviewer initials ____ ____

Instructions: Circle numbered responses corresponding to answer. Circle only one response for each question. Read all responses to participant before recording their answer.

3a. Gender: MALE  FEMALE

PARTICIPANT CHARACTERISTICS

4. What month and year were you born? ____ ____ / ____ ____ ____ ____ (month/year)
5. How old were you on your last birthday? ____ ____ years old
6. Are you currently married or living with a man/woman with whom you have a sexual relationship?
   Currently married, living with spouse _______ 1
   Currently married, living with other sexual partner _______ 2
   Currently married, not living with spouse or other sexual partner _______ 3
   Not married, living with sexual partner _______ 4
   Not married, living with non-sexual partner _______ 5
   Not married, not living with sexual partner _______ 6
   Don’t know _______ 8
   No response/refuse _______ 9
7. What is the highest level you completed in school?
   Never attended school or did not finish primary school _______ 1
   Finished primary _______ 2
   Post primary/vocational _______ 3
   Secondary _______ 4
   College _______ 5
   University _______ 6
   Don’t know _______ 8
   No response/refuse _______ 9
APPENDIX C (continued)

8. What is your main occupation?
   Professional _______________________________ 01
   Clerical or office worker ____________________ 02
   Military/Police/Prison ______________________ 03
   Security guard ______________________________ 04
   Health worker ______________________________ 05
   Farming ___________________________________ 06
   Domestic work/cleaning staff _________________ 07
   Construction ________________________________ 08
   Merchant/street vendor _______________________ 09
   Retired ____________________________________ 10
   Student ____________________________________ 11
   Unemployed _________________________________ 12
   Other (specify) ______________________________ 13
   Don’t know ________________________________ 88
   No response/refuse _________________________ 99

9. How long have you lived in Kisumu District? _______ ______ years

10. In the last 12 months have you been away from your home for more than 30 days?
    No _________________________________________ 0
    Yes _________________________________________ 1
    Don’t know __________________________________ 8
    No response/refuse _________________________ 9

11. What religion are you? ___________________________ (list religion)

12. What tribe do you belong to? _____________________ (list tribe)

13. What is your average monthly income?
    <2,000 Schillings _____________________________ 1
    2,000–5,000 Schillings ________________________ 2
    5,001–10,000 Schillings ________________________ 3
    >10,000 Schillings ____________________________ 4
    Don’t know __________________________________ 8
    No response/refuse _________________________ 9

14. In the last 12 months have you drank alcohol?
    No _________________________________________ 0 [GOTO 17]
    Yes _________________________________________ 1
    Don’t know __________________________________ 8
    No response/refuse _________________________ 9

15. During a typical week, how many days a week do you consume alcohol?
    ______ ______ (# days)

16. On the days that you drink alcohol, how many drinks do you usually have?
    ______ ______ (# drinks)
APPENDIX C (continued)

17. Some people have tried different types of drugs. Which of the following, if any, have you tried?

<table>
<thead>
<tr>
<th>Drug</th>
<th>No</th>
<th>Yes</th>
<th>DK</th>
<th>NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Marijuana / bhang / njaga</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>b. Cocaine</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>c. Other (specify)</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>d. Other (specify)</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

18. Some people have tried injecting drugs using a syringe. Have you injected drugs recreationally with a syringe in the last 12 months?

- No ________________________________ 0
- Yes __________________________________ 1
- Don’t know ________________________ 8
- No response/refuse ________________ 9

**KNOWLEDGE OF HIV/AIDS**

19. I’ll now ask you some questions about what you know about HIV and AIDS. Based on what you know about AIDS, do you think that a person can get HIV or AIDS from any of the following? [READ ALL: Circle YES or NO for 19a-19j]

<table>
<thead>
<tr>
<th>Statement</th>
<th>No</th>
<th>Yes</th>
<th>DK</th>
<th>NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Having sexual intercourse without a condom (sexual intercourse is defined as vaginal or anal sex with a man or a woman)</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>b. Using public toilets</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>c. Receiving a blood transfusion</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>d. Sharing used needles</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>e. Sharing meals with an HIV-positive person</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>f. During childbirth from mother to baby</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>g. During breastfeeding from mother to baby</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>h. Getting bitten by a mosquito</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>i. Shaking hands</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>j. Kissing</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

20. Based on what you know about HIV and AIDS, which of the following do you think can help prevent someone from becoming infected with HIV/AIDS? [READ ALL: Circle YES or NO for 20a-20e]

<table>
<thead>
<tr>
<th>Statement</th>
<th>No</th>
<th>Yes</th>
<th>DK</th>
<th>NR</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Using a condom correctly every time you have sex</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>b. Using traditional medicine</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>c. Being faithful with one uninfected partner</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>d. Praying</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>e. Not having sex at all</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>
HIV RISK PERCEPTION & TESTING

21. People have different beliefs about their risks for getting HIV. In your opinion, how would you rate your chances of becoming infected with HIV? [READ ALL: Circle ONE]
   - No risk
   - Low risk
   - High risk
   - 100% chance
   - Don’t know
   - No response/refuse

22. Have you ever been tested for HIV?
   - No
   - Yes
   - Don’t know
   - No response/refuse

23. What was the result of your test?
   - Negative
   - Positive
   - Did not get results
   - Don’t know
   - No response/refuse

SEXUAL PRACTICES

INSTRUCTIONS [READ] People use different words to talk about sexual behavior. So I want to start out by making sure that we mean the same thing when talking about sex.

When I say sex I'm referring to any time a man puts his penis in a woman’s vagina or anus. No matter how much time he is inside her, and even if it did or did not lead to orgasm.

[READ TO MEN ONLY] Sex can also occur between two men. So, sex also includes any time you put your penis in a man’s anus, or any time a man puts his penis in your anus. No matter how much time he is inside, and even if it did or did not lead to orgasm.

24. The number of sexual partners people have had differs a lot from person to person. Some people report having had one sexual partner, some three partners, and some have more partners. How many sexual partners have you had in the PAST 12 MONTHS?
   ______ ______ ______ partners

25. How many sexual partners have you had in the LAST 30 DAYS?
   ______ ______ ______ partners

26. Thinking about all the times you had sex in the PAST 12 MONTHS, how often did you drink alcohol before having sex? [READ ALL: Circle ONE]
   - Never
   - Less than half of the time
   - More than half of the time
   - Always
   - Don’t know
   - No response/refuse
APPENDIX C (continued)

27. Thinking about all the times you had sex in the PAST 12 MONTHS, how often did you use drugs before having sex? [READ ALL: Circle ONE]

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>1</td>
</tr>
<tr>
<td>Less than half of the time</td>
<td>2</td>
</tr>
<tr>
<td>More than half of the time</td>
<td>3</td>
</tr>
<tr>
<td>Always</td>
<td>4</td>
</tr>
<tr>
<td>Don’t know</td>
<td>8</td>
</tr>
<tr>
<td>No response/refuse</td>
<td>9</td>
</tr>
</tbody>
</table>

28. During the PAST 12 MONTHS, have you given another person money, food, or other resources in exchange for sex?

<table>
<thead>
<tr>
<th>Response</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>Don’t Know</td>
<td>8</td>
</tr>
<tr>
<td>No Response/Refuse</td>
<td>9</td>
</tr>
</tbody>
</table>

29. During the PAST 12 MONTHS, have you received money, food, or other resources from someone in exchange for sex?

<table>
<thead>
<tr>
<th>Response</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>Don’t Know</td>
<td>8</td>
</tr>
<tr>
<td>No Response/Refuse</td>
<td>9</td>
</tr>
</tbody>
</table>

30. Thinking about all the times you had sex in the PAST 12 MONTHS, how often did you have dry sex? (Dry sex is defined as wiping the vagina with a cloth before sex or using herbs or ointments that make the vagina dry before sex) [READ ALL: Circle ONE]

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>1</td>
</tr>
<tr>
<td>Less than half of the time</td>
<td>2</td>
</tr>
<tr>
<td>More than half of the time</td>
<td>3</td>
</tr>
<tr>
<td>Always</td>
<td>4</td>
</tr>
<tr>
<td>Don’t know</td>
<td>8</td>
</tr>
<tr>
<td>No response/refuse</td>
<td>9</td>
</tr>
</tbody>
</table>

31. The sex of your sexual partners over the PAST 12 MONTHS includes: [READ ALL: Circle ONE]

<table>
<thead>
<tr>
<th>Category</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men Only</td>
<td>1</td>
</tr>
<tr>
<td>Women Only</td>
<td>2</td>
</tr>
<tr>
<td>Both men and women</td>
<td>3</td>
</tr>
<tr>
<td>Don’t know</td>
<td>8</td>
</tr>
<tr>
<td>No response/refuse</td>
<td>9</td>
</tr>
</tbody>
</table>

CONDOM USE

32. In your sexual encounters, who typically decides whether you use a condom or not? [READ ALL: Circle ONE]

<table>
<thead>
<tr>
<th>Decision</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>You only</td>
<td>1</td>
</tr>
<tr>
<td>Mostly you</td>
<td>2</td>
</tr>
<tr>
<td>You and your partner(s) equally</td>
<td>3</td>
</tr>
<tr>
<td>Mostly partner(s)</td>
<td>4</td>
</tr>
<tr>
<td>Partner(s) only</td>
<td>5</td>
</tr>
<tr>
<td>Other (specify)</td>
<td>6</td>
</tr>
<tr>
<td>Don’t know</td>
<td>8</td>
</tr>
<tr>
<td>No response/refuse</td>
<td>9</td>
</tr>
</tbody>
</table>
APPENDIX C (continued)

33. Thinking about all of the times you had sex over the PAST 12 MONTHS, how often did you use a condom? [READ ALL: Circle ONE]
   All sexual encounters ___________________________ 1 [GOTO 36]
   More than half of your sexual encounters ___________ 2
   Less than half of your sexual encounters ___________ 3
   Never _________________________________________ 4
   Don’t know _____________________________________ 8
   No response/refuse ______________________________ 9

34. Did you use a condom the last time you had sex?
   No ____________________________________________ 0
   Yes ___________________________________________ 1
   Don’t know _____________________________________ 8
   No response/refuse ______________________________ 9

35. Why do you not use a condom with each sexual encounter? Because… [READ ALL: Circle YES or NO for 35a-35k]

   Statement                                                                 No  Yes  DK  NR
   a. Condoms are inconvenient to use                                      0   1   8   9
   b. It decreases sexual pleasure                                          0   1   8   9
   c. Your spouse/partner(s) does not want to                               0   1   8   9
   d. You have no control over whether your spouse / partner(s) uses a condom 0   1   8   9
   e. You or your spouse/partner(s) are trying to get pregnant             0   1   8   9
   f. You cannot afford condoms                                            0   1   8   9
   g. Condoms are not available in your area                                0   1   8   9
   h. You do not know how to use a condom                                    0   1   8   9
   i. Condoms do not prevent HIV/AIDS & STIs                                0   1   8   9
   j. You use other birth control methods                                   0   1   8   9
   k. Other (specify)                                                      0   1   8   9

MALE CIRCUMCISION [Female participants GO TO question 39]

36. Are you circumcised?
   No ____________________________________________ 0
   Yes ___________________________________________ 1 [GO TO 38]
   Don’t know _____________________________________ 8
   No response/refuse ______________________________ 9

37. How likely are you to get circumcised in the next 12 months?
   Never plan to get circumcised _________________________________________ 1
   Less than 50% chance ________________________________________________ 2
   More than 50% chance ________________________________________________ 3
   Definitely likely ______________________________________________________ 4
   Don’t know __________________________________________________________ 8
   No response/refuse ____________________________________________________ 9
   [END for uncircumcised men]

38. How old were you when you were circumcised? _____ _____ years old  
   [END for circumcised men]
APPENDIX C (continued)

[Male participants end questionnaire here]

39. Was your most recent male sexual partner circumcised?

<table>
<thead>
<tr>
<th>Option</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>Don’t know</td>
<td>8</td>
</tr>
<tr>
<td>No response/refuse</td>
<td>9</td>
</tr>
</tbody>
</table>

[END for women]

Interview Assessment (to be filled out by interviewer after the interview is finished and away from the participant)

40. How would you rate the overall quality of the interview?

<table>
<thead>
<tr>
<th>Quality</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>1</td>
</tr>
<tr>
<td>Good</td>
<td>2</td>
</tr>
<tr>
<td>Poor</td>
<td>3</td>
</tr>
</tbody>
</table>

41. How cooperative was the participant?

<table>
<thead>
<tr>
<th>Cooperativeness</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very cooperative</td>
<td>1</td>
</tr>
<tr>
<td>Somewhat cooperative</td>
<td>2</td>
</tr>
<tr>
<td>Somewhat uncooperative</td>
<td>3</td>
</tr>
<tr>
<td>Very uncooperative</td>
<td>4</td>
</tr>
</tbody>
</table>

42. How truthful did the participant’s responses appear?

<table>
<thead>
<tr>
<th>Truthfulness</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very truthful</td>
<td>1</td>
</tr>
<tr>
<td>Somewhat truthful</td>
<td>2</td>
</tr>
<tr>
<td>Somewhat untruthful</td>
<td>3</td>
</tr>
<tr>
<td>Very untruthful</td>
<td>4</td>
</tr>
<tr>
<td>Hard to tell</td>
<td>5</td>
</tr>
</tbody>
</table>

43. Were the participant’s responses during the qualitative interview consistent with responses given in the questionnaire?

<table>
<thead>
<tr>
<th>Consistency</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>No (list them below)</td>
<td>2</td>
</tr>
<tr>
<td>Some inconsistencies (list them below)</td>
<td>3</td>
</tr>
</tbody>
</table>
APPENDIX D

UNIVERSITY OF ILLINOIS
AT CHICAGO

Office for the Protection of Research Subjects (OPRS)
Office of the Vice Chancellor for Research (MC 673)
203 Administrative Office Building
1737 West Polk Street
Chicago, Illinois 60612-7227

Approval Notice - Revised
Initial Review (Response to Deferred)

November 10, 2007 (Revised December 3, 2007)

Thomas Horton Riess, MPH
Community Health Sciences
1603 W Taylor Street, Room 623
M/C 923
Chicago, IL 60612
Phone: (312) 503-3935 / Fax: (312) 503-0367

RE: Protocol # 2007–0570
“Sexual Disinhibition Related to Male Circumcision”

Dear Mr. Riess:

Your Initial Review Application (Response to Deferred) was reviewed and approved by the Convened review process on October 18, 2007.

Please note the following information about your approved research protocol:

Please note that the following items must be submitted to and approved by the UIC IRB prior to conducting research-related activities involving human subjects. No subjects may be recruited or enrolled in this research until written UIC IRB approval of the amendments has been granted,

1) Lumumba Health Centre (UNIM Clinic) Kenyatta National Hospital Ethics and Research Board approval; and
2) Translated versions of all applicable documents. Please be reminded that it is necessary to include with the translated documents, an explanation of who performed the translations, a description of this person's basic qualifications to conduct the translations and an explanation of consistency with the English-versions of the documents was verified.

Approved Subject Enrollment #: 180 (80 focus group, 100 individual interviews) (rev 12/02/07)
APPENDIX D (continued)

Additional Determinations for Research Involving Minors: These determinations have not been made for this study since it has not been approved for enrollment of minors.

Performance Sites: UIC (rev 12/02/07)

Sponsor: National Institute of Allergy and Infectious Diseases

PAF#: Not Available

Grant/Contract No: U01-A150440-6

Grant/Contract Title: Randomized Controlled Trial of Male Circumcision to Reduce HIV Incidence

Research Protocol(s):

a) Sexual Disinhibition Related to Male Circumcision

Recruitment Material(s):

a) Focus Group Recruitment Screening Questionnaire (English); Version 2; 10/02/2007

b) Individual Interview Recruitment Screening Questionnaire (English); Version 2; 10/02/2007

Informed Consent(s):

a) Focus Group Consent (English); Version 2; 10/02/2007

b) Individual Interview Consent Form (English); Version 2; 10/02/2007

c) Waiver of documentation of informed consent granted under 45 CFR 46.117 for eligibility screening only.

Please note the Review History of this submission:

<table>
<thead>
<tr>
<th>Receipt Date</th>
<th>Submission Type</th>
<th>Review Process</th>
<th>Review Date</th>
<th>Review Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/07/2007</td>
<td>Initial Review</td>
<td>Convened</td>
<td>08/23/2007</td>
<td>Deferred</td>
</tr>
<tr>
<td>10/03/2007</td>
<td>Response To Deferred</td>
<td>Convened</td>
<td>10/18/2007</td>
<td>Approved</td>
</tr>
</tbody>
</table>

Please remember to:

➔ Use your research protocol number (2007–0570) on any documents or correspondence with the IRB concerning your research protocol.

➔ Review and comply with all requirements on the enclosure, "UIC Investigator Responsibilities, Protection of Human Research Subjects"

Please note that the UIC IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.
APPENDIX D (continued)

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996–1711 or me at (312) 355–2908. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Charles W. Hoehne
Assistant Director, IRB # 2
Office for the Protection of Research

Subjects

Enclosure(s):

1. UIC Investigator Responsibilities, Protection of Human Research Subjects

2. Informed Consent Document(s):
   a) Focus Group Consent (English); Version 2; 10/02/2007
   b) Individual Interview Consent Form (English); Version 2; 10/02/2007

3. Recruiting Material(s):
   a) Focus Group Recruitment Screening Questionnaire (English); Version 2; 10/02/2007
   b) Individual Interview Recruitment Screening Questionnaire (English); Version 2; 10/02/2007

4. Optional Form 310 - Protection of Human Subjects, Assurance Identification/Certification/Declaration

cc: Bernard Turnock, Community Health Sciences, M/C 923
    Robert C. Bailey, Community Health Sciences, M/C 923
    OVCR Administration, M/C 672
APPENDIX E

KENYATTA NATIONAL HOSPITAL
Hospital Rd, along, Ngong Rd.
P.O. Box 20723, Nairobi.
Tel: 726300-9
Fax: 725272
Telegrams: MEDSUP*, Nairobi
Email: KNH-plan@Ken.Healthnet.org
24th January 2008

Ref: KNH-ERC/ 01/ 76

Prof. Ndimya-Achola
Dept. of Med. Microbiology
School of Medicine
University of Nairobi

Dear Prof. Ndimya-Achola

RESEARCH PROPOSAL: "SEXUAL DISINHIBITION RELATED TO MALE CIRCUMCISION IN KISUMU, KENYA" (P1867/2007)

This is to inform you that the Kenyatta National Hospital Ethics and Research Committee has reviewed and approved your revised research proposal for the period 24th January 2008 – 23rd January 2009.

You will be required to request for a renewal of the approval if you intend to continue with the study beyond the deadline given. Clearance for export of biological specimen must also be obtained from KNH-ERC for each batch.

On behalf of the Committee, I wish you fruitful research and look forward to receiving a summary of the research findings upon completion of the study.

This information will form part of database that will be consulted in future when processing related research study so as to minimize chances of study duplication.

Yours sincerely,

PROF. A M GUANTAI
SECRETARY, KNH-ERC

cc. Prof. K.M. Bhatt, Chairperson, KNH-ERC
The Deputy Director CS, KNH
The Dean, School of Medicine, UON
# APPENDIX F

## QUAL-MAC CODEBOOK

**VERSION 4**

<table>
<thead>
<tr>
<th>CODES</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ARV</strong></td>
<td>Antiretroviral therapy</td>
</tr>
<tr>
<td><strong>ARV-AVAIL</strong></td>
<td>Availability of ARVs</td>
</tr>
<tr>
<td><strong>ARV-KAB</strong></td>
<td>Knowledge, attitudes and beliefs about ARVs</td>
</tr>
<tr>
<td><strong>ARV-PREP</strong></td>
<td>Taking ARVs as pre-exposure prophylaxis</td>
</tr>
<tr>
<td><strong>ARV-RISK</strong></td>
<td>How ARVs have changed risk perceptions and behaviors for those taking ARVs and their sexual partners</td>
</tr>
<tr>
<td><strong>ARV-SEX</strong></td>
<td>Sexual lifestyle and behaviors of people taking ARVs. Including How ARVs have changed sexual behaviors.</td>
</tr>
<tr>
<td><strong>ARV-USE</strong></td>
<td>Use of ARVs by self or others</td>
</tr>
<tr>
<td><strong>CD</strong></td>
<td>Condoms</td>
</tr>
<tr>
<td><strong>CD-ACCES</strong></td>
<td>Accessibility and cost of condoms</td>
</tr>
<tr>
<td><strong>CD-BARPER</strong></td>
<td>Personal (intra &amp; inter) barriers to using condoms.</td>
</tr>
<tr>
<td><strong>CD-BARSOC</strong></td>
<td>Sociocultural barriers to using condoms. Includes Institutional, community, policy factors</td>
</tr>
<tr>
<td><strong>CD-FACPER</strong></td>
<td>Personal (intra &amp; inter) factors that facilitate a person’s ability to use a condom</td>
</tr>
<tr>
<td><strong>CD-FACSOC</strong></td>
<td>Sociocultural factors that facilitate a person’s ability to use a condom. Includes Institutional, community, policy factors</td>
</tr>
<tr>
<td><strong>CD-NEGO</strong></td>
<td>Condom negotiation, including lack of discussion</td>
</tr>
<tr>
<td><strong>HIV</strong></td>
<td>HIV</td>
</tr>
<tr>
<td><strong>HIV-AFFECT</strong></td>
<td>The effect that HIV has had on their life, including impact on family and community and how it affects them</td>
</tr>
<tr>
<td><strong>HIV-COMMO</strong></td>
<td>Communication about HIV between people, media messages</td>
</tr>
<tr>
<td><strong>HIV-KAB</strong></td>
<td>Knowledge, attitudes, and beliefs about HIV.</td>
</tr>
<tr>
<td><strong>HIV-MYTH</strong></td>
<td>Myths about HIV, including transmission, prevention, and cures. (According to what is known)</td>
</tr>
<tr>
<td><strong>HIV-MYTHRESP</strong></td>
<td>Something that the respondent believes is a myth about HIV (could or could not be a myth, they just need to believe it is)</td>
</tr>
<tr>
<td><strong>HIV-PREV</strong></td>
<td>Ways to prevent HIV transmission</td>
</tr>
<tr>
<td><strong>HIV-RISK</strong></td>
<td>HIV risk factors, descriptions of risky behavior</td>
</tr>
<tr>
<td><strong>HIV-SOURCE</strong></td>
<td>Sources of information on HIV, transmission, and prevention</td>
</tr>
<tr>
<td><strong>HIV-THREAT</strong></td>
<td>How much people feel their lives are threatened by HIV, including fear of HIV/AIDS</td>
</tr>
<tr>
<td><strong>HIV-TRANS</strong></td>
<td>How HIV is transmitted</td>
</tr>
</tbody>
</table>

**Inclusion Criteria**

**Exclusion Criteria**

- Does not include use of ARVs as pre-exposure prophylaxis
### APPENDIX F (continued)

<table>
<thead>
<tr>
<th>CODES</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LIVENV</strong></td>
<td>Description of living environment</td>
</tr>
<tr>
<td><strong>LUOCULT</strong></td>
<td>General discussion about Luo culture and customs. Mentions of Luo culture that do not fall under other cultural codes.</td>
</tr>
<tr>
<td><strong>MALE</strong></td>
<td>Discussions about masculinity</td>
</tr>
<tr>
<td><strong>M-ROLES</strong></td>
<td>Men’s roles and expectations in society.</td>
</tr>
<tr>
<td><strong>MC</strong></td>
<td>Male circumcision</td>
</tr>
<tr>
<td><strong>MC-ACCEPT</strong></td>
<td>Acceptance of MC in the community among others, including any stigma or outsider status because of circumcision</td>
</tr>
<tr>
<td><strong>MC-ADV</strong></td>
<td>Advantages of being circumcised</td>
</tr>
<tr>
<td><strong>MC-ANTI</strong></td>
<td>Attitudes and beliefs against MC. Why one doesn’t want procedure</td>
</tr>
<tr>
<td><strong>MC-BARPER</strong></td>
<td>Personal (intra &amp; inter) barriers to getting, or wanting to get, circumcised</td>
</tr>
<tr>
<td><strong>MC-BARSOC</strong></td>
<td>Sociocultural barriers to getting, or wanting to get, circumcised. Includes Institutional, community, policy factors</td>
</tr>
<tr>
<td><strong>MC-CD</strong></td>
<td>Discussion about condom use and circumcision status.</td>
</tr>
<tr>
<td><strong>MC-CHLIFE</strong></td>
<td>How MC has changed any aspect of their life Excluding sex life (use MC-SEX for sexual differences)</td>
</tr>
<tr>
<td><strong>MC-COMMO</strong></td>
<td>Communication about MC between, friends, family, etc. Excluding communication with romantic/sexual partners</td>
</tr>
<tr>
<td><strong>MC-CULT</strong></td>
<td>How culture influences one’s circumcision status Excluding tribal factors, use MC-TRIBE</td>
</tr>
<tr>
<td><strong>MC-DIFFS</strong></td>
<td>Differences between uncircumcised and circumcised men, and differences between pre- and post-MC</td>
</tr>
<tr>
<td><strong>MC-DIS</strong></td>
<td>Disadvantages or negative consequences of MC</td>
</tr>
<tr>
<td><strong>MC-FACPER</strong></td>
<td>Personal (intra &amp; inter) facilitators to getting, or wanting to get, circumcised.</td>
</tr>
<tr>
<td><strong>MC-FACSOC</strong></td>
<td>Sociocultural facilitators for getting, to wanting to get, circumcised. Includes Institutional, community, policy factors</td>
</tr>
<tr>
<td><strong>MC-KAB</strong></td>
<td>Knowledge, attitudes, and beliefs about MC from men Male accounts of knowledge, attitudes, and beliefs about MC. Exclude first-hand women’s accounts</td>
</tr>
<tr>
<td><strong>MC-LOC</strong></td>
<td>Location where MC was performed and/or why performed there.</td>
</tr>
<tr>
<td><strong>MC-MYTH</strong></td>
<td>Myths about circumcision status. Including effects of MC</td>
</tr>
<tr>
<td><strong>MC-R2HIV</strong></td>
<td>What they know about the relationship between HIV/STIs and MC</td>
</tr>
<tr>
<td><strong>MC-REL</strong></td>
<td>Connections between religion and religious beliefs and circumcision</td>
</tr>
</tbody>
</table>
## APPENDIX F (continued)

<table>
<thead>
<tr>
<th>CODES</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MC-SEX</strong></td>
<td>How MC affects perceptions of self sexually, and others perceptions. Sexual performance and desirability aspects.</td>
</tr>
<tr>
<td><strong>MC-SOURCE</strong></td>
<td>Sources of knowledge and information on MC.</td>
</tr>
<tr>
<td><strong>MC-STATUS</strong></td>
<td>Whether they are circumcised or not</td>
</tr>
<tr>
<td><strong>MC-TRIBE</strong></td>
<td>Tribal influence on MC. Differences between tribes around MC</td>
</tr>
<tr>
<td><strong>MC-UNADV</strong></td>
<td>Advantages of being uncircumcised</td>
</tr>
<tr>
<td><strong>MC-UNDIS</strong></td>
<td>Disadvantages of being uncircumcised</td>
</tr>
<tr>
<td><strong>MC-WHEN</strong></td>
<td>When (time) in their life someone gets circumcised, infant, youth, adult, pre/post sexual debut</td>
</tr>
<tr>
<td><strong>MONO</strong></td>
<td>Discussions about monogamy</td>
</tr>
<tr>
<td><strong>MONO-STAT</strong></td>
<td>Whether respondent is monogamous or not. Does he/she have concurrent partners?</td>
</tr>
<tr>
<td><strong>MONO-STRAT</strong></td>
<td>Monogamy as an HIV prevention strategy</td>
</tr>
<tr>
<td><strong>PART</strong></td>
<td>Partner(s) including sexual and nonsexual if in committed romantic relationship, courting, or abstaining.</td>
</tr>
<tr>
<td><strong>PART-COMMO</strong></td>
<td>Communication with partner about MC</td>
</tr>
<tr>
<td><strong>PART-MEET</strong></td>
<td>Where they meet sexual partners initially</td>
</tr>
<tr>
<td><strong>PART-THINK</strong></td>
<td>What partners think of circumcised and/or uncircumcised men</td>
</tr>
<tr>
<td><strong>PART-TYPE</strong></td>
<td>Mentions of type of partner, characteristics of partner(s).</td>
</tr>
<tr>
<td><strong>QUOTE</strong></td>
<td>Notable quotes</td>
</tr>
<tr>
<td><strong>RC</strong></td>
<td>Risk Compensation</td>
</tr>
<tr>
<td><strong>RC-CD</strong></td>
<td>Changes in condom use post MC.</td>
</tr>
<tr>
<td><strong>RC-CHSEX</strong></td>
<td>Changes in sexual behaviors post MC. Includes decision to be abstinent after MC.</td>
</tr>
<tr>
<td><strong>RC-POSTMC</strong></td>
<td>Changes in views about contracting HIV/AIDS or severity of the disease after MC</td>
</tr>
<tr>
<td><strong>RC-WOMEN</strong></td>
<td>Women’s role in preventing or promoting RC</td>
</tr>
<tr>
<td><strong>SEX</strong></td>
<td>Complete narrative of recent sexual episode</td>
</tr>
<tr>
<td><strong>SEX-ALCD</strong></td>
<td>Alcohol or drug use before or during sex and its influence</td>
</tr>
<tr>
<td><strong>SEX-BARPER</strong></td>
<td>Personal (intra &amp; inter) barriers to practicing safe sex</td>
</tr>
<tr>
<td><strong>SEX-BARSOC</strong></td>
<td>Sociocultural barriers to practicing safe sex</td>
</tr>
<tr>
<td><strong>SEX-DRY</strong></td>
<td>Definition of dry sex</td>
</tr>
<tr>
<td><strong>SEX-DRYMAT</strong></td>
<td>Materials or methods used to dry the vagina</td>
</tr>
<tr>
<td><strong>SEX-D/WDEC</strong></td>
<td>Who and how decisions are made about dry versus wet sex</td>
</tr>
<tr>
<td><strong>SEX-D/WPREF</strong></td>
<td>Preference for wet or dry sex</td>
</tr>
<tr>
<td><strong>SEX-FACPER</strong></td>
<td>Personal (intra &amp; inter) facilitators to practicing safe sex.</td>
</tr>
</tbody>
</table>
### CODES

<table>
<thead>
<tr>
<th>CODES</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEX-FACSOC</td>
<td>Sociocultural facilitators to practicing safe sex.</td>
</tr>
<tr>
<td>SEX-PAY</td>
<td>Goods or money exchanged for sex.</td>
</tr>
<tr>
<td>SEX-RISK</td>
<td>HIV/STI risk behavior during sex.</td>
</tr>
<tr>
<td>SEX-RISKPOV</td>
<td>Sexual risk behavior that can be linked to poverty/being poor</td>
</tr>
<tr>
<td>SEX-RR</td>
<td>Risk reduction methods used during sex</td>
</tr>
<tr>
<td>SEX-WET</td>
<td>Definition of wet sex</td>
</tr>
<tr>
<td>UNIM</td>
<td>Any mention of the UNIM project.</td>
</tr>
<tr>
<td>VCT</td>
<td>Discussion of HIV testing and counseling. How voluntary counseling and testing affects behavior</td>
</tr>
<tr>
<td>W</td>
<td>Women</td>
</tr>
<tr>
<td>W-CIRC</td>
<td>Mentions of female circumcision</td>
</tr>
<tr>
<td>W-INEQ</td>
<td>Gender inequality, power differentials between men and women</td>
</tr>
<tr>
<td>W-KABCIRC</td>
<td>First-hand women’s knowledge, attitudes, and beliefs around circumcised men</td>
</tr>
<tr>
<td>W-KABNCIRC</td>
<td>First-hand women’s knowledge, attitudes, and beliefs around uncircumcised men</td>
</tr>
<tr>
<td>W-MC</td>
<td>What women say or are known to have said about MC</td>
</tr>
<tr>
<td>W-MCPREF</td>
<td>Women’s sexual preferences of with regard to circumcision status</td>
</tr>
<tr>
<td>W-ROLES</td>
<td>Women’s roles and expectations in society</td>
</tr>
<tr>
<td>W-SEXINFL</td>
<td>Influence of women during sex, condom use, safe sex, unsafe sex, location, type of sex</td>
</tr>
</tbody>
</table>
VITA

NAME: Thomas Horton Riess

EDUCATION: BA, Environmental Studies and Geography, University of California, Santa Barbara, California, 1990

MPH, International Health, Yale University, New Haven, Connecticut, 2000

PhD, Public Health Sciences, University of Illinois, Chicago, Illinois, 2014

Illinois Public Health Association Scholarship, 2006
Weinerman Fellowship, 1998
Charles Astrogeney Scholarship, 1986

PROFESSIONAL EXPERIENCE:

AIDS Healthcare Foundation, Amsterdam, The Netherlands

**Director of Global Project Management**
April 2011–present

- Direct and manage the activities of the Amsterdam Global Secretariat office
- Lead new country start-up operations, including: NGO registration, identifying sites, developing project proposals and budgets
- Provide technical and quality improvement support to AIDS Healthcare Foundation’s HIV testing, care and treatment operations in 32 countries
- Lead operational research activities with country programs
- Oversee the procurement of antiretroviral drugs and CD4 machines
- Manage a $1.2 million budget

AIDS Healthcare Foundation, Los Angeles, California

**Consultant—Global Programs**
November 2009–March 2011

- Provided technical assistance to the Guyana HIV/AIDS Reduction and Prevention Project (GHARP) in the areas of counseling and testing and prevention of mother to child transmission (PMTCT)
- Drafted guidelines for Guyana’s national HIV prevention policies and programs
- Conducted Haiti program start-up assessment
UNIM Project, Kisumu, Kenya

**Principal Investigator—Qualitative Study of Male Adult Circumcision (QUAL-MAC)**
March 2008–December 2008

- Led all aspects of QUAL-MAC, a qualitative study examining personal and social factors influencing sexual risk compensation related to male circumcision status, as part of doctoral dissertation research
- Conceived of project design and wrote project proposal
- Prepared and submitted all IRB documents
- Coordinated participant recruitment and data collection
- Interviewed men and women about HIV, male circumcision, and sexual risk behaviors
- Responsible for qualitative data analysis using ATLAS.ti software
- Supervised three Research Assistants

Northwestern University, Chicago, Illinois

**Project Director—Department of Medicine, Division of Rheumatology**
August 2006–August 2007

- Coordinated the work of the Knee Study Group, a research group examining decision making among individuals with knee osteoarthritis who are considering joint replacement surgery
- Conducted qualitative data analysis using ATLAS.ti software
- Prepared and submitted all IRB documents
- Supervised Interviewers and Interns

John H. Stroger Hospital of Cook County, Chicago, Illinois

**Research Associate—Department of Medicine, Collaborative Research Unit**
August 2005–August 2006

- Interviewed homeless people with chronic health conditions about their housing, health, and drug and alcohol use as part of the Chicago Housing for Health Partnership evaluation study
- Tracked participant’s location and maintained up-to-date contact information
University of California, Banteay Meanchey Province, Cambodia

Monitoring and Evaluation Officer—University of California San Francisco’s, Institute for Global Health and Centers for Disease Control and Prevention, Global AIDS Program (CDC-GAP)
July 2003–June 2005
• Conducted monitoring and evaluation (M&E) in Banteay Meanchey Province, Cambodia for CDC-GAP supported HIV/AIDS prevention and care programs: VCT, PMTCT, TB/HIV referrals, outreach, home-based care, institutional care, 100% condom use, and STI treatment
• Led the development of M&E plans and systems for program monitoring
• Developed data management systems
• Analyzed qualitative and quantitative data and made recommendations based on findings
• Trained PhD staff in data management, collection, quality and analysis, and M&E methods
• Provided technical assistance to national level HIV/AIDS agencies in developing a national M&E plan

University of California, San Francisco, California

Senior Public Health Analyst—Center for AIDS Prevention Studies
November 2000–June 2003
• Served as Project Director for a three-year evaluation study of HIV counseling and testing programs for people of color and men who have sex with men in Alameda and Sonoma Counties and the City of Berkeley
• Supervised three Interviewers and one Project Assistant
• Conducted qualitative interviews with elected officials, clinic clients, public health experts, and community activists working on HIV prevention efforts among drug users
• Provided technical assistance to community-based organizations and local health departments
• Developed quantitative and qualitative survey instruments
• Prepared project reports, IRB documents, operations manuals, posters, and presentations

Needle Exchange Emergency Distribution, Berkeley California

Medical Coordinator
September 2001–August 2003
• Provided wound and abscess care to needle exchange clients
• Educated clients about harm reduction strategies
• Created educational and harm reduction material for clients
• Provided training in wound care and incision and drainage of abscesses
University of California, San Francisco, California
Public Health Analyst—Center for AIDS Prevention Studies
November 1999–November 2000
• Prepared grant proposals, quarterly reports, project status reports, and presentations
• Analyzed qualitative data pertaining to HIV counseling and testing among drug users

University of Connecticut Health Center, Farmington, Connecticut
Research Assistant—Department of Community Medicine and Health Care
May 1999–September 2000
• Assisted Professor Zita Lazzarini in the development of a course syllabus on health and human rights
• Edited manuscripts on various public health topics
• Researched developments in the field of health and human rights

University of California, San Francisco, California
Research Assistant—Center for AIDS Prevention Studies
June–August 1998
• Analyzed qualitative and quantitative data regarding HIV counseling and testing services for drug users in Alameda, Contra Costa, and San Mateo counties
• Conducted qualitative interviews with drug users at high-risk for contracting HIV
• Prepared reports of findings and recommendations for local and state level policy makers

Connecticut Department of Public Health, Hartford, Connecticut
Consultant—Maternal and Child Health Program/Yale Sponsored Research
February–May 1998
• Conducted an evaluation of data systems pertaining to motor vehicle crashes among 15–19 year olds within the state of Connecticut
• Conducted interviews with experts in the field of motor vehicle crashes
US Department of State, Bihac, Bosnia and Herzegovina

Elections Officer—Organization for Security and Co-operation in Europe's Mission to Bosnia and Herzegovina
April–October 1996
• Coordinated the work of three field offices and six international Election Officers
• Supervised two Local Election Commissions consisting of nine voter registration centers, 90 polling stations, two counting centers, and approximately 65,000 voters
• Served as liaison to political parties at the county and municipal levels for matters related to campaigning, appeals, and election rules

Organization of American States, Haiti
Coordinator—Electoral Observation Mission
May–December 1995
• Managed the deployment of 33 Electoral Observers to 15 districts, covering more than 1,400 polling stations
• Served as liaison to Haitian electoral authorities, political candidates, United Nations technical assistance personnel, and security forces
• Monitored voter registration process, voting, and tabulation of results

United Nations/Organization of American States, Haiti
Human Rights Monitor—International Civilian Mission
February 1993–May 1995
• Received and actively investigated reports of human rights violations
• Submitted regular reports to the Executive Director of the Mission regarding specific human rights cases and analyses of the human rights situation

Inter-American Foundation, Arlington, Virginia
Program Staff Assistant
May 1992–February 1993
• Administered $2.1 million in grant portfolios for grassroots organizations in Belize, Haiti, Jamaica, and the eastern Caribbean
• Monitored and assessed the fiscal and programmatic aspects of grants

US Peace Corps, Grande Riviere du Nord, Haiti
Agroforestry Extension Agent—Pan American Development Foundation
July 1990–October 1991
• Supervised 12 agricultural technicians working in tree planting, soil conservation, ravine stabilization, and tree nursery management
• Designed and conducted training seminars for technicians and local farmers on new agroforestry techniques
VOLUNTEER POSITIONS:

- Reviewer—*Qualitative Health Research* journal, 2010–present
- Researcher—Cambodian Association of Illinois, 2006
- Medic—Berkeley Free Clinic, 2001–2003
- Co-Founder—Health and Human Rights Committee at Yale University, 1999
- Executive Committee—Committee Overseeing Voluntary Services, Yale University, 1998–1999
- Adventist Hospital, Takoma Park, Maryland, 1996–1997

PUBLICATIONS:


PROFFESIONAL AFFILIATIONS:

International AIDS Society, 2009–present
National Peace Corps Association, 1992–present
University of California Santa Barbara Alumni Association, 1990–present

LANGUAGES:

English—mother tongue
Haitian Creole—advanced
French—intermediate
Spanish—beginner
Khmer—beginner