



INFO Project
Center for Communication
Programs

**How family
planning
programs
can introduce
or expand
vasectomy
services**

Vasectomy: Reaching Out to New Users



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Key Points

When information and services are available, many men who do not want more children choose vasectomy. Yet few programs offer vasectomy services. Now is a good time for program managers to consider introducing and promoting vasectomy services. They can tap a growing body of program experience and research on how to attract clients, motivate providers, and expand access to vasectomy.

Vasectomy has advantages for both couples and programs. It is simpler and more cost-effective than female sterilization. It offers men convenient, effective contraception that they can use instead of or along with condoms—and a way to share responsibility for family planning.

Men and their partners need the facts. Vasectomy is often the victim of rumors and misinformation. Mass media campaigns and interpersonal communication can provide the facts. Satisfied vasectomy clients and their partners often make the best promoters.

Good counseling is essential. Men need to understand several points: Vasectomy is meant to be permanent. While highly effective, vasectomy sometimes fails. Men need to wait three months before relying on a vasectomy to protect against pregnancy.

All health care staff benefit from training. A general orientation for all staff members can help ensure that vasectomy clients get a warm reception and balanced, accurate counseling. Competency-based clinical training can ensure that providers have good surgical skills.

Providers should train in the safest, most effective techniques, if possible. No-scalpel vasectomy is safer than conventional vasectomy with a scalpel. Fascial interposition and cautery are the most effective ways to block the tubes that carry sperm from the testicles.

Vasectomy services can suit almost any setting, from a doctor's office to a hospital. If demand is high, primary care facilities can offer vasectomy services. Otherwise, a referral network can direct men to central facilities, or mobile teams can visit towns and villages.



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Male Sterilization



See companion INFO Reports,
"Vasectomy: Tools for Providers"

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Cover Photo: In Colombia a doctor uses a flipchart to counsel a Profamilia client on vasectomy.

A Good Method Neglected

Vasectomy has many advantages for both couples and programs. Few programs offer it, however, and few men choose it. Program managers overestimate how difficult and expensive it is to offer vasectomy. Managers also doubt whether men will accept the method. In fact, most men do not know much about vasectomy. Common rumors and misconceptions about the effect of vasectomy on masculinity and sexual function discourage men from considering the procedure.

Over time, vasectomy is one of the most cost-effective contraceptive methods.

Both health care providers and men need to learn the facts. Experience shows that when they do—and when vasectomy is readily available—more men will choose to have the procedure.

Why Invest in Vasectomy?

Because vasectomy is little used, family planning program managers may assume that there is no demand for the method. This assumption can be wrong.

Permanent methods such as vasectomy are not appropriate for everyone. They are uniquely suitable, however, when couples no longer want more children. When vasectomy is available, it is the choice of some couples who want no more children (15, 75, 110, 146).

Many men are interested in family planning (42). Many want to take responsibility for family planning or share the responsibility with their partners (50, 52, 75). Vasectomy offers that opportunity. It offers men a contraceptive method that is far more effective and conve-

nient than condoms or withdrawal (although condoms remain the only family planning method that can prevent sexually transmitted infections (STIs), including HIV/AIDS). Making vasectomy available along with female sterilization also encourages couples who want no more children to decide together on what method to use.

Program managers may be reluctant to invest in vasectomy because the procedure appears expensive and requires providers with specific training. A recent analysis found that direct program costs per vasectomy averaged about US\$20 in India, \$40 in Mexico, and \$50 in Kenya (121). The initial cost of providing vasectomy is higher than that of any other method, with one important exception—female sterilization (142).

Over time, however, vasectomy is one of the most cost-effective contraceptive methods (142). The one-time procedure continues to protect against pregnancy throughout a couple's reproductive years. Within several years, vasectomy becomes more economical than other methods—particularly methods that require continuous supplies, such as pills or condoms. An analysis in the United States compared the costs of various contraceptive methods, including the cost of supplying the method, the cost of treating complications and other medical events, and the cost of prenatal and delivery care for pregnancies when a method fails. After just two years of use, vasectomy cost less than any other method (134). An analysis in Iran produced similar results: When all program costs were considered, vasectomy was the cheapest method, on average, per year of contraceptive protection (91).

Because vasectomy is so cost-effective, offering the method might help programs save money—which could be used to support services for others (134). Vasectomy costs one-quarter to one-half as much as female sterilization (see box below). Yet the number of

Vasectomy Has Many Advantages Over Female Sterilization

Vasectomy and female sterilization are about equally effective (96). In many other ways vasectomy is preferable to female sterilization. Vasectomy is:

- **Quicker:** Vasectomy usually takes 5 to 15 minutes to perform (35). In contrast, minilaparotomy and laparoscopy for female sterilization usually take 10 to 30 minutes (78, 125, 139).
- **Safer:** While both vasectomy and female sterilization are safe procedures, statistically vasectomy proves to be safer. The vasectomy procedure is less invasive than female sterilization, which requires entering the peritoneal (or abdominal) cavity. Thus, if infection follows female sterilization, it can be serious. In addition, some female sterilizations are performed under general or regional anesthesia, which can lead to complications. Vasectomy is performed with local anesthesia. Major complications for female sterilization occur at a rate of 1 to 3.5 per 100 procedures, and there are one or two deaths per 100,000 procedures (96, 102). Serious complications and deaths associated with vasectomy are so rare that rates have not been measured.

- **Cheaper:** Female sterilization procedures generally cost two to four times more than vasectomies (57, 87, 134, 142). Female sterilization is also associated with higher costs due to postoperative complications that need treatment (57).
- **Suited to more settings:** Vasectomies can be performed in almost any setting, including doctors' offices. Facilities need more equipment and infrastructure to offer female sterilization (35, 36).
- **Faster recovery:** Men are advised to rest and avoid sex for two days after vasectomy, while women should take a week to recover from female sterilization (152).

Female sterilization does offer one advantage over vasectomy: women are sterile immediately after the procedure is performed. In contrast, men need to wait three months before they can rely on a vasectomy to prevent pregnancy.

How to Use This Report

This issue of *Population Reports* can help managers of family planning and reproductive health programs to:

- Identify and address the barriers that discourage men from choosing vasectomy (see p. 5).
- Improve the quality of vasectomy services by adopting the safest and most effective surgical techniques (see p. 10).
- Select effective communication channels and design persuasive messages to promote vasectomy (see p. 12).
- Compare and assess different approaches to delivering vasectomy services (see p. 16).
- Develop training programs for providers who counsel clients on vasectomy (see p. 15) and providers who perform the procedure (see p. 19).
- Plan how to introduce and scale up vasectomy services (see p. 20).

women relying on female sterilization worldwide is seven times more than the number relying on vasectomy (see Table 1, p. 6). This suggests the potential for significant savings if programs offer couples a choice between male and female sterilization, and some opt for a vasectomy. According to one calculation, the total cost of voluntary sterilization in the United States would fall 15% if vasectomies made up half of all sterilization procedures instead of one-third (57).

Many Advantages for Users of Vasectomy

Vasectomy offers men high effectiveness, few complications or adverse health effects, and the convenience of permanent contraception.

Highly effective. Vasectomy is a highly effective contraceptive method. Failures do occur, however. The first-year pregnancy rate in the United States is 0.2 per 100 couples, or 2 per 1,000 (141). In low-resource settings first-year pregnancy rates after vasectomy are generally higher, at 2 to 3 per 100 (92, 132).

Many pregnancies occur because men have intercourse too soon after the procedure without using other contraception. After a vasectomy viable sperm remain in the tubes (the vas deferens) that carry sperm from the testicles. Until these sperm are cleared from the vas, couples need to use another method to prevent pregnancy. According to the consensus of experts, couples should wait three months before relying on a vasectomy for contraception (152). This is more reliable than waiting until a man has had 20 ejaculations, which was previously recommended as another option (11, 12, 152). In the United States two studies suggest that about half of pregnancies following vasectomies occur because the couple did not wait long enough (29, 61).

Most other pregnancies are due to recanalization, that is, when the two ends of the cut vas join back together. This usually happens during the first weeks after a vasectomy, but it can also happen years later (2, 71, 122). Less often, vasectomies fail because the provider mistakenly cuts the wrong structure in the scrotum or cuts the same vas twice and mistakenly leaves the other vas uncut (97, 122). The skill and experience of the provider and the surgical technique used affect the rates of both recanalization and provider error (37, 43, 70, 97, 115, 129).

Vasectomy programs can reduce the failure rate by:

- Reminding couples to use another method of contraception, such as the pill, for three months after a vasectomy and supplying that method,
- Rigorously training vasectomy providers and monitoring their performance to ensure that they are highly skilled,
- Organizing vasectomy services to assure that providers have a steady flow of vasectomy clients so that they can gain experience and maintain their surgical skills, and
- Training providers to use the most effective techniques to block the vas deferens (see p. 10).

Programs can also consider testing the semen of vasectomy clients after the procedure (see p. 11). Routine semen testing checks whether or not a vasectomy is working. If the test shows that sperm are present, the provider advises the client to wait and be tested again before he begins to have sex without using another contraceptive method. Thus semen testing will prevent some unintended pregnancies after vasectomy.

Semen testing is **not** a requirement for vasectomy programs, however (152). Programs can provide good-quality services and effective contraception without semen testing. If providers are competent and men wait three months before having unprotected intercourse, failure rates will be low—2 to 3 per 100 in the first year—even without semen testing (92, 132).

Providers should warn clients that vasectomies sometimes fail—even years later. Otherwise, if a pregnancy occurs, a man may assume that his partner has been unfaithful, and this may not be true.

Few complications. The most common complications of the vasectomy procedure are infections at the incision and hematoma (blood collecting and clotting) in the scrotum. Infections require cleansing the site, giving oral antibiotics, and draining an abscess (a pocket of pus under the skin) if one forms. Hematomas usually go away without treatment. These complications usually appear soon after the procedure.

Rates of infection and hematoma vary widely, depending on the definitions used, the experience of the surgeon, and the surgical technique (70, 120). The frequency of infection averages 3% to 4%; the frequency of hematoma, 2%. Both can range considerably higher, however (8, 120). Rates of both infection and hematoma are lower with the no-scalpel vasectomy (NSV) technique than with conventional incision techniques (58, 70, 94, 131). (See p. 10 for a discussion of NSV.)

Some men report chronic pain or discomfort in the scrotum or testicles that begins months or years after a vasectomy. Severe, long-lasting pain after vasectomy is not common, but providers should tell all men considering a vasectomy about this risk.

It is difficult to know exactly how common this pain is. Reported rates vary widely, in part because studies do not define pain in the same way or measure it at the same point in time. Also, the studies have a variety of methodological problems (1, 46, 77, 115, 118, 119). In a series of small studies, each involving 100 to 500 men with vasectomies, 1% to 6% reported pain that was severe enough to affect daily activities

or to prompt them to seek medical help (19, 77, 83, 85, 88). Most of these men did not regret having the vasectomy, however. Also, scrotal pain may have other causes. Two studies have compared men with vasectomies with a similar group of men who had not had vasectomies. In a U.S. study of more than 10,000 vasectomized men who were followed for an average of eight years, the incidence of pain was 2.5 cases per 1,000 person-years. By comparison, the incidence of pain among men who had not had vasectomies and were followed for the same length of time was 1.4 cases per 1,000 person years (119). A British study found that 6 of 101 vasectomized men sought medical advice for severe pain, but so did 2 of 102 men who had not had vasectomies (88).

The cause of the pain is unknown. Theories include pressure caused by the build-up of sperm, sperm granulomas (masses of mainly sperm and white blood cells caused by the body's immune reaction to sperm leaking from the vas), and nerve damage (20). Treatment includes taking pain relievers and injecting an anesthetic into the spermatic cord to numb the nerves to the testicles. Some providers report that surgery to remove the painful site or reverse the vasectomy relieves the pain (20, 51).

No long-term adverse health effects. Vasectomy does not affect men's ability to have sex or their general health. Contrary to common rumors, vasectomy does **not** cause weakness, general aches and pains, poor vision, weight gain, or mental impairments.

There have been many studies of vasectomy and prostate cancer. Careful reviews of the evidence have concluded that vasectomy does not increase the risk of prostate cancer (13, 28, 30, 120). Studies also have found that vasectomy does not increase the risk of testicular cancer, autoimmune disease, or cardiovascular disease (48, 115, 120).

Convenient. Once sperm are gone from a man's reproductive tract, a couple does not have to take any further action to prevent pregnancy. There is no need to return to the clinic, purchase additional supplies, remember to take a pill daily, or put on a condom.

Other considerations. First, vasectomy, like every other contraceptive method except condoms, provides no protection against STIs, including HIV/AIDS. Second, as noted, vasectomy does not begin working right away. Couples need to use another method of contraception for three months after the procedure. Finally, vasectomy is intended to be a permanent method of contraception. Reversals are difficult and expensive, and success cannot be guaranteed. Thus, the method is appropriate only for couples who are sure they will want no more children in the future.

Why Does Use Remain So Low?

With its many advantages, it seems that vasectomy should be an important family planning method. In most countries, however, few men have adopted vasectomy. Worldwide, fewer than 3% of women ages 15 to 49 who are married or in union rely on a partner's vasectomy for contraception (see Table 1, p. 6).

In developing countries the overall prevalence of vasectomy is 2.5%. The largest number of vasectomized men are in China. In China almost 7% of women in union—or more than 17 million couples—rely on vasectomy (see Table 2, p. 7). The prevalence of vasectomy also exceeds 6% in three other Asian countries—



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In Indonesia a provider performs no-scalpel vasectomy under the supervision of a clinical trainer. Programs can increase the effectiveness of vasectomy by making sure that providers are highly skilled, use the most effective techniques, and perform enough vasectomies to maintain their skills.

Bhutan, Nepal, and South Korea. The prevalence of vasectomy is much lower in other countries in the region. In India, for example, only 1% of women in union rely on vasectomy. Overall, the prevalence of vasectomy in Asia is 3%.

In Latin America and the Caribbean the prevalence of vasectomy is just 1.3%. Brazil and Puerto Rico may have the highest rates in the region, but neither has conducted a survey recently (145).

In sub-Saharan Africa and Northern Africa the use of both male and female sterilization, and of contraception in general, is lower than in other regions. Less than one-tenth of 1% of women in union rely on a partner's vasectomy for contraception in sub-Saharan Africa. In most countries there are at least a few men who have had vasectomies, however. Namibia has the highest reported prevalence of vasectomy in Africa, at 0.8%.

In every developing country except Bhutan and Tajikistan, female sterilization is more common than vasectomy. By region, female sterilization is eight times more common than vasectomy in Asia. It is 22 times more common in Latin America and the Caribbean. The gap could be even greater in sub-Saharan Africa, although rates are so low that accurate comparison is not possible.

In developed countries overall, less than 5% of women rely on vasectomy. Prevalence exceeded 9% in the most recent surveys in six countries—Australia, Canada, the Netherlands, New Zealand, the United Kingdom, and the United States (145).

The gap between rates of female sterilization and vasectomy is much smaller in developed areas than in developing areas. Overall, female sterilization is about twice as common as vasectomy. Vasectomy is more common than female sterilization in three countries—the Netherlands, New Zealand, and the United Kingdom (see box, p. 6).

Many factors discourage men from having a vasectomy. For many years reproductive health programs and providers blamed



Table 1. Estimated Worldwide Use of Vasectomy

% of Women Ages 15–49 Married or in Union Who Rely on:

Area & Year	Any Method	Any Modern Method	Vasectomy	Female Sterilization
DEVELOPING AREAS^a 2004	62	56	2.5	21.5
Sub-Saharan Africa ^b 2003	22	15	<0.1	1.5
Northern Africa 2004	60	54	<0.1	2.1
Asia 2004	68	62	3.0	24.0
Latin America and the Caribbean 2001	72	65	1.3	28.5
DEVELOPED AREAS^c 1999	67	56	4.5	8.6
Australia/New Zealand 1995	68	66	11.8	13.1
Europe 1997	68	53	2.9	4.7
Northern America 2001	73	69	10.3	22.2
WORLD 2003	63	56	2.7	19.7

^a Developing areas include all regions of Africa, Asia (excluding Japan), and Latin America and the Caribbean, as well as Melanesia, Micronesia and Polynesia.

^b Sub-Saharan Africa includes all regions of Africa, except Northern Africa, but includes Sudan.

^c Developed areas comprise all regions of Europe plus Northern America, Australia, New Zealand, and Japan.

Data source: United Nations 2008 (145)

Note: World and area estimates are weighted averages derived from individual country survey data. The weights used are the estimated number of women ages 15–49 who were married or in union in 2007.

Why So Popular in a Few Countries?

There are four countries where vasectomy is more popular than female sterilization—Bhutan, the Netherlands, New Zealand, and the United Kingdom. Their experience shows that favorable social norms and easy access to services can raise demand for vasectomy to high levels.

In New Zealand vasectomy has been so widely adopted that it seems to be the rule rather than the exception. Vasectomy became more widespread than female sterilization in the mid-1980s. In the late 1990s a telephone survey found that over half (57%) of men ages 40 to 49 had had vasectomies. The procedure is popular among all socioeconomic groups (127).

Vasectomy is not particularly promoted in New Zealand. Instead, the high prevalence reflects widespread attitudes about male roles in the family and reproductive health. Interviews with vasectomy clients ages 35 to 45 found that 9 of every 10 had chosen vasectomy because they wanted to relieve their partners of the responsibility for contraception and felt it was time for them to take their turn. The decision was made easier by the simplicity, safety, short recovery time, and lower cost of vasectomy compared with female sterilization. Vasectomy is so widely used in New Zealand that men say they are not influenced by misperceptions or negative attitudes expressed by some friends (110).

The situation in Bhutan is similar to New Zealand’s in many ways. In both countries (93, 110):

- Women encourage their partners to be sterilized because vasectomy is easier than female sterilization.
- Community attitudes are accepting of men who have had vasectomies.
- The quality of vasectomy services is good, so there is a pool of satisfied clients who motivate other men to have the procedure.
- Men routinely accompany women for deliveries, which is a sign of their willingness to share family responsibilities.

Unlike New Zealand, however, the government of Bhutan has made an effort to promote and increase access to vasectomy. The king has issued messages promoting male involvement in family planning, vasectomy services are free, and seasonal vasectomy camps make it easy for villagers to use the service (93).

low levels of vasectomy on cultural prejudices and men’s opposition to the procedure. Indeed, these do discourage men from having vasectomies. Policy decisions and access are important, too, however.

Trends in the prevalence of vasectomy in Asia and Latin America over the past 40 years illustrate this. For example, in many Asian countries vasectomy was common during the 1970s, when governments favored it as the best way to slow population growth. They aggressively promoted vasectomy with outreach services and

cash incentives and, in some cases, reportedly coercive practices. Vasectomy almost disappeared in the following decade, when these same programs decided to promote female sterilization instead. Some countries also experienced a public backlash against the high-pressure approach.

Conversely, vasectomy was extremely rare in Latin America until the 1980s. Then programs embraced a policy of male involvement in family planning and began actively promoting the method. Rates rose in response (25).

Table 2. Use of Vasectomy: Survey Findings for Selected Developing Countries, 1997–2007

% of Women Ages 15–49 Married or in Union Who Rely on:

Area, Country & Year	Any Method	Any Modern Method	Vasectomy	Female Sterilization
SUB-SAHARAN AFRICA				
Botswana 2000	44	42	0.2	1.2
Central African Republic* 2006	19	11	0.1	0.3
Democratic Republic of the Congo 2001	31	4	0.1	0.4
Mauritius 2002	76	41	0.1	8.9
Namibia 2000	44	43	0.8	8.5
São Tomé and Príncipe 2000	29	27	0.1	0.4
South Africa 2003	60	60	0.7	14.4
Swaziland* 2006–07	51	48	0.2	5.8
Uganda 2006	24	18	0.1	2.4
Zimbabwe 2005–06	60	58	0.1	2.0
ASIA				
Bangladesh* 2007	56	48	0.7	5.0
Bhutan 2000	31	31	13.6	3.1
Cambodia 2005	40	27	0.1	1.7
China* 2004	90	90	6.7	31.2
Democratic People's Republic of Korea (North Korea) 2002	69	58	0.8	4.4
India 2005–06	56	49	1.0	37.3
Indonesia 2002–03	60	57	0.4	3.7
Iran 2000	74	56	2.8	17.3
Maldives 2004	39	34	1.0	7.0
Mongolia* 2005–06	66	61	0.1	2.4
Myanmar 2001	37	33	1.5	4.6
Nepal 2006	48	44	6.3	18.0
Pakistan* 2006–07	30	22	0.1	8.2
Philippines* 2006	51	36	0.1	10.4
Republic of Korea (South Korea) 1997	81	67	12.7	24.1
Sri Lanka 2001	70	50	2.1	21.0
Tajikistan 2005	38	33	0.4	0.4
Thailand 2005–06	72	70	1.0	24.5
Turkey 2003	71	43	0.1	5.7
Uzbekistan 2006	65	59	0.1	2.1
Vietnam* 2006	76	61	0.5	5.8
Yemen 2003	23	13	0.1	1.7
LATIN AMERICA AND THE CARIBBEAN				
Colombia 2004-05	78	68	1.8	31.2
Costa Rica* 1999-2000	80	72	0.5	21.4
Guatemala 2002	43	34	1.0	16.8
Honduras 2005-06	65	56	0.3	21.2
Mexico* 1997	68	60	1.2	30.6
Nicaragua 2001	69	66	0.5	25.3
Paraguay 2004	73	61	0.1	11.5
Peru 2004-06	71	48	0.4	10.3
Suriname 2000	42	41	0.1	9.3
Trinidad and Tobago 2000	38	33	0.2	7.2
Uruguay 2004	77	75	0.4	5.5

^a Data are for ever-married women ages 15–49.

* Data come from Population Reference Bureau 2008 (103).

Data sources and methodology: Most data are from United Nations 2008 (145), which follows individual country classifications for the lactational amenorrhea method (LAM). Country surveys may classify LAM as a traditional method or as a modern method, or they may not include data on LAM. Data from Population Reference Bureau 2008 (103) classify LAM as a modern method.

Note: The table lists every developing country where the most recent nationally representative survey conducted since 1997 found the prevalence of vasectomy to be 0.1% or greater.

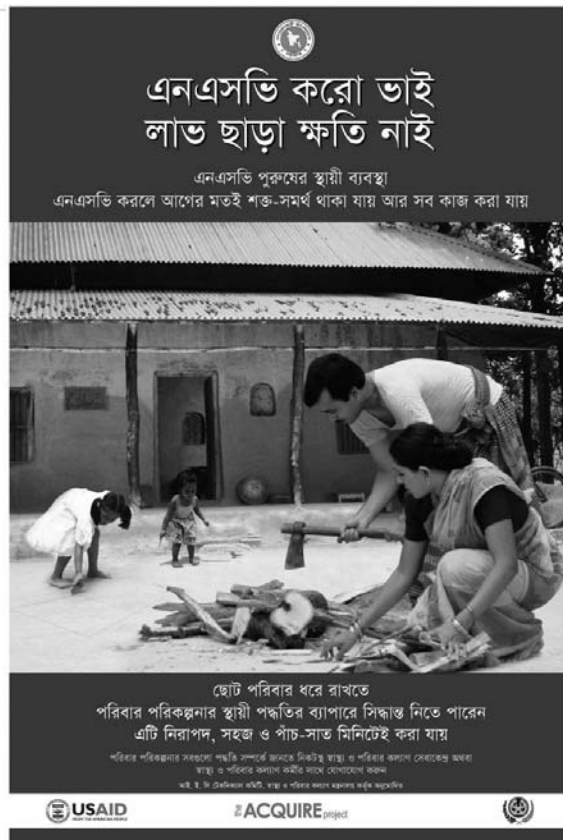
Research around the world now offers a fuller, more balanced understanding of the low levels of vasectomy use. Programs can use these insights to overcome the following barriers to vasectomy.

- Lack of awareness.** Vasectomy is less widely known than many other modern family planning methods. Since 2000 Demographic and Health Surveys (DHS) have surveyed men in 24 countries and women in 45 countries. In every country men were less likely to know of vasectomy than the pill, injections, condoms, and female sterilization. In every country women were less likely to know of vasectomy than any of these four methods or the IUD (86). Thus many couples opt for female sterilization without realizing that there is an easier male alternative.
- Rumors about masculinity and sexual function.** What little men know about vasectomy is often wrong (63). The most entrenched and powerful rumors concern manhood, masculinity, and sexual performance. Many men confuse vasectomy with castration and fear, incorrectly, that vasectomy will make them impotent. Castration involves removal of the testicles. In contrast, vasectomy leaves the testicles intact, and they continue to produce male hormones. Also, some men worry that people will no longer consider them to be real men or that their wives may be unfaithful (15, 38, 82, 90, 106, 116).
- Health concerns.** Men and women fear that vasectomies will cause health problems. Either they confuse the procedure with castration, or they worry about sperm building up in the body (15). Some people think, incorrectly, that the procedure makes a man physically weak, so that he can no longer work as hard. Others believe it causes weight gain, hair loss, or other problems (106, 117).

Because of the widespread misconceptions and lack of knowledge about vasectomy, couples may mistakenly believe that vasectomies are more difficult and less safe than female sterilization. They also may think that vasectomies cause more health problems (35, 66).

Many men confuse vasectomy with castration and fear, incorrectly, that vasectomy will make them impotent.

- Cultural and gender norms.** In some societies vasectomy seems to violate generally accepted cultural beliefs and gender roles



This poster from Bangladesh challenges the idea that family planning is a woman's responsibility. It also shows that vasectomy does not make a man weak. Misconceptions like these frequently discourage men from having a vasectomy.

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(64, 66, 82, 106, 112, 117, 136). For example, many men and women believe that family planning is the woman's duty, not the man's. They believe that women should bear any burdens related to contraception. In some societies a man's status and reputation depend on the number of children he has. If men measure their virility by their ability to father children, vasectomy is unthinkable (3). Where polygamy is practiced, people may consider it important for a man to preserve his fertility for future marriages.

Some religious beliefs discourage sterilization and sometimes also other contraceptive methods (35). In focus group discussions in Tanzania, for example, men and women reported a range of religious views on modern contraceptives, including vasectomy. Positions ranged from strong support by the Seventh-day Adventist Church to active opposition by the Roman Catholic Church. While people generally thought that religion strongly influenced decisions about vasectomy, some had decided on sterilization despite the disapproval of their church (15).

- Anxiety about the procedure.** Men are often afraid of the procedure itself. They worry about injections, pain, and complications. Partly, this is because they have less experience than women with surgery and health care facilities (82). The introduction of NSV can allay some of these fears (146). For example, requests for vasectomy at the Faisalabad Clinic in Pakistan jumped after the introduction of NSV. Promoters working in the community explained the benefits of NSV to men. Men liked the fact that NSV did not require going to the hospital, it reduced discomfort, and it shortened healing time (7).
- Limited access to services.** In some countries it is hard to find a facility with the trained providers and equipment to perform vasectomies (98, 117, 138). For example, in 2004 more than one-quarter of Tanzanian vasectomy clients reported that they had postponed the procedure because providers were not available (15). Service delivery systems in most countries make female sterilization more readily available than vasectomy, including female sterilization at the time of delivery, when a woman is already in a hospital (35). The fact that most family planning providers are female may also pose a barrier to services. In some cultures, men do not feel comfortable discussing their reproductive health with women.
- Concern about quality of care.** Just making vasectomy available is not enough. Men want to know that the provider is skilled. Some men say they are willing to pay more or travel farther to get better



Why Is Vasectomy Underutilized? Excuses and Answers

Program managers and providers often make excuses for not offering vasectomy. These arguments usually are not valid.

Excuse: “We don’t offer vasectomy because men here don’t want it.”

Answer: The best way to test demand is to offer and promote vasectomy services. Even where resistance to vasectomy seems strong, vasectomy programs have generated men’s interest in the procedure.

Excuse: “We don’t offer vasectomy because it is too expensive.”

Answer: Offering vasectomy should save money. The procedure costs one-quarter to one-half as much as female sterilization. In the long run vasectomy is more cost-effective than other contraceptive methods.

Excuse: “We don’t offer vasectomy because it is too difficult.”

Answer: Doctors learn to perform vasectomies with just a few days of training. Other health care providers need more training, but they also can perform vasectomies effectively and safely. Little equipment is needed, and vasectomies can be performed in almost any health care setting.

Excuse: “I could get infected with HIV if I perform vasectomies.”

Answer: The same universal precautions are applied during vasectomy as during other procedures. When universal precautions are used, there is little chance that a provider will be infected. The universal precautions are not difficult or expensive to carry out.

Men, too, often make excuses for not considering vasectomy. Often their reasons are based on misunderstanding or false rumors.

Excuse: “Vasectomy will make me impotent or weak. I won’t be a real man.”

Answer: After vasectomy men’s sexual desire and sexual performance stay the same. Men also can work just as hard after vasectomy. Rumors make vasectomy sound like castration. It is not.

Excuse: “It’s easier and safer for women to be sterilized than men.”

Answer: Vasectomy has fewer complications than female sterilization, and recovery is quicker. Vasectomy only affects the scrotum. It does not require entering the abdominal cavity, as female sterilization does.

Excuse: “Family planning is a woman’s duty, not a man’s.”

Answer: Many men care deeply about their partners. Given the opportunity, they are willing to share responsibility for family planning. But the staff and setting at health care facilities must make them feel welcome.

Excuse: “It’s going to hurt!”

Answer: The injection of anesthetic hurts briefly. After that, men feel little or no pain during the procedure. The scrotum is sore for a few days, but men can use ice packs and ordinary medicines to relieve the pain.

quality services (15, 24). In Maharashtra, India, men waited for an NSV trainer to visit before requesting a vasectomy (124).

- **Provider and program bias.** Sometimes providers share clients’ doubts about vasectomy. For example, in Ghana a 2003 pretest of health workers’ knowledge of vasectomy found that only 36% strongly disagreed with the false statement that vasectomy decreases a man’s ability to experience sexual pleasure. Only 44% strongly disagreed with the false statement that vasectomy is like castration (38). Providers may even help spread false rumors (117).

Even if they know the facts, busy providers, seeking to save time, may steer clients to methods that are quicker and easier to administer than vasectomy (76, 153). In Africa fear of HIV infection also may discourage providers from offering vasectomy and other family planning methods that involve procedures, such as female sterilization and the IUD.

As a result, some providers simply do not mention vasectomy as an option during family planning counseling sessions. Others encourage female sterilization instead (14, 38, 108, 150). Still other providers try to counsel clients on vasectomy but cannot do a good job. In Kenya and Tanzania “mystery clients” (research participants who pretend to be clients) noted several problems when they asked about vasectomy (90, 150). Some clinics lacked educational materials about

men’s reproductive health. Some female counselors felt uncomfortable discussing the male body. Some counselors offered incomplete or incorrect information.

In extreme cases clinic staff may even ridicule and reject men who ask about vasectomy. In Kenya the male receptionist in a family planning clinic hit a mystery client on the head with a Bible after he asked about vasectomy. The receptionist said the client was blaspheming and told him, “If you want family planning, send your wife!” (150).

Programs Can Overcome Barriers

Once program managers understand the barriers to vasectomy, they can develop effective solutions to the problems. Many programs have conducted communication campaigns to raise awareness of vasectomy, dispel rumors, address health concerns, change social norms, and put to rest anxiety about the procedure (see p. 12). To overcome providers’ biases against vasectomy, programs can offer orientation and training workshops for all clinic staff (see p. 15). To increase access, programs can introduce vasectomy services at primary health care facilities, develop a referral system, or offer outreach services (see p. 16). To assure good-quality care, programs can adopt evidence-based standards and protocols (see p. 10), train providers in NSV (see box, p. 19), and monitor service delivery.

Research and Innovation Improve Safety and Effectiveness

Health care providers performing vasectomy have many choices. Innovations in surgical technique developed these choices. Research has indicated which techniques are the safest and most effective. The best techniques have not yet been universally adopted, however.

Vasectomy is a two-step procedure. The first step is finding and exposing the two vasa, the tubes that carry sperm from the testicles. The provider locates a vas by feeling it through the scrotum, injects a local anesthetic, makes an opening in the scrotum, and draws a section of the vas through the opening. The second step is blocking the vas. For both steps there are several choices.

Finding and Exposing the Vasa: No-Scalpel Vasectomy Is Safer

After finding the two vasa in the scrotum, providers can open the scrotum by:

- Puncturing the midline of the scrotum with the tip of a special dissecting forceps. This is called no-scalpel vasectomy (NSV).
- Using a scalpel to make one incision in the midline of the scrotum or else two incisions on either side of the scrotum, one for each vas.

Both NSV and vasectomy with a scalpel (SV) are safe and result in few complications, such as infection or blood collecting and clotting in the scrotum (hematoma).

NSV appears to cause fewer complications than SV (26). The largest randomized trial comparing the two approaches enrolled 1,429 men in Brazil, Guatemala, Indonesia, Sri Lanka, and Thailand (131). The study reported significant differences between NSV and SV and some similarities. For example, men undergoing NSV were less likely to have pain during surgery, scrotal pain shortly after the surgery, and hematomas. Reports of other complications, however, such as excessive bleeding from the incision, fever, or scrotal abscess, were similar for the two procedures. The trial also compared difficulties performing surgery and the duration of surgery for the two techniques (see Table 3, p. 11).

Other comparative nonrandomized studies report lower rates of infection and hematoma or bleeding after the procedure for NSV than SV (70). Also, studies of NSV alone generally report lower rates of these complications than studies of SV (37).

More and more health care providers around the world are using NSV. Li Shunqiang developed and introduced NSV in China in 1974. He began training surgeons from other countries in 1986 in Thailand (37). By 1989 NSV was used in 14 countries, including the United States (59). By 2000 more than 5,000 providers from 25 developing countries had received NSV training (155). Use of NSV continues to grow (10, 41, 74).

Blocking the Vas: Fascial Interposition and Cautery Are Recommended

Most vasectomy providers use one of two main methods to block the vas (see drawings below):

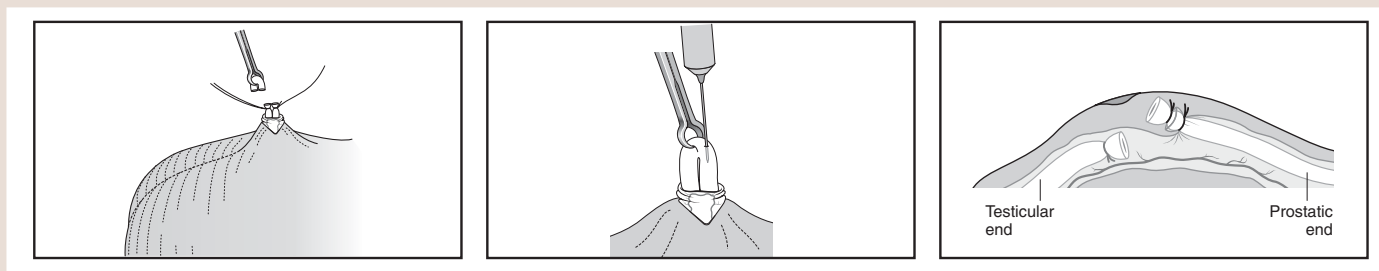
- Tying the vas closed in two places and removing a short section between the closures (ligation and excision), or
- Applying heat or electricity to each vas before cutting. The resulting scar tissue blocks the vas (37).

Some providers use metal clips to block the vas after excision or cautery (10). Using clips to block the vas is not recommended because failure rates in the first year have been as high as 9% (73, 152).

As an addition to ligation and excision and cautery, fascial interposition helps to prevent the two cut ends of a vas from reconnecting (recanalization). Recanalization occurs when both cut ends become attached to a sperm granuloma, a mass of sperm and white blood cells caused by the body's immune reaction to sperm leaking from the vas. To perform fascial interposition, the provider separates the tied or cauterized ends of the vas with the thin tissue surrounding the vas (fascial sheath) (see drawing below) (37).

The effectiveness of vasectomy depends in part on the method of blocking the vas. Ligation and excision is effective. Adding fascial interposition improves its effectiveness (37, 115). Cautery is more effective than ligation and excision with or without fascial interposition (89, 129). Cautery combined with fascial interposition may be the most effective technique (43, 70).

Worldwide, most providers use ligation and excision without fascial interposition (27, 35). For example, it is estimated that over 90% of providers in Bangladesh, India, and Nepal used this technique in 2003-2004 (74).



To block each vas, providers can use ligation and excision (left) or cautery (middle). Fascial interposition (right) improves the effectiveness of vasectomy because it prevents the cut ends of the vas from rejoining. © 2003 EngenderHealth. Used with permission.

Fascial interposition and cautery are not widely used, even though they increase effectiveness. Fascial interposition is difficult to learn and lengthens the vasectomy procedure, and many providers would have to be retrained. Most national guidelines do not require it (74). Two exceptions are the United Kingdom and India. India included fascial interposition in guidelines published in 2006 (49, 115).

Cautery is not widely used mainly because of lack of equipment. Cautery devices were not available in the Asian centers surveyed in 2003-2004, but all other equipment needed, such as batteries, was available even in rural areas (74). In Colombia at the nongovernmental family planning organization Profamilia, providers would like to switch to cautery, but cauterizing equipment is not available (101). Cautery devices cost about US\$37 and tips cost about US\$4 (121).

Some providers use other variations or additions that they believe improve the effectiveness of vasectomy or reduce complications. These include rinsing the vasa to speed up clearance of sperm, removing a long piece of the vasa, and folding back and tying the cut ends of the vasa. A review of studies of vas irrigation reported no clear evidence of effectiveness because the studies were small and of low quality (27). The length of vas removed did not affect the risk of recanalization in one case-control study (72). A review of studies of folding and tying found no clear evidence that the technique improved effectiveness or decreased complications (70). Studies are also needed to compare the effectiveness of electrocautery and thermal cautery and to assess whether leaving the testicular end of the vasa open avoids pressure and pain (70).

Semen Analysis Is Recommended but Not Essential

Vasectomies are not effective until sperm are cleared from the vasa, or the concentration of nonmoving sperm is less than 100,000 per milliliter (33, 69, 152). Fertile men normally have 20 million or more moving sperm per milliliter (151). For most men, vasectomies become effective within three months, but some men take longer (see

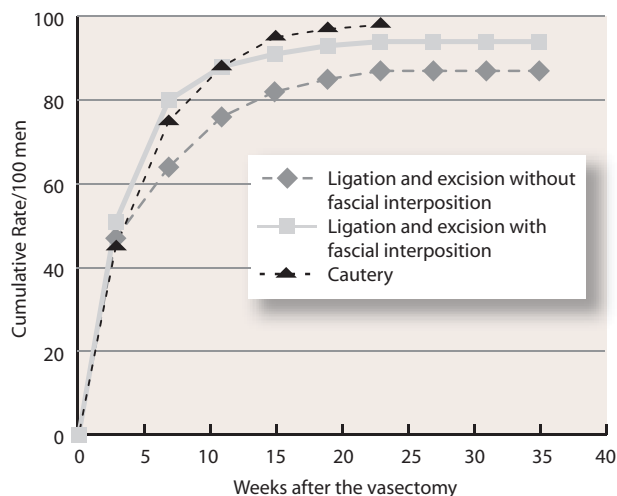
Figure 1). Therefore, if semen analysis is available, it is recommended that a man have his semen tested before he has sex without the protection of another family planning method.

Semen analysis is **not** a requirement for a program to offer vasectomy, however. The most common reason for pregnancies following a vasectomy is failure to wait three months before relying on the vasectomy. Good counseling can help prevent these pregnancies.

Semen analysis requires a microscope and trained staff. A phase-contrast microscope with a 20X objective is recommended (114, 151). Staff need to know how to do an initial visual assessment of the semen, prepare a sample for observation under the microscope, and count sperm accurately. Training for staff with lab skills can be done in two days and may be offered by hospitals that provide infertility testing (113, 128).

Recommendations for the timing and number of tests vary (53, 55, 69, 115, 126). A consensus recommendation from the World Health Organization is for one semen analysis at least three months after the vasectomy (152). Setting up an appointment at the time of the vasectomy can encourage men to return (31).

Figure 1. Cumulative percentage of men whose semen analysis indicated a successful vasectomy, by technique and weeks after the vasectomy



Source: Sokal 2008 (128)
Sperm counts less than 100,000 per mL in two semen analyses at least 12 days apart indicated a successful vasectomy. The study of ligation and excision with and without fascial interposition involved 410 and 416 men, respectively, from Brazil, El Salvador, Mexico, Nepal, Panama, Sri Lanka, and the United States (130). The study of cautery involved 389 men from Brazil, Canada, the United Kingdom, and the United States (129).

Table 3. No-Scalpel Vasectomy (NSV) and Vasectomy With a Scalpel (SV): Comparing Surgery and Complications^a



Characteristic	Incidence (%)	
	No-Scalpel Vasectomy (N=705)	Vasectomy With a Scalpel (N=723)
Mild pain during surgery*	28.4	35.0
Moderate or severe pain	4.8	4.8
PERFORMING SURGERY		
Difficulty isolating the vasa*	8.1	4.6
Bleeding*	2.1	4.3
Sutures needed to close opening in scrotum**	2.2	28.9
Operating time 6 minutes or less**	59.9	38.3
EARLY FOLLOW-UP (1-15 DAYS AFTER SURGERY)		
Mild or moderate scrotal pain**b	44.6	55.1
Severe scrotal pain ^b	0.7	1.6
Hematomas**c	1.9	12.2
Infection at the puncture or incision*c	0.2	1.5
Congestive epididymitis, excessive bleeding or drainage from incision, fever, inflamed tissue at the incision, backache, discomfort in lower abdomen, unspecified infection, or scrotal abscess ^c	No significant difference	
Resumed sex within six days*	34	22
LONG-TERM FOLLOW-UP^d		
Patient satisfaction ^e	No significant difference	
Complications or complaints	5.3	5.9
Pain/tenderness	4.0	5.1

Sources: Sokal et al. 1999 (131); Sokal 2008 (128)

* p<0.05; **p<0.01

^a Ligation and excision used for almost all vasectomies.

^b NSV 545 men; SV 548 men

^c NSV 547 men; SV 549 men

^d NSV 627 men; SV 649 men.

^e Almost 90% of men in both groups were satisfied or very satisfied with the vasectomy.

Vigorous Promotion Attracts Clients

Effective promotion of vasectomy has two audiences—clients and providers. Both need to change their views of vasectomy. Communication activities can raise public awareness of the method, replace men's misconceptions with accurate knowledge, and encourage more positive attitudes.

These efforts will be wasted, however, unless potential clients find a positive climate at health facilities. Training can give providers the confidence and the knowledge to counsel potential vasectomy clients objectively and helpfully.

Promote Vasectomy to Potential Clients

Lack of awareness, widespread misconceptions, and negative attitudes toward vasectomy are common in many countries (see p. 8). Communication efforts are essential to ensure that couples who want no more children seriously consider vasectomy as well as female sterilization or long-acting female methods.

Evaluations in Africa and Latin America have shown that good communication campaigns can:

- Make people aware of vasectomy,
- Dispel myths and rumors,
- Disseminate accurate information about the procedure,
- Tell men where the method is offered,
- Prompt men to discuss vasectomy with family and friends,
- Encourage men to call and visit clinics, and
- Increase the number of vasectomies performed (38, 67, 144).

To be effective, communication must address men's interests and concerns (see box, this page). It is also important to focus on the appropriate audience, choose a good mix of communication channels, and maintain promotion over time.

Focus on men most likely to adopt vasectomy. Men who fit the profile of a typical vasectomy client are most likely to respond to promotional messages. Thus, in Latin America, for example, communication campaigns have addressed men who are relatively well-educated, urban, married, and in their late 20s to mid 30s; these men have two or three children and already rely on a family planning method (23, 144).

If attracting more vasectomy clients is the immediate goal, promoting vasectomy to men who do not fit the profile of a typical user can waste effort and resources. In Mexico, for example, vasectomy talks at factories and offices led to few referrals. Most of the men in the audience were single, childless, too young or too old to consider a vasectomy, or unlikely candidates for other reasons (144).

In the long term, however, it is important to raise awareness of vasectomy among people of all ages, and both men and women. Even young people should learn about vasectomy and female sterilization. Later in life, when they are ready to consider a permanent method, they will have a better understanding of the options.

Consider talking to women as well as men. Women often play an active and influential role in men's decisions to have a vasectomy.

They may give their partners information about vasectomy. They may help make the decision, which sometimes comes down to deciding which member of the couple will be sterilized. They may even tell their partners where to obtain vasectomy (34, 146).

Publicize the Benefits of Vasectomy



Undoubtedly, communication campaigns need to dispel false rumors and misunderstandings that discourage couples from considering vasectomy. At the same time, however, messages can and should promote the positive benefits of vasectomy. Research on why some men choose vasectomy, while others reject it, can help programs develop persuasive messages.

Audience analysis and decision-making studies from every region of the world—including both developed and developing nations—point to the importance of the following six themes (15, 24, 34, 38, 75, 82, 109, 123, 144)

- **Providing for the family:** For men, one of the biggest reasons not to have more children is so they can better provide for their families. Also, they want to offer the children they already have greater opportunities, including more schooling.
- **Love and concern for the wife:** Many men choose vasectomy in order to protect their wives' health from the effects of more pregnancies. They want to spare them from the side effects of other contraceptive methods. Some also feel that it is "their turn" to take responsibility for family planning.
- **Advantages over other contraceptive methods:** Many couples turn to vasectomy because they are dissatisfied with other family planning methods that they have tried.
- **Permanence:** For couples who have decided they do not want more children, the permanence of vasectomy is a selling point.
- **A simpler choice:** A couple deciding which of them should be sterilized may value the fact that vasectomy is easier (and sometimes cheaper) than female sterilization. Also, it requires less time to recover.
- **Sexual satisfaction:** Like other highly effective long-acting and permanent methods, vasectomy may increase men's and women's sexual enjoyment. Couples no longer have to worry about unwanted pregnancy or bother with less convenient family planning methods.

Different themes are important in different countries. Conducting audience research and pretesting messages with men who might consider vasectomy can help make sure that messages respond to local interests. In Kenya, for example, messages about the economic benefits of vasectomy tested well. So did messages that addressed concerns about castration. Men rejected a radio spot on sexual satisfaction, however (115).

Men are more likely to consider vasectomy if their partners favor it. But women, like men, have doubts and questions about vasectomy. Unless these are resolved, women may discourage their partners from having a vasectomy (7, 106).

In some countries addressing women directly can help. In Guatemala one hospital attracted many more vasectomy clients than any other hospital. At this hospital providers discussed vasectomy during family planning talks with women who had just delivered. They encouraged the women to talk to their partners. They gave the women promotional materials, including a brochure comparing vasectomy with female sterilization (146). Hospitals in Turkey have used a similar strategy. Providers counseled couples seeking abortions about vasectomy and other family planning methods (100).

Women have less influence on vasectomy decisions in countries where men make most reproductive health decisions (75). In Nairobi, Kenya, for example, men who were pretesting radio spots on vasectomy rejected two spots that featured women. They did not want to learn about male family planning methods from their wives. They also did not want their wives to be part of the decision-making process. The campaign dropped the spots (115).

Programs should not make assumptions about the appropriate role for women in vasectomy communication, however. For example, it proved acceptable to incorporate women's point of view into a 2007 vasectomy campaign in Bangladesh. The campaign slogan "My husband is the best" expressed women's pride in husbands who are willing to take action and share the responsibility for family planning. Television commercials showed a couple going together for family planning counseling, discussing the decision together, and even working on household chores together. In focus group discussions men responded positively to these messages and images. They liked being shown as leaders, they enjoyed women's praise, and they wanted to share family responsibilities (138).

Use both mass media and interpersonal communication. Men considering vasectomies get information and referrals from many different sources. For example, in India's No-Scalpel Vasectomy Project health care personnel were the most important source of information in the states of Maharashtra, Madhya Pradesh, and Orissa (105, 107, 123). In Manipur the mass media were the leading source of information (106). In Haryana discussions with relatives were key (122).

Because the mass media reach such large audiences, they can raise public awareness and stimulate discussion of vasectomy. In the long run, this general awareness can help lead to new attitudes and norms, so that the younger generation becomes more open to vasectomy (101). In the short run, blanketing a community with promotional messages may encourage potential clients to learn more about vasectomy (23). After a 2004 vasectomy campaign in Ghana, a nurse who participated commented, "Before, people were afraid to ask about it, but now people have some idea what vasectomy is and want to know more about it" (38). (See spotlight, p. 14.)

When people talk to one another, they exchange ideas, ask questions, and talk about what bothers them. Therefore, interpersonal communication is the best way to resolve men's fears and doubts, change attitudes, and give men the confidence to choose vasectomy. In Ghana and Kenya telephone hotlines have complemented mass media promotion of vasectomy (38, 115). The hotlines gave men who heard the radio and television spots a convenient and confidential way to find answers to their questions,

to resolve their doubts, and to learn the location of the nearest service outlet. More often, men considering vasectomy turn to health workers for information and support (see p. 15).

Encourage satisfied clients to promote vasectomy. Men who have had vasectomies can speak from personal experience about the procedure and its effects. Thus, they are convincing and influential sources of information and the most effective champions of the method (95). They can address men's deepest concerns, such as the impact of vasectomy on sexual performance and how painful the procedure is. Satisfied clients also can persuade providers of the benefits of vasectomy. In Ethiopia and Ghana satisfied clients have spoken to providers at training workshops. These talks helped overcome negative attitudes toward long-acting and permanent methods, including vasectomy (44, 65).

Men who have had vasectomies are the most effective champions of the method.

Some vasectomy programs, like the one in Santa Barbara d'Oeste, Brazil, rely on word-of-mouth from satisfied clients for most of their referrals. They ask clients to tell their friends about vasectomy services and to recommend the facility (17, 95). Positive word-of-mouth may even change community attitudes. In Santa Barbara men who have vasectomies view themselves as innovators and opinion leaders. They believe that they can and should shift popular attitudes about vasectomy (95). Encouraging positive word-of-mouth is always useful. It may be especially important where mass media promotion is too costly or too controversial.

Programs can recruit satisfied users as vasectomy promoters. For example, the Family Planning Association of Pakistan asked men who had vasectomies to speak at community meetings and in workplaces. At clinics they talked informally with interested men (7). In Mexico a one-year test of volunteer promoters increased the number of vasectomy clients at participating clinics by 25%. By comparison, the number of clients increased only 6% at clinics that had no volunteer promoters (144). Programs also can broadcast testimonials from satisfied clients (38).

Men may be reluctant to talk about their vasectomies if they feel that their community disapproves (34). Communication campaigns can address this barrier. In Bangladesh a television commercial showed a man discussing his vasectomy with a male neighbor. In pretests men praised the commercial. They said it could help break down taboos that prevent men from talking with friends about reproductive health issues (138).

Maintain promotional activities. Unless promotional efforts are sustained, their effect on vasectomy rates will largely be temporary (67). In Honduras a radio, poster, and billboard campaign promoted vasectomy for four months in 2005. As a result, the number of procedures at five participating facilities increased from 255 in 2004 to 321 in 2005. When there was no further promotion, however, the number of procedures fell to 277 in 2006. To give the vasectomy program new energy, managers copied a strategy used by commercial advertisers: They conducted another, shorter campaign with half as many radio broadcasts (40). In 2007 the number of vasectomies increased to 308 (99).

Although vasectomy statistics drop after a campaign ends, they stay above precampaign levels. Each campaign also increases the

Ghana's "Permanent Smile" Campaign Challenges Provider Biases and Popular Misconceptions

The Ghana Vasectomy Initiative faced high barriers when it introduced vasectomy services at health facilities in Accra and Kumasi in 2004. Use of vasectomy was negligible. Misconceptions were widespread. Providers were biased against the method. The project's mass media campaign and staff training addressed these barriers.

A local advertising agency developed an appealing slogan for the campaign: "Vasectomy... Give yourself a permanent smile." Campaign materials featured the smiling face and personal endorsement of an actual vasectomy client (see photo below). Messages emphasized that vasectomy would enhance every aspect of a man's life, including his career, his ability to care for his family, and his relationship with his wife. A second slogan, "You're a real man," addressed concerns about the effect of vasectomy on men's masculinity and virility.

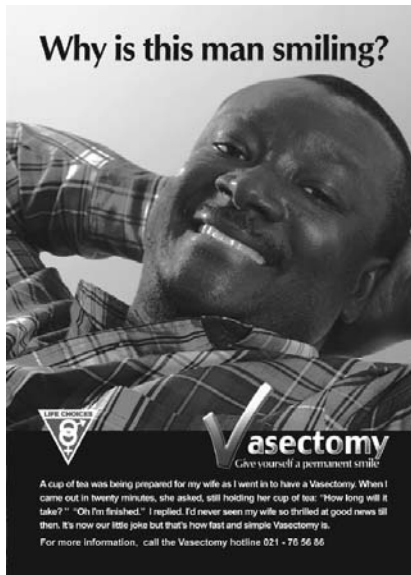
The "Permanent Smile" campaign used a variety of media. These included television, radio, posters, bumper stickers, brochures, and newspaper articles. An estimated 56% of the intended audience—married men with three or more children—saw or heard the messages (38).

The project operated a telephone hotline and conducted community outreach activities to complement the mass media effort. Satisfied clients and couples spoke to communities about their own experiences. After attending

an orientation workshop, community health nurses conducted forums for the husbands of pregnant women, spoke in the community, and distributed print materials at truck stops and transport union halls.

"Permanent Smile" activities succeeded on many levels (38):

- **Awareness and attitudes improved.** After the campaign 59% of men were aware of vasectomy, compared with 31% before. The proportion of men who said they were willing to consider vasectomy doubled, to one-fifth.
- **People began talking about vasectomy.** The campaign's television spots prompted more than half of viewers to discuss vasectomy with their partners, friends, or health care providers.
- **More men requested vasectomies.** The number of vasectomies performed at seven participating facilities rose from 18 in 2003 to 81 in 2004. Ninety percent of vasectomy clients in 2004 said they had learned of vasectomy services through television.
- **Providers were less likely to hold popular misconceptions about vasectomy.** For example, after training, 84% of providers strongly disagreed that vasectomy decreases men's sexual pleasure, compared with 36% before the workshop.



Both of these posters use the image of a smiling, satisfied client to promote vasectomy. The poster from Ghana emphasizes how fast and simple the procedure is.



The poster from Honduras explains that vasectomy does not affect sexual performance. Because satisfied clients speak from personal experience, they make some of the best promoters for vasectomy.

The "Permanent Smile" campaign had so much impact that a vasectomy promotion project in Honduras tested its messages. When the Ghanaian messages tested better than locally developed messages, Honduran project managers decided to replicate the Ghanaian campaign. First, they adapted the materials and messages to the local audience. For example, the Honduras campaign poster used the same caption as in Ghana ("Why is this man smiling?"), but it showed a different image. The Ghana poster featured a man alone, but in pretests Honduran men strongly preferred a picture of a man being embraced by a woman (see photo at left). This picture suggested that vasectomy contributes to the happiness and sexual satisfaction of the wife as well as the husband (9). Like the original campaign in Ghana, the "Permanent Smile" campaign in Honduras increased demand for vasectomy. The number of vasectomies performed rose by 26% after the launch of the campaign (99).

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number of satisfied vasectomy clients, who may generate positive word-of-mouth for years to come. Therefore, a vasectomy campaign may be worthwhile even if follow-on funding is uncertain (9). It is better, however, to build repeat campaigns and reminder messages into the overall communication strategy from the start.

Promote Vasectomy at Health Facilities

Couples look to health workers for family planning information. Therefore, health facilities play an important role in promoting vasectomy. Vasectomy needs promotion, along with condoms and women's methods, throughout the health care system—especially at facilities serving men of reproductive age. Outdoor signs at health facilities can advertise the availability of services. Leaflets and brochures can help disseminate accurate information about the procedure. Most importantly, staff members need to be prepared to inform clients about the method and direct them to services. Thorough, accurate, and balanced counseling enables men to make well-informed decisions that they will not regret later.

Involve the entire staff. Creating a positive environment for vasectomy at health facilities requires orienting all staff members. While certain providers need to learn the surgical skills to perform vasectomies, all staff members need a basic understanding of vasectomy and its benefits. Whole-site training can improve staff members' attitudes toward vasectomy, help them feel comfortable with male clients, strengthen counseling, and help the staff work effectively as a team. It also encourages staff—including receptionists, laboratory technicians, and providers who offer other health services—to tell clients about vasectomy services and refer them to the appropriate provider (22, 56, 62).

In 2003 the Ghana Vasectomy Initiative conducted four-day workshops on male-friendly services at each participating facility. (See spotlight, p. 14, for a discussion of the project's "Permanent Smile" mass media campaign.) Participants included everyone who could influence men's access to vasectomy services—doctors, nurses, midwives, health educators, receptionists, cleaning staff, and guards. After attending the workshop, staff members:

- were more likely to think that men would use reproductive health services,
- were less likely to think men's services would take resources away from women,
- had a more positive attitude towards vasectomy,
- better understood male anatomy,
- were more likely to understand that vasectomy does not affect sexual function,
- better understood the procedure and its outcomes, and
- felt more comfortable discussing men's reproductive health with clients.

Mystery clients confirmed that participating clinics offered a more welcoming environment and better quality of care than they had before the workshops. Vasectomy clients were treated no differently from other family planning clients. Nurses neither discouraged nor pressured men about vasectomy (38).

Conduct clinical training on site. If possible, it is best to train surgical teams at their own worksite rather than send them away to a training center. Onsite training prepares providers and support



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Providers in Uganda use this cue card to help explain contraceptive methods to clients. Men and women need to learn about vasectomy along with other methods in order to make a free and informed choice.

staff to work together and to offer vasectomies in that setting. It is also less expensive (39, 146). Onsite training can be conducted only where there are local men who want the procedure. In effect, this requirement screens out facilities where demand for vasectomy would be too low to sustain the service.

Train staff at facilities that make referrals. Referrals increase access to vasectomy services. Therefore, programs can train staff at primary care facilities to counsel clients on vasectomy and refer interested men. For example, when vasectomy services were introduced at district hospitals in the Philippines, the project conducted two types of training. Physicians based at the hospitals received clinical training. Nurses, midwives, and Barangay Health Workers at nearby health stations received counseling training (81).

Offer Compensation if Needed but Not Incentives

At times vasectomy programs in such countries as Bangladesh, India, Nepal, and Sri Lanka have used cash payments to attract poor clients (25). Large cash payments clearly interfere with informed choice. The International Conference on Population and Development Programme of Action in 1994 explicitly rejected such incentives. In Asia financial incentives contributed to a backlash against vasectomy in the 1970s and a steep and lasting drop in the number of procedures (18).

Still, out-of-pocket expenses, such as lost wages or transportation to the clinic or hospital, may pose real economic barriers for poor men considering vasectomy. Some programs offer men reimbursement or compensation for such expenses. Programs must be careful to limit compensation to real expenses so that they do not encourage men to undergo the procedure in order to obtain the money (103). Any compensation should be the same for male and female sterilization so that it does not influence couples' choices.

Money may not be as important as some providers think. Evaluations of the No-Scalpel Vasectomy Project in India conducted in 1999-2000 found that most officials, doctors, and paramedics thought that financial incentives were essential to attract poor men in rural areas (105, 106, 107, 122, 123). In contrast, community members said payments were not that important. Instead, they emphasized the need for better-quality services to draw more clients. They also recommended providing transportation to the often-distant NSV camps. Some community members suggested that the money would be better spent on efforts to increase men's awareness and knowledge of vasectomy.

Easy Access Increases Demand

Reproductive health programs can deliver vasectomy services in many different ways. Managers need to consider two key questions:

- **Where to offer vasectomy services?** Possibilities include hospitals, primary care facilities, doctors' offices, mobile vans, and temporary sites.
- **Who will perform vasectomies?** Programs have trained physicians, clinical officers, medical assistants, nurses, and many other kinds of health workers to perform the procedure effectively and safely.

Answers to these questions depend on the local setting, the resources available, the potential demand for vasectomy, and regulations concerning who can perform surgical procedures.

Many Service Delivery Models Work

There are many different ways to expand access to vasectomy. Because vasectomy requires little equipment or infrastructure, it can be performed in almost any health care setting (39, 150). Some programs integrate vasectomy services into the operations of primary care facilities. Other programs build referral systems to direct clients from primary health care centers and family planning clinics to central facilities for vasectomy services. Many programs supplement these services with mobile surgical teams, which can offer vasectomies at outreach sites. Also, private doctors can perform vasectomies in their treatment rooms.

Because vasectomy requires little equipment or infrastructure, it can be performed in almost any health care setting.

The following factors can help managers decide how to deliver vasectomy services. Which models are best may change over time as demand for vasectomy grows and programs mature.

Client volume. Providers need to perform vasectomies often enough to keep up their surgical skills. This can help reduce complication and failure rates (45, 97). Some experts recommend that experienced providers perform at least four to six vasectomies each month to maintain their skills (17, 79).

Where demand for vasectomy is low, managers have two ways to ensure that providers see enough vasectomy clients. They can base providers at facilities that serve large populations, such as district hospitals, and build a referral network to direct men there. Or they can assign providers to mobile teams that offer vasectomies at outreach sites. Where demand for vasectomy is high, larger primary care facilities may have enough clients to include a vasectomy provider on staff.

Human resources. Many countries have few providers who know how to perform vasectomies. Managers can increase their productivity by assigning them to work at central facilities that receive referrals or to serve on mobile teams.

In order to expand vasectomy services to a larger number of sites, such as primary care facilities and doctors' offices, programs must

Online Forums Provide Insight

This report has drawn valuable insights and information from two recent online forums. Participants from around the world discussed the challenges that vasectomy programs face every day. Some background materials and discussion from these forums are available online.

- A forum on "Male and Female Sterilization" was held March 17-21, 2008. It was part of the *Family Planning: A Global Handbook for Providers* series (<http://my.ibpinitiative.org/public/sterilization>).
- "Effective Programming for Long-Acting and Permanent Methods: A Forum for Family Planning Program Managers and Policymakers" was held April 21-25, 2008. It was sponsored by the Global Exchange Network (<http://globalexchange.msh.org>).

be able to train more providers in NSV. Before launching a training program, managers need to consider how many and what kinds of personnel have the time and interest to perform vasectomies and the ability to master the procedure—and how much training they will need. (See box, p. 19.)

With training, many different types of health workers can safely and competently offer vasectomies. Programs have successfully employed various types of physicians. Gynecologists perform vasectomies at family planning clinics in Brazil (95). Urologists perform vasectomies at private clinics and clinics operated by nongovernmental organizations (NGOs) in Colombia (27). General practitioners perform vasectomies at primary health units in Iran and Mexico (22, 41).

Some countries in Africa and Asia have also trained other types of health personnel to perform vasectomies. These include clinical officers, medical assistants, medical students, nurses, midwives, and community health workers (16, 47, 131, 152). Indeed, health care providers who are not physicians routinely perform vasectomies in places as different as China and Malawi. Studies have found that the other providers were just as good as physicians at identifying and blocking the vas. Also, their complication rates were slightly lower (16, 47).

Facilities and scheduling. When deciding how to deliver vasectomy services, managers should consider the capacity of different types of facilities and their support systems. Newly introduced vasectomy services may compete with existing services for space at health facilities. They also may compete for staff time and attention. Thus, it is easier to introduce vasectomy services at facilities that are operating below capacity. In Mexico, for example, the Instituto de Seguridad y Servicios Sociales para los Trabajadores del Estado (State Workers' Social Security and Services Institute) (ISSSTE) faced problems when it began offering vasectomy services at busy hospitals. Vasectomies were among the first procedures to be canceled when there were emergencies or a shortage of surgeons. At primary care facilities there was less competition for

staff and space. ISSSTE moved vasectomy services to primary care facilities. They proved to be more reliable there (22).

Men prefer to have vasectomies on Friday or Saturday to reduce the number of days that they miss work. Therefore, it is preferable to set aside space and time for vasectomy services on those days.

Equipment. NSV requires a special forceps and clamp. The number of instruments available determines how many vasectomies can be performed before stopping to sterilize equipment. It also determines how many outlets can offer vasectomy. Regular maintenance—including cleaning, lubrication, and sharpening—can extend the life of NSV instruments and stretch the supply.

If the supply of equipment is limited, managers will have to restrict the number of sites that offer vasectomy services. In Mexico public-sector agencies did not budget any money to replace worn-out NSV instruments or buy more sets. This made it harder to implement the chosen service delivery strategy, which called for expanding vasectomy services to more and more primary care facilities (22).

Some Primary Care Facilities Can Offer Regular Vasectomy Services

Offering vasectomies at primary care facilities, instead of hospitals alone, reduces barriers to clients. It increases the number of locations that offer vasectomies and so brings services closer to clients. It reduces or eliminates the need for referrals and thus the inevitable failure of some men to follow up. Clinic-based services appeal to men who are afraid of hospitals. Furthermore, clinic-based services increase the visibility of vasectomy services where people routinely seek family planning services (62).

Public health systems in Iran and Mexico have successfully integrated vasectomy services into primary care facilities. The Instituto Mexicano del Seguro Social (Mexican Social Security Institute) (IMSS), Mexico's largest provider of health and family planning services, decided in 1989 that vasectomies should be offered at primary care facilities rather than hospitals. To make sure that vasectomy services would be cost-effective, IMSS selected primary care facilities that:

- served larger populations,
- were centrally located, so they could receive referrals from other primary care facilities, and
- had enough staff and space to accommodate the service.

As the strategy gradually increased access to services, the number of vasectomies grew from around 6,300 in 1989 to over 21,000 in 2001. By 2002 about one-fifth of IMSS primary care facilities, or 230 clinics, regularly offered vasectomies (22).

Referral Systems Expand Access to Centralized Vasectomy Services

Where weak demand or a shortage of trained providers argues for centralized services, a well-designed referral network is crucial. With specific training, primary care providers can learn to counsel clients about vasectomy along with other family planning methods and refer men to a central facility for the procedure (80).

The municipal health system of Santa Barbara d'Oeste in Brazil serves the city's 170,000 people. It introduced vasectomy services in 1996. The system already had a reproductive health referral center in place (32). It was relatively easy and inexpensive to add

vasectomy services to this referral center (95). The clinic schedule was reorganized to make time and space each week for vasectomy sessions. The gynecologist, psychologist, auxiliary nurse, and receptionist already on staff were trained in vasectomy. The center already had equipment for sterilizing surgical instruments. Men were referred to another facility for post-vasectomy semen tests.

Referrals grew naturally out of earlier efforts to improve the quality of family planning services and to address men's reproductive health needs. General training for staff at all 11 municipal health posts and centers had covered

family planning counseling, including an update on vasectomy and other methods. Men were encouraged to attend educational sessions about family planning and STIs and to accompany their partners to family planning consultations. Demand for vasectomy quickly exceeded expectations. In response, project managers bought more surgical kits and scheduled vasectomy sessions twice a week instead of once. The four staff members involved devoted 20% of their time to vasectomy services.

Outreach Services Make Good Use of Few Providers

Mobile surgical teams are another way to deliver vasectomy services when demand is low and providers are few. Unlike hospital-based services, mobile teams can take vasectomy services to remote places or can supplement clinic services at times of high demand.

There are many ways to deliver outreach services. In Nepal the Sun Quality Health (SQH) franchise network operates a specially equipped medical van in the Kathmandu Valley. SQH counselors



In Colombia men wait to see a provider when a Mobile Health Brigade from Profamilia visits their town. Mobile teams are a good way to deliver vasectomy services when there is little demand for vasectomy or few trained providers.

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based in the community discuss family planning options with couples and help interested men register for a vasectomy when the mobile clinic visits the area (6).

Another option is sending providers based at a central facility into the surrounding communities. This is how the DISH II Project made vasectomy, female sterilization, and implants more accessible in Uganda. Outreach visits were scheduled at rural health facilities whenever 10 or more clients had registered for long-acting or permanent methods. During 58 outreach visits over a six-month period, the medical teams performed 48 vasectomies, 474 female sterilizations, and over 1,000 implant insertions. Complication rates were no higher for outreach services than for facility-based services (142).

Several countries in Asia, including Bangladesh, India, Nepal, and Thailand, hold camps, fairs, or festivals to deliver vasectomy services. These events take place at schools, auditoriums, and other sites that are temporarily outfitted as surgical facilities. Heavy promotion attracts large numbers of clients. Teams may perform hundreds of vasectomies daily (25, 94).

Sending out mobile teams creates challenges for quality of care (35, 39). Crowding and time pressures can make it difficult to offer adequate counseling. (However, vasectomy counseling should take place well before the day of the procedure.) Also, providers may opt for quicker but less effective surgical techniques. For example, they may decide to skip fascial interposition and do just simple ligation and excision (74). There have also been problems with hygiene and infection prevention practices (25, 134).

Managers can anticipate and plan for these challenges. For example, the Nepal Family Health Program has begun holding meetings for district teams one or two months before seasonal vasectomy camps. The meetings prepare the teams for the upcoming camps. Also, at these sessions the district teams can request additional logistical support and personnel that they may need. Later, a supervisor visits the camps and monitors whether providers are following national standards for vasectomy services. Other staff members visit the camps to offer technical support (104). All of these activities help assure good quality of care at the seasonal camps.

The Private Sector Can Complement Public-Sector Services

Vasectomy is simple enough to be done in a doctor's office. Thus, it is well suited to private practitioners. Indeed, more than three-quarters of vasectomies in the United States are performed in doctors' offices (10). Cost to the client can be a problem, however. Few men are able to pay out of pocket for a vasectomy. They rely on insurance or subsidized services.

Health care reforms in Colombia show how an insurance or reimbursement scheme can encourage vasectomy services in the private sector. Since 1993 providers of all kinds have been able to compete for contracts to provide services under the national health care system. They compete on price, volume, and the quality of care. The system then reimburses the

contracted providers for both vasectomy and female sterilization services. Private clinics and hospitals in major cities saw that they could offer NSV because it requires little equipment and infrastructure. Vasectomy provided them with a new source of income. Previously, Profamilia, the major reproductive health NGO in Colombia, performed nearly all vasectomies in the country. By drawing private-sector providers into the vasectomy market, health care reform in Colombia expanded access to the procedure and encouraged demand (21).

The public health system in Iran vigorously encourages private physicians to offer vasectomy. Private physicians are allowed to attend NSV training courses at public-sector training centers free of charge. If they pass the course, they receive a kit containing NSV instruments, also free of charge. Afterwards, the physicians can contract with the public health system to provide vasectomies in return for government reimbursement. They also can offer vasectomies to private patients for a fee (41).

Male or Female Service Settings?

Some program managers have worried that men will stay away from reproductive health care services that serve mostly women, such as family planning or maternal and child health (MCH) clinics (147). This has not proved true, at least in Latin America.

In the 1980s PRO-PATER in Brazil and Profamilia in Colombia set up reproductive health clinics just for men. The men-only clinics succeeded in attracting thousands of new vasectomy clients (21, 22, 110). Operations research in Colombia found, however, that men were equally satisfied with the vasectomy services offered at mixed-gender clinics. While the men's clinics performed more vasectomies than the integrated clinics, they were less cost-effective (145). These findings helped persuade Profamilia to close most of its men's clinics and instead offer vasectomy along with women's services (21). (See p. 21.)

Offering vasectomy services along with services for women proved no barrier in Santa Barbara d'Oeste, Brazil. The center had trouble keeping up with demand for vasectomy. Most men seeking vasectomies considered it normal for men and women to receive family planning services in the same place (95). In Turkey men have proved willing to have vasectomies at maternity hospitals (100).

In Ghana and Tanzania, however, men have said they do not feel comfortable seeking vasectomy services in family planning clinics (15, 38). Separate facilities or service hours for men may be important where men are not used to seeking reproductive health care or where cultural norms require separating men and women in public places (145, 147).

Even where vasectomy services can be offered in a mixed-gender setting, it is still important to address men's unique needs and concerns. Men do not ordinarily seek out services at family planning and MCH facilities. Programs may need to advertise that vasectomy services are available. Adding evening and weekend hours enables more men to visit without missing work. Staff members used to serving women will need more training (7, 145).

Practical NSV Training Creates Skilled Providers

Good surgical skills can increase the effectiveness of vasectomy procedures and reduce complications (70, 97, 119). Therefore, training that assures the competence of vasectomy providers is essential.

Because training is an investment, the first step is recruiting trainees who are likely to continue offering vasectomies for years to come. Good candidates are committed to performing vasectomies and work at facilities that offer vasectomy or plan to do so. Surgical experience is less important than motivation and willingness to learn. To ensure that trainees were motivated, an NSV training program in Guatemala accepted only candidates who made the effort to identify potential vasectomy clients at their facilities (146). Candidates also need fine motor skills and good hand-eye coordination (68, 84).

Training Helps Providers Master Key Skills

NSV training should be competency-based—that is, to graduate, trainees should be able to perform the skills they are expected to deliver. It is also important that trainees have confidence in their own ability to perform vasectomies once they leave training (146). To reach these goals, trainees watch procedures, practice on scrotal models, and then perform vasectomies under a trainer's supervision (38, 39, 146). At each step clinical trainers assess trainees' progress and coach them. Even physicians who are experienced in performing conventional vasectomies need hands-on training to learn how to use the special NSV instruments and techniques (4, 37).

How fast trainees achieve competence depends on their background (108). Doctors may need two to five days of training, including 5 to 25 practice procedures, to master NSV (38, 62, 95). Learning how to perform fascial interposition takes somewhat longer than learning ligation and excision or cauterization. Other trainees may require considerably more education than doctors in basic medical knowledge, such as male reproductive anatomy and physiology. They also require more surgical practice. A pilot project in Thailand offered paramedical personnel six weeks of academic and practical training at a hospital. After the trainees returned to their own health centers, doctors closely supervised them for another six weeks. At that point, their performance was as good as doctors' performance (47).

Programs Can Develop Training Capacity

Programs need a continuing training capacity in order to replace NSV providers who leave their jobs and to meet growth in demand. In Bhutan the original group of doctors trained in NSV has moved into other medical specialties. New doctors have not been trained to replace them. As a result, outreach vasectomy

services are no longer available in the villages (141). In contrast, staff turnover is not a problem in Iran because the public health system maintains 21 vasectomy training centers (41).

In Mexico the Instituto Mexicano del Seguro Social (IMSS) developed a decentralized NSV training system in the early 1990s. Initially, a group of doctors traveled to Brazil to learn NSV. On returning, they trained service delivery teams based at primary health facilities in each of the 36 administrative units of IMSS, which are called delegations. Once certified, these teams assumed responsibility for onsite training at other health facilities in their delegations. By 1997 each delegation had two or three certified training teams and a sustainable system to train new providers as needed.

A robust training system can help introduce improvements in surgical techniques.

Follow-up is another strength of the IMSS training system. The trainer returns to a facility a few weeks or months after the initial training. By this time the newly trained doctors have performed 20 vasectomies or more. During this visit the trainer watches the doctors perform the procedure. If needed, the trainer provides additional coaching, arranges for further training, or plans additional visits (62). Follow-up also can take other forms. Programs may conduct peer support meetings, organize supervision and mentorship systems, or publish newsletters for providers (39).

To assure the quality of care, programs must continue to monitor the performance of providers. In Iran master trainers assess NSV providers at two-year intervals. They use a standardized checklist to review each step in the procedure. If providers score poorly, they are required to attend a one-week refresher course or a two-week retraining course (41).

A robust training system can help introduce improvements in surgical techniques. Many vasectomy programs in developing countries have introduced no-scalpel vasectomy (74). Programs also should train new vasectomy providers in fascial interposition or cauterization (5). (See p. 10.)

Programs should also consider offering current vasectomy providers in-service training in these techniques. It can be hard to motivate providers to change their practices, however. In India, for example, physicians used to performing conventional (incisional) vasectomy resisted switching to no-scalpel vasectomy. They found NSV slower and doubted it was better (105). Younger providers may be more open to change.

Good Planning Creates Successful, Sustainable Services

Many men will choose vasectomy if the procedure is promoted vigorously and made readily accessible. Building a successful vasectomy service takes time and planning, however. In most countries today users are few, vasectomy is little known, and misconceptions are widespread. Even well-designed and well-implemented programs cannot expect to change this situation quickly. Instead, program managers should aim for slow but steady growth in the number of vasectomy clients, accompanied by a gradual shift in popular attitudes.

Plan for the Long Term

To build vasectomy services, programs should start small and scale up. The goal is making vasectomy services a regular part of health services.

Start small. Where vasectomy is little known or used, the first step is to develop strategies to promote and deliver vasectomy services. Then managers need to test these strategies on a small scale. Pilot projects and demonstration sites can assess the suitability, effectiveness, and potential sustainability of a promotional campaign and/or service delivery scheme (60, 133). For example, a new service delivery strategy in Guatemala proved sustainable when four hospitals in a pilot project could continue offering vasectomy services despite limited supervision, support, and materials (146).

By offering firsthand experience with vasectomy, small-scale activities can begin to shift public and provider opinion about vasectomy. They can build interest in the method and pave the way for broader services. For example, the nongovernmental organization PRO-PATER generated demand for vasectomy in Brazil with a handful of clinics and some promotional efforts. Once PRO-PATER's activities created a market for vasectomy, other organizations began offering the service, too (23).

Pilot projects are more likely to succeed if they are located in urban areas, involve respected institutions, and are led by outspoken champions of vasectomy (60, 62, 146). External technical and financial support usually is needed.

Managers should aim for slow but steady growth in the number of vasectomy clients.

Be prepared to scale up. Once a pilot project has demonstrated that vasectomy services are feasible and that demand exists, it is time to scale up services. Managers will need to plan how additional providers will be trained and where to obtain additional equipment and clinic space.

In Mexico, for example, IMSS could easily expand vasectomy services to more primary care facilities. A decentralized training system let each administrative unit train new NSV teams (see box,



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A trainer in Indonesia uses a model to demonstrate how to inject local anesthesia before performing no-scalpel vasectomy (NSV). In order to scale up services, vasectomy programs need to be able to train additional providers in NSV.

p. 19). Equally important, the IMSS approach made use of staff and infrastructure that were already present at facilities. Little extra was needed beyond NSV instruments (22, 62).

In Uttar Pradesh, India, the Department of Urology at the Medical College of India is leading a shift from mobile services to facility-based vasectomy services. The process began with community meetings to raise awareness of vasectomy, followed by NSV camps, where department members were trained in NSV. When men arrived at a camp too late to have a vasectomy, they were referred to the university hospital. This helped to establish a flow of clients (135). Now doctors at the Department of Urology perform 15 to 20 vasectomies a day, seven days a week. The department has become a training center for NSV. Faculty members at the medical school were some of the first trainees. They are now teaching the technique to their postgraduate students. The department is also training government doctors, so that they can establish vasectomy services at their own facilities (136).

Once there is a critical mass of satisfied clients, demand for vasectomy may grow more quickly than managers expect. In Brazil facilities had to create waiting lists for vasectomies after the service was introduced at reproductive health centers, first in Santa Barbara d'Oeste and later in other towns. Managers in Santa Barbara were able to expand services to meet the demand (95). Other municipalities lacked the personnel and equipment to scale up services, so waiting lists grew long (23). Managers need to anticipate and plan for growth in demand, or men will be discouraged from seeking vasectomies.

Institutionalize vasectomy. The ultimate goal is to make vasectomy a regular part of the health care delivery system—a service that can be sustained without specific external funding or special attention (see spotlight, p. 21). This requires:

SPOTLIGHT

In Colombia Profamilia Adapts to Change

The nongovernmental organization Profamilia has a long history of providing family planning services in Colombia. It introduced vasectomy services in 1970 but did not give services for men special attention until the mid-1980s.

At that time Profamilia remodeled eight of its facilities to provide separate clinic spaces and staff for men. AVSC (now EngenderHealth) helped Profamilia introduce NSV, and two of its clinics became certified NSV training centers. The organization vigorously promoted services for men on radio, television, and other media. The result was a steady rise in the number of vasectomies performed, from 794 in 1984 to 6,825 in 1995.

The 1990s brought new challenges to Profamilia. In 1993 health sector reform fundamentally changed the marketplace for health services in Colombia. It also attracted new competition for vasectomy services (see p. 18). In 1996 the U.S. Agency for International Development (USAID) ended financial support for Profamilia, which forced the organization to raise its fees. To save money, senior managers decided to reintegrate men's services into women's clinics, and Profamilia stopped buying mass media advertisements for men's services (see p. 18). Not surprisingly, numbers of vasectomies fell slightly in the late 1990s.

Now, however, vasectomy services are thriving at Profamilia. All but one of its 34 centers nationwide offer vasectomy. The number of procedures performed each year rose from about 7,500 during 2000-2004 to more than 16,000 during 2004-2007. The ratio of female to male sterilizations declined. In 2000 Profamilia performed seven female sterilizations for every vasectomy. In 2007 it performed only three female sterilizations for each vasectomy.

What explains this rebound? First, the Entidades Promotoras de Salud, which administer Colombia's national health plan, began promoting vasectomy. They worked to increase men's access to the service. Second, a new generation of men came to maturity. They are more open to the idea of vasectomy and more knowledgeable about its advantages.

Profamilia was well-positioned to take advantage of both these trends. First, Profamilia has the capability to train doctors on NSV. Every urologist it hires spends three to

four days learning NSV. They are required to perform 15 vasectomies under the supervision of another doctor before practicing independently. Second, Profamilia has a strict monitoring system in place to maintain the quality of care. Onsite supervision ensures that providers are following guidelines. External supervisors make regular visits. The central office also checks monthly for service delivery problems and follows up on any concerns.

Profamilia now relies entirely on word-of-mouth and the news media to publicize its services. This keeps costs down. There is no formal program to encourage satisfied clients to refer other men. Profamilia has found that offering good quality of care is the best way to encourage positive word-of-mouth and referrals by satisfied clients. Still, vasectomy is a high priority for the communication department at Profamilia. Its staff encourages radio and newspapers to run stories on the safety and benefits of vasectomy. They also spread the message that Colombia's health plan will pay for the procedure.

Profamilia prides itself on offering quick access to services, good counseling before and after the procedure, and good clinical care. This includes semen tests after the procedure. If tests indicate that the vasectomy has failed, Profamilia offers the client a repeat vasectomy at minimal cost.

Profamilia has found that offering good quality of care is the best way to encourage positive word-of-mouth and referrals by satisfied clients.

Some challenges remain. For a time the law allowed only urologists to perform vasectomies. There are not enough urologists in Colombia to meet the demand for vasectomies, however. New regulations, adopted in March 2008, now permit general practitioners to perform vasectomy. Cultural barriers to vasectomy persist in coastal areas. Men do not want to play an active role in family planning, and female sterilization remains the norm. These areas need more education and promotion of vasectomy.

Sources: Cisek 2002 (21), Guevara 2008 (54), Plata 2008 (101)

- Integrating vasectomy into all management systems, including procurement, supervision, and monitoring, and into staff members' regular work routines;
- Developing the capacity to train additional providers as needed; and
- Creating a recognition and reward system that maintains providers' interest in vasectomy (22, 39, 60).

Offering vasectomy services presents the same financial challenges as offering other long-acting and permanent methods: The initial cost of providing the method is relatively high, but the method is cost-effective in the long run (see p. 3).

Careful planning can reduce the cost of vasectomy services (39). For example, training other types of personnel to perform vasectomies, instead of doctors, can lower costs. Organizing satisfied clients and providers to recruit new vasectomy clients may be adequate when there are not enough funds for mass media promotion (146). Programs also can recover a portion of their costs from fees and insurance (39). If fees are too high, however, they may keep some clients away (23).

Use Proven Approaches

Efforts around the world to introduce and institutionalize vasectomy services yield important lessons:

Identify and recruit champions. Enthusiastic, committed, and persistent leaders make a difference (22, 23, 38). Programs should introduce vasectomy services at facilities where managers take a personal interest in vasectomy (60, 136). Committed managers and motivated providers help to ensure that vasectomy services will continue, with or without continued support from higher levels (22, 148).

Programs should also seek out champions in the community—such as religious and local leaders—who can help make vasectomy more acceptable (44, 76).

Seek political and managerial support. Government officials and program leaders determine whether laws and policies support vasectomy services. They also decide how much funding goes to vasectomy services (22, 23, 32, 95). Advocacy can alert policy makers and top managers to the benefits of offering vasectomy. It may win their active support for the method and even public endorsement—as when the Minister of Social Protection in Colombia announced that he had had a vasectomy in 2007 (101).

Address both supply and demand. A vicious cycle operates in many countries. Programs assume there is little demand, and so they do not offer vasectomy. Lack of services reduces demand. Programs can break this cycle by increasing access and promoting vasectomy at the same time.

Adopt a gender perspective. What works for women clients does not necessarily work for men. To reach men, family planning programs must understand men's point of view, address men's concerns and questions, and tailor services—including the setting, staff, and services offered—to men's needs. A convenient location and hours, men-only clinics or clinic hours, and male providers can be helpful. Offering an array of male reproductive health services, such as treatment of STIs, sexual dysfunction, and urinary problems, can appeal to some men.

It is also important to understand and respect how men's behavior as health care clients differs from women's. For example, men ask more questions and more often need convincing. At the same time, they may need more information and reassurance.

Assure informed choice and consent. Good-quality family planning services help clients make a free and informed choice among methods. Thus men—and women—should be informed about vasectomy as well as other methods. At the same time, men should not be enticed or pressured into having vasectomies. Providers can check to make sure that men do not feel pushed.

Programs must understand men's point of view, address men's concerns and questions, and tailor services to men's needs.

Develop a group of competent and motivated providers. Good-quality services require motivated and skilled providers, to counsel and to perform NSV. Currently, most programs have to develop this cadre of providers for themselves, through training, supportive supervision, and recognition.

Adopt evidence-based protocols and procedures. Techniques that enhance the safety and effectiveness of vasectomy should be integrated into training curricula and exercises, job aids, supervision tools, and the like. New protocols will require providers to change everyday practices—for example, switching to NSV or adopting fascial interposition. Managers must address providers' reluctance to change, using persuasion, support for developing new skills, and rewards for adopting them.

Vasectomy is an important contraceptive option. It is the only one of the long-acting and permanent methods that enables men to share responsibility for family planning. Vasectomy offers clients and programs an easier and cheaper alternative to female sterilization. Sustained promotion can overcome rumors and raise demand for vasectomy. Improving access—while assuring the quality of care—also is essential to increased use. Programs that work on both fronts can attract more clients and, over time, build a steady demand for vasectomy services.

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