International Initiative for Impact Evaluation

Scoping Report on Interventions for Increasing the Demand for Voluntary Medical Male Circumcision

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ACRONYMS

AE	Adverse event
AIDS	Acquired immune deficiency syndrome
C-Change	Communication for Change
HIV	Human immunodeficiency virus
MC	Male circumcision
PSI	Population Services International
SBCC	Social and behavioural change communication
SMC	Safe male circumcision
STI	Sexually transmitted infection
UNAIDS	Joint United Nations Programme on HIV/AIDS
USAID	United States Agency for International Development
VMMC	Voluntary medical male circumcision
WHO	World Health Organization

EXECUTIVE SUMMARY

To date, three randomised controlled trials along with numerous observational studies provide evidence that male circumcision reduces HIV acquisition by approximately 60 per cent for men. Encouraged by these results, in 2007, World Health Organisation and the Joint United Nations Programme on HIV/AIDS recommended the implementation of VMMC in regions with low male circumcision (MC) rates, high HIV prevalence, and large populations at risk for HIV infection. Fourteen priority countries were identified that meet these criteria.

However, despite several initiatives to increase the prevalence of male circumcision in these countries, the progress has been modest. While there are still supply constraints in some areas, the evidence suggests that many of the remaining barriers to achieving high MC prevalence may be on the demand side. In order to promote and identify effective interventions for increasing the demand for MC, the International Initiative for Impact Evaluation, with funding from the Bill and Melinda Gates Foundation, is implementing a grants program for piloting and testing demand-side innovations for MC. The aim of this scoping report is to guide implementers of VMMC programmes and researchers in the design of innovative interventions to increase the uptake of MC in the 14 priority countries.

This scoping report begins with a literature review of barriers and facilitators of male circumcision. The next section presents a review of the actual interventions that have been implemented in the 14 priority countries to increase the uptake of male circumcision. We present the available evidence on the effectiveness of these interventions. Based on the information from these different sources, we propose three categories of interventions where innovations to increase demand for male circumcision may hold the most promise.

The findings from a large group of acceptability studies along with a small set of evaluations suggest that the barriers to the demand for male circumcision are fear of pain during and after the surgery, concern about long healing periods, financial and opportunity costs, and fear of adverse events and complications from the surgery, while the main facilitators for MC demand are peer pressure and the influence of female intimate partners. The review of the portfolio of interventions in the 14 priority countries reveals that most demand-side efforts are communications activities with messages directly related to male circumcision. Other interventions such as cutting the associated costs of MC procedures, information and advocacy by religious and community and traditional leaders, information from peers, and information with female intimate partners are marginally implemented in some countries. Many of the existing interventions to reduce the costs of MC are supply-side interventions, such as mobile clinics, rather than demand-side interventions.

The analysis of the effectiveness of these interventions reveals mixed results. There is some evidence that the communication activities have been effective in increasing the demand for male circumcision in the 14 priority countries. There is also some evidence that supply-side interventions to reduce the costs of the procedure have been effective in increasing the uptake of circumcision, especially in Kenya. There is no evaluative evidence on the effectiveness of the few interventions using peers or female intimate partners. However, evidence from systematic reviews covering similar interventions in other contexts suggests that these two approaches are generally effective for inducing behaviour change.

The report concludes that there is scope for innovation in demand-side interventions to reduce the opportunity costs of undergoing MC and in behavioural change communication interventions that integrate peers and/or intimate partners.

1. Introduction[1]

Voluntary medical male circumcision (VMMC) has been established to biologically decrease the incidence of human immunodeficiency virus (HIV) infection amongst heterosexual men by at least one-half, possibly by as much as two-thirds. This is based on the conclusions of three trials which have demonstrated the efficacy of medical male circumcision (MC) in reducing HIV acquisition and transmission by approximately 60 per cent [1,2,3]. This result is supported by over 40 observational studies showing a strong link between circumcision and reduced HIV prevalence [4,5,6]. Furthermore, MC has been demonstrated to be highly cost effective and cost saving. Mathematical modelling determined that for every 5 to 15 procedures, one new HIV infection is averted. And averting one HIV infection leads to savings ranging from US$150 to US$900, using a 10-year time horizon [7,8,9].

Encouraged by these results, the World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) convened in March 2007 and recommended the implementation of VMMC programmes as one component of a comprehensive HIV prevention strategy for the prevention of heterosexually acquired HIV infection in regions with low MC rates, high HIV prevalence and large populations at risk for HIV infection [10]. These countries are Botswana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, Uganda, the United Republic of Tanzania, Zambia, and Zimbabwe. A study estimating the country-specific epidemiologic impact and the cost and net savings associated with scaling up VMMC services showed that 3.36 million new HIV infections can be averted through 2025 only if the scale-up of adult VMMC reaches 80 per cent coverage in the 13 priority countries by 2015, thus necessitating 20.34 million circumcisions between 2011 and 2015 and an additional 8.42 million between 2016 and 2025 to maintain 80 per cent coverage [11][2].

Several initiatives, including the UNAIDS 2011–2015 Strategy, the WHO Global Health Sector Strategy on HIV/AIDS 2011–2015, the 5-year strategy of the U.S. President's Emergency Plan for AIDS Relief, and the joint strategic action framework 2012–2016, support the rapid scale-up of VMMC for HIV prevention. However, the progress has been modest in most countries, with reportedly 555,202 males circumcised for HIV prevention by

[1] We thank Nikita Salgaonkar for her superb research assistance.
[2] In addition to the 13 priority countries identified by WHO and UNAIDS, The Gambella National Regional State in Ethiopia was included later in the list of priority country because The United States President's Emergency Plan for AIDS Relief (PEPFAR) is supporting activities to implement VMMC program there, where MC prevalence is low and HIV prevalence is three times the national average. Thus, to date, there are 14 priority countries.

the end of 2010 in the priority countries [12]. This represents 2.7 per cent of the goal of 20 million MCs.

This slow progress suggests a need to design innovative strategies for the successful scale-up of MC programmes in sub-Saharan Africa, particularly in the 14 priority countries. The purpose of this scoping report is to guide implementers of VMMC programmes and researchers in the design of innovative demand-side interventions to increase the uptake of MC in the 14 priority countries.

Although the slow progress of VMMC scale up may be explained by both supply-side and demand-side barriers, evidence suggests that innovative approaches can be used to quickly overcome supply-side barriers [13,14,15]. For instance, in 2010, the government of Tanzania launched a campaign to promote voluntary medical male circumcision in Iringa region. In six weeks, five health facilities performed 10,352 VMMCs, which exceeded the campaign's target by 72%, with an adverse event (AE) rate of 1%. This performance was possible because health facilities adopted different approaches designed to improve clinical efficiency. These approaches included the use of the forceps-guided surgical method, the use of multiple beds in an assembly line by surgical teams, and task shifting and task sharing [13]. Other examples are Kenya and Swaziland. Between October 2008 and June 2011, the Kenyan VMMC program conducted 318,000 MCs, most of them in Nyanza Province [15]. In order to achieve this high volume of MC, the Kenyan VMMC program introduced task shifting to nurses to increase the number of MC providers [15]. In the case of Swaziland, on July 15, 2011, the government launched the ''Accelerated Saturation Initiative'' aiming to complete VMMC scale-up in less than two years. Several approaches have been taken to meet this goal. In addition to adopting some approaches used in Kenya and Tanzania, Swaziland used other approaches to overcome the limitation of qualified staff to perform the procedure. These approaches included the recruitment of doctors as volunteers from outside of Swaziland and the recruitment of out-of-workforce nurses [14].

At the same time, numerous acceptability studies report constraints to increasing the demand for VMMC, and innovations on the demand side have been more limited. Thus, the objective of this scoping report and of the grants program is to explore the scope for successful innovations on the demand side.

The scoping report is organized as follows. Section 2 provides a review of existing literature on MC, specifically identifying barriers to and facilitators of VMMC, and proposes a typology of interventions that can be used to overcome demand barriers to seeking VMMC. Section 3, using academic studies, relevant official documents and online information,

presents actual interventions implemented in some of the 14 priority countries to increase the uptake of MC. Section 4 presents the effectiveness of these interventions based on the available evaluation evidence while identifying possible knowledge gaps that may assist researchers and implementers to design innovative interventions. The final section concludes.

2. Demand-side barriers and facilitators and typology of interventions

2.1. Demand-side barriers to seeking VMMC

Individual factors, community factors, and household factors can all affect a man's decision about MC, and these factors are barriers if they prevent individuals from seeking MC. To create effective programmes that ensure the attainment of the VMMC goals, it is clear that these barriers must be understood and minimised. This section breaks down these three main categories to explain the barriers that exist, on the basis of acceptability studies and anecdotal evidence.

Most of the evidence presented in this section is based on acceptability studies conducted in nine of the 14 priority countries over the period 1998 to 2011. Table 1 and Table 2 present characteristics of these studies. The level of reported acceptability from thirteen studies from nine countries presented in Table 2 is high. In fact, the median proportion of uncircumcised men willing to become circumcised is 65% (range 29–87%). Sixty nine percent (47–79%) of women favor circumcision for their partners, and 71% (50–90%) of men and 81% (70–90%) of women are willing to circumcise their sons [16]. These findings are encouraging but seem inconsistent with the slow progress of MC scale-up.

While the information from these studies is very useful, they have a few shortcomings, which may explain the seeming disconnect with MC take up. First, while it appears that study populations were formed by men and women from traditionally non-circumcising communities, the study populations may not be representative of all non-circumcised households, much less the general population. For instance, the studies conducted in Kenya were in Nyanza province among the Luo ethnic group. Second, most of the studies are focus group studies, which suffer limitations including the small sample size, possible peer pressure to provide similar answers as the others in the group, and the moderator's skill in phrasing questions that can influence the answers of participants. Third, even when respondents are not in a group setting, there may still be "acceptability bias" in

their answers—for example, answering that fear of complications is the main barrier instead of fear of reduced masculinity.

Table 1[3]: Characteristics of male circumcision (MC) acceptability studies (N = 6), 2009–2011

Country/authors (year)	Time of the study	Study population	Ethnic composition	Circumcision status of participants	Data collection methods
Kenya/Westercamp et al. (2010)	2008–2010	3,207 men aged 18–35 years from 3 districts of Nyanza Province	Ethnically homogenous (Luo)	50 per cent of men were circumcised	Face-to-face interviews conducted by structured questionnaire
Kenya/Herman-Roloff et al. (2011)	2009	91 men aged 18–40 years in Nyanza Province	Ethnically homogenous (Luo)	100 per cent uncircumcised men	Focus group discussions
Malawi/Mfutso Bengo et al. (2010)	2009	3,734 men in different regions across Malawi, urban and rural settings	Ethnically heterogenous (Chewa, Tumbuka, Lomwe, Tonga, Yao, Sena, Nkonde, Ngoni, and others)	26 per cent uncircumcised men	Face-to-face interviews conducted by structured questionnaire
South Africa/Lissouba et al. (2011)	2007–2008	1,198 men aged 15–49 years from Orange Farm in semiurban setting	Ethnically diverse (Sotho, Zulu, and others)	12.5 per cent of men were circumcised	Face-to-face interviews conducted by structured questionnaire
Tanzania/Plotkin et al. (2011)	2011	74 men aged 18–68 years and 68 women aged 18–47 years from the Iringa region	Ethnically homogenous (the Hehe tribe)	71.6 per cent of men were circumcised	Focus group discussion
Uganda/ FHI and USAID (2010)	2009	35 uncircumcised and circumcised men, women and opinion leaders aged at least 15 years from Kampala, Kayunga, Pallisa, Kasese and Mbale districts	Ethnically diverse (Baganda, Basoga, Bafumbira, Batoro, Bakiga, Alur, Bagisu, Banyoro, Iteso, Langi and Acholi)	Not available	Focus group discussions and in-depth interviews

Source: Author

[3] Studies listed in this table are referenced in the paper as [19,22,26,17,20,23] respectively.

Table 2[4]: Characteristics of male circumcision (MC) acceptability studies (N = 13), 1999–2006

Country/authors (year)	Time of the study	Study population	Ethnic composition	Circumcision status of participants	Data collection methods
Botswana/Kebaabetswe et al. (2003)	2001	316 male and 289 female participants, aged 18–74 years, in urban and rural settings	Ethnically heterogenous (over 15 ethnicities)	Both circumcised and uncircumcised men	Interviews, before and after educational session
Kenya/Bailey et al. (2002)	1998	Residents of Nyanza Province, aged 16–80 years, men and women, 30 focus groups, each 6–14 people, urban and rural population, farmers, businesspeople, teachers, sex workers, barmaids and touts	Ethnically homogenous (Luo)	Not recorded; nearly all likely uncircumcised	Focus groups, interviews with health care providers
Kenya/Bailey (unpublished report to AIDSMARK, 2002)	1999	32 clinicians were interviewed to assess their knowledge and practice of MC, records of MC performed in the area were reviewed, 7 circumcised men and their wives were interviewed	Ethnically homogenous (Luo)	Both circumcised and uncircumcised	Interviews, KAB questionnaires, record review
Kenya/Mattson et al. (2005)	1999	107 men and 110 women, aged 16 years and older, in urban and rural settings	Ethnically homogenous (Luo)	Both circumcised and uncircumcised men	Structured interviews
Malawi/Ngalande et al. (2006)	2003	318 participants, 32 focus groups with men and women aged 16–80 years	Ethnically diverse (Chewa, Tonga, Yao, Ngoni, Lomwe and Nyanja)	Both circumcised and uncircumcised men	Focus groups
South Africa/Lagarde et al. (2003)	2001	482 men aged 19–29 years and 302 women aged 14–25 years	Ethically heterogenous (Sotho, Tswana, Xhosa and other ethnicities)	22 per cent of men aged 19–29 years were circumcised	Interviews using standardised questionnaire, interviews, focus groups
South Africa/Scott et al. (2005)	2002	100 adult men and 44 adult women in rural Zululand and 4 service providers	Ethnically homogenous (Zulu)	Both circumcised and uncircumcised men	Interviews, focus groups
South Africa/Rain-Taljaard et al. (2003)	1999–2000	Sample of 606 males aged 13–59 years interviewed in August 2000 and 723 males aged 14–24 years interviewed in August 1999	Ethnically diverse (Sotho, Xhosa, Zulu, Tswana, Shangaan and Venda)	36 per cent of men aged 25–59 years were circumcised	Interviews, focus groups

Source: Westercamp and Bailey (2007), page 344
Note: KAB = knowledge, attitudes and behaviours.

[4] The thirteen studies listed in this table are from the reference [16] which is a systematic review.

Table 2 (Continued): Characteristics of male circumcision (MC) acceptability studies (N = 13), 1999–2006

Country/authors (year)	Time of the study	Study population	Ethnic composition	Circumcision status of participants	Data collection methods
Swaziland/Tsela and Halperin (2006)	2006	409 men aged 15–49 years were interviewed in urban and rural settings	Not reported, but likely majority were Swazi	14 per cent of men were circumcised	Interviews
Tanzania/Nnko et al. (2001)	1991–1997	998 Sukuma men from a cohort of factory workers in Mwanza town, 13 focus groups from mostly rural area and population-based surveys	Ethnically homogenous (Sukuma)	21 per cent of men were circumcised	Interviews and cohort data analysis
Uganda/Bailey et al. (1999)	1997	188 circumcised and 177 uncircumcised men aged 18–67 years from the Industrial Borough, Mbale	Ethnically diverse (17 tribal groups, including Gisu)	52 per cent of men were circumcised	Structured interviews
Zambia/Lukobo and Bailey (submitted)	2003	160 men and 162 women in 34 focus groups in rural and urban settings	Ethnically diverse (Lunda, Luvale, Chewa and Tonga)	Both circumcised and uncircumcised men	Focus groups
Zimbabwe/Halperin et al. (2005)	2000	200 men attending beer halls in Harare	Not reported, but likely majority were Shona	Both circumcised and uncircumcised men	Interviews, focus group

Source: Westercamp and Bailey (2007), page 344

2.1.1. Individual barriers

The literature describes the most common individual barriers to seeking VMMC as fear of pain, costs, complications and lengthy healing periods, and perceived threats to masculinity.

Fear of pain during and after the surgery

A majority of the studies on acceptability of VMMC mention fear of pain as one of the important barriers to undergoing the procedure [16,17,18,19,20]. A review of 13 studies from nine sub-Saharan African countries reveals that men and parents believe that circumcision leads to excessive bleeding. This belief is probably due to the experiences of some men who underwent the procedure outside health facilities by traditional circumcisers [16]. Additionally, a recent study evaluating knowledge, attitudes and beliefs about VMMC found that the most frequently stated reason for not being circumcised was pain [17]. In this study conducted in 2007-2008 among a random sample of 1198 men aged 15 to 49 from Orange Farm (South Africa), 21.5 per cent stated that pain is the main reason for not being circumcised. Another recent study in Kenya further supports this by showing that 59 per cent of 1601 men who did not choose circumcision 2 years after the launch of the national male circumcision program in 2008 stated pain as their main barrier [22].

Costs

There are three types of costs borne by individuals seeking VMMC: the cost of the procedure, private costs, and opportunity costs. The first cost is the cost of procedure. A behavioural study in urban Malawi (Chinkhumba et al [21]) found large and significant effects of price on having any interaction with the clinic and on the uptake of VMMC. More precisely, those men offered free circumcisions were 12.4 percentage points more likely to have some interaction with the clinic than those offered circumcisions at US$6. And those offered free circumcisions were 3.4 percentage points more likely to accept MC than those offered it at US$6. Another study in Nyanza Province, Kenya reports that in addition to 65 per cent of men who reported that they would be circumcised if it cost US$3, 34 per cent of men who initially preferred to remain uncircumcised would change their minds if the cost of the procedure were less than US$3. Moreover, many studies regarding VMMC accessibility present evidence that for participants, the cost of the procedure constitutes a significant barrier to VMMC acceptability.

The second cost is private costs for seeking VMMC. These costs include transportation costs and the cost of postoperative visits. These can be substantial and therefore constitute a barrier, especially when the distance to a health facility is important.

The third cost is any opportunity cost borne by individuals seeking VMMC. Opportunity costs include the cost of time away from work because of the procedure or recovery from the procedure. All studies on acceptability highlight opportunity costs as significant barriers to seeking VMMC [16,17,19]. The influence of the cost of time away from work on the acceptability of VMMC was illustrated in a study assessing primary barriers to VMMC in Nyanza Province, Kenya, in which participants reported that too much time away from work, especially if the man is the sole provider for the family, is the most significant barrier to seeking the service. This barrier was especially noted amongst older men [22].

Adverse events and complications

Adverse events and complications are reported in many studies as another key barrier to seeking MC. Participants across different studies consider that excessive bleeding during MC may be a source of complications and adverse events [16,19,22]. This idea is widespread amongst people in traditionally circumcising communities, where adverse events such as excessive bleeding are prevalent during MC carried out by traditional practitioners [23].

Other complications feared by participants in a study in Kenya included negative effects on male reproduction resulting from the anaesthetic injection, problems with appearance, torsion, infection, reduction in penile size and surgical 'accidents' that would mar appearance or impair function [24].

Threats to masculinity

Several barriers to the acceptability of VMMC are associated with threats to masculinity. These barriers include fear of a loss of penile sensitivity, reduction of penis size, decreased ability to satisfy women, excessive sexual desire, sexual abstinence, decreased sexual pleasure for partners and decreased sexual pleasure for self [16,19,22]. More specifically, a focus group study conducted among uncircumcised men in Nyanza Province one year after the launch of the national male circumcision program revealed that one of barriers of uptake of male circumcision is the perception among participants that male circumcision might lead to a decrease in male and female sexual satisfaction [22]. Another study conducted in Nyanza province in Kenya in 1998 reports that a few participants indicated that some loss of penile sensitivity and sexual desire, some loss of penile size, and loss of ability to satisfy the woman are barriers to male circumcision [16]. In fact, a threat to masculinity seems a minor barrier as suggested by a recent study in Kenya among men who did not choose circumcision during the Kenya's national initiative to provide free VMMC services launched in October 2008. In this study only 3 per cent of 1601 participants indicated decreased ability to satisfy women and decreased sexual pleasure for self as barrier to male circumcision [19].

Age and sexual inactivity

Although age at circumcision varies by country, in most countries, circumcision tends to occur during the neonatal period or during adolescence. In many cultures in sub-Saharan Africa, circumcision is associated with passage from childhood into adulthood in many ethnic groups [24]. Therefore, in different interventions to scale up VMMC, most individuals who decide to undergo circumcision belong to the younger age groups. For instance, a situation analysis of MC in Malawi conducted in 2010 shows that amongst 1,735 individuals who underwent circumcision in 2009 in selected district hospitals 86.3 per cent were younger than 18 years of age. Indeed, 69.2 per cent were between 5 and 10 years old [26]. Moreover, in a recent qualitative assessment concerning VMMC in the Iringa region of Tanzania, many participants felt that older men (especially those who had already fathered

children) do not really need circumcision, because they are less sexually active [20]. The study reported that one man (apparently in his 50s or so) described it this way:

> We are old now, but those who are older than us, if you tell them to get circumcised after they have already fathered all their children while having a foreskin that will be a very difficult task. He will not be able to understand why. Sex is not really exciting him anymore. If you tell him to get circumcised now he will see it as an unnecessary bother. [Page 33]

This feeling is also reflected in the preferred timing of circumcision. In nine countries where acceptability studies were undertaken, except in Botswana, most participants were in favour of circumcision in infancy and early childhood. Fifty-five per cent of respondents were in favour of circumcising children younger than 6 years of age, with half of those preferring neonatal circumcision [16,20].

Risk compensation and promiscuity

Potential risk compensation due to VMMC was one of the barriers mentioned by participants in acceptability studies undertaken in nine countries. The main reason is that if men and their partners believe that circumcision offers protection from HIV infection, they will be more likely to engage in behaviours with higher risk for HIV infection, thereby mitigating a partially protective effect of VMMC [16,22]. Specifically, in a study conducted in Kenya among uncircumcised men one year after the launch of the national male circumcision program, participants said that if a man wants to get circumcised, his female sex partner(s), neighbors, and/or friends might think that he is promiscuous. As a community, it is believed that MC might create a generation of men, especially young men, who think that they can have sex without any risk. Some participants feared that if MC led to more promiscuity, it might produce more HIV transmission in the community, not less [22].

Religious practices

Religion is a major determinant in the decision to be circumcised amongst Jews and Muslims. There is not a clear connection between MC and Christian beliefs [24]. Religion has been reported as a barrier to seeking VMMC in many studies of the acceptability of MC. In a study in the Westonaria district of South Africa, 31.6 per cent of uncircumcised men reported that the reason they had not been circumcised is because circumcision is forbidden in their religion, while in the same study, 38 per cent of circumcised men also reported that circumcision is forbidden in their religion [25]. Although the study indicates the religions of

participants, it is not possible to know for which religions participants are more likely to report that religion is a barrier to seeking VMMC[5].

In another study conducted in Nyanza Province, Kenya, the fourth-ranked reason reported by men who did not choose circumcision was religion. In contrast, in the Iringa study in Tanzania, religion was not reported as a barrier to seeking MC [20]. In short, the influence of religion on the acceptability of VMMC is not clearly determined by prior studies, although circumcision is mandatory in Judaism and Islam. This is probably because circumcision in related to both religion and tradition; consequently, it can be difficult to determine which factor matters most in seeking circumcision in societies in which religious and cultural practices significantly influence individual decisions.

2.1.2. Community barriers

The most common community barriers to seeking VMMC mentioned in the literature are cultural norms and traditions, ethnic identity, and religious practice.

Cultural norms and traditions and ethnic identity

Only one study, conducted in the Iringa region of Tanzania, indicates how cultural norms and tradition may prevent individuals from seeking MC. Some participants argued that without a traditional custom of circumcision in the region, many people would not see a compelling reason to undergo VMMC. Respondents also explained that those seeking MC may face conflict with elders or their parents who do not approve of contravening traditions [20]. Except for this study in Tanzania, though, there is little evidence on how cultural norms and tradition prevent individuals from seeking VMMC, and therefore, there is little evidence that they represent large barriers to seeking VMMC.

There is evidence that circumcision status can be an element of cultural and ethnic identity, as reported in many studies of the acceptability of VMMC [16,17,19,20,22]. In circumcising ethnic groups, circumcision may be considered an integral rite of passage to manhood [26]. For instance, among the Yao ethnic groups in Malawi, circumcision is performed as a rite of passage, during the initiation ceremony referred to as Jando. During this ceremony, male initiates are circumcised as a sign of manhood and faithfulness to their culture, and this typically happens at puberty [26]. In contrast, in cultures where the absence of circumcision is an element of ethnic identity, it still may not be a crucial element of ethnic identity [22].

[5] Half the participants were Christian, 26.4 per cent were Muslim and 23.9 per cent were of other religions.

Indeed, in circumcising ethnic groups, circumcision is almost mandatory, whereas in non-circumcising groups, although most individuals are uncircumcised and/or will choose not to be circumcised, there is little evidence supporting the idea that it is mandatory to remain uncircumcised.

2.2. Facilitators for seeking VMMC

As in the case of barriers to seeking VMMC, the analysis of facilitators for seeking VMMC is conducted at the individual, community and household levels. Understanding potential facilitators can help implementers to design interventions that increase demand by both reducing barriers and strengthening facilitators. Although most of the work on the acceptability of VMMC has been focused on barriers to seeking VMMC, some studies have also examined factors that can facilitate the decision to seek VMMC.

2.2.1. Individual facilitators

At the individual level, facilitators include hygiene, protection from sexually transmitted infections (STIs), sexual performance and satisfaction, ease of condom use and acceptability by other ethnic groups.

Regarding penile hygiene, in a study conducted in Kenya one year after the national campaign for VMMC, when asked what factors can act as facilitators of the uptake of VMMC, respondents mentioned penile hygiene first [22]. Respondents said that MC improves hygiene:

> good smelling, easy to wipe clean, no smell after sex or bathing, and HIV and other germs don't have a place to hide. [Page 2]

This belief was also mentioned as a facilitator in two other studies [16, 20]. Moreover, in these studies, both women and men mentioned that MC improves hygiene. Another facilitator mentioned in studies of the uptake of VMMC is protection from STIs [16,20,22]. Participants in one of these studies believed that protection from STIs is conferred by hygiene [20].

Regarding the influence of circumcision on sexual performance, a study in the Westonaria district of South Africa showed that 55 per cent of circumcised and 30 per cent of uncircumcised respondents believed that MC increases sexual performance, whilst 21 per cent and 14 per cent, respectively believed that MC decreases sexual pleasure [17]. These perceptions were also found in recent studies in Tanzania and Kenya [20,22]. Also, in these studies, participants believed that it is easier for circumcised men to use condoms and that

circumcision facilitates acceptability by other ethnic groups. This latter reason was found in a study amongst the Luo ethnic group in Kenya of the acceptability of VMMC, showing that the Luo ethnic group feels discriminated against when interacting with circumcising ethnic groups because they (the Luo) are uncircumcised and that circumcision will facilitate their acceptability by circumcised ethnic groups [27].

2.2.2. Peer-pressure facilitators

Social pressure may also facilitate the uptake of MC. In a study in Kenya, social pressure was perceived by participants as a powerful facilitator [22]. Participants described how social pressure works in these terms:

> A recently circumcised man shares his experience with Onyango and encourages him to become circumcised.
>
> Onyango is the only one among his male friends or family who is not circumcised, and he is being teased about being uncircumcised, especially while bathing.
>
> Onyango's female sex partner says that she will leave Onyango or withhold sex until he is circumcised.
>
> Female sex partners and/or men from other ethnic groups might call Onyango 'kehe', or other derogatory names, to mean that he is a child and not a man since he is not circumcised. [Page 2]

The influence of social pressure was also found in a study conducted in the Iringa region of Tanzania. Peer pressure was mentioned by participants as a facilitator. However, respondents highlighted that this facilitator is more relevant in towns and in mixed cultural settings [20]. Another study in traditionally circumcising areas (Mbale and Kasese districts), and non-circumcising areas (Pallisa) in Uganda examined the influence of peer pressure on men's decisions to undergo MC. In the non-circumcising areas, peer pressure was a key determinant of the uptake of MC. For instance, in this area, individuals made a group decision to undergo MC. Peer pressure also influences individuals in circumcising areas to seek VMMC. In these areas, young people are the most influenced by peer pressure [28].

2.2.3. Female intimate partner facilitators

Women as intimate partners can influence their partners in the decision to seek circumcision. Male respondents from non-circumcising areas in two districts in Uganda said that their female partners may influence their decisions to undergo circumcision and/or get their sons circumcised. Also, some men reported that they would seek the consent of their

wives or partners before undergoing circumcision [28]. For instance, one male participant said,

> I would consult my wife if she is okay with it, because I may go secretly then she later learns of it and runs away from the marriage. (Uncircumcised male, Pallisa) [Page 7]

This study also reveals that most women are supportive of MC and are capable of positively influencing their men to undergo circumcision [28]. Another study amongst the Luo ethnic group in Kenya found that women's beliefs may have a strong influence on men's acceptability of circumcision [27].

2.3. Typology of possible interventions

Based on the review of barriers and facilitators, we propose a typology of possible interventions that may be implemented to increase the uptake of MC. The typology only suggests what types of interventions may be appropriate, but the specific design and delivery details could vary greatly. For instance, if an intervention consists of providing education and information, the way to provide this education and information can take different forms, and these should be defined by implementers and researchers who want to test innovative interventions. Although for a specific barrier or a group of barriers, we provide an indication regarding the type of intervention that might be piloted and tested to overcome this barrier or group of barriers, it is worth mentioning that for a specific barrier or group of barriers, a combination of different interventions can be used to address this barrier or group of barriers.

Table 3 presents a typology of possible interventions to reduce demand barriers for seeking VMMC, and Table 4 presents a typology of possible interventions to facilitate the uptake of MC.

Table 3: Types of interventions to reduce barriers to seeking VMMC

Barrier	Example of interventions	Level of intervention
Fear of pain during and after the surgery	Information about VMMC	Individual
Adverse events/complications	Information about VMMC	Individual
Age/sexual inactivity, risk compensation and threat of masculinity	Information about VMMC	Individual
Cost of procedure	Fee reduction/elimination	Individual
Opportunity costs	Financial incentives	Individual
Private costs	Financial incentives	Individual
Religious practice	Information and advocacy provided by religious leaders	Individual and community
Cultural norms/traditions/ethnic identity	Advocacy by community/cultural/opinion leaders	Community

Source: Author

Table 4: Types of interventions to facilitate the uptake of VMMC

Facilitator	Example of interventions	Level of intervention
Social pressure	Information and advocacy provided by social groups	Peer group
Peer pressure	Information and advocacy provided by peers	Peer group
Female intimate partner pressure	Information about VMMC directed to both men and their female intimate partners	Couple-focused intervention (men and female intimate partners)

Source: Author

3. Actual interventions implemented to increase the uptake of MC

In this section, we review actual interventions implemented to increase the uptake of MC in the 14 priority countries. This review is based on a desk review using internet search. Thus, it may miss some relevant interventions. The aim of this section is to present what has been tried in different countries to increase the uptake of MC. The presentation of interventions is linked to the typology of interventions presented in Tables 3 and 4 to better identify knowledge gaps and assist implementers and researchers to go beyond existing strategies in the design of innovative interventions.

3.1. Social and behavioural change communication for MC

Social and behavioural change communication (SBCC), also called strategic communication, is one of main strategies used by the countries to promote the demand for MC. The aim of SBCC is to provide individuals with the information they need to make informed choices regarding MC. SBCC also makes it possible to address cultural barriers surrounding MC and

to promote safer sex after circumcision. Indeed, SBCC can be linked to information interventions about VMMC (Table 3). To achieve this objective, governments (ministries of health and national HIV/acquired immune deficiency syndrome [AIDS] councils) with the support of local and international organisational implementers, identify the content of strategic communications for MC, the target audiences and the channels of communication to reach target audiences.

3.1.1. SBCC through specific communication strategies for MC

Although the priority countries have all integrated SBCC into their HIV prevention strategies, some, including Kenya, Namibia, Swaziland, Uganda, and Zambia have developed specific SBCC strategies that we were able to find through our search. We review the communication strategy of each of these countries. First, we compare and contrast the strategies according to the standard elements of communication strategies in order to highlight the strengths and weaknesses. These standard elements are: the vision, a situation analysis, the definition of goals and outcomes, the identification of target audiences, key messages, communication channels, and monitoring and evaluation for communication activities. Second, we present in detail different elements of each of the communication strategies, in particular the key messages, the target audiences, and the channels used to reach the target audiences.

The analysis of these particular elements is critical to assess the likely effectiveness of MC communication strategies. An examination of the key messages makes it possible to judge whether these key messages fill the gaps in information that the acceptability studies suggest are barriers for the uptake of MC. Also, the analysis of targeted audiences allows an assessment of whether the messages are being communicated to all the relevant groups. We analyse communication channels to identify promising communications tools. In the cases where the monitoring and evaluation reports of SBCC activities are available, we present the level of exposure to SBCC messages and assess how those messages might have influenced the uptake of MC. In fact, because all communication strategies were released before 2012, except for that of Zambia, we can observe the trends in MC take-up during implementation of the strategies.

3.1.1.1 The standard elements of national MC communications strategies

The vision

Among the five priority country that developed communication strategies for male circumcision, Kenya is the only country which clearly identified a vision for its communication strategy. In 2008, when the Ministry of Public Health and Sanitation of Kenya released Communication Strategy for Voluntary Medical Male Circumcision, the aim was: "*to help in raising awareness, creating and maintaining demand for MC as a medical method to reduce the risk of heterosexual acquisition of HIV infection by men, within a comprehensive HIV infection risk- reduction framework*"[29].

Situation analysis

A situation analysis is important to any communication strategy for MC because it provides information on the pre-existing prevalence of male circumcision in the country, how this level varies geographically and/or demographically, and the acceptability of MC. The information in a situational analysis allows policy makers to better formulate their communication strategy and to determine financial resources necessary to implement it. Except Swaziland, all the countries which formulated a communication strategy conducted a situational analysis.

The definition of goals and outcomes

Kenya and Uganda have not defined specific goals for their MC communication strategies separate from the goal of their overall HIV/AIDS program to reduce HIV incidence. However, at the launch of the national male circumcision program in 2008, Kenya did set an ambitious target of 860,000 VMMCs nationally by 2013, including 426,500 in Nyanza Province [14]. In contrast, Namibia defined specific objectives for their communication strategies and measurable indicators in order to monitor their strategies over the time. Moreover, countries such as Zambia and Swaziland, even though they did not define explicitly goals of their communication strategies, have defined measurable indicators specific for their communication strategies.

The target audiences

The analysis of the target audiences for the MC communication strategies shows some heterogeneity. Except Namibia where the only audience for the MC communication strategy is sexually active men, countries target a variety of audiences. In Kenya, the target audiences include men aged 18 to 49 years, boys aged 12 to 17 years without any

distinction regarding their circumcision status, health providers, and community leaders and mobilisers. In countries such as Uganda, Zambia, and Zimbabwe, the target audiences include a broader category of people. In these countries, while the primary audience is still HIV-negative uncircumcised males aged 15–49 years, the secondary audiences include female partners of uncircumcised males aged 15–49 years, journalists and media spokespersons, politicians and policy makers, leaders of women's groups, community and social leaders, and traditional and religious leaders. Unfortunately, the specific roles of these secondary audiences are not clearly formulated in the different communication strategies. Although Zimbabwe did not formulate a communication strategy per se, it did mention in its national strategy against HIV/AIDS who should be the target audience for MC communication strategy. It appears that Zimbabwe has the narrowest target audience for male circumcision. Its primary target audience is constituted by adolescent males (aged 13–19 years) and young adult men (aged 20–29 years).

Key messages

The key messages of all countries include the fact that MC provides only a partial protection. This message is consistent across all communication strategies. However, it seems that most communication strategies do not address one of the main barriers for seeking MC—fear. However, Kenya's MC communication strategy does mention that issues on how to reduce men's fears about getting the procedure should be included in the design of key messages. Also, Namibia mentions in its key messages that circumcision should be done at health facilities with appropriately trained providers and proper equipment, under aseptic conditions.[6] Except for the lack messaging around pain during the procedure, the key messages of most communication strategies answer most of questions that uncircumcised men raise in acceptability studies of MC.

Communication channels

Countries used a variety of communication channels including interpersonal communication, mass media communication, communication mobilization, and different advocacy groups. Kenya is the country which uses extensively all communication channels including interpersonal communication and communication campaigns, media advocacy campaigns, and persuasion, dialogue, entertainment, and education. In addition to those traditional communication channels, Kenya uses a variety of materials including booklets, posters targeting women, a postoperative brochure and poster, and even a supermarket TV screen. For MC service providers, the communication subcommittee of the National and Nyanza

[6] We are not sure that the word aseptic is understood by the general population.

Male Circumcision Task Force developed flip charts and posters for service delivery points. Community mobilisers were provided with guides and community dialogue cards. A series of brochures targeting key influencers (faith leaders, business leaders and community leaders) were also developed. Kenya is the country which uses the most comprehensive communication channels to reach the target audiences.

The other countries such as Namibia, Zambia, and Uganda use interpersonal communication, mass media communication, and community mobilization. Swaziland uses the smallest number of community channels including advocacy and mass mobilization of communities.

Monitoring and evaluation for communication activities

In order to measure effectiveness of their communication strategies, countries should monitor and evaluate their communication activities using measurable indicators such as the level of exposure to key messages and actions taken after hearing key messages. Only Uganda and Swaziland conducted surveys to assess the effectiveness of their communication strategies. There is little evidence that other countries conducted surveys or implemented monitoring and evaluation activities for their communication strategies.

3.1.1.2 Different elements of countries' communication strategies

In this section, we analyze different elements of countries' communication strategies of the 14 priority countries. On the basis of availability of documents found through the internet search, we examine communication strategies of Kenya, Namibia, Swaziland, Uganda, and Zambia.

Kenya

In 2008, the Ministry of Public Health and Sanitation of Kenya released its Communication Strategy for Voluntary Medical Male Circumcision with the support of national and international organisations, including Population Services International (PSI), Communication for Change (C-Change), which is implemented by FHI 360, the Nyanza Reproductive Health Society, the Impact Research and Development Organization, Family AIDS Care and Educational Services, APHIA II Nyanza Program (Engender Health), and the Catholic Medical Mission Board, that have implemented the strategy. The aim of this communication strategy is "to help in raising awareness, creating and maintaining demand for MC as a medical method to reduce the risk of heterosexual acquisition of HIV infection by men, within a comprehensive HIV infection risk-reduction framework" [29]. In this

communication strategy, the government of Kenya states that specific messages for the campaign should derive from the following generic messages.

- HIV prevention: MC lowers the risk for acquiring HIV by about 60 per cent in men and is therefore desirable as a preventive measure against STIs.
- Continuing vigilance: Men who undergo circumcision must know that it is only part of the comprehensive HIV and STI prevention package and must be used together with the other known strategies. MC does not replace other known HIV preventive measures, such as abstinence, faithfulness, proper use of condoms, testing and counselling.
- Cultural neutrality: MC is a health intervention to reduce the chances of acquiring HIV and has no bearing on one's identity or culture.
- Safe MC (SMC) performed under sterile conditions and local anaesthesia is available at the nearest health facility or local hospital at an affordable cost.

Also, the government of Kenya enumerates some of the key issues surrounding MC that have been identified and that need to be informed in the design of messages to promote VMMC. Some of these issues include the following questions.

- Does MC reduce the sexual urge? This would cause problems in families.
- What are the dangers of MC?
- How can you reduce men's fears about getting the cut?
- How about older men? Should they get circumcised?
- What is the ideal age for a male to be circumcised?

It is difficult to know whether the responses to these critical questions are included in different communication materials. However, a closer look at communication materials developed by C-Change, a project funded by the United States Agency for International Development (USAID) in partnership with the Nyanza Male Circumcision Task Force to guide the rollout of a VMMC programme in Nyanza Province and other provinces, shows that most of these questions have been answered in communication materials.

In Kenya, the target audiences include men aged 18 to 49 years, boys aged 12 to 17 years, health providers, and community leaders and mobilisers. Moreover, communication approaches and channels used to reach target audiences include:

- interpersonal communication and communication campaigns;
- media advocacy campaigns; and
- persuasion, dialogue, entertainment and education.

In particular, for Nyanza Province, a range of communication materials were produced, including radio spots targeting men and women, billboards, posters for men (including posters specifically to be posted in men's bathrooms), video vignettes and brochures and

booklets targeting men. Other materials include a booklet and a poster targeting women, a postoperative brochure and poster and even a supermarket TV screen. For service providers, the communication subcommittee of the National and Nyanza Male Circumcision Task Force developed flip charts and posters for service delivery points. Community mobilisers were provided with guides and community dialogue cards. A series of brochures targeting key influencers (faith leaders, business leaders and community leaders) were also developed [29].

In 2011, USAID conducted the Systematic Monitoring of The Male Circumcision Scale-up in Eastern and Southern Africa [30]. This study shows that the three main communication channels that have been used to promote MC in Kenya are small media, interpersonal communication, and electronic communication[7]. Moreover, the trend analysis of the uptake of MC shows a continued increase in demand for MC between January 2010 and December 2011.

Although this result may suggest that the communication strategy has been effective in increasing the uptake of MC, a comparison with countries such as South Africa, Tanzania and Zimbabwe, which did not formulate specific communication strategies for MC, questions this conclusion. In fact, the three main communication channels are the same in South Africa and Zimbabwe and to some extent Tanzania, where the second main communication channel is radio. However, a trend analysis of the uptake of MC is these three countries does not show continued increases, as in Kenya. Also, the level of the uptake of MC in those countries is low. This finding suggests that communication strategy might not be the main driver of high uptake of MC in Kenya.

Namibia

In February 2009, the Male Circumcision Task Force of Namibia released its Communication Strategy for Male Circumcision for HIV Prevention [31]. This strategy has been implemented by Ministry of Information and Communication Technology, C-Change (implemented by FHI 360), IntraHealth, National Social Marketing Programme Namibia, Desert Soul/ Namibia Red Cross and NawaLife Trust.

[7] Small media included the use of pamphlets (especially for clients) and posters in VMMC programmes and other public places. Interpersonal communication in this study included talks in the community or at schools and a circulating motor vehicle. Electronic communication included cell phone messages, a Web site for prospective clients and a VMMC hotline.

The communication strategy indicates that although the emphasis and focus of each message will change depending on the audience and intended communication outcome, the following key messages will be common throughout/

- MC works: Scientific evidence clearly shows that MC reduces the risk for HIV infection, providing partial protection against HIV for men. Studies show that MC reduces the risk for HIV acquisition in men by about 60 per cent.
- MC does not replace other HIV prevention methods: Whether circumcised or not, men are at risk for HIV infection during sexual intercourse. It is important that they limit their number of sexual partners, use condoms consistently and correctly and seek prompt treatment for STIs to further reduce their risk for infection.
- Circumcised men can be infected with HIV and can infect others: Not all men who are circumcised are HIV negative. Some circumcised men are HIV positive. Circumcised men who are HIV positive may still transmit HIV to their sex partners. Using a condom reduces this risk.
- The healing period is important: Newly circumcised males should abstain from sex for about 6 weeks to ensure that the penis is fully healed, as they could be at increased risk for infection during this time.
- Safety is paramount: Circumcision should be done at health facilities with appropriately trained providers and proper equipment, under aseptic conditions. However whether the procedure takes place in a clinical or traditional setting safety is of paramount importance.
- MC is a matter of informed choice: Evidence-based information on MC should be made available so that males and their parents can make an informed decision on whether or not to go ahead with the procedure.

The key audience should be sexually active men. Furthermore, communication channels and tools to be used to create demand for MC are:

- mass media (print and radio news and features, entertainment on MC, outdoor advertising);
- community mobilisation for MC plus prevention (village and town meetings, farmers meetings and funerals, cultural festivals); and
- interpersonal communication for one-to-one dialogue (peer education, voluntary counselling and testing and provider counselling).

Given that this is a framework for a communication strategy for MC commissioned by the Male Circumcision Task Force of Namibia, it is difficult to know whether this communication strategy was implemented or not.

Swaziland

In 2009, the Male Circumcision Task Force, made up of the Ministry of Health, the WHO, UNAIDS, the President's Emergency Plan for AIDS Relief, PSI, and the Family Life Association of Swaziland, released its Strategy and Implementation Plan for Scaling Up Safe Male Circumcision for HIV Prevention in Swaziland, in which it outlines the features of its

communication strategy for MC [32]. The strategy has been implemented by the National Emergency Response Council on HIV and AIDS.

The strategy mentions that messages and content for MC communications should include the following elements.

- MC does not provide 100 per cent protection against HIV infection, and the following safer sexual practices need to be continued indefinitely: correct and consistent use of condoms, faithfulness to partners and avoidance of concurrent sexual partnerships.
- MC is entirely different from female circumcision or female genital mutilation.
- Intergenerational communication barriers (between parents or guardians and children) pertinent to MC decision making, as well as parent-child communication with respect to issues of sexual and reproductive health in general, should be addressed. Garnering parental support for MC is essential.
- Decisions about circumcision of sons, from both parents' perspectives, must be discussed.

Because MC is a culturally sensitive issue, a structured advocacy effort nationwide is essential. Moreover, the minimum audiences and targets for MC communications should include:

- boys and men;
- women, mothers and fathers;
- HIV-positive men and HIV-positive women;
- civic, political, opinion, religious and traditional leaders; and
- the media.

The main communication channels for this communication strategy are:

- advocacy; and
- mass mobilisation of communities.

One year after the launch of the SBCC strategy in Swaziland, PSI evaluated the use of MC amongst males aged 13 to 29 years in rural and urban Swaziland [33]. The study finds that 72.6 per cent of respondents had heard or seen PSI's and Swaziland's messages on MC. During the same period, amongst the 17.3 per cent of men who were circumcised, 51.7 per cent had been circumcised in the 12 months preceding the survey. This result shows that SBCC might have been effective in increasing the uptake of MC amongst young people in Swaziland.

Uganda

The Ministry of Health of Uganda released in 2008 a communication strategy to promote SMC in Uganda [34]. This communication strategy has been implemented by the Ministry of

Health, the Health Communication Partnership (consisting of five organisations), the Society for Family Health (an affiliate of PSI), the Uganda Health Marketing Group, and the AFFORD Health Marketing Initiative.

The key message themes were the following.

- SMC reduces the risk for HIV infection and other STIs.
- SMC offers partial protection against HIV infection.
- SMC improves the hygiene of a man's reproductive organ.
- Circumcision is safe if performed by a trained service provider.
- A pain-reducing drug is given during SMC.
- SMC does not affect sexual performance.
- SMC does not affect penis size.
- SMC does not change one's culture or religion.
- Continue to practice abstinence and faithfulness.
- Condom use is necessary for HIV infection and STI prevention.
- Amongst traditionally circumcised men, there are risks of circumcision using unclean tools in unclean conditions, and it is necessary to abstain from sex until healing is complete.

The primary audiences for SMC communication include uncircumcised men and boys aged 14 to 55 years, mostly in communities in which circumcision is not a cultural practice. The secondary audiences are influencers of the primary audiences and include:

- health workers;
- opinion leaders;
- caretakers of uncircumcised boys; and
- female sex partners.

Communication channels include:

- interpersonal and group meetings;
- mass media and print material;
- outside media, drama and puppetry;
- use of celebrities and interpersonal communication; and
- information, education and communication materials (brochures, flyers, stickers, posters, fact sheets, etc).

To assess progress on public education about VMMC and HIV infection, and to inform future communication in Uganda, the Health Communication Partnership conducted a survey on MC in 2010 [35]. This survey shows that 44 per cent of respondents had heard or seen messages on SMC in the 12 months preceding the survey. Radio is the most common

source of this information, reported by 82 per cent of those respondents who heard or saw messages, followed by community members (17 per cent), health workers (12 per cent) and newspapers (9 per cent). The majority of those who had seen or heard messages about VMMC reside in urban areas of Uganda and had secondary educations or higher. Indeed, only 5 per cent of respondents who were exposed to VMMC messages underwent circumcision, and 52 per cent decided to discuss circumcision with other people. Although there remains a large part of the population that has not been exposed to MC messages, it is unlikely that the communication strategy in Uganda has had a significant impact on the uptake of MC.

Zambia

In early 2012, the Ministry of Health of Zambia released its National Voluntary Medical Male Circumcision Communication and Advocacy Strategy 2012–2015, aiming to promote demand for MC in Zambia between 2012 and 2015 [36]. The strategy has been implemented by Zambia HIV Prevention, Care and Treatment II (though FHI 360) and the Zambia Center for Communications Programmes. Key messages for primary audience (HIV-negative uncircumcised males aged 15–49 years) include the following:

- VMMC services are available at government and private health facilities in most districts.
- VMMC is a simple and safe procedure done by qualified medical staff members.
- Pain and bleeding are minimal during VMMC when done by qualified medical staff members.
- To get the most benefit from VMMC, it is important to know your HIV status.
- Follow medical advice for abstinence and proper wound care during the healing period to avoid injury, disfigurement or HIV infection or STI infection.

Key messages for secondary audiences (female partners of uncircumcised males aged 15–49 years) include the following:

- MC makes it easier for a man to maintain good hygiene of the penis.
- MC reduces the risk for getting and passing on the virus that causes cervical cancer in women. MC offers partial protection against HIV infection and some other STIs.
- Your partners need your presence during VMMC.
- Use condoms correctly and consistently with every sexual partner, regardless of whether or not he is circumcised.
- Abstain from sex with your circumcised partner during the 6-week healing period.
- Talk to your friends and family members about the benefits and risks of VMMC.

Moreover, this strategy developed key messages for other secondary audiences, including parents and guardians of uncircumcised males aged 15 to 17 years, journalists and media spokespersons, politicians and policy makers, health practitioners and administrators, leaders of women's groups, community and social leaders and traditional and religious leaders.

The communication channels envisioned for the VMMC communication and advocacy strategy include the following:

- Targeted advocacy, consisting of identifying and engaging influential 'gate keepers' such as policy makers, administrators, celebrities and community leaders to promote informed choice regarding MC.
- Mass media, including all forms of radio, television, e-mail, text messaging and any widely distributed print media, such as newspapers, magazines and billboards.
- Mid-media, which include public announcements using loudspeakers, presentations, speeches, special promotional events, posters and drama group presentations.
- Interpersonal communications, which consist of one-to-one and small-group interactions, which could be led by one or more informed and motivated spokespersons.

3.1.2. Elements of SBCC through national MC policies and national HIV/AIDS strategy plans

For the remainder of the 14 priority countries—Botswana, Lesotho, Malawi, Mozambique, Rwanda, South Africa, Tanzania, Zimbabwe and Ethiopia—for which we did not find any reports, we review their national MC policies (if extant) or their national HIV/AIDS strategy plans to examine whether they have integrated strategic communications in their policies or plans to increase MC prevalence.

Botswana

In 2009, the Ministry of Health released its National Safe Male Circumcision Strategy. This strategy outlines the main elements of what should constitute a communication strategy for MC in Botswana [37]. Specifically, messages of communication on MC should take into account the following elements:

- Communication strategies shall ensure that clear and consistent messages are disseminated and that MC is promoted within the context of comprehensive HIV prevention strategies.
- Messages shall be developed to ensure that men opting for the procedure and their partners are counselled that MC is only partially protective, and therefore they need to continue to use other effective measures of HIV prevention.

- Messages and counselling shall stress that resumption of sexual relations before complete wound healing may increase the risk for acquisition of HIV infection amongst recently circumcised HIV-negative men and may increase the risk for HIV transmission to female partners of recently circumcised HIV-positive men.
- Men who undergo circumcision should abstain from sexual activity for at least 6 weeks after the operation. Thereafter, other HIV prevention strategies, including the correct and consistent use of male and female condoms, should be promoted and adhered to, as for uncircumcised men.
- Messages shall be carefully tailored and culturally sensitive.
- Messages should address both men and women.

Audiences for MC communication activities should consist of:

- the general public;
- uncircumcised men and adolescent boys;
- circumcised men; and
- implementers and other stakeholders.

Channels for the communications are not mentioned in this national MC communication strategy.

Lesotho

In 2006, the National AIDS Commission developed a national HIV and AIDS strategic plan for 2006 to 2011, with the intent of commissioning research on circumcision [38].

Malawi

In 2009, the National AIDS Commission of Malawi developed a national HIV prevention strategy for 2009 to 2013. In this strategic plan, safe medical MC is recognised as an effective strategy to reduce the risk for HIV acquisition in context nation where the prevalence of MC is 21 per cent. The strategic plan does not include specific activities to increase demand for MC, but one aim is to "develop male circumcision policy, intervention and communication guidelines based on international and local evidence" [39].

Mozambique

In 2005, Conselho Nacional de Combate ao HIV/SIDA (the National Council to Combat HIV/AIDS) developed a national strategy plan to combat HIV/AIDS for 2005 to 2009, which is the latest national strategy plan against HIV/AIDS developed by Mozambique [40]. This national strategy regarding MC was to "put in place the necessary conditions for the adoption of the practice of male circumcision as an instrument for the control of the dissemination of HIV in the country". Specific activities around MC include the following:

- "Initiate discussions at the level of Ministry of Health, with a view to a gradual introduction of circumcision for newborn babies and, at a later stage, for adults".
- "Initiate contacts with countries like Swaziland that are already at a more advanced phase in the adoption of this strategy".

Rwanda

In 2009, the Ministry of Health of Rwanda released its National Strategic Plan on HIV and AIDS 2009–2012, stressing the importance of MC in reducing HIV transmission and acquisition [41]. This national strategy involves increasing the demand for MC amongst newborn boys, adolescents and adults by:

- advocacy for the integration of circumcision in a minimum package of health centres;
- promotion and provision of MC for adolescents and adults; and
- promotion and provision of MC for newborn boys.

Regarding a communication strategy surrounding MC, it is mentioned in the strategy plan that it will be included in broader HIV communication efforts, including HIV infection and STI prevention education, community sensitisation and media.

South Africa

In 2007, the Ministry of Health released its HIV & AIDS and STI Strategic Plan for South Africa 2007–2011, recognising that MC has shown protective effects in three randomised controlled trials. However, no strategy was formulated to promote demand for MC. In contrast, in the National Strategic Plan on HIV, STIs and TB 2012–2016, released in 2011 by the South African National AIDS Council, medical MC is integrated as a part of a comprehensive package of prevention [42,43]. The main recommendation of this strategic plan regarding MC is to "continue with large-scale rollout of a national medical male circumcision programme as part of a package of sexual and reproductive health services, which includes gender sensitization".

Tanzania

In November 2009, the prime minister's office released the latest National Multisectoral HIV Prevention Strategy 2009–2012 [44]. MC was included as part of the Minimum Package of Prevention Services for At-Risk Adults. Moreover, different strategies were planned to increase the coverage of MC. These strategies are as follows:

- development and dissemination of policies and guidelines for MC;

- performance of additional studies on policy, cultural and operational aspects of medical circumcision in selected regions with low prevalence of circumcision and high HIV prevalence;
- finalisation and dissemination of a national plan for MC, prioritising regions with low MC and high HIV prevalence;
- phased introduction of adult and neonatal MC services at public health facilities in the eight regions with the highest HIV prevalence through appropriate capacity building (skills, infrastructure and equipment);
- increased collaboration and referrals between HIV counselling and testing and MC services;
- determining the appropriate role of traditional male circumcisers;
- public education on MC, with an emphasis on guarding against behavioural disinhibition, norms and dynamics as well as gender concerns.

Regarding public education on MC, we did not find information on key messages, audiences or channels used or planned to be used for this communication strategy.

Zimbabwe

In 2010, the Ministry of Health and Child Welfare released a strategy for scaling up safe medical MC to support comprehensive HIV prevention in Zimbabwe [45]. Although this publication is not a communication strategy per se, it does mention elements (key messages, audiences and channels of communication) that a communication strategy on MC in Zimbabwe should include.

Core key messages which will be developed for broad use with the primary, secondary and other audiences should contain the following messages:

- MC works: Scientific evidence clearly shows that MC reduces the risk for HIV infection, providing partial protection against HIV for men. Studies show that MC reduces the risk for HIV acquisition in men by about 60 per cent.
- MC has many other benefits: For example, it improves hygiene for both partners and reduces the risk for penile cancer and cervical cancer.
- MC is one component of the ABCDEFG (abstain, be faithful, condomise, circumcision for men, do nothing, early treatment of STIs, free and frank communication with your partner, get real) HIV/AIDS prevention package.
- MC does not replace other HIV prevention methods: Whether circumcised or not, men are at risk for HIV infection during sexual intercourse. It is important, therefore, that they limit their number of sexual partners, use condoms consistently and correctly and seek prompt treatment for STIs to further reduce their risk for infection.
- Healing period: Newly circumcised males should abstain from sex for about 6 weeks to ensure that the penis is fully healed, as they could be at increased risk for infection during this time.

- Safety: Circumcision should be undertaken at health facilities with appropriately trained providers and proper equipment and under aseptic conditions.
- Informed choice: Evidence-based information on MC for prevention and the different procedures and devices that are available will be made available so that males and their parents can make informed decisions.
- MC and female genital mutilation or cutting: It is important to clearly distinguish between MC and female genital mutilation or cutting, which must be discouraged as a harmful practice with no health benefits.
- Importance of continued adherence to HIV prevention: Some men and their partners may relax their attitudes towards safer sex after circumcision. Action to limit partner numbers and to use condoms correctly and consistently is still required alongside other HIV prevention approaches (UNAIDS, 2008).

In this national strategy for MC, it is mentioned that the primary audience will be composed of:

- adolescent males (aged 13–19 years) and
- young adult men (aged 20–29 years).

The secondary audience will be composed of the following groups:

- adult males over the age of 29 years;
- female peers (aged 13–19 years);
- sex partners (aged 20–29 years);
- parents and guardians;
- teachers; and
- health care workers.

Finally, MC messaging will be undertaken through one or a combination of the following communication channels:

- Mass media: Messages will be integrated into mass media formats such as local television and radio drama series; advertising through television, radio, print, outdoor and mobile media (billboards, cinema and posters); radio and television talk shows; and feature articles within the news media.
- Interpersonal communication: Techniques include door-to-door outreach; e-mail campaigns; bulk text messaging; facilitated discussions in settings such as workplaces, bars, community dialogues and peer education; and counselling and community events. These techniques will be supported with print and/or audiovisual materials, in local languages, facilitated by trained field workers.
- Health care facilities: Health care facilities, in both the public and the private sectors, are a critical source of health information, and innovative techniques will be devised to promote MC messages in these settings.

Ethiopia

In 2009, the Federal HIV/AIDS Prevention and Control Office of the Federal Ministry of Health published its Strategic Plan for Intensifying Multisectoral HIV and AIDS Response in Ethiopia II for 2009 to 2014 [46]. In this plan, the aim is to accelerate MC in areas where it is needed, namely, Gambella and the Southern Nations, Nationalities, and People's Region. There is no specific activity in relation to SBCC planned for demand creation for MC in these regions. In fact, it is mentioned that "further details on activities will be available in the subsequent operational plans".

3.2. Reducing the associated costs of MC procedures

To increase the demand for MC, in addition to SBCC, many of the priority countries, as early as 2008 (Kenya), addressed the issue of the cost of VMMC with different methods for reducing costs. These interventions may target procedure costs, private costs, and opportunity costs (Table 3). These programmes include, but need not be limited to: free procedures, mobile clinics, subsidised transport, and voucher systems. The majority of the interventions targeting costs are supply-side interventions. That is, they reduce the cost of getting the procedure by increasing the supply of the procedure, for example by offering closer clinics or more clinics hours. There are limited examples of demand-side interventions targeting cost; the vouchers provided under Soka Uncobe is one. A review of VMMC programmes implemented in the 13 African priority countries shows that seven countries have implemented programmes specifically to reduce cost barriers in the hope of reaching their 2015 targets. These include Kenya, Lesotho, Malawi, Rwanda, Swaziland, Tanzania, and Zimbabwe.

3.2.1. Reducing primary costs

Primary costs for VMMC include the cost of the procedure and travel costs. To address the cost of the procedure, a common intervention is to offer free MC procedures, which is the case in six of the seven countries, Lesotho being the exception. In addition to the elimination of the cost of the procedure, Kenya, Swaziland, Zimbabwe, and South Africa have set up mobile health centres equipped for circumcision procedures to reduce the cost of travel. This allows the health centres to locate themselves in remote areas, thereby shortening travel times and thus costs for men seeking the procedure. In 2009, Family AIDS Care and Educational Services, the Kenya Medical Research Institute and the Research Centre Training Programme supported the provision of MC for HIV prevention, along with provider-initiated HIV counselling and testing, at public health facilities and through mobile outreach services in Kenya [47]. In addition, the Nyanza Reproductive Health Society set up

16 mobile VMMC teams that directly provide comprehensive MC services at smaller health facilities and within communities.

In 2010 and 2011 in Swaziland, the Futures Group, with key partners including Jhpiego, PSI, Supply Chain Management System, Matchboxology, John Snow International, several local partners, the U.S. Centers for Disease Control and Prevention, Marie Stopes International, and the United States implemented a particularly ambitious intervention called Soka Uncobe (Circumcise and Conquer in SiSwati). In addition to mobile medical units that can be rapidly assembled for a procedure, this intervention uses seven mobile trailers that do not require assembly. Furthermore, Soka Uncobe offers an additional reduction to the cost of travel through a partnership with Galp Energia that provides fuel vouchers for men seeking the procedure. Like most other programmes, it offers free circumcision procedures, some of which are being done at mobile health centres [48]. There is not much information on the implementation of this programme, yet it goes one step further than merely providing mobile clinics to cut travel costs.

Since 2011 in Zimbabwe and 2010 in South Africa, PSI has been rolling out mobile circumcision clinics. Finally, since 2009, Marie Stopes International has been rolling out mobile circumcision clinics in Malawi and Zambia.

3.2.2. Reducing opportunity costs

Reducing opportunity costs also aids in decreasing the barriers to obtaining VMMC. Examples of interventions addressing opportunity costs include programmes that allow men to undergo the procedure on days off from work or by offering them some sort of payment to make up for the work they may be missing.

Lesotho, Zimbabwe and Rwanda all offer VMMC procedures during school holidays or on the weekends assisting men in obtaining the procedure without infringing on their work or school commitments[8]. Lesotho's and Zimbabwe's programmes both focus on scale-up during the winter school holidays, making it easier for young men to seek the procedure. In Lesotho, this pilot programme began in June 2012 and was able to circumcise about 40 men a day over a 3-week period [49]. Zimbabwe's programme, initiated in 2011, saw a 200 per cent jump in the number of procedures for teens by offering services during the holidays [50]. Rwanda began its VMMC programme in 2011, with procedures offered only on the

[8] In Lesotho, the intervention is implemented by the Ministry of Health in conjunction probably with Jhpiego. In Zimbabwe, the intervention is implemented by the Ministry of Health in conjunction with PSI. In Rwanda, the intervention is implemented by the Ministry of Health.

weekends; however, now that demand has increased, the government is looking to scale up and offer the procedure on weekdays as well [51].

Amongst these seven countries, the Nyanza Reproductive Health Society in Kenya has piloted an innovative voucher programme that makes up for the opportunity cost men face from missing work to undergo the procedure. These vouchers, given to men on the day of the procedure, can be redeemed for 100 Kenyan shillings upon their arrival back to the hospital for their follow-up visits. In addition, these men are encouraged to return with friends or relatives also wishing to be circumcised. This voucher pilot began recently in 2012, in the hope of reaching Kenya's goal of circumcision.

3.3. Information and advocacy by religious and community and traditional leaders

Religious and community and traditional leaders can be powerful agents of social change and are able to shift their communities' opinions in support of VMMC. In most African countries, those leaders are often arbiters of morality and ethics, defining what is prescribed or proscribed by tradition and faith. Given that for most men, circumcision is associated with religious and/or traditional practice, we examine how these leaders have been involved in MC promotion in the 14 priority countries. In relation to Table 3, we might expect that the involvement of religious leaders in demand creation activities would aim to clarify the official policies of their religions on MC while the role of community and traditional leaders would be to inform men that circumcision is not a threat to tradition or ethnic identity.

3.3.1. Religious leaders

The only country that has documented the involvement of religious leaders in demand creation activity is Kenya. In Kenya, particularly in Nyanza Province, religious leaders have been involved in demand creation activities. In fact, the government of Kenya, with the support of USAID, has designed a leaflet for faith leaders on VMMC that has been used during the implementation of VMMC programme. Moreover, for the rest of the 13 priority countries, religious leaders have been mentioned in most MC national strategies. Religious leaders are considered either channels for communication or the audience for key messages. However, we have no evidence of their actual participation in demand creation activities.

3.3.2. Community and traditional leaders

Kenya and to some extent Malawi have involved community and traditional leaders in demand creation activities. In Nyanza Province, Kenya, although elders from the Luo ethnic group initially resisted VMMC scale-up, the Kenyan government took steps to engage the Luo Council of Elders in the scale-up of medical MC. To gain the support of these protectors of Luo culture for medical MC scale-up, the government explained to them why medical MC would be recommended for HIV prevention and how medical MC was biologically protective against the HIV virus. Thus, repeated discussions satisfied the Luo Council of Elders that MC for HIV prevention would be voluntary and provided for medical and not cultural reasons [15].

More recently, Ngoni chiefs in Malawi declared that although Ngoni people do not undergo MC, they will inform their subjects of the need to undergo the procedure to reduce the risk for acquisition of HIV. In particular, they said, "There is no custom that forbids male circumcision in our culture and we see no problem for us Ngoni's to embrace circumcision as long as it is medically safe"[52].

Except in Kenya and Malawi, where the participation of traditional leaders in demand creation activities is documented, there is little evidence on how they are actually involved in demand creation activities in other countries. More specifically, in Swaziland, Uganda and Zambia, MC national strategies indicate that traditional leaders will be secondary audiences for MC messages, but the role played by those traditional leaders in MC promotion is not clear. Moreover, in other countries with MC national strategies such as Namibia, traditional leaders are considered channel for communication to reach target audiences. Again, there is little evidence on how they were actually involved in MC promotion activities.

3.4. Information from peers or with female intimate partners

3.4.1. Information from peers

A peer is a member of a group of people who share the same characteristics, for example, people of the same age group and background or those who do the same type of work or have the same or similar lifestyles, experiences or beliefs. The more a peer has in common with a person with whom he or she interacts, the more likely that person is to receive messages and be influenced [53]. Peer education is one of the key HIV prevention strategies amongst young people around the world. Although the implementation of peer education around the world can be somewhat versatile, basically, HIV peer education

involves selecting, training, and supporting members of a specific group to educate members of their peer group about HIV and related topics or to promote change and/or service uptake.

Although most of the 14 priority countries have planned to use peer educators for demand creation activities, little evidence suggests that peer educators have been used for demand creation activities.

In Tanzania, the Maternal and Child Health Integrated Program and the International Center for AIDS Care and Treatment Programs implemented a campaign service delivery model that occurs at fixed sites but provides services as part of campaign events; this strategy for demand creation employs peer educators (especially those already circumcised). The target group during campaigns includes young males who are not sexually active and young males aged 10 to 24 years (as per the national strategy) [54].

Other countries, such as Kenya, South Africa, Uganda, Zambia and Zimbabwe, have used peer educators for demand creation activities. For instance, in Uganda, in addition to other demand creation activities, PSI and Jhpiego used 60 peer educators oriented in VMMC as an HIV prevention strategy to promote MC among Uganda People's Defence Forces. Lessons from these demand creation activities generated huge demand for MC [55].

In Zambia, through FHI 360 and Zambia HIV Prevention, Care and Treatment II, satisfied clients can serve as MC champions in their communities [56].

In short, peer educators are considered in most communication strategies as channels and/or audiences to promote demand for MC. However, the definition of peer educators in the context of demand generation activities for MC is not clear. Are peer educators people of the same age group and background or people of the same age group and background who are circumcised? This is not clear. For instance, in Tanzania, peer educators are people who have been circumcised in non-traditionally circumcised communities, whereas in Uganda, peer educators are only young people with the same background.

3.4.2. Information with female intimate partners

In most priority countries, intimate partner awareness of VMMC programmes is addressed through the counselling of men and their female intimate partners, only if both men and their female intimate partners present to clinics seeking circumcision. According to qualitative evidence, getting women to accompany their husbands may be difficult [57].

Therefore, the existence of family counselling may not be enough; rather, programmes need to work on encouraging female intimate partners to attend with their partners. This will aid in improving the amount of intimate partner awareness and hopefully improve the positive effects for MC. This is due to a push to emphasise the role of women in preventing HIV through MC and making sure that women are protected. In addition, couples counselling can help them support each other during the period of postoperative abstinence, which is integral to ensuring the success of the VMMC programme.

Only Kenya has used information with female intimate partners as an intervention to increase the uptake of VMMC. Specifically, in 2010, Kenya implemented a programme that goes one step further. The Impact Research and Development Organization, and other partners in the VMMC, created this programme, which uses married women in the community, terming them 'champions'. Champions work to mobilise and educated married couples on MC. The mobilisers have identified various ways of reaching women, including attending meetings of women's groups in the community and establishing linkages with other health services, such as antenatal clinics, where they can interact with female clients and provide information about VMMC [58]. This programme uses peer influence to make ensure that intimate partner awareness is being increased.

3.5. Promising intervention: MC devices

MC devices are a medical innovation that can be used as a supply-side intervention designed to increase both supply and demand.[9] MC devices can increase supply because they require fewer health workers, less qualified health workers to fix them, and lighter health infrastructure. MC devices can also overcome some of demand-side barriers to seeking VMMC by enabling quick procedure times, less pain (or perception of pain), less time off work, better cosmetic results, no needle (in some cases), and expanded service delivery locations [59]. So far, there is little evidence on the acceptability of MC devices amongst adults in Africa. However, a recent study conducted in Rwanda indicates that PrePex, which is one of the two MC devices, "is safe and effective for nonsurgical adult MC without anaesthesia or sterile settings and may be useful in mass circumcision programmes to reduce the risk for HIV infection, particularly in resource-limited settings" [60, p.127]. In addition, two other studies in Kenya with the Shang Ring indicate that this MC device "is safe, easy to use according to label instructions (7-day removal), and acceptable" [61, p.82,62].

[9] The grants program on VMMC will not fund supply-side interventions.

Thus, the emerging evidence does suggest that devices may offer a supply-side intervention that can address both supply and demand constraints. However, the WHO has not yet provided guidance on the use of devices for voluntary adult MC.

4. Limitations of interventions, apparent effectiveness and possible knowledge gap

In this section, in addition to highlighting what we think are the limitations of some interventions, we assess the apparent effectiveness of different interventions that have been implemented in the 14 priority countries to increase the uptake of MC. Furthermore, where it exists, we present the results of systematic reviews of evaluations similar interventions to overcome different barriers related to HIV/AIDS prevention, treatment and care. Finally, we discuss a possible knowledge gap that could inform researchers and implementers for designing innovative interventions to increase the demand for MC in the 14 priority countries.

4.1. SBCC for MC

The analysis of the contents of key messages shows that Kenya's key messages are the most comprehensive because those key messages clearly address concerns related to fear of individuals in seeking MC. In contrast, key messages in countries such Namibia, Swaziland, Uganda, and Zambia, although stressing that MC confers only partial protection, do not address most of the fears that constitute barriers to seeking MC. Regarding age groups of targeted audiences for key messages, except Namibia, which targets all sexually active men, most countries restrict their target audiences to newborns (parents of newborns) and men in a certain age group. In Kenya the target group is men aged 12 to 49 years, and in Uganda, 14 to 55 years. This heterogeneity in age groups with a focus on newborns and young adults likely explains why the uptake of MC is high among the youngest.

The analysis of channels of communication for key messages shows that only Kenya uses a large variety of communication channels to diffuse key message amongst target populations. Indeed, in addition to traditional communication channels, including mass media, print material, outside media, drama and puppetry, Kenya, in contrast to the other countries, involves faith leaders, business leaders and community leaders in its communication strategy.

The apparent effectiveness of current SBCC for MC shows that except in Kenya and to some extent Swaziland, there is little evidence that these activities have an impact on the demand for MC in other countries, including Namibia, Uganda, and Zambia[10]. Specifically, in Kenya, with 426,000 uncircumcised HIV-negative males needed to be medically circumcised by 2015 to reach 80 per cent coverage, approximately 50 per cent were circumcised from 2007 through late 2011 [33]. Swaziland's communication strategy and more generally its strategy and implementation plan for MC have probably increased the uptake of MC. In 2009 and 2010, 24,315 circumcisions were performed. This represents 13.25 per cent of HIV-negative men needed to be medically circumcised by 2015 to reach 80 per cent coverage. This is the second highest uptake rate for MC in the 14 priority countries.

For other countries, including Botswana, Lesotho, Malawi, Mozambique, Rwanda, South Africa, Tanzania, Zimbabwe and Ethiopia, which have not formulated community strategies but have integrated strategic communication in their policies or plans to increase MC prevalence, we have little evidence on the apparent effectiveness of this strategic communication.

The conclusion that emerges from this analysis is that a comprehensive communication strategy targeting the appropriate population, using relevant key messages and a variety of communication channels, might be effective in increasing demand for MC, as suggested by the Kenyan case. However, in addition to the fact that the Kenyan case may be specific because of strong political support during the rollout of the VMMC, it is difficult to determine which components of the communication strategy explain the apparent effectiveness of the communication strategy in Kenya. For other countries that have developed communication strategies, it appears that key messages do not address fears of individuals in seeking MC. Also, faith leaders, business leaders and community leaders do not seem to play a key role in these communication strategies, even though they may be effective channels for educating populations on the relations among MC, religion and ethnicity.

Beyond the evaluation evidence related to these MC SBBC interventions, what can we learn regarding the effectiveness of SBBC in HIV/AIDS prevention, treatment and care more generally? Based on evidence from systematic reviews and rigorous impact evaluations, does SBCC really work? One HIV/AIDS prevention outcome targeted by SBCC interventions is risky sex behaviours. Evidence on the impact of behavioural change

[10] In Namibia, 224 and 1,763 men were circumcised in 2009 and 2010, respectively [12]. In Uganda, it is unlikely that the communication strategy has been effective in increasing demand for MC; in 2010, 9,052 underwent circumcision in Uganda, with 4,333,134 MCs needed to reach 80 per cent prevalence [12]. In Zambia, given that the communication strategy was released in early 2012, the evaluation of its apparent effectiveness is early.

messages on this outcome is mixed. A systematic review finds that 3 of the 11 studies measuring behavioural outcomes show reductions in HIV-related risk behaviours through increased use of condoms [63]. However, another study finds that behaviour change communication interventions have no effect on condom use in HIV-positive women [64].

The jury is also out if one looks at the impact of behavioural change communication on HIV incidence. A recent systematic review of the effectiveness of different HIV prevention interventions shows that only one of nine trials assessing the impact of behavioural change interventions measured an impact on HIV incidence [65]. Similarly, McCoy et al. [63] also find that only two of nine studies of behavioural interventions show significant protective effects on HIV incidence amongst women. Thus, despite the millions of dollars spent on behavioural change communication, current evidence does not suggest a significant impact on reduction in HIV incidence. Overall, it appears that the effectiveness of SBCC in HIV/AIDS prevention is limited.

More specifically with regard to MC, the result of a recent randomised control trial evaluating the impact of comprehensive information about MC and HIV risk in Lilongwe, Malawi, shows that, combined with a voucher for a discount (for varied and randomly allocated amounts) for medical MC, comprehensive information on MC had no impact on the uptake of MC, although spillovers may have reduced the estimated effect of information [66]. In other work, Godlonton et al. [67] evaluates a similar circumcision experiment in rural Malawi and also finds no impact of information randomly given to men on condom purchases and self-reported sexual behaviour[11].

What are the implications of these findings on our thinking about innovative SBCC interventions to increase demand for MC?

First, it seems likely that the classic SBCC interventions described above will not be sufficient to increase the uptake of MC. Second, in addition to traditional messages included in SBCC on MC, innovative interventions should include messages beyond the importance of VMMC for HIV prevention. Getting these messages right may require implementers and researchers to incorporate knowledge of other disciplines—behavioural economics, marketing, sociology, anthropology, and so on—in the design of new interventions.

[11] The information consisted of a sheet that was read to respondents and discussed. It contained a description of what MC is, a description of the studies finding that MC is associated with lower risk for HIV infection and the mechanisms through which MC is protective. Respondents were also told that MC is not completely protective.

4.2. Other interventions

Because the other demand creation interventions mentioned above are not very common, it is difficult to evaluate their apparent effectiveness in the absence of evaluation reports. In this section, we present the results of a systematic review of similar interventions implemented and assessed to overcome different barriers related to HIV/AIDS prevention, treatment and care or other health outcomes.

4.2.1. Financial incentives

Conditional cash transfers are being used to reduce HIV prevalence in Africa, but evidence on their efficacy is varied. Financial incentives did not have any effect on HIV status or on self-reported sexual behaviours in rural Malawi [68]. However, conditional cash transfers coupled with individual and group counselling reduced the incidence of curable STIs amongst young people in Tanzania [69]. The Zomba Cash Transfer Program in Malawi, which provided school fees and cash transfers to girls, also led to significant reductions in teenage pregnancy and self-reported sexual activity [70]. Despite this mixed result of the impact of conditional cash transfers on HIV/AIDS prevention, treatment and care, for other health outcomes, the evidence suggests that conditional cash transfer programmes are effective in increasing the use of preventive services and sometimes improving health status in low- and middle-income countries. This finding suggests that conditional cash transfers as financial incentives might be worth considering for innovative interventions to increase the uptake of MC.

4.2.2. Information and advocacy by religious and community and traditional leaders

There is limited evidence regarding the involvement of religious and community and traditional leaders in activities to promote the access of health services, including counselling, care and treatment. Although many studies discuss the importance of the involvement of these leaders in promoting access to health care, very few analyse rigorously their role and effect. Obregón et al. [71] reviews the evidence regarding polio communication efforts in India and Pakistan between 2000 and 2007. They show that engagement of community and religious leaders and influencers (e.g., local doctors, imams) were critical to increasing levels of polio immunity. More specifically, activities of community and religious and influencers include planned, intensive, and repeated interpersonal communication in selected sites using house-to-house visits as well as systematic and

sustained mobilisation of the community. Moreover, a systematic review examining the influence of religious leaders and faith organisations in health, with particular reference to haemoglobinopathies, suggests that the involvement of religious leaders and faith organisations in health-related interventions improved the level of acceptance, participation and positive health outcomes within the faith communities [72].

Although the evidence on other health outcomes points out the influence of community and religious leaders on the access to health care, the actual implementation of specific interventions with community and religious leaders may be challenging, particularly for religious leaders. Specifically, it may be difficult to involve local religious leaders in interventions when they need the approval of their church top officials. Also, it might be difficult to involve religious leaders in interventions outside churches, mosques and places of prayer.

4.2.3. Information through peers or with female intimate partner

Information through peers

Although communication strategies on MC designed by countries address most of barriers raised by uncircumcised men in acceptability studies, these approaches might not be further strengthened. For example, an experience shared by a newly circumcised man having similar background, lifestyles, and beliefs with uncircumcised men can be powerful for inducing uncircumcised men for seeking MC.

Allison et al. (2009) [73] review 25 randomized clinical trials that assessed the effect of peer based interventions on health-related behaviors in adults. They consider three common models of peer-based interventions in health care. The first model is the group-based peer education intervention where peers are used as group leaders to guide people with a related health care concern or similar demographics to adopt a new behavior that would facilitate healthy outcomes. The second model, which seems more popular, is a model where peers provide one-on-one advice and support about how to achieve a particular health care goal. The third model is a combination of the first and the second model. They find that peer-based interventions facilitated important changes in health related behaviors, including physical activity, smoking, and condom use, with a small- to medium-sized effect. This finding suggests that peers may be an important element of innovative interventions for increasing the demand for MC.

Information with female intimate partner

The main argument for promoting male circumcision is that evidence suggests that it confers a partial protection against HIV acquisition for men. It is thus possible that the fact that uncircumcised men seek MC might be perceived by their intimate female partner as an indication of a possibility of infidelity. This perception can create distrust in the couple. In addition, the acceptability studies show that many women are uncertain about whether MC will lead to a change in their sexual experience. These uncertainties suggest it might be useful to involve female intimate partner in strategies seeking to increase the uptake of male circumcision especially for older men.

Burton et al. (2010) [74] conduct a systematic review of studies testing whether couples-focused behavioural prevention interventions reduce HIV transmission and risk behaviour. Results across studies consistently indicated that couples-focused programs reduced unprotected sexual intercourse and increased condom use compared with control groups. However, the authors find that the studies were heterogeneous in population, type of intervention, comparison groups, and outcomes measures, and so meta-analysis to calculate pooled effects was inappropriate. Although this study does not discuss the heterogeneity of the impact of couple-focused interventions by gender, this result suggests that couples-focused interventions can induce behaviour change.

5. Conclusion

This scoping report aims to guide implementers of VMMC programmes and researchers in the design of innovative interventions to increase the uptake of MC in the 14 priority countries. To achieve this goal, we first present a literature review, both of academic studies from across disciplines and of relevant and project documents, in order to identify key barriers and facilitators for the demand for voluntary medical male circumcision in the 14 priority countries. The main barriers seem to be fear of pain during and after the surgery, long healing period, costs, and adverse events and complications, while the main facilitators are peer pressure and female intimate partners. Based on barriers and facilitators identified, we propose a typology of interventions that can be designed in order to overcome these barriers or/and take advantage of facilitators.

Second, in relation to this proposed typology of interventions, we review the actual interventions implemented to increase the uptake of MC in the 14 priority countries. We find that the main intervention used by countries to promote MC is behavioural change communication. The other interventions, including reducing the associated costs of MC procedures, information and advocacy by religious and community and traditional leaders,

information from peers, and information with female intimate partners, are minor in the 14 priority countries. Given that communication activities are the main activities to increase the uptake of MC, we analyse these strategies by examining key messages, target audiences, and communication channels. It appears that communication activities have not addressed properly one of the main barriers for seeking male circumcision, which is fear. In addition, target audiences for these communication activities seem to be very heterogeneous across countries. In fact, it is unclear whether key messages are tailored for specific audiences and how this heterogeneity in target audiences contributes to the main goal which is to increase the uptake of male circumcision.

Third, in order to help to identify knowledge gaps that can also inform the design of innovative interventions, we examine the evaluation evidence when it available of the effectiveness of different interventions implemented by countries. There is a little evidence that communication activities have been effective to increase the uptake of male circumcision across the 14 priority countries. Some of the supply-side interventions appear to be affective in addressing cost concerns on the demand side. However, there are only a few demand-side interventions to reduce costs that have been piloted so far. Evidence from other HIV/AIDS prevention and treatment and more general health interventions suggests that programs that seek to increase demand using peers or intimate partners may be promising.

6. What is the next step?

This scoping report was produced in support of the 3ie's Thematic Window 3 entitled: "Increasing demand for medical male circumcision in 14 priority countries program design" and funded by The Bill and Melinda Gates Foundation (BMGF). The project seeks to motivate and identify innovations specifically on the demand creation side of public health to increase the uptake of male circumcision.

Through the thematic window, 3ie will award grants to fund the implementation and impact evaluation of innovative demand creation strategies. Each grant will bring together three pieces: an idea for an innovation, an organization to implement a pilot intervention of that idea, and a team to conduct a rapid impact evaluation of the pilot intervention.

As a pre-cursor to the launch of the window, the Bill & Melinda Gates Foundation, in partnership with the Zambia Ministry of Health and in collaboration with PEPFAR, is

organizing a three day regional convening to discuss issues around demand creation for VMMC. The meeting will be held April 3-5, 2013 in Lusaka, Zambia.

The objectives of the meeting are as follows:

- Share available promising practices in demand generation for VMMC in Africa.
- Generate innovative ideas by bringing in non-traditional VMMC actors with expertise in advertising, marketing, and product promotion.
- Assist program implementers and researchers to form teams for potential collaboration in implementing and evaluating innovative demand creation ideas in the field.

During the third day of the convening, 3ie will organize a matchmaking event that aims to match program implementers and researchers for potential collaboration to design, implement and rigorously evaluate innovative demand creation strategies in the field.

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