Republic of Kenya

Ministry of Public Health & Sanitation

Kenya National Strategy for Voluntary Medical Male Circumcision

October 2009

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Foreword

The Ministry of Public Health & Sanitation (MoPHS) acknowledges the development of the *Kenya National Strategy for Voluntary Medical Male Circumcision* as an important step for Kenya in ensuring that Male Circumcision for HIV prevention is made accessible to many Kenyan men in keeping with current international and national recommendations. This strategy operationalizes the *National Guidance for Voluntary Medical Male Circumcision in Kenya* and the *Kenya National HIV/AIDS Strategic Plan (KNASP) III-2009-2013* and is a result of recent scientific evidence, programmatic achievements, and the changing dynamics of the HIV epidemic in Kenya.

The publication of this strategy is very timely, as it coincides with a period of increased efforts by the Government of Kenya (GoK), with support from various partners, to rededicate efforts to HIV Prevention. The current KNASP 2009-2013 recognizes male circumcision as an additional HIV Prevention Strategy and this document provides the framework for actualizing the intended outcomes and impact of KNASP III.

In accordance with current trends and international recommendations, the MoPHS emphasizes that while the guiding principles of VMMC are centred around voluntarism, informed consent and health system strengthening, this document recognizes that for maximum impact and given the limited resources, the coverage of male circumcision should be of such high magnitude so as to reach as many men within the shortest time possible. The document therefore introduces a dual method of service delivery- facility based and outreach/mobile approaches. It is recommended however that given the foregoing statement, service delivery should be heavily tilted in favour of high quality/high volume services delivered through community based approaches that have direct linkages to health facilities. With a diversified approach and the continued prioritization of VMMC,

along with referrals to follow-up services, we are confident that Kenya is moving towards achieving its 'universal access' goal for HIV Prevention.

As the main entry point to HIV prevention, care, support, and treatment services, HIV testing and counselling (HTC) is central to all HIV programmes nationwide including VMMC. HTC therefore is an integral part of VMMC and should be routinely provided to all VMMC clients unless they specifically decline- 'opt-out'- service so as to ensure that there are no missed opportunities for knowledge of HIV status.

Finally, I encourage health care providers throughout Kenya, including administrative and support staff, to implement the strategy articulated herein with utmost dedication.

Dr. Willis Akhwale,
Head, Department of Disease Prevention & Control
Ministry of Public Health and Sanitation

Acknowledgements

The *Kenya National Strategy for Voluntary Medical Male Circumcision* is the result of determined efforts from many individuals and organisations that developed, edited, reviewed, and provided support for the production of this document.

Specific acknowledgements go to the U.S. Centers for Disease Control and Prevention (CDC), Family Health International (FHI) and the Male Circumcision Consortium for technical and financial support during the strategy developing process and the subsequent publication.

Special thanks go to Dr Peter Cherutich, the head of HIV Prevention at NASCOP and chair of the Male Circumcision Taskforce for coordinating the development process and for providing strategic direction to this document. We also thank Dr Zebedee Mwandi-CDC-Kenya, Dr Mores Loolpapit-FHI, Dr Joel Rakwar and Dr. Rex Mpazanje from WHO-Kenya for their invaluable insight through the various stages of this process. We also acknowledge Jacqueline Nerubucha-FHI for her excellent logistical and secretarial support.

All members of the Male Circumcision Taskforce (Appendix) contributed significant time and efforts to planning, drafting, editing and reviewing the strategic document. The Ministry of Public Health & Sanitation (MoPHS) recognizes their individual and collective efforts in making this strategy a reality.

In addition to the contributions of the taskforce, this document was reviewed by national and international experts in VMMC. The peer review committee included:

Prof. Robert Bailey- University of Illinois at Chicago
Prof. Dorothy Mbori-Ngacha- CDC-Kenya
Dr Kim Eva Dickson- WHO-Geneva

Dr Tim Farley-WHO-Geneva
Dr Naomi Bock- CDC-Atlanta
Michael Stalker – Family Health International – North Carolina

There are many others who have contributed to this document in one way or another, but who may not have been mentioned here. To everyone, we say a big thank you.

Dr Nicholas Muraguri,
Head NASCOP
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Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
KAIS	Kenya AIDS Indicator Survey
KEPH	Kenya Essential Package for Health
KNASP	Kenya National AIDS Strategic Plan
KNHSSP	Kenya National Health Strategic Plan
M&E	Monitoring & Evaluation
MC	Male Circumcision
NACC	National AIDS Control Council
STI	Sexually Transmitted Infection
UNAIDS	Joint United Nations Programme on HIV/AIDS
WHO	World Health Organisation
VMMC	Voluntary Medical Male Circumcision

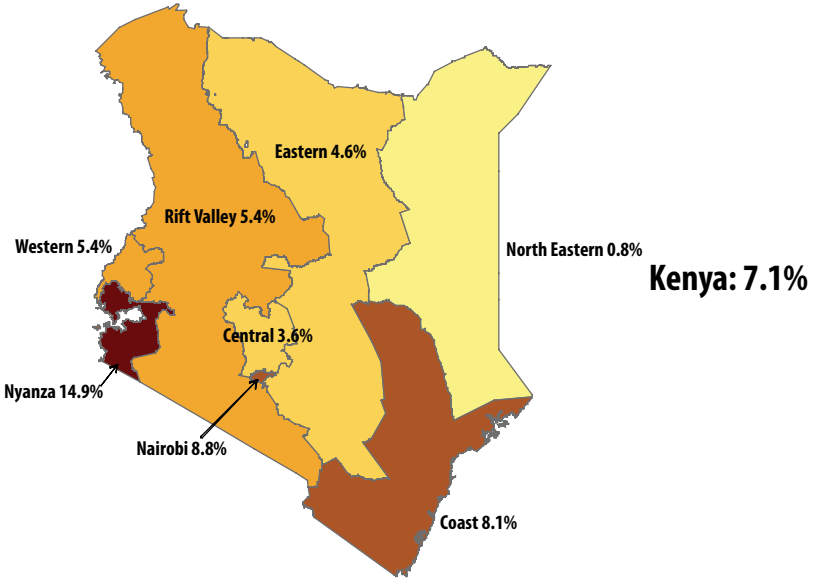
Section I

Background

1.1 Introduction

HIV/AIDS remains a major challenge in Kenya. The first case of HIV in Kenya was diagnosed in 1984. Since then, the epidemic and the government's response to it have expanded greatly. The highest rates of infection were initially concentrated in marginalised and special risk groups, including female sex workers and their partners, and men in mobile occupations such as long-distance trucking. However, for more than a decade Kenya has faced a mixed HIV/AIDS epidemic; new infections are occurring in both the general population and in vulnerable, high-risk groups. Substantial HIV prevalence rates have been reported in the various sentinel sites ranging from 1-41%[1]. Preliminary results from the Kenya AIDS Indicator Survey of 2007 (KAIS 2007)show substantial regional variations ranging from 0.8% in North Eastern Province to 14.9% in Nyanza Province (see Fig 1 below) among ages 15-64.

Fig 1: HIV Prevalence in Kenya by Province, KAIS 2007



1 Ministry of Health (2005) AIDS in Kenya: Trends, Interventions and Impact 7th Edition p77

Male circumcision is the surgical removal of the foreskin of the penis and is one of the oldest surgical procedures. In Kenya, circumcision has been performed on boys and young men for religious, cultural and medical reasons. Data from the KAIS 2007 indicate that 85 percent of Kenyan men reported being circumcised. Men in Coast (97.2%) and North-Eastern (97.1%) provinces had the highest rate of circumcision, while Nyanza Province had the lowest rate (48.3%). In Nyanza, circumcision rates vary widely by ethnic community, ranging from a low of 17 percent amongst the Luo to a high of 99 percent amongst the Kisii as reported in the Kenya Demographic and Health Survey of 2003[2].

A strong geographical correlation between male circumcision practices and lower HIV prevalence was previously observed in Africa[3]. The recently released preliminary results of the KAIS 2007 showed that 13.9 percent of uncircumcised men were HIV infected, compared with only 4.1 percent of circumcised men. This finding is similar to that of the 2003 KDHS, which found HIV rates of 12.6 percent among uncircumcised men and 3 percent among circumcised men. Numerous observational studies that have been undertaken over the years have also identified lack of circumcision in men as a risk factor for the acquisition of HIV infection, particularly among men whose behaviour puts them at a higher risk of getting infected.

Research has also suggested a number of potential biological explanations for the associations between male circumcision status and HIV prevalence. Studies of human foreskin tissue have demonstrated that the foreskin is highly susceptible to the uptake of HIV. Other possible explanations as to why circumcision may reduce HIV acquisition are a reduction in the prevalence of STIs — particularly those that cause genital ulcers — and a reduction in the likelihood of

2 Kenya Demographic Health Survey, 2003 p208
3 Weiss HA, Quigley MA, Hayes R. Male circumcision and risk of HIV infection in sub-Saharan Africa: a systematic review and metaanalysis. *AIDS* 2000;**14**:2361–70.

micro-tears and trauma to the foreskin. In addition, male circumcision has been shown to reduce the incidence of infection with human papilloma virus, the agent that can cause penile cancer in men and cervical cancer in women.

Despite the strong body of evidence, it was not possible to state categorically the extent to which this apparent protective effect against HIV was due to male circumcision because issues such as religion and ethnicity are associated with male circumcision and also have a major influence on HIV-risk behaviours. In order to address this concern, three randomised controlled clinical trials were performed in different parts of the continent, including one in Kisumu, to assess the safety and efficacy of male circumcision in reducing female-to-male transmission of HIV.

These trials demonstrated a strong degree of protection regarding female-to-male transmission of HIV of about 60 percent[4]. Based on the results of the three clinical trials and the other accumulated evidence showing that male circumcision reduces the risk of acquiring HIV infection, the World Health Organisation (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) issued recommendations on male circumcision for the prevention of HIV transmission in March 2007. They stated that "the efficacy of male circumcision in reducing female to male HIV transmission has now been proved beyond reasonable doubt" and recommended that male circumcision should be considered as part of a comprehensive HIV prevention package.

In addition, there are differences in HIV rates by age and gender, which are most pronounced among young people ages 15 to 24 years. HIV prevalence among girls and young women in this age group is

4 Siegfried N, Muller M, Deeks JJ, Volmink J. Male circumcision for prevention of heterosexual acquisition of HIV in men. Cochrane Database of Systematic Reviews 2009, Issue 2. Art.

about four times that of their male counterparts: 6.1 percent compared to 1.5 percent, according to the preliminary results of KAIS 2007. This trend has been blamed on trans-generational sex. Young women are infected by older men and, as the women grow older, they pass on the infection to men closer to them in age. These men may in turn have sexual partners who are in a younger age cohort, to whom they pass on the infection, continuing the cycle. Therefore, if the young men were to maintain their low HIV seroprevalence as they age, the following cohorts of young women would have a lower risk of getting infected with HIV, which would lead to a lower seroprevalence among their male counterparts over time. It would be expected, therefore, that as more uncircumcised males get circumcised, this would lower the incidence of HIV amongst men, translating to lower transmission of HIV to women and ultimately a reduction of HIV in the general population.

1.2 The Policy Environment

The government of Kenya has facilitated the development of the Kenya National Health Sector Strategic Plan II (KNHSSP II) for 2005-2010, which gives priority to health financing and investments to benefit the poor, cross-sectoral cooperation, increased efficiency and effectiveness of health sector activities, and increased funding by the Government. One of the key planks of this plan is to reduce inequalities in health resource allocation and improve access to services for poor, hard-to-reach and vulnerable groups. In this strategy, all health care facilities from the community level to the national level have a role to play in the provision of health services. The KNHSSP II intends to reverse the decline in the health status of Kenyans through an efficient, high-quality health care system that is accessible, equitable and affordable for every household. The plan includes a common-service

delivery package, the Kenya Essential Package for Health (KEPH), which focuses health service delivery according to the segments of the human life cycle, such as pregnancy, delivery and the newborn child (up to two weeks of age), early (2 wks – 5 years) and late (6-12 years) and adolescence and youth (13-24 years). Health services have been defined to address the key issues that affect people within the various segments. The provision of male circumcision services fits well into this categorization system.

The MOH's key strategy for health service delivery is the decentralisation of services to the districts with implementation of the essential packages. Service delivery is proposed to be provided at the following six levels:

i) KEPH Level I - Community level
ii) KEPH Level II - Dispensaries
iii) KEPH Level III - Health centres, maternity homes, nursing homes
iv) KEPH Level IV - Primary hospitals
v) KEPH Level V- Secondary hospitals
vi) KEPH Level VI - Tertiary hospitals

It is anticipated that facilities operated by other non-public players in the health sector will follow this classification, depending on their resources and capacity, and that data from these facilities will be included in the MOH health management information system (HMIS). Linkages and cross-referrals among the various networks of service providers are also envisioned in order to achieve the plan's vision of accessible, equitable and affordable services for the population. The introduction of male circumcision services will depend on whether the necessary resources are available at the various levels of the health services delivery system to provide the service safely and to make it accessible.

Kenya National HIV/AIDS Strategic Plan (KNASP II) 2005-2010 was developed to provide an action framework for HIV/AIDS interventions. However, due to the overwhelming scientific evidence on the protective effect of male circumcision on HIV, and the gaps identified by the KAIS 2007, KNASP II was truncated; and a new KNASP III (2009-2013) that incorporates male circumcision as a prevention strategy has been finalized. The goal of the KNASP III is to deliver the known efficacious interventions in a manner that ensures universal access in order to achieve public health impact and drastically reduce the incidence of HIV. Underpinning this strategy are the core principles, which include a multi-sectoral approach that facilitates advocacy; building strategic partnerships and mainstreaming of HIV/AIDS within key sectors; targeting evidence- based interventions to reach the groups most vulnerable to infection; and empowerment of stakeholders to participate effectively in the national response

The development of both the KNHSSP II and the KNASP III was facilitated by the Government of Kenya and jointly agreed upon by stakeholders from government, civil society, the private sector and the country's development partners. These documents therefore form the basis for scaling up HIV prevention, care and treatment services within the context of health care delivery in Kenya. To facilitate the introduction of male circumcision services for HIV prevention, the Ministry of Health developed a *National Guidance for Male Circumcision in Kenya* for policymakers and implementers. This document provides a framework for ensuring the provision of safe, accessible and sustainable male circumcision services. The guidance states that "Male circumcision reduces the risk of acquiring HIV by 60 percent and is an effective intervention for reducing the risk of HIV and sexually transmitted infections; therefore, safe, voluntary male circumcision alongside other HIV prevention strategies should be promoted in Kenya."

1.3 Purpose of National Strategy

This strategy operationalizes the *Kenya National HIV/AIDS Strategic Plan (KNASP) III-2009-2013* and the *National Guidance for Voluntary Medical Male Circumcision in Kenya*. It is intended to provide programmatic and operational guidance to decision-makers, programme managers, technical support agencies and potential funders. It is relevant in scaling up VMMC services in both public and private sectors.

This document outlines the strategic directions for VMMC, and the national plan of operations for the year 2009/10-2011/12. The essential components provide the key steps for scale-up. Guidance is provided on *what* needs to be done and *how* it can be done. For ease of reference, we have divided the document into four sections:

- Section I: Background. This section develops the rationale for the document and recognizes the scientific, policy and programmatic context of VMMC.
- Section II: Strategic Directions. This section outlines the vision of the document and highlights the specific objectives and intended outcomes of the VMMC programme. It provides the targets and the intended impact over the short, medium and long term.
- Section III: Implementation Framework. This section outlines *how* the strategic directions will be achieved and recognizes appropriate coordination, service delivery and monitoring as critical approaches to a functional VMMC programme
- Section IV: National Plan of Operations. This component provides the outputs and activities for the next 2 years in line with the National Plan of Operations in the KNASP III.

1.4 | Situational Analysis

As noted above, the MOH "*National Guidance for Voluntary Male Circumcision in Kenya*" provides the framework for policy makers and implementers of VMMC activities. A National multi-sectoral Taskforce on VMMC, chaired by the Director of Medical Services or his/her nominee, has been constituted and serves as the advisory body. The ethnic populations and regions for prioritizing MC services have been mapped, with Nyanza province being identified as the province with highest potential to benefit from MC services for HIV prevention. Consequent to this, a Provincial VMMC Taskforce, under the leadership of the Provincial Director of Public Health and Sanitation, has been formed to spearhead and coordinate the VMMC roll out in Nyanza Province.

The MOH VMMC Taskforce has, in accordance with WHO/UNAIDS/JHPIEGO recommendations, adapted and adopted a *Clinical Manual for MC in Kenya under Local Anaesthesia*. The Manual is a standard reference document for guiding program managers and providers of Male Circumcision based on the Kenyan context. Additionally, guidelines with details of standards required for providing VMMC have been developed. These standards address the broad range of issues that should be considered by facilities and programs offering MC for HIV prevention in Kenya, including provider qualifications, competencies and skills, communications, and quality assurance. The above documents have been developed taking into consideration views generated from multiple consultations with political, community and religious leaders, women groups, Youth groups, NGO's, CBO's and other relevant stakeholders.

In November 2008, the MOH launched the National Male Circumcision program, and disseminated the already developed documents. However the dissemination process is yet to be completed

in every province but with continued donor support, it is anticipated that all provinces will be covered. Initial VMMC Service provision for HIV prevention began in September 2008, through PEPFAR and BMGF. Several health service providers have been trained, and a number of government health facilities have been upgraded through the few implementing partners supporting the MC roll out. Since commencement of the program, over 25,000 surgical procedures for HIV prevention have been done in Nyanza. However, a lot remains to be done and the current volume of procedures may not achieve the desired public health impact of circumcising a sufficient number of uncircumcised males to reduce HIV incidence in a reasonable timeframe unless models/strategies for increasing efficiency and improving productivity are developed and implemented.

Section II

Strategic Directions

The purpose of this document is to provide the framework within which the *National Guidance for Voluntary Male Circumcision in Kenya* can be actualised by the various stakeholders intending to provide male circumcision for HIV prevention in the country.

2.1 Goal

The goal of the *Kenya National Strategy for Voluntary Medical Male Circumcision* is to contribute to the reduction of new HIV infections among men by providing integrated, safe and accessible voluntary male circumcision services.

2.2 Vision

An HIV and AIDS-free society in Kenya

2.3 Mission

To provide a framework for universal access to safe and sustainable male circumcision services.

2.4 Guiding Principles

- Ensure that male circumcision is performed by well-trained practitioners in aseptic settings under conditions of informed consent, confidentiality, risk-reduction counselling and safety.
- Ensure that circumcision is promoted and delivered to males of all ages in a manner that is culturally sensitive to minimize stigma that may be associated with circumcision status.
- Ensure that male circumcision does not replace other known effective HIV prevention methods and is always considered as part of a comprehensive prevention package.
- Ensure that in both circumcising and non-circumcising communities, education programmes provide sufficient and

correct information about the partially protective effect of male circumcision and the continuing need for other measures to prevent HIV and sexually transmitted infection (STI).

- Ensure that appropriate laws, regulations and supervisory mechanisms are developed so that male circumcision services are accessible and provided safely without discrimination.
- Strengthen health systems to ensure that male circumcision programmes do not interrupt or divert resources from other primary health care services.
- Improve health care service delivery through adequate and appropriate strengthening of other health care programmes.
- Ensure the monitoring and evaluation of male circumcision services for quality control and to guide the planning and improvement of services.
- Ensure operations research to strengthen male circumcision services and to implement effective, comprehensive HIV prevention programmes in the context of sexual and reproductive health.

In summary, these guiding principles should ensure male circumcision services are provided in a cost-effective manner, using appropriate service delivery models to achieve a public health impact.

2.5 Strategic Objectives

VMMC outcome:

- To increase the proportion of men ages 15-49 years who are circumcised in Kenya from 84 percent to 94 percent by 2013
- aim to meet 80% of estimated demand for circumcision of men aged 15-49 years over 5 years

The Strategic Objectives of this plan are:

1. To promote with clear, accurate information, safe and voluntary medical male circumcision for HIV prevention in Kenya.
2. To deliver the male circumcision package for HIV prevention through innovative approaches.
3. To ensure effective monitoring and evaluation (M&E) of male circumcision services.

Mathematical models show that large scale uptake of male circumcision services in African settings with high HIV prevalence and where circumcision rates are low could lead to substantial reductions in HIV transmission and prevalence over time among both men and women[5]. The highest impact is likely to be realised through reaching as many uncircumcised men with the intervention within the shortest time possible. This means reaching the majority of men who are eligible for the intervention over the next five years. Table 1 below shows estimates of uncircumcised men in Kenya based on data from KAIS 2007. While it is clear that the largest population of uncircumcised men are in Nyanza Province, there are also significant numbers in Rift Valley, Nairobi and Western Provinces.

5 **White RG, Glynn JR, Orroth KK *et al*** Male Circumcision for HIV prevention in sub-Saharan Africa: who, what, and when? **AIDS 2008**, 22:1841-1850

Table 1: Estimates of uncircumcised adult men in 2007 by Province in Kenya

Province	Estimated adult population (15 -49)	% uncircumcised 15 - 49	Estimated adult uncircumcised 15 - 49
Nyanza	1,239,040	51.7	640,584
Rift Valley	1,972,960	12.1	238,728
Nairobi	887,920	18.2	161,601
Western	880,000	12.1	106,480
Coast	667,920	2.8	18,702
Eastern	1,214,400	3.7	44,933
Central	1,020,800	4.6	46,957
North Eastern	317,680	2.9	9,213
	8,200,720	**15.5**	**1,267,198**

Source of Data: **KAIS 2007**

2.6 Phased Approach

This strategy outlines a phased approach, with short-, medium- and longer-term phases designed to achieve the desired results. The activities outlined for each phase indicate the emphasis during that time. They are not mutually exclusive and are likely to overlap at some points. This strategy defines the short term as the initial three to five years, the medium term as the next five to 10 years, and the long term as 10 years and beyond. These divisions should not deter continuation of activities started in the short term but still deemed necessary in the medium or long term.

Based on the estimates of uncircumcised men in Kenya shown in Table 1 above, the aim is to meet 80% of estimated demand for circumcision of men aged 15-49 years over 5 years, assuming acceptability rates of 75% and the changing demographics over this duration. In order to meet the goals of the short-term phase we will rapidly expand the infrastructural and human capacity to deliver VMMC at community and facility level.

Based on projected demand over the short-term (catch-up population) and the current and projected capacity to undertake the circumcisions, table 2 below shows estimated targets by province over the four year period 2009 – 2013.

Table 2: Showing circumcisions targets for eligible men aged 15-49 years from 2009-2013

	2009–10	2010–11	2011–12	2012–13	4 Year Total
Nyanza	76,500	100,000	125,000	125,000	426,500
Rift Valley	28,500	40,000	60,000	60,000	188,500
Nairobi	19,500	30,000	40,000	40,000	129,500
Western	12,000	15,000	15,000	15,000	57,000
Others	13,500	15,000	15,000	15,000	58,500
	150,000	**200,000**	**255,000**	**255,000**	**860,000**

It follows that this phase of the plan will be targeted at parts of the country where the prevalence of male circumcision in the target population is low and the prevalence of HIV infection high. Therefore, selected districts in Nyanza, Western, Rift Valley and Nairobi provinces will be the focus of attention for demand creation and service delivery. There will also be effort to reach small but significant populations of un-circumcised men in the other provinces in Kenya. Although this initial phase might seem to lend itself to vertical approaches, there will be a deliberate effort to promote mechanisms that strengthen the capacity of the existing health infrastructure to increasingly take over the provision of the services.

In the medium-term phase, means will be sought to ensure that male circumcision services in traditionally circumcising communities evolve to embrace safer surgical practices as well as HIV prevention

counselling. Innovative ways will be needed to include traditional providers in this process. This evolution will also require capacity building to enable providers working in the other provinces to provide the package of services for voluntary medical male circumcision (VMMC) as an HIV preventive intervention. One other service delivery aspect that the government shall begin to consider during this phase are preparatory activities to build providers' capacity to perform infant circumcisions.

The medium-term phase under this paradigm would emphasise two aspects: 1) how to sustain the momentum towards higher prevalence of male circumcision in successive birth cohorts and 2) how to ensure that the male circumcision services in traditionally circumcising communities evolve to embrace safer surgical practices and HIV prevention counselling.

Additionally, continued attention will be placed on infant circumcision services, which are technically easier and cheaper to carry out, and the related demand-generation activities where appropriate.
In designing and implementing the intervention in this manner, the government will also achieve its aim of providing male circumcision as an entry point for young men to engage with the health service sector in the area of sexual and reproductive health. The current model of adolescent circumcision camps used by some faith-based organisations is one way of achieving this phase of the planned roll-out of services. This model has the advantage of maintaining the idea of male circumcision as a rite of passage, which is highly valued by the communities that practice it, while at the same time incorporating HIV prevention messages and discussions about male sexuality and related reproductive health concerns.

The long-term phase will emphasise the continued scaling-up of infant circumcision services which are cheaper, easier to perform and could easily be integrated into maternal and child care services

To ensure these cohorts of young boys circumcised at infancy remain HIV-free, there will be need to provide appropriate pre-adolescent and adolescent HIV information and education services e.g. through school-based programmes. This being the ultimate goal of the national HIV programme, life skills education shall be integrated into VMMC during the short-term and will be progressively enhanced over the long term.

2.7 Anticipated Impact

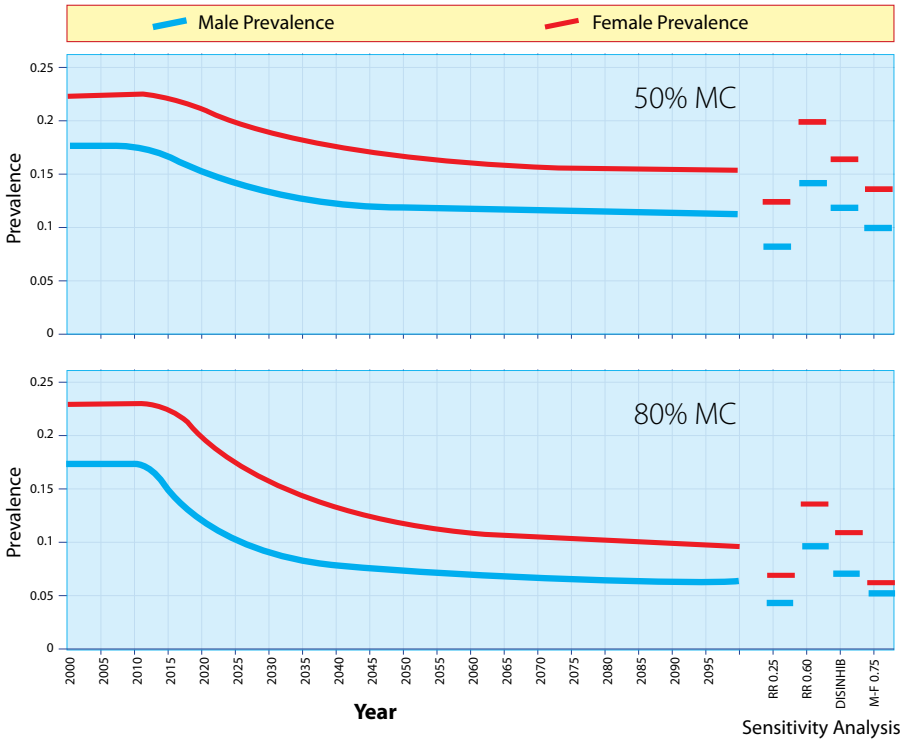
There is no threshold at which MC prevalence affects population-level HIV incidence, but mathematical models indicate that the greater the MC prevalence, the greater the impact on prevalence among men and ultimately also among women and infants in the community (see figure 1). Recent work in mathematical modelling has shown large benefits of male circumcision among heterosexual men in low male circumcision, high HIV prevalence settings: one HIV infection being averted for every five to 15 male circumcisions performed[6]. Using these mathematical models it has been estimated that with 80% MC uptake in Nyanza Province over 10 years, female HIV prevalence would decrease from 22% to 10% and for males from about 17% to 7%[7]. Over 20 years, it is estimated that this would translate to 900,000 infections averted in

6 **UNAIDS/WHO/SACEMA Expert Group** on Modelling the Impact and Cost of Male Circumcision for HIV Prevention (2009) Male Circumcision for HIV Prevention in High HIV Prevalence Settings: What Can Mathematical Modelling Contribute to Informed Decision Making? **PLoS Med** 6(9): e1000109. doi:10.1371/journal.pmed.1000109

7 **Nagelkerke NJ, Moses S, de Vlas SJ, Bailey RC** Modelling the public health impact of male circumcision for HIV prevention in high prevalence areas in Africa **BMC Infect Dis 2007**; 7:16

Nyanza benefitting both men and women. Additional infections would be averted in infants as fewer pregnant women would be living with HIV. Furthermore these models have shown that circumcising sexually active males of any age not only saves life but is also likely to be cost saving[8].

Figure 1: Estimated drop in HIV prevalence in Nyanza Province with 50% and 80% MC uptake



8 Kahn JG, Marseille E, Auvert B (2006) Cost effectiveness of male circumcision for HIV prevention in a South African setting. PLoS Med 3: e517. doi:10.1371/journal.pmed.0030517

Section III

Implementation Framework

3.1 Management and coordination

3.1.1 National level coordination

The Ministries of Medical Services and Public Health & Sanitation have the mandate to provide health care that is of good quality, accessible and affordable. Male circumcision services will be provided primarily within the health services, so the Ministries of Health will play a central role in the oversight of service scale-up. The Ministry of Public Health & Sanitation will be the convenor of a multi-sectoral taskforce whose functions include oversight responsibility for the VMMC services, as described in the *National Guidance for Voluntary Male Circumcision in Kenya*. The principal mandate of the national taskforce is to advise the government and partners on planning and development of programmes for the expansion of safe, accessible and sustainable VMMC services. Additionally, the national taskforce will arrange for the certification of providers who have undergone VMMC skills training and will develop guidelines for deciding whether a provider qualifies for certification. The taskforce will work in collaboration with regulatory authorities to ensure that only registered providers are considered for training and certification.

Given that the male circumcision in question is primarily for HIV prevention, the National AIDS Control Council (NACC) — a body that is mandated by a legal notice to coordinate HIV prevention, care and treatment in Kenya — will be responsible for ensuring the participation of the various stakeholders in this process. It will be a member of the National Male Circumcision Taskforce.

The taskforces will operate within the guiding principles of the KNHSSP II and KNASP III in achieving these objectives. The national

taskforce will link up with the NACC Prevention Taskforce and other relevant NACC structures and will involve other entities within the health infrastructure, such as the provincial and district health management teams, in ensuring that VMMC services are utilized.

3.1.2. Provincial level coordination

It is envisioned that similar taskforces convened by government, especially at the provincial level, will carry out tasks similar to those of the national body but with an emphasis on service delivery. The primary function of the provincial taskforces will be to coordinate the activities of the various partners in their areas of jurisdiction to ensure that the population has access to the service and that the services are integrated with other prevention and care services.

The provincial taskforces shall benefit from guidance developed at the national level, such as service delivery standards, implementation guidelines and communication strategies and shall also help inform the development of such instruments based on their field experiences. Therefore regular communication and interaction between the national and provincial taskforces is recommended.

3.1.3 District level coordination

The District Health Management team will provide leadership on VMMC service delivery in each district. This can be through the District Health Sector Stakeholder Forum (DHSSF), the District VMMC Steering Committee, or any other appropriate structure. Optimally, each district health management team shall appoint a focal person with day-to-day responsibility for the roll-out of male circumcision services. Through the annual operational plans, districts and provinces are expected to develop appropriate VMMC targets in their respective areas to contribute to the national targets.

3.2 Service delivery

3.2.1 Minimum Package

The National Taskforce on VMMC, following on the lead offered by a previous meeting of international experts convened by WHO, agreed that male circumcision services should be offered as a part of a package of services rather than just as a surgical procedure. This minimum package of services includes:

- HIV Testing and Counselling
- Active exclusion of symptomatic STIs and syndromic treatment as indicated
- Provision and promotion of condoms
- Counselling on risk reduction and safer sex
- Male circumcision procedures performed as described in the *Clinical Manual for Male Circumcision under Local Anaesthesia*.

HIV counselling and testing will be offered using an **opt-out approach**, and the necessary support systems must be in place to ensure that this aspect of the service is not overlooked or downplayed. Appropriate spatial modifications will be required in all settings to accommodate these associated services. Men who test positive will then be referred to the nearest care and support services available. HIV-infected men who request VMMC will be provided with the service, and appropriate counselling will then be offered to inform these clients of the risks of VMMC to themselves and to their sexual partners.

3.2.2 Models of Service Delivery

In order to rapidly scale up VMMC to achieve the desired impact and ensure sustainability of the service we shall adopt a high quality high volume (HQ/HV) approach. VMMC services may be delivered either through community or facility based systems. It is recommended that at all times the community services should have functional linkages

with the adjacent health facility for commodity supply, reporting and quality assurance. Community VMMC services (otherwise known as mobile outreaches) may be delivered through health facilities, schools, churches or tented camps.

HQ/HV Mobile, Outreach VMMC services shall be the predominant model of service delivery in the short term (3-5 years). These mobile, outreaches may use public/mission health facilities as bases for service delivery.

Health facilities will play a critical role in scaling up VMMC and special focus will be paid in the short and medium term to improve human and infrastructural capacity of level II-VI centres in order to meet the demand. However given the system constraints, facility based circumcisions are not expected to meet the strategic targets for VMMC in the short term. However facilities will remain an important back-stopping for HQ/HV mobile/outreach services. While the initial roll-out can focus on sites that have the requisite staff to start providing services, other lower-level sites will be developed as bases for outreach services in order to improve access to services. This development will improve the infrastructure for minor procedures at the peripheral sites while preparing them for the time when the staff at these sites might be approved to provide VMMC services. Health facility based VMMC campaigns that use innovative means (e.g., circumcision Saturdays, rapid result initiatives etc) are particularly encouraged. It is expected that in the medium to long term, facilities will be the main model of service delivery after the 'catch-up' demand is saturated.

3.2.3 VMMC service delivery teams

While it is possible that one provider could provide all of these services, it is more likely that the package will be offered by a team of providers to maximize the number of clients who can be reached in the shortest time possible while ensuring the quality of the services.

The recommended team includes at least ONE of each of the following cadres: ***surgeon*** (medical doctor, clinical officer or nurse), ***surgical assistant*** (nurse or clinical officer), ***counsellor*** (nurse or lay person) and an ***infection prevention officer***. Of note is that nurses will be trained and certified to perform the male circumcision surgical procedure

However, additional staff may be incorporated into the team for special initiatives like community mobilization, quality assurance etc. Those who perform circumcisions will be required to undergo standardised training that will include a mentorship programme to review their practice at their respective sites.

3.2.4 Other considerations

In planning for the location of the services, certain factors need to be kept in mind including:

Infrastructure

The spatial distribution of facilities and services should be a consideration to make them accessible to as many people as possible. Additionally, provisions should be made for space for surgery, recovery, resuscitation and infection control practices. Availability of lighting, water, and expendable supplies are basic minimums for quality VMMC.

Infection Prevention

The infrastructure for infection prevention and the capacity of providers to carry out these important measures also deserves special attention. The importance of following standard infection prevention procedures to ensure safety in service delivery cannot be overemphasised. Infection prevention needs to be strengthened, particularly in improving the safety of traditional circumcisions. A standardised approach will be developed for working with traditional practitioners to improve safety.

Support supervision and mentorship
Given that there is a surgical component to this service, systems of supervision need to be developed that include mentorship in the surgical procedure. As this happens the quality of the service should improve. The necessary standards for the supervisory structure will be developed by the national and provincial male circumcision taskforces.

3.3 Communication

The *National VMMC Communications Strategy* will focus on the health benefits of male circumcision for HIV prevention strategy. This will be the national message, which shall then be adapted locally. The purpose of the communication strategy is to: raise the level of awareness and understanding of male circumcision among individuals and communities and to empower them to make appropriate choices that reduce their risk of HIV infection; to alter the prevailing socio-cultural context so that it supports responsible and preventive sexual and reproductive health options; and to advocate for effective implementation of appropriate activities and mobilization of resources throughout the roll-out process. This purpose will be achieved through multidimensional, multi-component and multi-level methodologies targeting individuals, communities and policymakers.

Myths and misconceptions
The strategy will emphasise that the HIV prevention aspect of this service is for both traditionally circumcising and non-circumcising communities. The notion that the service is targeting certain communities will be dispelled.There are a number of communication concerns around the introduction of male circumcision services. For example, a key target group for the services is communities that do not traditionally carry out male circumcision, where certain prevailing notions about the procedure could act as a barrier to seeking the services. These notions include concerns about pain, the cost of the

procedure, the length of time taken to heal, and cultural acceptability. In addition, the circumcised penis is thought of as being dry and therefore more vulnerable to abrasions that facilitate the entry of pathogens.

Partial protection

One of the key issues to address is the evidence that male circumcision has a substantial, but partial, protective effect against male acquisition of HIV. This message will be communicated effectively to avoid giving the impression of total protection and inadvertently encouraging more risky behaviour among circumcised men (a potential effect known as "risk compensation").

The communication strategy shall emphasise that male circumcision services are only one of a spectrum of HIV prevention strategies and that circumcision does not negate the need to consistently practice other risk-reduction measures. This message must be continually communicated to the target population so that men who have undergone the procedure reduce their risk of getting infected.

This communication about the partial protection offered by circumcision will also be directed at traditionally circumcising communities, where the cut is seen as a rite of passage to manhood. This rite sometimes may imply a licence to engage in sexual activities for newly initiated young men, with the attendant risk of acquiring HIV infection, which needs to be highlighted.

Of immediate concern is the duration of abstinence that is necessary post-circumcision and the risk of acquiring HIV if sexual activity is resumed early (before healing is complete) and the partner is already infected. Additional potential harms to women that have been identified include decreased rates of condom use, increased numbers of partners, shifts in women's ability to negotiate if, when and how sex happens. There will, therefore, be need to ensure that there are communication strategies that ensure that men do not mistakenly feel that male

circumcision provides them with such high level of protection that they engage in risky sexual behaviour.

Benefits to women

Women are an important constituency who will be targeted by the communication strategy, which will support efforts to prevent the acquisition of HIV by men from women. Communication about this protective effect must not encourage people to view women as "vectors" of the disease and therefore increase the blame and stigma directed at HIV-positive women. Another concern for women is the potential for risk compensation, which would put circumcised men and their female partners at increased risk of HIV infection. There will be efforts to provide education to both men and women on gender equity and shared sexual decision making. Furthermore, efforts will be made to engage women in discussions about what having a circumcised partner may mean for their sexual lives.

Localization of the messaging

Given different social settings across various segments of societies, the messaging that is developed needs to be clear, correct, comprehensive, focused, appropriate and relevant to the intended audiences. This tailoring process is critical to getting the right messages across. The overriding concern is to localise the messages without losing their essence.

Effective feedback mechanisms shall be developed and applied in order to ensure the efficacy of the messages, and processes will be established for refining or redefining messages as necessary. This feedback mechanism shall be in place from the initiation of the communication campaign, and it must have the resources necessary to detect problems before they escalate to the point where it may be too late to resolve them or may require a massive effort to institute corrective measures. It is imperative that this feedback mechanism be overseen by the respective taskforces at the various levels.

An important part of the feedback mechanism is the involvement of the community in the communication development process. Empowering community members to help convey the messages as well would increase trust in the initiative within communities, as well as ensuring sustainable capacity for information dissemination.

The taskforces shall develop guidelines for communicating with the media to ensure that accurate information about male circumcision is passed on to the public. Regular updating of these practitioners will help ensure a smooth flow of information to the public.

Central messages

The central messages of the communication campaign will focus on the following themes:

- The **health benefits** of the procedure: the reduction in risk of acquisition of HIV and some STIs.
- **Cultural neutrality**: that male circumcision is not a marker of cultural identity, but a health intervention for HIV prevention.
- **Safety**: the procedure is very safe when it is provided by appropriately trained and equipped health workers in aseptic conditions.
- **Comprehensive prevention**: male circumcision is part of a package of other known means of preventing the acquisition of HIV and other STIs.
- The **voluntary** nature of the service being offered.
- **Universality**: VMMC is promoted throughout the country to ensure that men have access to safe circumcision under aseptic conditions using local anaesthesia.

Some of the key messages to be emphasised include the following:

- Male circumcision reduces the risk of men acquiring HIV infection by 60 percent. Because this protective effect against HIV is only partial, male circumcision is an additional preventive measure and is not a substitute for other proven HIV prevention methods.

- A man should not resume sexual intercourse until the wound from his circumcision has healed completely. Ideally, sex should recommence only after a medical assessment confirms that the healing is complete. Because of the duration of abstinence required, sex partners should be involved in the decision making before and after a man opts for male circumcision services.
- All males, whether circumcised or not, should seek to reduce the risk of HIV transmission by using condoms correctly and consistently and by limiting the number of sexual partners that they have.
- Whether circumcision takes place in a clinical or a traditional setting, the procedure should be performed by well-trained practitioners in aseptic settings under conditions of informed consent, confidentiality, risk-reduction counselling and safety.

Information on HIV risk-reduction and other benefits for male (and female) sexual and reproductive health needs will be widely availed to ensure that individuals make informed choices about male circumcision.

It is also important to clearly distinguish between male circumcision and female genital mutilation/cutting, which must be discouraged as a harmful practice with demonstrated adverse health effects and no known health benefits. Female genital mutilation is an outlawed practice in section 14 of the Children's Act 2001.

It is recommended that male circumcision not be promoted for men who are already infected with HIV, but it should not be denied unless medically contraindicated. For HIV-positive men there is no demonstrated public health benefit of reduced HIV transmission to their partners, and men with HIV, even without severe immunodeficiency are at an increased risk of delayed healing. However, HIV-positive men who become circumcised do benefit directly from reduced genital ulcer disease.

3.4 Advocacy

Advocacy will need special and continuing focus given the connotations and passions that male circumcision raises in our society. It shall aim to cultivate positive attitudes towards the roll-out of VMMC services, which will translate into greater commitment to ensuring that the process achieves its objectives. This advocacy will be targeted at various actors, including political and cultural leaders (both locally and nationally), health managers, key community gatekeepers and health workers. It is critical that health workers, who are usually trusted sources of health information, are empowered with the correct knowledge and with supportive attitudes toward male circumcision so that they can become advocates for the initiative. Health workers' negative attitudes toward new services as additional work (with no change in remuneration) will need to be addressed as part of any advocacy programme.

Advocacy is also required to ensure that resources are not diverted from the other aspects of primary health care and HIV prevention to male circumcision. As male circumcision is being rolled out, care will be taken that it is not seen as a replacement of other known preventive measures and that attention to these other measures is similarly sustained so as to achieve a synergistic effect.

National and local champions have a crucial role to play in galvanizing action, changing social attitudes and norms, and will, therefore, be identified and involved in advocating for male circumcision services. Advocacy is a process that requires direction, action and resources. The various taskforces should ensure that advocacy efforts feature prominently in their work plans and that the resources needed to make this happen are set aside. The leadership of the various committees shall designate advocacy activities as a central output for their teams.

3.5 Leadership and Partnerships

Clear leadership and partnerships are essential for a successful programme, especially one involving many different sectors of the community and players. As outlined under management and coordination above, the national and provincial taskforces under leadership of the ministries of health will provide overall guidance and oversight of the national programme. Additionally, leadership is required at the district and community levels so as to help with advocacy, mobilization and allocation of resources to create and sustain momentum for the programme. This will be fostered through the existing district health stakeholder forums that have the mandate of monitoring performance of health programmes at district and sub-district levels.

Partnerships will be established between the public health system and others interested in providing male circumcision services. The public health infrastructure has the legal mandate to provide and regulate health services within the Republic of Kenya. Despite this predominant position, the public health infrastructure often falls short of having the means to fulfil its mandate without external assistance. In the recent past and, more specifically, in the introduction of numerous new HIV services, public-private partnerships have been established to accomplish the relatively successful implementation of services. Examples include the introduction of HIV testing and counselling services and of services to prevent mother-to-child transmission of HIV. These partnerships draw on the strengths of the respective partners, enabling them to leverage resources to achieve optimal results. The pre-eminent role of public health personnel in guiding these partnerships make for the success of their activities. Membership in the partnerships should be on the basis of unity of purpose and mutual respect in order to achieve the desired ends. Examples of potential partners include nongovernmental

organisations, faith-based organisations, civil society groups and donor organisations.

Public health facilities have the sites spread across the various districts; however, they lack some of the infrastructure required to provide safe male circumcision services. Frequently, these facilities do not have the funds to enable them to make the improvements that will allow them to carry out the intervention at the desired level of quality. On the other hand, partners have the resources but not the infrastructure to enable them to provide the services. These partnerships therefore create win-win situations, and should be cultivated.

It is therefore envisaged that a middle ground will be found that takes into account the inevitable vertical introduction of these services along with the desire of the public health leadership to strengthen the capacity of the public health system to eventually take over the provision of the services.

Another area of partnership will be linking with like-minded community groups who can undertake the communication process in partnership with a service provider (public or private). Linkages shall also be sought between community groups and professional associations to facilitate service delivery, and particularly outreach services. The local health authorities and infrastructure shall also be a party to these arrangements, because they will be needed to provide the ongoing care of the clients. Organisations of traditional circumcisers and traditional authorities will be important partners in the evolution of the traditional circumcision process to encompass safer practices and increased emphasis on HIV prevention.

3.6 Human resources

Given the minimum package of services that has been defined for male circumcision for HIV prevention and the need to reach a wide segment of the population, it is recommended that a multi-disciplinary team of providers be available to provide the service. The following health care providers may be certified to perform male circumcision surgical procedure provided they are appropriately trained using the Clinical Manual for VMMC under Local Anaesthesia: Medical Practitioners, Clinical Officers and Registered & Enrolled Nurses. These providers must be legally registered by the appropriate regulatory boards.[9]

However since VMMC includes comprehensive HIV prevention and SRH, appropriately trained counsellors may be certified to provide the specific service related to VMMC. It is desirable that health care workers provide VMMC services in health facilities, but in some health facilities the assistance of well trained and certified lay counsellors may be required to address the counselling related services of VMMC.

By virtue of their advanced formation, surgeons will provide oversight of VMMC services and participate actively in training, mentorship, supervision and evaluation of VMMC services.
All VMMC service providers must receive adequate training, mentorship and supervision, and must adhere to the required policies and standards outlined under 3.10 below.

Capacity building is essential for all cadres approved to provide male circumcision services, to ensure a consistent standard of quality at all sites. The capacity of in-service providers will be built, as much as possible, through the existing training infrastructure. In this case, the capacity of training teams at the provincial level will be built to enable them to train teams from facilities within their province.

9 Kenya Medical & Dentists Practitioners Board, Clinical Officers Council, Nursing Council of Kenya as may be appropriate

It is recommended that regional centres of excellence are established to provide the appropriate back stopping in capacity building (training, mentorship and support supervision) for in-service providers. Ideally, these training centres shall be designated at district hospitals and at the provincial hospitals. Partners who have established, high-volume sites will also be involved in training of providers. This model would serve for in-service training. While the initial training shall happen centrally, there will also be an on-site mentoring process to enable the trainees to provide the services to the required standards.

In the medium to long term, national medical training colleges and universities are expected to integrate the appropriate competencies for comprehensive male circumcision in their curriculum. Proficiency in male circumcision will be a requirement for satisfactory completion of the respective courses. In order to achieve and maintain competency, trained providers and students will participate in high volume circumcision camps that could be arranged at convenient locations and times. The training institutions could go into partnership with organisations carrying out such activities.

To address qualitative and quantitative shortage of providers, it is recommended that health care managers ensure that all facilities have at least 50% of appropriate cadres trained in the male circumcision procedure. However all health care providers will be sensitized on the benefits of male circumcision, the eligible populations and the strategies for referral for the service.

In circumcising communities, traditional circumcisers may provide additional human resource to ensure access to safe circumcision. Engaging these practitioners, who already have experience performing the procedure, will require specific skills and sufficient training and orientation. Suitable provincial teams are one possible channel for achieving this objective.

3.7 Financing

The issue of financing male circumcision services is tied to that of sustainability. At present some donor funding is supporting the establishment of the services. The experience with the introduction of other services has been that once the initial phase runs its course, the external funding is reduced and may even cease. External funding will be mobilized to meet the goals of the short-term 'catch up' phase. It is anticipated that after this phase, minimal funding will be required to cater for newer birth cohorts. The Kenya government will commit funding during the life of the Kenya *National AIDS Strategic Plan III*, to ensure that these newer birth cohorts have access to VMMC. Efforts will be made to leverage internal resources, such as funds from the central government and constituency development funds, as much as possible.. Given some of the difficulties in finding resources for physical infrastructure, it would be prudent to focus as much attention as possible on this aspect in the short term, to establish at a minimum the capacity to conduct the services.

Male circumcision is currently being provided at no cost to the consumer, but free services are unlikely to be sustained in the longer term. In traditionally circumcising communities, people expect to pay for this service. Some degree of cost recovery will be instituted over time to ensure that health facilities can sustain the service when external support dwindles or ceases. Cost recovery will call for advocacy and a strategy for communicating information about it in a timely manner, especially in the traditionally non-circumcising areas. Caution should be taken to make this shift in financing only once a critical mass of young men have undergone the procedure and there is sufficient demand for the service that the program would not be fatally undermined by the introduction of cost recovery. The procedure should be priced at a level that is manageable for the majority of people in the locality desiring the service.

3.8 Commodities

Ensuring that adequate commodities are available, for all aspects of the service, is a critical element of providing quality male circumcision services. The *Clinical Manual for Male Circumcision under Local Anaesthesia* outlines the necessary medicines, supplies and equipment, encompassing all aspects of the minimum package of services described above. There must be adequate stocks to meet expected demand before any service is initiated, together with systems for monitoring and replenishing them. Given that the programme is introducing a new service it is particularly important to avoid unnecessary disruption. However, this parallel approach will be rapidly phased out to ensure optimal integration with the national system. In this respect, therefore, as the service is initially being introduced parallel systems for procuring commodities will be initiated through the collaborating partners to ensure there are no unnecessary disruptions. In the mean time, mechanisms will be instituted through NASCOP to ensure that the necessary supplies are incorporated into the national health procurement system run by the Kenya Medical Supplies Agency (KEMSA), a state corporation with the mandate of providing a secure source of drugs and other medical supplies for Public Health Institutions.

3.9 Monitoring and evaluation including operations research

The national taskforce, in collaboration with the provincial taskforces, shall develop the monitoring and evaluation (M&E) system for the male circumcision services. This system will keep track of the various aspects of service implementation. It shall encompass, for example, the advocacy objectives for the service and the indicators for monitoring and evaluating advocacy efforts.

M&E of service delivery should focus on demand and the quality, utilization and safety of the services. It is recommended that two sets of instruments be developed. One would track service statistics (e.g., number and ages of the men circumcised and number and types of adverse events) and will be incorporated into the national Health Management Information System (HMIS). The other would be more of a programme-specific instrument that will be used to monitor the aspects of the roll-out process that are critical for effective implementation of the male circumcision programme but are not really necessary for others in the health infrastructure (e.g., number of providers trained using the national training tools; number of facilities with capacity to provide the services).

Operations research will be key to ensuring that clients understand the issues around male circumcision, such as partial protection and risk compensation; to adapting services and messages to local contexts and situations, to understanding issues that may have a negative impact on the roll-out process; and to retaining the programme's focus on HIV prevention, as opposed to a surgical or cultural process.

Impact and cost-effectiveness studies will be conducted to determine the impact of rapid and widespread coverage and level of financing needed to achieve the desired goal of a critical mass of persons who have undergone the procedure in the short term. Such a study will determine the adequacy of the current level of funding. Similar studies will provide guidance on the level of effort that would be needed to sustain the desired levels of circumcision prevalence over the medium term and into the long term, with a view to aligning resources in order to achieve the desired public health effect. To monitor longer term changes in the prevalence of circumcision nationally and by province, questions will be included in national and regional surveys, including the DHS and the BSS.

3.10 Quality Assurance

VMMC quality assurance standards (manual and checklist) define quality for the program. These standards provide the basis for measuring the quality of VMMC services and they also provide the guidance for improving the quality during the lifespan of the VMMC program roll out. The goals of the VMMC quality assurance include ensuring that safety for clients is guaranteed through provision of high quality services; that there is provision of a minimum package of services in addition to the surgical procedure and that the volume of procedures is sufficient to achieve impact on reducing HIV incidence (in traditionally non-circumcising communities) and that services are delivered cost-efficiently.

In addition to setting standards for accreditation and certification, the taskforces will develop checklists for validating that these standards have been met. The checklists will form the basis for the specific supervision of male circumcision services, outlining, for example, a set minimum standard for service provision. Specifically, VMMC services (including outreaches) shall be delivered by providers who have been registered by the appropriate legal entity.

Based on WHO guidelines, this strategy will make use of these standards to provide unbiased assessment to guide improvements. Clinics/facilities will be expected to align MC services to these national standards. It is the expectation that program/health facility managers will undertake VMMC QA self-assessment every quarter, using the WHO QA toolkit to determine the status of the standards below:

1. SOPs, guidelines, policies
2. Facilities, supplies and equipment
3. Clinical record keeping; monitoring and evaluation
4. Minimum package of services and linkages

5. Staffing
6. Surgery, including pre- and post-op and follow up care
7. Productivity and efficiency

Regional VMMC taskforces will have the responsibility of ensuring that facilities (including outreaches) are accredited annually. Facilities not meeting the standards will undergo rigorous mentoring and other support as may be required. The national taskforce will plan for an External Quality Assurance assessment every year and will provide timely feedback to facilities on the results of such an assessment.

SECTION IV: NATIONAL PLAN OF OPERATIONS 2009/10-2011/2012 (EXTRACTED FROM KNASP III)

Outcome result: By 2013, 94% of adult men 15-49 in Kenya are circumcised
(Indicator): % of adult men self-reporting that they are circumcised (disaggregated by age and region)

4.1 **Strategic Objective 1:** To promote with clear, accurate information, safe and voluntary medical male circumcision for HIV prevention in Kenya.
Output Result 1: By 2013 80% of the population has comprehensive information on male circumcision for HIV **Prevention(Indicator):** % of individuals with correct knowledge, attitudes and practices on VMMC (disaggregated by age, gender, target audience, location and mechanism and information type)

Baseline for 2008/09: Nil
Milestone for 2009/10: 3 campaigns per region conducted
Milestone for 2010/11: 4 campaigns per region conducted

Activity description	Responsible/lead organization/agency or division/unit	Indicator (s)	Resources required	Participating partners for implementation	Scheduled Time frame							
					2009/10				2010/11			
					1	2	3	4	1	2	3	4
Activity 4. 1.1: Advocate, review and update MC policies, standard operating procedures (SOPs), guidelines and roll out implementation/operational plans on VMMC programmes	NASCOP Department of Surgery	Indicator: # of VMMC policies, SOPs and guidelines reviewed and updated # sensitization/dissemination) meetings held	Consultants Technical assistance Printing and dissemination Travel support	WHO/UNAIDS, CDC		x	x	x	x	x	x	x
Activity 4. 1.2: Develop, produce and disseminate VMMC behaviour change communication messages through different campaigns and media channels	NACC, Department of Health Promotion NASCOP	Indicator; # BCC campaigns conducted # media spots # of persons reached with at least on VMMC message/IEC	Logistics for out reach services (cars, staff, testing kits, consumables and other logistics -Media spots - Meeting logistics	Partners		x	x	x	x	x	x	x
Activity4. 1.3: Facilitate meetings and implementation of agreed actions/activities of the National and Provincial taskforces and establish other regional MC taskforces as necessary	NASCOP	# of national and regional stakeholder meetings held # of regional MC taskforces established	Logistics for - Meeting	PHMTS	x	x	x	x	x	x	x	x

Activity description	Responsible/lead organization/agency or division/unit	Indicator (s)	Resources required	Participating partners for implementation	Scheduled Time frame							
					2009/10				2010/11			
					1	2	3	4	1	2	3	4
Activity 4.1.4 Develop and implement a MC strategic communication plan including an advocacy campaign targeting policy and opinion leaders in circumcising and non-circumcising communities.	NACC, Department of Health Promotion NASCOP	National MC communication strategy developed # advocacy campaigns in circumcising and non-circumcising communities done	Production Meetings Travel support	PHMTS			x	x	x	x	x	x

4.2 Strategic Objective 2: To deliver the male circumcision package for HIV prevention through innovative approaches directly linked to the existing health infrastructure.
Output Result 2: By 2013 80% of males are circumcised across all regions.
(Indicator): Number of males circumcised in accordance with national guidance within the last 12 months in non-circumcising societies (disaggregated by age groups, region, medical/traditional provider, & circumcision prevalence)

Baseline: 08/09: 20,000 males had undergone voluntary medical male circumcision
Milestone 2009/10: 110,000, males undergo voluntary medical male circumcised (VMMC)
Milestone 2010/11: 230,000 males undergo voluntary medical male circumcised (VMMC)

Activity description	Responsible/lead organization/agency or division/unit	Indicator (s)	Resources required	Participating partners for implementation	Scheduled Time frame							
					2009/10				2010/11			
					1	2	3	4	1	2	3	4
Activity 4. 2.1: Capacity building of health providers on male circumcision service provision Sub-Activity: Adopt a national curriculum for training in comprehensive MC services, including an implementation plan	NASCOP, Department of Surgery and partners	# of health providers trained as TOTs in male circumcision # of health service providers (by cadre) trained to provide male circumcision	• Production- printing and dissemination of training package developed on male circumcision. • 15,000 copies of male circumcision training materials • Training, of HCW	NRHS, CMMB, JHPIEGO, FHI, Engenderhealth, APHIA	x	x	x	x	x	x	x	x
Activity 4. 2.2: Building/ Renovation of minor theatres in selected facilities	NASCOP and partners	# of health facilities with adequate capacity to perform MC according to national guidance	Building and partitioning materials, infection control infrastructure	NRHS, CMMB, JHPIEGO, FHI, Engenderhealth, APHIA, Provincial Medical Offices	x	x	x	x	x	x	x	x
Activity 4.2.3: Advocacy, community mobilization and sensitization on male circumcision	NASCOP and partners	# of IEC materials produced and distributed #of community sensitizations and advocacy mtg held	Costs of community mobilisation and sensitization for male circumcision in 10 regions x 2 campaigns x 2 years	NACC, Civil Society, Luo Council of Elders, PHMTS, DHMTs	x	x	x	x	x	x	x	x

Activity description	Responsible/lead organization/agency or division/unit	Indicator (s)	Resources required	Participating partners for implementation	Scheduled Time frame							
					2009/10				2010/11			
					1	2	3	4	1	2	3	4
AActivity 4.2.4: Procurement of male circumcision equipment for facility and community based services	NASCOP and partners	# of male circumcision kits purchased and distributed # of health facilities carrying out make circumcision in last 12 months # of community outreach services with sufficient capacity	Cost of providing services for males to be circumcised targeting Turkana, Teso, Nyanza and parts of central in provincial and district hospitals, and health centers cost of mass media campaigns cost of mobile out reach services (tents, cars, surgical tables consumables ,and other logistics) (commodity team)	NASCOP, MEDS, KEMSA	x	x	x	x	x	x	x	x

4.3 Strategic Objective 3: To ensure effective monitoring and evaluation (M&E) of male circumcision services
Output Result 3: By 2013 reported adverse event rate is <2% in all facility and outreach settings
(Indicator): Number of adverse events among males circumcised in accordance with national guidance within the last 12 months in non-circumcising societies (disaggregated by severity, cadre of provider, age groups, region, medical/traditional provider, facility/outreach)

Baseline: 08/09: ~5%
Milestone 2009/10: 3%
Milestone 2010/11: <2%

Activity description	Responsible/lead organization/agency or division/unit	Indicator (s)	Resources required	Participating partners for implementation	Scheduled Time frame							
					2009/10				2010/11			
					1	2	3	4	1	2	3	4
Activity 4.3.1: Development of appropriate tools to monitor VMMC outcomes	NASCOP and partners HMIS	# Number of tools developed and disseminated	Travel time Data collection tools	MCC, APHIA	x	x	x					
Activity 4.3.2: Develop and implement quality assurance systems and tools for a national programme	NASCOP PEPFAR Partners WHO	# QA strategy documents	Technical assistance	WHO, Partners		x	x	x	x			
Activity 4.3.3: Supervision of VMMC services using WHO QA manual	NASCOP and partners	# of External Quality Assessments (EQA) done # of routine regional supervisory visits	Support to PHMTs, DHMTS, Training of Trainers: Data collection tools EQA manual Travel	NASCOP and partners	x	x	x	x	x	x	x	x
Activity 4.3.4: Carry out and disseminate Operations Research on various aspects of VMMC to provide evidence and inform scale up efforts	NASCOP and partners	# of studies addressing key issues (reduction in adverse event rates, risk compensation, impact, cost-effectiveness)	Personnel, research funds, dissemination of results	PEPFAR, NASCOP, Gates Foundation, MCC, Department of Surgery	x	x	x	x	x	x	x	x

4.4 Estimated Programme Costs: Summary initial costing for male circumcision programme in Kenya (2009 – 2013)[10]

Estimated Kenya National VMMC Programme Costs 2009-2013 in US$					
I. Through Mobilre Teams					
		First year start up	**Annual cost year 2**	**Total costs years 3-4**	**4-Year costs**
Goal	Target Nos. Of AMCs	120,000	160,000	408,000	688,000
Human Resources	No. of teams needed	60	80	102	
Breakdown		**Cost**	**Cost**	**Cost**	
1. Salary & Benefits	Mobile Team	2,460,000	3,280,000	8,364,000	14,104,000
2. Surgery	Equipment & Infrastructure	720,000	480,000	120,000	1,320,000
	Consumables @ $15/MC	1,800,000	2,400,000	6,120,000	10,320,000
3. Training Costs	US$ 6500 per team	390,000	130,000	143,000	520,000
4. Rural Outreach	Vehicle @ US$ 30,000	1,800,000	600,000	600,000	2,400,000
	Petrol & Maintenance ($10,000)	600,000	800,000	2,040,000	3,440,000
5. Complications	Adverse events (5% default)	150,000	200,000	1,020,000	1,370,000
	Total Direct Costs (1-4)	7,920,000	7,890,000	18,467,000	33,474,000
II. Through Support to Public Health Facilities					
		First year start up	**Annual cost year 2**	**Total costs years 3-4**	**4-Year costs**
Goal	Target Nos. of AMCs	30,000	40,000	102,000	172,000
Facilities Upgraded	Hospitals	44	44		
	Health Centres	96	96		
	Total Facilities	140			
Human Resources	2 teams per facility for 140 facilities	280	280	0	560
Breakdown		**Cost**	**Cost**	**Cost**	**Cost**
1. Incentives	$10 per circ done	300,000	400,000	1,020,000	1,720,000
2. Surgery	Equipment & Infrastructure	3,360,000	3,360,000		6,720,000
	Consumables @ $22.5/MC	675,000	900,000	2,295,000	4,972,500
3. Training Costs	$6500 per team	1,820,000	1,820,000		3,640,000
4. Complications	Adverse events (5% default)	37,500	50,500	127,500	215,000
	Total Direct Costs (1-4)	6,192,500	6,530,000	3,442,500	16,165,000
III. Other costs					
	Monitoring & Evaluation (7.5%)	1,365,726	1,395,484	2,120,274	4,881,484
	Warehousing & distribution (7.5%)	1,365,726	1,395,484	2,120,274	4,881,484
	Communication campaign (10%)	1,820,968	1,860,645	2,827,032	6,508,645
	General administration (15%)	2,731,452	2,790,968	4,240,548	9,762,968
Overall Goal*	**Target Nos of AMC**	**150,000**	**200,000**	**510,000**	**860,000**
Human Resources	**Overall No. of teams**	**340**	**360**	**662**	**662**
	Overall Programme Costs	**21,396,371**	**21,862,581**	**33,217,629**	**76,476,581**
	Overall cost per client (National)	**143**	**109**	**65**	**89**
*Overall Target nos for Years 3-5 are cumulative of those shown in Table 2 above					

10 Based on the paper by Fieno FV (2008) Costing adult male circumcision in high HIV prevalence, low circumcision countries AIDS Care 20 (5): 515-520

Budget notes:

These figures are based on the best information available as of August, 2009. As new information becomes available, some of the assumptions on which the costing is based may be altered.

1. As per national strategic plan emphasis over this period will be meeting catch-up demand for 15-49 year olds. Estimated number of target circumcisions is based on the national strategic plan.

2. From scale-up experience so far we will need to have most of these circumcisions undertaken through an outreach/ mobile approach while at the same time building capacity of fixed facilities in the public and private sector to augment the same. Assumptions made estimate that 80% of the demand will be met through the outreach/ mobile model while 20% will be met directly through the public health system.

3. Mobile outreach team consists of a surgeon (medical doctor, clinical officer or nursing officer), surgical assistant, counselor and infection prevention officer. An annual remuneration cost per team is about US$ 41,000. This is based on actual cost estimates from partners implementing activities in Nyanza province.

4. Training cost per team, again based on partners' experience in Nyanza of training 2 teams at a time is about US$ 13,000.

5. Plan to train at least two teams for all the hospitals and health centre, estimated here to be a total of 240 health facilities with 50% of these facilities in Nyanza.

6. Assuming each mobile team capable of doing 8 circumcisions per day, 20 days per month gives 160 circumcisions per month or 1920 circumcisions per year or about 2000.

7. Cost for setting up a male circumcision unit whether mobile or static similar is estimated at about US$ 12,000.

8. Vehicle Cost @ Kshs 2,200,000 (US$ 30,000), Insurance at 5% (US$ 1,500), Fuel and Maintenance @ Kshs 2,500 (US$ 30) per day for 265 days = about US$ 8000 per year. These are also based on actual experience in Nyanza.

9. Cost of all consumables per MC estimated at US$ 15.

10. For public health facilities, it is to be expected that the consumables for MC might be used for other emergency surgical procedures. Assuming 50% are used for other procedures this would increase the average cost of consumables for MC's to US$ 22.5 (15 +7.5)

11. Motivation for public health workers is generally accepted as a necessity to improve health provider output. The nature of how this incentive would be implemented is still a subject of debate. It is here proposed that public health facilities be given an incentive of US$10 per client circumcised to be used as determined by the respective facility-management teams.

12. There are a total of 140 hospitals and health centres in Luo Nyanza (see tab). It is estimated that a similar number will need to be supported in the rest of the country to meet the catch-up population hence giving a total of 280 facilities. It is here proposed that all are upgraded with equipment and teams to perform MCs. 50% of the facilities will be upgraded in Year 1 and the other 50% in Year 2.

Appendix

Members of the Male Circumcision Taskforce and its Sub-Committees

No	Name	Organization
1.	Nadia Kist	Academy for Educational Development (AED)
2.	Dr. J Salvadore G de la Torre	Catholic Medical Mission Board (CMMB)
3.	Dr. Edward Kariithi	Catholic Medical Mission Board (CMMB)
4.	Doris Odera	Catholic Medical Mission Board (CMMB)
5.	Dr. Kennedy Serem	Catholic Medical Mission Board (CMMB)
6.	Dr. Tom Boo	Centers for Disease Control and Prevention (CDC)
7.	Dr. Zebedee Mwandi	Centers for Disease Control and Prevention (CDC)
8.	Simon Ndolo	Clinical Officers Council
9.	David Wambua	Clinical Officers Council
10.	Elsa Odira	Clinical Officers Council
11.	Dr. George Odingo	EngenderHealth
12.	Dr. Frederick Ndede	EngenderHealth
13.	Feddis Mumba	EngenderHealth
14.	Dr. Regina Mbayaki	EngenderHealth
15.	Dr. Mwende Mbondo	Family Health International
16.	Silas Achar	Family Health International
17.	Dr. Mores Loolpapit	Family Health International
18.	Isaac Oguma	Family Health International
19.	Dickens Omondi	Impact Research Development Organisation (IRDO)
20.	Prof. Kawango Agot	Impact Research Development Organisation (IRDO) / UNIM
21.	Ida Jooste	Internews
22.	Anne Mikia	Internews
23.	Dr. Isaac Malonza	Jhpiego
24.	Dr. Lubano Kizito	Kenya Medical Research Institute (KEMRI)
25.	Florence Asam	Kenya Network of Women with AIDS (KENWA)
26.	Walter Odhiambo	Marie Stopes Kenya
27.	Joel Mollel	Marie Stopes Kenya

28.	Michael Oyah	Marie Stopes Kenya
29.	Dr. Samson Wanjala	Medical Board
30.	Dr. Eli Nyaimu	Medical Board
31.	Milka Kuloba	Ministry of Health
32.	Dr. Harrison Kiambati	Ministry of Health
33.	Dr. Maryanne Ndonga	Ministry of Health, Standards Department
34.	Margaret Chiseka	Ministry of Health - HMIS
35.	Anne Kanyuga	MOH - Division of Health Promotion
36.	Isabella Ndwiga	MOH - Division of Health Promotion
37.	Belina Shisia	MOH - Division of Health Promotion
38.	Susan Nyerere	MOH -Division of Health Promotion
39.	Dr. James Obondi Otieno	MOH – Nyanza Provincial General Hospital
40.	Lawrence Mwikya	National AIDS & STI Control Program (NASCOP)
41.	Ann Barsigo	National AIDS & STI Control Program (NASCOP)
42.	Dr. Nicholas Muraguri	National AIDS & STI Control Program (NASCOP)
43.	Dr. Peter Cherutich	National AIDS & STI Control Program (NASCOP)
44.	Mary Nandili	National AIDS & STI Control Program (NASCOP)
45.	Joshua Gitonga	National AIDS Control Council (NACC)
46.	Patrick Muriithi	National AIDS Control Council (NACC)
47.	Peter Mutie	National AIDS Control Council (NACC)
48.	Eunice Masamo	Nursing Council
49.	Emma Lewellyn	Nyanza Reproductive Health Society (NRHS)
50.	Dr. Sam Kalibala	Population Council
51.	Ndungu Kiriro	Population Services International (PSI)
52.	Lucy Maikweki	Population Services International (PSI)
53.	Pauline Irungu	Program for Appropriate Technology in Health (PATH)
54.	Roselyn Mutemi	United Nations Children's Fund (UNICEF)
55.	Amy Herman-Roloff	University of Illinois at Chicago (UIC)/NRHS
56.	Prof. Robert Bailey	University of Illinois at Chicago (UIC)/NRHS
57.	Edwin Nyutho	University of Nairobi
58.	Dr. Walter Obiero	University of Nairobi, Illinois and Manitoba
59.	Anne Gaven	USAID Kenya

60.	Carolyne Atieno Odada	Women Fighting AIDS in Kenya (WOFAK)
61.	Dr. Rex Mpazanje	World Health Organization (WHO)
62.	Dr Wekesa Masasabi	Ministry of Medical Services

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