SCALING AN EVIDENCE-BASED VOLUNTARY MEDICAL MALE CIRCUMCISION DEMAND CREATION INTERVENTION FOR ADOLESCENTS IN SUB-SAHARAN AFRICA

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A dissertation submitted to the faculty at the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Doctor of Public Health in the Department of Health Policy and Management in the Gillings School of Global Public Health.

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ABSTRACT

Jeff DeCelles: Scaling An Evidence-Based Voluntary Medical Male Circumcision Demand Creation Intervention For Adolescents In Sub-Saharan Africa
(Under the direction of Harsha Thirumurthy)

Clinical trials have shown that voluntary medical male circumcision (VMMC) can reduce female-to-male transmission of HIV in sub-Saharan Africa by up to 60%. UNAIDS and the World Health Organization (WHO) have identified 14 countries in sub-Saharan Africa as VMMC priority countries. Since 2007, more than 15 million males in these countries have undergone VMMC. However, an estimated 5 million circumcisions are still needed to achieve the 80% coverage target. To fill this gap, demand creation interventions are needed to provide education, motivation, and support to encourage men and adolescent boys to undergo the procedure.

This study includes a literature review of completed randomized controlled trials on VMMC demand creation. This review found interpersonal communication, incentives, and sport-based approaches have produced encouraging evidence of increased demand for VMMC; however, none of these interventions appear to have been scaled to regional or national levels beyond the successful trials. Building on these findings, this study utilized key informant interviews (n=26) with a range of stakeholders to establish key criteria for scaling evidence-based VMMC demand creation interventions, with an emphasis on adolescent interventions.
Findings suggest scalable VMMC demand creation interventions should: (1) utilize ongoing programmatic data to become more affordable, reach larger numbers, and iteratively improve quality; (2) implement a targeted approach to address individual barriers; and (3) continually innovate to stay relevant and effective.

This study found it is critical to take a “consortium approach” to scaling VMMC demand creation interventions, in which African governments, community members, implementing organizations, and donors participate are engaged from the “pre-planning” phase through scale-up. Key informants identified barriers to scaling demand creation interventions, including difficult funding structures, challenges engaging government, and supply side barriers.

Key informants described VMMC strategies as transitioning from an emergency response to a maintenance approach as several countries make progress towards VMMC coverage. Government adoption was identified as a pathway to sustainability, yet key informants were skeptical that governments would fully adopt all aspects of VMMC activities.

These findings have informed a Plan For Change for Grassroot Soccer, a sport-based adolescent health organization that seeks to scale its VMMC demand creation intervention.
To Oriana, Olive, and Wolf for always providing support, motivation, and laughs. You deserve this doctorate as much as I do. I can’t thank you enough for selflessly sharing me the past few years.
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<th>Description</th>
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<tbody>
<tr>
<td>ACT</td>
<td>Action Catalyst Tools</td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>ART</td>
<td>Antiretroviral Therapy</td>
</tr>
<tr>
<td>CBO</td>
<td>Community Based Organization</td>
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<tr>
<td>CDC</td>
<td>Centers for Disease Control and Prevention</td>
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<tr>
<td>CHAPS</td>
<td>The Centre for HIV and AIDS Prevention Studies</td>
</tr>
<tr>
<td>COP</td>
<td>Country Operational Plan</td>
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<tr>
<td>DREAMS</td>
<td>Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe</td>
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<tr>
<td>FGFS</td>
<td>Framework for Going to Full Scale</td>
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<td>GRS</td>
<td>Grassroot Soccer</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<tr>
<td>HPV</td>
<td>Human papillomavirus</td>
</tr>
<tr>
<td>IPC</td>
<td>Interpersonal Communication</td>
</tr>
<tr>
<td>INGO</td>
<td>International Non-governmental Organization</td>
</tr>
<tr>
<td>IHI</td>
<td>Institute for Health Improvement</td>
</tr>
<tr>
<td>OGAC</td>
<td>Office of the U.S. Global AIDS Coordinator</td>
</tr>
<tr>
<td>MCUTS</td>
<td>Male Circumcision Uptake Through Soccer</td>
</tr>
<tr>
<td>MENISCUS</td>
<td>Menstrual Health and School Absenteeism Among Adolescent Girls in Uganda</td>
</tr>
<tr>
<td>MOE</td>
<td>Ministry of Education</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>MTC</td>
<td>Make The Cut</td>
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<tr>
<td>NGO</td>
<td>Non-governmental Organization</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>----------</td>
<td>--------------------------------------------------</td>
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<tr>
<td>PEPFAR</td>
<td>President’s Emergency Plan for AIDS Relief</td>
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<tr>
<td>PMTCT</td>
<td>Prevention of mother-to-child transmission</td>
</tr>
<tr>
<td>PPP</td>
<td>Public-Private Partnership</td>
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<tr>
<td>RCT</td>
<td>Randomized Controlled Trial</td>
</tr>
<tr>
<td>SMS</td>
<td>Short Message Service</td>
</tr>
<tr>
<td>SRH</td>
<td>Sexual and Reproductive Health</td>
</tr>
<tr>
<td>TOC</td>
<td>Training of Coaches workshop</td>
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<tr>
<td>VMMC</td>
<td>Voluntary Medical Male Circumcision</td>
</tr>
<tr>
<td>UNAIDS</td>
<td>The Joint United Nations Programme on HIV/AIDS</td>
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<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<td>WHO</td>
<td>World Health Organization</td>
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CHAPTER 1: INTRODUCTION

Overview of dissertation topic

Approximately 70% of all new HIV infections occur in Sub-Saharan Africa, where approximately 25 million people are living with HIV.\textsuperscript{1} Three randomized controlled trials have shown that voluntary medical male circumcision (VMMC) can reduce female-to-male transmission of HIV in sub-Saharan African countries by 50-60%.\textsuperscript{2,3,4} Mathematical models have estimated that, between 2011 and 2025, more than 3.3 million new HIV infections could be averted through increased scale-up and uptake of VMMC.\textsuperscript{5} Additionally, VMMC appears to be a cost-effective HIV prevention method, with survival benefits comparing favorably to the implementation and scale-up of Anti-retroviral treatment (ART), which is widely accepted as a highly cost-beneficial HIV intervention to improve survival services.\textsuperscript{6} UNAIDS and the World Health Organization (WHO) have identified 14 sub-Saharan African countries as VMMC priority countries, as these countries have generally low circumcision coverage and high HIV prevalence rates.\textsuperscript{7} Since 2007, nearly 11.6 million males in the VMMC priority countries have undergone VMMC, suggesting great progress has been made in scaling up VMMC services. However, an estimated 9.4 million circumcisions are still needed to achieve 80% coverage.\textsuperscript{8,9} To meet this level of coverage, there is a need to identify and scale VMMC services as well as effective VMMC demand creation interventions throughout the 14 VMMC priority counties.
This study explores critical factors related to scaling VMMC demand creation interventions, with special attention paid to scaling interventions targeting adolescents. Adolescent males are considered an important demographic to target with VMMC demand creation initiatives. Grassroot Soccer, an international HIV prevention organization, seeks to scale its evidence-based VMMC demand creation intervention with adolescents in the VMMC priority countries. This paper applies findings from primary research to provide guidance to scale GRS's VMMC demand creation intervention.

**Dissertation question**

How can an evidence-based adolescent male circumcision demand creation intervention be scaled to national levels in sub-Saharan African countries?

**Aim 1:** Establish an evidence base of what works in VMMC demand creation (literature review)

**Aim 2:** Establish key criteria for scaling evidence-based VMMC demand creation interventions

**Sub-Aim 2.1:** Establish key criteria for scaling evidence-based VMMC demand creation interventions specifically for adolescents (key informant interviews)

**Sub-Aim 2.2:** Provide general guidance on scaling health interventions (Key informant interviews)

**Aim 3:** Establish an action plan for Grassroot Soccer to scale Make The Cut (Plan for Change)
Significance of the study

At least five VMMC demand creation interventions have shown promising evidence of increased uptake of VMMC; however these interventions have not been scaled in efforts to help meet the target of 80% VMMC coverage in the VMMC priority countries. This study is valuable to a range of stakeholders that are dedicated to closing this gap in VMMC coverage. First, the literature review benefits HIV prevention organizations and researchers through the identification of key research findings from the most rigorous VMMC demand creation studies. Second, this study benefits stakeholders such as NGOs and service providers through the identification of best practices in scaling VMMC demand creation initiatives. Third, this study includes an action plan for Grassroot Soccer to support its efforts to scale its demand creation intervention. Fourth, this study helps strengthen the evidence base of sport-based HIV prevention, a fast-growing field of study that lacks a strong evidence base.11 Finally, this study provides general guidance on scaling health interventions that can be useful to health leaders in Sub-Saharan Africa.

Background

**VMMC.** Circumcision has been practiced as a cultural and religious practice in many regions of Africa for centuries12 and approximately 62% of African males are circumcised.13 Researchers first began exploring the connection between HIV and circumcision upon discovering generally lower HIV prevalence rates in high-circumcising areas.13 Three randomized controlled trials have since shown that voluntary medical male circumcision (VMMC) reduces female-to-male sexual transmission of HIV in sub-Saharan Africa by 50-60%.2,3,4 VMMC has been shown to reduce a male’s HIV risk for three main reasons: 1) The foreskin is made of soft skin that is likely to tear during sex, allowing HIV to easily enter the
body; 2) The foreskin is rich in Langerhans cells, which are easily targeted by HIV; 3) After circumcision, the skin on the head of the penis hardens and becomes less likely to tear during sex. Little to no evidence exists that suggests men adopt riskier sexual behaviors once they undergo circumcision.\textsuperscript{14} Mathematical models have estimated that, between 2011 and 2025, more than 3.3 million new HIV infections could be averted through increased scale-up and uptake of VMMC.\textsuperscript{5} Additionally, VMMC appears to be a cost-effective HIV prevention method, with survival benefits comparing favorably to the intervention implementation and scale-up of Anti-retroviral treatment, which is widely accepted as a highly cost-beneficial HIV intervention to improve survival services.\textsuperscript{6} It has also been projected that 80\% VMMC coverage in priority countries could save more than $16.5 billion in treatment and care costs by 2025.\textsuperscript{8}

UNAIDS and the World Health Organization (WHO) have identified Botswana, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, Uganda, Tanzania, Zambia, and Zimbabwe as VMMC priority countries, as these countries have generally low circumcision coverage and high HIV prevalence rates.\textsuperscript{7} The protective benefits of circumcision have only recently been widely recognized\textsuperscript{15} and demand creation initiatives have been launched in several African countries to help educate men on the protective benefits and motivate them to undergo the procedure.\textsuperscript{7}

**Demand creation.** “Demand generation” or “demand creation” initiatives are intended to increase knowledge of, and demand for health products or services through social and behavior change communication and social marketing techniques.\textsuperscript{16} Demand creation initiatives often employ methods such as social marketing, mass media, community mobilization, interpersonal communication, information technology
communication, and advocacy to increase demand for services. Demand creation initiatives have been shown to be effective in increasing demand for HIV-related services such as condoms, couples HIV counseling and testing, and uptake of antiretroviral therapy.

**Grassroot Soccer** (GRS) is an international adolescent health organization that leverages the power of soccer to educate, inspire, and mobilize youth in developing countries to overcome their greatest health challenges, live healthier, more productive lives, and be agents for change in their communities. GRS uses the power of soccer to help boys and girls ages 10-19 access mentors, information, and health services they need to make educated choices about pressing health challenges such as HIV, sexual health, gender-based violence, and malaria. GRS has reached over two million young people in nearly 50 countries with adolescent-friendly health education. Since its inception, GRS has conducted more than 30 research projects with research partners such as the London School of Hygiene and Tropical Medicine (LSHTM), Population Council, and the International Coalition for Research on Women (ICRW) on topics such as comprehensive HIV knowledge, sexual behavior change, anti-retroviral treatment, and gender norms.

**GRS VMMC uptake findings.** In partnership with the LSHTM, the National University of Science and Technology (NUST) in Bulawayo, Zimbabwe, Brown University, and Population Services International (PSI) Zimbabwe, GRS conducted the first two randomized controlled trials (RCTs) of a sport-based VMMC demand creation intervention in 2012 and 2014. The Male Circumcision Uptake Through Soccer (MCUTS) trial measured the effectiveness of Make The Cut (MTC), a 60-minute soccer-based intervention aiming to increase VMMC uptake among Zimbabwean men aged 18–50 years who belonged to soccer
teams in Bulawayo, Zimbabwe. The trial enrolled 47 soccer teams and 736 men and demonstrated the MTC intervention increased VMMC uptake almost 10-fold [4.8% uptake among uncircumcised intervention participants, compared with 0.5% among control participants; odds ratio (OR), 9.81; 95% confidence interval (CI), 0.93 to 103.2; P = 0.06].21 Both quantitative and qualitative findings from MCUTS suggested the intervention was more acceptable among the younger men (18–20 years) in the trial.22 Based on these findings, the MTC intervention was modified to focus on male secondary students in Bulawayo. The second trial (MCUTS II) showed strong evidence of demand creation among adolescent boys. Analysis restricted to participants who reported being uncircumcised at baseline showed the intervention increased VMMC uptake by approximately 7.6% (12.2% vs. 4.6%, odds ratio = 2.65; 95% confidence interval, 1.19 to 5.86). Preliminary costing analysis shows these results translate to a demand creation cost1 of approximately $49 per additional VMMC client.23

**GRS process evaluation.** A process evaluation of both the adult male and adolescent iterations of MTC was conducted to explore the perceived effect of the different intervention components. Researchers conducted 29 interviews with circumcised (n = 13) and uncircumcised participants (n = 16). Additionally, researchers conducted seven interviews and two focus group discussions with MTC coaches. While a factorial study could potentially isolate the effect of the different intervention components on VMMC uptake, this type of study was likely costly and time consuming. Furthermore, process evaluations can help interpret outcome evaluation findings within the social context in

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1 Costs include the dollar amount to develop and deliver the demand creation intervention. This figure does not include supply-side costs, including the cost of performing the circumcision procedure.
which the intervention is delivered, which can help inform intervention revisions in a new setting outside Bulawayo, Zimbabwe.

Findings demonstrate high program acceptability and suggest the coach-participant relationship as a highly influential factor in participants’ decision to undergo VMMC. Participants and coaches identified the circumcised coach’s personal story, follow-up, and accompaniment to the clinic as critical intervention components to increase uptake. Meanwhile, intervention components such as mass SMSs and a soccer-based poster were not perceived as influential in participants’ decision to undergo VMMC. The effect of a small soccer-based incentive (t-shirt or ticket to a soccer match, both valued at USD 5) was unclear. Participants offered incentives were slightly more likely to undergo VMMC (15.4%) than among those who were not (9.5%) (OR = 1.88, 95% CI: 0.68 to 5.23); however, qualitative findings demonstrated mixed reactions to the incentives. Some participants felt that incentives increased their motivation to go for VMMC, while others did not feel the incentives were influential.

**GRS feasibility studies.** While RCTs are considered the “gold standard” for intervention studies because they allow researchers to determine causal inference, additional research is needed to determine intervention validity and impact outside of a highly controlled setting. Bowen, et al call for additional feasibility studies of evidence-based interventions because “community constraints…are prioritized over optimal conditions and settings— specifically testing the fit of interventions in real-world settings.” Following this logic, GRS saw the need to conduct feasibility studies after the encouraging RCT results in Zimbabwe, as these findings were not externally valid or
generalizable beyond Bulawayo, Zimbabwe. GRS collaborated on two feasibility studies in 2016 in Swaziland and Uganda to gain insight into the efficacy and acceptability of MTC outside of a clinical setting in Zimbabwe. The aims of the feasibility studies were to learn:

1. Whether MTC retains its efficacy outside of Bulawayo, Zimbabwe
2. Whether MTC remains effective when implemented by partner organizations, as opposed to direct implementation by GRS
3. Whether MTC can be implemented on a scale that will generate meaningful absolute numbers of VMMCs conducted
4. Whether MTC is accepted by adolescent participants, coaches, and implementing organizations in other settings

These feasibility studies are less rigorous than the Zimbabwe RCTs in that communities and participants were not randomly selected and there were no control groups. However, the feasibility studies met the following minimum requirements:

1. VMMC uptake was measured via clinical uptake, as opposed to self-reported VMMC status or other measures
2. Studies include a qualitative component to triangulate and interpret quantitative findings
3. Studies were conducted in partnership with a credible external research institution

Findings from the Menstrual Hygiene and Safe Male Circumcision Promotion in Ugandan Schools (MENISCUS) study in Entebbe shows approximately 20% of MTC participants (24 of 127) from two public schools underwent VMMC uptake over three months.27 A key difference between the Uganda study and the Zimbabwe studies is that the
Ugandan “coaches” iteratively modified the intervention based on challenges during implementation. For example, upon observing lower-than-expected VMMC enrollment, the Uganda outreach workers identified parental consent as a barrier to uptake. In response, they developed a short video on MTC and conducted home visits to educate and motivate participants’ parents about MTC and VMMC.

The Center for HIV Prevention Studies (CHAPS) Swaziland implemented MTC as part of a VMMC demand creation campaign that reached approximately 15,000 adolescent boys throughout the Hhohho region and found more than 3,300 boys underwent VMMC over four months.\textsuperscript{28} A key difference between the Swaziland study and the Zimbabwe studies is that CHAPS Swaziland worked closely with the Ministry of Health and several other implementing partners as part of a large campaign. In the Zimbabwe studies, GRS was the sole implementing organization.

While the Uganda and Swaziland feasibility studies were not rigorous trials, these results provide encouraging evidence that MTC can be effective in different settings. The MCUTS II trial produced some of the most encouraging evidence of VMMC demand creation to date and comprises GRS’ strongest biomedical evidence of HIV prevention to date. Based on these findings, as well as ongoing pilots in multiple countries, GRS seeks to scale MTC to the 14 VMMC priority countries, primarily through its implementing partners.

\textbf{Intervention Design}

GRS’ VMMC demand creation intervention, Make The Cut (MTC), is a 60-minute interpersonal communication (IPC) session delivered in schools by a trained facilitator or ‘Coach’ – a circumcised man aged 18-30. The MTC curriculum was developed in alignment with Kirby’s seventeen characteristics of effective sex and HIV education programs.\textsuperscript{29} The
MTC session consists of an interactive educational game, a personal story shared by the Coach, and a group discussion. The educational game utilizes the popularity of soccer among Zimbabwean males to provide accurate information, dispel myths, and initiate discussions on a potentially sensitive topic, an approach shown to improve HIV-related knowledge, attitudes, and behaviors. Following Rogers’ Diffusion of Innovations theory, the activities in MTC are designed to help participants move along the behavior change spectrum (see Figure 1). For example, the educational activity can help move participants from “uninformed” to “informed” and the motivational story can help participants move from “preparing” for VMMC to actually undergoing the procedure.

Figure 1: Diffusion of Innovations and Theory of Adoption of VMMC

During the interactive and educational soccer penalty shootout, the goalkeeper metaphorically tries to protect himself from HIV infection. In the first round, the goalkeeper represents an uncircumcised man who does not use condoms, frequently failing
to stop the ball, representing high HIV risk. In the next round, after participants identify that VMMC can reduce the goalkeeper’s HIV risk, the goal’s width is reduced. In this round, fewer goals are scored, representing the partial protection offered by VMMC. In the final round, four additional defenders help block the goal, representing the combined protection of VMMC and consistent condom use. In this final round, very few goals are scored, if any, representing the protective benefit of being circumcised and using condoms. Key messages communicated during the activity focus on the health benefits of VMMC, including improved hygiene and protection from sexually transmitted infections.

In line with social learning theory circumcised coaches then share their own experiences and build participants’ self-efficacy to undergo VMMC through personal stories. Coaches build personal connections with participants and address barriers to VMMC, such as fear of pain during and after the surgery and perceived benefits, such as decreased risk of HIV infection and improved hygiene. These personal stories help coaches facilitate discussions with participants on their own perceived barriers and enablers. In the week following intervention delivery, coaches follow-up with participants who express interest in receiving VMMC during the interpersonal session and schedule transport to the VMMC clinic.
CHAPTER 2: LITERATURE REVIEW

Introduction

In March 2016, I conducted a literature review of completed randomized controlled trials (RCTs) of voluntary medical male circumcision (VMMC) demand creation interventions in sub-Saharan Africa. Several different VMMC demand creation initiatives have been implemented in sub-Saharan Africa, including mass media campaigns, interpersonal communication, text message campaigns, and advocacy from community leaders. Evaluation of the effectiveness of these interventions has been conducted using a range of methods. The purpose of this literature review was to synthesize findings from published and grey literature on all completed Randomized Controlled Trials (RCTs) of VMMC demand creation interventions to:

1. Establish the current evidence of effectiveness of VMMC demand creation.
2. Identify gaps in the literature and opportunities for future research in this area.

The literature review is intended to inform policy-makers on the design of VMMC demand creation interventions as they scale-up interventions to meet VMMC coverage targets. In total, I reviewed nine studies that were completed as of November 2016. My review yielded important results related to intervention design, VMMC uptake, and cost-effectiveness estimates.
**Search databases**

I chose two electronic search databases to access articles on VMMC demand creation. I selected PubMed because it contains more than 25 million citations and generally includes articles on rigorous trials, such as RCTs. I have also utilized EconLit, a search database of economic studies, as some VMMC trials utilize economic research methods to measure the effectiveness of incentive programs to increase uptake of VMMC.

In addition to these two online databases, I included unpublished or “grey” literature in my review to include VMMC demand creation RCTs that have been completed, but not yet been published. However, the inclusion of grey literature can introduce bias as unpublished studies may be an unrepresentative sample of all unpublished studies. In this study, I have analyzed conference presentations for these studies, not the unpublished articles. Finally, I also conducted a hand-search of the literature, including articles that have been sent to me by colleagues.

**Search strategy**

Table 1 shows my search terms. Inclusion of different intervention types, such as incentives, mobile technology, peer referrals, mass media campaigns, and sport-based methodologies in my search terms did not improve the search.
### Table 1: Search Terms

<table>
<thead>
<tr>
<th>Voluntary Medical Male Circumcision</th>
<th>AND</th>
<th>Africa</th>
<th>AND</th>
<th>Randomized Controlled Trial</th>
</tr>
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<tbody>
<tr>
<td>OR Medical Male Circumcision</td>
<td></td>
<td>OR Sub-Saharan Africa</td>
<td>OR</td>
<td>RCT</td>
</tr>
<tr>
<td>OR Male Circumcision</td>
<td></td>
<td></td>
<td>OR</td>
<td>Cluster Randomized Trial</td>
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<td>OR Safe Male Circumcision</td>
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<td>OR</td>
<td>Individually Randomized</td>
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<tr>
<td>OR Circumcision</td>
<td></td>
<td></td>
<td>OR</td>
<td>Randomized</td>
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### Article review process

Figure 2 shows a PRISMA diagram for including and excluding articles. A search of the literature yielded 28 articles, excluding duplicates. I conducted an abstract review and excluded five articles. I reviewed 23 full-text articles, of which 14 were excluded. This review includes nine articles that fit all selection criteria.

**Figure 2: Identification and inclusion of studies**

**PRISMA**

- PubMed (23)
- EconLit (2)
- Grey Lit (1)
- Hand search (3)

Total including duplicates (29)
Total excluding duplicates (28)
Irrelevant articles (5)
- Not randomized design
- Supply-side interventions
- Qualitative studies

Full text articles reviewed (23)

Total articles reviewed (9)
Characteristics of included studies

Only individually and cluster-randomized controlled trials (RCTs/cRCTs) measuring VMMC demand creation conducted in the 14 UNAIDS and WHO VMMC priority countries were eligible for inclusion. Restricting the search to only RCTs allowed access to the most rigorous demand creation evidence and the ability to infer causality between the intervention and VMMC uptake. Included studies utilized biomedical (clinic) data to measure VMMC uptake and excluded other methods such as self-reported circumcision status, which have been shown to be less reliable. Non-randomized controlled studies and qualitative studies were also excluded.

Articles included in this review evaluated interventions such as monetary and non-monetary incentives, mobile technology, peer referrals, mass media campaigns, and sport-based methodologies to increase VMMC uptake. Supply-side intervention studies were not included. Finally, unpublished studies or “grey” literature were included in the review if the studies fit all other criteria.

Results

VMMC demand creation is a relatively new field, with all studies included in the review having taken place since 2012. My search yielded important results related to study design, VMMC uptake results, and cost-effectiveness estimates.

Characteristics. My search strategy yielded nine articles that met all search criteria. Eight of the studies have been published, while the remaining study was presented at the International AIDS Conference 2014 in Melbourne, Australia. Other randomized
controlled trials of VMMC demand creation interventions that were ongoing as of November 2016 were not included in this review. Eight studies took place in one of four countries (Kenya, South Africa, Zambia, and Zimbabwe) and one study took place in both Uganda and South Africa. All studies utilized a randomized design and measured VMMC via clinic data, as opposed to self-reported VMMC status or other methods.

Five of the studies measured the impact of incentives on VMMC uptake. The types of incentives included food vouchers,\textsuperscript{36,37} cash transfers or reimbursements,\textsuperscript{39,41} or non-monetary soccer-based incentives including t-shirts and tickets to soccer matches.\textsuperscript{23} One incentive study evaluated an intervention utilizing a lottery incentive scheme, in which men who underwent VMMC had the chance of winning a range of incentives worth between approximately $1.96 and $93.41;\textsuperscript{37} the remaining incentive studies measured straight incentive schemes, in which males undergoing VMMC were given a uniform incentive. Additionally, two studies measured the effect of a mobile phone messaging platform,\textsuperscript{40,42} and one measured the effect of a four-session educational session.\textsuperscript{38}

Interestingly, none of the nine interventions that were evaluated appear to have been implemented beyond the RCTs, either in larger-scale research trials or through scaled implementation.

**Study design.** All studies utilized a randomized design and measured VMMC uptake via clinic data. Sample sizes of included studies ranged from 736 participants\textsuperscript{21} to 1,652 participants.\textsuperscript{42} Six of the studies were able to target men who were self-reported to be uncircumcised at baseline,\textsuperscript{33–36,38,39} while three studies did not screen participants before the trial.\textsuperscript{41,21,23} Additionally, all studies measured VMMC uptake among adult males, except the MCUTS II trial in Zimbabwe, which studied uptake among adolescents. Adult males are
a priority for governments and service providers, yet adolescents have been shown to be more willing to undergo VMMC, which could help explain differences in uptake.

Studies lasted between two months and 12 months. No studies presented findings on the duration of time after intervention delivery in which participants underwent VMMC (e.g. it is unknown whether participants generally sought VMMC in the days immediately following the intervention or several months following the intervention). This information could inform future VMMC uptake trials and interventions.

**Outcomes.** VMMC uptake is the main outcome of each of the studies in this review. The findings on uptake varied greatly, from one intervention showing 48% uptake to one showing under 2% VMMC uptake.

Both the Spear & Shield intervention in Zambia and the SMS trial in Uganda and South Africa found considerably higher uptake in both the intervention groups and control groups than the other trials. The Spear & Shield intervention found VMMC uptake of 40% in the intervention group and 24% in the control group; The SMS trial in Uganda and South Africa found 48% uptake among participants receiving text messages, 47% uptake among participants receiving lay counselor visits, and 28% among participants receiving standard direct referral (control group). The next highest evidence of uptake was from the MCUTS II study in Zimbabwe, which showed uptake of approximately 12.2% compared to 4.6% in the control group. Interestingly, while absolute uptake in the Zimbabwe study was considerably lower, participants in all three interventions were approximately 2-2.5 times more likely to get circumcised than control group participants, suggesting the relative effect on VMMC uptake may be similar.
In general, small incentives ($5 to $15) appear to have modest, yet promising effect on VMMC uptake. Four of the five incentive studies showed participants offered incentives were significantly more likely to undergo VMMC. Wilson et al. found providing compensation worth approximately $10 significantly increased VMMC uptake by 2.4 percentage points. Thirumurthy et al. found participants offered food vouchers valued at $8.75 (6.6% uptake) and those offered $15.00 (9.0%) had significantly higher VMMC uptake than the control group (1.6%). In the lottery study, Thirumurthy et al. again found significant uptake among participants receiving a straight incentive via a food voucher (8.8%), yet found only 3.3% of participants offered a lottery incentive underwent VMMC. Kaufman et al. found intervention participants that were offered an additional incentive were significantly more likely to undergo VMMC (8.8%) than intervention participants that were not offered incentives (6.0%) as well as control participants (4.6%). These findings suggest straight incentives are likely more effective than lottery-based incentives and adding small incentives to existing VMMC demand creation interventions could further increase VMMC uptake.

**Cost-effectiveness.** Service providers and researchers are searching for demand creation interventions that can be scaled throughout the 14 WHO/UANDS VMMC priority countries. Cost per circumcision generated and HIV infections averted are crucial figures to demonstrate which interventions are cost-effective and worthy to be scaled beyond an impact evaluation. Four of the studies in this review provided some cost-effectiveness figures. However, these studies presented different measurements of cost-effectiveness. Thirumurthy et al. found a cost of approximately $10-20 per circumcision generated; Kaufman et al. found the cost per *new* circumcision generated (taking into
account the control group) to be approximately $45.31^{23}$ and Wilson et al. estimated the cost to avert an HIV infection to be between $450-1,350.^{41,42}$ Interestingly, the studies that showed the highest change in VMMC uptake$^{38,40}$ did not provide any cost-effectiveness figures. Finally, none of the studies cited provided formulas used in their cost-effectiveness calculations.

**Discussion**

The purpose of this review was to synthesize results, methods, and interpretations of existing randomized studies of VMMC demand creation interventions in sub-Saharan Africa. The findings from this review provide a basis of knowledge of VMMC demand creation interventions and identify current gaps in knowledge and opportunities for further research, specifically related to national adoption and scaling of interventions.

The participants in the studies varied in terms of VMMC status at baseline. Six of the studies were able to target men who were self-reported to be uncircumcised at baseline,$^{36-40,42}$ while three studies were unable to screen participants before the trial and worked with the general male population either in households,$^{41}$ soccer teams,$^{21}$ or schools.$^{23}$ This is important when considering which interventions to scale because those that are able to target uncircumcised men will likely be more cost-effective than those that target the general population. This is especially relevant in countries such as Kenya, where over 45% of adult males are circumcised,$^{36}$ which is considerably higher than other countries. However, it could be logistically difficult and potentially unethical to identify uncircumcised males when working within existing structures, such as work places and schools. Effective incentive schemes with a low cost of delivery may help implementers target uncircumcised males while limiting the risk of unethical practices. For example,
incentive interventions could be promoted widely through the community, with only uncircumcised men eligible to take advantage of the program. In this case, implementers would not waste time and resources identifying uncircumcised males and would not risk exposing one’s VMMC status.

The biomedical evidence of VMMC on HIV risk reduction is well established and there is great potential to measure the impact of VMMC demand creation interventions in terms of cost-effectiveness and HIV infections averted. This strong biomedical base of knowledge combined with the relatively short duration of VMMC trials can make impact measurement simpler and quicker than long-term behavior change methods such as condom use or sexual partner reduction. However, given the lack of standardized methods to measure cost-effectiveness across different studies, it is difficult to compare interventions and provide insight into which interventions are the most cost-effective and scalable. This exposes the need for consistent and transparent cost-effectiveness calculations that can be performed in different settings. Future research can apply consistent cost-effectiveness formulas to existing studies included in this review as well as future demand creation studies.

While small incentives appear promising in generating demand for VMMC, it is important to note the strict PEPFAR guidelines on the provision of incentives and reimbursement, which can affect the acceptability and scalability of incentive interventions. The PEPFAR guidelines prohibit all forms of incentives or payments based on individual VMMC uptake to protect males against coercion and to prevent the creation of unsustainable VMMC demand creation initiatives; however, compensation for transportation and lost wages is allowable, if implementers closely follow national
guidelines and receive approval from the Ministry of Health. These guidelines present a challenge to scaling effective incentive programs, as the guidelines can make interventions logistically complex and unappealing to implementers due to the contentious nature of incentives. In addition to a strong evidence base, policy such as these PEPFAR guidelines must be considered in assessing the scalability of demand creation initiatives.

This review also exposed a dearth of knowledge on the effectiveness of VMMC demand-creating interventions at the population level. No study included in the review included a sample size larger than 2,000 participants and to date it appears none of the interventions have been subsequently implemented on a larger scale. This is important because effectiveness is likely to vary between a clinical setting and large-scale implementation. Given the WHO/UNAIDS targets of 80% VMMC coverage in the 14 priority countries, there is a need to understand the obstacles to scaling effective evidence-based VMMC demand creation interventions at the regional or national levels. Furthermore, additional research with policy makers and governments is necessary to determine how encouraging results from VMMC demand creation interventions can be scaled up nationally.

This review had several limitations. First, one of the studies remains unpublished to date, which could introduce bias, as this study may not be representative of all unpublished VMMC demand creation studies. Second, each intervention targeted a very specific population of males in terms of age and geography, which limits external validity and the ability to draw conclusions about the larger population of males. We are also unable to conclude whether these interventions would produce similar results across countries. This suggests further research is necessary to evaluate a single intervention
across multiple regions and countries using identical research methods. Third, VMMC demand creation is a growing field of study. Several demand creation trials are currently underway or awaiting publication, which could limit the relevance of this review once additional trials are completed. Finally, the included studies appear to be of high quality, as evident in the use of a rigorous randomized design and all studies having obtained IRB approval from both US and local research institutions. However, I did not assess quality using an existing assessment.

Overall, there is encouraging evidence that demand creation interventions such as interpersonal education sessions and provision of small incentives can increase uptake of VMMC. To date, no study has found a “silver bullet” to increase demand for VMMC, and further research is necessary to identify and refine demand creation interventions that can be scaled to national and international levels. While the cost-effectiveness of VMMC has been well documented, it is necessary to establish consistent mathematical modeling methods in order to compare cost-effectiveness across demand creation interventions.
CHAPTER 3: STUDY DESIGN AND METHODOLOGY

Conceptual model

The conceptual framework for this study follows the Institute for Health Improvement (IHI) Framework for Going to Full Scale (FGFS). This model presents four phases necessary to scale evidence-based interventions in Africa: 1) Set-up; 2) Develop the scalable unit; 3) Test of Scale-up; and 4) Go to full scale. The FGFS was based on a thorough literature review of systematic reviews of scale-up of health care initiatives as well as theories and models for scale up between 2010-2014. This model was also tested in large-scale scale-up initiatives in South Africa (improving perinatal PMTCT of HIV) and Ghana (scale up of maternal and child health programming). Key Informant Interviews were based on the components of this model in order to provide content and recommendations for my Plan For Change.

![Figure 3: IHI Framework for Going to Full Scale](image)
I chose to follow the FGFS for several reasons. First, this model is based on a formative as opposed to a summative approach to scale, which supports the creation of several opportunities to reflect and redesign the intervention at each phase. This approach is in line with GRS’s approach to conduct a number of feasibility studies to test the efficacy and acceptability of MTC in different settings to iteratively adapt and improve the intervention while scaling. Second, this model places an emphasis on developing the “scalable unit,” which is described as the “smallest representative facsimile of the system targeted for full-scale implementation” (page 5). This is important because cost-effectiveness is a crucial component of successful demand creation initiatives and the MTC intervention was designed to be GRS’ most efficient and cost-effective intervention. Following the FGFS helped establish the components of the scalable unit, including a lean yet effective intervention. Finally, the IHI Model has been tested in sub-Saharan African countries, which takes into consideration limited resources and challenges related to access to healthcare, which are essential considerations for scaling healthcare initiatives in Africa.

I conducted a qualitative evaluation to gain insight into the crucial considerations for scaling VMMC demand creation interventions. Interviews also provided insight specifically related to scaling Make The Cut. Following the FGFS conceptual model, the qualitative study provides insight into the phases of scale-up, adoption mechanisms, and support systems.
Key informant Interviews

I interviewed key informants from a range of backgrounds related to scaling VMMC demand creation interventions. I selected Key Informant Interviews as a method because the identified subjects are insiders with special knowledge related to VMMC demand creation and scaling interventions. I chose key informants over in-depth interviews with MTC participants, such as students or coaches, because their views of the intervention were already captured in a process evaluation of Make The Cut.

Key informants were senior leaders from African government health departments, VMMC implementing organizations, funding organizations, and GRS. Additionally, I interviewed individuals who have overseen the successful scaling of non-VMMC adolescent health interventions (referred to as “scaling experts.”). Key informants were selected due to their senior roles within influential organizations in the VMMC field and their comprehensive understanding of the VMMC field. Key informants from GRS were selected based on their familiarity with the organization’s strategy, fundraising, and research.

Initially, an estimated 20-25 interviews were proposed; however a total of 26 individuals were interviewed for this study, at which point responses had reached a saturation point. In total, 31 individuals were contacted, but four did not respond to recruitment email; one individual responded after data collection had already been completed. To identify potential key informants, I constructed a table of relevant organizations and individuals in collaboration with my dissertation committee members. Informants were identified via personal experience and word of mouth. Key Informant interviews were conducted between October 2017 and January 2018. All interviews were conducted over phone or Skype and lasted between 49 and 82 minutes.
Subjects were selected to represent a diverse range of experiences and backgrounds. Forty-eight percent of subjects were male (n=15) and 42% were female (n=11). Forty-six percent of interview subjects were of African origin (n=12), 43% were from the United States and Canada (n=11), and 12% were from Europe and South America (n=3). To solicit views from VMMC priority countries with varying progress towards VMMC coverage, I selected one key interview from Kenya, which had exceeded its 2015 VMMC targets (108%), as well as one key informant from Mozambique, which has only achieved 53% of its 2015 target. Additionally, interviews were conducted with key informants from countries where GRS directly implements as part of its “flagship” sites: South Africa (n=3), Zimbabwe (n=3), and Zambia (n=2). Finally, I interviewed participants from
countries where GRS has implemented MTC through partnerships, including Uganda (n=1), Kenya (n=1), and Swaziland (n=1).

**External stakeholders.** Eighteen “external” stakeholders (non-GRS staff members) were interviewed to provide insight on barriers and opportunities to scale MTC and VMMC demand creation interventions in general. External stakeholders were purposefully selected from implementing organizations (n=8), government (n=5), funding organizations (5), and organizations that have successfully scaled behavioral interventions outside of VMMC (n=2).

**Internal stakeholders (GRS).** Eight “internal” stakeholders (GRS staff members) were purposefully selected from GRS senior leadership team to provide insight into barriers and opportunities to scaling MTC and how it relates to the organization’s strategic priorities. Additionally, GRS staff members were also able to speak on behalf of partner NGOs that implement VMMC demand creation interventions. Interviews were conducted with individuals responsible for organizational strategy, business development, and partnership development.

**Implementing organizations.** I conducted eight interviews with senior leaders from implementing organizations that provide both medical VMMC services and VMMC demand creation activities. Key informants possessed extensive knowledge of their organizations’ specific VMMC strategies and were able to provide insight into the greater field of VMMC. In line with its strategic plan, GRS seeks to scale its suite of interventions (including MTC) through increased technical assistance to implementing partners in addition to the organization’s direct implementation. GRS plans to scale its interventions through large international non-governmental organizations (INGOs) as opposed to
smaller community-based organizations (CBOs). In response, all external key informants represented large INGOs that regularly receive PEPFAR funding and implement in multiple countries in Sub-Saharan Africa.

**Government.** Government officials were identified as key informants critical to understanding how to scale VMMC demand creation interventions. I interviewed two key informants from international governing bodies and three from African ministries, all of whom were directly responsible for VMMC activities. African Ministries of Health and Education were identified as important stakeholders, as they establish national strategic frameworks and targets related to VMMC. It was also important to obtain the views of VMMC personnel from both the US government and the World Health Organization (WHO). The U.S. Global AIDS Coordinator and Special Representative for Global Health Diplomacy (OGAC) oversees the President’s Emergency Plan for AIDS Relief (PEPFAR). As the leading funder of VMMC services in Africa, PEPFAR pledged $98 million to VMMC services in 2016 and is a key influencer in VMMC strategy.\(^{48}\) The WHO provides influential strategic directions on VMMC through its Framework for VMMC for 2016-2022.\(^{49}\)

**Scaling experts.** Finally, I interviewed two key informants responsible for successfully scaling non-VMMC, evidence-based health interventions in Africa in order to learn lessons and best practices that can be applied to VMMC demand creation. I selected experts that had scaled programs specifically for adolescents in order to gain insight that could be applied to scaling VMMC demand creation. The initial protocol called for interviews with individuals who had scaled biomedical prevention interventions for adolescents, such as HPV vaccine or ART. However, I did not find appropriate subjects to interview. The key informants provided in-depth knowledge on a sport-based trauma and
mental health services and a peer education behavior change intervention, both of which had been scaled alongside government to national levels.

**Observation**

I had planned to conduct passive observation at Make The Cut training workshops (n=2) and during implementation (n=2) to gain insight into successes and challenges related to implementation. However, workshops and implementation did not occur during the data collection period. Observations from a MTC stakeholder workshop in Maputo, Mozambique in February 2018 are included in the Plan For Change.

**Data collection**

Potential key informants were contacted via email along with the consent form and summary of the study. Interview appointments were established upon receiving email responses. Semi-structured interviews consisted of open-ended questions that aligned with the topical areas of the FGFS framework (See interview guide in Appendix A). To gain a more comprehensive understanding of context, key informants were first asked their general views on the role demand creation plays in larger VMMC strategies. In relation to the phases of scale up, interviews explored informants’ views on best practices in regards to VMMC demand creation interventions and provided insight on the scalable unit. Questions related to adoption mechanisms solicited views on relationships and communication needed to scale demand creation interventions. Questions on support systems related to sustainability, including barriers to scale, impact measurement, and funding. Finally, key informants were asked for their advice to GRS as the organization develops its VMMC demand creation strategy.
Key informants appeared engaged and interested throughout the interviews. The interviews were conversational and few follow-up questions or probes were needed to stimulate discussion. All key informants were at least aware of GRS’ work in VMMC demand creation and provided specific insight and advice for the organization.

Due to potential interview bias (see Limitations), a research assistant conducted the eight internal GRS interviews and I conducted the 16 external interviews. Upon completing the first internal and first external interviews, I revised the interview guide along with the research assistant. Due to the key informants’ familiarity with the topic and willingness to discuss openly, we reduced the number of total questions and removed generic introductory questions. After these revisions, few changes were made to the interview guide for the remainder of the study. Interviews were conducted in English via phone or Skype and digitally audio-recorded.

**Data analysis**

Audio files were saved in a password-protected desktop computer file and also uploaded to a password-protected file on Google Drive. I transcribed the first four interviews and hired an external consultant to transcribe the remaining 22 interviews verbatim. The transcriptions from the consultant were verified against the audio recording to ensure accuracy. Once verification of the transcripts was complete, I conducted a content analysis, which involved identifying themes and categories prior to coding the data. Following the coding of all interviews, coding reports were generated for each of the codes in order to systematically analyze and report on the information received during the key informant interviews.
I coded the KII transcripts using NVivo10 software. I developed a preliminary coding scheme based on the topics in the KII guide. I employed an applied thematic analysis approach to code and analyze the data, focusing on a priori themes and the identification of emergent themes.\(^{51}\) I coded the first interview alongside the same research assistant that conducted the internal interviews. We then coded the first interview together and in turn revised the coding scheme to improve inter-coder agreement. I coded the remaining transcriptions myself. I then revised the coding scheme iteratively based on emerging themes.

**Limitations**

Findings from this study are subject to limitations. A common limitation of key informant interviews is the potential introduction of selection bias if participants are not carefully selected. To address this limitation, dissertation committee members reviewed the list of potential key informants and made revisions before invitations were sent. There is also a risk of interviewer bias in this study. I have worked for GRS since 2003, managing curriculum development and research while overseeing VMMC-related activities, including the studies described in the background section. In an attempt to avoid interviewer bias, a non-GRS affiliated research assistant conducted all interviews with GRS staff members.

Furthermore, due to my extensive experience in the VMMC field, I had previously interacted with several of the key informants and most were familiar with GRS’s VMMC demand creation studies. While this familiarity may have introduced bias, it also likely contributed to more meaningful and thoughtful responses from key informants. Due to a shared comprehensive understanding of the literature, funding landscape, and key personnel, key informants were able to discuss complex thoughts and concepts that may
have been difficult to generate with an interviewer with less relevant experience and knowledge.

Skype and telephonic interviews were utilized in this study due to the dispersed geographic locations of subjects, which prevented in-person, face-to-face interviews. Due to varying degrees of Internet access and limited bandwidth, video calls were not used during any of the interviews. It is important to note that social cues such as body language and eye contact that can be observed in face-to-face interviews can be lost during phone interviews.52

Finally, findings may not be reflective of all VMMC priority countries, as culture, context, economics, and other factors vary greatly between countries. Also, the inclusion of several different types of stakeholders in this study (GRS, donors, implementing organizations, government officials, and scaling experts) allowed for a rich and diverse representation of views and opinions; however, the interviews for each type of subject were not exhaustive and may not represent the views of others not included in this study.

**IRB and confidentiality issues**

Because this study included Key Informant Interviews, the protocol was reviewed and approved by the UNC Institutional Review Board (IRB) before data collection and analysis were initiated. This study did not involve interaction or intervention that posed greater than minimal risk to subjects. All participants provided informed consent to participate in the study.
CHAPTER 4: FINDINGS

This chapter presents the analysis and key findings from interviews conducted with key informants to learn about scaling evidence-based VMMC demand creation interventions. The findings answer the study research Aim 2 and Sub-Aim 2.1:

**Aim 2:** Establish key criteria for scaling evidence-based VMMC demand creation interventions

**Sub-Aim 2.1:** Establish key criteria for scaling evidence-based VMMC demand creation interventions specifically for adolescents (key informant interviews).

A summary of the key themes is presented, followed by findings in the following order: (1) Role of demand creation in VMMC strategies; (2) Criteria of scalable interventions; (3) Priority locations for VMMC demand creation; (4) Consortium approach to scaling; (5) Impact measurement at scale; (6) Barriers to scaling; (7) Sustainability.
Key thematic areas

Through the analysis of the interviews, seven key themes emerged, which are described below and summarized in Table 3.

Table 3: Key thematic areas

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<th>1. Role of demand creation</th>
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<td>Importance of demand creation to VMMC strategies</td>
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<th>2. Criteria of scalable interventions</th>
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<td>Evidence-based</td>
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<td>Targeted</td>
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<td>Continually evolving</td>
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<th>3. Priority locations</th>
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<td>Sub-national data</td>
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<th>4. Consortium approach</th>
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<td>Implementing partners</td>
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<td>Donors</td>
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<th>5. Measurement</th>
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<td>Additional indicators</td>
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<th>6. Barriers to scale</th>
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<td>Supply-side barriers</td>
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<td>Barriers to adolescents</td>
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<th>7. Sustainability</th>
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<td>Government adoption</td>
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1. **Role of demand creation.** Key informants were asked their views on the role demand creation plays in larger VMMC strategies, which provided valuable context and background. Key informants were also able to provide views on demand
creation specifically for adolescents. Having served in leadership roles within the VMMC field for many years, several key informants described the history of VMMC from the clinical trials to present day. While this recount of VMMC history was an unexpected, it enabled a greater understanding of the current state of demand creation.

2. **Criteria of scalable interventions.** Key informants were asked broadly about demand creation interventions and to describe interventions that were successfully and unsuccessfully scaled. It was expected key informants would describe scalable interventions as being evidence-based and continually evolving. I also anticipated key informants would describe the need for interventions to be modified for local contexts; however, it was unexpected that key informants would overwhelmingly suggest scalable interventions be targeted to address barriers at the individual level.

3. **Priority locations.** Key informants were asked for decision criteria in selecting settings to scale VMMC demand creation interventions. HIV prevalence, VMMC coverage, total population, and population density were unsurprisingly identified as important criteria. The identification of sub-national data as a key consideration was unanticipated and demonstrates the variability within VMMC priority countries that must be considered in selecting settings to implement and scale demand creation interventions.

4. **Consortium approach.** Key informants were asked to name and describe relationships critical to scaling demand creation interventions. A key theme that emerged was the idea of a collaborative “consortium” approach, in which a variety of stakeholder are engaged collaboratively and continuously. It was anticipated key
informants would identify government, community members, and implementing partners as important relationships. However, it was unanticipated key informants would identify donors as consortium members that add value beyond simply supplying funding. The role of government in scaling was by far the most discussed theme in the interviews and key informants provided several stories of success and failure in working with government.

5. **Measurement.** Since rigorous clinical methods used to measure VMMC uptake in the RCTs are unreasonable to conduct at scale, key informants were asked to describe the most effective methods and metrics to measure impact of VMMC demand creation interventions at scale. Informants predictably described VMMC uptake and cost-effectiveness as the key measurements of demand creation impact. Additionally, key informants unexpectedly described the need to also measure changes in attitudes and norms, even though these indicators may be more difficult to measure and interpret. Key informants also consistently described the importance of conducting routine quality assurance to measure and monitor fidelity to the intervention.

6. **Barriers to scale.** Key informants were asked to describe barriers to scaling VMMC demand creation interventions. While funding and challenges with government were anticipated responses, supply-side barriers were unanticipated. Barriers to scaling VMMC demand creation interventions for adolescents included challenges with Ministry of Education and complications obtaining parental consent.

7. **Sustainability.** In describing issues regarding sustainability, key informants consistently discussed the transition of VMMC from an emergency response to a
maintenance phase and how this will affect demand creation. Key informants were asked to discuss funding and government adoption as components of sustainability. A key theme emerged around the need for continued external funding, even if demand creation interventions are “adopted” by government.

1. Role of demand creation in VMMC strategies

Key informants were asked to explain their views on the role demand creation plays in larger HIV prevention strategies. VMMC experts all described demand creation as a crucial component of VMMC strategies. An implementer described demand creation as “basically the engine of the provision of male circumcision. Without demand creation, there would be no circumcisions.” A donor described demand creation as critical because,

*It provides adequate knowledge to clients and makes clients move from awareness to action... It is not possible to implement a VMMC program without a very good demand generation component.*

In explaining the role of demand creation, key informants also described how the field of demand creation has evolved. They referenced the “early days” of VMMC (around 2007-8) when PEPFAR and WHO began rapid scale up following encouraging findings from the clinical trials. Donors, policy-makers, and implementers were focused mainly on increasing VMMC service delivery through supply-side investments, including establishing clinics and training health care providers. At this point, little attention was paid to generating demand for VMMC. Technical working groups were largely comprised of epidemiologists and clinicians and generally did not include behavior change specialists.

“When I started building a [VMMC] delivery model, the assumption was that there was latent demand...and that people would just want it because it was the right thing to do. The initial concern was more how we were going to service everyone. So we all started with the assumption that supply would be the issue, not demand.” (Implementer)
Several key informants described being “late in the game,” or slow to acknowledge the importance of demand creation in VMMC strategies. Key informants explained how stakeholders at that time didn’t fully understand the challenge in asking generally healthy men to voluntarily undergo a procedure that can disrupt his life physically, socially, and financially.

“[VMMC demand creation] has been coined ‘the biggest social marketing challenge ever’ because we are asking a man to come in for a procedure that he doesn’t really need at the time, remove a sensitive and important part of his anatomy, tell him he can’t have sex for six weeks, tell him there are risks associated, and then tell him he must take an HIV test. And then we all sat back and wondered why they weren’t flooding the clinics. It was pretty naive of us.” (Implementer)

Upon VMMC services becoming widely available, key informants described initially strong uptake by the “low hanging fruit”- early adopters who were motivated by the availability of the service. After these men were circumcised, uptake generally lagged as complex issues of demand creation emerged, including seasonality, cultural differences, economic barriers, and varying demand by age. Around 2012, stakeholders seemed to embrace the importance of demand creation. The CDC and USAID both hired social behavior change and interpersonal communication specialists; health economists and marketing specialists were engaged as experts to better understand the barriers and enablers to VMMC uptake; and the Bill & Melinda Gates Foundation invested in “outside the box thinking,” hosting a demand creation summit in Lusaka and funding several demand creation impact evaluations.

There was consensus among key informants that effective demand-creation is now widely viewed as essential in implementing and scaling VMMC services. Key informants
generally expressed a sense of accomplishment for the progress made over the past decade and described a sense of excitement and optimism for new innovations in demand creation.

2. Criteria for scalable interventions

Informants described what they felt were the most important criteria for scalable VMMC demand creation interventions. Responses mainly described: a) Components of scalable demand creation interventions; and b) Priority locations to scale demand creation interventions. Key informants felt scalable demand creation interventions should be evidence-based, apply a targeted and segmented approach, and continually evolve and improve. Findings from this section inform the development of the scalable unit for MTC, found in the Plan for Change.

Components of scalable interventions

Evidence-based. Key informants expressed a common sentiment that scalable demand creation interventions should demonstrate a strong evidence base beyond RCT findings alone. Some key informants felt additional non-RCT studies are needed to assess demand creation interventions in “real world settings,” as opposed to highly controlled settings. Additionally, the RCTs were conducted at with relatively small samples of males (1,652 or fewer), and some key informants felt interventions could be considered “scalable” if they yielded similar results on a larger scale.

There probably wasn’t any rigor to [the cost effectiveness component of the RCTs], to see whether something is really doable at a population level and how much of something could be recreated. (US Government)

Additionally, key informants speculated that RCTs might have produced positive results largely due to the motivation and enthusiasm of a particular individual or study team. Key
informants expressed skepticism that the passion and motivation could be sustained as interventions go to scale.

Some interventions had a particularly motivated individual or team and it came down to the personality of the people... and you couldn’t just recreate their job just by hiring another person to do what they did because they weren’t who they were... How much of that is bespoke and tailored to a particular context or reliant upon a degree of passion among the implementers that wouldn’t necessarily be guaranteed at a large scale? (US Government)

Key informants emphasized the need for scalable demand creation interventions to produce and utilize ongoing programmatic data to measure impact. Key informants acknowledged impact measurement at scale will be less rigorous than clinical methods used in the RCTs, which is likely too expensive and time-consuming to continually conduct at a large scale. While RCT results can provide proof of concept of an effective approach, scalable interventions must be accompanied by systems to collect and respond to programmatic data. Ongoing use of programmatic data allows implementers to see impact and also learn what works and what needs to be modified based on local context. Key informants recommended scalable interventions are the ones that continually show they are getting more effective, affordable, and reaching larger numbers and demonstrating this improvement is crucial to gain the confidence of donors and government.

You [need to] be tracking data - with dashboards, electronic and in real time in a manner that can help you catch on when things are falling and quickly move in and remedy that. (Implementer)

Key informants also felt scalable demand creation initiatives must show evidence of effect during the summer months. The tendency for men to undergo VMMC in the colder months in several countries is well documented. Donors and government seek to increase uptake in the low season to more efficiently utilize the VMMC service supply and decrease underutilization of the clinic, doctors, materials, and other inputs. Key informants
described barriers to uptake in the summer months, including a deeply entrenched cultural norm to undergoing circumcision in the winter months and a widely held belief that wounds heal quicker in the winter. Still, key informants described demand creation interventions that showed promise of increased uptake in the summer, including a lottery scheme in Orange Farm, South Africa and expressed optimism that similarly effective pilots would be prioritized for scale up.

**Targeted and segmented approach.** Key informants expressed the belief that scalable demand creation interventions need to be targeted to address the specific barriers males face and that there is no “one size fits all” approach for all males. Interventions need to be modified for cultural differences when implementing in a new setting or with a new population. In line with the FGFS model, key informants suggested interventions be tested and modified to help ensure interventions are effective and are well received by local stakeholders, as seen from the following quote:

> We have RCTs testing demand generation strategies, but some of them are done in a very closed and small sample and not representative of the cultural diversity and intra-country diversity in countries that are implementing the program. When some of the countries see a trial being done in some other country, they naturally position themselves as, ‘This is different in our country, our environment is completely different so this will not work here or it will not work in this way.’ (Implementer)

In addition, key informants stressed scalable interventions should be targeted at the individual level, as even males within the same community or demographic can have vastly different barriers and enablers related to circumcision. Key informants referenced Rogers’ theory of diffusion of innovations\(^{30}\) and explained how similar males can be at vastly different stages on their “journey” towards circumcision. Several key informants referenced the importance of the Action Catalyst Tools (ACT)\(^{54}\) a series of four tools based
on market research and behavioral science used to segment the male population and create specific, targeted VMMC demand creation interventions.

Let’s say we have two men between the ages of 20-25. One could be a family man, have kids, a full time job, live in an urban setting, and have completed tertiary education. And we have another man who’s exactly the same demographic, but has substantially different interest, behaviors, and attitudes toward VMMC. The psychographic and behavioral aspects of people vary and private sector marketers learned this a long time ago. So for me it’s not about a particular intervention, but rather about the development of those interventions to target the client that we are trying to target (Donor)

Using a human centered design approach, the ACT tools are used to segment a target population into six segments, prioritized based on risk, proportion of uncircumcised population, and potential ease of conversion. The tools have been used to help VMMC outreach workers to “learn who the segment is, speak to the specific issues relevant to them, and use the particular interventions that were developed.”

All African government key informants referenced the ACT as a necessary component to any intervention scaled in their country. One key informant described observing a VMMC outreach worker utilize ACT by casually asking men five to seven questions and using the resulting responses to craft specific VMMC messaging. Key informants were generally in agreement that scalable VMMC demand creation interventions should incorporate a segmented approach that reflect ACT’s framework. However, one key informant expressed concern that the ACT had not yet been scaled itself and that outreach workers may not implement the tools with fidelity at a large scale.

Continually evolving. In addition to being evidence-based and targeted, key informants explained how demand-creation interventions need to continually evolve to remain effective and relevant as they are scaled. Key informants described how demand creation interventions such as raffles, cash vouchers, events, and sports-based approaches
work because they are novel and exciting. However, at some point, the excitement (and hence the impact) inevitably dissipates. Key informants suggested implementers devise a system to review data and observations in order to revise interventions as they are scaled and in some cases, implement an entirely new intervention.

*Over time it becomes less sexy or less novel. Then there needs to be another intervention that addresses any other barriers which may be preventing men from finding that mobile van which people thought was really exciting because it was private and it was not part of a clinic and, presumably, it was convenient.*

(Implementer)

Key informants also described how interventions must constantly adapt and innovate due to the “moving target” of VMMC policy makers and donors. PEPFAR and national governments were described to change VMMC targets annually based on age, geographic location, or risk profile; effective interventions must respond quickly to address the specific barriers faced by men in these demographics. Key informants suggested interventions would be more scalable if they included a package of effective tools for different target groups to address the changing targets:

*It is constantly a moving target. One day you wake up and it is adult men, then there is an age pivot and it’s boys, then we are hearing the focus is now on sexual partners. Instead of trying to fit into this, if we had that spectrum [of interventions] we would probably be running around a lot less.* (African government)

Key informants also referred to a WHO and UNAIDS framework calling for VMMC to be integrated into a wider package of health services as countries transition from emergency VMMC response to a sustainable approach. Key informants generally expressed the idea that interventions focused solely on VMMC demand creation would not be supported and scaled. Key informants believed it is important for VMMC demand creations to evolve in order to increase uptake of additional health services such as HTS, contraception, and TB screening. Additionally, key informants felt VMMC demand creation
interventions will also need to demonstrate evidence of behavior change on topics such as harmful gender norms, substance abuse, violence, even employability.

And now we are also seeing a more holistic strategy for men and boys - that VMMC has to be integrated into a wide range of services. So it is a moving target that we are always trying to hit. Probably will remain so forever. (US government)

3. Priority locations

Key informants described important factors in selecting appropriate settings to scale VMMC demand creation activities. Responses generally related to HIV prevalence and VMMC coverage, population size, population density, and sub-national HIV data.

**HIV prevalence and VMMC coverage.** High HIV burden (prevalence and total population living with HIV) was the most consistently mentioned considerations in selecting sites to scale VMMC demand creation interventions. Key informants generally felt focusing on areas with high HIV prevalence and high numbers of people infected with HIV would yield a higher return on investment and greater cost-effectiveness than in areas that have lower prevalence and lower numbers of people infected with HIV.

That is the strategy - you go where the burden is highest, where the greatest absolute number of HIV cases reside and you focus your ... programming and funding there. (US Government)

If the community has a high prevalence rate and incidence is high, your modeling probably saves more lives in terms of amounts of circumcisions necessary to save one infection. (Donor)

Low VMMC coverage was also frequently identified as a key consideration for demand creation activities, as lower baseline rates of VMMC lead to increased cost-effectiveness and a lower cost per circumcision generated. It is nearly impossible to target only uncircumcised men with VMMC demand-creation activities; therefore any intervention inevitably wastes some of its scarce resources for VMMC messaging on men
that are already circumcised. Demand creation in low VMMC prevalence settings was described as a more efficient way to utilize these resources in reaching as many uncircumcised men as possible. Key informants recommended national VMMC targets as the most appropriate indicator to assess coverage. South Africa and Mozambique were consistently mentioned as having high HIV burden and low VMMC coverage. Ethiopia, Kenya, and Tanzania were most often mentioned as having relatively low HIV burden and VMMC coverage that is approaching or has exceeded PEPFAR targets. An African government key informant said this approach of scaling demand creation efforts in high HIV prevalence and low VMMC prevalence areas reflects the current strategy put forth by PEPFAR Ambassador Birx to focus prevention efforts on those that have tangible epidemic impact and can “prevent greatest number of HIV infections in the shortest amount of time.”

**Population size.** Key informants described the importance of scaling demand creation efforts in countries with large populations (and large numbers of uncircumcised men), such as South Africa, Mozambique, and Uganda. However, some key informants also described the importance of working in priority countries with high HIV prevalence yet low total population, such as Swaziland, Namibia, and Lesotho. While resulting absolute VMMC uptake figures will be lower in these countries, the ability to scale to national levels was perceived as more realistic than in larger countries. Furthermore, some key informants felt there was less pressure to reach large numbers in these smaller countries, allowing for higher quality of delivery and more innovation among demand creation initiatives.

**Population density.** Several key informants expressed the feeling that VMMC demand-creation initiatives should focus on densely populated urban areas in order to rapidly increase uptake numbers in a cost-effective manner. The large urban centers of
South Africa were the most frequently referenced examples of densely populated urban settings. Key informants emphasized monitoring quality control and fidelity to demand creation interventions as easier than in rural areas.

*When you are trying to expand a program in a rural area, you might have a higher prevalence and incidence rate but you generally have bigger distances between clinics, it’s harder to keep quality over a number of rural clinics and you might not get as many people.* (Donor)

However, some key informants felt it was more important to focus demand creation activities in rural, more sparsely populated areas than in densely populated urban areas. Key informants cited higher HIV prevalence rates in rural areas of several VMMC priority countries. Additionally, some key informants described males in the rural areas such as Namibia and Malawi as more receptive to demand creation initiatives because they have had less exposure than males in urban areas and demand creation approaches would be more novel and highly valued.

*That is the key future for VMMC - it is not only based in deep metropolitan areas, we need to find ways to scale activities in rural spaces and drive demand where communities are just excited about the fact that something is coming to town. If you drive it correctly, you can get a lot of energy from that.* (Implementer)

**Sub-national HIV data.** In addition to national-level HIV prevalence and VMMC coverage data, several key informants emphasized the importance of regional- and district-level data (where available) to identify priority settings for demand creation within countries. Key informants described how HIV prevalence and VMMC coverage vary by region or province due to several factors, such as cultural differences, availability of health services, migration, and presence of cultural circumcision.

To highlight differences within a country, a key informant provided the example of the South African province Kwazulu-Natal (KZN), which has an overall HIV prevalence of
approximately 16.9%, which is noticeably higher than other provinces such as Northern Cape (7.4%) and Western Cape (5.0%). Furthermore, KZN alone has a higher population (11 million) than four VMMC priority countries. KZN’s 1.8 million people living with HIV is a higher total than all but two of the priority countries. These findings suggest a targeted demand creation strategy in a high prevalence, high population province such as KZN could be more effective than a nation-wide campaign throughout South Africa or other countries.

In addition, to help target VMMC activities at the district level, a US government official described using the VMMC Decision Makers’ Program Planning Tool (DMPPT) from USAID Health Policy Initiative.

Table 4 (below) presents national-level data for key considerations for demand creation scale-up, as identified by key informants, including HIV prevalence, number of people living with HIV, PEPFAR VMMC targets, total population, and population density.

<table>
<thead>
<tr>
<th>Country</th>
<th>HIV prevalence (rank)</th>
<th>Number of people living with HIV</th>
<th>VMMC PEPFAR targets (2017)</th>
<th>Total population</th>
<th>Pop density (in/km²)</th>
</tr>
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<tbody>
<tr>
<td>Botswana</td>
<td>21.90 (3)</td>
<td>360,000 (10)</td>
<td>21,000 (14)</td>
<td>2,024,904 (12)</td>
<td>3.8 (13)</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>0.01 (14)</td>
<td>710,000 (9)</td>
<td>26,081 (12)</td>
<td>45,533,000 (4)</td>
<td>79 (5)</td>
</tr>
<tr>
<td>Kenya</td>
<td>5.40 (12)</td>
<td>160,000 (3)</td>
<td>94,204 (9)</td>
<td>1,894,194 (13)</td>
<td>70.3 (7)</td>
</tr>
<tr>
<td>Lesotho</td>
<td>25.00 (2)</td>
<td>330,000 (11)</td>
<td>36,081 (11)</td>
<td>16,832,900 (7)</td>
<td>145.3 (3)</td>
</tr>
<tr>
<td>Malawi</td>
<td>9.20 (9)</td>
<td>1,000,000 (8)</td>
<td>94,227 (8)</td>
<td>7,100,000 (1)</td>
<td>28,013,000 (6)</td>
</tr>
<tr>
<td>Mozambique</td>
<td>12.30 (8)</td>
<td>1,800,000 (2)</td>
<td>398,130 (4)</td>
<td>581,656 (3)</td>
<td>44.7 (9)</td>
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<td>Namibia</td>
<td>13.80 (6)</td>
<td>230,000 (12)</td>
<td>43,603 (10)</td>
<td>54,956,900 (2)</td>
<td>440.8 (1)</td>
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<td>Rwanda</td>
<td>3.10 (13)</td>
<td>220,000 (13)</td>
<td>97,886 (7)</td>
<td>51,046,000 (3)</td>
<td>57.7 (8)</td>
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<tr>
<td>South Africa</td>
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<td>7,100,000 (1)</td>
<td>581,656 (3)</td>
<td>15,473,905 (8)</td>
<td>21.5 (12)</td>
</tr>
<tr>
<td>Swaziland</td>
<td>27.20 (1)</td>
<td>220,000 (13)</td>
<td>22,050 (13)</td>
<td>34,856,813 (5)</td>
<td>74.1 (6)</td>
</tr>
<tr>
<td>Tanzania</td>
<td>4.70 (11)</td>
<td>1,400,000 (4)</td>
<td>866,552 (1)</td>
<td>384,324,000 (1)</td>
<td>566 (8)</td>
</tr>
<tr>
<td>Uganda</td>
<td>6.50 (10)</td>
<td>1,400,000 (4)</td>
<td>696,924 (2)</td>
<td>384,324,000 (1)</td>
<td>165.4 (2)</td>
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<tr>
<td>Zambia</td>
<td>12.40 (7)</td>
<td>1,200,000 (7)</td>
<td>271,260 (6)</td>
<td>13,061,239 (9)</td>
<td>39.9 (10)</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>13.50 (5)</td>
<td>1,300,000 (6)</td>
<td>306,139 (5)</td>
<td>13,061,239 (9)</td>
<td>39.9 (10)</td>
</tr>
</tbody>
</table>
4. Consortium approach

Key informants described the importance of a “consortium approach” to scaling and how engagement and representation from different stakeholders are crucial to scaling VMMC demand creation interventions. Key informants identified government, community members, implementing partners, and donors as important stakeholder relationships. Key informants provided their views based on personal experiences as representatives of these groups as well as their experiences collaborating with other types of stakeholders.

**Government.** Leadership from government has been shown to be one of the effective areas that contribute to the spread of interventions. African government ministry officials were overwhelmingly the most discussed consortium members by key informants. Key informants described best practice on engaging government and three African MOH officials also provided advice on how they prefer to be engaged in VMMC projects. The following quote from a scaling expert describes the importance of government engagement in scaling:

*For us to reach scale and for us to also be able to do the evaluation properly, we had to build this extremely strong relationship with every level of government or else it wouldn't have been possible.*

One of the emerging themes from the interviews was the importance of establishing a relationship with government ministries early in the “pre-planning stage” as opposed to engaging ministry once funding has already been received or an intervention has been designed, as reflected in the quote below:

*We are prone to bring the governments on board when we already know what we want to do, or we already know what we want them to do. Well, that for sure is not the right approach. They don’t feel they are part of the decision, they don’t feel empowered, they don’t feel that they own the interventions that are being proposed and sometimes they even agree with the suggestions but the fact that someone is suggesting it to them. (Implementer)*
In addition, several key informants provided examples of effective small-scale VMMC demand creation trials that were not endorsed by government because ministry officials were not involved early and continuously.

During pre-planning engagement with the ministries, it was suggest to clearly establish how results will be communicated and disseminated. A key informant described the need to provide ministries “assurances” that government will be credited for successful implementation and at the same time “protected” from potentially negative or inconclusive findings. The following is a corresponding quote from a key informant that had effectively collaborated with MOH at scale said:

*I think it’s important that we work closely with the Ministry of Health because, as much as this intervention is done by [my organization], it is for the Ministry of Health. [We] are just an extended arm so it is important that in whatever we do, the Ministry is involved and receives credit. Previously, the Ministry of Health would come in when there were challenges in running of these programs, but now the Ministry of Health is involved from the planning stages up to implementation. So whatever we do, we are there to support the Ministry, not just to push the our mandate, but to push the mandate of the Ministry of Health and ensure that the Ministry of Health is aware of what we are doing* (Implementer)

While MOH was widely viewed as the most influential government body in scaling VMMC demand creation interventions, engaging multiple government ministries (such as Ministries of Education, Youth, and Social Development) was generally perceived as best practice for establishing a functional consortium. Ministry of Education (MOE) was consistently mentioned as an essential stakeholders for demand creation interventions targeting adolescents. Key informants described both challenges and opportunities when collaborating with MOE on VMMC programs. Government schools were described as the most plausible pathway to consistent access adolescents at national levels. Other
structures, including sports leagues and youth clubs were generally not viewed as viable structures to scale, as they are likely not coordinated at the national level. Additionally, key informants described a benefit of working with MOE is the potential to engage teachers as a scalable source of VMMC mobilizers. However, there was recognition that MOE can be resistant to VMMC programming. MOE and individual schools are generally focused on education outcomes such as matriculation rates and exam scores, which don’t clearly align with increasing VMMC uptake. Furthermore, post-operative healing time often requires boys to miss school or exams, which can lead to resistance to school-based VMMC demand creation activities.

In addition to working with multiple ministries, working with MOH at multiple levels emerged as an important consideration for scaling. The national government was described as essential to approve an intervention and issue an official “mandate” for health systems, schools, and other government bodies to participate in activities. Provincial/regional level government was described as important, especially in rural areas that may face unique barriers to VMMC uptake that are not fully understood at the national level. Finally, key informants described the value of engagement with government at the community level (such as individual health facilities and community government structures) through in-person sensitization events.

Key informants, including ministry officials themselves, described formal avenues that can be accessed to engage with government. First, participation in VMMC technical working groups (TWGs) was strongly advised to any party seeking to implement VMMC activities. Doing so demonstrates a commitment to learning from the ministry and understanding their targets and objectives. Key informants expressed the belief that all
priority countries had VMMC TWGs and one ministry member even described his country's sub-committees on VMMC demand creation and VMMC communication. The TWGs were viewed as important to the consortium approach because they allowed for mapping and coordination among partners along geographic and topic areas. Secondly, key informants described the need to establish formal project-based committees for specific VMMC campaigns and trials. In order to establish ownership within government, key informants described the need for government officials to hold formal leadership roles within these project-based committees, such as Advisory Committee Chair and Principal Investigator. Additionally, a key informant from an implementing organization described success in officially seconding a staff member within the MOH to creating a strong working relationship and not overburdening Ministry officials with additional responsibilities.

Informants also described effective activities and approaches to execute during these formal meetings. A scaling expert suggested establishing “plausible pathways” alongside ministry officials as early as the first consortium meeting. Doing so allows consortium members to “forecast” potential results, whether positive, negative, or ambiguous and establishes a common understanding of the general criteria that will be used to decide whether an intervention should be scaled or discontinued. It was suggested to work with government officials to establish general thresholds on VMMC uptake and costing that the MOH feels would warrant scale up. It was suggested to document and continually refer to these “pathways” during interactions with government. However, it was also suggested to utilize these pathways as guidelines and not as firm commitments that the government will adopt and scale interventions that demonstrate a certain level of effectiveness. Furthermore, multiple key informants recommended allowing ministry
officials the opportunity to review data before other consortium members, giving them time to interpret findings and ask questions. Scaling experts also explained the need to respect the ministry’s time by executing concise, well-planned meetings that are focused on actual data and results.

During regular meetings with government, key informants described the need to initiate discussions around funding with the ministry. While acknowledging these conversations can be awkward and uncomfortable, one key informant reported having success through structured conversation. These conversations established consensus on “who does and who pays” at each stage of the project, with the aim of government increasingly taking ownership.

Perhaps the most consistent advice to working with ministry was to approach government with humility and respect. While TWGs and project-based committees are channels to establish a culture of “urgency and persistence” required to scale interventions, several key informants described the need to “move at the ministry’s pace,” which is likely slower than other consortium members prefer. Multiple informants described how VMMC is a voluntary procedure for generally healthy men and MOH likely has more urgent needs such as high rates of infant and maternal mortality, AIDS-related deaths, tuberculosis, and multiple infectious diseases. For this reason, a key informant explained how stakeholders should not expect “special treatment” for VMMC programs. MOH officials also expressed frustration in dealing with donors and NGOs that did not appreciate the pressure and responsibility the government faces in VMMC programming. MOH officials explained how the government is accountable for any adverse events and negative publicity for all circumcisions performed in country and therefore has justification
for implementing and scaling at a deliberate pace. Key informants suggested foreign-based NGOs and donors will likely face resistance if they fail to show appreciation for the risk the government takes in promoting VMMC. The following two quotes from implementers demonstrate the need to approach government with respect and patience:

> And what the person is saying [to the ministry], is, ‘We have reflected. You have a problem in your country. Here is the solution.’ So, of course, the Ministry feels excluded and even offended because governments are the representatives of the people of that country - even if you don't like it, they have been elected and they are they are the best ones to inform what their problems are and solutions are.

> Usually what we would see is whichever donor, implementing partner, policymaker, even WHO comes up with an action plan and go to the countries and say, ‘This is what needs to be done.’ And what governments do is that they just sit back and say, ‘Okay, do it yourselves.’

Further reflecting this sentiment, a donor emphasized consortium members should always seek to contribute to and strengthen the MOH’s agenda and, at all costs, avoid creating a combative or antagonistic relationship.

Key informants discussed additional challenges and limitations to working with government. A US government key informant described how ministry officials in the priority countries tend to be quite conservative and may not support the scaling of effective demand creation interventions they perceive to be controversial. Several key informants referenced cash incentive or voucher trials that have produced encouraging results, yet have received resistance from government due to fear of coercion. Similarly, key informants described government’s reluctance to endorse “provocative” messages that have been promoted to increase VMMC uptake, such as improved male sexual performance or improved sexual satisfaction among female partners. Key informants expressed concern that these controversial or provocative interventions likely show promise because they are different and somewhat shocking, but are likely to be rejected by government for this same
reason. A key informant also described how provocative approaches are often “watered down to the point where they are ineffective” in order to appease the government.

Moreover, while government representation and engagement were described as critical in the consortium approach, a key informant stressed the need to maintain realistic expectations on what government support can provide.

Government can definitely be a stumbling block, which is why you enter it respectfully, but you must realize government is not going to open up a magical gate of Nirvana to make it rain. You still have to keep on going with your strategy. And again, as soon as your strategy starts working and you have done it in collaboration and consultation with government, your victory feels like their victory and it solidifies that bond (Implementer)

Finally, one key informant provided an encouraging example where government officials not only supported demand creation initiatives, but also conducted demand themselves. In 2012, 44 members of Zimbabwean parliament underwent circumcision and openly encouraged men to utilize the service.72

Community members. Community members were identified as important stakeholders in scaling VMMC demand creation interventions. Key informants described the importance of engaging community members, identified types of community leaders to target, and provided examples of methods used to meaningfully engage with community members.

Key informants consistently described a belief that community members genuinely know which demand creation approaches will work on the ground. The following quote demonstrates a common sentiment that community engagement is well worth the investment in VMMC demand creation:
When you go out in the community and you talk to leaders, communities, people, they have some really good ideas. They know what is going on. They know what the issues are and if you listen to them you are going to save yourself some real grief. You’ll come up with a better intervention or a better model, because community members really do know best. Whatever community you circulate in, whatever issues there might be, you will get a pretty good sense of what the issues are and can say, ‘Yes, we should try it’ or ‘I don’t think it’s going to work here.’ (International governing body)

Key informants explained how community engagement is needed to gain a greater understanding of the context of specific communities’ experiences and norms around circumcision. Due to the highly personal nature of the circumcision procedure, key informants described how VMMC discussions are often met with distrust and skepticism from the community, which can prevent or inhibit implementation of demand creation activities. Key informants also described the need to interact with and learn from community members in order to understand a community’s past history with VMMC—both positive and negative. Community engagement also was described as important in learning whether a community is traditionally or non-traditionally circumcising (or mixed) and to ask community members how these factors can influence perception of VMMC and demand creation activities.

Key informants stressed there is no “silver bullet” intervention that can increase VMMC uptake in every setting, even if it was found to be effective elsewhere. A key informant provided the following example, which demonstrates the need to engage communities in order to gain insight on the local context needed to modify demand creation approaches:

Even within the micro context of working in one region, we already started figuring out which particular areas had a lower uptake because of various reasons—people were working or it’s planting season so they are now working in the field, or it’s harvesting season or the boys are tending the cattle (Implementer)
Key informants identified examples of community leaders to engage in VMMC discussions, including religious and traditional leaders, civic leaders, school officials and teachers, sports coaches, and members of village health teams. Key informants strongly suggested in-person face-to-face engagement with leaders as opposed to telephonic or written communication. Furthermore, key informants described the need to identify “gatekeepers” and “VMMC champions” that are particularly motivated and influential and to engage them in formal roles, such as facilitators of sensitization events, demand creation mobilizers, and even as employees of implementing organizations. While most key informants explained the need to engage local leaders, some respondents also recognized the need to establish a safe space for all community members to ask questions and provide input. Examples of methods used to engage the general population included small local in-person meetings as well as community radio programs where community members can ask questions via text message or calling in. Key informants also emphasized parents are essential community stakeholders regarding adolescent demand creation interventions. Adolescent sexuality was described as a very sensitive topic and parents generally want to know the VMMC messages their children will receive, including the risks and benefits associated with VMMC.

Key informants discussed the need for meaningful engagement with community members and to show interest in community members’ ideas in order to access useful community input. Most demand creation implementation plans call for community engagement or sensitization events; however, it was asserted that often times, implementers conduct the minimum amount of engagement that is required to report community engagement has been accomplished, with little meaningful dialogue taking
place. A key informant described how the global health community often takes a “top-down approach” to VMMC programming, which fails to ensure demand creation interventions fit into community members’ lives and address their specific barriers. This approach was described to contribute to improperly structured or rushed community engagement forums that are ultimately ineffective. Similar to views on engaging national government, key informants emphasized the need for continual dialogue with community members as opposed to just a once-off sensitization event. Some key informants also described the importance of disseminating findings with community members and collaboratively establishing next steps.

The need to gain trust from community members emerged as a central theme in successful community engagement. Key informants described how gaining trust from the community is difficult, but regaining trust once it has been broken is even more difficult, as explained in the following story:

The idea was to go in and do this massive demand creation within that year and reach the numbers we needed to reach. It totally failed. It totally backfired. I really think it was just pushed too hard. Who were the key people to talk to who know exactly what is happening? It is a fascinating story because it did not work. There was a lot of pushback, and then you take a lot of your time to just regain territory, just to get back to ground zero. (International governing body)

Conversely, a key informant described a positive example of establishing trust, in which a prolonged sensitization period is believed to have contributed to a successfully scaled VMMC intervention:

For whatever reason, funding [for VMMC programming] didn’t come in as quickly as they had hoped - It took about 18 months. So during that time they spent a lot of time with the local leaders - religious, traditional, across the board. By the time that money came in and they were able to set up services, they actually had really good buy-in. I often wonder what would have happened if the money had come in right away. Would they have had as good a buy-in? Would they have had the same kind of success scaling
up? Because it was first seen as being pushed too much from 'outside' - from the national level and from external donors. (Funder)

While meaningful community engagement was clearly valued by all key informants, the structure of most VMMC grants was identified as a barrier to meaningful community engagement. Grants for VMMC work were described as being increasingly competitive, with high VMMC targets over short timelines. In-person community engagement (especially in rural areas) was described as expensive and time consuming. These factors can make engagement activities (such as an extended sensitization period) appear logistically infeasible. Still, key informants emphasized meaningful engagement is worth the investment, whether in support of a pilot or a nationally scaled intervention. Key informants generally expressed optimism that donors and government are beginning to understand and appreciate the value of meaningful community engagement in scaling VMMC programs.

**Implementing partners.** Demand creation implementing organizations were discussed as important stakeholder in scaling VMMC demand creation interventions. Key informants identified two main types of organizations that conduct VMMC demand creation: (1) VMMC service providers, who conduct demand creation activities themselves, and (2) NGOs that conduct demand creation activities in collaboration with service providers. This section explores strengths and limitations of each type of implementing partner and identifies ways they can effectively contribute to the scaling of demand creation interventions.

Service providers often implement demand creation activities themselves. Service providers were described as likely possessing a more comprehensive understanding of the gaps in their VMMC coverage than NGOs, as seen in the following quote:
There is a debate about whether you should have a specific demand creation partner who then works with a delivery partner or whether the delivery partner should integrate demand creation and delivery under one umbrella and be held responsible for results. There have been circumstances where a good delivery partner has been paired with a bad demand creation partner and results have been poor. The delivery partners want control of their destiny, which means they want to control both demand creation and delivery, and supply. (Implementer)

Some key informants described a lack of coordination with service providers as a common problem when NGOs implement demand creation interventions. In some instances described by key informants, NGOs increased the number of clients at a particular clinic, yet did so in ways that did not support the clinical needs of the service providers. For instance, a key informant described a situation where an NGO brought high numbers of 10-14 year-old boys, yet the service provider was not receptive, as the clinic was already achieving high coverage among this age group. Rather, the clinic had needed help recruiting clients from the 15-19 year old age group. Another informant described instances where NGOs have brought VMMC clients to clinics already operating at capacity, resulting in clients waiting in queues for several hours. Still another key informant described a lack of communication between NGOs and clinics resulted in clients having to walk home after undergoing VMMC because transportation had not been arranged. In these instances, service providers felt their reputation was put at risk due to a lack of communication and lack of understanding of clinical needs and procedures on the part of the NGOs.

However, some key informants favored NGOs over service providers to conduct demand creation. Some key informants felt it was too big a burden on clinics to be responsible for high quality service delivery as well as high quality demand creation. For this reason, engaging NGOs as demand creation partners can allow consortium members to specialize on areas where they have expertise. These key informants suggested that NGOs
with particular expertise in social and behavior change communication (SBCC) can provide a high quality demand creation service while freeing clinic staff to focus on service provision.

There was not consensus among key informants whether service providers or NGOs are the ideal implementing partner for scaling demand-creation interventions. However, there was general agreement among key informants that both service providers and NGOs will continue to implement demand creation interventions and both should be engaged in the consortium approach to scaling. While the relationship between the two can be complex and frustrating at times, key informants provided examples of functional relationships between the two. In these instances, key informants described how clear expectations and communication guidelines were established to ensure demand creation efforts aligned with clinic needs. One key informant who had worked for both NGOs and service providers suggested a strong system of data tracking and dedication to daily monitoring of data by both parties helped establish consistent coordination and communication.

Key informants described how both larger INGOs and smaller CBOs can contribute to a VMMC demand creation consortium. One of the reported advantages of larger INGOs was their likelihood to have national presence, which makes coordination easier than working with several smaller local CBOs. Additionally, larger INGOs were described as more likely than local CBOs to have existing funding for VMMC demand creation, which can be used to help sustain implementation if payment from a donor is delayed. While local CBOs were seen as less likely to have national presence or substantial existing funding, they were perceived to add value to consortia in support of larger INGOs. Local CBOs were
described to possess important community-level knowledge and that larger INGOs may not possess. Existing relationships with schools were identified as an especially valuable strength of CBOs in supporting implementation of adolescent VMMC demand creation interventions. Additionally, key informants stated that local CBOs in rural areas can be engaged to support implementation where INGOs don’t have a presence.

African government officials provided some guidance for NGOs that seek to collaborate with ministries to scale demand creation interventions. Government officials described a preference for NGOs to collaboratively approach the ministry with a singular vision for demand creation and scale. Government officials described being opposed to multiple meetings with different NGOs they perceived as very similar. A scaling expert also reflects this sentiment in the following quote:

*I think ministries also meet with a lot of international NGOs and each NGO comes with a slightly different message of what they want them to do, and that probably creates a little bit of confusion or just delay in taking a certain course of action. So if those stakeholders could come with a unified message and approach I think that could go a long way.*

Finally, attribution was mentioned as a challenge to implementing organizations. GRS staff members expressed views on attribution that are likely common among other small- to mid-sized NGOs involved in demand creation programming. GRS has been hired as a technical assistance partner to provide curriculum development, training, and research services on VMMC projects in several countries. GRS key informants generally expressed a sense of pride in partners’ successful adoption of MTC and partners’ encouraging VMMC uptake findings. However, some GRS key informants expressed frustration in trying to interpret results from partner implementation of MTC and an inability to articulate the value GRS contributed to overall results. Furthermore, a GRS staff member suggested GRS
has not received credit for its contribution to impressive results on certain partnership
projects, even describing seeing a “huge international NGO bragging about its soccer based
male circumcision demand creation program” without referencing GRS. This was perceived
as a missed opportunity for GRS to market its contribution to scalable efforts and
strengthen its brand as a best practice adolescent health organization. Staff members
suggested these challenges related to attribution could be addressed through more
structured upfront discussions and contracts with consortium members during the pre-
planning phase. Establishing these more formal guidelines was described as likely to help
ensure GRS’s contribution is recognized in all marketing and external communications.

Donors. Key informants identified donors as the final stakeholder group in scaling
VMMC demand creation interventions. Clearly donors are needed provide financial
resources needed to scale interventions, yet key informants also provided insight into
additional ways donors such as PEPFAR/USAID, foundations, and private sectors can be
engaged.

As presented in the Community Members section, there is often a disconnect
between donors and other stakeholders in regards to aggressive VMMC targets and tight
timelines. A key informant from an implementing organization described a commonly held
perception by NGOs that targets set by donors are fixed and non-negotiable. However, the
same key informant explained that donors are likely receptive to modifying targets if
engaged before grants are awarded and if the proposed modification is supported by a
sound rationale built on data. Key informants also suggested early engagement with donors
can be helpful to allot more time for crucial activities such as community sensitization. Key
informants also explained how some donors might be more flexible on targets than others.
PEPFAR, by far the largest source of VMMC funding, was described to be somewhat resistant to changes in targets and indicators that can slow progress towards national coverage, as seen in the following quote from an implementing partner:

*PEPFAR has funding cycles of a year - so that means in a year you need to have hit a certain target before you can convince them to give you more money even if you do have a grant with them that can span five years. That puts you under pressure to deliver now.*

On the other hand, while foundations provide substantially less total funding towards VMMC than PEPFAR, they appear to be highly valued as stakeholders, in part because of their flexible and supportive approach to indicators and targets:

*You’ve got donors like the Gates Foundation who are excited about science and excited about the full spectrum of an intervention. They aren't just looking at the very last outcome or indicator; they want to walk with you through the journey and explain the process and get you there.* (Implementer)

As reflected in the above quote, key informants described ways donors can support scaling demand creation initiatives beyond just issuing grants. Key informants described how donors are invested in the success of their grantees and are likely willing to use their influence to help NGOs develop relationships with policymakers and other stakeholders. For example, a key informant suggested bringing a donor “along for the ride” to meet with government. It was also suggested donors generally enjoy the opportunity to provide guidance and networking support, but grantees may be hesitant to ask for this type of assistance.

Finally, key informants described the unfulfilled potential of the private sector to fund and support the scaling of VMMC demand creation interventions through direct funding and through public-private partnerships (PPP). In addition to funding implementation, key informants suggested large companies in priority countries could
further drive demand for VMMC through provision of paid time off for employees that undergo VMMC. Men often require several days off after undergoing VMMC and therefore are subject to lost wages and even job insecurity. Paid time off can effectively address this structural barrier and increase demand among the key demographic of adult males. Private companies have supported numerous HIV prevention and treatment initiatives, yet key informants felt the private sector has been slow to support VMMC projects due to VMMC being a controversial subject that could potentially affect a company’s reputation.

5. Measurement

The FGFS relies on the use of evaluation to establish support systems needed to scale interventions. Key informants described strengths and challenges of impact measurement of VMMC demand creation interventions and answered a series of questions related to indicators, evaluation methods, and systems needed to assess VMMC demand creation interventions at scale.

Several key informants referenced the quantifiable impact of VMMC as one of the strengths of VMMC demand creation interventions. Measuring the impact of VMMC demand-creation campaigns was described as less complex and more quantifiable than other HIV prevention techniques such as condom use, which relies on self-reported indicators and needs to be measured over a longer period of time. Key informants described how the relatively straightforward outcome— the removal of the foreskin— allows researchers to assess impact and also allows for analysis and mathematical modeling of population-level effect that may not be possible with other types of interventions.
Key informants also identified challenges to evaluating VMMC demand creation. Key informants described demand creation as “multi-faceted” and expressed difficulty in isolating the effect of several interventions at scale:

*Because we have mass media, we have informal talks that men have on their own, it becomes a long process. Maybe by the time the mobiliser comes in, this man has already got a substantial amount of knowledge on VMMC and has contemplated it over time and then he comes in and makes the decision. So measurement in the general population becomes difficult.* (Government)

Mass media campaigns were specifically mentioned as a form of demand creation interventions that are difficult to assess at scale. Key informants described mass media campaigns as highly valuable to VMMC demand creation strategies to provide accurate information and help change norms; however, multiple key informants specifically mentioned difficulty in quantifying the value of mass media campaigns. The following quote from a US government key informant describes how this challenge can inhibit policy makers’ ability to make decisions on where to invest resources:

*A lot of mass media is just raising awareness. It’s like these awareness campaigns have value- its good to keep it on people’s radar, its good to refresh the messaging and stuff, but we don’t know enough and you don’t want to blow your whole budget on them.*

**VMMC uptake indicators.** Key informants described VMMC uptake measurements—conversion rate and volume (total number) of clients— as effective and realistic indicators to assess impact of demand creation interventions at scale. A conversion rate is described as a relatively simple percentage: total number of VMMCs generated divided by total number of demand creation participants. A key informant described the need to look at conversion rates and volume in concert to gain understanding on effectiveness:
To say your intervention is working, you could do a conversion rate... or you could say that the numbers of men that you are reaching, as long as you are reaching more men. But you could have a lower conversion rate, even though you are ultimately reaching more men. So you have to look at it combined. (Donor)

While conversion rates are relatively simple to calculate in theory, key informants identified complexities associated with conversion rates. Conversion rates were described to be effective in measuring small-scale IPC demand creation interventions such as individual conversations or school-based interventions where the total number of participants (denominator) is well defined. However, key informants described challenges in calculating conversion rates of larger demand creation events, such as concerts, sporting events, or mass media campaigns due difficulty of describing and counting what constitutes a “participant.” Additionally, the time period in which VMMC uptake is measured was described as a challenge in calculating conversion rates. While demand creation interventions are generally assessed over a three-month period, key informants speculated it may take longer for a man to come to the decision to undergo VMMC. Key informants also recognized data collection needs to be capped at some time period and described how a longer period would likely add additional operational challenges and slower update on progress.

**Cost effectiveness.** Key informants described overall cost effectiveness as an important metric of overall VMMC demand creation (both delivery of services and demand creation). Key informants described the need for demand creation interventions to demonstrate a reduction in the unit expenditure (cost per VMMC conducted) for overall VMMC strategies. Additionally, key informants stated there is not target cost effectiveness rate, as figures are dependent on several variable factors. Rather, it was suggested effective demand creation interventions show continually show progress on cost-effectiveness as
they are scaled. Essentially, demand creation interventions should always aim to become slightly better and slightly cheaper every year. Additionally, key informants frequently described cost effectiveness as highly valued by donors, as seen in the following quote:

*But as you know, everything at the end of the day comes down to money and how cost effective or how costly an intervention is. What we normally see is that donors and implementers will just run away from the more costly interventions. So wherever RCT is done to demonstrate the feasibility and efficiency of a demand creation approach, we should also inform on the cost effectiveness of that specific approach.*

(Implementer)

Key informants also discussed some of the limitations to what we can infer from cost effectiveness analysis. For example, a donor described the difficulty in comparing cost effectiveness of demand creation across different demographics of men:

*We are doing some modeling work as well on cost and cost effectiveness. Part of the challenge is that because we are talking about different target groups, they are essentially different types of men; it’s hard to compare them in terms of what is actually more or less cost effective.*

(Donor)

Key informants described the need to be cautious in making definitive conclusions based solely on cost effectiveness analyses and identified the need to consider context for different demographics. For example, adult men remain a key demographic for demand creation, yet have been shown to be less likely to undergo VMMC and therefore appear more expensive to reach than adolescents. However, key informants described how adult men are at higher risk of HIV infection and circumcising adults can have a more immediate impact on HIV incidence, which is not reflected in the calculations. In this example, one would need additional information besides cost effectiveness findings in order to make an informed decision on whether to invest demand creation resources into programs for adults or adolescents.
Quality assurance. Key informants discussed the need to monitor the quality of delivery of VMMC demand creation interventions at scale. Key informants described how rigorous data collection methods used in the demand creation RCTs are not realistic or necessary to monitor quality of demand creation at scale. Instead, multiple key informants suggested collecting routine programmatic data to monitor performance of mobilizers, assess fidelity to the intervention, and improve efficiency.

Key informants described how programmatic data collection is useful not only to show whether or not an intervention works, but also to identify problems and make adjustments. As seen in the following quote, programmatic data are collected in order to calculate conversion rates for mobilizers and help identify where problems exist in the demand creation model:

*As you can see, in one IPC agent’s journey, we can tell how many clients they are reaching, how many are booking or showing intention to get circumcised, and how many are then actually getting circumcised. From that cascade we can see what we are calling, a ‘conversion rate.’ This is the number of people that actually get circumcised versus the number of people that our IPC agents are reaching. We then try and look at the drop offs in this cascade that each mobiliser has. Where are they being efficient or inefficient? Are they seeing more people than they are actually booking? Are they booking more people than they are actually circumcising? You’d be surprised at the reasons across the different drop offs on the cascade, both on the supply and demand side, it could be the quality of the IPC itself or the availability or quality of the actual service in that particular location.* (Implementer)

Key informants described having success in collaboratively establishing targets with mobilizers and continually tracking success against these targets. The following quote demonstrates the use of programmatic data to assess and support mobilizers while acknowledging the challenge of doing so at scale:

*What I find with the on-the-ground demand creation model is that about 40 % of your mobilisers will actually be effective. So what we do is we actually try to ensure that we look at every single mobiliser’s performance on a weekly basis. So you have to drill it*
down to that individual level, which sounds really daunting at scale. And it is. But it's about building a structure that allows for that scale up to happen. (Implementer)

A key informant referenced the PEPFAR guidelines for VMMC service delivery, which have been effective in ensuring safe and consistent surgical procedures at national levels. The key informant suggested a similar set of guidelines or a checklist can be developed to ensure quality of demand creation among mobilizers:

Because what we are grappling with is having something we know works at this small scale, knowing these critical components, how do you ensure that at a massive scale? We should do this same way that we ensure the technical guidelines are being followed for service delivery. We need a checklist as a quality assurance mechanism for demand generation strategies as well, you know? The mobilizers also need to do their job with quality and safety. (Implementer)

In addition to guidelines and checklists, key informants recommended using centrally designed monitoring tools that are accessible on smart phones and tablets to support quality assurance at scale. The use of a web-enabled platform was perceived to be less prone to errors than paper-based systems and also allows for real-time visuals and trackers to help monitor progress.

Key informants also identified the need to conduct qualitative evaluation to complement quantitative programmatic data. Key informants recommended conducting structured observation as part of qualitative evaluation of demand creation delivery. One key informant recommended using a “secret shopper” method in which mobilizers are unaware they are being observed. A GRS informant, on the other hand, suggested more supportive observations in which observer and mobilizer work together to build upon strengths and address problems. Key informants also suggested conducting regular qualitative interviews with clinics to assess whether demand creation activities are helping clinics meet their needs and to identify ways to strengthen the connection.
**Additional indicators** Multiple key informants described VMMC as a “numbers game,” with success highly dependent on total volume, conversion rate, and cost effectiveness. However, some key informants also described the need to look at “softer” indicators related to knowledge, attitudes, and norms when evaluating demand creation interventions. A man’s path to VMMC was frequently described as a “long journey” and key informants described value in demand creation activities that can not only increase uptake, but also help men move closer to VMMC uptake, as seen in the following quote:

> Although the simple way is to count how many men you spoke to and how many of those made the decision to circumcise. I think it would be good, when measuring, to also segment them into three: How many would say they do not want to be circumcised, after having heard your information? How many would be contemplating circumcision? And how many decide to take that step to get circumcised? I think the measurement of success could be at the different stages, but obviously the final one is those that sign up for circumcision. (African government)

One key informant also described how evaluating change in attitudes and norms can be of particular interest to donors. A key informant provided a hypothetical example in which an intervention demonstrates a relatively high conversion rate of 40%. In this instance, the high conversion rate says nothing about the value brought to the other 60% of participants who did not undergo VMMC. The key informant explained the need to demonstrate participants’ change in knowledge, attitudes, and norms in order to show progress towards uptake. This was described to be particularly important at scale. If only conversion rates are captured as an indicator of effectiveness, it could be interpreted that tens of thousands of males received no benefit from the demand creation intervention.
6. Barriers to scale

Key informants provided their views on barriers to scaling evidence-based VMMC demand creation interventions. The main barriers were identified as funding structures, government relations, and supply side constraints. Key informants also provided insight into specific barriers related to scaling adolescent VMMC demand creation interventions.

**Funding structures.** Key informants viewed the current structure of funding mechanisms such as PEPFAR as a barrier to scaling VMMC demand creation interventions. USAID country offices generally receive a sum of money annually that is used for both VMMC service delivery and demand creation. Some key informants felt the resources allotted for demand creation are simply insufficient to deliver demand creation at scale, as seen in the following quote:

> Even now the bulk of funding goes towards service delivery. If you look at a budget for a circumcision project, I would assume that 75% went towards delivery staff. You are prepared to pay a doctor $10,000 a month in South Africa, but your person in the field is getting paid $300 a month to go find people. Now which one is more important? The doctor does nothing unless the $300 paid individual is bringing people. We used what we called 'peer recruiters', which was our community workers or community healthcare workers, basically sales agents. We gave them some training, but not a huge amount, and they genuinely didn't have good formal educations - and then sent them out and told them to sell this to people [and got poor results]. (Implementer)

Additionally, key informants acknowledged there is still a dearth of knowledge related to cost-effectiveness of demand creation interventions. As a result, decision makers at USAID and other donor agencies aren’t equipped with the empirical evidence needed to determine an optimal balance of funding between service delivery and demand creation. A key informant from an NGO also described how current grant structures inhibit the ability to scale effective demand creation solutions:
I think the way the funding is structured around VMMC is not conducive to NGOs coming in and adding value. There’s usually a single entity that manages a large pot of funding and they’re doing a broad range of services from health systems strengthening down to demand creation. It’s not set up in a way that speaks to a creative partner doing innovative solutions to be integrated into what they do and being funded in the overall programming.

**Government.** Key informants described ways they felt government can act as a barrier to scaling VMMC demand creation interventions. As explored in the Relationships section in depth, key informants overwhelmingly described strong relationships with government ministries and official government endorsement as crucial to scale. Key informants described scaling demand creation interventions as nearly impossible to accomplish without government support, as seen in the following quote:

*A lot of the barriers to scaling these interventions are in the government. There are just a lot of structural issues that need to be overcome and that starts with the government... You can do sensitization and community mobilization and people will definitely come around, but if you don’t have government, it’s going to prevent things from happening. (US Government)*

Key informants emphasized how other stakeholders, including NGOs and US government, contribute to African government ministries acting as a barrier to scale. A key informant cautioned against blaming the African government ministries, as seen in the following quote:

*American money that funds so much of these projects - USAID logos and NGOs in countries managed by white expats or white South Africans, I think are all red flags to working with government. Government want to know that the NGOs they are working with will share or give them the credit for programs that are happening, will engage them in terms of decision making, will work within a government framework, both because it needs to be part of the system and it needs to be collectively safe for government to be interacting... It never looks good for people to say the government can’t deliver. (Implementer)*
Additionally, key informants explained the need to understand previous government experiences with VMMC in order to understand why government can act a barrier to scale. Three key informants referenced the ambitious plan for scale up of VMMC in Swaziland in 2010 through a PEPFAR-funded initiative aimed at increasing circumcision coverage to 80%. The initiative cost 15.5 million USD, or 484 USD per circumcised male, and was largely viewed as a failure. Demand creation activities implemented as part of this initiative were reportedly viewed as ineffective or coercive. Key informants explained how ministries of health throughout the VMMC priority countries are well aware of such situations, which can contribute to their reluctance to support the scale of demand creations interventions.

**Supply-side barriers.** Key informants identified supply-side barriers to scaling demand creation interventions. Effective demand creation interventions were described to be dependent on free, safe, and accessible VMMC services. However, key informants described situations in which VMMC services were unavailable or perceived to be of low quality, which limited the effectiveness of demand creation activities. For example, demand creation initiatives with adult men were believed to be more effective if clinics provided services that met their needs, including a separate waiting room from adolescent boys, accommodating operating hours, and a sense of privacy.

In addition to the surgical VMMC procedure, key informants mentioned other procedures such as PrePex, a non-surgical circumcision devise, and the Shang Ring, a disposable circumcision device that does not require suturing. One key informant described choice of VMMC method as a potentially motivating factor in men's decision to undergo VMMC and a compelling key message for mobilizers. However, the different VMMC methods are not consistently available in all clinics.
**Barriers to adolescents.** Finally, key informants described barriers to scaling demand creation interventions specifically designed for adolescents. Obtaining consent was consistently described as a barrier for adolescent interventions. While each country has slightly different processes related to personal assent and parental consent, the associated processes and paperwork were described as adding complexity to demand creation activities. The following quote provides examples of the challenges related to consent procedures:

*Your demand creation team goes in, creates demand. In Namibia, all boys younger than fifteen have to be accompanied by their parents, have sign consent forms, and bring birth certificates- it's quite a process, and it's similar in South Africa. Also we've found a lot of boys wanting to be circumcised, but they are not living with their parents and their guardians not legally appointed, so it makes it quite difficult.*

(Implementer)

Key informants provided stories of non-consent or coercion, which resulted in a breakdown in trust with community members and damaged organizational reputation. While obtaining consent was described as a barrier, key informants recognized the ethical need to ensure proper procedures are followed. To address this barrier, key informants described the need to conduct high quality training on consent procedures for all mobilizers. Follow-up calls and home visits were also described as effective strategies to obtain parental consent. However key informants acknowledged it can be difficult and expensive to ensure such are consistently conducted when implementing on a large scale.

7. **Sustainability**

Sustainability is a key component of FGFS model, and is an important design consideration at each stage in developing the scalable unit, testing of scale-up, and going to full scale. Key informants were asked a series of questions related to sustainability of
VMMC demand creation interventions. Emerging themes related to sustainability included maintenance of VMMC coverage, government adoption, and funding.

**General thoughts on sustainability.** Key informants first provided their general views on the sustainability of the greater VMMC field. Key informants generally expressed optimistic views that VMMC will continue to be an important component of HIV prevention strategies and that priority countries will continue their progress towards the target of national coverage. In describing their hopes for the future of VMMC, key informants cited aspirational examples where circumcision has been culturally adopted to the point where has become a societal norm, such as within ethnic groups in East and West Africa as well as Jewish and Muslim populations. A key informant also referenced Orange Farm, South Africa as a more recent example where VMMC became a social norm to the point demand creation isn't needed:

> The ideal scenario for me is actually a community that has had circumcision around for some time, where it is a cultural norm or social norm to get circumcised. Orange Farm might be a good example. It wasn't a circumcising township but because of the impact of [the trial], every year we see, without any demand creation, thousands and thousands of ten year-olds turning up on their own because their brothers or their cousins or their dads had been circumcised in the years gone by. The community just became aware that circumcision is what you do when you turn ten. (Implementer)

This same key informant expressed a belief that a long-term dedication to the community of Orange Farm from donors, government, and implementing partners contributed to this sustainability:

> I just think because we were there over a ten-year period - that's almost a generation. That's ten years, but imagine over 20 years or 30 years? When your father was circumcised telling you the son will be circumcised just because he is circumcised as the dad. Often that is the factor that converts you.
On the other hand, two key informants expressed a belief that VMMC is not a sustainable HIV prevention method. These key informants cited an overreliance on US government funding and a reluctance of African governments to adopt and sustain VMMC initiatives.

**Maintenance.** Some key informants described ways the VMMC field is gradually transitioning from an emergency response into a maintenance stage and expanded on how this shift will affect demand creation. Since VMMC was recognized by WHO and UNAIDS as a highly effective HIV prevention method in 2007, VMMC services were scaled in an emergency response. Due to the impressive progress in which more than 15 million males have been circumcised, VMMC has started to become a social norm in many communities. Key informants described how stakeholders will eventually shift their strategic priority from dramatically increasing VMMC coverage to sustaining current levels of coverage. As countries approach coverage of 80% or more, VMMC strategies, (including demand creation interventions) will need to adapt in order to address new barriers. Key informants described the sustainable implementation of several vaccines as following a similar path from emergency to maintenance periods. As the field grows into a maintenance stage, key informants explained there is still a role for demand creation, yet it will be quite different that it is now:

*I think that we still have a lot to learn on demand generation. This is not a closed book. As we go to a time where the low hanging fruit have been covered and we reach a certain level of saturation, we will need very innovative interventions to be able to sustain that saturation level and this is where demand generation is critical.*

*(Implementer)*

In the maintenance phase, key informants described how the focus on VMMC will likely shift from the general population of males to a more targeted focus on adolescents.
and infants. Two implementers describe this shift and propose a potentially important role circumcised men can play in having their infant sons circumcised:

_We’re not expecting to circumcise people at the same rate in a maintenance phase. Most likely, to sustain a certain level of circumcision coverage, we will focus efforts on a combination of adolescent and infant circumcision. And probably younger adolescents, like 10 to 14. Perhaps there are going to be countries where, as [10-14 year old males] get circumcised and have children of their own, they may seek to circumcise their infants. For the infants of circumcised men, the norm may change over time to weight sustainable implementation more towards infants. It’s going to look different for everybody and it’s hard to say, but sustainable coverage is going to be in younger guys._ (Implementer)

_Say I am a fifteen year-old boy and I am circumcised. By 35, I have a kid. Normally we want our kids to be a reflection of ourselves, we want them to identify themselves with us. I can’t quote any studies, but I do feel that fathers who are circumcised or families where the males in that family are circumcised are more prone to take their youngsters for the procedure._ (Implementer)

Key informants recognized that priority countries are at vastly different stages of VMMC coverage and it’s not possible to determine at what point which countries will enter a maintenance phase. Key informants described countries that have met or exceeded VMMC coverage targets, such as Kenya and Tanzania, as being further towards a maintenance approach than other countries.

**Government adoption.** Key informants generally described government adoption as a sustainable pathway to scale VMMC demand creation. However, key informants generally agreed it is highly unlikely that African governments fully adopt all aspects of VMMC including service delivery, demand creation, and funding. Rather, key informants suggested more realistic aims for government adoption include government endorsement, integration into structures such as VMMC national strategic plans and national school curricula, and shared costs with external donors.
Key informants provided views on government adoption as it relates to adolescent VMMC demand creation interventions. Some key informants described teachers as potential VMMC mobilizers at scale due to their consistent access to adolescents at scale. Others felt external mobilizers are preferable over teachers due to a belief that adolescents are motivated by experiences that feel special and “different than school.” Key informants described how engaging, exciting external mobilizers can generate a motivating experience that is more likely to encourage uptake than if delivered by teachers. In support of this perception, a scaling expert cited research findings suggesting potentially harmful effect of teacher delivery:

\[\text{What we have done successfully before is getting space and permission to come into schools with our own facilitators. We had the experience of actually training teachers to get a sense of what that looks like. What happened is the results of the teacher arm actually show that it does more harm - that they skew it to an abstinence message and that that is actually worse than the control group. The lesson is that we need to be really cautious of teacher delivery of highly sensitive HIV information because it can essentially just become a boost to an abstinence message.}\]

Some key informants expressed doubt that African governments would support demand creation interventions delivered by external mobilizers. However, one key informant provided an example where government supported the implementation and scale of a sport-influenced VMMC intervention that utilized external facilitators:

\[\text{The thing about Swaziland is that it's truly the only VMMC program where soccer was the essential ingredient of a national campaign that was scaled everywhere. Government bought into it. It wasn't in just one area or one district or one aspect, it was the strategy for the country - using soccer to reach and communicate. Swaziland government really embraced it and said, 'As a Ministry of Health, as a key delivery partner, this will be our approach.' (Implementer)}\]

Multiple key informants emphasized the need to “start with the end in mind” and to continually focus on national government adoption of VMMC demand creation
interventions. However, one key informant explained the benefit of starting small, in a single government entity or jurisdiction, which can potentially grow to national levels:

*I think a lot of people have been banging their heads against the wall trying to establish institutional government partnerships, whether it’s with a teachers union or a school system or the mining industry or something else. Those institutional partnerships that provide national or regional coverage are really difficult to broker and there are so many reasons to say ‘no.’ If you start small - for example, with the local police force in some district, or even a mining outpost somewhere - rather than making it a full institutional level, you seem to make more headway. It’s the same thing with scaling up a demand creation intervention. You have to start small and then keep tightening it up. Who knows where the ceiling or saturation level will be? But starting big and doing it top down tends to be more complex for organizations and partners. (Implementer)*

**Funding.** Key informants described multi-year, large-scale financial investments as crucial to sustain VMMC strategies. Key informants provided their views on the current VMMC funding landscape and discussed challenges and opportunities related to sustainable funding for VMMC demand creation.

As described in the previous section, government adoption was described as an important pathway to sustainability. However, key informants cautioned against assuming government will assume all costs of VMMC initiatives, as described in the following two quotes:

*I think the first part is agreeing that sustainable does not mean free, right? It may mean low cost or it may mean the costs have been embedded into routine government cost that they are willing to take up. I think the challenge we have is that whenever we talk about sustainability we think it’s going to be free or it’s going to be very cheap. It may not necessarily be all that, but I think sustainability in the context of adolescent programs is integrating the programs into existing platforms (Government)*

*I doubt that any country will decide to use their own domestic money - except maybe the middle-income countries like South Africa, Kenya, or Botswana. But the low-income countries? They will just say, ‘Oh, that is so bad. Wow, that is terribly sad, but we can’t do anything. We will have to close our VMMC clinics.’ (Implementer)*
Even if demand creation interventions are technically “adopted” by government, key informants described the need for continual external funding to support demand creation costs such as implementation, training, and evaluation.

While key informants agreed PEPFAR will likely continue to be the primary funding mechanism of VMMC strategies in the near term, key informants described a changing landscape in which PEPFAR funding for VMMC will likely be reduced in the coming years. A key informant described the risk of dependence on PEPFAR for VMMC funding:

*I can tell you that most of the NGOs working are 95%-100% dependent on PEPFAR funding and that is a problem, because what happens when funding runs out? This whole industry collapses.* (Implementer)

To adapt to this changing landscape, key informants discussed two main ways to access potential funding mechanisms outside of PEPFAR to support VMMC demand creation. First, key informants suggested there is an opportunity to engage donors of HIV prevention or general health programming that have not yet funded VMMC programming. An implementer from an NGO expressed optimism in engaging an existing donor to start investing in VMMC:

*There are major donors that have really good budgets on health. I think some of them can be convinced to provide a certain portion for VMMC. How this can happen is we can influence their decision at a procurement stage, while they are still planning on releasing the RFA [Requests for Applications].*

Second, key informants recommended engaging the private sector. As described previously, key informant described private sector companies as an untapped resource for VMMC funding. Key informants speculated private sector companies could be interested in funding VMMC programming if they see tangible benefits from engagement, including improved brand recognition and government subsidies to cover costs. It is important to note private sector engagement may vary by country, as some countries (such as South
Africa or Botswana) have more developed formal private sectors and increased employment opportunities.

Furthermore, a key informant provided guidance on sustainable funding for adolescent VMMC demand creation. It was suggested upcoming funding opportunities for adolescent boys will be structured similar to that of DREAMS, a PEPFAR-funded initiative to reduce HIV infections among adolescent girls and young women in sub-Saharan African. The key informant anticipated donors will provide similar multi-year grants to organizations and consortia that can demonstrate the ability to implement evidence-based VMMC demand creation interventions with in-school and out-of-school youth. Additionally, the key informant suggested donors will be most interested in supporting organizations with integrated VMMC demand creation interventions that address multiple drivers of HIV.

Finally, a key informant again referenced Orange Farm to emphasize the long-term dedication and resources that have enabled the community to transition from an emergency to maintenance stage:

*It’s a factor of time and of intense investment over time. It’s not cheap and it’s not easy. Sometimes funders are looking for cheap and easy and that just doesn’t exist. (Implementer)*

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2 Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe.
CHAPTER 5: DISCUSSION

This study was designed to answer the research question “How can an evidence-based adolescent male circumcision demand creation intervention be scaled to national levels in sub-Saharan African countries?” In an effort to more fully understand the critical factors to scaling evidence-based VMMC demand creation interventions in Africa, a literature review and qualitative study were conducted to address the following aims:

**Aim 1:** Establish an evidence base of what works in VMMC demand creation (literature review)

**Aim 2:** Establish key criteria for scaling evidence-based VMMC demand creation interventions

**Sub-Aim 2.1:** Establish key criteria for scaling evidence-based VMMC demand creation interventions specifically for adolescents (key informant interviews)

**Sub-Aim 2.2:** Provide general guidance on scaling health interventions (Key informant interviews)

The use of key informant interviews was the appropriate method for this study, as the perceptions of the leaders in the VMMC field had not been explored previously in a qualitative study. The experiences and ideas of government officials, implementing partners, and donors all contributed to a rich depiction of demand creation within the
broader context of VMMC strategies. The views of GRS staff members contributed to the exploration of the scale considerations faced by a small-medium sized NGO and directly informed the Plan For Change. MOE officials and community leaders, such as religious and traditional leaders, emerged as key stakeholders, yet were not included in this study. Given their clearly defined importance in scaling VMMC demand creation interventions, their participation would have strengthened the findings of this study.

The FGFS model was effective as a conceptual framework in guiding this study. The iterative approach of the FGFS model aligns with key informant feedback that interventions should continually collect and respond to programmatic data to inform an incremental approach to scale. The FGFS model also recognizes the critical role of government in “setting the agenda for change,”44 which reflects findings supporting the meaningful engagement of government early and throughout the path to scale. Furthermore, the development of the scalable unit was particularly valuable in developing the Plan For Change as GRS attempts to design its most efficient form of MTC to scale. However, there were also some limitations in using the FGFS model. The model was initially designed to guide the scale of health care initiatives, which somewhat limits its applicability to demand creation interventions. Furthermore, the FGFS model aims to scale without the addition of substantial new resources, which is a strength of the model as it developed for a resource-limited context of Africa. However, this study found substantial external resources are needed and will continue to be necessary for VMMC demand creation, even when interventions are technically “adopted” by governments. Additional research could support the development of a version of the FGFS model specifically for demand creation interventions.
The literature review of all completed RCTs on VMMC demand creation produced the following findings:

1. Interpersonal sessions and incentives show encouraging evidence of VMMC demand creation.
2. VMMC uptake varied greatly between studies, with 48% uptake\(^40\) to one showing under 2% VMMC uptake.\(^42\)
3. Straight incentives ($5 to $15) appear likely more effective than lottery-based incentives in increasing VMMC uptake.
4. None of the interventions studied in the included research trials appear to have been implemented or scaled beyond the impact evaluations.

Key informant interviews with 26 key informants produced the following six main results, summarized below:

1. Key informants described the following important components of scalable VMMC demand creation interventions: (1) Scalable interventions utilize ongoing collection of programmatic data (beyond RCT findings) to demonstrate initiatives become more effective, more affordable, and reach larger numbers; (2) Scalable demand creation interventions are targeted to address specific barriers and that there is no “one size fits all” approach for all males; (3) Scalable interventions must continually evolve to stay relevant and effective.

2. Location is an important criterion in scaling VMMC demand creation interventions, as there is considerable variability within the 14 VMMC priority countries.
Important considerations for selecting locations to scale include HIV burden, total population, remaining VMMC targets, population density. Additionally, it is important to consider regional/provincial-level data in addition to national data, as there are considerable differences within countries.

3. A consortium approach is critical to scaling VMMC interventions. African government ministries, community members, implementing organizations, and donors must all participate in meaningful engagement from the “pre-planning” phase through scale-up. The Ministry of Education and parents were identified as additional stakeholders when scaling adolescent interventions.

4. Impact measurement is an important consideration when scaling VMMC demand creation interventions. Key informants identified VMMC conversion rate, absolute VMMC uptake, cost effectiveness, ongoing quality assurance, and changes in norms and values as key metrics for VMMC demand creation interventions.

5. Key informants identified barriers to scaling VMMC demand creation interventions include difficult funding structures, challenges engaging government, and supply side barriers that affect availability and quality of services. Additionally, parental consent was identified as a key barrier facing scaling of VMMC demand creation interventions for adolescents.
6. Key informants described VMMC strategies as transitioning from an emergency approach to a maintenance approach as several countries make progress towards VMMC coverage. In order to support the maintenance of current VMMC coverage, the focus of demand creation interventions will likely transition from the general population of males to increasing circumcision rates among adolescents and infants. Government adoption was identified as a pathway to sustainability, but key informants were skeptical that governments would fully take on all activities, including funding, implementation, and evaluation. Finally, funding for VMMC is likely to change in the coming years, including a reduction in PEPFAR funding specifically allocated for VMMC. To remain sustainable, demand creation interventions will need to find new funding sources outside PEPFAR, including private sector funding.

As identified in the literature review, no VMMC demand creation intervention with strong RCT evidence has been scaled to date. Findings from the key informant interviews strongly suggest a consortium approach is essential to scaling VMMC demand creation interventions, no matter how strong the evidence is. A key informant from an NGO told a story that exemplifies this need to prioritize relationships in order to scale. The key informant built a consortium with multiple government ministries, donors, and researchers to conduct a nation-wide behavioral intervention pilot in schools in one African country. The findings from the pilot were largely inconclusive as to the effect of the intervention. However, instead of rejecting the intervention and the NGO, the government ministry representative asked him what his next intervention and study would be. In this
example, the strength of the relationship with the ministry appears to be more crucial to
scaling than the evaluation results. As NGOs seek to scale interventions with limited
resources, it can be difficult to justify dedicating time and energy to building relationships
with government, which can be perceived as slow moving and bureaucratic; yet, it seems
this emphasis on relationships is one of the most valuable investments to make if the goal
is scalability.

Throughout this study, it was apparent that VMMC is a fast evolving field. During
the transition into a maintenance phase, VMMC services will become more integrated into
comprehensive health programs for men and boys, which presents challenges for demand
creation. VMMC demand creation interventions to date have mostly relied on simple,
direct messaging focused on a singular outcome (VMMC); the integration of additional
health messages will likely introduce complexity and potentially confusion as messaging on
additional services is introduced. New health topics can also introduce the need for more
training and support for mobilizers, which can introduce higher costs of implementation
and lower cost-effectiveness. These new costs and complexities may make VMMC demand
creation appear less scalable to donors, who have been attracted to the simple and
straightforward approach of VMMC demand creation.

However, the integration of VMMC into comprehensive approaches to health
services also presents exciting opportunities. Males are generally less likely to use health
services in general, yet VMMC demand creation has shown male engagement is possible.
VMMC is an extremely personal and potentially intimidating procedure, but we have seen
men and boys will voluntarily commit to it if they feel their needs are being met and their
barriers are addressed. VMMC can be a very positive experience for men, which can help
position VMMC as an entry point for males into health services and the opportunity to introduce services such as HTS, STI screening and treatment, and contraception use. Through this study, we also found VMMC is not the most urgent need facing government and service providers. An integrated strategy including VMMC can be more compelling to stakeholders if it can also increase uptake of other, potentially more urgent health services. Therefore, an effective way to scale VMMC demand creation interventions may actually be to demonstrate the ability to increase demand for complementary services.

Through this study, several new research topics emerged. With the increased integration of VMMC into more comprehensive programming, a research opportunity exists to compare outcomes of a purely VMMC demand creation intervention against those of an integrated approach. Key informants also described the emerging importance of engaging circumcised men to circumcise their infant sons. Research is needed to learn how to effectively engage men (and their partners) to increase uptake of early infant circumcision. While key informants generally felt demand creation interventions warranted some of the funding available for VMMC service provision, some felt demand creation is over-funded and others felt demand creation is under-funded. Additional research is needed to help policy makers and donors determine an optimal ratio of demand creation costs to an overall VMMC budget. Finally, research is needed to explore VMMC demand creation in new settings. During the course of this study, South Sudan has been included as the 15th VMMC priority country and interest has grown about VMMC in Central African Republic. Research is needed to develop and study demand creation interventions in these post-conflict settings, which may differ from the other priority countries. Recent studies have also explored the acceptability of VMMC in low- to moderate-prevalence
settings outside of Africa, such as Thailand, India, China, and Haiti.\textsuperscript{78} To date, all VMMC demand creation studies have taken place in high- to mid-prevalence countries in Africa, and additional research may be needed for these new settings.

**Concluding remarks**

More than 15 million men and boys have undergone VMMC since 2007, providing an encouraging example of the progress that can result when governments, researchers, donors, and NGOs effectively coordinate to achieve a united vision. The VMMC field has produced vast knowledge on scaling HIV prevention services, supply chain management, demand creation, and male engagement that will continue to benefit the greater HIV prevention field. HIV remains the largest cause of years of life lost to boys and men in eastern and southern Africa\textsuperscript{49} and VMMC will continue to play a key role in HIV prevention strategies. As seen in this study, demand creation will remain a crucial component of VMMC strategies and exciting opportunities exist to scale evidence-based interventions. While there is no blueprint for scaling VMMC demand creation interventions, this study provides guidance for scaling in a fast-changing landscape.
CHAPTER 6: PLAN FOR CHANGE

Based on key informant interviews and personal knowledge of Grassroot Soccer, I developed a Plan For Change to help guide the organization’s path to scale Make The Cut. The Plan For Change also includes personal action steps I can take to enable this change. In this chapter, I describe the components of the scalable unit for MTC, discuss key scaling questions and provide corresponding action points, and present results from a scaling exercise to prioritize locations for GRS to scale MTC.

Scalable unit

The FGFS proposes the development of the “scalable unit,” which is described as the “smallest representative facsimile of the system targeted for full-scale implementation.” The scalable unit of MTC represents a lean mix of inputs that retains its effectiveness as it is scaled. Table 5 presents a summary of the MTC scalable unit.

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<th>Table 5: MTC scalable unit</th>
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<td><strong>Staffing</strong></td>
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Curriculum. Key informants emphasized the need for MTC to remain primarily an interpersonal communication intervention. While interpersonal delivery can be expensive and complex, key informants felt interaction with a dynamic, engaging mobilizer cannot be replaced with less expensive methods such as mass media campaigns or text messages. GRS key informants felt the coach-player relationship critical to the organization’s behavior change approach and was found effective in the MTC process evaluation.22 Key informants felt the soccer-based activity (Cut & Cover) and the personal story from a circumcised role model (Coach’s Story) were essential components of the MTC curriculum. Cut & Cover was viewed as important to ensure basic VMMC knowledge among participants, even in places where baseline knowledge of VMMC is high. Additionally, Cut & Cover was described as a “sticky” or memorable experience that helps facilitate the transition to more serious discussions in the Coach’s Story.

In order to scale MTC, the coach’s guide should include a package of interventions for different types of participants, including adult men, adolescent boys, and out-of-school youth. Doing so allows mobilizers and their organizations to implement in a variety of settings without needing additional materials or support from GRS. Additionally, given the need for VMMC demand creation interventions to fit into a wider package of health services, the MTC curriculum will also contain other evidence-based GRS activities on topics such as violence, substance abuse, condom use, and HTS.

Training: In-person training is integral to effective implementation of MTC. GRS typically facilitates five-day Training of Coaches (TOC) workshops and follow-up “refresher” training workshops for its comprehensive SRH interventions. Given the short duration of MTC (60 minutes), a three-day workshop is sufficient to fully meet the aims of...
the TOC: 1) equip coaches with comprehensive knowledge on VMMC and HIV prevention, 2) enable coaches to learn and practice delivering the 60-minute curriculum and clinic accompaniment, and 3) identify and address barriers to implementation. TOCs will also provide the opportunity for coaches to practice implementing MTC with boys. This approach has been highly valued by coaches and provides coaches a practical experience with the intervention. Following the TOC, annual support is needed to address challenges, update the curriculum, and respond to research findings. However, more research is needed to see if the refresher training could be conducted remotely in order to reduce travel and staff costs. Finally, the ratio of coaches to GRS trainer should not exceed 20:1, which is in line with GRS training guidelines.

In order to scale MTC, GRS will likely conduct more “cascade” training workshops or “Training of Master Coach” workshops for partner organizations, including NGOs, clinics, and potentially teachers. This will be an adjustment for GRS staff, as the organization is accustomed to conducting highly controlled and closely monitored direct trainings. GRS will develop a standard three-day standard training schedule. The schedule will require some customization based on experience of mobilizers, cultural considerations, and additional health topics to be integrated in the program. To date, MTC has been effectively implemented by circumcised male coaches and there is some indication female coaches are also effective.

**Follow up with MTC participants.** Follow up support after the delivery of MTC is integral to encourage males to undergo VMMC. Ongoing communication and coach accompaniment were found to be motivational factors to VMMC uptake in the RCTs. However, this type of support is likely expensive at scale and more research is needed to
identify whether mobile-based communication and support can be a cost-effective substitution for in-person follow-up.

**Media.** Mass media campaigns were perceived as valuable components of scalable VMMC demand creation strategies. GRS developed its own communications materials for MTC with adolescent boys, including a poster and mass SMSs; however these materials were not highly valued and were not perceived to contribute to VMMC uptake. This experience suggests GRS is not positioned to develop its own media campaigns due to lack of technical expertise and funding to develop campaigns. Rather, GRS will seek to align MTC with larger VMMC media campaigns, which was an effective approach in Swaziland with partners CHAPS and MOH on a nation-wide soccer-based campaign.

**Staffing.** To date, most VMMC activities at GRS have been conducted by a few senior-level staff members, which makes the organization’s VMMC work expensive and difficult to scale. In order to scale MTC, GRS must empower others staff members to conduct training, research, and advocacy on MTC. GRS will develop a training team of approximately eight to ten “Master Coaches” capable of conducting high quality training workshops. Additionally, monitoring and evaluation staff members will be trained to evaluate effectiveness of MTC and integrate methods into existing program evaluation frameworks.

**Action steps**

- I will present the scalable unit to GRS senior leadership to ensure the appropriate level of inputs is represented in the organization’s programming and in proposals. Additionally, I will support my colleagues to apply the scalable unit to all program design (not just VMMC) to ensure the organization consistently considers the appropriate mix of inputs.
One of the most important action steps I can take is to empower others at GRS to perform tasks related to the scalable unit. To date, I have done most of the curriculum development, training, and business development related to VMMC. I will engage junior staff members on VMMC projects, allowing them "quick wins" and slowly transition more responsibilities to them. Doing so will embed knowledge and skills within GRS while allowing me to focus on higher-level VMMC strategy.

**Key scaling questions and action steps**

Through the key informant interviews, three central questions emerged for GRS to address in its plan to scale MTC. In this section, I summarize these discussions and provide corresponding personal action steps.

1. **Direct implementation vs. partnerships.** A common debate among GRS staff members was whether GRS should seek to scale MTC through increased direct implementation by its own coaches or through increasing technical services to partner organizations.

   **Direct:** By increasing direct implementation of MTC, GRS is able to monitor quality of implementation using its existing M&E and support systems. Key informants also reported funders are more likely to fund local organizations to implement VMMC demand creation activities as opposed to funding foreign NGOs in a technical assistance role. GRS has deep community ties and strong relationships with funders, government, and other consortia members in its flagship countries as a result of more than 15 years experience in these countries. GRS can leverage these relationships to influence VMMC strategies and build consortia on VMMC demand creation. Additionally, through direct implementation, GRS is likely to be access data and claim attribution to outcomes.
However, GRS only directly implements its programs in Zambia, Zimbabwe, and South Africa, which limits its options to scale MTC. Also, while direct implementation in flagship sites allows for potential access to large-scale funding, only GRS South Africa has nation-wide presence GRS, which donors have identified as a barrier to funding GRS. Finally, GRS flagship sites implement a number of curricula in addition to MTC, which can introduce challenges due to competing priorities.

**Indirect:** Outside of its three flagship sites, GRS implements programming in approximately 48 other countries by providing technical assistance in the form of curriculum development, training, and monitoring and evaluation. One of the benefits of scaling MTC through partnerships is the ability to implement in several countries, as GRS has implementing partners in all 14 VMMC priority countries. Through partnerships, GRS can focus on the organization’s main strengths: curriculum development and training. Additionally, by working with best practice partners, GRS can potentially remove the need to collect VMMC clinic data, which has been a challenge in flagship sites.

Indirect implementation also has drawbacks. Some key informants felt there is limited funding available for technical assistance for VMMC demand creation, with only smaller, once-off grants available. Additionally, technical assistance roles are potentially less appealing to GRS as the organization is not likely to be able to influence strategy and direction of these projects. Also, GRS has experienced challenges accessing data and receiving recognition for its contribution on MTC partnership projects.

**Action steps**

- I will present findings related to direct and indirect programming to GRS senior leadership during the organization’s annual planning workshop.
• I will utilize my network of influencers in the VMMC field to help GRS scale MTC through both direct and indirect implementation. In the flagship sites, I will help GRS strengthen relationships with consortia members and seek to access funding to scale MTC. Additionally, GRS is currently expanding its presence in Zimbabwe and Zambia and I will leverage this expansion to receive grants earmarked for organizations with national presence.

• To scale outside its flagship sites, I will remain opportunistic and target opportunities in countries that are lagging in VMMC coverage, as these countries generally have PEPFAR funds available for innovative approaches to demand creation.

• I will also work with our business development team to develop more thorough contracts in partnership contracts to ensure GRS receives recognition of its contribution.

2. Stand-alone vs. integrated approach: Another important debate that arose was whether GRS should seek to scale MTC as a stand-alone intervention (the format that was evaluated in the RCTs) or a component of an integrated approach offering a wide package of health services to males.

   **Stand-alone:** The once-off, 60-minute intervention is simple to deliver, has a strong evidence base, and appears cost-effective. The intervention is also easy to modify for partners and fills a role for organizations seeking innovative approaches to increase demand for VMMC. However, both GRS and the broader VMMC field are generally trending
towards more integrated approaches, and demand for the stand-alone version of MTC may be decreasing.

**Integrated:** MTC can be utilized as an entry point for men to access other health services, making it more attractive to governments and funders than the once-off approach. Also, GRS has a vast inventory of evidence-based activities on additional health topics that can be modified for an integrated curriculum with relatively little research and development. However, the integrated approach may appear less cost-effective and potentially less quantifiable than the once-off approach.

**Action steps:**

- GRS will primarily seek to scale an integrated approach where the organization has the most influence, such as in flagship sites. I will ensure GRS introduces its integrated approach with consortium members at the pre-planning stage.
- Meanwhile, I will also utilize my network to ensure GRS remains able to provide technical assistance to organizations on stand-alone version of MTC where there is clear demand.
- In my role as Technical Advisor, I will also continue exploring the additional health services that can be integrated into MTC. For example, there appears to be burgeoning demand from organizations and funders to include HIV self-testing into VMMC programming and I will oversee the corresponding intervention design and feasibility study.
3. **Men vs. boys.** Males 15 and older remain the priority age group for VMMC. However, there is still great demand for effective demand creation interventions for men 18 and older, who have been slower to adopt VMMC.

**Men:** While MTC has been found most effective with adolescent boys, the intervention still found encouraging evidence of effect with adult men in the first Zimbabwe RCT. Additionally, soccer is one of the main ways men congregate, which provides an exciting opportunity to scale VMMC demand creation interventions. There also appears to be ample funding available from PEPFAR and other donors for effective VMMC demand creation interventions for men.

However, GRS is an adolescent health organization with limited expertise in reaching adult men. GRS would likely need to partner with organizations that specialize in men’s health to develop effective approaches for adult men.

**Boys:** GRS has more than 15 years experience as an adolescent health organization and MTC has been found most effective with boys 15-19 in multiple countries. However, boys are generally more willing to undergo VMMC, making governments and donors less interested in adolescent interventions.

**Action steps**

- I will support a GRS colleague who is developing the organization’s strategy on engaging men and boys. I will ensure the strategy reflects the need for GRS to continue to implement MTC with boys as part of its comprehensive SRH programming. I will also strengthen the organization’s M&E procedures and operations to improve measurement of VMMC uptake.
• I will lead GRS’s expansion of MTC to countries such as countries such as Tanzania and Kenya, which that have achieved target coverage and are seeking to increase demand among boys ages 10-14. I will work with our business development team to capitalize on current tangible opportunities in these countries.

• I will lead and support additional research on soccer-based approaches to VMMC demand creation for men, as the potential for soccer to increase VMMC demand among adult men has not been fully explored.

**Country prioritization exercise**

Based on key informant responses and supplementary demographic data, I conducted a simple exercise to identify the most appropriate countries for GRS to focus its efforts in scaling MTC. This exercise identified each of the 14 priority countries as high, medium, or low importance for MTC scale-up.

Each country received a score of one (low), two (moderate), and three (high) for each criterion in comparison to the other countries. Scores for each criteria were weighted differently, according to key informant responses: HIV prevalence scores were multiplied by 3; total number of people were multiplied by 2.5, VMMC PEPFAR targets were multiplied by 2, total population was not weighted; and population density was multiplied by .5. Total scores were calculated using the formula below:

\[
\text{Total score} = \text{HIV prevalence} \times 3 + \text{Total population living with HIV} \times 2.5 + \text{VMMC PEPFAR targets} \times 2 + \text{Total population} \times 1 + \text{Population density} \times 0.5
\]
### Table 6: Countries for demand creation scale-up

<table>
<thead>
<tr>
<th>Country</th>
<th>HIV prevalence</th>
<th>Score</th>
<th>Number of people living with HIV</th>
<th>Score</th>
<th>VMMC PEPFAR targets</th>
<th>Score</th>
<th>Total population</th>
<th>Score</th>
<th>Population density (in/km²)</th>
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<th>TOTAL SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botswana</td>
<td>21.50%</td>
<td>3</td>
<td>360,000</td>
<td>1</td>
<td>21,000</td>
<td>1</td>
<td>2,024,904</td>
<td>1</td>
<td>3.80</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>1.00%</td>
<td>1</td>
<td>710,000</td>
<td>2</td>
<td>26,081</td>
<td>1</td>
<td>99,391,000</td>
<td>3</td>
<td>88.20</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>Kenya</td>
<td>5.40%</td>
<td>1</td>
<td>1,600,000</td>
<td>2</td>
<td>94,204</td>
<td>1</td>
<td>45,533,000</td>
<td>3</td>
<td>79.00</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>Lesotho</td>
<td>25.00%</td>
<td>3</td>
<td>330,000</td>
<td>1</td>
<td>36,081</td>
<td>1</td>
<td>1,894,194</td>
<td>1</td>
<td>70.30</td>
<td>2</td>
<td>15.5</td>
</tr>
<tr>
<td>Malawi</td>
<td>9.20%</td>
<td>2</td>
<td>1,000,000</td>
<td>2</td>
<td>94,227</td>
<td>1</td>
<td>16,832,900</td>
<td>3</td>
<td>145.30</td>
<td>3</td>
<td>17.5</td>
</tr>
<tr>
<td>Mozambique</td>
<td>12.30%</td>
<td>2</td>
<td>1,800,000</td>
<td>2</td>
<td>398,130</td>
<td>2</td>
<td>28,013,000</td>
<td>3</td>
<td>34.90</td>
<td>1</td>
<td>18.5</td>
</tr>
<tr>
<td>Namibia</td>
<td>13.80%</td>
<td>2</td>
<td>230,000</td>
<td>1</td>
<td>43,603</td>
<td>1</td>
<td>2,280,700</td>
<td>1</td>
<td>3.00</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Rwanda</td>
<td>3.10%</td>
<td>1</td>
<td>220,000</td>
<td>1</td>
<td>97,886</td>
<td>1</td>
<td>10,515,973</td>
<td>2</td>
<td>440.80</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>South Africa</td>
<td>18.90%</td>
<td>3</td>
<td>7,100,000</td>
<td>3</td>
<td>581,656</td>
<td>3</td>
<td>54,956,900</td>
<td>3</td>
<td>44.70</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>Swaziland</td>
<td>27.20%</td>
<td>3</td>
<td>220,000</td>
<td>2</td>
<td>22,050</td>
<td>1</td>
<td>1,119,375</td>
<td>1</td>
<td>74.10</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>Tanzania</td>
<td>4.70%</td>
<td>1</td>
<td>1,400,000</td>
<td>2</td>
<td>866,552</td>
<td>3</td>
<td>51,046,000</td>
<td>3</td>
<td>56.60</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>Uganda</td>
<td>6.50%</td>
<td>2</td>
<td>1,400,000</td>
<td>2</td>
<td>696,924</td>
<td>3</td>
<td>34,856,813</td>
<td>3</td>
<td>165.40</td>
<td>3</td>
<td>21.5</td>
</tr>
<tr>
<td>Zambia</td>
<td>12.40%</td>
<td>2</td>
<td>1,200,000</td>
<td>2</td>
<td>271,260</td>
<td>2</td>
<td>15,473,905</td>
<td>3</td>
<td>21.50</td>
<td>1</td>
<td>18.5</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>13.50%</td>
<td>2</td>
<td>1,300,000</td>
<td>2</td>
<td>306,139</td>
<td>3</td>
<td>13,061,239</td>
<td>2</td>
<td>39.90</td>
<td>1</td>
<td>19.5</td>
</tr>
</tbody>
</table>

The following chart shows the result of this exercise. Mozambique, South Africa, Uganda, Zambia, and Zimbabwe were identified as high priority countries for VMMC demand-creation scale-up. These findings are consistent with key informant responses related to specific countries.
Table 7: High-, mid-, and low priority VMMC demand creation countries

<table>
<thead>
<tr>
<th>High priority countries</th>
<th>Mid priority countries</th>
<th>Low priority countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total score ≥18.5</td>
<td>Total score 15.5-18</td>
<td>Total score ≤15</td>
</tr>
<tr>
<td>Mozambique</td>
<td>Lesotho</td>
<td>Botswana</td>
</tr>
<tr>
<td>South Africa</td>
<td>Malawi</td>
<td>Ethiopia</td>
</tr>
<tr>
<td>Uganda</td>
<td>Swaziland</td>
<td>Kenya</td>
</tr>
<tr>
<td>Zambia</td>
<td>Tanzania</td>
<td>Namibia</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td></td>
<td>Rwanda</td>
</tr>
</tbody>
</table>

This exercise is subject to limitations. As described previously, it is important to consider regional data in addition to national data, and these findings may not represent differences within a country. For example, VMMC is only recommended for the Gambela region of Ethiopia, which has a population of approximately 307,000 compared to the national population of more than 100 million. Additionally, this analysis only included VMMC targets from PEPFAR COP guidance for each country, which may vary from national government VMMC targets. However, national government VMMC targets are not all publicly available nor are they presented in similar formats, which would not allow for comparisons between countries. Finally, the formula for scoring countries as high, medium, and low priority is not an externally validated method; it was developed specifically for this exercise based on the distribution of available data.

Action steps:

• I will present the findings from this exercise during GRS annual planning workshops to ensure they are considered in the development of GRS’s scale strategy. I will convey the urgency of capitalizing on the tremendous opportunities that exist in the countries identified as “highly important.”
• In the past six months, GRS has applied for PEPFAR funding as sub-grantees on VMMC programs in South Africa, Zambia, and Zimbabwe. GRS also recently conducted a VMMC stakeholder workshop in Mozambique with MOH, CDC, and several implementing partners. I will strongly recommend GRS step up its efforts in Uganda and Swaziland, where the organization conducted a successful feasibility studies in 2016, yet has had little contact or follow-up with partners over the past year.
APPENDIX A: KEY INFORMANT INTERVIEW GUIDES

Cover Sheet: Key Informant Interview Guide: GRASSROOT SOCCER

Instructions to the interviewer: Complete the following information prior to the interview. Read the introduction to the interviewee. After collecting initials, detach the cover sheet. Start the recorder and state aloud the participant’s study ID number, date, and time of the interview.

<table>
<thead>
<tr>
<th>Interview Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
</tr>
<tr>
<td>Start Time:</td>
</tr>
<tr>
<td>End Time:</td>
</tr>
<tr>
<td>To be completed after the interview:</td>
</tr>
<tr>
<td>Duration of IDI:</td>
</tr>
<tr>
<td>minutes</td>
</tr>
<tr>
<td>Venue:</td>
</tr>
<tr>
<td>Interviewer:</td>
</tr>
<tr>
<td>Co-Interviewer/Observer:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Participant Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
</tr>
</tbody>
</table>

Introduction

“We greatly appreciate your agreeing to participate in this interview. You have been selected for this interview because you have been identified as a senior leader at Grassroot Soccer and integral to their work on Voluntary Medical Male Circumcision or scaling evidence-based programming for youth. I am going to ask you some questions and there are no right or wrong answers and you may answer in any way. Your answers are completely confidential. Your name will not be written on this form, and will never be used in connection with any of the information you tell me. You do not have to answer any questions that you do not want to answer, and you may end the interview at any time if you want to.

However, your answers to these questions will help us better understand your views on how to scale evidence-based HIV prevention initiatives. The interview will take about 60 minutes or less. It will be recorded and transcribed for the sake of accuracy and for review by the team that will be working on this research project, and potentially by others, but only for research purposes.

Thank you for your cooperation.

First, let me introduce myself. I am..., and I will be asking you some questions today. <Other researchers or observers now introduce themselves and state their roles.> Remember there are no ‘right’ or ‘wrong’ answers-- please be honest and critical, as it will help us learn. We are here to learn from you.

Remember that you gave consent to participate in this study. To ensure that no one has pressured you to participate in this interview, please initial (don’t sign) below.”

Initials of participant: ____________ Date: ____________
Initials of interviewer: ____________ Date: ____________

Turn on the voice recorder. Record the participants’ study ID number and the date, time, and location of the interview and begin the interview.
### Key Informant Interview

<table>
<thead>
<tr>
<th>Conceptual model section</th>
<th>Topic</th>
<th>Main questions</th>
<th>Follow-up questions</th>
<th>Probes</th>
</tr>
</thead>
</table>
| **Introduction**         | 1. Experience in HIV prevention | What type of work do you do in relation to HIV prevention?  
How did you get into this line of work?  
How would you describe your role at GRS? | | What are your key functions? |
| **Phases of scale-up**   | 2. Views on scaling (general) | Now I’m going to ask you about your views on Grassroot Soccer’s strategy to scale its adolescent health programming.  
Why is it important for Grassroot Soccer to scale its programming at this stage of the organization?  
Can you describe Grassroot Soccer’s scaling plan in your own words? | | How have you determined which programs you will scale?  
What are some of your targets? |
| **Phases of scale-up**   | 3. Views on scaling Make The Cut | Can you tell me your views on the importance of Make The Cut in the GRS scaling strategy in relation to other programs?  
What are some of the barriers facing GRS in scaling Make The Cut?  
What are GRS’ strongest opportunities to scale Make The Cut? | | What is unique about Make The Cut from other Grassroot Soccer programs?  
What do you like or dislike about Make The Cut?  
What makes MTC easy to scale?  
What makes MTC difficult to scale?  
Is parental consent a barrier to scale? Why or why not? |
<table>
<thead>
<tr>
<th>Phases of scale-up</th>
<th>4. Views on MTC intervention</th>
<th>Health interventions are often modified when they are scaled or implemented in new geographies.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>What are the components of Make The Cut that you feel are crucial when scaling the intervention?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What components are you willing to modify or exclude when scaling?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Make The Cut was evaluated as a stand-alone intervention. How important is this aspect of the program when scaling?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How important is the coach-player relationship?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How important is coach accompaniment to the clinic?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How important is the 60-minute sport-based session?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How important is training?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What would you recommend if a potential partner only wanted to integrate certain parts of the MTC intervention?</td>
</tr>
<tr>
<td>Phases of scale-up</td>
<td>5. Views on geographic focus for MTC</td>
<td>Within your country, which provinces or regions are priorities for MTC? Why?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What criteria make an area a priority?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Existing partnerships? HIV incidence? Funding opportunities?</td>
</tr>
<tr>
<td>Adoption mechanisms</td>
<td>6. Views on partnerships</td>
<td>GRS seeks to scale its impact through its work with implementing partners.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Can you describe the ideal implementing partner for Make The Cut?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Which existing implementing partners are most important to scale MTC? Why?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Are there any specific organizations you would like to become implementing partners of MTC? Why?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>International NGO? Local community-based organization? VMMC service provider? Existing relationships with government?</td>
</tr>
<tr>
<td>Adoption mechanisms</td>
<td>7. Views on important relationships</td>
<td>I am now going to ask you about a few types of relationships related to scaling Make The Cut.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relationships can include</td>
</tr>
<tr>
<td>Adoption mechanism</td>
<td>8. Views on communication</td>
<td>Now I’m going to ask you some questions about communication strategies related to VMMC demand-creation.</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------</td>
<td>---------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How do you feel Grassroot Soccer can most effectively disseminate its VMMC demand-creation results and strategy to stakeholders?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What is the most important information to communicate?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How can communications materials be used to engage and support Make The Cut implementing partners?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How important are academic papers and conference presentations?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How important are technical working groups, dissemination meetings, etc</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How can GRS best disseminate findings to non-technical audience?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Support Systems</th>
<th>9. Views on resources</th>
<th>What are the key investments GRS needs to make to scale Make The Cut?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>implementing partners, researchers, VMMC service providers, board members, and government officials.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How can GRS most effectively leverage its current relationships?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How can GRS develop these relationships?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Where does GRS have the strongest relationships with government ministries?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What are the most important relationships Grassroot Soccer currently has in regards to VMMC demand-creation? Why?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What are the key relationships Grassroot Soccer needs to develop to scale Make The Cut?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How can GRS effectively engage government ministries in scaling Make The Cut?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Are there any other key relationships that you feel are important in scaling VMMC demand-creation initiatives?</td>
</tr>
<tr>
<td>Support Systems</td>
<td>10. Views on impact measurement</td>
<td>Now I am going to ask you some questions on how GRS can measure the impact of Make The Cut at scale.</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What data are important to capture to show impact of Make The Cut at scale? Why?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What are the challenges to measuring the impact of Make The Cut at scale?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How can Grassroot Soccer monitor quality of implementation at scale?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How can GRS measure VMMC uptake at a national level?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How would you address these challenges?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How do you measure fidelity to the curriculum, recruitment and training of coaches, etc.?</td>
</tr>
<tr>
<td>Closing</td>
<td>11. Closing</td>
<td>Do you have any additional thoughts you would like to share?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Are there any resources you would recommend?</td>
</tr>
</tbody>
</table>

- What funding sources can Grassroot Soccer access to scale Make The Cut?
- What are the current trends in funding of VMMC programming for youth that must be considered? How do these trends affect GRS?
- What human resources are needed? Business development? Additional research?
- Is there funding in current grants, unrestricted funds, etc.?
- Can funding be accessed through VMMC service providers, US government funds, foundations, funding at national levels (MOH), private sector funding, etc.?
- Do you foresee any increase or decrease in VMMC funding? Any other important shifts?
- Are there any simple ways to monitor uptake that are still meaningful?
REFERENCES


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