

Exploring the Human Resources for Health Landscape for Adult Male Circumcision Rollout in Four Districts in Nyanza Province, Kenya

By Paul Perchal, George Odingo, and Melinda Pavin





EngenderHealth

for a better life

© 2011 EngenderHealth.

440 Ninth Avenue
New York, NY 10001 U.S.A.
Telephone: 212-561-8000
Fax: 212-561-8067
e-mail: info@engenderhealth.org
www.engenderhealth.org

This publication was prepared under a subagreement funded by FHI under Grant No. 47394, funded by the Bill & Melinda Gates Foundation. The content of this publication does not necessarily reflect the views, analysis, or policies of FHI or the Bill & Melinda Gates Foundation, nor does any mention of trade names, commercial products, or organizations imply endorsement by FHI or the Bill & Melinda Gates Foundation.

Suggested citation: Perchal, P., Odingo, G., and Pavin, M. 2011. *Exploring the human resources for health landscape for adult male circumcision rollout in four districts in Nyanza Province, Kenya*. New York: EngenderHealth

Photo credits: Cover and pp. 8, 11, and 39, Multy Media Agencies; p. 6, S. Odiwuor; p. 15, APHIA II/EngenderHealth

MCC
MALE CIRCUMCISION
CONSORTIUM

CONTENTS

4	ACKNOWLEDGMENTS
5	ACRONYMS & ABBREVIATIONS
6	EXECUTIVE SUMMARY
10	BACKGROUND
12	OBJECTIVES & METHODOLOGY
16	FINDINGS
	<ul style="list-style-type: none">• Desk Review• Facility Assessments• In-Depth Interviews• Focus Group Discussions
36	DISCUSSION
	<ul style="list-style-type: none">• Human Resource and Training Gaps• HRH Strategies for Addressing Gaps• Barriers and Facilitating Factors
40	CONCLUSION & RECOMMENDATIONS
43	REFERENCES



ACKNOWLEDGMENTS

EngenderHealth would like to thank the following people for their contribution to this report:

Paul Perchal, George Odingo, and Melinda Pavin, for analyzing the data and writing the report; the Male Circumcision Consortium, the APHIA II Nyanza Project, the Kenya Ministry of Public Health and Sanitation, the Kenya Ministry of Medical Services, and the Nyanza Provincial Health Management and District Health Management teams, for their ongoing collaboration and support; Mark Barone, Sharone Beatty, Feddis Mumba, Regina Mbayaki, Frederick Ndede, Robert Bailey, Johannes van Dam, Lisa Dulli, and Michael Stalker, for reviewing earlier drafts; Michael Klitsch, for editing the manuscript and managing the publication process; and Phyllis Lerner, for designing and formatting this report.

EngenderHealth also thanks those who enthusiastically gave their time to participate in the interviews and the focus group discussions.

FHI, EngenderHealth, and the University of Illinois at Chicago, working with the Nyanza Reproductive Health Society, are partners in the Male Circumcision Consortium, which is funded by a grant to FHI from the Bill & Melinda Gates Foundation.

ACRONYMS & ABBREVIATIONS

AIDS	acquired immunodeficiency syndrome
APHIA	AIDS, Population, and Health Integrated Assistance
DASCO	district AIDS/STI coordinator
DCO	district clinical officer
DHBCC	district home-based care coordinator
DHS	Demographic and Health Survey
DMOH	district medical officer of health
DPHN	district public health nurse
DRHC	district reproductive health coordinator
GOK	Government of Kenya
HCT	HIV counseling and testing
HIV	human immunodeficiency virus
HRH	human resources for health
KEPH	Kenya Essential Package for Health
MC	male circumcision
MCC	Male Circumcision Consortium
MOH	Ministry of Health
NASCOP	National AIDS and STD Control Program
PHMT	provincial health management team
QA	quality assurance
STI	sexually transmitted infection
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
VMMC	voluntary medical male circumcision
WHO	World Health Organization

EXECUTIVE SUMMARY

Based on three clinical trials and other accumulated evidence demonstrating that male circumcision (MC) reduces the risk of HIV acquisition by men, the World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) recommend safe, voluntary MC for adult men in the short term as one important component of a comprehensive strategy to prevent HIV infection and maximize the public health benefits.

The Kenya Demographic and Health Survey (DHS) reports a strong relationship between HIV prevalence and circumcision status, with HIV prevalence more than four times higher among uncircumcised men than among circumcised men aged 15–49 (13% vs. 3%) (KNBS & ICF Macro, 2010, p. 224). Results indicate that 6.3% of Kenyan adults ages 15–49 are infected with HIV (KNBS & ICF Macro, 2010, p. 214). In Nyanza Province, HIV prevalence rates vary widely by ethnic community and by whether a community practices circumcision, ranging from a high of 20.2% among the Luo to a low of 4.7% among the Kisii (KNBS & ICF Macro, 2010, p. 217). MC could offer tremendous benefits in HIV prevention efforts in Nyanza Province, as well as in other provinces

where there is a strong relationship between HIV prevalence and circumcision status, including Nairobi, Rift Valley, and Western provinces.

The Kenyan Ministry of Health has developed a policy framework and national strategic plan to ensure safe, voluntary, accessible, and sustainable MC services alongside other HIV prevention strategies (GOK, 2008; GOK, 2009). To help support the operationalization of the national strategic plan for MC, EngenderHealth, a partner in the Male Circumcision Consortium (MCC), undertook an assessment of the human resources for health (HRH) landscape for adult MC rollout in Kenya. Specific objectives were to determine gaps in human capacity and training needs related to MC,



as well as to identify human resource and training barriers to or facilitating factors for introducing adult MC services.

The assessment used a combination of qualitative and quantitative methods: i) a desk review; ii) facility audits; iii) key informant interviews; and iv) focus group discussions. The assessment was conducted in the Homa Bay, Nyando, Rachuonyo, and Rongo districts of Nyanza Province. These districts were selected based on current levels of circumcision, the presence of Levels 2–4 health facilities, and the concurrent implementation of HIV and AIDS prevention activities, including MC, with support and technical assistance from implementing partners such as the AIDS, Population, and Health Integrated Assistance (APHIA) II Nyanza Project.¹ Due to the changing MC policy and program environment in Kenya, the assessment was updated in October 2009 to include more recently published documents and additional district-level human resource and training data.

The findings revealed that among men aged 15–49, 189,059 circumcisions need to be completed by 2014 in the four districts assessed. The findings also revealed a preexisting shortfall of 358 health workers in the four districts prior to the introduction of MC services. The findings suggest that as of October 2009, the Government of Kenya, through support from international partners, had made considerable progress in closing the gap in the number of trained MC health workers needed to meet MC targets. However, these estimates do not account for the number of trained nondedicated MC health workers who will require refresher training, based on MC service delivery volume, to achieve optimal competency. They also do not account for attrition among trained MC health workers due to internal and external migration. The findings also suggest that a disproportionate number of male health workers compared with female health workers have been

trained, as well as a disproportionate number of surgeons and surgical assistants compared with counselors and infection specialists. They also suggest a disproportionate number of health workers trained in Nyando District compared with Homa Bay, Rachuonyo, and Rongo districts.

Our analysis indicates there has been no forecasting of human resource and training needs associated with various service delivery models. It is also still unclear about the appropriate balance of dedicated versus nondedicated MC staff who should be available for training, by cadre and sex. Due to underreporting of MC procedures, it is also unclear what the current capacity of the health work force is in relation to the number of MCs performed. Our analysis also indicates that no cost comparison analysis has been done in Kenya to determine how many trained dedicated and trained nondedicated health workers are needed for various MC service delivery models, both in the short term and in the long term.

MC is also being rolled out in a context where strategies for addressing human resource and training gaps face sizable implementation barriers. These include limited human resource planning and management, unknown capacity of current MC training programs, potential limitations related to the sex of the MC health worker, and poor understanding of effective incentive mechanisms for motivating MC health workers. These barriers still need to be addressed to support short- and long-term HRH strategies.

Based on current facilitating factors, the Government of Kenya and donors are well-positioned to address the above barriers and challenges. These factors include a national policy environment supportive of MC rollout, a large pool of unemployed health workers, a preexisting national MC training curriculum, and new quality assurance tools to support MC rollout.

¹ The APHIA II Nyanza Project, which was funded by the U.S. Agency for International Development, was led by EngenderHealth and was implemented in collaboration with the Kenyan Ministry of Health, PATH, the Academy for Educational Development (AED), and local community-based and faith-based organizations. The project, which ran from 2006 to 2010, had the goal of reducing the risk of HIV transmission and the fertility rate in Nyanza Province.

EXECUTIVE SUMMARY

As Kenya's government moves forward with its ambitious plans to provide MC services, the health sector needs to respond with short- and long-term solutions to ensure that there are sufficient numbers of trained health workers to provide high-quality, high-volume services, based on efficient models of service delivery, while building local capacity and ownership, to ensure sustainable MC services for generations to come.

Significant investments in HRH will be a critical part of any effort to address current human resource shortages and increase access to adult MC services at a scale and speed to meet estimated MC targets. Task shifting, mobile outreach services, use of contract staff, and introduction of current and new technologies, while potential strategies for addressing HR shortages, should not be seen as a substitute for other health financing investments to increase the health work force. The Government of Kenya will need to make critical decisions regarding which strategies to choose to address overall human resource shortages while meeting MC health workforce needs. To ensure harmonization, equity, quality, and stability across health services, these decisions will need to weigh cost and the potential for long-term sustainability, within the aims and purpose of the National Resources for Health Strategic Plan.

While urgent measures may be necessary to mobilize additional health workers in the short term for adult MC, they should contribute to strengthening existing human resources for health systems, including training and development. Recommendations based on the findings include:

1. Build the capacity of health districts involved in MC implementation in HRH planning for achieving MC targets by 2014, including:
 - ◆ Using data for decision making based on accurate human resource and training estimates
 - ◆ Advocating for national and provincial support for operationalizing the plans
 - ◆ Developing simple tools for tracking and monitoring recruitment, training, and deployment of MC providers

2. Based on district human resource and training plans, mobilize health financing to ensure the rapid recruitment, training, and deployment of appropriate combinations of dedicated and nondedicated MC teams to meet district targets
3. Expedite efforts to ensure timely involvement of nurses in performing MC, including:
 - ◆ Revising scopes of practice for nurses to carry out the procedure
 - ◆ Providing adequate training and follow-up for nurses to ensure MC competence
4. Revise national preservice training curricula for medical officers, clinical officers, and nurses to include more in-depth content on MC, including practical experience



BACKGROUND

Male circumcision (MC) is one of the oldest and most common surgical procedures worldwide and is undertaken for religious, cultural, social, and medical reasons (NASCO, 2008).

Based on three clinical trials and other accumulated evidence demonstrating that MC reduces the risk of HIV acquisition among men, the World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) recommend safe, voluntary MC for adult men in the short term as one important component of a comprehensive strategy to prevent HIV infection and maximize the public health benefits (WHO & UNAIDS, 2007). The public health impact of MC on HIV transmission is difficult to quantify outside of a clinical trial. However, WHO's HIV/AIDS Programme estimates that as many as 2 million new infections in Sub-Saharan Africa can be averted in the next 10 years with careful, intentional scale-up of safe, high-quality MC services (WHO & UNAIDS, 2007).

The Kenya Demographic and Health Survey (DHS) reports a strong relationship between HIV prevalence and circumcision status, with HIV prevalence more than four times higher among uncircumcised men than among circumcised men ages 15–49 (13% vs. 3%) (KNBS & ICF Macro, 2010, p. 224). Results indicate that 6.3% of Kenyan adults ages 15–49 are infected with HIV (KNBS & ICF Macro, 2010, p. 214). In Nyanza Province, HIV prevalence rates vary widely by ethnic community and by whether a community practices circumcision, ranging from a high of 20.2% among the Luo to a low of 4.7% among the Kisii (KNBS & ICF Macro, 2010, p. 217). MC could offer tremendous benefits in HIV prevention efforts in Nyanza, as well as in other provinces where there is a strong relationship between HIV prevalence and circumcision status, including Nairobi, Rift Valley, and Western provinces.

Experts agree that MC should always be considered as part of a comprehensive HIV prevention package (WHO &

UNAIDS, 2007) that also includes promoting delay in the onset of sexual relations, abstinence from penetrative sex, and reduction in the number of sexual partners; providing and promoting correct and consistent use of male and female condoms; providing HIV counseling and testing (HCT) services; and providing services for the treatment of sexually transmitted infections (STIs). MC should be performed by well-trained practitioners in hygienic settings with free and informed consent, confidentiality, and risk reduction counseling. National health systems need to provide high-quality MC services, including ensuring adequate infrastructure, training, equipment, and supplies.

To endorse the introduction of MC services for HIV prevention, the Kenya Ministry of Health (MOH) developed a National Guidance on Voluntary Male Circumcision (GOK, 2008). The document provides a framework for ensuring the provision of safe, accessible, and sustainable MC services in Kenya. In 2009, the Kenya MOH released the Kenya National Strategy for Voluntary Medical Male Circumcision (GOK, 2009). This document outlines the strategic directions for voluntary medical male circumcision (VMMC) for men aged 15–49 and the national plan of operations for the years 2009–2010 through 2011–2012.

The greatest impact from MC will be realized through reaching as many uncircumcised men with the intervention within the shortest time possible. This means reaching the majority of men who are eligible for the intervention over the next 3–5 years. While it is clear that the largest population of uncircumcised men is in Nyanza Province, there are also significant numbers of such men in Rift Valley, Nairobi, and Western provinces. The MOH's key strategy for overall health service delivery is the decentralization of services to the districts, with implementation of the

Kenya Essential Package for Health (KEPH) (GOK, 2006). Service delivery is supposed to be provided at the following six levels:

- ◆ KEPH Level I — Community level
- ◆ KEPH Level II — Dispensaries
- ◆ KEPH Level III — Health centers, maternity homes, nursing homes
- ◆ KEPH Level IV — Primary hospitals
- ◆ KEPH Level V — Secondary hospitals
- ◆ KEPH Level VI — Tertiary hospitals

It is recognized globally that human resources for health (HRH) are a crucial element in the delivery of health services. Recent health sector studies, as well as policies, strategies and plans, acknowledge that HRH constraints at most levels are hampering health sector planning, service delivery and ultimately health outcomes in Kenya (Ministry of Health and Public Sanitation & Ministry of Medical Services, 2009, p. 10). The Government of Kenya's National Human Resources for Health Strategic Plan 2009–2012 provides a framework to guide and direct interventions, investments and decision making in the planning, management and development of human resources for health by reducing the extent and impact of health worker shortages and maldistribution through better workforce planning and other strategies (Ministry of Health and Public Sanitation & Ministry of Medical Services, 2009, p. 13).

New health services such as MC will stretch the capacity of the health work force. In addition to adequate health infrastructure, equipment, and supplies, sufficient numbers of trained health workers is a critical logistical aspect of MC programming. The spectrum of health care workers needed for MC includes doctors, clinical officers, nurses, pharmacists, lab technicians, counselors, program managers, and community health workers, as well as other auxiliary staff, such as cleaners, receptionists, etc. Successful MC scale-up requires relatively complex human resources for health planning for recruiting, training, and retaining a mix of health workers to perform a wide range

of tasks, which are influenced significantly by the MC service delivery model or models chosen by a country.

It is estimated that despite a severe shortage of trained health workers actually functioning in the Kenyan system, there are approximately 5,000 nurses and 1,000 clinical officers unemployed and potentially available for hire (Adano, 2008). Information from the Emergency Hiring Program for Health indicates that of the 4,466 suitably qualified applicants, 2,064 (46%) were unemployed, and 71% of these were under age 30, suggesting that they may not have been employed in the public service since graduation (Ministry of Health and Public Sanitation & Ministry of Medical Services, 2009, p. 13).

Current HRH challenges could potentially be the single greatest constraint on the scale-up of adult MC services in Nyanza and other provinces in Kenya, particularly in the short term.

Key HRH challenges facing the country include staff shortages, high attrition in hard to reach regions, outmigration, weak human resources management systems, weak human resource information systems, and weaknesses in preservice and in-service training (Ministry of Health and Public Sanitation & Ministry of Medical Services, 2009, p. 10). The problems are greatest in regions most affected by HIV, due to the direct effects of the pandemic on the workforce (i.e., death and disability).



OBJECTIVES & METHODOLOGY

To help support the introduction of adult MC for HIV prevention in Kenya, this study was conducted to gather information about the current MC policy and program environment regarding HRH planning to support adult MC scale-up in four districts in Nyanza Province, Kenya.

Specific objectives were to:

1. Determine gaps in human capacity and training needs related to adult MC
2. Identify human resource and training barriers/facilitating factors to introducing adult MC services

This assessment, conducted from May 2008 to October 2009, used a four-part approach that combined qualitative, quantitative, and historical data. The following methods were employed:

1. A desk review
2. Facility assessments
3. In-depth key informant interviews
4. Focus group discussions

This combination of methods provided multiple perspectives and a range of inputs. It also allowed the triangulation of data, thus yielding more evidence and greater confidence in the results.

The *desk review* examined national and international policy and programmatic documents related to HRH and MC. Some of these documents were predetermined by the knowledge that they would contain relevant information, while others were identified through interactions with national policymakers and heads of departments of the various medical training colleges. This review focused on content relevant to the introduction and scale-up of MC,

particularly documents dealing with human resources, training policies/guidelines, and resources/tools issued by the MOH, the National AIDS and STD Control Program (NAS COP), the National MC Task Force, the National AIDS Control Council, and other relevant authorities, including WHO.

The review identified key elements and gaps in these documents, as well as any lessons learned that would inform possible future policies/guidelines and resources/tools for rolling out MC services. The reviewers paid particular attention to the following criteria in selecting documents:

1. Whether the documents had a national scope or could be adapted easily to provide national guidance and direction
2. Whether the documents were easily accessible and widely available
3. Whether the focus of the documents had the primary aim of addressing human resource and training aspects of MC

We conducted a scan for the following types of documents:

- ◆ National policies/guidelines and resources/tools that address the training of health care providers to perform clinical procedures
- ◆ National policies/guidelines pertaining to HRH and the training of health care workers in Kenya

- ◆ Evaluations of other service provision models involving the use of nonphysicians as a strategy for rolling out clinical and surgical health services in Kenya and neighboring countries.
- ◆ National and international approaches to MC and related HRH issues (This included training needs assessments and evaluations of HRH programs.)

Based on our criteria, a total of 22 documents were selected for our initial review. Due to the rapidly changing policy and program environment, this includes four additional key documents that were released in 2009.

The *facility assessments* were conducted at public health facilities in Homa Bay, Nyando, Rachuonyo, and Rongo districts of Nyanza Province. All four districts are made up of predominantly noncircumcising communities. In collaboration with the Provincial Medical Health Office, these districts and health facilities were purposively selected due to having current low MC levels and concurrent implementation of HIV and AIDS prevention activities, including MC, through implementing partners.

The objective of the assessments was to determine the level of health staff preparedness for MC services. A total of 23 out of 111 facilities located in Homa Bay, Nyando, Rachuonyo, and Rongo were assessed. The health facilities assessed were of Levels 2–4, as described by the Norms and Standards of Health Service Delivery (GOK, 2006) (see Table 1). Using a rapid assessment tool developed by

EngenderHealth, district MOH officials and EngenderHealth clinical/research staff jointly conducted the assessments, with assistance from the APHIA II Nyanza Project. These assessments consisted of interviewing one facility in-charge/manager per facility on their current staffing patterns, previous MC training, current MC training, and current experience with MC. All four dimensions were disaggregated by provider cadre.

In-depth interviews were conducted among key informants with program experience in HIV or sexual and reproductive health. All interviews were conducted by trained research assistants using a semi-structured interview guide. All interviews were conducted in English (except for those with community leaders, which were conducted in the local language) and were tape-recorded. All data were then transcribed and processed in English. Key informant interviews were done with policymakers, program managers, and community leaders.

Policymakers were defined as those who are involved in health management at the district level. They included the district medical officer of health (DMOH), district clinical officer (DCO), and district public health nurse (DPHN). Additionally, selected key informants from the Nyanza Provincial Health Management Team (PHMT) and the National MC Task Force were interviewed. Policymakers play an important role in determining human resource capacity and training priorities. They also help establish staffing patterns throughout the health care system.

TABLE 1: FACILITIES ASSESSED, BY KEPH LEVEL, ACCORDING TO DISTRICT

	Homa Bay	Nyando	Rachuonyo	Rongo	Total
Primary hospitals (Level 4)	2	1	2	2	7
Gov. health centers (Level 3)	6	1	4	4	15
Gov. dispensaries (Level 2)	0	1	0	0	1
Total	8	3	6	6	23

OBJECTIVES & METHODOLOGY

Methods

Program managers were those who coordinate specific health programs in the district, including district AIDS/STI coordinators (DASCOS), district home-based care coordinators (DHBCCs), and district reproductive health coordinators (DRHCs). Administrators of private health facilities were also grouped in this category. Program managers were interviewed, as they are responsible for planning and coordinating HIV service delivery.

Community representatives were individuals who are involved in the management of the health facilities but are not service providers. These included chairmen, secretaries, treasurers, and other representatives of health facility management boards/committees. As members of these groups, the community leaders selected for this study played a key role in determining human resource capacity and training priorities at the sites where they serve.

Respondents were purposively selected, with assistance from the provincial and district MOH offices, as these were most familiar with those associated with the public health care facilities targeted for scale-up of MC services. If any of the designated respondents were not available, they were replaced by their deputies.

Table 2 shows the distribution of the 36 key informant interviews conducted, by respondent category and location.

Before each interview, verbal consent was obtained and recorded on tape and was noted on a consent form. The interviews focused on gathering information about the current human capacity situation regarding MC human and resource training needs, attitudes and beliefs about MC in general, perceptions of gaps/barriers pertaining to the rollout of MC services, and perceptions of factors that could support HRH for MC. Data from the in-depth interviews were analyzed for common themes, using NVivo 8 software. Emerging themes were further refined through a manual review of interview transcripts.

Focus group discussions were conducted among health providers working in government facilities targeted for scale-up of MC services. District MOH offices from the four target districts were asked to send four clinical officers and four nurses to participate in the focus group discussions. Additionally, medical superintendents at the district hospitals in Homa Bay, Nyando, Rachuonyo, and Rongo were requested to send available medical officers from their hospitals. In all, we convened three focus groups, each composed of a different professional group of providers:

- ◆ Medical officers3 participants
- ◆ Clinical officers.....6 participants
- ◆ Nurses10 participants

TABLE 2: KEY INFORMANTS WHO PARTICIPATED IN IN-DEPTH INTERVIEWS, BY RESPONDENT CATEGORY, ACCORDING TO DISTRICT

Respondent category	Homa Bay	Nyando	Nyanza PHMT	Rachuonyo	Rongo	Total
Polymakers	3	2	2	3	3	13
Program managers	3	5	0	3	3	14
Community leaders	3	0	0	3	3	9
Total	9	7	2	9	9	36

Each group discussion was facilitated by a moderator using a question guide in English (as all participants understood the language) and assisted by a note-taker, who also recorded the discussion on tape. All recorded discussions were then transcribed.

Prior to beginning each focus group discussion, facilitators obtained verbal consent from all participants. The aim of the focus group discussion was to gather information on attitudes and beliefs about what cadre of health workers should provide MC services, perceptions of current human resource and training gaps, and suggestions on how MC service delivery could be improved through human resources for health. Data from focus group discussions were analyzed manually to identify common themes.

Study Limitations

This study was conducted under the service delivery umbrella provided by APHIA II Nyanza in the province. APHIA II Nyanza works in Nyanza Province to support HIV services, including MC; therefore, this project provided broad-ranging access to services, communities, and the health officials who participated in the assessment.

Given the geographic scope of the MC services supported by APHIA II Nyanza, and possibly the selection of services and providers within that geographic region, the findings may not be generalizable. Another limitation is related to the exclusive focus on the public health sector. Our findings therefore do not necessarily reflect the human resource and training needs of the private sector, including nongovernmental organizations.

Although a provincial training center was being established in Kisumu at the time of our assessment, an analysis of its capacity to provide in-service training and certify MC trainers was beyond the scope of this study. As a result, one possible limitation to fully understanding training needs is the capacity of existing training programs and services to prepare sufficient dedicated and nondedicated providers/

teams. In the absence of data on training capacity, it is not clear what additional training capacity, if any, might be required to adequately train providers in sufficient quantities to provide safe, quality services to meet MC targets.

Additional limits to the generalizability of the findings have to do with limited sample sizes and the study design. Currently, the Kenya MOH is facing acute shortages of health staff. This fact also contributed to problems in enrolling enough respondents in the study. The situation is worst for medical officers, who are fewest in number at all levels within the health sector. The limited samples, particularly with the focus group discussions, may capture only the perceptions of those with the strongest opinions or the opinions of selected cadres of health care providers, and these may have been different if more participants had been recruited across cadres. Information gained from focus group discussions, while not generalizable, is informative and could reflect norms or common issues within similar populations in other regions of the country. Finally, the findings are time-limited. Investments in infrastructure, human resources, and training have been made since these data were collected.



FINDINGS

Desk Review

This section describes the results of the review of international and national policy and program documents, which was completed between May and November 2008. From this initial review, we found no documents in direct support of addressing human resources for health issues for adult MC, such as a comprehensive national HRH for MC plan or a plan to operationalize large-scale national training on MC. However, four additional HRH documents with national scope became available in 2009, and given their importance, they were included in the review. In total, 22 relevant international and national documents in support of MC were reviewed. Table 3 lists the documents reviewed.

Nine out of the 22 documents reviewed were included in this report because they were national in scope, were widely accessible, and included significant human resource

and training content. Two previous MC assessments, while not national in scope, were included for their human resource and training content, resulting in a total of 11 documents. The four additional documents with national scope that became available in 2009 were also included in this report, bringing the total to 15 documents. Out of these 15 documents, seven were policy/strategy documents, one was an in-service training curriculum, two were preservice training curricula, two were needs assessments, two were peer-reviewed journal articles, and one was a quality assurance (QA) tool. Figure 1 provides an overview of the number and type of documents included in this report, by assessment criteria.

The relevant content in these documents is described below. The remaining documents were excluded from our report, given that they were not national in scope, they were not widely available, or their content did not directly address the human resource and training aspects of MC.

FIGURE 1: NUMBER AND TYPE OF DOCUMENTS REVIEWED, BY ASSESSMENT CRITERIA

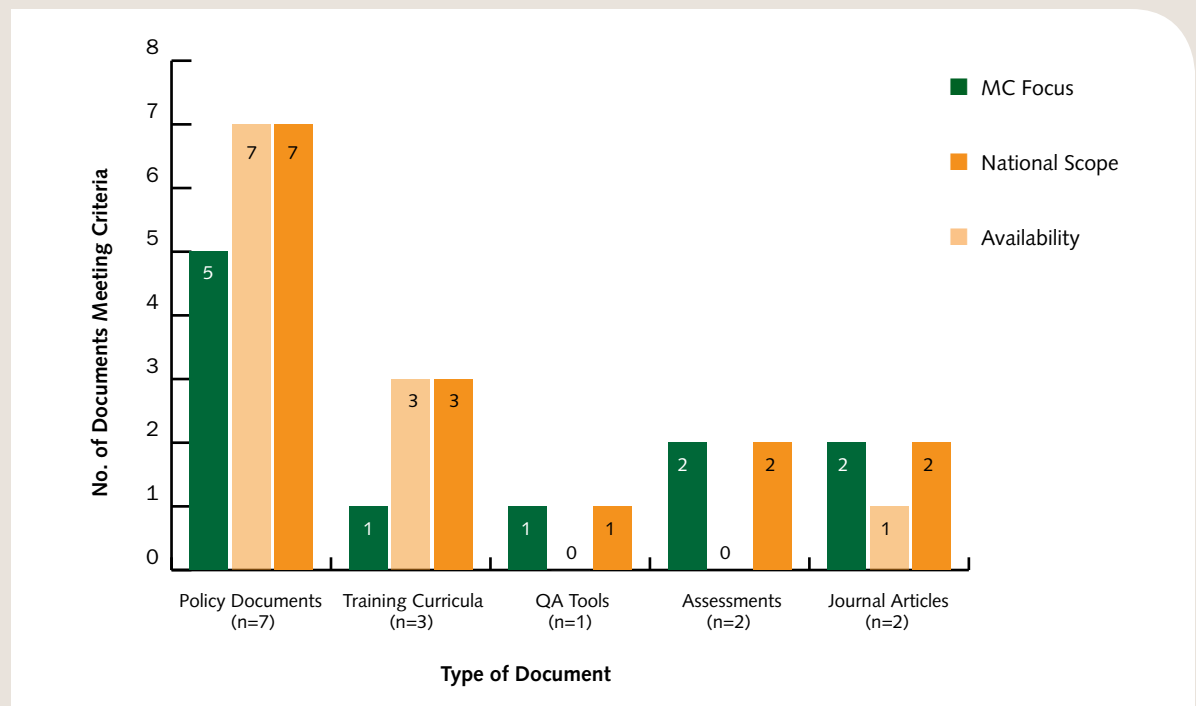


TABLE 3. DOCUMENTS REVIEWED, BASED ON PREDETERMINED CRITERIA

Title of Document	Is National in Scope	Is Widely Available	Contains MC Human Resource/Training Content
Policy/Strategy Documents			
National Guidance on Voluntary Medical Male Circumcision (GOK, 2008)	X	X	
National Strategy for Voluntary Medical Male Circumcision (GOK, 2009)	X	X	X
National Health Sector Strategic Plan II 2005–2010 (GOK, 2005a)	X	X	
Norms and Standards for Health Service Delivery, The 2nd National Health Sector Strategic Plan for Kenya (GOK, 2006)	X	X	
National Human Resources for Health Plan 2009–2012 (GOK, 2009)	X	X	
The Clinical Officers Training, Registration and Licensing Act Cap 260 (GOK, 1990)	X	X	X
The Nurses Bill (GOK, 2005b)	X	X	X
Ministry of Medical Services Circular on Training Programs on Male Circumcision for Nurses (GOK, 2009)	X	X	X
The Public Health Act Cap 242 Revised Edition (GOK, 1986)	X	X	
The Medical Practitioners and Dentists Act Cap 253 Revised Edition Part VI—Specialist Practice (GOK, 1983)	X	X	
Kenya Registered Community Health Nursing Curriculum and Clinical Objectives (Nursing Council of Kenya, 2006)	X	X	
Training Curricula			
Kenya Medical Training College Curriculum for Diploma in Medicine, Surgery, and Community Health (2007)	X	X	X
Kenya Registered Community Health Nursing Curriculum and Clinical Objectives (Revised Edition, 2006)	X	X	X
WHO Manual for Male Circumcision Under Local Anaesthesia (WHO, 2008)		X	X
Quality Assurance Tools			
Male Circumcision Quality Assurance: A Guide to Enhancing the Safety and Quality of Services (WHO, 2008b)		X	X
Health Professionals Handbook on Quality Management in Healthcare in Kenya (Okeyo et al., 2003)	X	X	
Needs Assessments			
Kenya HIV/AIDS Service Provision Assessment Survey, 2004 (GOK, 2004)			
Needs Assessment: Introduction of Male Circumcision Services for HIV Prevention in Kisumu and Suba Districts, Kenya (Bailey et al., 2006)	X	X	X
Assessment of Clinical and Traditional Male Circumcision Services in Bungoma District, Kenya (Bailey & Egesah, 2006)	X	X	X
Peer-Reviewed Articles			
The Health Worker Recruitment and Deployment Process in Kenya: An Emergency Hiring Program (Adanao et al., 2008)	X	X	X
The Potential Cost and Impact of Expanding Male Circumcision in Nyanza, Kenya (Bollinger & Stover, 2009)	X	X	X
Estimating the Resources Needed and Savings Anticipated from Roll-out of Adult Male Circumcision in Sub-Saharan Africa. (Auvert et al., 2008)		X	X

FINDINGS

National Guidance on Voluntary Medical Male Circumcision in Kenya

To facilitate the introduction of MC services for HIV prevention, the Kenya MOH developed a policy called National Guidance on Voluntary Medical Male Circumcision (GOK, 2008). The document provides a framework for ensuring the provision of safe, accessible, and sustainable MC services in Kenya. The document states that MC is not intended to replace other known effective HIV prevention methods: “Male circumcision reduces the risk of acquiring HIV by 60% and is an effective intervention for reducing the risk of HIV and [STIs]; therefore safe, voluntary male circumcision alongside other HIV prevention strategies should be promoted in Kenya” (page 3).

This document does not indicate the types of health providers who can perform MC. Under its guiding principles, it states: “Ensure that male circumcision is performed by well-trained practitioners [emphasis added] in antiseptic settings under conditions of informed consent, confidentiality, risk reduction counseling, and safety.”

This document also states that guidelines for providing the operational framework for MC services are forthcoming, and it therefore provides no specific guidance regarding MC rollout, including certification, preservice and in-service training, QA, and the role of nonphysician clinicians in performing the procedure.

Kenya National Strategy for Voluntary Medical Male Circumcision

This document (GOK, 2009) operationalizes the Kenya National HIV/AIDS Strategic Plan (KNASP) III-2009–2013 (GOK, 2009) and the National Guidance for Voluntary Medical Male Circumcision in Kenya. It provides programmatic and operational guidance to decision makers, program managers, technical support agencies, and potential funders. It is relevant to scaling up VMMC services in both the public and the private sectors. This document outlines the strategic directions for VMMC and

the national plan of operations for the years 2009–2010 to 2011–2012. The essential components provide the key steps for scale-up. Guidance is provided on what needs to be done, in terms of service delivery, and how those services can be offered.

To address human resource needs, the strategy recommends that health care managers ensure that all facilities have at least 50% of appropriate cadres trained in the MC procedure and that all health care providers are to be sensitized on the benefits of MC, the eligible populations, and the strategies for referral for the service. Specific recommendations regarding recruiting, training, and deploying additional dedicated or nondedicated providers to meet MC targets are lacking. However, the document does specify which cadres of health providers can perform MC:

The following health care providers may be certified to perform male circumcision surgical procedure, provided they are appropriately trained using the Clinical Manual for VMMC under Local Anaesthesia: Medical Practitioners, Clinical Officers and Registered & Enrolled Nurses. These providers must be legally registered by the appropriate regulatory boards.²

The strategy proposes a training framework to support service expansion through mobile/outreach services, as a complement to services provided at fixed facilities, and to certify multidisciplinary teams. Those providers performing adult MC procedures will be required to undergo standardized training, using the Kenyan adaptation of the WHO’s Clinical Manual for Male Circumcision under Local Anaesthesia (WHO, 2008). This includes medical practitioners, clinical officers, and registered and enrolled nurses, who must be legally registered by the appropriate regulatory boards. Surgeons will be expected to provide oversight of VMMC services and to participate actively in training, mentorship, supervision, and evaluation of VMMC services. The capacity of in-service providers will be built, as much as possible, through the existing training

infrastructure (GOK, 2009), particularly at the provincial level, to train teams of MC providers from facilities within a given province. Partners who have established, high-volume sites will also be involved in the training of providers.

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

In the medium to long term, national medical training colleges and universities are also expected to integrate the appropriate competencies for comprehensive MC training into their preservice curriculum. The document recommends that training institutions partner with organizations carrying out high-volume MC activities, to ensure that trained providers achieve and maintain their competency.

Ministry of Medical Services Circular on Training Programs on Male Circumcision for Nurses

The purpose of this circular, issued in June 2009 (GOK, 2009b), was to inform HIV program implementers that the Ministry of Medical Services had approved training of nurses to enable them to provide MC services in accordance with established standards, using the standard MOH/WHO training curriculum on voluntary MC.

National Resources for Health Strategic Plan 2009–2012

The National Resources for Health Strategic Plan defines long-term strategies for addressing the constraints to human resource development and management so as to effectively improve health service delivery (Ministry of Health and Public Sanitation; Ministry of Medical Services, 2009, page ix). The only direct reference to MC in the plan is acknowledgement of the additional strain it will place on human resources:

Moreover, in addition to traditional HIV/AIDS services, new services such as male circumcision will add to the health care workload and stretch the capacity of the available health workforce. (Ministry of Health and Public Sanitation; Ministry of Medical Services, 2009, page 3)

Kenya National Health Sector Strategic Plan II 2005–2010

The Kenya National Health Sector Strategic Plan (GOK, 2005) was developed prior to the recommendation that MC be part of a comprehensive HIV strategy. Therefore, the strategic plan does not specifically refer to MC. Along with KNASP III, however, this plan provides the framework for health financing and decentralization of health services to districts, with implementation of essential packages of services, including new services such as MC.

The Clinical Officers Training, Registration and Licensing Act Cap 260

According to this Act (GOK, 1990), clinical officers licensed to engage in private practice are permitted by law to undertake MC, which is considered a minor surgery.

² The appropriate regulatory boards include the Kenya Medical and Dentists Practitioners Board, the Clinical Officers Council, or the Nursing Council of Kenya.

FINDINGS

The Nurses Bill

The current Nurses Bill (GOK, 2005b) neither explicitly prohibits nor explicitly allows nurses to perform minor surgeries. The Act states: “Except as otherwise provided in this Act or in any regulation made thereunder, every person shall be entitled to enrollment in the appropriate roll who satisfy the Council that he/she is of good character and has paid the prescribed enrollment fee and who:

- a. Has undergone a prescribed course of instruction and has passed the appropriate examination conducted or prescribed by the Council; or
- b. Has undergone a course of training and passed an examination, elsewhere than in Kenya, which the Council recognizes as equivalent to the qualification by examination required under this Act.”

Kenya Medical Training College Curriculum for Diploma in Medicine, Surgery, and Community Health

According to the 2007 revision of the Kenya Medical Training College Curriculum for Diploma in Medicine, Surgery and Community Health (KMTC, 2007), medical students receive training on minor surgeries, including MC, in their surgery lessons. They are also required to assist in at least one circumcision during their residency.

Training on MC for clinical officers is much more variable. According to the Kenya Medical Training College Curriculum for Diploma in Medicine, Surgery and Community Health, students are taught to diagnose and manage urogenital disorders, including phimosis and paraphimosis. They are also taught how to manage surgical emergencies. There is no mention specifically of MC. No practical experience is required. Clinical officers do obtain experience with MC during their practical training. They observe surgeries and assist in them, and many perform circumcisions when they are initially assigned to a health facility.

Kenya Registered Community Health Nursing Curriculum and Clinical Objectives

There is currently no module in the national nursing curriculum (Nursing Council of Kenya, 2006) on surgical procedures, and nursing students do not receive training on MC.

WHO Manual for Male Circumcision under Local Anaesthesia

The WHO's Manual for Male Circumcision under Local Anaesthesia (WHO, 2008) provides technical guidance and information on comprehensive MC services, including: the benefits and risks; the linking of MC to other sexual and reproductive health services for men; the need to educate and counsel clients and obtain consent; facilities and supplies; surgical procedures; circumcision for infants and children; postoperative care; prevention of infection; and management of MC services. Technical guidance is provided on the surgical procedures for performing MC for males of all ages—adults, adolescents, young boys, and neonates. This manual was based on the work of a large group of clinical and public health experts who participated in technical consultations and reviews. While providing detailed technical information on the different surgical approaches, the manual also addresses broader issues of men's sexual and reproductive health and emphasizes that MC must be set within the context of other strategies for reducing the risk of HIV infection.

A national clinical training manual for MC services, based on the WHO manual, was under development at the time of the desk review. When completed, this document will be key in building human resource capacity to support MC rollout in the country.

Male Circumcision Quality Assurance: A Guide to Enhancing the Safety and Quality of Services

The WHO's Male Circumcision Quality Assurance: A Guide to Enhancing the Safety and Quality of Services (WHO, 2008b) provides assistance to national and district program

and health facility managers and providers to establish and implement MC services that meet an internationally agreed-upon level of safety and quality. The guide states:

“It provides program managers with information aimed at helping them to fulfill their roles and responsibilities in organizing male circumcision services that are safe and effective. It can be used to support the establishment of services in various circumstances, e.g. health centers, hospitals, mobile units, temporary sites or when a centre of excellence is being created” (page 9).

The guide is complemented by the Male Circumcision Services Quality Assessment Tool Kit, a practical set of tools for assisting facility managers and health providers to assess their own performance and the quality of care provided and to define gaps in the provision of MC services. The tools also can be used by national and district managers to conduct external assessments of facilities.

Needs Assessment: Introduction of Male Circumcision Services for HIV Prevention in Kisumu and Suba Districts, Kenya

This study (Bailey et al., 2006) was designed to assist decision makers, planners, public health administrators, and community leaders by providing an assessment of current MC practices and the resources available for provision of MC services in two different districts in Nyanza Province, Kenya—the mostly urban district of Kisumu and the rural district of Suba. The study found that all medical officers and clinical officers had performed circumcision and that about one-half of nurses had experience with the procedure. About three-quarters of medical officers and virtually all clinical officers believed that nurses should be permitted to perform circumcisions (presumably with proper training), and all nurses felt that they should do so. It is clear from the findings of this study that some nurses are performing this surgery. The assessment also found that training specifically for MC is currently limited to only the medical training colleges, and that the training received by clinical officers is much more variable.

Assessment of Clinical and Traditional Male Circumcision Services in Bungoma District, Kenya

The aims of this study (Bailey & Egesah, 2006) were to assess variation and safety in MC practices, as well as resource and training needs related to MC, in a community that has been practicing circumcision traditionally for many generations. The study concluded that given the fact that roughly 80% of the Kenyan people belong to ethnic groups that practice nearly universal MC and that many males will be circumcised by medical practitioners in public or private facilities, formal training in circumcision should be included in the curricula of training colleges and made part of the required supervised practical for clinical officers and nurses. The study also found a clear need to train traditional practitioners: Given that suture use was not common among traditional practitioners, the study concluded that it is imperative to provide traditional circumcisers with training in bleeding control, as well as in penile and preputial anatomy, control of sepsis, postoperative wound care, counseling of boys and parents, recognition of complications, and hospital referral. Approximately half of the traditional practitioners interviewed said that they would welcome such training.

The Health Worker Recruitment and Deployment Process in Kenya: An Emergency Hiring Program

This article (Adanao et al., 2008) shares the findings from an assessment of emergency hiring needs in Kenya to address current health workforce shortages. The findings indicate that approximately 5,000 nurses, 1,000 clinical officers, 1,200 laboratory staff, and 160 pharmacists were unemployed and potentially available for hire. The study also found that despite a pool of unemployed health staff available in Kenya, staffing levels at most facilities were only 50%, and maldistribution of staff left many people without access to antiretroviral therapy. Because in the current system filling vacant positions can take 1–2 years, even when funding is available, an

FINDINGS

emergency approach was needed to fast-track the hiring and deployment process.

The authors recommend a recruitment approach based on criteria aimed not to pull workers out of the public health care system, because existing programs lead to resentment among health workers through the introduction of inequitable compensation plans, or draw from the private sector or faith-based organizations and reduce their effectiveness. The recommended recruitment approach focuses on the same geographic areas where staff were needed, in the expectation that people would be less likely to want to transfer if they worked close to home. They also conclude that the quality and integrity of the public health sector can be improved only by professionalizing human resource management, reformulating and consolidating the currently fragmented human resource functions, and bringing all the pieces together under the authority and influence of human resource departments and units with expanded scopes of responsibility.

The Potential Cost and Impact of Expanding Male Circumcision in Nyanza, Kenya

In support of efforts to scale up MC in Kenya, this article (Bollinger & Stover, 2009) summarizes a cost-effectiveness analysis study to estimate the potential cost and impact of medical MC services in Nyanza, Kenya, to reach 60% of adult males (ages 15–49) by 2014. The results presented are illustrative and for only one possible scenario; however, the scenarios can be modified to reflect a variety of possible policies at the country level. Key conclusions from this initial scenario are that scaling up the program would avert more than 47,000 adult HIV infections over the time period 2009–2025, would result in cumulative net savings of US\$247 million over the same time period, and would require almost 85,000 MCs to be performed in the peak year (2012).

Facility Assessments

Our site assessments were conducted in collaboration with

APHIA-II Nyanza at 23 hospitals, health clinics, and dispensaries (levels 2–4 health facilities) identified by the Provincial Medical Office (out of a total of 111) as potential sites for the scale-up of MC services. The purpose of the assessment was to determine the level of readiness of sites to introduce MC services based on their human resource capacity to meet the estimated demand.

Mathematical models show that large-scale uptake of MC services in African settings with high HIV prevalence and where circumcision rates are low could lead to substantial reductions in HIV transmission and prevalence over time among both men and women (White et al., 2008). The highest impact is likely to be realized through reaching as many uncircumcised men with the intervention within the shortest time possible—the “catch-up” phase. This means reaching the majority of men who are eligible for the intervention over the next five years.

Estimate of Demand

The Kenya National Strategy for Voluntary Medical Male Circumcision (GOK, 2009) estimates that 525,000 males between ages 15 and 49 will need to be circumcised in Nyanza Province by 2014 to meet 80% of the estimated demand for circumcisions. Table 4 below shows estimates for the four districts in Nyanza Province included in our assessment, based on data from the 2007 Kenya AIDS Indicator Survey. The overall target for the four districts assessed is 185,059 men aged 15–49.

Estimate of Human Resource Needs

Table 5 summarizes the total number of health workers, by cadre and by KEPH level and district, at the assessment sites prior to introduction of MC services as an HIV prevention intervention.

The Norms and Standards for Health Service Delivery (GOK, 2006) stipulate the number and type of health workers needed to serve at various levels health facility functions. Table 6 summarizes the estimated number

of health workers, by cadre, according to district and KEPH level, that would be required to meet government standards at the health facilities assessed in the study.

Comparing tables 5 and 6 indicates that there is a preexisting shortfall of 358 health workers. These shortages are likely already affecting the availability and

TABLE 4: ESTIMATES OF THE NUMBERS OF UNCIRCUMCISED MALES IN FOUR DISTRICTS IN NYANZA PROVINCE, KENYA

District	Estimated no. of adults aged 15-49*	Estimated no. of adult uncircumcised men aged 15-49†	Projected five-year district MC targets for men aged 15-49†
Homa Bay	89,221	46,127	36,900
Rongo	165,967	85,805	68,649
Rauchonyo	89,523	46,283	37,025
Nyando	102,714	53,103	42,485
Total	447,425	231,318	185,059

* Based on data from the 2007 Kenya AIDS Indicator Survey (NASCOP, 2009). †Based on the 51.7% of Nyanza population that is uncircumcised.
 † Based on 80% coverage.

TABLE 5: CURRENT NUMBER OF HEALTH WORKERS, BY CADRE, ACCORDING TO DISTRICT AND KEPH LEVEL HEALTH FACILITY (N=23)

	Medical Officers	Clinical Officers	Nursing Officers	Counselor*	Total
Homa Bay					
Level 2 (n=0)	NA	NA	NA	NA	NA
Level 3 (n=6)	0	5	24	20	49
Level 4 (n=2)	0	12	138	7	157
Nyando					
Level 2 (n=1)	0	1	4	4	9
Level 3 (n=1)	0	4	7	2	13
Level 4 (n=1)	0	3	16	7	26
Rachuonyo					
Level 2 (n=0)	NA	NA	NA	NA	NA
Level 3 (n=4)	3	13	32	21	69
Level 4 (n=2)	1	4	74	16	95
Rongo					
Level 2 (n=0)	NA	NA	NA	NA	NA
Level 3 (n=4)	0	1	14	22	37
Level 4 (n=2)	1	7	27	18	53
Total (n=23)	5	50	336	117	508

* Counselors represent a mix of service providers, usually nurses. Those trained in MC clinical skills, especially nurses, more often than not are also trained as counselors.

FINDINGS

quality of overall health services, suggesting that the introduction of MC services will place an additional strain on an already overstretched health care workforce. Figure 2 summarizes the gap between the Government of Kenya's recommended number of health workers and the actual number of health workers, by cadre. There are shortages of 296 nursing officers, 25 clinical officers, and 37 medical officers.

The balance of service delivery modes (e.g., static, outreach, or mobile) and the level of integration will affect the combination and number of nondedicated vs. dedicated teams that need to be recruited and trained. The speed of scale-up will also affect the number and combination of teams needed. Due to current resource constraints, as well as its contribution to program sustainability, the Government of Kenya has favored an integrated approach to supporting

the introduction of new health services such as MC. This approach involves relying on existing MOH providers to provide MC as part of routine health services. Policymakers are also grappling with the need to provide high-volume, quality MC services in the short term during the "catch-up" phase of MC rollout. To address this short-term need, the Government of Kenya has recommended the use of outreach VMMC services as the predominant mode of service delivery (GOK, 2009).

The Government of Kenya recommends that an MC team should include a surgeon (a medical doctor, clinical officer, or nursing officer), a surgical assistant, a counselor, and an infection prevention officer (GOK, 2009). Based on the current performance of MC implementing partners in Nyanza, a dedicated team³ of MC providers is estimated to perform an average of 10 MCs per day and a nondedicated

TABLE 6. ESTIMATED NUMBER OF HEALTH WORKERS RECOMMENDED BY THE GOVERNMENT OF KENYA, BY CADRE, ACCORDING TO DISTRICT AND KEPH LEVEL HEALTH FACILITY (N=23)

	Medical Officers	Clinical Officers	Nursing Officers	Total
Homa Bay				
Level 2 (n=0)	NA	NA	0	0
Level 3 (n=6)	NA	12	84	96
Level 4 (n=2)	12	10	120	142
Nyando				
Level 2 (n=1)	NA	NA	2	2
Level 3 (n=1)	NA	2	14	16
Level 4 (n=1)	6	5	60	71
Rachuonyo				
Level 2 (n=0)	NA	NA	NA	0
Level 3 (n=4)	3	13	32	64
Level 4 (n=2)	1	4	74	152
Rongo				
Level 2 (n=0)	NA	NA	NA	0
Level 3 (n=4)	0	1	14	64
Level 4 (n=2)	1	7	27	142
Total (n=23)	5	50	336	749

Note: NA= not applicable. Source: GOK, 2006.

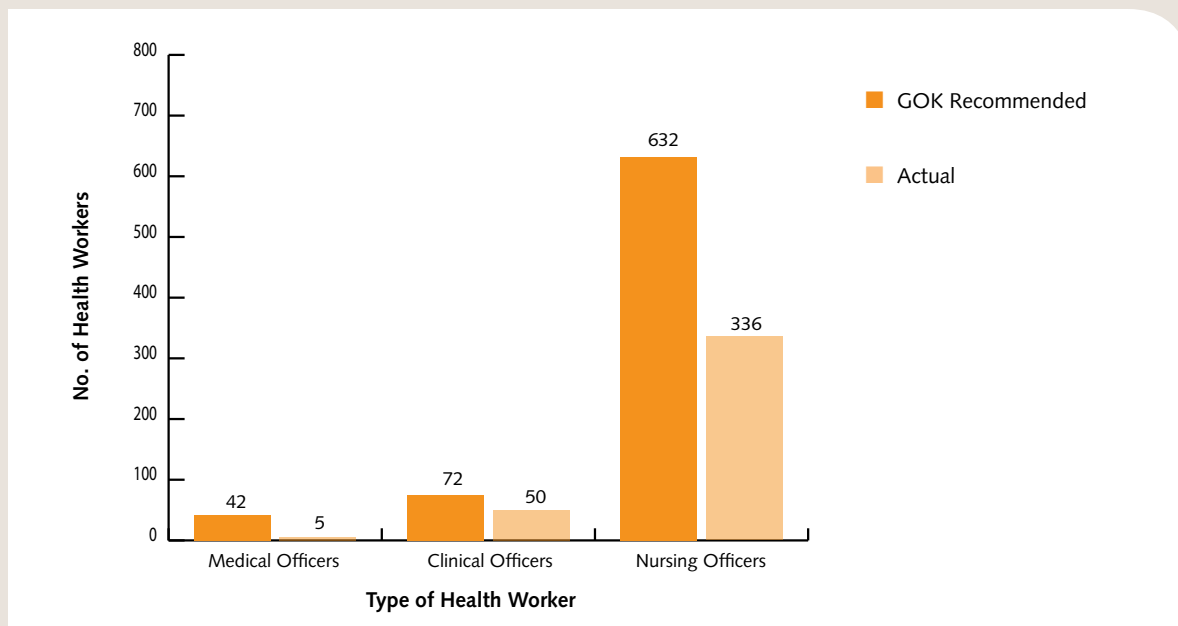
team⁴ can perform an average of two MCs per day. Based on a 230-day work-year for public health employees in Kenya, it will require 16 trained dedicated teams (64 health care workers) or 80 trained nondedicated MC teams (320 health workers) per year to achieve the estimated MC targets by 2014 for the four districts assessed. While these estimates account for annual leave and holidays, they do not take into account staff turnover, staff attrition due to internal and external migration, and staff time off for other reasons (e.g., training, illness, etc.).

Estimate of Training Needs

The assessment of training needs focused on determining prior routine clinical training on MC, current training in MC for HIV prevention, and health workers' current experience with MC. The Kenya National Strategy recommends that health care managers ensure that all facilities have at least 50% of appropriate cadres trained in the MC procedure

(GOK, 2009, p. 23). Based on one study, the completion of more than 100 circumcisions is required before a newly trained MC provider achieves optimal competency with the procedure (Kiggundu et al., 2009). The assessment revealed that 21 out of the 23 health facilities assessed had provided some MC surgery, for medical reasons other than HIV prevention, in the 12 months prior to the introduction of MC. Of these, only 10 facilities had maintained accurate records of the number of procedures performed prior to introduction of MC. The numbers of MC procedures reported, by district, were seven (Nyando), 15 (Rauchyono), 26 (Homa Bay), and 40 (Rongo). About 30% of the current medical officers and clinical officers at the study sites were formally trained in MC. Of those, the majority received training some time ago and would require refresher training before being able to perform the procedure safely. The majority of health workers at dispensaries and health clinics also require MC training.

FIGURE 2. NUMBER OF HEALTH WORKERS RECOMMENDED BY THE GOVERNMENT OF KENYA, COMPARED WITH ACTUAL NUMBER OF HEALTH WORKERS, BY CADRE



³ Dedicated MC teams consist of health workers who exclusively perform MC 100% of the time, on either a full-time or a contract basis.

⁴ Nondedicated MC teams consist of health workers who perform MC part of the time, along with their other routine duties and responsibilities.

FINDINGS

At hospitals, medical officers also need relevant training updates to enable them to contextualize MC within HIV prevention and provide back-up support for any adverse events or surgical emergencies associated with MC.

Figure 3 compares the current number of trained nondedicated and dedicated health workers in the four districts assessed and the estimated number of such workers needed to achieve the desired public health impact by 2014. Prior to the introduction of MC, there were shortages of 155, 80, and 80 trained nondedicated surgeons or surgical assistants, counselors, and infection prevention specialists, respectively, and 32, 16, and 16 trained dedicated health workers in these corresponding cadres. Comparing the estimates of the numbers of trained MC health workers in both categories and in the same cadres, as of October 2009, indicates some progress in closing the human resource

and training gaps prior to MC introduction. There were shortages of 36 trained nondedicated surgeons or surgical assistants, 53 counselors, and 69 infection prevention specialists, or shortages of 26, 13, and 13 trained dedicated health workers in these corresponding cadres.

Additionally, of the total number of actual nondedicated and dedicated MC health workers trained as of October 2009, approximately 91% were male and 9% were female. These estimates, however, do not account for the total number of trained MC health workers who are not actively performing MC to optimal competency and who might require refresher training. As previously mentioned, these estimates also do not account for the number of trained MC health workers in the corresponding groups lost to staff turnover and staff attrition through internal and external migration.

FIGURE 3. CURRENT NUMBER OF HEALTH WORKERS, NUMBER OF HEALTH WORKERS WITH TRAINING IN MC, AND ESTIMATED NUMBER OF HEALTH WORKERS NEEDED FOR ALL FOUR DISTRICTS, BY WHETHER THEY ARE DEDICATED TO MC OR NOT DEDICATED TO MC

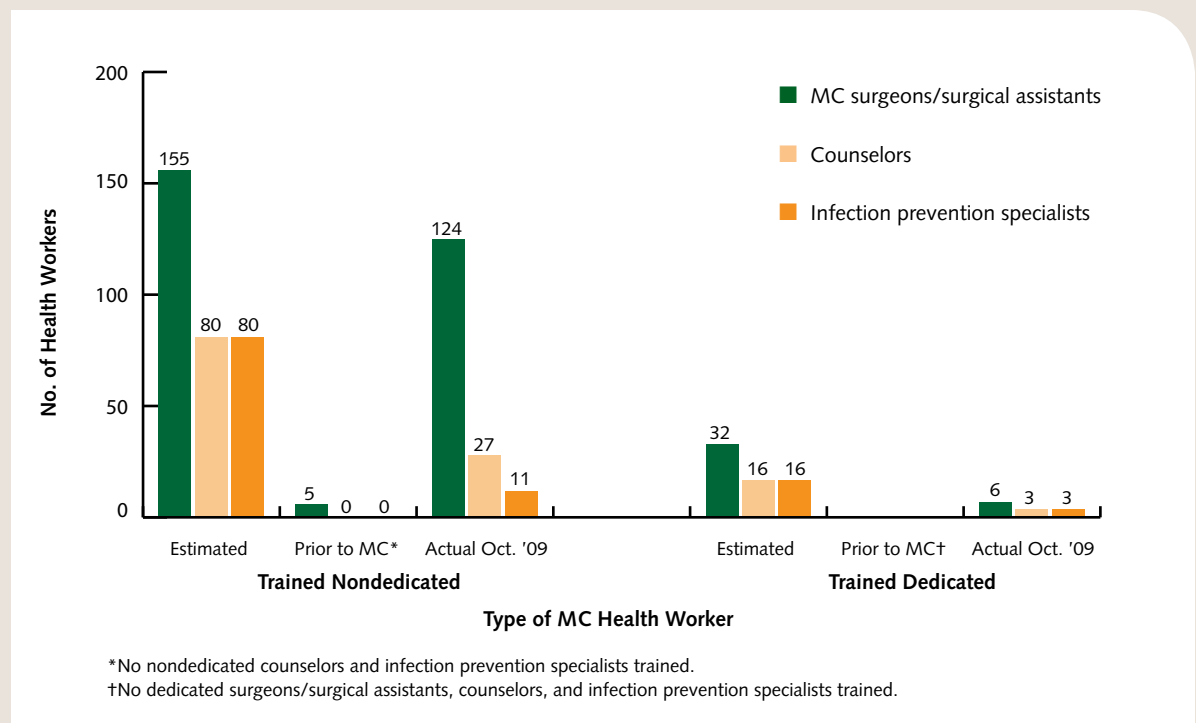
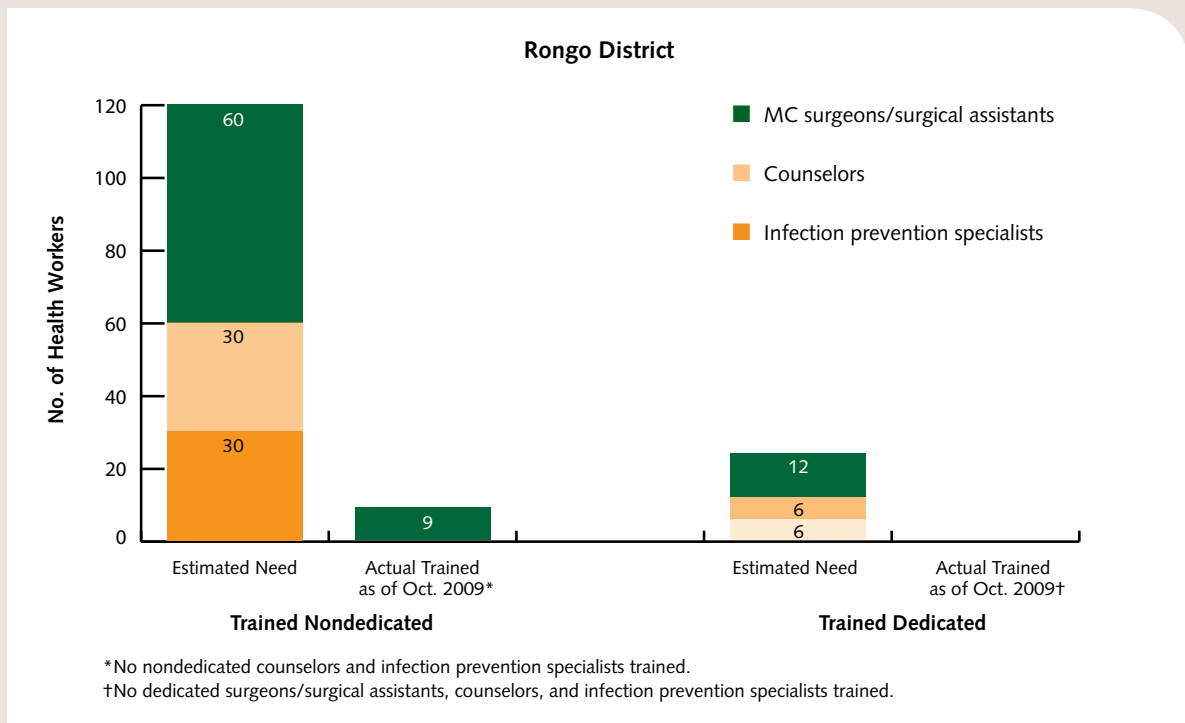
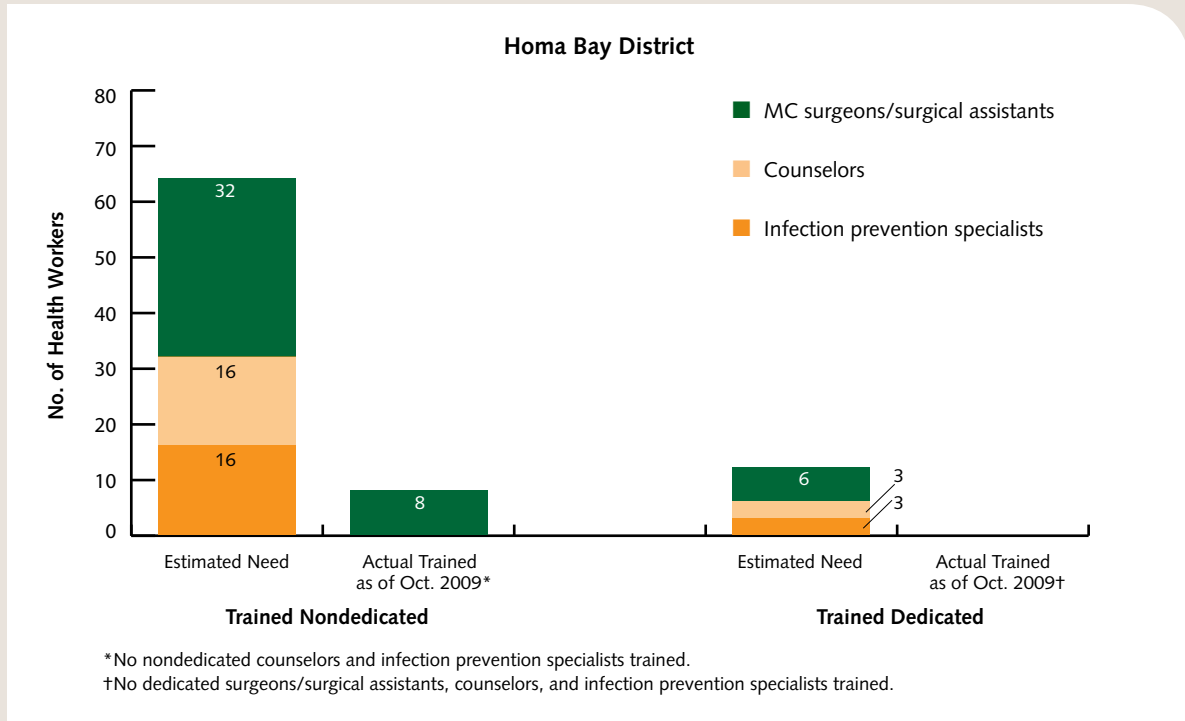


FIGURE 4. ACTUAL NUMBER OF HEALTH WORKERS, NUMBER OF HEALTH WORKERS WITH TRAINING IN MC, AND ESTIMATED NUMBER OF HEALTH WORKERS NEEDED, BY WHETHER THEY ARE DEDICATED TO MC OR NOT DEDICATED TO MC, BY DISTRICT



FINDINGS

FIGURE 4. ACTUAL NUMBER OF HEALTH WORKERS, NUMBER OF HEALTH WORKERS WITH TRAINING IN MC, AND ESTIMATED NUMBER OF HEALTH WORKERS NEEDED, BY WHETHER THEY ARE DEDICATED TO MC OR NOT DEDICATED TO MC, BY DISTRICT

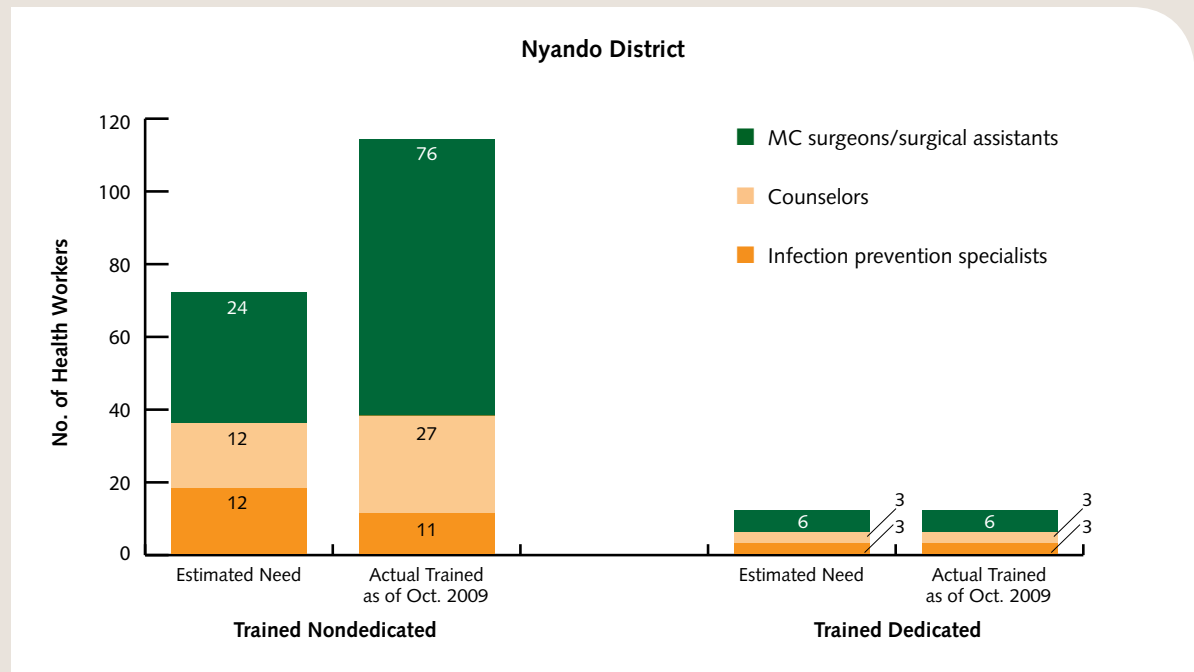
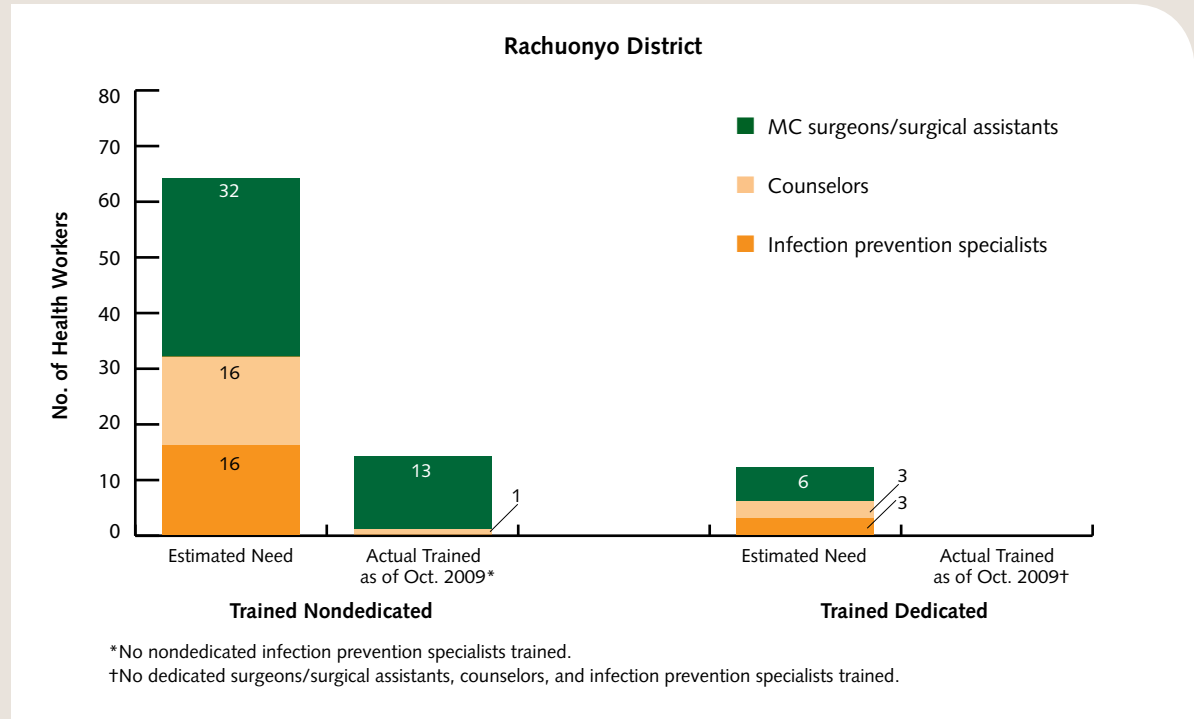


Figure 4 compares for each district the estimated and actual numbers of trained dedicated versus nondedicated health workers, by cadre, who will be needed to achieve MC targets by 2014. In Homa Bay District, as of October 2009, there were shortages of 24 trained nondedicated surgeons and surgical assistants, 16 counselors, and 16 infection prevention specialists, or six trained dedicated surgeons and surgical assistants, three counselors, and three infection prevention specialists. In Rongo District, there were shortages of 51 trained nondedicated surgeons and surgical assistants, 30 counselors, and 30 infection prevention specialists, or 12 trained dedicated surgeons and surgical assistants, six counselors, and six infection prevention specialists. In Rachaunyo District, there were shortages of 19 trained nondedicated surgeons and surgical assistants, 15 counselors, and 16 infection prevention specialists, or six trained dedicated surgeons and surgical assistants, three counselors, and three infection prevention specialists. Nyando District was the only district not experiencing any major shortages of trained MC health workers. As of October 2009, there was a surplus of 40 trained nondedicated surgeons and surgical assistants and nine counselors. In addition, there was a shortage of nine trained nondedicated infection prevention specialists. There were also minor shortages of trained dedicated surgeons and surgical assistants (two), counselors (one), and infection prevention specialists (one) needed to meet the estimated district MC target.

In-Depth Interviews

The interviews focused on the gathering of qualitative information from various national, provincial, and community stakeholders about perceptions and opinions regarding HRH for MC in Nyanza. Thirty-six interviews were conducted with the following individuals:

- ◆ Policymakers..... 14 respondents
- ◆ Program managers..... 13 respondents
- ◆ Community leaders..... 9 respondents

NVivo 8 software was used to analyze the data for common themes pertaining to human resource and training gaps, as well as barriers and facilitating factors, associated with HRH strategies to address gaps. Interview transcripts were also reviewed manually to ensure that no pertinent data were missed. Table 7 summarizes the themes that emerged during the analysis and the associated frequencies by respondent group. Each theme is discussed in detail below.

Human Resource Limitations

Access to MC services was perceived by 14 (38%) of the total respondents as being hindered by human resource shortages. While some respondents from all three categories identified this as a barrier to successful expansion of MC services, more program managers (77%—10 of 13) than policymakers (21%—three of 14) or community

TABLE 7. PERCENTAGE OF TIMES THAT CERTAIN THEMES AROSE IN INTERVIEWS, BY RESPONDENT GROUP

Theme	Total (n=36)	Policymakers (n=14)	Program Managers (n=13)	Community Leaders (n=9)
Human resource limitations	14/36 (38%)	3/14 (21%)	10/13 (77%)	1/9 (11%)
Cadre of health provider	21/36 (58%)	8/14 (57%)	11/13 (86%)	4/9 (44%)
Sex of MC provider	21/36 (58%)	7/14 (50%)	8/13 (62%)	6/9 (66%)
Need for MC-specific training	30/36 (83%)	12/14 (86%)	13/13 (100%)	5/9 (55%)
Broader capacity building	31/36 (86%)	11/14 (78%)	13/13 (100%)	7/9 (77%)

FINDINGS

leaders (11%—one of nine) felt this way, as the following quote illustrates:

Apart from the training, we will need service providers. As we are aware, the Minister announced that we are lacking 26,000 nurses and 5,000 doctors. This shows that we [have] insufficient ... health staff. So when we are talking about covering large numbers, then it means that we need health staff in health centers.

[Program manager]

Regardless of the respondent group, the negative impact of not being able to meet client demand due to human resource limitations was clearly understood across type of respondent in each category, as the following quotes indicate. One policymaker articulated the human resource challenges to be expected with the current levels of staffing:

There are many shortages in the government, so when clients for MC come, then they find the trained staff busy doing other things. This means they have to wait until the providers finish with whatever they are doing before attending to them. That's a very big setback. So there should be more staff to attend to male circumcision clients immediately [as] they come, for those who come ... get discouraged and they discourage other would-be clients. If we had more staff, then we would be able to dedicate specific circumcision days, [and] the program would run smoothly.

The only community leader who expressed a concern about human resource limitations framed it as the need for more medical officers:

We may also need to have some doctors in that line, because we always have a full house... Yes, trained staff on this line of male circumcision."

Cadre of MC Health Provider

Twenty-one (58%) of the total interviewees across all three respondent categories felt that in addition to medical

officers, clinical officers and nursing officers should be allowed to perform MC. Program managers (85%—11 of 13) expressed this opinion more frequently than did policymakers (57%—eight of 14) or community leaders (44%—four of nine). The main reason that respondents supported all cadres was due to the greater availability of clinical and nursing officers compared with medical officers, as the following statements illustrate:

Reasons why clinical officers and nurses should do it, is the fact that the two cadres are available in most facilities. Male circumcision cannot just be done by anybody, because it is a surgical procedure with serious consequences if done poorly. Nurses are in the majority in Kenya and are the people who should be trained to do that. If nurses can perform vasectomy, which is more complicated, why not the male cut? I think nurses are better placed. [Program manager]

Because of the setups of our system, you will find that there are some health institutions that are manned by nurses only, and then if we are talking about accessibility, we should utilize the facilities to also achieve our goals, and because they only have nurses, the nurses should be equipped to be trained to provide these services. [Policymaker]

The majority of community leaders were in favor of allowing only doctors to perform MC, as illustrated by the following quote:

Because he knows what is to be applied for quicker healing and he is somebody who can also prescribe the required medicine. I say this because most of our theaters are manned by doctors, and unless it's scheduled, the clinical officers may be allowed to perform male circumcision.

Sex of the MC Provider

Sex of the MC provider was also identified by 21 (58%) of the total respondents as another potential barrier to expansion of MC services. Community leaders (66%—six

of nine) more frequently expressed the concern than did policymakers (50%—seven of 14) or program managers (62%—eight of 13) that some clients may not be comfortable with female MC providers and may prefer to be served by male providers:

The male person may find it usually when a female performs the operation—“Nyalo bedo matek ahinya ne ngama dichuo ka koro rigama dhako omako nyimi koro ng’ado (It can be hard for a man to imagine a female provider is holding your penis and cutting it.)... Train a man to conduct MC, because even Luhyas its men who perform it, their tradition would not allow it, so even us I don’t think we will be happy being circumcised by a woman. [Community leader]

This view also was expressed by policymakers and program managers:

The females may not circumcise the boys because they [boys] will not even allow you to touch them. They will feel shy too. In the course of performing, they might have other feelings, and it can affect the operation. [Policymaker]

The person who is going to do the operation is a factor. Some men may not want a female provider to handle them during the circumcision. Men will feel uncomfortable being circumcised by a woman... Just the gender difference. A man may not like a woman circumcising him. He might even doubt if a woman would do it successfully, given the gender difference. [Program manager]

However, respondents from all three categories also talked more practically about the gender issues with respect to current MC expansion efforts, suggesting that the provider’s sex may not have much influence moving forward:

Even though there is that fear on the part of the

client when the provider is female, it could be that in that dispensary, it only has one female provider. The clients should just be given the right information on male circumcision services. I compare such a service to family planning services we perform on female clients. Even we have male gynecologists. But I know if the clients are given a choice, they can prefer male providers. [Program manager]

We cannot just train men and leave women. They are all professionals. But what I am saying is that it would have been better to train men to do MC, because MC involves men and clients may be more comfortable being handled by a fellow man. But where men are few, some [female] providers can also be trained, but let clients choose who they want to perform MC on them. I don’t know whether you are getting my point right. [Community leader]

Need for MC-Specific Training

Ensuring that MC staff are well-trained was perceived by 30 (80%) of the total respondents as a facilitating factor for supporting expansion of MC services. Thirteen (100%) of program managers discussed this, compared with 86% of policymakers (12 of 14) and 55% of community leaders (five of nine). Many felt that the provision of quality MC service was critical to motivating more men to seek MC, as illustrated by the following quote:

And then there is also the need for training, because MC is not something that we do routinely, such that even when people have learned how to do it and they are not practicing any more, they need to be trained afresh on how they should be handled so that they are competent enough to offer these services, because once we go to the society and sensitize them and mobilize them, definitely demand will rise for MC services. And we want to [ensure]

FINDINGS

that when demand rises, then these people are also competent enough to handle these cases.

[Policymaker]

Respondents were also able to articulate the specific types of training they perceived were important:

Trainings needed are two: Training of trainers... these people who go out to other health facilities and they train people in groups. Training of mobile service providers... these are people who go out to either a dispensary with no or limited staff or they go to non-health facilities to conduct male circumcisions." [Program manager]

One community leader also highlighted the need for standardizing training:

But I want to add also that there should be a trainer who has been trained by the government to train other health providers, so that all providers go through information training.

Broader Capacity Building

In addition to MC-specific training, 31 (85%) of the total respondents also spoke about the need for other types of training, both for health facility staff and for community members. Program managers (100%—13 of 13) were more likely to speak of the importance of training to ensure positive attitudes of health workers in creating friendly and welcoming services, including protecting clients' confidentiality and privacy, than were policymakers (78%—11 of 14) and community leaders (77%—seven of nine).

One community leader commented:

If the service providers are not friendly at that particular facility, then [people] will not go there to seek male circumcision. We need to have trained providers who are sensitive enough to the surroundings and culture of the people, in a way that he/she is able to persuade, convince, and attract clients for circumcision.

Program managers expressed similar opinions:

What needs to be looked at is the attitude of the health workers themselves. They should have a positive attitude about performing the procedure. Because if they put his or her values first, then this may prevent or discourage clients [from] seeking services.

Many respondents also talked about training on other components of an integrated package of HIV prevention services in support of MC:

MC is like any other process. There is the cutting, but before the cutting there is the preparation of the client, and even after cutting you have to do the infection prevention. You even take the patient through the lessons on care of the wound. All this cannot be done by the surgeon. There is also the VCT counseling, and this cannot be done by the person cutting. We only take the person who is going to cut and [train] him on how to cut, but these other accompanying services have been done by other staff. [Policymaker]

Community leaders also spoke of the importance of training to raise awareness about MC in the community:

Awareness and the need for MC should top the agenda on training for MC. People need to be taught on the benefits and details given on the same by experts on the subject of male circumcision.

Focus Group Discussions

The aim of the focus group discussions was to gather information regarding attitudes and beliefs about what cadre of health worker should be providing MC services, determine perceptions of current human resource and training barriers, and collect suggestions on how MC service delivery could be improved through HRH strategies. In all, we convened three focus groups, each

consisting of a different professional group of providers:

- ◆ Medical officers 3 participants
- ◆ Clinical officers..... 6 participants
- ◆ Nurses 10 participants

The focus groups transcripts were analyzed manually for common themes pertaining to human resource and training barriers and facilitating factors associated with MC expansion. Four main themes emerged from our analysis: workload challenges; sex of the MC provider; provider expectations regarding incentives; and gaps in knowledge and skills. Each is discussed in greater detail below.

Workload Challenges

The majority of respondents from all three focus groups perceived workload challenges to be the greatest barrier to the expansion of MC, given the anticipated increase in the number of MCs. Medical officers stated:

We can do quite a number [of MCs] in a day, but...we would need some other people also to be trained so that we have several people that can do male circumcision and not just the 2–3 people who have been doing it.

If we were to handle a large number of patients, we would need more personnel.

Many medical officers felt that training medical officers, clinical officers, and nurses would help address current workforce challenges:

I think...that the medical officers, clinical officers and nurses should be allowed to perform the [MC] procedure.

If they are trained, I think the three cadres can perform male circumcision.

There was discussion about who currently performs MC, and the clinical officers and nurses said, “In my facility, the

[clinical officers] and nurses are offering the service.” Even the medical officers admitted that when demand is up, the nurses and clinical officers also do MCs: “You find 20 boys coming for circumcision, and male nurses cut them.”

All three groups also discussed that as more men seek MC services, especially in rural areas, this will require as many providers as possible. In rural areas, health facilities are more likely to be staffed by nurses and clinical officers only, and some may not even have clinical officers. Therefore, one medical officer stated:

In dispensaries, there are no medical officers and they only have nurses, and those dispensaries are the ones in areas where you would expect many clients to seek the [MC] services.

Similar statements emerged from the focus groups with nurses and clinical officers:

If you go to the primary levels of our facilities, it's the nurses that the patient will start with.

In some of our facilities, especially in the rural, you sometimes find a health facility has only nurses. So both nurses and [clinical officers] should be allowed to perform male circumcision.

The clinical officers had many ideas about the best way to deliver and enhance MC services within their current staffing levels. Some wanted MC services to have a designated space for MC counseling and a separate MC procedure room. Others thought that MC should be integrated with other services and that this would be a better use of trained MC providers' time. The nurses also discussed this, and one suggested that we should “do MC very early in the morning, before 8AM, so that by the time other services begin, we are through with MC. This arrangement will utilize the lean staff better and also ensure privacy, since the MC clients would hardly mingle with other clients/patients who come for a different service.”

FINDINGS

Sex of the MC Provider

Although the medical officers did not discuss whether female providers could perform MCs and if this would be accepted by clients, both the clinical officers and the nurses did. The clinical officers were firm that qualified providers, regardless of sex, should provide MC. One clinical officer stated:

When these clients come and they are insisting they have to see a male provider, for them they are comfortable, but for me I know my colleague, even if it's a female, she is competent enough to carry out the MC.... I don't think we should encourage that segregation to continue.

Another said, *"Since female providers are our counterparts, we should sensitize clients to recognize the fact that they are trained and capable of handling MC."*

However, in the initial discussion with the nurses, they insisted that only male providers should perform MCs, because "the male [MC client] would not wish the females to see their genital[s]" and that "when you [female nurse] handle the penis of a man... he will easily [become] erect." Later, after further discussion, the nurses concluded that female nurses should provide MC:

I still feel female nurses should be allowed to perform the MC operation.

Let female nurses join in to conduct MC.

To deal with the issue of client preferences, they suggested to *"advocate for the female nurses to perform MC, but the community should be enlightened to recognize the female nurses as equally trained providers,"* and *"clients should just be enlightened to know the procedure can be done by male or female providers."* While female providers can be trained, community outreach and sensitization are needed to address potential concerns regarding the sex of the provider. In addition, MC training needs to include content

on gender sensitization, to avoid any negative fallout for female MC providers from their peers.

Providers' Expectations Regarding Incentives

With the anticipated increase in MC, our respondents thought that this would expand their current workload, and so they should be compensated for this expansion in their scopes of work. One medical officer said:

Another issue, ... when we involve the other cadres, is the understaffing we have. If...male circumcision is going to be free, there is this issue of motivation of the people who will be doing this work.... Are there any arrangements for motivation of the staff?"

Many of the clinical officers also discussed extra money as an incentive for doing MC. They said, *"If there's some kind of motivation, we can do better."* The nurses primarily discussed that many MCs are currently done through the "back door" and as such are kept off the health facility records. Off-the-record procedures result in an underestimation of the numbers of procedures performed, which is the basis for projecting human capacity and training needs. Similarly, unreported or underreported procedures may result in adverse events that go untreated. Documentation of adverse events is important, as they may point to areas for quality improvement and, by extension, future training needs.

All groups discussed how human resources and training needs are inherently embedded in other resource needs and how it is demotivating to train health care providers to perform tasks or use equipment that might not be available in their existing facilities: *"We need more equipment, more staff, and the nurses to be trained on male circumcision."* Even with adequate training, many respondents perceived the lack of other key resources as a major barrier to achieving high-quality and high-volume MC services, particularly at the community level:

"Those far [rural] facilities have no equipment."

"We need MC kits."

"I think in my facility what we are lacking [is] equipment, because there are times a client comes and wants MC done to them, but we lack certain requirements."

"As much as we are preparing a room for MC we don't have equipment for the same."

"Scissors, forceps, needle holders, kidney dishes."

"We don't have surgical equipment, so what we are doing is just to improvise."

"We just borrow equipment from other procedure sets."

Gaps in Knowledge and Skills

At the time these data were collected, the medical officers and clinical officers said that they had received general clinical training that they applied to performing MC, but that they had had no government-certified training on MC. The nurses said they learned through observation and on-the-job training:

"The nurses always observe when MC is being done by the clinical officer. They learn on the job."

All groups called for specific MC training. One clinical officer explained it very well:

We did not have a specific training on MC, only introductory. The basics we acquired from college are all we are using, and that information could be outdated. There could be new skills that we need to learn, but for now we don't have such training on skills. So if you are maybe in a position of sponsoring some of us for improved skills training, we don't mind that.

Nurses added, *"There is still [a] need for providers who are conducting MC to be given specialized training."*

Nurses and clinical officers also discussed the need to include MC information in the training of HCT counselors and others who will provide men and their families with information on MC. They felt that both the MC providers and these counselors need up-to-date, accurate information. The clinical officers discussed these counselors' lack of specific MC knowledge: *"Health workers, like us, provide general health education"; "what they are really dealing with is...information on HIV."* The nurses echoed this: *"The counselor does this role [HCT], but her training is in VCT counseling, not MC."* The clinical officers also thought that there should be *"sensitization of other health workers, and then continuous health education on the importance of MC."*

However, some of the focus group participants, particularly nurses, were misinformed regarding the benefits of MC, with many reporting that MC would enhance a man's sexual performance. One nurse said, *"I tell them performance will be increased."* Another said, *"Yes, performance improves."* There was a lot of discussion within the nurses group that *"the circumcised male will have more sexual rounds."* This is evidence that more training is needed, not only on the surgical procedure, but also on basic information to be passed on to the community and to male clients through health education and counseling.

DISCUSSION

In the context of MC, HRH requires a focus on the current human resource situation and health workforce distribution as it pertains to MC and appropriate strategies for strengthening HRH planning. This includes forecasting human resource and training needs, training development, human resource management systems, human resource information systems, accreditation and licensing, human resource financing, and a human resource quality assurance mechanism, all in support of MC and prioritization of strategies for addressing current human resource shortages.

Based on the findings, this section discusses the human resource and training gaps pertaining to adult MC that emerged in the four districts assessed and potential strategies for addressing those gaps, as well as the key barriers and facilitating factors in relation to these strategies.

Human Resource and Training Gaps

The findings revealed a preexisting shortfall of 358 health workers in the four districts prior to the introduction of MC services. To address human resource shortages for adult MC, the national strategy recommends that health care managers ensure that all facilities have at least 50% of appropriate cadres trained in the MC procedure. Assuming that a dedicated team of MC providers can perform 10 MCs per day and that a nondedicated team can perform two MCs per day, we estimate that it will require 64 trained dedicated health workers or 320 trained nondedicated MC health workers to achieve the estimated MC target by 2014.

The findings suggest that as of October 2009, the Government of Kenya, through support from international partners, had made some progress in closing the gap in numbers of trained nondedicated and trained dedicated

MC health workers needed to meet MC targets. However, these estimates do not account for the number of trained nondedicated MC health workers who will require refresher training, based on MC service delivery volume, to achieve optimal competency. They also do not take into account attrition among trained MC health workers due to staff turnover and internal and external migration. The findings also suggest that there is a disproportionately higher number of trained male health workers compared with trained female health workers, as well as a disproportionately higher number of trained surgeons or surgical assistants compared with trained counselors and infection specialists. They also suggest a disproportionate number of trained health workers in Nyando District compared with Homa Bay, Rachaunyo, and Rongo districts.

HRH Strategies for Addressing Gaps

To rapidly scale up MC to achieve the desired impact and ensure sustainability of the service, the Government of Kenya plans to adopt a high-quality, high-volume approach based on the most efficient models of MC service delivery. MC services will be delivered through a combination of fixed and outreach/mobile MC services in the short term (3–5 years) (GOK, 2009), with an emphasis

on outreach. Given current human resource shortages, alternative strategies for supporting MC services will also need consideration in the short term.

Given the preexisting shortage of health workers across all cadres, any strategy to address the gap of 158 trained nondedicated or 52 trained dedicated MC health workers as of October 2009 should not be seen as a substitute for other long-term investments to increase the overall workforce. Significant investments in the rapid strengthening of human resources will be critical, including hiring more health workers from the current pool of unemployed nurses, developing a national human resource development plan, and strengthening and decentralizing human resources planning and management. Additional health workers should be hired in way that ensures the right balance of nondedicated and dedicated health workers and provide stability across health services. Disparities in health worker wages can contribute to inequities as a result of internal migration of health workers to MC from other important health services and from one geographic area to another. Decisions regarding which strategies to choose should consider preexisting HR shortages, cost, and the potential for long-term sustainability within the aims and purpose of the National Resources for Health Strategic Plan.

Task shifting—moving specific tasks as appropriate from highly qualified health workers to health workers with shorter training and fewer qualifications—will help make more efficient use of available human resources in the short term and will ease bottlenecks in service delivery (WHO, 2008c). It involves extending the scope of practices of existing cadres of health workers to take on additional MC tasks. It often entails decentralized service delivery accompanied by standardized training, supportive supervision, and well-functioning referral systems, which will also help increase access and equity while maintaining quality. Adding to the skill set of existing cadres, particularly nurses, can be done in the short term, rather than wait years for new doctors and clinical officers to complete their

professional training. Deciding to adopt task shifting for any health service should be harmonized with a nationally endorsed HRH plan, however, to ensure alignment at all levels and to avoid overburdening one cadre of health worker over another.

Given the potential burden task shifting could place on currently employed nurses, it should be implemented alongside other strategies to strengthen human resources, as mentioned above, and/or to increase the performance of current MC teams. Optimizing steps in the surgical procedure could help increase operational efficiencies of existing MC services — for example, ensuring adequate staff ratios, adjusting client flows and scheduling, or delegating tasks among the members of the surgical team. Hiring contract staff on a short-term basis can help to substitute for existing MC health workers who have other responsibilities or to supplement current human resources to support higher volume MC services during peak periods such as school holidays. Use of current technologies, such as electrocautery, in existing MC techniques, and use of new techniques under development, such as MC devices, can reduce the amount of time needed to conduct an MC procedure, as well as potentially facilitate task shifting through simplifying the surgical procedure.

Barriers and Facilitating Factors

Our combination of quantitative and qualitative methods provided multiple perspectives and a range of inputs. It also allowed triangulation of data, thus yielding more evidence and greater confidence in the results. Based on our analysis, the following policy and programmatic barriers and facilitating factors emerged regarding current strategies for addressing existing HRH constraints associated with adult MC programming.

Barriers

Lack of reliable estimates of human resource and training needs

Research indicates that MC is likely to be a relatively cost-effective way to prevent HIV infection in areas with

DISCUSSION

high HIV prevalence. However, our analysis indicates there has been no national assessment of current human resource needs for MC, gaps in MC service provision, the extent to which current HRH strategies are already been implemented, and the existing human resource quality assurance mechanisms. Also unclear within current service delivery modes is the appropriate balance of dedicated versus nondedicated MC staff by cadre that should be trained and deployed. Due to the underreporting of MC, it is also unclear what the current capacity of the health workforce is compared with the number of MCs performed. At the time of our assessment, the National Task Force on Male Circumcision was undertaking a baseline survey to gain insights into the anticipated need for human resources required to meet MC demand. Our analysis also indicates that no cost comparison analysis has been done in Kenya to determine the number of trained dedicated and trained nondedicated health workers, by cadre, that will be needed for various service delivery modes, both in the short and in the long term.

Limited MC human resources planning and management

The Kenyan government's key strategy for overall health service delivery is the decentralization of services to the districts, with implementation of the KEPH. This strategy requires the deployment of a large number of health workers at every level of the health system in the short term. Significant human resources gaps currently exist with respect to the deployment of the numbers and types of health workers required by the Government of Kenya's Norms and Standards for Health Service Delivery. There is a need for better HRH planning at the district level to address human resource and training needs in an equitable fashion. The districts assessed are expanding MC services with neither operational plans to address human resource and training needs nor systems to adequately track the recruitment, training, and deployment of MC providers. At the national level, HRH planning and management processes and systems for MC are also limited. Kenya, like many other African countries, is scaling up MC in the

absence of a comprehensive MC human resource and training plan that would ensure the right mix of trained dedicated and nondedicated MC providers. Such a plan should also include an estimate of the financial resources required to recruit, train, deploy, and retain MC health workers based on short-term and long-term human resource targets and an identification of priority HRH strategies. A human resources system for recruiting and tracking trained MC providers is also missing.

Unknown capacity of current MC training programs

An assessment of both current preservice and in-service training programs has not been undertaken to determine their capacity to prepare sufficient dedicated and nondedicated providers/teams and certify MC trainers based on priority HRH strategies. There is currently no module on surgical procedures in the training curriculum for nurses. Many nurses obtain considerable experience from observing medical and clinical officers performing the procedure when they are assigned to a health facility and they learn on the job.

Potential limitations due to sex of the health worker

The possible limitations on the number and cadre of providers by sex is not well understood. To date, there has been no assessment of client preferences regarding the sex of MC health workers. Depending on clients' preferences, the potential for task shifting to female nurses to address current human resource shortages and improve coverage should be further explored. It will be critical to determine the ratio of male nurses to female nurses that need to be trained as MC health workers.

Poor understanding of effective incentive mechanisms

Our analysis also found that some providers are reluctant to take on additional responsibilities associated with MC. Poor working conditions, a lack of appropriate equipment and supplies, and increased workload were associated with a lack of motivation. Some providers also expect to be financially compensated for providing the service, because this is what they are accustomed to. Some

providers view other chronic health services as more of a priority. There has been no assessment of financial and/or nonfinancial incentives or performance-based incentives as means by which to retain and enhance the performance of health workers based on priority HRH strategies.

Facilitating Factors

National policy environment supportive of MC rollout

To facilitate the introduction of MC services for HIV prevention, the MOH developed a national MC policy called the National Guidance on Male Circumcision for Kenya (GOK, 2008). A national MC strategy (GOK, 2009) provides programmatic and operational guidance to decision makers, program managers, technical support agencies, and potential funders regarding scaling up MC services in both the public and the private sectors. However, specific recommendations, based on any kind of assessment, regarding priority HRH strategies are absent.

The current Nurses Act does not prohibit nurses from performing minor surgical procedures. Nurses in Kenya currently carry out other minor surgeries (e.g., tubal ligation) once they have undergone in-service training and are certified and mentored by qualified practitioners. Nurses are the most available medical personnel in the peripheral health facilities, but many of them currently do not have adequate skills to perform adult medical MC; therefore, additional training is required to ensure that MC is performed to standard. In 2009, the Government of Kenya approved the training of nurses to enable them to provide MC services in accordance with established standards, using the standard MOH/WHO training curriculum on voluntary MC.

Large pool of unemployed health workers

Previous published research has demonstrated that there is a large pool of trained but unemployed health workers in Kenya (Adanao et al., 2008). The current deployment system for trained nurses and clinical officers from colleges does not guarantee immediate placement of qualified

health workers, thus further contributing to the pool of unemployed health workers. The experience with task shifting and other HRH strategies in other health programs in Kenya and in other countries shows that changing national and local policies to such strategies within the existing health workforce, through rapid recruitment, training, and deployment, can potentially increase the pool of health workers, in the short term, who can deliver MC services.

National MC Training Curriculum

A national clinical training manual for MC services is being adapted based on the WHO's *Manual for Male Circumcision under Local Anesthesia*. Upon completion, this document will be used to build human resource capacity through in-service training to undertake MC in the country and should also be adapted for use in preservice training for medical, clinical, and nursing officers.

Quality assurance tools for supporting MC rollout

A number of QA and quality improvement tools and resources that have already been developed can be used in or easily adapted for the Kenyan context. WHO has developed a QA guide called *Male Circumcision Quality Assurance: A Guide to Enhancing the Safety and Quality of Services* (WHO, 2008b).



CONCLUSION & RECOMMENDATIONS

From this assessment of HRH needs associated with MC provision in four rural districts in Nyanza Province, Kenya, we conclude that adult MC is being introduced in the context of a preexisting shortage of trained health workers and other HRH constraints.

Prior to introduction of MC, significant gaps existed between the actual number of trained MC health workers and the number needed. Our analysis also indicates that as of October 2009, greater progress had been made in closing this gap in Nyando District than in Homa Bay, Rachuanyo, and Rongo districts. In all four districts, due to under-reporting of MCs, it is not clear what balance of dedicated and non-dedicated health workers will be required to meet MC targets by 2014, as well as the relevant mix of HRH strategies to address these shortages.

MC is also being introduced amid other barriers to effective HRH strategies for addressing these gaps. These barriers include limited human resources and management, unknown capacity of current MC training programs, potential limitations on the number and cadre of health workers due to the sex of the MC health worker, and poor understanding of effective incentive mechanisms for motivating MC health workers. These barriers still need to be addressed to meet anticipated short- and long-term MC targets.

Based on current facilitating factors, the Government of Kenya and donors are well-positioned to address the above human resource gaps and constraints. These factors include a national policy environment supportive of MC rollout, a large pool of unemployed health workers who can be deployed for MC, a preexisting national MC training curriculum, and QA tools to support MC rollout.

The findings and recommendations of this research, while not intended for generalization from one province to

another or from one country to another, provide insights into the HRH gaps, barriers, and facilitating factors that might be anticipated in other settings in Kenya and in other countries in Africa where MC rollout is being considered or is underway.

As Kenya's government moves forward with its ambitious plans to provide adult MC services, the health sector needs to respond with short- and long-term solutions to ensure that there are sufficiently trained health workers to provide high-quality, high-volume services in the present, while building local capacity and ownership to ensure sustainable MC services for generations to come. While the exact types of actions needed to address current gaps and barriers will vary from province to province, depending on the context (due to HIV prevalence rates, levels of uptake of MC services, and the presence of existing HIV services—e.g., HCT), the Government of Kenya and donors need to take action now, or the size of MC rollout needed in the short term will be impossible to achieve.

Significant investments in HRH will be a critical part of any effort to address current human resource shortages and increase access to adult MC services at a scale and speed to meet estimated MC targets. While task shifting, using contract staff, optimizing efficiencies within current MC services, and introducing current and new technologies are all potential strategies for addressing human resource shortages, they should not be seen as a substitute for hiring additional health workers. The Government of Kenya will need to make critical decisions regarding which strategies to choose to ensure harmonization, equity, quality, and stability across health services. These decisions will need to

weigh cost and the potential for long-term sustainability, within the aims and purpose of the National Resources for Health Strategic Plan.

While urgent measures may be necessary to mobilize additional health workers in the short term for adult MC, they should contribute to strengthening existing HRH systems, including training and development. Recommendations based on the findings include:

1. Build the capacity of health districts involved in MC implementation in human resource planning for achieving MC targets by 2014, including:
 - ◆ Using data for decision making based on accurate human resource and training estimates
 - ◆ Advocating for national and provincial support for operationalizing the plans
 - ◆ Developing simple tools for tracking and monitoring recruitment, training, and deployment of MC providers
2. Based on district plans, mobilize health care financing to ensure rapid recruitment, training, and deployment of appropriate combinations of dedicated and nondedicated MC teams to meet district targets.
3. Expedite efforts to ensure timely involvement of nurses in performing MC, including:
 - ◆ Revising scopes of practice for nurses to carry out the procedure
 - ◆ Providing adequate training and follow-up for nurses to ensure MC competence
4. Revise national preservice training curricula for medical officers, clinical officers, and nurses to include more in-depth content on MC, including practical experience.

The implications of the findings also point to the need to conduct additional research on key questions pertaining to

adult MC and HRH, including:

- ◆ What is the current health workforce capacity (e.g., the human resource and training needs), by province, district, health facility, and cadre, needed to meet MC targets?
- ◆ What is the current capacity of existing training programs and services to prepare sufficient numbers of dedicated and nondedicated providers/teams and to certify MC trainers?
- ◆ What is the impact of current MC training efforts?
- ◆ What are the human resource and training costs of MC rollout, based on defined targets and savings associated with cost-efficient service delivery models?
- ◆ What is the appropriate balance of dedicated and nondedicated MC providers, by cadre and by service delivery model, required to meet national targets?
- ◆ What are the implications of having female clinicians provide MC and the possible limits on the numbers and cadre of providers (by sex) available for training?
- ◆ What are appropriate incentive mechanisms for motivating health program managers and MC providers/teams?

Research on adult MC in Kenya and in other countries may shed light on some of these HRH questions. As part of the Male Circumcision Consortium, EngenderHealth is conducting several studies to assess the safety, quality, and acceptability of various service delivery approaches, including task shifting to nonphysician clinicians and the use of outreach teams. In association with these studies, EngenderHealth also conducted a study to compare the efficiency and cost-effectiveness of three MC service delivery modes in Kenya, including assessing the current cost per MC by service delivery model, analyzing trends in unit cost during the scale-up of services, examining elements in each service delivery approach that decrease the unit cost while still maintaining quality (e.g., task shifting, task specialization, etc.), and estimating cost

CONCLUSION & RECOMMENDATIONS

savings over time. FHI conducted a study to assess private providers' training needs to meet the WHO minimum package, to estimate the costs of bringing private health facilities up to the minimum standards for safe, quality MC, and to measure the unit costs in the private sector for providing the MC service package. The Futures Institute is conducting research on the expected impact of scaling up safe MC services in a number of countries, the costs (including human resources and training), the number of infections that could be averted, and cost savings. ■

REFERENCES

- Adano, U. 2008. The health worker recruitment and deployment process in Kenya: An emergency hiring program. *Human Resources for Health* 6:19. doi: 10.1186/1478-4491-6-19. Accessed at: www.human-resources-health.com/content/pdf/1478-4491-6-19.pdf.
- Auvert, B., Marseille, E., Korenromp, E. L., et al. Estimating the resources needed and savings anticipated from roll-out of adult male circumcision in Sub-Saharan Africa. *PLoS ONE* 3(8):e2679. doi:10.1371/journal.pone.0002679.
- Bailey, R. C., Onyango, T., Amolloh, K., and Westercamp, N. 2006. *Needs assessment: Introduction of male circumcision services for HIV prevention in Kisumu and Suba districts*. Kenya, funded by U.S. Centers for Disease Control and Prevention (Kenya), PEPFAR, and CHF International.
- Bailey, R. C., and Egesah, O. 2006. *Assessment of clinical and traditional male circumcision services in Bungoma District, Kenya: Complication rates and operational needs*. Washington, DC: USAID, AIDSMark, and Population Sciences International (PSI). Accessed at: http://pdf.usaid.gov/pdf_docs/Pnadg558.pdf.
- Bollinger, L., and Stover, J. 2009. *The potential cost and impact of expanding male circumcision in Nyanza, Kenya*. Health Policy Initiative Technical Brief. Washington, DC: Futures Group.
- Government of Kenya (GOK). 2004. *Kenya HIV/AIDS Service Provision Assessment Survey, 2004*. Nairobi: National Coordinating Body for Population and Development.
- GOK. 2005a. *Kenya National Health Sector Strategic Plan II 2005-2010*, Nairobi: Ministry of Health.
- GOK. 2005b. *The Nurses Bill*. Nairobi.
- GOK. 2006. *Norms and standards for health service delivery: The 2nd national health sector strategic plan for Kenya*. Nairobi: Ministry of Health.
- GOK. 2008. *National guidance for voluntary male circumcision in Kenya*. Nairobi: Ministry of Health.
- GOK. 2009a. *Kenya national strategy for voluntary medical male circumcision*. Nairobi: Ministry of Public Health & Sanitation.
- GOK. 2009b. *Kenya National AIDS Strategic Plan. 2009/10-2012/13*. Nairobi: National AIDS Control Council.
- GOK. 2009c. *National Human Resources for Health Strategic Plan 2009-2012*. Nairobi: Ministry of Public Health and Sanitation and Ministry of Medical Services.
- International Organization for Migration (IOM). 2007. National workshop report: *Managing the migration of human resources for health in Kenya. Lukenya, November 11-13, 2007*. Geneva. Accessed at: www.equinetafrica.org/bibl/docs/REPMTG1107HRHkenya.pdf.
- Kenya Medical Training College (KMTC). 2007. *Medical Training College Curriculum for Diploma in Medicine, Surgery and Community Health (DMSCH)*. Nairobi: Deputy Registrar Academics (Curriculum and Research).
- Kiggundu, V., et al. 2009. The number of procedures required to achieve optimal competency with male circumcision: Findings from a randomized trial in Rakai, Uganda. *BJU International* 104(4):529-532.
- National AIDS and STI Control Programme (NASCOP). 2009. *Kenya AIDS Indicator Survey 2007. Final Report*. Nairobi: Ministry of Health.
- NASCOP. 2010. *Guide for trainers on male circumcision under local anaesthesia in Kenya*. Nairobi.
- Nursing Council of Kenya. 2006. *Kenya Registered Community Health Nursing curriculum and clinical objectives*. Nairobi.
- Okeyo, T. M., and Adelhardt, M. 2003. *Health professionals' handbook on quality management in healthcare in Kenya*. Nairobi: Center for Quality in Healthcare.
- White, R. G., Glynn, J. R., Orroth, K. K., et al. 2008. Male circumcision for HIV prevention in sub-Saharan Africa: Who, what, and when? *AIDS* 22(14):1841-1850.
- World Health Organization (WHO). 2006. *The World Health Report 2006—Working together for health*. Geneva.
- WHO. 2008a. *Manual for male circumcision under local anaesthesia*. Geneva.
- WHO. 2008b. *Male circumcision quality assurance: A guide to enhancing the safety and quality of services*. Geneva.
- WHO. 2008c. *Task shifting: Rational redistribution of tasks among health workforce teams—Global recommendations and guidelines*. Geneva.
- WHO and UNAIDS. 2007. *Technical consultation on male circumcision and HIV prevention: Research implications for policy and programming*. Montreaux, Switzerland.



EngenderHealth
for a better life

440 Ninth Avenue
New York, NY 10001 U.S.A.
Telephone: 212-561-8000
Fax: 212-561-8067
e-mail: info@engenderhealth.org
www.engenderhealth.org