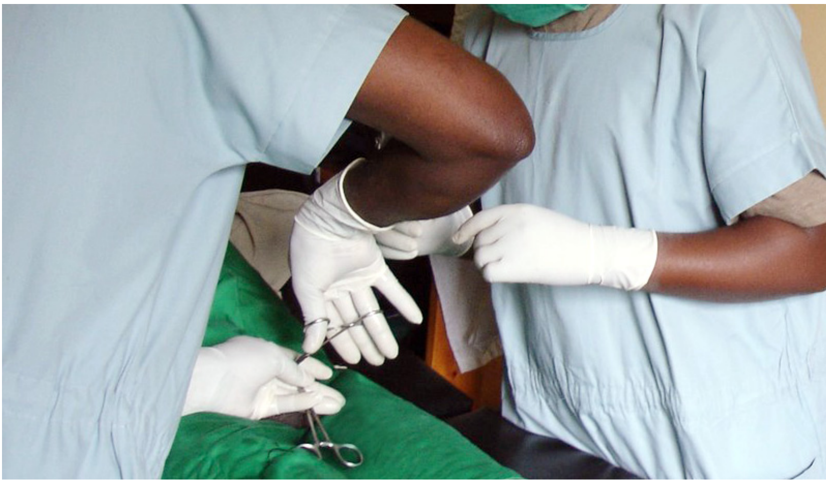

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TECHNICAL BRIEF

Successful No-scalpel Vasectomy Pilot Program in Rwanda

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NO-SCALPEL VASECTOMY: AN UNDERUTILIZED OPTION FOR MEETING CONTRACEPTIVE NEEDS IN SUB-SAHARAN AFRICA

In 2000, the United Nations set a goal, Millennium Development Goal 5,[1] to secure universal access to maternal and reproductive health care by 2015. One essential part of reaching this goal is meeting people's contraceptive needs. It is estimated that 215 million women in developing countries,[2] including 47 million women in sub-Saharan Africa,[3] have an unmet need for contraception. Long-acting and permanent methods of family planning make up only a small percentage of the methods used. This unmet need contributes to the 17 million unintended pregnancies in sub-Saharan Africa every year.[3] Making a variety of contraceptive options more widely available, including long-acting and permanent methods, will support women, men, and couples to exercise their rights to choose if and when to get pregnant.[4] Family planning also saves lives: an estimated 358,000 women die every year from pregnancy-related complications.[5] More than two-thirds of maternal deaths could be prevented by roughly doubling global investments in family planning and pregnancy-related care.[6]

Ensuring that women have access to the contraceptive option of their choice is recognized as crucial, but providing men with greater opportunities to control their fertility is an often overlooked opportunity to support couples to exercise their reproductive rights. Although a number of different methods are available for women, currently men's contraceptive options are limited to condoms, vasectomy, withdrawal, and abstinence. Worldwide, 63% of couples use some modern method of contraception, but only 3% use vasectomy as their primary contraceptive method[7] although it is effective, safe, permanent, and relatively inexpensive.

Vasectomy is most widely used in North America and Oceania, where 10% - 12% of married women report using this contraceptive method, but it is almost non-existent in Africa.[7] Only 0.1% of married women in Africa report that their partner uses vasectomy as their primary form of contraception.[7] There are various theories—but no concrete data—on why African men do not have vasectomies, but biases and misconceptions about the procedure and cost, as well as a shortage of trained providers likely contribute to the low uptake of vasectomy.[8] Reports from vasectomy projects in Tanzania and Ghana have shown that when men are fully informed about the procedure, and it is made accessible, some choose to have a vasectomy.[9,10] For example, the USAID-funded Access, Quality, and Use in Reproductive Health (ACQUIRE) project piloted a no-scalpel vasectomy program in Ghana which succeeded in training providers to perform the procedure and creating demand for it.

This brief focuses on a successful pilot program in Rwanda to promote no-scalpel vasectomy. In contrast to traditional "open" methods of surgical vasectomy, this procedure is accomplished without an incision. Instead, it uses specialized forceps to create a small puncture hole through which the vas deferens can be accessed, clamped, and cut. This seals the vas deferens and stops sperm from being ejaculated with seminal fluid during sexual intercourse. No-scalpel vasectomy is associated with less pain, fewer complications such as wound infection and scar formation, and a shorter recovery time than the traditional vasectomy procedure.

Contraceptive need in Rwanda

Rwanda's population of more than 10 million is the most densely concentrated in Africa. In the early 1990s, Rwanda's national contraceptive prevalence rate hovered around 13%, and vasectomy services were relatively popular, including those supported by EngenderHealth, then called Association for Voluntary Surgical Contraception International.[11]

Then, during the 1994 genocide, an estimated 800,000 men, women, and children died, and in the years afterwards there was a trend towards rejecting contraceptives. From 2000 to 2005, national contraceptive prevalence rates rose from 4% to 10% but were still lower than before the genocide.[12]

From 2005 to 2008, Rwanda built significant political support for family planning, made contraceptives more widely available and affordable, and trained providers to offer contraceptive options. This work quickly showed results: by early 2008, Rwanda's contraceptive prevalence rate increased to 27% among married women. Among this group, 0.7% use female sterilization, and 0.1% use male

sterilization as their primary contraceptive method. While Rwanda has made remarkable progress, 32% of married women still have an unmet need for family planning,[13] and less than half of Rwandans are aware of vasectomy as a contraceptive method.[14]

IntraHealth's work in no-scalpel vasectomy in Rwanda

In 2000, IntraHealth International started working in Rwanda under the USAID-funded PRIME II Project to support the Rwandan government's efforts to make family planning services more widely available. The IntraHealth-led Capacity Project and the Twubakane Decentralization and Health Program, both launched in 2005, collaborated with the Ministry of Health to further this work by making long-acting and permanent contraceptive methods more widely available for those who wanted them. This work required strong collaboration with and support from community leaders such as district health directors, mayors, and vice mayors as well as health center and hospital staff.

As a part of this initiative, in early 2008, the Capacity Project and then in early 2009 the Twubakane Program, trained and equipped Rwandan clinicians to offer no-scalpel vasectomy. Initially, the procedure was available in two districts,[15] and later the vasectomy services, jointly supported by Capacity Project and Twubakane Program, expanded to 20 sites in 11 districts. While physicians were being trained, the pilot program launched a community-based campaign in which community health workers informed and educated local men about vasectomy and dispelled false rumors about the procedure. The pilot program demonstrated promising results: in the first year, 459 men received vasectomies. To understand what made the Rwanda program so successful compared to earlier programs in Ghana and Tanzania, and to better understand the reasons why Rwandan men were increasingly seeking vasectomies, research was conducted following the launch of the vasectomy program.

Methods

During the initial no-scalpel vasectomy pilot program in 2008-2009, IntraHealth staff collected demographic information during the clinical visit from every client. In June 2009, IntraHealth undertook an evaluation of the pilot program by conducting individual interviews and focus groups with health practitioners, clients, project staff, and local health authorities at hospitals, health centers, and health ministry offices. In December 2009, IntraHealth staff visited the 11 district hospitals to collect data from the original client medical records of vasectomy clients from all project sites. This data on demographic information, attitudes towards family planning, and service outcomes were entered into a standardized database.

Data from a true control group of men who did not choose vasectomy are not available. Thus, the client record data are compared to data from Rwanda's 2005 Demographic & Health Survey (DHS), which contains information on 4,830 men, ages 15-59, from a nationally representative sample of 10,500 households. For the purposes of a useful comparison, the DHS sample was limited to married men, ages 25-59 (n =1,583), so they might best compare with men who sought a vasectomy; in fact, this age range includes 91% of the men in the vasectomy group.

This operational analysis is limited by its retrospective nature, the lack of a true control group, and the breadth and quality of the data obtained in the clinical setting. (The interviews were conducted by clinical staff working in the health centers, not by trained data collectors.) An additional limitation is that this no-scalpel vasectomy program likely draws some of its success from the strong promotion of family planning by the government of Rwanda and international, non-governmental organizations, which may encourage Rwandan men to be more aware and accepting of family planning in general.

Table 1: Demographic Information about No-scalpel Vasectomy Clients by Hospital*

Hospitals	n	Average Age	Average # of Children	Education Level: None	Education Level: Primary	Education Level: Secondary
Byumba	101	43.4	5.6	33%	52%	15%
Gitwe	14	46.5	5.6	36%	64%	0%
Kabgayi	49	44.0	5.7	16%	78%	6%
Kabutare	2	31.0	6.5	50%	50%	0%
Kaduha	2	41.0	5.0	0%	100%	0%
Kibirizi	9	41.6	5.8	14%	71%	14%
Kibungo	2	45.5	1.5	50%	50%	0%
Kigeme	2	39.5	NA	NA	NA	NA
Muhororo	11	39.7	5.4	0%	91%	9%
Rutongo	51	45.5	6.1	35%	55%	10%
Shiyira	216	45.9	5.7	24%	65%	11%
Total	**459**	**44.8**	**5.7**	**26%**	**63%**	**11%**

* Vasectomy records for hospitals and health centers were aggregated at hospitals. Doctors performed the procedures in both locations.

Vasectomy clients compared to DHS sample population

The 459 Rwandan men who sought vasectomies during the pilot program ranged in age from 24 to 85 (average age of 45) and had an average of 5.7 children, compared to a national average of 5.5 children. The majority had a primary school education, but a quarter of men reported no education (Table 1). Fifty men reported being HIV-positive, but a large number of respondents did not know their HIV status or did not answer this question.

Men who sought vasectomies were, on average, three years older and had one more child than the comparison population from the DHS data; both differences were significant. There were no significant differences in education level between the two groups (Table 2). All three of these findings differ from a project in Kenya that showed vasectomy clients were younger and had fewer children and more education than their peer population.[8]

Table 2: No-scalpel Vasectomy Clients, Compared to Men from DHS Sample

	NSV Clients		DHS Sample (Married Men, Ages 25-59)	
	n	Mean	n	Mean
Age	412	43.2	1583	39.9
# of Children	412	5.6	1583	4.5
	n	%	n	%
Education Level				
None	95	23.9%	339	20.7%
Primary	256	64.3%	1002	63.3%
Secondary	47	11.8%	252	15.9%
Occupation				
Farmer	371	90.5%	650	41.1%
Prof., Tech., Manag.	15	3.6%	116	7.3%
Skilled Manual	12	2.9%	127	8.0%
Sales	9	2.2%	56	3.5%
Unskilled Manual	2	0.5%	73	4.6%
Not Working	1	0.2%	555	35.1%
Other	0		6	0.4%

How Rwandan men seeking vasectomies answered questions about family planning

As part of the program, men who sought vasectomies were asked a series of questions including why they chose a vasectomy, what rumors they had heard about vasectomy, why they did not want any more children, and what other forms of family planning they used prior to the vasectomy.

What previous family planning methods have you used?

Couples seeking vasectomies were asked about their previous use of family planning. Among the 361 couples who responded, producing 461 responses (some couples used more than one method), the

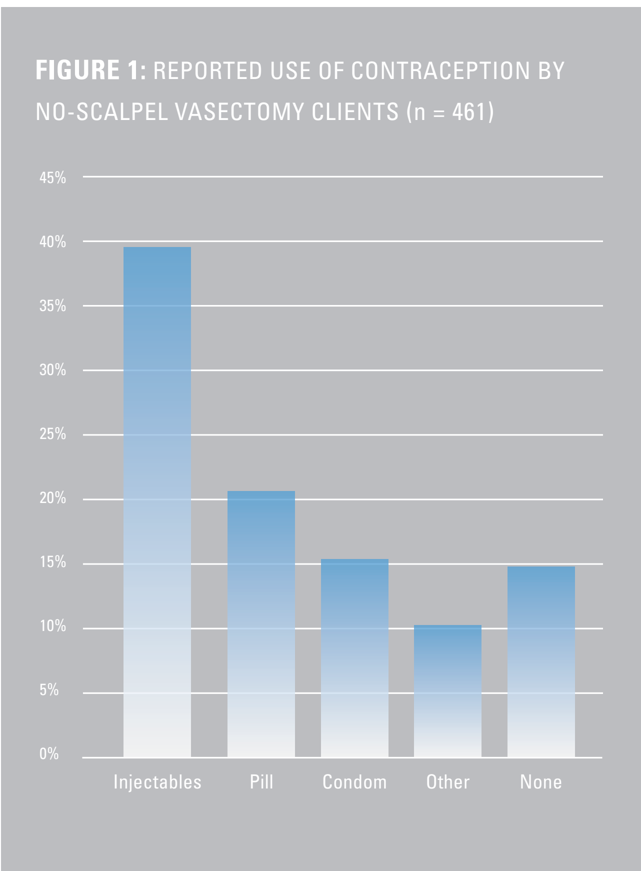
most popular methods previously used were injectables (Figure 1). The next most popular methods were oral pills and condoms. Fourteen percent of the respondents, or 66 individuals, reported they had never used another family planning method before seeking a vasectomy. These responses are similar to data from the Rwanda 2007-2008 Interim DHS, which showed that the most popular family planning methods in Rwanda are injectables, pills, and condoms.

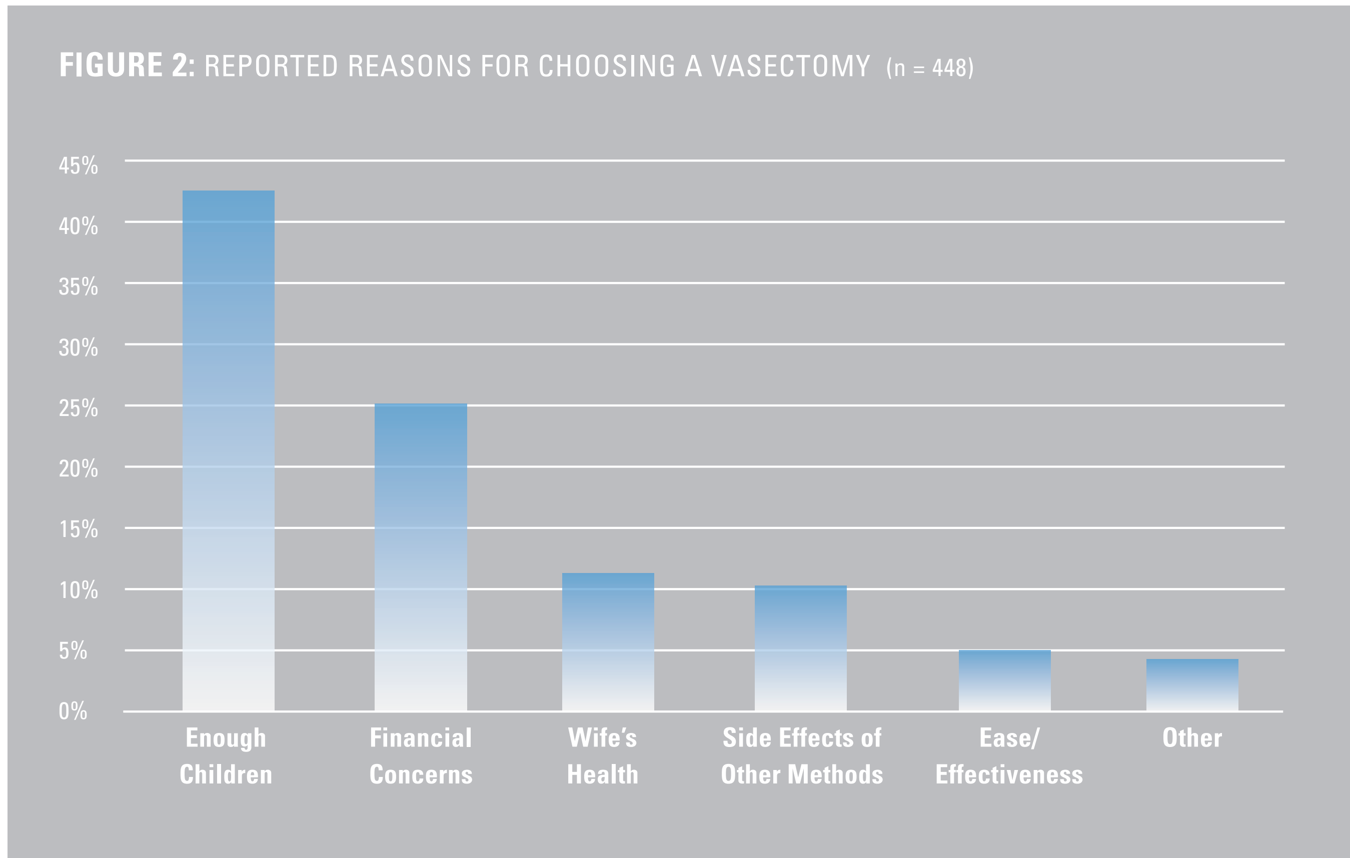
Why did you choose to have a vasectomy?

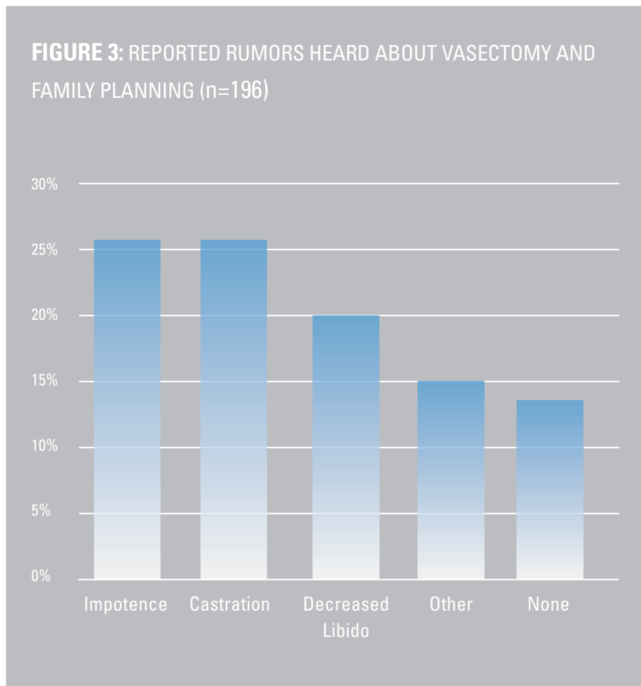
A total of 448 men responded to this question; the 147 unique responses were grouped into six categories (Figure 2). The top two responses were that the man felt that he already had enough children or that he could not afford more children.

What rumors have you heard about vasectomy and family planning?

Although 159 men responded to this question (Figure 3), the responses are somewhat difficult to interpret given the way the question was phrased. For example, 20% of the men responded "decreased libido," which could refer to vasectomy or to changes in sexual function resulting from the spouse's method of contraception. Some of the rumors men reported, however, more clearly refer to vasectomy such as concerns about "castration" and "impotence." The rumors reported in the Rwanda pilot are consistent with



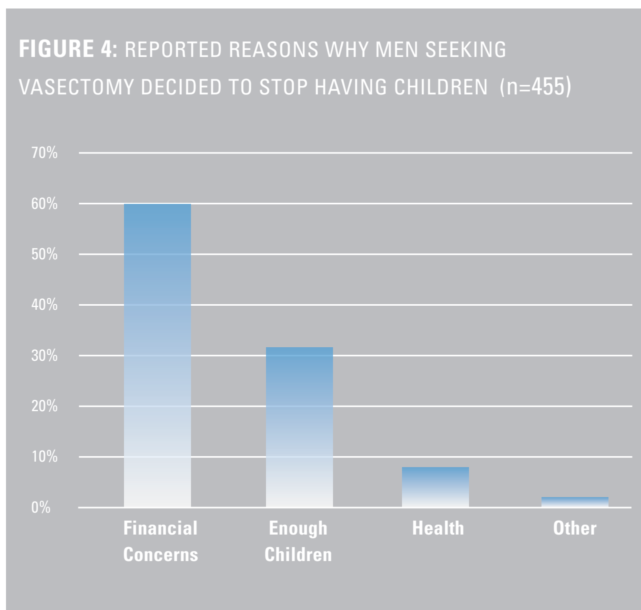




information collected by other projects in the developing world.[10]

Why do you wish to stop having children?

Unlike the other survey questions, health workers were asked to fit client answers into a predetermined list of five responses about why the client decided to stop having children. The most common responses were financial concerns and adequate family size (Figure 4).



SUCCESSFUL INNOVATIONS

Create a sustainable approach by using a train-the-trainer model

The pilot phase of the Rwanda program trained six doctors and six nurses to perform no-scalpel vasectomies. Following this initial pilot phase, three doctors and four nurses from the first training group trained two subsequent groups of doctors and nurses.[15] In total, this program trained 20 doctors and 30 nurses to perform or assist in no-scalpel vasectomies including counseling men seeking the procedure. This peer-to-peer training model encourages the involvement and leadership of the local medical community in the program and their ownership and promotion of this work.

Offer vasectomy services in local health centers

In the past, vasectomy programs have employed mobile surgical teams in Nepal and vasectomy camps in India and Thailand as a way of reaching more men. Earlier vasectomy programs in Ghana, Kenya, and Tanzania did not experiment with these approaches. Rwanda is a mountainous country with little public transport, which can make it difficult to reach a hospital. In the Rwandan health system, most health centers do not have doctors on staff, and elective surgeries are not performed there. The no-scalpel vasectomy pilot program launched a service extension model where teams traveled to health centers to provide vasectomy services, addressing the geographic challenges rural communities face in reaching a hospital and concerns that men may perceive local health centers as women-oriented.[15]

This innovation was prompted by the realization in the early stages of the program that if the program only sought clients immediately around the hospital where the staff were trained there would not be enough clients for the doctors and nurses to maintain their newly acquired skills. A sample from one district showed 56% of men had received the vasectomy procedure at a health center, indicating that the move to offer vasectomy services in local health centers encouraged men in rural areas to seek the surgery.[15]

Partner with community health workers

One of the key responsibilities of local community health workers is to talk to community members about family planning, making them a logical source of information on no-scalpel vasectomy. In launching the pilot program, IntraHealth worked with district leaders to build a partnership with community health workers so they could refer men who were interested in a vasectomy to the health center or hospital. In fact, 60% of men who participated in the program reported that they had spoken with a community health worker before seeking a vasectomy, demonstrating the important role community health workers can play in expanding knowledge about the availability of a wide range of contraceptive methods. Unlike other vasectomy

programs in Ghana and Tanzania where print, television, and radio ads were used to promote vasectomy services, [9,10] the Rwanda pilot program was successfully launched without large-scale promotion. The only promotional materials were printed materials and a DVD about no-scalpel vasectomy, which were used in the counseling process. This suggests that even in the absence of mass media campaigns about vasectomy men will seek this service if it is offered in a strong, organized, community-based health system that provides accurate information about the procedure. Other earlier programs have also shown that concurrently generating a supply of trained professionals with demand for the service is essential.[16]

IntraHealth successfully pilots no-scalpel vasectomy in Rwanda

By using a train-the-trainer model, partnering with district leaders and community health workers, and offering services at local health centers, IntraHealth launched a successful pilot program in no-scalpel vasectomy. A retrospective analysis of client medical records found that men who sought vasectomies through this program were slightly older and had more children than those in a sample of the general population from the DHS survey. However, men older than 45 had a similar number of children as their comparison group. The men who sought vasectomies were primarily farmers from rural areas with a primary education or less. Men who participated in the program learned about vasectomy and its benefits largely from interactions with community health workers or a peer and could readily access one of the pilot sites where the procedure was offered. This pilot program on no-scalpel vasectomy in Rwanda is an important addition to the body of evidence on the need for more widely available vasectomy services as a part of family planning and reproductive health programs in sub-Saharan Africa.

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