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Programme and operational considerations on sustaining voluntary medical male circumcision services with a focus for adolescent boys

1. Introduction & Background

Medical male circumcision was recommended by WHO and UNAIDS in 2007 as an additional HIV prevention intervention in settings of high HIV burden and low male circumcision prevalence where impact on the epidemic would be greatest [1,2]. This recommendation was based on a consistent finding in numerous clinical studies that showed male circumcision reduced men's risk of becoming infected with HIV through heterosexual intercourse by as much as 60% [3–5]. A public health approach to implementing this recommendation implied progressively expanding access to safe MC services within the context of ensuring universal access to comprehensive HIV prevention, treatment and care services.

Voluntary medical male circumcision (VMMC) implementation has made remarkable progress since 2007 in priority countries of East and Southern Africa, scaling up from nascent pilot projects to performing more than four million circumcisions in 2017. Cumulatively between 2008 and 2017, 18.6 million voluntary circumcisions for HIV prevention have been performed in the 14 priority countries in Eastern and Southern Africa, averting an estimated 230,000 new HIV infections [6]. As countries approach initial targets of 80% coverage among adolescents and adult men, and continue to strive for higher coverage of 90%, national programmes are now faced with identifying how to maintain this coverage over the longer term.

Integrated people-centred health services which emphasis putting people and communities, not diseases, at the centre of health systems, and empowering people to take charge of their own health rather than being passive recipients of services, have been identified as crucial [7]. The population group(s) to focus on for sustaining coverage will affect decisions on actions and resources use. The two main population groups to focus on would be adolescents and/or infants. To date, the highest VMMC uptake has been among adolescents [8] reflecting a 'natural demand' and acceptability of MC during adolescence [8,9]. Adolescent health is a top priority for the African region, given the large proportion of the population currently or entering into this age group which is or will become sexually active in the near future [10]. VMMC service delivery has already demonstrated an ability to reach adolescent boys – a group rarely reached but with unique health service needs. A repackaging of services may thus also be needed.

The infant-age group would need to be reached through different health programmes (particularly maternal and child health) and stakeholders; careful consideration will be needed regarding risks and benefits, acceptability, as well as ethics and human rights. Until high coverage has been reached among infants, adolescent MC services will still be needed. This guidance thus focuses only on the adolescent age group as a next step in the progressive transition.

Service delivery approaches will need to be reconsidered, as VMMC delivery to date has been predominantly through vertical approaches with implementing partners supporting national programmes. This chapter of the guideline offers countries with programmatic and operational considerations for transitioning from the current VMMC service delivery approaches to locally informed, sustainable approaches with an adolescent focus. A health system building blocks framework is used[11] to assess issues and opportunities to enhance the sustainability of VMMC services.

Section 1 provides some background information. Sections 2, 3, 4 and 5 provide brief contextual information regarding the objectives, audience, principles, and methodology for the chapter respectively.

Section 6 outlines the health system building block framework and how it applies to VMMC specifically. It details for each health system building block, key components, considerations, issues, potential action items, tools and resources. The action items were adapted from existing guidance documents, published literature and technical reports, and draw on key informant interviews and case examples. A sustainability assessment tool was developed for each building block and can be found in Appendix III. Section 7 outlines key considerations for countries to operationalize and implement the concepts outlined in section 6. Section 8 shares lessons learned from several relevant cases. Section 9 offers overall conclusions and Section 10 provides references.

2. Overall objective

The overall objective of the chapter is to support national ministries of health and partners as they transition VMMC from the current adult and adolescent-focused vertical service delivery approach to a country owned, integrated and adolescent-focused approach.

Countries aiming to focus on a different age group or a mixed approach towards sustainability, for example early infant male circumcision or other age groups are encouraged to give careful consideration for risks and benefits, acceptability issues of ethics and human rights and resources available to deliver safely early infant MC.

3. Target audience

The target audience for the guidance is programme managers and relevant health, social welfare, education, finance and other ministry officials in countries with generalized HIV epidemics where VMMC is implemented as an additional HIV prevention intervention. Secondary audiences include implementing partners and funding agencies.

4. Overarching principles

While leveraging existing WHO models and frameworks, the overarching principles of this guidance are:

1. Embedded within routine health systems – VMMC integration has the potential to enable efficiencies and spur relationships with adolescent programmes within routine health systems.
2. High quality and people centred[1]- Quality of services should be a top priority and such services should put people and communities, not diseases, at the centre of health systems, empowering people to take control of their health
3. Widely accessible - In alignment with Universal Health Care (UHC) principles, all people should have access to necessary, affordable, and effective health services (including prevention)
4. A co-produced approach – engaging and empowering people and communities to tailor solutions relevant to community context, adolescent life course needs and to achieve change together with governments and partners. This principle implies participation and mutual accountability
5. Adolescent-focused - the adolescent age group is prioritized, as noted in the introduction. Reorienting service packages and delivery to adolescents in a sustainable effective manner to achieve both near-term impact on the HIV epidemic and address other relevant health needs.

[1] Integrated people-centred health services means putting people and communities, not diseases, at the centre of health systems, and empowering people to take charge of their own health rather than being passive recipients of services

5. Methods

An initial framework and outline were established based on the health system building blocks[11] and the WHO Global Accelerated Action for the Health of Adolescents[12]. This approach was first validated through outreach to individuals in the VMMC field and across WHO, and additionally through a feedback from select individuals with expert knowledge and experience in VMMC service delivery via a webinar held in July 2018.

Formal and informal semi-structured interviews were conducted, and consultations held with key informants in each of the building blocks from Ministries of Health; UN agencies (WHO, UNICEF, World Bank); PEPFAR agencies (CDC, USAID); implementing partners and youth groups civil society. An initial list of interview participants was developed, seeking individuals who could focus on one or two of the health system building blocks, at either a country, regional or global level, and was further supplemented through snowball sampling. In August and September 2018, 19 structured and semi-structured key informant interviews were conducted. Interviews were conducted virtually, and summary notes taken during each interview. A manual analysis of the interview notes was completed based on key themes that mirrored the health systems building blocks and categories that mirrored the key components. A complete list of interviewees can be found in the appendix.

To supplement the key informant interviews, a targeted literature review was conducted, including existing guidance documents, published literature and technical reports on VMMC, HIV, person-centred care and adolescent health. All framework assessment tables were reviewed by appropriate departmental staff within WHO, and revisions were made accordingly. Findings were synthesized to develop a version that was shared at the WHO Guideline Development Group (GDG) meeting in November 2018.

After the November GDG meeting, additional rounds of consultations were held with multiple, varied stakeholders and experts towards the final writing of the chapter, which was then peer reviewed towards final publication.

6. Framework for transitioning to sustainable services

This section discusses definitions of sustainability, the approach and conceptual framework towards sustainability, the health systems building blocks and their components, key considerations and actions for each component. Assessment considerations for each building block are noted, however, the detailed assessment tables are in Annex III. The processes of moving from assessment to implementation are discussed in section 7.

a. What is sustainability

There is not a universally agreed definition of sustainability as its meaning varies depending on context, setting and situation. Key informant interviews conducted with experts however revealed nuances for understanding sustainability in the context of VMMC:

- The capacity of VMMC services to continue to function effectively for the foreseeable future and maintain high VMMC coverage
- VMMC services being integrated into the routine systems and services
- Strong country ownership and leadership through a co-produced approach with community participation, and sub national, national, regional and global support
- Resource mobilization, both domestic and external funding, coordinated through the government.

b. A health systems approach

A health systems approach is key to sustaining services for VMMC. The underlying characteristics and relationships of the health system should be understood, and then effective actions may be specified and implemented towards sustainability.

Based on the World Health report of 2000, a discrete number of "building blocks" have been defined that make up the health system: service delivery; health workforce; information; medical products, vaccines and technologies; financing; and leadership and governance (see Figure 1). These building blocks provide a structure to further describe essential functions of the health systems, assess their attributes, identify gaps, set priorities and plan for action that considers the interrelatedness of each block of the health systems[11]. Importantly, the health systems approach using the building blocks resonated with national programme managers during consultations on the writing of this chapter.

THE SIX BUILDING BLOCKS OF A HEALTH SYSTEM

- Good **health services** are those which deliver effective, safe, quality personal and non-personal health interventions to those that need them, when and where needed, with minimum waste of resources.
- A well-performing **health workforce** is one that works in ways that are responsive, fair and efficient to achieve the best health outcomes possible, given available resources and circumstances (i.e. there are sufficient staff, fairly distributed; they are competent, responsive and productive).
- A well-functioning **health information** system is one that ensures the production, analysis, dissemination and use of reliable and timely information on health determinants, health system performance and health status.
- A well-functioning health system ensures equitable access to essential **medical products, vaccines and technologies** of assured quality, safety, efficacy and cost-effectiveness, and their scientifically sound and cost-effective use.
- A good **health financing** system raises adequate funds for health, in ways that ensure people can use needed services, and are protected from financial catastrophe or impoverishment associated with having to pay for them. It provides incentives for providers and users to be efficient.
- **Leadership and governance** involves ensuring strategic policy frameworks exist and are combined with effective oversight, coalition-building, regulation, attention to system-design and accountability.

Figure 1: Description of the six building blocks of a health system. (Everybody's Business, 2007)

c. Conceptual framework and process towards sustainability (6 building blocks, 25 key components and 55 key component considerations)

The health systems building blocks, serve as the foundation for sustaining services. This chapter offers the WHO health systems building blocks as a framework for the guidance. Countries may choose to adapt as relevant as they lead a process to assess their existing programmes and identify opportunities to transition towards sustainability.

Each of the six health system building block has been further divided into components relevant to sustaining VMMC services (see Table 1). Key considerations are highlighted for each component; each key component consideration has milestones to determine the status of a country in terms of stages of transitioning towards sustainability: early, intermediate or advanced. See Annex III for detailed assessment. In total, there are 6 building blocks, 25 key components and 55 key component considerations

Alongside the six known building blocks, a seventh category, critical enablers, has been added because it encompasses important areas to consider that support all the buildings blocks without necessarily fitting into a specific block. Implementation considerations are then highlighted. Planning should consider the short, medium and long-term goals towards sustaining MC coverage. Key to this will be evidence of programme benefits, risks, as well as consultation with key stakeholders.

Table 1: Health systems building blocks and components framework for sustainable MC services. 6 building blocks and 25 components.

Building block	Component	Building block	Component
Finance	Resource allocation and mobilization	Supplies and Equipment	Norms and standards
	Purchasing of services		Procurement, supply and distribution
	Financial risk protection		Quality of MC supplies and equipment
Health Workforce	Health workforce planning	Leadership and Governance	Programme leadership and coordination
	Pre-service and continuing education		Accountability, oversight and regulation
	Management, support and supervision		Inter-sectoral coordination
			Health sector plans and policies
Strategic Information	Data collection and management	Service Delivery	Access (strategic planning of health services)
	Data quality		Reorienting service delivery models
	Data analysis and use		Empowering and engaging people
	Safety monitoring		Safety and quality
Critical enablers			
Adolescent leadership, co-produced health services, local ownership and participation Community engagement and empowerment Multisectoral partnerships Enabling laws and policies			

d. Assessments

Moving towards sustainability would be enhanced by an understanding of the status of VMMC within each building block of the health system, key components and considerations. National HIV and relevant programmes should consider assessing these key components and considerations to determine the status in terms of early, intermediate or advanced phases. The goal would be to move from an early or intermediate phase towards an advanced phase which would be considered more sustainable. Moving towards the advanced phase would require key actions for successful implementation which would be further elaborated on in section 7. Equally key is that for elements that are already in the advanced phase, actions would need to be implemented to remain in that advanced phase.

A table has been developed for each building block and it describes key components, considerations for each key component and key milestones for each consideration at early, intermediate or advanced phases (See Annex III). Key components and considerations have been sourced through key informant interviews as well as through reference from literature in particular, the Global Accelerated Action for the Health of Adolescents [12]. The assessment tables for each building block and the critical enablers can be found in Annex III and may serve as a useful guide for programme managers to assess gaps within each building block and components and then undertake a logical process of priority setting and planning to programme redesign. In total, there are 6 building blocks, 25 key components and 55 key component considerations.

e. Building blocks, components, key issues and actions for sustainability

Leadership and Governance

Effective leadership and governance lie at the core of building a health system [11]. Strong leadership from government ministries and at higher levels of government should foster implementation of sustainable, adolescent-responsive policies and programme[12]. Countries should consider effective programme design including integration or collaboration with adolescent programming. Country leadership and ownership and effective collaboration with partners would be essential at national, district and local levels. Key components for sustainable leadership and governance for VMMC include coordination, accountability, oversight and regulation, intersectoral coordination and health sector plan and policies.

Programme leadership and coordination – Ministries of Health have the leverage and mandate to facilitate adequate programme leadership and coordination from the national to the regional, district and local levels. Synergies and efficiencies are enhanced when close collaboration is fostered between relevant sections of the ministry of health, and with implementing partners, communities, civil society, young people and the private sector[12]. A clear vision is needed to ensure that MC is part of leadership and governance structures for implementation. Key considerations for this component include:

- Country leadership and coordination role so that programme ownership is paramount and prominent
- Programme leadership with sub-national and local and traditional leaders, including MOH-funded and supervised MC focal points at national, regional, district and local levels.
- Partnership structure for MOH-led VMMC delivery to ensure coordination, advocacy, implementation, reporting and quality assurance of VMMC services
- Engagement of relevant departments of the MOH and across and within relevant line ministries in implementing, coordinating and overseeing VMMC activities

Accountability, oversight and regulation– Mechanisms for accountability and to measure progress, identify challenges and improve results within the MOH and relevant health programmes should be considered. National programmes should lead in coordinating efforts within their countries, set sustainability milestones to mark progress towards national goals[13] and consider an assessment/revision of regulations as needed to address key issues such as scope of practice gaps[13]. Key considerations for this component include:

- Systems for support and supervision of VMMC led by MOH through the relevant programme health focal point.
- VMMC focal points or coordinator in the MOH and at different operational levels (national, district, local)
- Technical working group in the MOH for oversight and review of VMMC performance including on quality of services
- Assessment and revision of key regulations including on scope of practice

Intersectoral coordination – Coordination across sectors is an important function to address coverage gaps and barriers[14,15], particularly for health services targeted at adolescents and youth. Coordination with key relevant sectors including but not limited to the education, culture, civil society, traditional/community, youth, education, finance and private sectors should be a priority[12]. Necessary human and institutional foundations for intersectoral action must be addressed and built in a progressive manner. Countries need

to invest in consulting with different sectors and in establishing a shared vision among key stakeholders through formal partnerships[12]. A key consideration for this component is:

- Platforms to support effective inter-sectoral linkages, partnerships and coordination (e.g. culture, civil society, traditional/community, youth, education, finance and private sectors)

Health sector plan and policies – The integration of VMMC into national health sector plans and policies would mean that MC could be addressed within the broader national health framework and integrated planning[15]. National health sector plans and policies that include engagement of adolescents and youth[12] and recognize the need for equitable access to HIV-related services including VMMC[15] serve to empower these groups and enhance the relevance and uptake of services. Key considerations for this component include:

- Integration of VMMC into the Essential Package of Health Services
- Inclusion of VMMC in the national health strategy and operational plan
- Development and Implementation of relevant task distribution; task shifting and task sharing plans for VMMC

Key actions proposed

- Programme leadership and coordination
  - Enhance country leadership and coordination role for VMMC services[15].
  - Use existing national platforms, to oversee and coordinate efforts for MC across sectors and government ministries.
  - Supervise the implementation of VMMC as an integral part of the national essential package of health services
  - Build national and subnational (e.g. district-level) political and administrative capacity and leadership for MC in multiple areas such as using data for decision-making, advocacy, negotiation, budgeting, building consensus, planning and programme management (monitor, review and act), effective coordination across sectors, mobilizing resources and ensuring accountability[12,16]
  - Increase domestic funding for MC and assure better financial coordination between donors and countries.
  - Encourage strong, visible support for MC among regional bodies. Ministries of Health should consider greater engagement with key regional groups (e.g. African Union, SADC, East African Community), towards increased regional leadership for and support to countries in scaling up VMMC services.
- Accountability, oversight and regulation
  - Include MC as part of the mandate of adolescent health and other relevant focal persons in the Ministry of Health[11]
  - Ensure clear leadership and coordination systems for support and supervision of VMMC with consideration given to effective synergy and collaboration between VMMC focal points and adolescent health focal points including through clear roles, responsibilities and lines of communications for both focal points[12]
  - Ensure that partnership structures for VMMC are led by the MOH, with fully developed mechanisms for coordination, advocacy, implementation, reporting and quality assurance

  - Engage all relevant departments of the MOH in implementing, coordinating and overseeing VMMC activities. This may include the following departments: HIV, adolescent sexual and reproductive health, essential surgical services, maternal and child health, health promotion/behaviour change communication, infection prevention and control, and quality assurance
  - Assign and support VMMC focal points or coordinators in the MOH, at different operational levels (national, district, local)
  - Enhance VMMC technical working group within the MOH to provide programmatic oversight and performance review and promote MC as part of the agenda of broader adolescent health technical working groups.
- Intersectoral coordination
  - Include VMMC as part of existing platforms to oversee partnerships and coordination of efforts for adolescent health and well-being across sectors, including the private sector and government ministries[12,15]
  - Partner with relevant government ministries and organisations, conduct and implement country-specific communication assessments and develop a communication strategy that considers the full range of relevant communication approaches
- Health sector plan and policies
  - Include VMMC in national health strategy and operational planning processes[17,18]
  - Review policies that allow for the provision of VMMC among adolescents; task sharing policies; consent and assent policies to explore issues of task differentiation and provider scopes of practice[17,19]

Resources and tools

1. A logical framework for translating priorities into plans and programmes. Global Accelerated Action for the Health of Adolescents (AA-HA!): guidance to support country implementation (p. 81). World Health Organization. (2017). Accessed at: https://apps.who.int/iris/bitstream/handle/10665/255415/9789241512343-eng.pdf?sequence=1
2. Innov8 approach for reviewing national health programmes to leave no one behind: technical handbook. Geneva: World Health Organization; 2016. Accessed at: https://apps.who.int/iris/bitstream/handle/10665/250442/9789241511391-eng.pdf?ua=1
3. Annex 1: Template implementation action plan. World Health Organization Regional Office for the Eastern Mediterranean. Patient safety tool kit. World Health Organization. 2015. Accessed at: http://applications.emro.who.int/dsaf/EMROPUB_2015_EN_1856.pdf
4. THE HIV/AIDS SUSTAINABILITY INDEX AND DASHBOARD 3.0. MEASURING SUSTAINABILITY FOR PLANNING, IMPLEMENTATION AND TRACKING. Guidance to PEPFAR Country Teams September 18, 2017. Accesses at: https://www.pepfar.gov/documents/organization/274911.pdf

Finance

A good health financing system raises and budgets adequate funds for healthcare in ways that ensure people can use needed services and are protected from financial catastrophe or impoverishment[20]. Sustainable financing approaches for health interventions such as MC should aim towards achieving universal coverage and also encourage the provision and use of an integrated mix of services in an effective and efficient manner[20,21]. The path to sustainable financing for MC would require systemic decisions that differ from country to country but should include efforts towards the inclusion of MC within the national essential service packages and operational frameworks for financing. The essential package of services should be thought of within the context of universal health coverage and access to a progressive expansion of health services and financial protection as more resources are mobilized and become available.

Continued advocacy would be needed to support local ownership, leadership and prioritization of VMMC. Key components considerations to sustain financing for VMMC service delivery include:

- Resource allocation and mobilization
- Purchasing of services and;
- Financial risk protection.

Resource allocation and mobilization – VMMC services are currently heavily dependent on international donor assistance, and face increasing competition for declining HIV funding[17,21]. Countries should take on a prominent role in the mobilization, allocation and administration of resources at national, regional and local levels[22]. A key step is to ensure that MC is part of national essential service packages that form the basis of national and sub national financial planning, mobilization and allocation. This would involve approaches towards embedding budgeting and resource tracking, as well as exploring innovative resource mobilization strategies that can be administered through existing country-based systems. Key considerations for this component include:

- VMMC inclusion into the national essential package of interventions
- Reliance upon international donor funding, with inadequate funding from domestic and regional sources leading to insufficient and/or unpredictable financing for VMMC.
- Resource estimation for VMMC completed as a part of the national health plans, estimating the costs of delivering services using integrated tools such as OneHealth[12]
- Harmonization of donor-financed elements of the VMMC budget with the national MOH budget
- Diverse mix of mechanisms and strategies to fund MC including through national health budgets, general taxation, earmarked tax, external multilateral funds, bilateral funds, voluntary contributions, and direct payments

Purchasing of services – Purchasing refers to the arrangements in place, and mechanisms used, to allocate pooled funds to health service providers. Providers use these funds to deliver defined benefits to the population. Purchasing is a core function of any health system. Moving from passive to strategic purchasing is the focus of health financing reforms in many countries and is key to sustainability. Purchasing can have a major impact on health system performance, in particular the efficiency and quality of services, and reducing inequities in service use[23]. The closer countries can move towards strategic purchasing, the more efficient and sustainable the system is likely to be including specifying how and from whom services be purchased and provided. Fee-for-service payment encourages over-servicing for those who can afford to pay or whose costs are met from pooled funds (e.g. taxes and insurance) and underservicing for those who cannot pay[23]. Key considerations for this component include:

- Public financial management (PFM) that is flexible enough to adjust to the demand of services.
- Remuneration of service providers for effective delivery of quality, safe and people-centred VMMC service delivery.
- Ready availability of information on VMMC services to meet demand of clients. This information should be linked to clinical, administrative and financial aspects, and disaggregated as relevant, including age, income group, geography, level of care, and sector (public vs private). (More detail can be found in the 'Strategic Information' section)

Financial risk protection – To support sustainable VMMC services, financing approaches must consider how to ensure access to needed services while protecting people against the severe financial consequences of paying for care. Cost should not be a barrier to accessing services. This is particularly important for adolescents, who face significant barriers in accessing care including cost[12]. Further, sustainable

approaches towards accelerating progress based on universal health coverage principles requires that clients of services are protected against catastrophic expenses through risk pooling as well as ensuring the reduction of fragmentation in of these prepaid funds[23]. Therefore, a key consideration for this component is:

- Financial risk protection for all adolescents, especially coverage for subgroups of most vulnerable adolescents, such as out of school youth. This would include updating nascent prepayment systems involving pooling of financial risks.

Key actions

- Resource allocation and mobilization
  - Promote MC as part of national essential service packages
  - Estimate country-specific resource needs and resource availability and develop an investment case with VMMC a key aspect of HIV prevention
  - Include VMMC services within national health operational plans through integrated tools such as the OneHealth tool and other tools
  - Increase domestic resources for VMMC
  - Harmonize donor financed elements of VMMC services with national MOH budget
  - Promote transparency and accountability in health financing systems
  - Advocate for continued prioritised support for VMMC through local ownership, leadership and domestic resource mobilization.
  - Explore regional resource mobilization options through regional bodies (e.g. Southern Africa Development Community (SADC), East African Community (EAC) for costing regional activities and mechanisms to support sustainability of VMMC
- Purchasing of services
  - Consider the remuneration of service providers based on approaches that encourage effectiveness and quality and that are risk- and income-adjusted
  - Cover MC in health insurance and explore strategies to integrate coverage of MC services into private and public health insurance schemes
  - Consider the private sector and explore new sources of financing from the private sector[19,24]
- Financial risk protection
  - Design and implement financial risk protection measures (e.g. waivers, vouchers); improve or develop pre-payment, risk pooling for adolescents to mitigate indirect and opportunity costs[21]

Resources and tools

1. World Bank. 2016. Checklist for transition planning of National HIV responses (English). Washington, D.C.: World Bank Group. Accessed at: http://documents.worldbank.org/curated/en/645871473879098475/Checklist-for-transition-planning-of-National-HIV-responses
2. WHO One Health Costing Tool (available at: http://www.who.int/choice/onehealthtool/en/)
3. THE HIV/AIDS SUSTAINABILITY INDEX AND DASHBOARD 3.0. MEASURING SUSTAINABILITY FOR PLANNING, IMPLEMENTATION AND TRACKING. Guidance to PEPFAR Country Teams September 18, 2017. Accessed at: https://www.pepfar.gov/documents/organization/274911.pdf

Health Workforce

Consideration needs to be given to the health workforce as an essential building block. The overall goal is to have VMMC services provided by a readily available, competent, responsive and productive health workforce. Currently a major challenge for many countries is identifying and training sufficient numbers of qualified personnel to perform the estimated VMMC procedures necessary to reach global targets and maximize long-term population-level impact[17]. Approaches to ensuring a sufficient workforce needs to adequately manage entry into and exit from the health workforce and improve the distribution and performance of existing health workers[25]. Key components for the health workforce address how countries strategize and plan for the scale-up their workforce. Regulatory mechanisms are needed for quality of education and post degree training and practice and designed to facilitate integration of VMMC across service delivery and disease control programmes; addressing key issues on retention of an effective workforce, management, support and supervision. Key components for the health workforce would include:

- Health workforce planning
- Pre-service and continuing education
- Management, support and supervision

Health workforce planning – It is increasingly recognized that ineffective mobilization of the health workforce is an important obstacle to improving the performance of health systems and achieving key health objectives, particularly in low- and middle-income countries[23,26]. Careful consideration should be given to VMMC so it is included in national health workforce planning efforts. Key considerations for this component include:

- Integration of VMMC into national health workforce planning, based on projected estimates of VMMC demand
- Addressing skill mix, distribution and retention of health workers who offer VMMC services, including issues such as workload, staff burnout and turnover, and coverage in rural areas

Pre-service and continuing education – National pre-service and continuing education efforts should include VMMC, for all cadres of the health workforce[20,23,26]. Nurses have a particularly important role to play in the provision of VMMC services, as a predominant health care cadre in the region[16,26]. Training curricula should be aligned with regulated scopes of practice but at a minimum should introduce MC and the service package to be provided[27]. Platforms and training materials for training and capacity building at national and sub national levels should be leveraged, integrating MC as a core component. Health care providers should be consulted regularly about their training and competency-building needs, including for adolescent-friendly service delivery[11,28], patient safety and infection prevention and control. Regulation and accreditation of educational institutions would need to be factored in[29]. Key considerations for this component include:

- Inclusion of VMMC and other critical elements including adolescent friendly service provision and person-centred care as part of national pre-service training and continuing education requirements, across all cadres who might provide different elements of VMMC services. This will necessitate the involvement of pre-service and higher education institutions in VMMC.
- Continuing education and competency requirements for all cadres of VMMC service providers
- National health education and training courses on adolescent health that integrate VMMC, including modules on IPC and patient safety

Management, support and supervision – Maintaining an efficient and effective health workforce includes a strong management system covering personnel, recruitment, working environment and conditions, and performance management, as well as systems to support and supervise all health cadres, including monitoring and evaluation[29,30]. Critically, the framework through which support and supervision is provided should be person-centred care with a key focus on adolescent friendly, integrated services. Where there are existing national, district and local structures for management, supportive supervision of HIV and adolescent health programmes, efforts should be made towards integrating MC within these structures. Key considerations for this component include:

- Supportive supervision for adolescent-friendly and responsive care by health care workers offering VMMC services (e.g. medical officers, clinical officers, nurses, counsellors and others)
- Integration of VMMC within national, district and local structures for health worker management, support and supervision
- Patient safety systems that permit learning from adverse events and quality improvement

Key actions

- Health workforce planning
    - Base comprehensive documentation of the MC HR situation in the country on key HR for MC strategic objectives.
    - Include projected estimates of the number of clients including adolescents who will need VMMC services MC HR situation analysis within country-level health workforce plan.
    - Develop systems to address and monitor skills mix, distribution and retention of health workers offering VMMC services, including for example broad incentive schemes to ensure safe staffing levels in facilities
    - Consider opportunities to engage community health workers and non-health actors such as educators and community members, for example in performing community sensitization, which may help to sustain community demand for VMMC services[31]
    - Consider actively planning and facilitating the involvement of community health volunteers
- Pre-service and continuing education
    - Promote the inclusion of MC as part of national pre-service training requirements[31]
    - Develop clear national mechanisms to involve service providers on their VMMC training and education needs; conduct competency-building activities at national and district levels that are aligned with reported needs, including as a part of recertification requirements
    - Include VMMC modules as part of national adolescent health education and training courses[11]
    - Consider training methodologies that are people and health workers centred including blended learning approaches
- Management, support and supervision
    - Develop and implement health care service delivery standards including for assessing adolescent responsive VMMC services, patient safety and infection prevention and control
    - Align VMMC programmes with national systems for supportive supervision of relevant service providers, as led by the Ministry of Health[32]

Resources and tools

1. Community Health Worker Assessment and Improvement Matrix (CHW AIM): A Toolkit for Improving CHW Programs and Services (https://www.usaidassist.org/resources/community-health-worker-assessment-and-improvement-matrix-chw-aim-toolkit-improving-chw)
2. Workload Indicators for Staffing Need (WISN) tool (https://mednet-communities.net/wisn)
3. PEPFAR VOLUNTARY MEDICAL MALE CIRCUMCISION IN-SERVICE COMMUNICATION BEST PRACTICES GUIDE. Accessed at: https://aidsfree.usaid.gov/sites/default/files/resources/pepfar_vmmc_inservice_guide_2016_0.pdf
4. CHAPTER FOUR. VMMC COMMUNICATION AT THE SITE LEVEL AND DEMAND CREATION. PEPFAR'S BEST PRACTICES FOR VOLUNTARY MEDICAL MALE CIRCUMCISION SITE OPERATIONS. A Service Guide for Site Operations. 2017. Accessed at: https://aidsfree.usaid.gov/sites/default/files/2017.9.26_ch4_vmmc-site-ops.pdf

Strategic information

To ensure sustainability of VMMC, country programmes will need to transition from vertical and parallel strategic information structures to more integrated, country owned, and less donor dependent structures and systems for data collection and use. Country owned strategic information systems with routine data collection and monitoring systems from facility level through to national level is key for sustainability[30]. Strategic information interventions towards sustainability need to better engage with clinical staff and task loading on staff for data collection needs to be acknowledged and considered. Key components for sustainability of MC strategic information include: Data collection and management; Data analysis and usage; Data quality and safety monitoring.

Data collection and management – The methods of data collection, management and reporting are key to programmatic responses that are well designed, data driven and dynamic. Data entry methods that are less error prone and user friendly enhance data quality. Data generation, transmission and use need to be facility owned and allow for corrective actions from the facility up to the national level. The Key component considerations for countries include:

- Developing efficient VMMC data collection methods, that taking advantage of electronic information systems and moving away from paper-dependent data collection
- Data management and reporting systems that encourage country-level data ownership and reduce parallel systems across various donor and implementing agencies

Data analysis and usage – The effective coverage of MC depends on how data are analysed and used to contribute to programme planning and management, performance review and decision making. A bottom up approach to data analysis and use is very important. Primary health centres, district, secondary and tertiary facilities need skills to be empowered not just to collect data but also to analyse and inform continuous quality improvement. Important connections need to be envisaged between strategic information and health workforce given important health workforce implications. Further harmonization is needed of the processes for VMMC data use by both country and by donors and donor-supported implementing partners. Key considerations for this component include:

- Data analysis planning, relevant disaggregation especially by age and geography
- Use of data for reporting, planning, logistics management, evaluation and quality assurance purposes. This would include facility-level mechanisms for data use and feedback.

Data quality – Countries need to explore systems for quality assurance policies, procedures, processes and tools for VMMC data that are routinely embedded within routine country data quality systems. These routine systems should consider periodic reviews of the systems for data monitoring, monitor and assess the quality of data to improve data quality. Continuous quality improvement systems including on improving data would be needed from facility to districts to national levels. Key considerations for this component include:

- Procedures for routine data quality checks, to reduce duplication of data entry and data flows

Safety monitoring –Safety monitoring systems for VMMC are critical for detecting, reporting and responding to adverse events that occur as part of the MC procedure. Adverse events need to be consistently defined and the systems, structures and resources required to detect, report, evaluate and respond to them clearly described. These systems and structures need to be embedded within country wide safety monitoring systems and structures. Key considerations for this component include:

- Improvements in VMMC safety monitoring systems, including routinization within national systems
- Multi-level surveillance system for monitoring adverse events.

Key Actions

- Data collection and management
  - Embed MC strategic information within routine M&E systems[16,20]
  - Agree/update a minimum dataset for MC. Countries should collect a minimum, standardized set of data for MC, a subset of which can be used to report on district, national and global indicators for programme monitoring and management
  - Transition progressively from paper-based to electronic patient information systems using a step wise approach
  - For countries with paper-based systems, simplify patient monitoring tools (cards, registers and reports) and standardize across facilities.
- Data analysis and usage
  - Prioritize indicator disaggregation by 5-year age bands, especially among adolescents ages 10-14 and 15-19
  - Conduct periodic review of patient monitoring systems to collect key additional national and facility-based indicators, monitor and assess the quality of data, and monitor and improve the quality of care
- Data quality
  - Develop country, district, local and facility level quality improvement (QI) plans that are both data derived and driven
- Safety monitoring
  - Routinize country safety monitoring systems
  - Establish an effective, multi-level surveillance system for monitoring adverse events. This system should include provider and patient safety.

Resources and tools

1. A guide to indicators for male circumcision programmes in the formal health care system. Geneva: World Health Organization; 2009. Summary of indicators pg. 6-8. Accessed at: https://apps.who.int/iris/handle/10665/44142

2. Chapter 4: Clinical Manual for MC under local anaesthesia and HIV prevention services for adolescent boys and men, WHO, 2018. Accessed at: https://www.who.int/hiv/pub/malecircumcision/male-circumcision-guide-2018/en/
3. Annex 3.5.2: An assessment tool for person-centred HIV patient monitoring and case surveillance. Consolidated guidelines on person-centred HIV patient monitoring and case surveillance. Geneva: World Health Organization; 2017. Accessed at: https://www.who.int/hiv/pub/guidelines/person-centred-hiv-monitoring-guidelines/en/
4. Annex 2: Indicator tables for tracking critical resources. Consolidated strategic information guidelines for HIV in the health sector. Geneva: World Health Organization; 2015. Accessed at: https://apps.who.int/iris/bitstream/handle/10665/164716/9789241508759_eng.pdf?sequence=1
5. PEPFAR Guide to Monitoring & Reporting Voluntary Medical Male Circumcision (VMMC) Indicators, 2013. Accessed at: https://www.malecircumcision.org/resource/pepfar-guide-monitoring-reporting-voluntary-medical-male-circumcision-vmmc-indicators
6. PEPFAR 2018. PEPFAR Site Improvement Through Monitoring System (SIMS) Guidance. Accessed at: https://www.pepfar.gov/reports/guidance/c80853.htm

Service delivery

Good health services are those which deliver effective, safe, and quality health interventions to those that need them, when and where needed, within the tenets of an integrated, people-centred framework[7]. Within the context of the sustainability of MC, services for MC need to be routinized as part of the health system service delivery structure. Key components for sustainability of service delivery for MC include:

- Access (strategic planning of health services);
- Reorienting service delivery models
- Safety and quality.

Addressing these three components and considerations in a holistic manner would enhance progress towards transitioning to sustainability. Limited progress in one area could potentially undermine progress in other areas.

Access (strategic planning of health services) – The organization and management of services to ensure access, quality, safety and continuity of MC services requires critical and strategic planning of health services. Service delivery design and implementation need to be informed by detailed assessments and analysis for planning and implementation purposes. Key considerations for this component include:

- Comprehensive assessment of VMMC service delivery based on availability, accessibility, acceptability, contact/use and effectiveness to inform decision-making
- Mapping of existing service delivery infrastructure and resources to deliver VMMC in community-based and health-facility settings an identification of gaps including in harder to reach areas such as rural settings
- Demand creation activities that are context informed and audience tailored. Outreach, community engagement and communication activities aim at increasing uptake VMMC among target populations. Effective demand creation should address barriers to VMMC uptake in contextually relevant ways, informed by research and situational analyses[33,34].

Reorienting service delivery models – Sustainability of services delivery for MC would entail reorienting current models of care with preference for models of care that are feasible, community owned, and that prioritize primary and community care services. Service delivery should then be complemented by demand

creation activities to maintain coverage. These models will differ from country to country and will be context specific. However, key considerations for this component include:

- MC as part of routine platforms at the primary care level, including integration of MC within routine adolescent health services
- Varied service delivery platforms for reaching adolescents with adolescent-friendly care (e.g. in and out of school, community-based platforms, digital platforms, faith-based platforms)
- MC services delivered within an integrated package of services
- Clear referral systems for VMMC to serve as an entry point to other adolescent services (e.g. mental health, SRH, non-communicable diseases, vaccinations etc.)
- Use of digital platforms and technology to support continuity of information and tracking thereby facilitating patients' empowerment and reaching geographically isolated communities.

Empowering and engaging people - The sustainability of MC will be further enhanced through the empowerment and engagement of individuals, communities and people as empowered users of MC services and advocates for uptake of MC services. Through this engagement, individuals, their families and communities can make effective decisions about their own health while informal service providers, including traditional circumcisers could be engaged as change agents and advocates for the continued sustainability of MC services[7,16]. A human rights-based approach is key. Very importantly, underserved and marginalized groups including adolescents need to be empowered and reached for sustained service delivery to leave no one behind. Key considerations for this component include:

- Empowering and engaging individuals, families, communities, informal service providers, including traditional circumcisers
- Reaching the underserved and marginalized

Safety and quality – National standards for safety and quality of services delivered are a key component of sustainable MC services. National ministries of health need to be at the forefront of setting the agenda and standards for quality improvement and safety. Key considerations for this component include:

- National quality standards and systems in line with WHO and UNAIDS global standards for quality healthcare services for adolescents
- Standardized surgical protocols focused on patient safety (i.e. surgical systems strengthening)
- Adverse event reporting that is aligned with national systems

Key actions

- Access (strategic planning of health services)
    - With a view to equitable access to services, conduct comprehensive strategic planning activities within the context of broader adolescent health planning and programming to inform service delivery decisions. Strategic planning processes should include comprehensive assessments and mapping of existing service delivery infrastructure and resources for MC
    - Develop and implement research and empirically informed VMMC demand generation approaches including advocacy (e.g. with community leaders, school teachers); communication with target audiences through different communication channels (e.g., television, radio, print media, interpersonal communication, social media, SMS reminders); and community engagement and mobilization[33].
- Reorienting service delivery models

  - Promote services that are delivered within routine facility and out of facility platforms including in and out of school, community-based platforms, faith-based, arts and sports platforms[7,16]. Choice of platform/model may vary by setting to ensure efficiency, safety and responsiveness to the local context
  - Implement MC services as part of a comprehensive package of services as defined through a participatory and transparent process, taking into consideration the diverse cultural and age-sensitive needs of adolescents[11,12]
  - Identify and consider innovative entry points to reach adolescent boys and men for MC including PMTCT, family planning services which are mainly attended by women and adolescent girls
  - Consider family and community-based approaches towards making MC services a routine part of primary care services
- Empowering and engaging people
  - Reach vulnerable and higher risk populations for greater impact of VMMC[7].
  - Promote routine referral mechanisms for connection to broader adolescent health interventions.
  - Ensure digital platforms and technology are an integral part of MC services, as well as other services in the integrated package of care
  - Empower and engage individuals, families and communities to make effective decisions about their own health.
  - Engage informal service providers, including traditional circumcisers with the necessary education and training to support service delivery[31].
  - Identify barriers and implement actions with a focus on underserved and disadvantaged populations towards an all-inclusive approach to service delivery including key populations
  - Advocate for review of policies that may limit inappropriately access to services e.g. age of consent laws[35].
  - Match available service delivery capacity with demand creation to ensure efficiency through optimal utilization
  - Facilitate age appropriate, meaningful, comprehensible informed consent process for all clients.
  - Engage private providers with the necessary education and training to support service delivery
- Safety and quality
  - Ensure quality standards and systems are in place and implemented within routine national systems
  - Promote the inclusion of MC in national standardized surgical guidance on patient safety
  - Establish an effective, multi-level surveillance system for monitoring adverse events. This system should include provider and patient safety.

Resources and tools

1. WHO Integrated people-centred health services web platform (https://www.integratedcare4people.org/)
2. Strengthening High Impact Interventions for an AIDS-free Generation (AIDSFree) Project. 2019. VMMC Demand Creation Assessment Tool. Arlington, VA: AIDSFree Project. Accessed at: https://aidsfree.usaid.gov/resources/vmmc-demand-creation-assessment-tool

3. CHAPTER SIX. PROVIDING THE VMMC MINIMUM PACKAGE OF SERVICES. PEPFAR'S BEST PRACTICES FOR VOLUNTARY MEDICAL MALE CIRCUMCISION SITE OPERATIONS 2018. Accessed at: https://aidsfree.usaid.gov/sites/default/files/2018.1.9_ch6_vmmc-site-ops.pdf
4. PEPFAR's Best Practices for Voluntary Medical Male Circumcision Site Operations: A Service Guide for Site Operations, Second Edition (2017). Accessed at: https://aidsfree.usaid.gov/resources/pepfars-best-practices-vmmc-site-operations-0
5. World Health Organization. (2008). Male circumcision quality assurance: a guide to enhancing the safety and quality of services. Geneva: World Health Organization. http://www.who.int/iris/handle/10665/43999
6. World Health Organization, 2015. Global standards for quality health-care services for adolescents: a guide to implement a standards-driven approach to improve the quality of health care services for adolescents. Accessed at: https://apps.who.int/iris/handle/10665/183935
7. Handbook for conducting an adolescent health services barriers assessment (AHSBA) with a focus on disadvantaged adolescents. Geneva: World Health Organization; 2019. Accessed at: https://www.who.int/gender-equity-rights/knowledge/AHSBA-web.pdf

Supplies and Equipment

A well-functioning health system ensures equitable access to essential medical products and technologies of assured quality, safety, and efficacy, and their scientifically sound and cost-effective use[11]. The implementation of sustainable VMMC services requires a durable logistics system, involving commodity procurement, supply chain considerations, human resources, waste management, and proper storage including on waste management. Many target countries have reported challenges related to inadequate supplies and delayed procurement for VMMC commodities, which may reflect a broader health system strengthening need not unique to VMMC[12,15]. Of note is that proper forecasting is done to envisage demand at different points and to assure unrestricted access. Key components for sustainable supplies and equipment for VMMC include norms, standards and policies, procurement and distribution, and quality.

Norms, standards and policies – National standards and guidelines are needed to ensure continuous access to quality VMMC supplies and equipment[18,36]. Countries should consider VMMC when developing a national surgical, obstetric and anaesthesia plan; this begins with stakeholder engagement and consensus-building and leads to the development of goals and targets to improve surgical quality and standardization of infrastructure, equipment, and human resources in providing surgical services[24,36]. Key considerations for this component include:

- National set of standards for quality of VMMC supplies
- Standard guidelines on prescribing and dispensing practices, and the implementation of strategies to support rational use of VMMC supplies and equipment

Procurement and distribution – The implementation of VMMC programs has in some countries involved the creation of a supply chain system that is managed by an implementing partner and is parallel to the supply chain for national essential medicines[17]. However, to build toward sustainability, national programs must identify systems for procurement and supply management of commodities required for VMMC, as well as introduce new technologies, such as devices, as they become available. Based on assessments at the national level, countries should identify steps and resources required to strengthen such systems, with relevant partners providing appropriate assistance where needed[30].

- National procurement systems for VMMC supplies and equipment
- National systems of supply and distribution for VMMC supplies and equipment

Quality of MC supplies and equipment – Countries should consider developing and implementing quality assurance processes and mechanisms to maintain or strengthen the quality of VMMC supplies and equipment including where available the facilitation of access to safe, appropriate and affordable male circumcision devices of good quality in an equitable manner. This should include the strengthening of the regulatory capacity of countries to improve pre- and post-market regulatory oversight of male circumcision devices. It could also include registration requirements for VMMC kits (single-use or reusable). A key consideration for this component is:

- Quality of MC equipment and supplies including MC devices
- Waste management that addresses segregation, storage, transport, treatment, and disposal of all relevant health care waste categories

Key actions

- Norms, standards and policies
    - Set national standards for quality of VMMC supplies and assurance of continuous procurement without disruption[37,38]
    - Develop and implement standard guidelines on prescribing and dispensing practices to support rational use of VMMC supplies and equipment[37]
    - Develop a standard list of VMMC commodities including for waste management, HIV counselling and testing, and the treatment of sexually transmitted infections[17]
- Procurement and distribution
    - Include VMMC supplies and equipment in centralized, national procurement, supply and distribution systems[37]
    - Consider the contribution of supply chain to costs when determining the resource needs of VMMC programs[36]
    - Consider the use of specific VMMC technologies, such as pre-qualified devices, and develop and implement strategic plans for introduction and roll-out, including quantification, procurement and disposal considerations[30]
    - Build capacity at the facility level on proper stock management practices (first expiry-first out, forecasting, reporting and requisition, storage, and tracking through electronic logistics management information systems) to prevent expires and stock-outs.
- Quality
    - Develop minimum requirements for equipment needed and recommended specifications to perform a safe medical male circumcision
    - Develop action plans to help service delivery points achieve patient and provider safety that consider quality of VMMC equipment and supplies, including absence of expired stock on pharmacy shelves and adequate handling and conservation conditions[18]
    - Programs should systematically assess and address infrastructure requirements for designing and implementing a robust waste management system
    - Establish a proper health care waste management system that addresses segregation, decontamination, storage, transport, and disposal of all relevant health care waste categories.
    - Integrate VMMC into national quality assurance systems for supplies and equipment[30]

Resources and tools

1. Annex 1: Template implementation action plan. World Health Organization Regional Office for the Eastern Mediterranean. Patient safety tool kit. World Health Organization. 2015. Accessed at: http://applications.emro.who.int/dsaf/EMROPUB_2015_EN_1856.pdf
2. World Health Organization. (2017). Surgical care systems strengthening: developing national surgical, obstetric and anaesthesia plans. World Health Organization. http://www.who.int/iris/handle/10665/255566.
3. USAID Global Health Supply Chain Program. GHSC-PSM Voluntary Medical Male Circumcision (VMMC) Reference Guide. (2018). Accessed at: https://www.ghsupplychain.org/ghsc-psm-voluntary-medical-male-circumcision-vmmc-reference-guide
4. Guidance on using the Toolkit for Health Care Waste Management in Voluntary Medical Male Circumcision Campaigns. Accessed at: https://www.jsi.com/JSIInternet/Inc/Common/_download_pub.cfm?id=14432&lid=3
5. Voluntary Medical Male Circumcision (VMMC) Health Care Waste Management (HCWM) Toolkit. Accessed at: https://www.malecircumcision.org/resource/voluntary-medical-male-circumcision-vmmc-health-care-waste-management-hcwm-toolkit
6. World Health Organization. (2008). Male circumcision quality assurance: a guide to enhancing the safety and quality of services. Geneva: World Health Organization. http://www.who.int/iris/handle/10665/43999

Critical Enablers

Alongside the six health systems building blocks, the sustainability of MC would require cross cutting interventions that would provide an enabling environment for the other building blocks. These critical enablers include adolescent and youth leadership and participation, community engagement, multisectoral partnerships, and enabling laws and policies[7]

Adolescent leadership, co-produced health services, local ownership and participation – A strong case needs to be made for investment in adolescents based on the triple dividend of benefits: now, into future adult life and for the next generation[12]. Therefore, country programmes must develop and support meaningful opportunities for adolescent and youth leadership and participation. As the direct beneficiaries of VMMC services, adolescent boys and girls should be involved in the design, implementation, monitoring and evaluation of VMMC programmes, bringing their unique set of perspectives, knowledge and experiences to develop tailored approaches to ensure more adolescents and youth access care[12]. A key consideration for this component includes:

- Meaningful involvement and engagement of adolescents and youths as leaders and key stakeholders on VMMC at national, district and community levels

Community Engagement – Community engagement is key to quality integrated resilient health services (WHO) and towards tailored service delivery initiatives for sustainable VMMC services[25]. Community engagement is a process of developing relationships that enable stakeholders to work together. There are multiple entry points and linkages between health systems and communities that are inter dependent – setting, staff, and accountability mechanisms[39]. Partnering with existing community organizations and networks can increase access for adolescents especially those out of school, providing information that may not be otherwise available through existing national healthcare systems[7,13]. For VMMC, community stakeholder groups may include parents and primary caregivers, educators, religious leaders, local civic leaders, youth leaders and traditional healthcare providers. Key considerations for this component include:

- Identification, documentation, engagement and partnerships with community gate keepers (e.g. women and girls, parents, community leaders)
- Engagement with traditional male circumcision providers

Multisectoral partnerships – Partnerships and collaborations at multiple levels and with different sectors are a key enabler for sustainable VMMC services. Countries should invest in activities towards developing and maintaining channels for multi-sectoral engagement. This would serve to strengthen linkages with other health areas, as well as develop essential partnerships with other sectors that play a key role in the lives of adolescents, such as finance, youth and education[13]. Sustainable MC services for adolescents needs renewed action on multisectoral partnerships with a broader adolescent health foundation that includes a clear vision, structure and defined mandate at the national level[12]. Key considerations for this component include:

- Functional platforms for strategic and operational engagement and partnerships on VMMC with other sectors such as education, family and social affairs, agriculture and nutrition
- Capacity to dialogue and participate

Enabling laws and policies – Actions on structural barriers would be essential towards mitigating issues that limit universal access and uptake to MC services. Reviews of policies and laws with consideration to uphold adolescents' rights to make choices about their own health and well-being are very important. Different levels of maturity and understanding must be considered. One example is age of consent laws for health care services. In most countries individuals under the age of 18 cannot consent for their own healthcare, including for sexual and reproductive health care services, which can serve as a barrier to care [12]. Consent to a surgical procedure may have different age requirements. However, given both the effectiveness and importance of VMMC to prevent the potential spread of HIV infection, countries may want to consider different legal ages to access this service[35,40]. In addition, clear regulations that enable tasks to be provided by different cadres of health workers should be in place[17,24,41].

Key actions:

- Adolescent leadership, co-produced health services, local ownership and participation
  - Develop and promote platforms, forums and channels for meaningful adolescent and youth engagement at national, district and community levels[12]
  - Involve adolescents and youth throughout planning, implementation, monitoring and evaluation processes[12]
- Community Engagement
  - Support grass-roots community mobilization initiatives, cultivate and support grass-roots champions for community mobilization regarding adolescent health and MC [12]
  - Identify and engage community gate keepers (e.g. women and girls, parents, community leaders, religious leaders etc.) as a core aspect of a VMMC programme
  - Engage traditional male circumcision and faith-based providers through advocacy, education, training and support, and develop clear systems of roles, reporting and monitoring for community engagement[31]
  - Partner with traditional providers to encourage improved safety and efficacy of MC services[30]
- Multisectoral partnerships

  - Establish mechanisms for formal engagement of nongovernmental organizations in service delivery, strengthen community-based platforms for service delivery, and reach underserved populations of adolescents.
  - Promote functional platforms for strategic and operational engagement on VMMC with other related sectors, including education, arts and sports, family and social affairs, agriculture and nutrition[13]
- Enabling laws and policies
  - Discuss and revise age of consent policies with a view to upholding adolescents' rights to make choices about their own health and well-being, with consideration for different levels of maturity and understanding for surgical safety[35,40].

Resources

1. World Health Organization. Innov8 approach for reviewing national health programmes to leave no one behind: technical handbook. World Health Organization; 2016. Accessed at: https://www.who.int/life-course/publications/innov8-technical-handbook/en/
2. WHO, 2016. Framework on integrated, people-centred health services. Accessed at: https://www.who.int/servicedeliverysafety/areas/people-centred-care/en/
3. Global Accelerated Action for the Health of Adolescents (AA-HA!): guidance to support country implementation. Geneva: World Health Organization; 2017. Accessed at: https://apps.who.int/iris/bitstream/handle/10665/255415/9789241512343-eng.pdf?sequence=1

7. Key operational considerations

This guidance provides programme planners considerations and actions that can be adapted to national context with the goal of developing context specific roadmaps towards sustainability. This guidance is not meant to be prescriptive but rather provides programme managers the main elements needed for country strategic planning and implementation roadmaps. The overall principles should be kept in mind. Programme planning for sustainability should be based on engagement of stakeholders from the beginning.

This section on operational considerations has been tailored towards existing global planning and implementation strategic documents with emphasis on the global accelerated action for the health of adolescents (AA-HA!) and the Innov8 approach steps and tools for reviewing national health programmes. It also comes from inputs from key informants working in priority countries and with a good knowledge of country programmes. While ensuring a participatory, bottom up approach, country ownership and broad stakeholder engagement, the following processes are needed to operationalise the sustainability process:

Planning:
1. Context setting, multisectoral stakeholder engagement and strategic partnerships
2. Develop clear goals, objectives and expected outcomes – The stated goal could be a broad statement that describes the long-term plan and aim of the programme and serves as a foundation for the objectives
3. Core set of principles to guide the process and leverage existing systems
4. Detailed needs assessment across the building blocks to give a comprehensive understanding of where the VMMC programme is on the sustainability path. The assessment tables in Annex 3 could be used to assess programme status in terms of early, middle or advanced phases. The needs assessment exercise would highlight what the status is and what gaps there are that need to be addressed to move towards sustainability.

Implementation
5. Develop a theory of change
6. Barrier and facilitator assessment exercise to understand critical issues and challenges on gaps identified during the needs assessment exercise. An understanding of the barriers and facilitators would inform needed actions and strategies as countries plan towards sustainability
7. Set priorities
8. Identify levels of change
9. Produce a sustainability plan that addresses issues from the needs assessment processes towards a strategic plan for the sustainability of MC services

Monitoring and evaluation
10. Monitoring to optimize implementation, Evaluate and refine programming.

Planning

1. Context setting, Multisectoral stakeholder engagement

A key principle for sustainability is country ownership. Country ownership implies that there is sufficient political support within a country to implement the VMMC sustainability plan, including the projects, programs, and policies for which external partners provide assistance. This would require that there is sufficient support for the strategy among stakeholders within and outside of the government including from line ministries, parliament, subnational governments, donor, civil society organizations, and private sector groups. The participatory processes needed to build country ownership will be unique to the country's political culture and circumstances and countries should adapt the assessment tables, key issues and actions to their contexts. These same principles and approaches can be applied at national level, and subnational/community levels.

Broad and intersectoral stakeholder mapping and engagement is key to successful transitions. Stakeholder participation and engagement across sectors is undertaken for the purposes of information exchange, cooperation, coordination and integration[14,15,42]. Country activities on stakeholder engagement should include:

- Identify the stakeholders:
  - Which stakeholders, in which health section are relevant to sustain MC coverage and implementation
  - Identify stakeholders who are relevant to the building blocks; are they included? Are there stakeholders from local to national level?
  - What sectors (youth, education) are relevant for the sustainability of MC and what is the current engagement of that sector?
- Analysing and prioritizing the stakeholders
  - With whom should the programme partner?
  - Who should be directly involved?
  - Who should be consulted?
  - Who should be regularly informed?
- Developing and updating the stakeholder engagement plan

Resources and tools

1. Schmeer K. Stakeholder analysis guidelines. Policy toolkit for strengthening health sector reform. 1999:1-33. Accessed at: https://www.who.int/workforcealliance/knowledge/toolkit/33.pdf
2. IMPLEMENTATION GUIDE TOOLKIT, stakeholder mapping tool reproductive health WHO 2018. Accessed at: https://www.who.int/reproductivehealth/stakeholder-mapping-tool.pdf
3. Annex A: Stakeholder Analysis Tool – USAID. Updated 2014. Accessed at: https://www.usaid.gov/gbv/toolkit-annex
4. World Health Organization. (2011). Beginning with the end in mind: planning pilot projects and other programmatic research for successful scaling up. Accessed at: https://www.who.int/reproductivehealth/publications/strategic_approach/9789241502320/en/

2. Develop clear goals, objectives and expected outcomes

Specific goals and objectives should be set from the onset. While the goal should relate to the long term, ultimate aim of the programme, it should also serve as the foundation for developing the programme objectives. The objectives and expected outcomes should be specific to the building block rather than to the health system in general. In developing the objectives, consideration should be given to equity, human rights and social determinants with a view to leaving no one behind in the programme

3. Core set of principles

A core set of principles have been identified at the beginning of this document (See page 2). Countries are encouraged to leverage existing WHO models and frameworks, embed and integrate VMMC within routine health systems while ensuring access to high quality and people centred services n alignment with Universal Health Care (UHC) principles. A co-produced approach is also encouraged with a view to engaging and empowering people and communities for increased their participation contribution.

4. Needs assessments:

Country needs assessments can build on the assessment tables in annex 3 of this chapter. The country needs assessment should be done by building block, with emphasis placed on the components and key considerations for each building block. Programme planning should focus on transitioning to sustainable services from the current situation and making progress across the continuum in each building block. Following the identification of key building blocks and components, the needs assessment should be further refined, and gaps highlighted. The report that emerges from the assessment process would serve as the basis for what the status is and what gaps there are that need to be addressed to move towards sustainability. In adapting the assessment tables, key questions to be answered by building block and component would be:

- What building block(s) and component(s) need to be addressed?
- Are the key component considerations specific to the targeted context and does the programme need to add, remove or revise the key components?
- Are any target populations prioritized, with a focus on adolescents and underserved adolescents?
- How does the programme address the needs of the target populations?
- What are the main interventions or activities for each building block and component?
- How does the programme address the key principles of sustainability?
- How does the programme include multi sectoral action?

The main resource tool for the needs assessment for sustainability are the assessment tools in Annex 3.

Resources and tools

1. A logical framework for translating priorities into plans and programmes. Global Accelerated Action for the Health of Adolescents (AA-HA!): guidance to support country implementation (p. 81). World Health Organization. (2017). Accessed at: https://apps.who.int/iris/bitstream/handle/10665/255415/9789241512343-eng.pdf?sequence=1
2. World Health Organization. Step 1 - Innov8 approach for reviewing national health programmes to leave no one behind: technical handbook. World Health Organization; 2016. Accessed at: https://www.who.int/life-course/publications/innov8-technical-handbook/en/

Implementation

5. *Theory* of change

A logical approach that provides a formalized framework for programme planning, monitoring and evaluation is needed. This approach describes theory through which transition towards sustainability is expected to happen. It would include clear objectives and indicators for monitoring and evaluation, clear linkages to the sustainability goals and objectives, outcomes, outputs, interventions and activities. Key activities to develop the theory of change would include:

- Conceptualise the problems, areas or topic that the programme needs to address towards sustainability. This builds on the needs assessment, barrier assessment exercises already discussed
- Develop and organize interventions and activities needed to specifically address the problems and gaps. It would be a useful exercise to classify the interventions by levels of implementation, national, district, local or community levels
- Develop a logic model with diagram of the key stages and milestones, linked to the flow of interventions and activities, outputs and expected results
- Write a summary of the program theory

It would be needed to ensure that through this process, participation of stakeholders including local service providers is enhanced so that contextual issues are addressed in proposed interventions while also ensuring that human rights and social determinants are considered throughout.

Resources and tools

1. World Health Organization. Step 1 - Innov8 approach for reviewing national health programmes to leave no one behind: technical handbook. World Health Organization; 2016. Accessed at: https://www.who.int/life-course/publications/innov8-technical-handbook/en/
2. Rogers, Patricia (2014). Theory of Change: Methodological Briefs - Impact Evaluation No. 2, Methodological Briefs no. 2. Accessed at: https://www.unicef-irc.org/publications/747-theory-of-change-methodological-briefs-impact-evaluation-no-2.html
3. United Nations Development Group. COMPANION GUIDANCE: THEORY OF CHANGE 2017. Accessed at: https://undg.org/wp-content/uploads/2017/06/UNDG-UNDAF-Companion-Pieces-7-Theory-of-Change.pdf

6. *Identify barriers and facilitators*

For each building block and component, identify key barriers, facilitators and main achievements to inform the key actions needed for sustainability. Account and promote facilitators while devising strategies and actions to mitigate the barriers. Key activities should include:

- Identifying barriers and how these limit actions and progress towards sustainability
- Identifying facilitators and main achievements and how these contribute to each building block and component actions for sustainability

Resources and tools

1. Male circumcision situation analysis toolkit. http://www.who.int/hiv/pub/malecircumcision/sa_toolkit/

2. World Health Organization. Step 4 - Innov8 approach for reviewing national health programmes to leave no one behind: technical handbook. World Health Organization; 2016. Accessed at: https://www.who.int/life-course/publications/innov8-technical-handbook/en/

7. Priority setting

The process of planning for actions could reveal an extensive list of interventions and activities to undertake. Efficient and effective change requires that actions are prioritized and phased to ensure systematic and feasible approach to sustainability. Priority setting needs to be explicit and be embedded within the principles, norms and values already mentioned. National programmes are advised to be very clear in their rationale and criteria for setting priorities across programme, populations and intervention parameters (37). Key issues that should be considered in the priority setting exercise would be:

- Availability of effective interventions
- Feasibility of delivering interventions
- Underserved populations
- Interventions for immediate, medium terms and long-term considerations

The priority setting exercise should result in a process that identifies a package of interventions for each building block and components, mechanisms to deliver them with clear roles and responsibilities including for monitoring and evaluation. Find relevant tools in the annex to support the priority setting exercise and to answer the above questions.

8. Identifying the levels of change

There needs to be careful considerations given to the scope and level of proposed interventions and actions. This would involve specifying the level of implementation in terms of national, district or local levels. This is especially needed as some actions would be legislative or regulatory in nature, in which case national levels of engagement are required whereas others could relate to service delivery for which district and local levels would be needed. The exercise of identifying the different levels of interventions should be done at the building block, component and intervention levels.

Resources and tools

1. World Health Organization. Step 7 - Innov8 approach for reviewing national health programmes to leave no one behind: technical handbook. World Health Organization; 2016. Accessed at: https://www.who.int/life-course/publications/innov8-technical-handbook/en/
2. Section A4.1 Global Accelerated Action for the Health of Adolescents (AA-HA!): guidance to support country implementation. Annexes 1–6 and Appendices I–IV, 2017. Accessed at: https://www.who.int/maternal_child_adolescent/documents/global-aa-ha-annexes.pdf

9. Produce a plan of action for sustainability

The processes described above should lead to the development of a country sustainability plan. This plan should be holistic and be guided by the key principles as already detailed in this chapter. The plan could mirror this chapter and include key elements:

- A brief introduction and background
- A situational analysis
- Key principles, aims and objectives
- Framework for sustainability
    - Results of the needs assessment
    - Delineation of priorities
    - Program theory
    - Levels of change
- Implementation plan with partners, core tasks, timeframe etc
- Monitoring and evaluation plan
- Conclusions
- References

Strengthening monitoring and evaluation

10. Monitoring to optimize implementation, Evaluate and refine programming.

A key operational consideration is how the country sustainability plan would be monitored towards improved, responsive programmes for a sustainable outcome. Countries should outline a monitoring roadmap. Ideally it will rely on currently collected data. Programming should be flexible enough to adapt to practical implementation challenges. Key questions that should guide programmers towards these include:

- What key inputs, outputs and outcomes of the sustainability plan needs to be monitored, how? And when.
- What key barriers already identified need to be monitored?
- What key indicators are needed for multisectoral action which could be added?

Resources and tools

1. Global Accelerated Action for the Health of Adolescents (AA-HA!): guidance to support country implementation (p. 81). World Health Organization. (2017). Accessed at: https://apps.who.int/iris/bitstream/handle/10665/255415/9789241512343-eng.pdf?sequence=1
2. World Health Organization. Step 8 - Innov8 approach for reviewing national health programmes to leave no one behind: technical handbook. World Health Organization; 2016. Accessed at: https://www.who.int/life-course/publications/innov8-technical-handbook/en/
3. A guide to indicators for male circumcision programmes in the formal health care system http://www.who.int/hiv/pub/malecircumcision/indicators/

8. Case Examples

We highlight a few case examples of projects and programmes that have through the years signified instances where a health systems approach to programming could enhance sustainable actions and programmes. In this section:

1. Integration of PMTCT – An example of the PMTCT experience, historical background of vertical service delivery, a systematic, health systems approach to integrating PMTCT within routine programmes and lessons learned on sustainability from the PMTCT example along the health systems building block
2. The Zimbabwe experience on VMMC as an entry point for integrated SRH services. A context analysis and example of the linkages project, its objectives, key activities and outcome. Lessons learned on systems perspective to integration, importance of multi-sector collaboration, leadership and community engagement as key for sustaining adolescent health services are highlighted.
3. Recent experiences from Tanzania and Kenya experiences on planning toward sustainability of MC services

9. Conclusions

Prevention is a cornerstone of the momentum towards ending AIDS by 2030. VMMC is a proven effective prevention intervention, as part of a combined prevention package. Integrating VMMC within routine health services and systems would go a long way in ensuring the sustainability of VMMC. Sustainability of VMMC will be a process and not necessarily a destination that will differ from country to country and would involve key steps on the meaningful engagement of and clear communication among multisectoral stakeholders. A systematic, phased approach to transitioning towards sustainability would be needed. As the process moves forward in the transitioning period, continued external support would be needed to ensure the institutionalization of support mechanisms.

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circumcision using an innovative, integrated, health systems approach: experiences from 21 districts in Zimbabwe. *Glob Health Action*. 2018. doi:10.1080/16549716.2017.1414997

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Annexes

Annex I: Key informant interview List (to be completed)

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Annex II: WHO departmental inputs – to be developed

WHO country offices

WHO HQ departments – for building blocks human resources, finance, service delivery, supplies,

Annex III: Assessment Tables - 6 building blocks, 25 key components and 55 key component considerations

Table 1: Assessment - Health System Building Block: Finance

Health System Building Block	Component	Key component considerations	Markers		
			Early	Intermediate	Advanced
Health Financing	Resource allocation and mobilization	National essential package of interventions	MC not part of the national essential package of interventions	MC included as part of the national essential package of interventions, but package not yet implemented	MC part of the national essential package of interventions. Package already being implemented nationally.
		Resource estimation	Resource estimation not done	Costing done for MC but remains separate from broader national health costing	Cost of delivering MC done within national health plans using integrated tools such as the OneHealth Tool
		Harmonization of donor-financed elements of the VMMC budget with the national MOH budget	High share mostly off-budget	Reduced share, both off- and on-budget	Increased share of the costs being domestically funded, donor financed elements all on-budget
		Focus on diverse mix of mechanisms and strategies to fund MC including through national health budgets, general taxation, earmarked tax, external multilateral funds, bilateral funds, voluntary contributions, and direct payments	Mostly external support and donor funded	A mix of external and country resources.	Resources for MC are mostly financed through national health budgets

	Purchasing of services	Public financial management (PFM) flexible enough to adjust to the demand of services	Rigid PFM system that does not adjustment to the demand	Increased flexibility of PFM. However, allocation of resources for MC is not completely owned by the Ministry of Health	Flexible reallocation of resources for MC is led and owned by MOH. Constant reallocation of funds to meet the objectives set by the ministry of health on MC
		Remuneration of service providers for effective delivery of quality, safe and people-centred VMMC service delivery	Rigid budget line item that does not promote effective delivery	Payment methods which are more output oriented, allowing for a growing number of services provided	Payment methods that combine multiple incentives, encouraging effectiveness, quality but also equitable distribution of service provision
		Demand-side barriers addressed through demand-oriented financial incentives	No attention paid to demand-side barriers (e.g. transport, opportunity costs, etc.)	Economic compensation proposed but not risk-nor income-adjusted	Economic compensation scheme in place, proposing compensations which are risk- and income-adjusted
		Ready availability of information on VMMC services, linked to clinical, administrative and financial aspects and disaggregated by sectors (public vs. private), by level of care, by geographical location, by income groups, by age	Weak information systems for meeting demand of clients. No channels or weak channels for information on MC	Information available but not readily for all aspects. Channels for information on MC available but not tailored to client needs	Information available to meet demand of clients based on need including through digital platforms
	Financial risk protection	Financial risk protection for all adolescents	Out of pocket payments at point of use.	Services free at point of use. However, indirect and opportunity costs still exist. Prepaid and pooled funding do not exist and where they do exist do not cover all adolescents	MC services for all adolescents especially subgroups of most vulnerable adolescents are covered by prepaid and pooled funding. Out of pocket payment removed, financial risk protection measures (e.g. waivers, vouchers) designed, implemented and in place to mitigate indirect and opportunity costs

Table 2: Assessment - Health System Building Block: Health Workforce

Health System Building Block	Component	Key component considerations	Markers		
			Early	Intermediate	Advanced
Health Workforce	Health workforce planning	Country-level health workforce plan that is based on projected estimates of the number of clients including adolescents who will need VMMC	There is a health workforce plan, but it does not yet take VMMC into consideration	There are ad-hoc work plans for MC, but they are not yet reflected in the national health workforce plan/ strategy	VMMC needs are fully considered in the country health workforce plans
		System for addressing skill mix, distribution and retention challenges for health workers offering VMMC services	There is no system in place	There are systems in place, but they are not reflected in the national health workforce plan/ strategy	There are systems in place, and measures are included in the national health workforce plan to ensure safe staffing levels in facilities
	Pre-service and continuing education	VMMC as part of national pre-service training requirements for students being prepared to work in the health care sector	VMMC is not a national requirement for pre-service training of students and health workers	VMMC is a national requirement for pre-service training of students and health workers but it is not enforced	VMMC is a national requirement for pre-service training of students and health workers and it is enforced during the accreditation of health education and training institutions
		Continuous education and re-training requirements for VMMC service providers	No mechanisms in place for assessment and response to need for continuing education and competency	Mechanisms for continuous education and training requirements for VMMC service providers in place but	Clear national mechanisms (including for recertification) to involve VMMC service providers for their training and education

			certification for VMMC service providers	not systematically implemented for all MC service providers. No national systems for tracking based on needs of service providers	needs, and conduct capacity-building activities at national and district levels that are aligned with reported needs
		National health education and training courses including on adolescent health have VMMC modules including on IPC and patient safety	VMMC modules are not included as part of adolescent health training courses	VMMC modules are included as part of adolescent health training courses but are not mandatory for students and other learners	VMMC modules are included as part of adolescent health training courses and are mandatory for students and other learners
	Management, support and supervision	Adolescent-responsive care by health care workers offering VMMC services (e.g. medical officers, clinical officers, nurses and others)	There are standards for service delivery of health care but national requirements for assessing adolescent responsive VMMC services are not included	There are standards for service delivery of health care and national requirements for assessing adolescent responsive VMMC services are included but not enforced	There are standards for service delivery of health care and national requirements for assessing adolescent responsive VMMC services are included and enforced
		National system for support and supervision of service providers	There are ad-hoc support systems and they are not led by the ministry of health	There are regularly available support systems, but they are not led by the ministry of health	There are regularly available support systems and they are led by the ministry of health

Table 3: Health System Building Block: Strategic Information

Health System Building Block	Component	Key component considerations	Markers		
			Early	Intermediate	Advanced
Strategic Information	Data collection and management	VMMC data collection	Paper record management system	Mixed system: • Paper at source • Electronic upstream	Fully electronic system: • Electronic data entry at source Unique Patient Identifier • Electronic data transfer and analysis that results in real-time reporting and availability of information
		VMMC data management and reporting	Donor information management and reporting only	Parallel systems both requiring separate data entry: • Country system • Donor system	Mature country system that provides quality country-level information that is acceptable to the national government and multi-lateral organizations such as World Health organization
	Data analysis and usage	Data disaggregated by age	Country specific non-standard age bands	Parallel age bands:	Electronic calculation of age based on DOB and date of MC procedure that allows

				• Country-specific age bands • Donor-specific age bands	reporting age in any way desired
		Data disaggregated by geography	MC record is linked to the closest HF to where the procedure was carried out, including all outreaches	MC record is linked to the specific site where the procedure was carried out (e.g. HF, outreach, workplace, school, etc.)	Dual MC record linkage to: • Specific site where the procedure was carried out • Physical location of the MC client
		Use of data for reporting, planning, logistics management, evaluation and quality assurance purposes	Data used for reporting only	Data used for reporting and limited overall programme tracking and management at national levels	Data used for reporting and at all HF, district and country levels for planning, staffing, logistics management, evaluation and QA
	Data quality and safety	Routine data quality checks	No routine data quality procedures or checks in place	Donor data quality systems, procedures and forms used but only where donor activities are taking place	Routine country data quality systems (3 – 6 monthly), procedures and forms in place that aligned with a sustainable country data quality approach
	Safety monitoring	Safety monitoring/surveillance systems	Limited or no safety monitoring/surveillance systems in place	Donor safety system/surveillance systems monitoring in place with limited country staff participation and	Full country safety monitoring/surveillance systems system in place with policies, procedures, reporting forms, review and

				capacity to review and respond to adverse events	response procedures defined and in place

Table 4: Assessment - Health System Building Block: Service Delivery

Health System Building Block	Component	Key component considerations	Markers		
			Early	Intermediate	Advanced
Service Delivery	Access (strategic planning of health services)	Comprehensive assessment of VMMC service delivery based on inclusive characteristics (availability, accessibility, acceptability, contact/use and effectiveness) to inform planning and programming	MC planning and programming not systematically informed by comprehensive needs assessments	Comprehensive assessment of MC services done as a vertical and separate activity and not within the context of broader national HIV and adolescent health planning and programming	Comprehensive assessment of MC services done within the context of broader national HIV and adolescent health planning and programming
		Mapping of existing service delivery infrastructure and resources necessary to deliver VMMC in community-based and HF settings to inform planning and implementation of VMMC services	Planning and implementation of MC services not based on clear process of assessment of infrastructural and resource needs	Mapping of existing service delivery infrastructure and resources for MC done to inform planning and implementation of VMMC services, but as a separate vertical process	Mapping of existing service delivery infrastructure and resources for MC done to inform planning and implementation of VMMC services, within broader national health systems and processes
	Reorienting service delivery models	Service delivery platforms for reaching adolescents including underserved adolescents in place (e.g. in and out of school, community-based platforms,	National service delivery platforms still only facility based	There is still an overwhelming reliance on facility-based platforms with	Service delivery platforms are delivered within routine facility and out of facility

		digital platforms, faith-based platforms)		emerging non-facility platforms	platforms including in districts and localities
		MC services delivered within an integrated package of services	MC services are delivered in a vertical manner and as one separate intervention	MC services delivered only within the context of HIV services	MC delivered within a comprehensive packaging of services defined by means of a participatory and transparent process and that takes into consideration the diverse cultural and age-sensitive needs of clients including adolescents
		MC as part of routine platforms at the primary care level	MC services are delivered at higher levels of care and not at primary care level	MC services are delivered at only a few primary care outlets but not enough to absorb demand.	MC services are a routine part of primary care services with a family and community-based approach
		Clear referral systems for VMMC to serve as an entry point to other adolescent services (e.g. mental health, SRH, non-communicable diseases, vaccinations etc.)	MC services delivered as one separate intervention with no linkages to other adolescent health interventions	There are referral mechanisms in place, but these are separate for MC and not part of routine referral services.	There are routine referral mechanisms in place for connection to broader adolescent health interventions.
		Use of digital platforms and technology for delivery of MC services including continuity of information, tracking quality, facilitating patients' empowerment and reaching geographically isolated communities	Digital platforms and technology are currently not being used for MC service delivery	Digital platforms and technology are a part of MC service delivery but not within routine national service delivery processes	Digital platforms and technology are an integral part of MC services as well as other services in the integrated package of care all within routine

					national service delivery processes
	Empowering and engaging people	Empowering and engaging individuals, families, communities, informal service providers	No strategic engagement of individuals, families and communities. Informal service providers, including traditional circumcisers are not engaged	There is engagement of individuals, families, communities and informal service providers, including traditional circumcisers. However, their engagement is considered meaningful	Individuals, families and communities are empowered and engaged to make effective decisions about their own health. Informal service providers, including traditional circumcisers are provided with the necessary education to support service delivery. This engagement is part of the strategic plan and is implemented and monitored.
		Reaching the underserved and marginalized	Underserved and disadvantaged populations are not prioritized	Underserved and disadvantaged populations have been identified, barriers assessed. However, actions are yet to be implemented towards an all-inclusive approach to service delivery	Underserved and disadvantaged populations have been identified, barriers assessed, and actions implemented towards an all-inclusive approach to service delivery
	Safety and quality	National quality standards and systems in line with WHO and UNAIDS global standards for quality healthcare services for adolescents	Quality standards and systems not in place	MC quality standards and systems in place, separate and not part of routine national systems	Quality standards and systems in place and implemented within routine national systems

		Standardized surgical protocols focused on patient and provider safety (i.e. surgical systems strengthening)	Standardized surgical protocol focusses on patient and provider safety not yet in place	Standardized MC protocol focused on patient and provider safety in place for MC but not integrated within national protocols	National standardized surgical protocol focused on patient and provider safety in place with MC included

Table 5: Assessment - Health System Building Block: Supplies & Equipment

Health System Building Block	Component	Key component considerations	Markers		
			Early	Intermediate	Advanced
Supplies and Equipment	Norms and standards	Standard guidelines on prescribing and dispensing practices, and the implementation of strategies to support rational use of VMMC supplies and equipment	Standard guidelines are either not available or are still in development	Standard guidelines exist but are stand alone for VMMC	Standard guidelines exist and are part of a national and integrated guideline to support rational use of VMMC supplies and equipment
		Minimum requirements for equipment and recommended specifications to perform a safe medical male circumcision	No set minimum requirements for equipment and recommended specifications to perform a safe medical male circumcision	Minimum requirements for equipment and recommended specifications to perform a safe medical male circumcision are set and available but are stand alone for VMMC	Minimum requirements for equipment and recommended specifications to perform a safe medical male circumcision are set and available and part of national and integrated requirements

	Procurement and distribution	Procurement of VMMC supplies and equipment part of national procurement systems	Procurement and distribution of VMMC supplies and equipment are vertical and stand alone	Procurement and distribution of VMMC supplies and equipment are a mix of vertical and integrated approaches, including development of ad hoc quantifications (forecast and supply plan)	Procurement and distribution of VMMC supplies and equipment are quantified under a national, annual quantification (forecast and supply plan), and part of national procurement and distribution systems
		VMMC supplies and equipment part of national systems of supply and distribution	VMMC supplies and equipment are vertical and stand alone and not part of national systems of supply and distribution	VMMC supplies and equipment are a mix of vertical and integrated approaches	VMMC supplies and equipment are integrated and fully part of national systems of supply and distribution
	Quality	National standards for quality of supplies	National standards for quality of supplies are either not available or are still in development	National standards for quality of supplies has been developed, but VMMC supply is stand alone and not part of national system for quality as set by a stringent regulatory authority.	National standards for quality of supplies are set by a stringent regulatory authority which include all VMMC-related supplies.
		Waste management system that addresses segregation, storage, transport, treatment, and disposal of all relevant health care waste categories	Waste management systems at service delivery points do not exist or still in development	Waste management systems at service delivery points exist but are stand alone	Waste management systems at service delivery points exist as part of comprehensive facility waste management plan

Table 6: Assessment - Health System Building Block: Leadership and Governance

Health System Building Block	Component	Key component considerations	Markers		
			Early	Intermediate	Advanced
Leadership and Governance	Programme leadership and coordination	Programme ownership	Programme is driven by donor and funding organizations (e.g. financing, implementation, etc.)	Mixed country and donor ownership of the programme	Country leadership and coordination role is paramount and prominent. Country policies, procedures and structures in place; increasing country funding of VMMC; donor and VMMC funds reflected in country budget
		Programme leadership with sub-national and local leaders	VMMC programme led by donors and implementing partners	MOH has a partial role in the leadership of MC shared with donor, implementing partners	VMMC programme fully led by MOH with coordination mechanisms for partner coordination, district and local level coordination mechanisms in place
		Partnership structure for VMMC led by the MOH to ensure coordination of advocacy, implementation, reporting and QA of VMMC services	Unclear mechanisms for partner and stakeholder coordination	Parallel structures for partner coordination led by MOH and by donor or implementing partners	Partnership structure for VMMC led by the MOH with fully developed structures for coordination, advocacy, implementation,

					reporting and QA of VMMC services
		Involvement and engagement of relevant departments of the MOH in implementing, coordinating and overseeing MC activities: • HIV programme • Adolescent Reproductive Health • Essential Surgical Services (surgical training, practice, supervision etc.) • Maternal and child health (for infant circumcision) • Health promotion/ behaviour change communication • Infection prevention and control • Quality Assurance	No or very minimal involvement or engagement of other MOH departments.	There is engagement of some departments of MOH. However, this engagement is not holistic and does not involve all relevant departments	All relevant departments of the MOH engaged in implementing, coordinating and overseeing MC activities
	Accountability, oversight and regulation	Systems for support and supervision of VMMC led by MOH through the VMMC focal points and with active synergy with adolescent health focal point at MOH	Support and supervision systems not in place	Support and supervision system in place but these are parallel systems, led by MOH and donor or implementing agencies	Support and supervision system in place led and coordinated by MOH. VMMC focal points should take the lead but with active

					collaboration and synergy with the adolescent health focal point in the Ministry of Health
		VMMC focal point or coordinator in the MOH at different operational levels (national, district, local)	There are no VMMC focal points or coordinators in the MOH	There are VMMC focal points or coordinators at different levels some from MOH and others led and coordinated by implementing partners	There are VMMC focal points or coordinators in the MOH, led and supported by MOH at different operational levels (national, district, local).
		Technical working group in the MOH for oversight and review of VMMC or MC performance including quality of services	There is no technical working group at the level of the MOH providing programmatic oversight to all programmes including MC	There is a technical working group at the level of the MOH providing programmatic oversight to all programmes. However, MC is not part of this group.	There is a technical working group at the level of the MOH providing programmatic oversight to all programmes including MC
		Assessment and revision of key regulations including on task shifting/sharing	No assessments done. Country has no task shifting/sharing policy	Task shifting/sharing policy exists but not implemented	An assessment of key strategic regulatory documents has been carried out and a review done including on task shifting and task sharing of MC services

	Inter-sectoral coordination	Platforms for inter-sectoral linkages, partnerships and coordination	There are currently no platforms or mechanisms in place for inter-sectoral coordination	Platforms, to oversee and coordinate efforts for adolescent health and well-being across sectors and government ministries exists. However, VMMC is not an integral part of these platforms	VMMC is a part of existing platforms, to oversee and coordinate efforts for adolescent health and well-being across sectors and government ministries.
	Health sector plan and policies	Essential Package of Health Services	MC is not a part of the national essential Package of Health Services	MC not currently a part of the national essential Package of Health Services. However, there are already plans in place to include MC	MC is an integral part of the national essential Package of Health Services
		National health strategy and operational plan	MC is not a part of the National health strategy and operational planning processes	MC not currently a part of the National health strategy and operational planning processes. However, there are already plans in place to include MC	MC is an integral part of the National health strategy and operational planning processes

Table 7: Assessment - Health System Building Block: Critical Enablers

Health System Building Block	Component	Key component considerations	Markers		
			Early	Intermediate	Advanced

Critical enablers	Adolescent, local ownership and participation	Meaningful engagement of adolescents and youths as leaders and key stakeholders on VMMC at national, district and community levels	Adolescents and youths are not engaged and consulted at all levels, national, district and community	Adolescents are engaged but not at all levels. Engagement occurs at community or district levels but not at national levels	Forums and channels for adolescent engagement are clear and occurs through planning, implementation, monitoring and evaluation.
	Community engagement	Identification, documentation, engagement and partnerships with community gate keepers (women and girls, parents, community leaders)	Community gate keepers are not a part of MC services	Community gate keepers identified but no clear delineation of roles and responsibilities	Community gate keepers are identified, engaged and are a core part of the MC programme
		Engagement traditional male circumcision providers	Traditional providers exist but are not constructively engaged and partnered with	They are engaged but no clear systems of roles, reporting and monitoring	They are engaged with clear systems of roles, reporting and monitoring
	Multisectoral partnerships	Functional platform for strategic and operational engagement on VMMC with other sectors like education, family and social affairs, agriculture and nutrition	No existing platforms for partnerships	There are existing platforms for partnerships, but not cross cutting	Functional platforms for strategic and operational engagement on VMMC with other sectors like education, family and social affairs, agriculture and nutrition exist
	Enabling laws and policies	Reviews of policies and laws considering the need to uphold adolescents' rights to make choices about their own health and well-being, with consideration for different levels	Age of consent policy is considered a critical barrier to accessing services by adolescents	Been reviewed but not applied and in practice	Age of consent policies have been discussed and revised with a view to upholding adolescents' rights to make choices about

		of maturity and understanding e.g. Age of consent			their own health and well-being, with consideration for different levels of maturity and understanding


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