



Confronting maternal mortality: The status of abortion care in public health facilities in Mozambique

Martinho Dgedge, Hailemichael Gebreselassie, Cassimo Bique,
Maria Teresa Victorino, Maria F. Gallo, Ellen M.H. Mitchell, Kara O.
King, Lilia Jamisse, Della Mercedes Correa, Ercilia de Almeida,
Leonardo Chavane



confidentiality

*contraceptive
choice*

accessibility

privacy

supplies



Ipas works globally to increase women's ability to exercise their sexual and reproductive rights and to reduce abortion-related deaths and injuries. We seek to expand the availability, quality and sustainability of abortion and related reproductive-health services, as well as to improve the enabling environment. Ipas believes that no woman should have to risk her life or health because she lacks safe reproductive-health choices.

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For more information or to donate to Ipas:



Ipas
P.O. Box 5027
Chapel Hill, NC 27516 USA
1-919-967-7052
ipas@ipas.org
www.ipas.org

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Executive Summary

If we look to the poverty of Mozambique, I can say it has a woman's face, and women deserve special attention from our policymakers.

Dr. Pascoal Mocumbi (2001)

The question of induced abortions and maternal morbidity and mortality continues to be one of the problems that Mozambique, like other countries in the region, will have to face and to resolve in the coming years.

Dr. Pascoal Mocumbi (2001)

As with many African nations emerging from civil war and in the throes of structural adjustment, contraceptive prevalence in Mozambique is low and maternal mortality is high—1000 maternal deaths per 100,000 live births (WHO, 2004b). The high volume and high cost of abortion complications exact a heavy toll on the nation's overburdened health system. Postabortion care admissions represent more than 55% of all obstetrical complications treated in Mozambique (Jamisse et al, 2004).

In response to the high morbidity and mortality rates, the Mozambican Ministry of Health, with technical and financial support from Ipas, conducted a comprehensive assessment of abortion-related services in 45 public-health facilities in 2002-2003. The goal of the assessment was to inform interventions to best serve women's reproductive-health needs and reduce maternal morbidity and mortality in Mozambique. The assessment consisted of interviewing health-care providers on abortion and postabortion service delivery and training and interviewing clients on abortion-related service quality.

During a conference in April 2004 to disseminate the assessment findings, key stakeholders outlined a comprehensive strategy to reduce the nation's maternal mortality from unsafe abortion. They proposed the following interventions:

- Expansion of reproductive-health education for youth;
- Increased access to emergency obstetrical care, including postabortion care;
- Improved postabortion contraceptive counseling and method provision;
- Expansion of safe-abortion services to additional public-health facilities;
- Examination of the role of hospital user fees as a barrier to safe-abortion access.

This document outlines the key areas for action and makes recommendations for improving abortion-care services in the public-health sector throughout the nation.

Key findings of the assessment team

- **Facilities with postabortion care**

We assessed 39 public hospitals and six health centers. Two of the study hospitals and two of the health centers did not perform uterine evacuation at the time of the assessment.

- **Staff capacity**

About 46% of the facilities reported having none or only one provider trained in manual vacuum aspiration (MVA) clinical skills, and 56% of facilities reported having none or only one provider trained in postabortion contraceptive counseling and method provision.

- **Delays to care**

Although both clients and providers reported long waiting times from arrival to discharge after uterine evacuation, clients reported statistically significant longer mean waiting times than those reported by providers. Providers estimated a mean waiting time of 2.2 hours from arrival to uterine evacuation while clients reported a mean of 6.2 hours.

- **Inpatient versus ambulatory treatment**

Clients reported a mean wait of 17.5 hours from treatment to discharge, while providers reported mean wait times from 8.1 hours following electric vacuum aspiration (EVA) to 22.6 hours following sharp curettage. The long waiting times indicate that many clients received inpatient abortion care. One advantage of using vacuum aspiration instead of sharp curettage for uterine evacuation is that patients can be treated on an ambulatory basis, which translates into reduced health system costs.

In the 41 study facilities that performed uterine evacuation at the time of the assessment, most main providers of uterine evacuation services reported the use of sharp curettage in their facilities (98%). Fewer reported the use of MVA (51%) or EVA (20%). The World Health Organization (WHO) recommends using vacuum aspiration or medication abortion for uterine evacuation up to 12 completed weeks of pregnancy (WHO, 2003a).

- **Instrument processing**

Almost half (43%) of the providers in the 21 facilities that performed MVA at the time of the assessment reported the absence of high-level disinfection before reusing the MVA cannulae. Given the prevalence of HIV and the risk of blood-borne infections, instrument processing in the facilities needs to be improved.

The demographic, economical and social profile of Mozambique ... demonstrates the challenges existing within the health sector. It has been necessary to introduce new approaches in terms of health policies, to maximize the scarce resources and to prepare conditions for sustainability of the health programmes.

Dr. Aida Libombo
(2002)

- **Pain management**
More than 40% of providers reported providing no pain medication to patients undergoing either sharp curettage or MVA. Among those providing pain control, general anesthesia and non-narcotic analgesics were the most common methods given for sharp curettage and MVA, respectively.
- **Privacy**
The main providers of uterine evacuation services reported poor visual and auditory privacy in examination areas (53% and 63%, respectively). These providers also reported poor visual and auditory privacy (39% and 54%, respectively) for the uterine evacuation rooms.
- **Provider attitudes & performance**
Three percent of providers had indifferent attitudes regarding MVA, 11% had negative opinions and 16% reported lack of knowledge of the procedure. Most clients were not greeted by their provider, questioned about their medical histories, or informed about their prognosis or care. Furthermore, they were not advised of warning signs of complications.
- **Postabortion contraceptive services**
Only 28% of the clients who did not want to become pregnant in the upcoming months received a contraceptive method. Combined oral contraceptives and progestin-only contraceptives were the most commonly available methods. Many facilities (37%) did not have male condoms to distribute to their clients.
- **Service quality & women's rights**
Woman-centered care includes three key components: choice, access and quality. In questioning clients, we found that most reported receiving fewer than 15 of the 25 elements essential to woman-centered care.

Mozambique has abundant clinical and research capacity in the abortion field at the central level as well as a progressive approach to the involvement of midlevel providers. These technical and policy strengths, combined with the broad support of many partners, suggest that an enhanced focus on abortion-related maternal mortality can be an effective strategy to help the country reach its Millennium Development Goal of reduced maternal mortality.

Introduction

Unsafe abortion remains a major cause of preventable maternal mortality. Of the estimated 19 million women who undergo unsafe abortions every year, about 68,000 die from complications related to unsafe abortion (WHO, 2004a). The maternal mortality ratio in Mozambique is estimated at 1000 deaths per 100,000 live births, which is one of the highest ratios in the world (WHO, 2004b). Hospital-based studies in sub-Saharan Africa have found up to 50% of maternal deaths to be related to abortion (Rogo, 1993). Women with abortion complications presenting at Maputo Central Hospital were found to have a case fatality rate of 3% (Machungo et al., 1997). Ethnographic research among traditional practitioners found that abortion continues to be the most commonly requested treatment (Chapman, 2003).

The prevalence of unsafe abortions would decrease if the number of unintended or mistimed pregnancies could be reduced. Yet the use of modern contraceptives among women with a partner is low in Mozambique (as low as 14% for adolescents) and varies widely, from 5% in the northern province of Cabo Delgado to 39% in the southern capital of Maputo (INE, 2005). Only 7% of rural women with a partner use contraception, while an estimated 28% of those in urban areas do so (INE, 2005). Early sexual debut, early pregnancy, and abandonment of pregnant adolescents by male partners are three common problems in Mozambique that make unsafe abortion among adolescents a particular threat (INE, 2001). These statistics underscore the great need for improved contraceptive counseling and method provision as a primary prevention strategy.

The African Charter on Human and People's Rights

Health providers at all levels have ethical and legal obligations to respect women's rights (WHO, 2003a). In July 2003, representatives from 44 countries (including Mozambique), who had ratified the African Charter on Human and People's Rights, gathered in Maputo, to sign an additional protocol on women's rights. Article 3 of the Protocol proclaims the right to dignity: "Every woman should have the right to dignity inherent in a human being and to the recognition and protection of her human and legal rights" (African Union, 2003).

Article 14 (Health and Reproductive Rights) of the Protocol specifies women's rights to sexual and reproductive health that should be respected and promoted:

- a. *the right to control their fertility;*
- b. *the right to decide whether to have children, the number of children and the spacing of children;*

...a relatively large number of women continue to risk their lives by submitting themselves to abortions in extremely precarious and dangerous conditions, for lack of access to the safe services.

Dr. Pascoal Mocumbi (2001)

- c. *the right to choose any method of contraception;*
- d. *the right to self-protection and to be protected against sexually transmitted infections, including HIV/AIDS;*
- e. *the right to be informed on one's health status and on the health status one's partner, particularly if infected with sexually transmitted infections, including HIV/AIDS, in accordance with internationally recognised standards and best practices;*
- f. *the right to have family planning education.*

(African Union, 2003)

In addition, the Charter agreed to take all appropriate measures to achieve the following:

- a. *to provide adequate, affordable and accessible health services, including information, education and communication programs to women especially those in rural areas;*
- b.
- c. *to protect the reproductive rights of women by authorizing medical abortion in cases of sexual assault, rape, incest and where the continued pregnancy endangers the mental and physical health of the mother or the life of the mother or the fetus.*

(African Union, 2003)

Policymakers and providers alike, at all levels, must incorporate these agreements into everyday practice before critical improvements in women's health in Mozambique will be realized. Only until women and men enjoy equal rights (reproductive health, in particular) will we make progress in improving women's morbidity and mortality from preventable causes, such as unsafe abortion. Allowing women to make their own decisions concerning their health is not only a basic human right but undoubtedly will improve the health of the country as a whole.

Legal status of abortion

Mozambique's colonial legislation on abortion is inconsistent with its international commitments described above. Technically, pregnancy termination is only legally permitted in the event that the pregnancy threatens the life of the woman. While many health experts in Mozambique see advantages in altering the legal framework to provide *de jure* support for providers, most agree that this is a long-term goal.

In recognition of the magnitude of maternal mortality resulting from unsafe abortion, an interim policy overcomes the legal impasse to provision of safe-abortion care. Since 1985, the Ministry of Health has authorized induced-abortion services for pregnancies up to 12 weeks in selected facilities meeting specific criteria. In addition, pregnant women with HIV are offered options counseling as part of the national prevention of mother-to-child transmission program.

The Ministry of Health has emphasized the importance of reducing recourse to abortion and abortion-related maternal mortality. This can only occur through creating consensus within civil society for the broadening of legal protections for providers and expanding access for women to the full range of reproductive-health services.

Access to safe abortion since 1986

Safe abortion care during the first 12 weeks of pregnancy, with written consent of the Hospital Director, is available in a limited number of public facilities. Over 3,000 women are approved annually (Machungo, 2004). However, Machungo and colleagues (1997) have demonstrated that access often is limited to older, urban and higher-income women. As opposed to women who present in hospitals for complications of unsafe abortions performed in the community, recipients of safe-abortion services are more likely to be married, employed, white, with a history of contraceptive use and have completed secondary education (Agadjanian, 1998). Urban, hospital-based services currently do not reach most Mozambican women at-risk for unwanted pregnancy and unsafe abortion – that is, poor, rural, young or less educated women.

Abortion care has four components: 1) induced-abortion services for cases allowed by law; 2) emergency treatment of complications of spontaneous or unsafe induced abortion; 3) postabortion contraceptive counseling and method provision to prevent repeat abortion and 4) links between induced or treatment services and other reproductive-health care.

Interventions to improve maternal morbidity and mortality must ensure a woman-centered approach to abortion-care services. This approach addresses the various factors that can influence a woman's individual health needs, her personal circumstances, and her ability to access services (Hyman and Kumar, 2004). Some elements of high-quality abortion care may vary according to local contexts and available resources. However, fundamental components exist:

- Each woman's care should be tailored to her social circumstances and individual needs;
- Health providers should give accurate, appropriate information and counseling;
- Internationally, clinical standards and protocols for clinical care should be employed.

Human resource capacity for addressing unsafe abortion

Nurse-midwives and maternal and child health (MCH) nurses are managing postabortion care successfully in many settings. However, physician resistance to midlevel provision of obstetrical services has been documented as a barrier to the expansion of essential obstetrical care throughout Mozambique (Jamisse, et al., 2004). Out-migration during the two decades of civil war has led to a shortage of physicians in Mozambique (Fortney, 2004). Furthermore, physician salary issues have contributed to the scarcity of physicians in the public sector (Jamisse, et al., 2004). Surgical technicians (*técnicos de cirurgia*) currently perform a broad range of essential obstetrical services with success, including cesarean section, hysterectomy, sharp curettage, tubal ligation, laparoscopy for ectopic pregnancy and repair of ruptured uterus (Vaz et al, 1999). Surgical technicians, though, also are in short supply (Jamisse, 2004).

We present results from the Ministry of Health's 2002-2003 assessment of abortion-care services based on a sample of public-sector facilities and make recommendations for improving abortion care. We hope that this document will assist women's health advocates, health-care providers and managers, governmental officials and other key stakeholders in furthering their ongoing efforts to improve the health and well-being of women in Mozambique.

The success of midlevel providers offering PAC services may provide an opportunity to expand low-cost service provision to safe abortion services when legal limitations are removed. The impact of safe abortion services on maternal mortality and morbidity could be significant.

Dr. Aida Libombo
and Dr. Momade
Bay Ustá (2001)

Methods

The study sought to assess postabortion care services at all public hospitals in Mozambique. However, because seven public hospitals were missing from the sampling frame, the assessment is based on 39 of the 46 (85%) public hospitals. In addition, we assessed six local health centers located in Nampula and Maputo provinces. The health centers were chosen from the two provinces where the Ministry of Health had existing plans for improving abortion-care services. Thus, the study sample is composed of 45 facilities: six health centers; 27 district, general or rural hospitals; three central hospitals; and seven provincial hospitals (Table 1). Two study hospitals and two study health centers did not provide uterine evacuation at the time of the assessment.¹ Therefore, the remainder of the study findings is reported for the 41 study facilities that provided uterine evacuation. Map 1 shows the location of all the public hospitals in Mozambique as well as the six study health centers.

Data collection occurred from July 2002 to January 2003. We interviewed four types of respondents at each study facility: 1) a quota sample of about 10 consecutive patients who received uterine evacuation for abortion-related complications; 2) the main provider of uterine evacuation services; 3) the main provider of contraceptive services and 4) one to five providers who perform uterine evacuation.

The study results have been published elsewhere (Gallo et al., 2004). The present monograph, though, describes the assessment findings in more detail. Specifically, we report individual facility- and province-level findings and provide more comprehensive recommendations.

Exit interviews with patients

Trained MCH nurses conducted exit interviews with 461 patients (9-13 at each facility) who received uterine evacuation for abortion-related complications. One or two nurses from each facility who were not involved with postabortion care conducted the interviews in a private area. The study coordinator, a MCH nurse, trained all nurse-interviewers. Clients who had any method of uterine evacuation, including manual vacuum aspiration (MVA), electric vacuum aspiration (EVA) or sharp curettage, for abortion-related complications were eligible to participate.

Recruitment was not restricted based on the length of the pregnancy before abortion or the type of abortion (spontaneous or induced; safe or unsafe). Before discharge, the potential participants were read a standardized consent form, which specified

¹ 25 de Setembro Health Center, Anchilo Health Center, Chamanculo General Hospital, and Ribáuê Rural Hospital.

that participation was completely voluntary and would not affect current or future health care. We only interviewed participants who gave oral informed consent.

The questionnaire covered demographic characteristics, facility waiting times, treatment information, follow-up care information, privacy, pain management, contraception and satisfaction with services. We did not collect data on the type of abortion experienced or details of the abortion complications. Also, we did not record the type of pain control medication administered or the type of uterine evacuation method performed. Finally, we did not document whether any patients refused to participate.

Interviews with main providers of uterine evacuation and contraceptive services

Using standardized data collection forms, 18 trained physicians and MCH nurses interviewed the main providers of uterine evacuation services and contraceptive services at each facility. The uterine evacuation questionnaires covered six topics: general facility information, clinical services for abortion, characteristics of clients requiring uterine evacuation, abortion equipment, supplies and treatment area, and staff training. The contraceptive questionnaire collected information about the frequency of contraceptive provision, including method types, and counseling. Finally, the interviewer also administered a short questionnaire about training and attitudes toward abortion care to one to five providers at each facility who performed uterine evacuation.

Data management and analysis

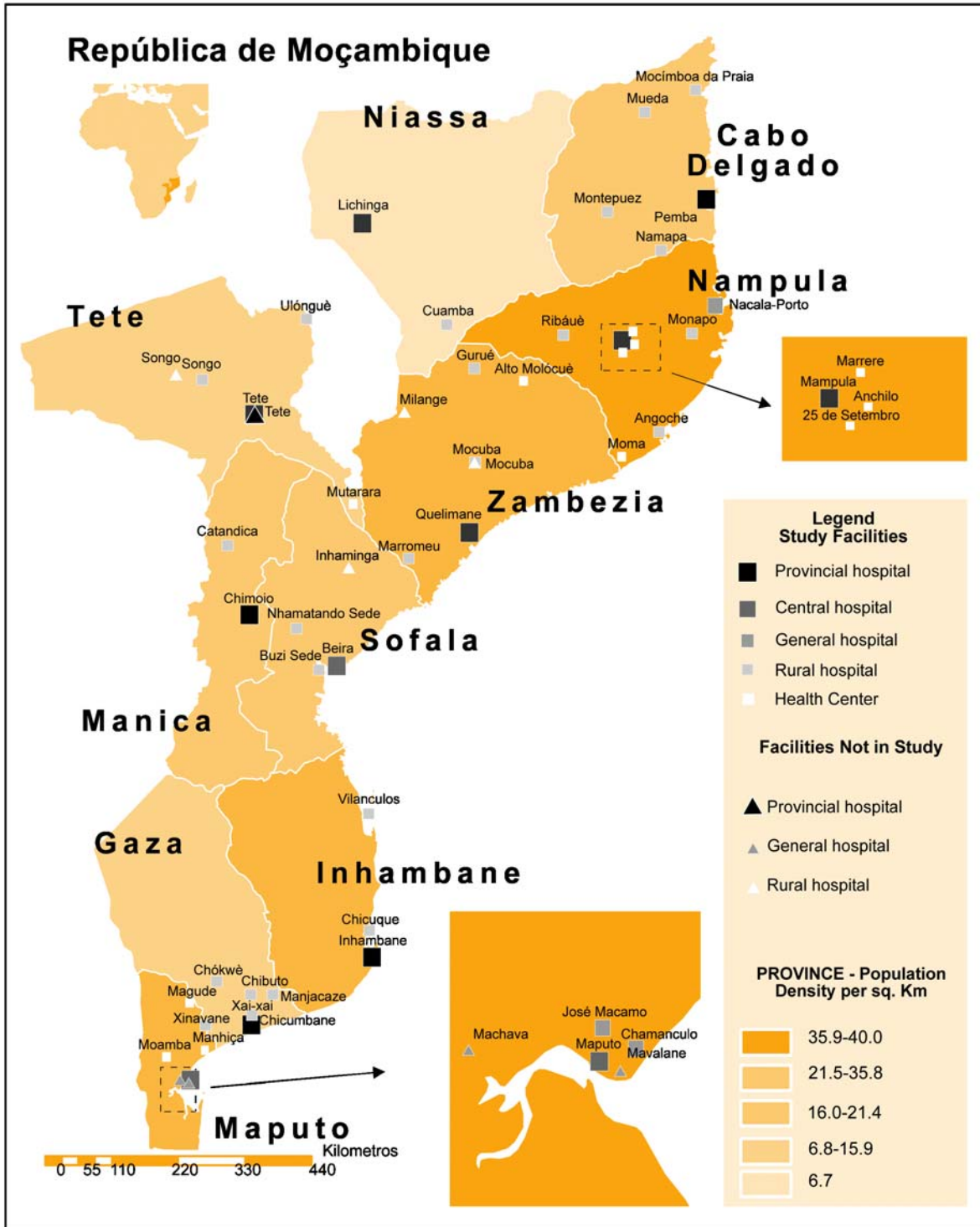
Data were entered into Epi Info 2002 and imported into SAS 8.02 for analysis. We computed proportions and means to describe the provision of postabortion care in the study sites and provinces. We used a paired *t*-test to compare each client's reported waiting time from arrival to treatment with the time estimated by the provider interviewed at that same facility. We could not compare directly the waiting from treatment to discharge because the provider questions were disaggregated by uterine evacuation type, and the patient questionnaire did not include questions about uterine evacuation method.

Table 1. Study facilities by province and facility type.

Province	Facility name	Facility type
Cabo Delgado	Mocímboa da Praia	Rural hospital
Cabo Delgado	Montepuez	Rural hospital
Cabo Delgado	Mueda	Rural hospital
Cabo Delgado	Pemba	Provincial hospital
Gaza	Chibuto	Rural hospital
Gaza	Chicumbane	Rural hospital
Gaza	Chókwè	Rural hospital
Gaza	Manjacaze	Rural hospital
Gaza	Xai-Xai	Provincial hospital
Inhambane	Chicucue	Rural hospital
Inhambane	Inhambane	Provincial hospital
Inhambane	Vilanculos	Rural hospital
Manica	Catandica	Rural hospital
Manica	Chimoio	Provincial hospital
Maputo	Magude	Health center
Maputo	Manhiça	District hospital
Maputo	Moamba	Health center
Maputo	Xinavane	Rural hospital
Maputo City	Chamanculo*	General hospital
Maputo City	José Macamo	General hospital
Maputo City	Maputo	Central hospital
Nampula	25 de Setembro*	Health center
Nampula	Anchilo*	Health center
Nampula	Angoche	Rural center
Nampula	Marrere	Health center
Nampula	Moma	Health center
Nampula	Monapo	Rural hospital
Nampula	Nacala-Porto	General hospital
Nampula	Namapa	Rural hospital
Nampula	Nampula	Central hospital
Nampula	Ribáuè*	Rural hospital
Niassa	Cuamba	Rural hospital
Niassa	Lichinga	Provincial hospital
Sofala	Beira	Central hospital
Sofala	Buzi Sede	Rural hospital
Sofala	Marromeu	Rural hospital
Sofala	Nhamatando Sede	Rural hospital
Tete	Mutarara	Rural hospital
Tete	Songo	Rural hospital
Tete	Tete	Provincial hospital
Tete	Ulónguè	Rural hospital
Zambézia	Alto Molócuè	Rural hospital
Zambézia	Gurué	Rural hospital
Zambézia	Mocuba	Rural hospital
Zambézia	Quelimane	Provincial hospital

**Did not provide uterine evacuation at the time of the assessment.*

Map 1. Public health facilities in Mozambique by facility type



Study Findings

Facilities with postabortion care

We assessed 39 public hospitals and 6 health centers. Two of the study hospitals and two of the health centers did not perform uterine evacuation at the time of the assessment (25 de Setembro Health Center, Anchilo Health Center, Chamanculo General Hospital and Ribáuè Rural Hospital). Therefore, this report does not include data for these four facilities.

Client participant characteristics

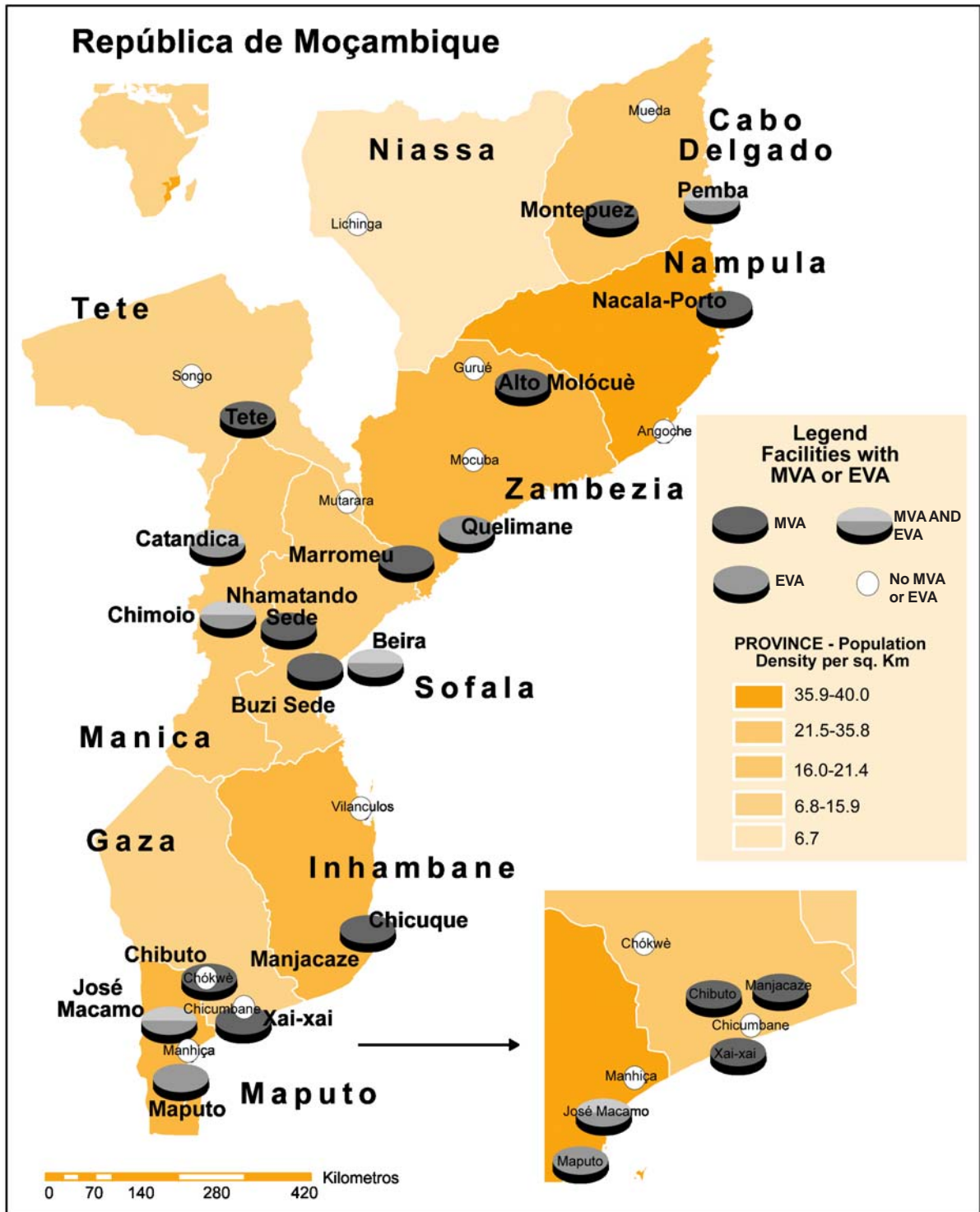
Clients treated with uterine evacuation for abortion complications had a mean age of 24.4 years (range 14-49). Adolescents (ages 14-19) comprised 27% of the sample. Seventy-five percent of clients had some level of education and 66% were married, cohabitating or widowed (Table 2). Only 18% of clients had potable water in their residence and about 27% had electricity. Most clients (86%) had had a prior pregnancy, and almost half (44%) had had an abortion before the current one. Among those with a previous abortion, participants reported a mean of 1.4 prior abortions (range 1-4).

Table 2. Characteristics of client participants (N=461).

	%	(n)
Age (in years)		
14-19	27	(115)
20-35	66	(287)
36-49	7	(30)
Education (any)	75	(344)
Union status		
Single	34	(155)
Married, cohabitating or widowed	66	(306)
Potable water in house	18	(84)
Electricity in house	27	(124)
Currently employed	12	(53)
Prior pregnancies		
0	14	(58)
1	23	(91)
2-4	44	(176)
>4	19	(76)
Prior abortions		
0	56	(190)
1	32	(108)
2-4	12	(41)

Adapted from Gallo et al, 2004.

Map 2: Public health facilities with manual or electric vacuum aspiration (MVA or EVA) for uterine evacuation



Provider participant characteristics

The uterine evacuation questionnaires primarily were administered to obstetricians/gynecologists, general practitioners and surgical technicians, while the contraceptive interviews generally were answered by MCH nurses. We interviewed providers in the obstetrics department (55%), gynecology department (13%), or outpatient clinic or procedure room (32%).

Delay to care

While both clients and the main providers of uterine evacuation services reported extended waits for examination, treatment and discharge, clients overall reported longer waiting times. Clients reported an average waiting time of 1.4 hours from arrival to first examination. They reported an average waiting time from first examination to uterine evacuation of 5.2 hours. While providers estimated a mean waiting time of 2.2 hours from arrival to uterine evacuation, clients reported a mean of 6.2 hours, which is a statistically significant difference ($p < 0.0001$).

Inpatient versus ambulatory treatment

Clients reported a mean wait of 17.5 hours from treatment to discharge. Providers' estimates varied according to the method of uterine evacuation: 8.1 hours following EVA; 11.3 hours following MVA; and 22.6 hours following sharp curettage. The long waiting times indicate that many women received inpatient abortion care. One advantage of using vacuum aspiration instead of sharp curettage is that clients instead can be treated on an ambulatory basis, which translates into reduced health system costs.

Access to services

Few main providers of uterine evacuation services reported the use of MVA or EVA (51% and 20%, respectively) in their facilities. The use of sharp curettage (98%), a method now discouraged by the WHO, was common. Table 3 shows that only two provinces (Manica and Sofala) perform MVA or EVA in all of the facilities surveyed there. Map 2 illustrates the provision of MVA and EVA by individual study facilities. Tete and Nampula Provinces each only had one study facility that performed aspiration. Because Nampula Province has the highest population density (INE, 2005), improving services here should be more cost-effective than improving care in other sparsely populated areas.

Table 3. Study facilities that perform uterine evacuation by method and province (N=41).

		Vacuum aspiration		
Sharp curettage		Manual	Electric	Manual or Electric
Province (No. of facilities)	%	%	%	%
Cabo Delgado (4)	100	75	25	75
Gaza (5)	100	60	0	60
Inhambane (3)	100	67	0	67
Manica (2)	100	100	100	100
Maputo				
Hospitals (4)	75	25	50	50
Health centers (2)	100	0	0	0
Nampula				
Hospitals (5)	100	60	20	60
Health centers (2)	100	0	0	0
Niassa (2)	100	50	0	50
Sofala (4)	100	100	25	100
Tete (4)	100	25	0	25
Zambézia (4)	100	25	25	50

The WHO recommends using either aspiration or a combined regimen of mifepristone and misoprostol for uterine evacuation up to 12 completed weeks of pregnancy (2003a). MVA has been shown to enhance safety and sustainability substantially, especially in low-income countries (Jowett, 2000). MVA is a safe method of evacuation with a 98% to 100% effectiveness rate (Greenlade et al., 1993). Sharp curettage has a rate of major complications two to three times higher than vacuum aspiration (Grimes and Cates, 1979). In addition, MVA can easily and safely be performed by properly trained midlevel providers in a variety of settings, while sharp curettage usually is performed only by physicians (Grimes and Cates, 1979). This decentralization of services can reduce health-care costs. Using MVA also reduces pain during the procedure and does not require general anesthesia, which allows patients to leave the facility sooner.

Misoprostol for cervical priming

Forty-six percent of facilities have misoprostol available for cervical priming (Table 4). Misoprostol 400 micrograms is administered vaginally to reduce the need for mechanical dilatation. The WHO recommends misoprostol use for cervical priming in nulliparous women and adolescents and for situations where the risk of uterine perforation is high (for example, for uterine or cervical anomalies). In Mozambique, patients typically wait 24 hours after administration of misoprostol (that is, return the

following day) before aspiration. However, the WHO recommends that vacuum evacuation occur three to four hours after misoprostol administration (2003a).

Table 4. Study facilities that administer misoprostol before aspiration for uterine evacuation by province (N=41).

	Cervical priming
Province (No. of facilities)	%
Cabo Delgado (4)	0
Gaza (5)	80
Inhambane (3)	67
Manica (2)	50
Maputo	
Hospitals (4)	50
Health centers (2)	0
Nampula	
Hospitals (5)	40
Health centers (2)	50
Niassa (2)	50
Sofala (4)	100
Tete (4)	25
Zambézia (4)	25

Woman-centered care

Ipas articulates a woman-centered model for abortion care, which consists of three key components: choice, quality and access (Hyman and Kumar, 2004). Developing rapport with patients is essential to woman-centered care and should always be attempted with each woman-provider encounter. By trying to understand each woman's needs, both the provider and patient will be better equipped to make appropriate decisions about her care. Ensuring proper privacy for clients during all parts of her visit is also paramount. Lastly, providing accurate and timely information to clients about their condition, treatment and follow-up is essential to high-quality care.

We asked the patient participants a series of 25 questions about their care:

1. Were you told you could have a friend or relative with you during treatment?
2. Did the presenting doctor introduce him or herself?
3. Were you asked about your medical history?
4. Were you informed about your medical condition or problem?

5. Did the doctor or nurse ask if you wanted pain control for the procedure?
6. Were you informed about the aspiration procedure before it was done?
7. Did you have a chance to ask questions about treatment beforehand?
8. Were you informed about the results of the procedure?
9. Were you informed about the care that you should take after returning home?
10. Were you given a follow-up appointment?
11. Were you advised to avoid sexual intercourse for some days until bleeding stopped?
12. Were you informed about when your menstrual cycle should resume?
13. Were you told that without birth control, you could have a repeat pregnancy before having your next menstrual cycle?
- 14-20. Were you advised by the doctor or nurse to immediately return to the nearest health center or hospital upon experiencing any of the following warning signs?
 - bleeding for more than two weeks
 - bleeding more than normal menstruation
 - strong increase in odor
 - fever
 - cold shivers or feeling unwell
 - fainting
 - vaginal discharge with odor
- 21-25. Did you have enough privacy during these times?
 - while changing clothes
 - while giving medical history
 - while being examined
 - during the procedure
 - during the discussion about contraception

We calculated a quality score by assigning one point for each element of woman-centered care reported by the client and then taking the mean of scores by each facility (Table 5). Most facilities had a quality score of less than 15, indicating the need for urgent action. Manhiça District Hospital (in Maputo Province), Beira Central Hospital (Sofala) and Songo Rural Hospital (Tete) had the lowest scores while Alto Molócuè Rural Hospital (Zambézia) and Catandica (Manica) had the best scores.

Table 5. Woman-centered care scores based on client responses by study facility.^a

Facility (No. of clients)	Score ^b	Facility (No. of clients)	Score ^b
URGENT ACTION NEEDED (0-14)		Xinavane (11)	10.7
Manhiça (12)	3.0	Manjacaze (12)	10.9
Beira (12)	4.4	Magude (12)	11.9
Songo (9)	5.0	José Macamo (12)	12.3
Marrere (12)	5.9	Marromeu (13)	12.3
Chimoio (12)	6.3	Moma (12)	12.4
Inhambane (13)	6.5	Chibuto (13)	12.8
Chókwè (13)	6.8	Mocuba (12)	12.9
Nhamatando Sede (13)	7.0	Chicunque (12)	13.1
Montepuez (13)	7.1	Chicumbane (13)	13.4
Xai-Xai (11)	7.1	Vilanculos (12)	14.3
Nampula (12)	7.7	Mocímboa da Praia (13)	14.7
Namapa (13)	8.2	NEEDS IMPROVEMENT (15-18)	
Quelimane (13)	8.2	Pemba (12)	15.1
Angoche (12)	8.8	Buzi Sede (11)	15.3
Cuamba (13)	9.0	Mueda (13)	15.6
Nacala-Porto (12)	9.1	Gurué (11)	17.1
Maputo (13)	9.9	HIGH QUALITY (18+)	
Lichinga (12)	10.0	Alto Molócuè (12)	19.5
Monapo (12)	10.4	Catandica (12)	19.9
Moamba (11)	10.5		

^a Missing data from facilities: Mutarara, Tete, Ulóguè.

^b Scores based on client reporting of 25 elements of woman-centered care.

Privacy

Most patients reported sufficient privacy while changing their clothes (81%), giving their medical histories (81%) and being examined (90%). In addition, 89% of patients reported having sufficient privacy while undergoing treatment.

In contrast, the main providers of uterine evacuation services had more concerns about lack of privacy. Table 6 shows the proportion of facilities with poor privacy per province. Overall, 53% of the main providers reported poor visual privacy, and 63% reported poor auditory privacy in the examination area. The uterine evacuation rooms appeared to have better privacy than the examination rooms. Poor visual and poor auditory privacy in the uterine evacuation room was reported by 39% and 54%, respectively.

Table 6. Study facilities with poor visual and auditory privacy by treatment area and province (N=36).^a

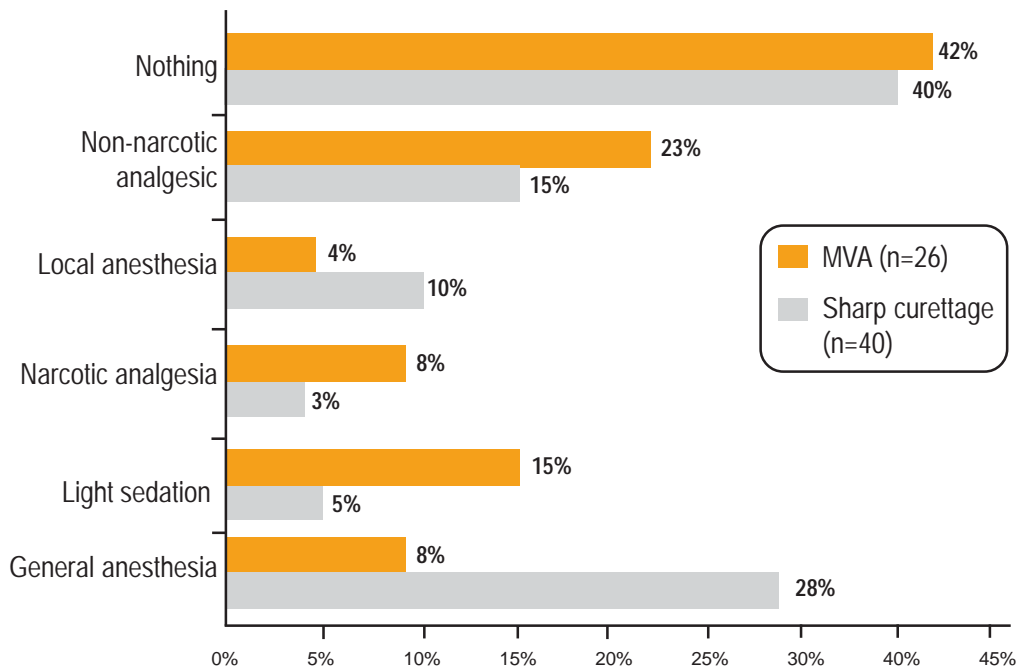
	Examination area				Uterine evacuation area			
	Visual privacy		Auditory privacy		Visual privacy		Auditory privacy	
Province	%	(n)	%	(n)	%	(n)	%	(n)
Cabo Delgado	75	(4)	100	(4)	50	(4)	75	(4)
Gaza	0	(2)	100	(4)	60	(5)	100	(5)
Inhambane	100	(1)	100	(1)	0	(3)	33	(3)
Manica	50	(2)	0	(2)	0	(2)	0	(2)
Maputo								
Hospitals	0	(4)	0	(4)	0	(4)	0	(4)
Health centers	100	(2)	50	(2)	100	(2)	100	(2)
Nampula								
Hospitals	60	(5)	60	(5)	40	(5)	60	(5)
Health centers	100	(2)	100	(2)	100	(2)	100	(2)
Niassa	100	(2)	100	(2)	100	(2)	100	(2)
Sofala	50	(4)	75	(4)	25	(4)	25	(4)
Tete	0	(4)	25	(4)	0	(4)	25	(4)
Zambézia	75	(4)	75	(4)	50	(4)	50	(4)

^aMissing data from three facilities in Gaza Province and two facilities in Inhambane Province.

Pain management

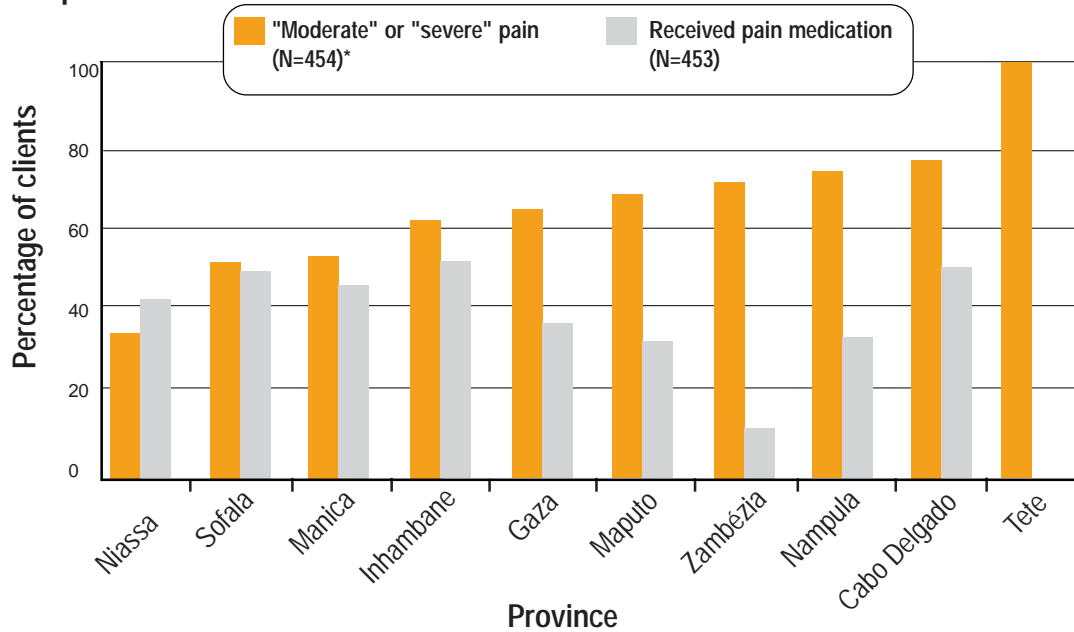
According to provider reports, many clients undergoing uterine evacuation do not receive pain management. Figure 1 shows that many study facilities usually do not give pain medication to patients during the MVA (42%) or sharp curettage (40%) procedure. General anesthesia (28%) was the most common method used with patients undergoing sharp curettage; non-narcotic analgesic (23%) was the most common pain medication given to clients undergoing MVA.

Figure 1. Provider reports of most common pain management method used for clients receiving uterine evacuation by uterine evacuation method.



Most clients reported *moderate* (24%) or *severe* pain (41%) during treatment (Figure 2). When stratified by province, all clients in Tete Province (100%) reported moderate or severe pain during treatment. Few clients (40%) reported being asked by a doctor or nurse if they wanted pain medicine during treatment, and few clients (28%) reporting receiving any type of pain medication during treatment. The proportion of clients receiving pain medication by province ranged from zero to 50%. None of the clients in Tete Province reported receiving pain control.

Figure 2. Client pain reports and clients receiving pain medication by province.



*Missing data from seven clients.

The WHO advises that all clients should be offered pain management before and during treatment (2003a). Adequate pain management is essential to abortion care and can improve the quality of care substantially. While non-narcotic analgesics, such as paracetamol, usually are adequate to reduce pain associated with both aspiration and medication methods of abortion (Suprpto and Reed, 1984; Matambo et al., 1999), clients should be given different options for pain control because pain thresholds can vary by person. These analgesics are included on the WHO's *Model List of Essential Medicines* (2003b). General anesthesia, which is a more expensive and risky form of pain management, usually is unnecessary with aspiration and can delay discharge. General anesthesia is not recommended for abortion because of its increased clinical risks (WHO 2003a; Lawson et al., 1994; MacKay et al., 1985). Providers also should be trained in counseling and sympathetic treatment. Pain should not be used as a form of punishment for clients who have received an abortion.

Provider attitudes and training

Most of the main providers of uterine evacuation reported satisfactory attitudes toward MVA. The remainder said that they were indifferent about MVA (3%), had negative opinions (11%), or had no knowledge of the procedure (16%).

Thirty-four percent of the main providers of uterine evacuation reported that their facility had a coordinator or supervisor in charge of postabortion care services. Of the 14 facilities in Mozambique with a coordinator, half of the coordinators (n=7) were trained in postabortion contraceptive counseling and almost all (n=12) were trained in MVA clinical skills.

Forty-six percent and 56% of study hospitals had none or only one provider trained MVA clinical skills services (Table 7) and postabortion contraceptive methods and postabortion contraceptive counseling (Table 8), respectively. Map 3 shows the proportion of providers at the study facilities who were trained to perform MVA. The map illustrates that Inhambane and Tete Provinces have low proportions of providers in study facilities trained in this skill. Furthermore, given that Nampula Province has the highest population density per square kilometer, improving provider skills in this province potentially could improve care for more patients than in other provinces. Among the 99 providers in 35 of the facilities who completed the questionnaire on abortion training and attitudes toward abortion care, 43% reported that they had received prior in-service training in emergency obstetric care.

Mozambique is a world leader in training diverse cadres of health professionals to perform high-level functions (Libombo and Ustá, 2001). Yet, this assessment reveals that most facilities had no one or only one staff member trained in MVA clinical skills. Increasing the knowledge and awareness about MVA – including hands-on MVA skills training – will help to improve provider technique and usage of MVA. Training of staff deployed at peripheral facilities, such as health centers, is important to make services available to more clients. Efforts already are being made to improve the skills of providers in Mozambique. Master trainers have been prepared to train other providers in the full range of postabortion care elements required for quality care. In 2003, Ipas sponsored a study tour so that several program managers could visit health facilities in Nairobi, Kenya, in order to learn how contraceptive services can be integrated better into postabortion care. Steps toward improving postabortion care services must continue throughout the nation.

Map 3. Public health facilities in Mozambique by proportion of providers who were trained in manual vacuum aspiration (MVA)

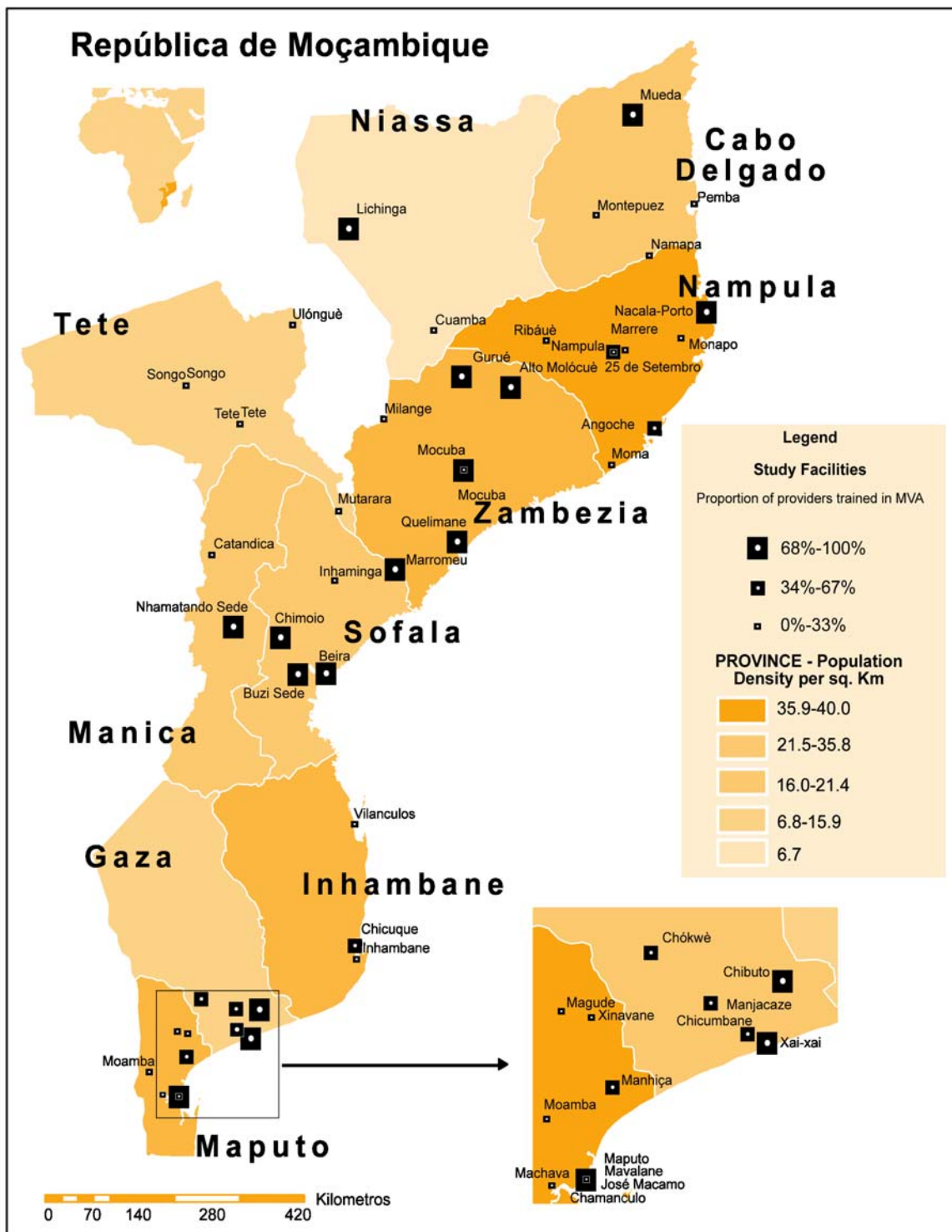


Table 7. Study hospitals with fewer than two staff members trained in MVA clinical skills by province.^a

Province	Hospital
Cabo Delgado	Mocímboa da Praia Rural Hospital
Cabo Delgado	Montepuez Rural Hospital
Inhambane	Chicunque Rural Hospital
Inhambane	Inhambane Provincial Hospital
Inhambane	Vilanculos Rural Hospital
Manica	Catandica Rural Hospital
Maputo	Xinavane Rural Hospital
Nampula	Angoche Rural Hospital
Nampula	Nampula Central Hospital
Niassa	Cuamba Rural Hospital
Tete	Mutarara Rural Hospital
Tete	Songo Rural Hospital
Tete	Tete Provincial Hospital
Tete	Ulónguè Rural Hospital

^aMissing data for Monapo Rural Hospital and Namapa Rural Hospital.

Table 8. Study hospitals with fewer than two staff members trained in postabortion contraceptive methods and counseling.

Province	Hospital
Cabo Delgado	Mocímboa da Praia Rural Hospital
Cabo Delgado	Montepuez Rural Hospital
Cabo Delgado	Mueda Rural Hospital
Gaza	Chicumbane Rural Hospital
Inhambane	Chicunque Rural Hospital
Inhambane	Inhambane Provincial Hospital
Inhambane	Vilanculos Rural Hospital
Manica	Catandica Rural Hospital
Maputo	Manhiça District Hospital
Maputo	Xinavane Rural Hospital
Nampula	Angoche Rural Hospital
Nampula	Nacala-Porto General Hospital
Nampula	Nampula Central Hospital
Niassa	Cuamba Rural Hospital
Sofala	Marromeu Rural Hospital
Tete	Mutarara Rural Hospital
Tete	Songo Rural Hospital
Tete	Ulónguè Rural Hospital

^aMissing data for Monapo Rural Hospital and Namapa Rural Hospital.

Equipment and supplies

Providers in 61% of the facilities stated that they currently possess MVA instruments. The 11 sites that had never procured these instruments reported several reasons for their absence: lack of awareness of the advantages (36%), lack of awareness of the technology (27%), and lack of supplies in the market (18%).

Among the facilities that had MVA instruments at the time of this assessment, 84% reported that aspiration was used for uterine evacuation and 63% reported that MVA was available on all shifts. Among the seven sites (Table 9) that had MVA single-valve aspirators, the average number of aspirators in stock was 1.9 (standard deviation [SD], 1.9). Twenty-one sites had MVA double-valve aspirators with a mean of 6.7 (SD, 10.8) aspirators of this type currently available. Double-valve aspirators are preferable to single-valve aspirators because the latter are limited by the duration of the pregnancy. Fifty-seven percent of facilities had cannulae in stock. The mean number of size 4mm to size 12mm MVA cannulae ranged from 6.8 (SD, 13.1) to 8.2 (SD, 14.6).

Table 9. Study facilities with equipment and supplies by province.

	MVA aspirator		MVA cannulae	Washbin or sink in examination and uterine evacuation rooms	High-level disinfectant for MVA cannulae ^a
	Single -valve	Double -valve			
<i>Province (No. of facilities)</i>	%	%	%	%	%
Cabo Delgado (4)	25	50	50	100	100
Gaza (5)	40	80	80	60	75
Inhambane (3)	33	67	67	33	100
Manica (2)	0	100	100	50	50
Maputo					
Hospitals (4)	25	50	75	100	100
Health centers (2)	0	0	0	0	—
Nampula					
Hospitals (5)	0	60	60	60	50
Health centers (2)	0	50	50	0	—
Niassa (2)	0	0	0	50	—
Sofala (4)	0	100	100	75	25
Tete (4)	25	0	25	50	0
Zambézia (4)	25	25	50	50	25

^aRestricted to facilities that used MVA at the time of the assessment.

Main uterine evacuation providers in about 81% of the 21 facilities using MVA reported soaking the MVA instruments, speculae, tenaculum and forceps following each use in order to make their cleaning easier. After this cleaning, high-level disinfection is needed to kill remaining microorganisms. Almost half (43%) of the facilities did not use high-level disinfection before reusing the MVA cannulae (Table 9). The 12 sites using high-level disinfection reported using bleach or chlorine (58%), glutaraldehyde (50%), or both methods (8%). Given the risk of infection, greater infection prevention through proper instrument processing is needed.

The responsibility for instrument processing, including high-level disinfection, was assigned to a MCH nurse (79% of facilities), a general nurse (11%), a surgical technician (5%), or other support staff (5%). Almost 70% of respondents thought that the person assigned this role in their facility had adequate orientation on instrument processing, including high-level disinfection procedures. About 59% of the facilities had a washbin or sink with running water in the examination and uterine evacuation rooms. A lack of clean water in these locations makes implementing infection control practices difficult. Mozambique's infrastructure is still severely damaged from the civil war that ended in 1992. Structural problems and electrical and water deficiencies in hospitals must be resolved before adequate care can be provided (DHHS, 2005).

Postabortion contraceptive services

Providers in 83% of the facilities reported that their facility provided contraceptive services. While several provinces reported that all of their facilities provided contraceptive services, other provinces had as few as one-quarter of facilities providing these services (Figure 3). Among the 34 facilities that provided contraceptive services, combination oral contraception (97%), progestin-only oral contraception (97%), and injectable contraception (97%) were the most commonly available methods. Of note, many facilities (37%) did not have male condoms available to distribute. All study facilities in Maputo and Manica Provinces had male condoms available, while no facilities in Niassa and Zambézia Provinces had male condoms in stock (Table 10).

Providers reported that clients with incomplete abortion following treatment in their facility were *never* (23%), *rarely* (21%), *sometimes* (26%), *frequently* (23%), or *always* (8%) provided contraception. For those postabortion patients who did not receive a method on site, providers *never* (8%), *rarely* (20%), *sometimes* (8%), *frequently* (28%), or *always* (38%) informed them about where they could obtain a method.

Providers reported *never* (18%), *rarely* (28%), *sometimes* (3%), *frequently* (15%), or *always* (38%) informing patients about the possibility of a repeat pregnancy even before the return of menses.

There is no doubt that the best way of preventing unsafe abortions is to prevent unwanted pregnancies.

Dr. Pascoal
Mocumbi
(2001)

Figure 3. Facilities providing postabortion contraception services by province.

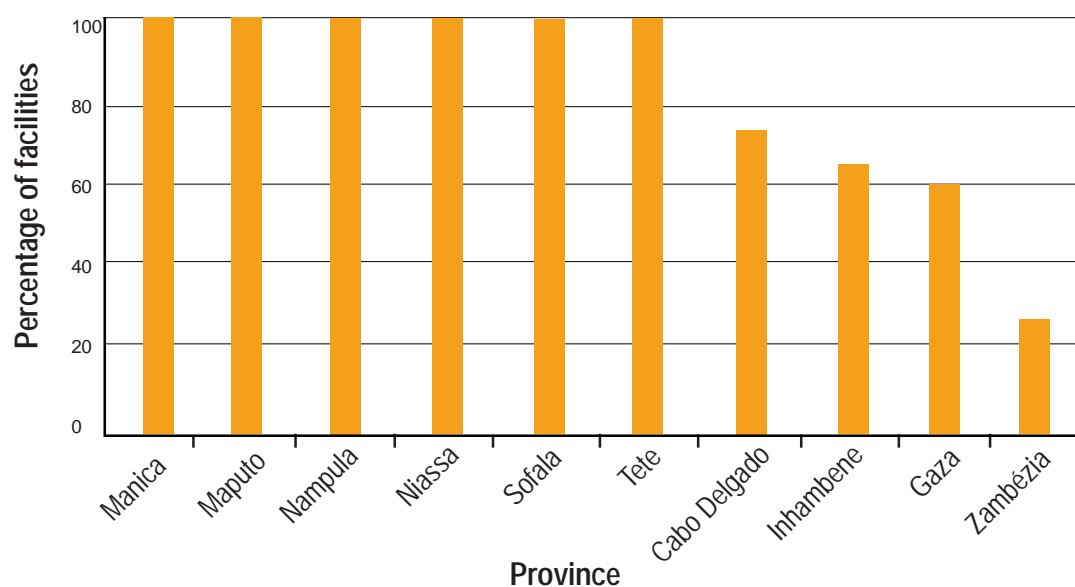


Table 10. Facilities with contraceptive methods in stock by province.

	Injectable contraception	Male condom	Combination oral contraception	Progestin- only oral contraception	Intrauterine device
<i>Province (No. of facilities)</i>	%	%	%	%	%
Cabo Delgado (4)	75	50	75	75	25
Gaza (5)	60	60	60	60	60
Inhambane (3)	67	67	67	67	67
Manica (2)	100	100	100	100	50
Maputo					
Hospitals (4)	100	100	100	100	100
Health centers (2)	100	100	100	100	100
Nampula					
Hospitals (5)	100	80	100	100	80
Health centers (2)	100	50	100	100	100
Niassa (2)	100	0	100	100	100
Sofala (4)	100	75	100	100	25
Tete (4)	75	75	75	75	50
Zambézia (4)	25	0	25	25	0

Table 11 shows that clients reported an overall lack of contraceptive information and method provision. Most clients were not informed about contraception, given suggestions about methods or given a choice of method. None of the clients in Tete reported receiving contraceptive information (Table 11).

Among clients who said that they did not desire pregnancy within the upcoming months, only 37% were asked about their choice of method. Only 28% of clients not wanting pregnancy reported receiving a contraceptive method. Fewer than half (49%) reported adequate privacy during contraceptive discussions. Table 11 compares clients' experiences with postabortion contraception services by province.

WHO advises that all postabortion patients receive contraceptive counseling, including emergency contraception, before leaving the facility and returning home (2003a). Johnson and colleagues found that when women were given effective methods of contraception at the time of postabortion care, fewer unplanned pregnancies and repeat abortions occurred over the next year (Johnson et al., 2002). No one contraceptive method is ideal for all women. Allowing women to select the method of choice from the appropriate and available options likely will increase method continuation and, thereby, reduce the risk of unintended pregnancy.

Table 11. Client reports related to postabortion contraceptive services by province.

Province	Received contraceptive information ^a		Adequate privacy during contraception discussion		Contraceptive method was suggested ^a		Asked about choice of method ^a		Received a method ^a	
	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)
Cabo Delgado	68	(41)	65	(46)	62	(42)	68	(38)	67	(42)
Gaza	52	(52)	60	(58)	31	(52)	31	(52)	23	(52)
Inhambane	37	(30)	35	(37)	37	(30)	28	(29)	3	(30)
Manica	65	(20)	58	(24)	43	(21)	57	(21)	43	(21)
Maputo	52	(58)	44	(63)	48	(58)	29	(58)	34	(58)
Nampula	25	(44)	43	(76)	12	(43)	19	(43)	7	(43)
Niassa	18	(11)	29	(24)	9	(11)	9	(11)	20	(10)
Sofala	54	(26)	53	(36)	40	(25)	40	(25)	35	(23)
Tete	0	(7)	0	(9)	0	(7)	0	(7)	0	(7)
Zambézia	68	(41)	54	(46)	56	(41)	58	(40)	18	(40)

^aAmong subset reporting that did not want pregnancy in upcoming months.

HIV and other sexually transmitted infections (STI)

Women undergoing abortion in Mozambique have been shown to have high STI rates (Machungo et al., 2002), yet few women reported receiving condoms during this assessment. Mozambique is one of the African countries most seriously affected by HIV/AIDS (Libombo and Ustá, 2001). Thus, postabortion contraceptive counseling should include condom promotion to prevent HIV and STI transmission as well as for contraceptive purposes.

Recommendations

- 1 Clarify Mozambique's policy of allowing abortion services in public-health facilities through written guidelines on norms and practices. The guidelines should specify clearly provider liability regarding abortion care.
- 2 Conform with WHO recommendations by using vacuum aspiration or medication abortion for uterine evacuation.
- 3 Train and support midlevel providers in health centers and rural and general hospitals in providing comprehensive abortion care, including aspiration and medication abortion for uterine evacuation. The Ministry of Health should assist the facilities in obtaining MVA instruments. The decentralization of abortion services will decrease abortion-related health system costs and improve access for women.
- 4 Ensure all facilities use high-level disinfection for reusable MVA cannulae.
- 5 Ensure that facilities provide woman-centered care for all abortion-care patients.
- 6 Ensure privacy and confidentiality during all parts of the client's clinical visit: examination, treatment, recovery and counseling.
- 7 Reduce the 24-hour delay between misoprostol administration and MVA to three to four hours to permit clients to complete the care in one visit instead of two. This will reduce staff and client costs as well as reduce loss to follow up.
- 8 Ensure that clients undergoing aspiration for uterine evacuation receive counseling and verbal reassurance. Allow every client to choose the pain management option that she deems best. If oral analgesics are chosen, they should be administered 30 minutes before procedure. Paracervical block, anxiolytics or sedation may be appropriate for highly anxious clients. General anesthesia should be reserved for extreme cases only.
- 9 Train at least two staff members in each facility in MVA clinical skills and postabortion contraceptive counseling and method provision.
- 10 Train provincial-level supervisors to monitor the quality of care at the district and facility level.

... existing hospital based services for pregnancy termination should be extended beyond provincial level to district and rural hospitals throughout the country.

**Dr. Pascoal Mocumbi
(2001)**

The monitoring and evaluation capacity including the surveillance system is still limited, although process indicators in the field of emergency obstetric care have been developed and some district technical teams have been trained in data collection, but the management information system needs to be reinforced.

**Dr. Aida Libombo
(2002)**

...be possible to offer MR and elective abortion throughout the country, and improved access will mean less unwanted pregnancies and clandestine abortion will become the exception.

Dr. Pascoal Mocumbi
(2001)

The advent of affordable, easily available, medically safe and appropriate pharmaceutical methods for pregnancy interruption may contribute to reducing the discrepancy between the large demand and the limited resources often found in the public hospital services.

Dr. Pascoal Mocumbi,
Prime Minister
of Mozambique
(2001)

- 11 Incorporate abortion care in the curricula of health professional schools – particularly those that train diverse cadres of midlevel providers (for example, technicians, nurses and medical officers).
- 12 Ensure every abortion-care patient is given contraceptive counseling before discharge. Patients should understand that fertility can return in only 10 days. They should be counseled on the available methods for preventing pregnancy and be offered methods on-site or referred to a facility where they can obtain methods. Because no one contraceptive method is ideal for all women, each woman should be given her choice of methods from the appropriate and available options.
- 13 Ensure all facilities provide condoms and risk-reduction counseling to prevent the HIV/STI transmission as HIV prevalence is relatively high among this population.
- 14 Use operations research to improve the understanding of the reasons for the current problems as well as the feasibility of alternative approaches that may meet better the needs of women in Mozambique. Mozambique has many experienced abortion researchers and the country should capitalize on available expertise to continue to explore the feasibility of new models of decentralized care.

References

African Union. 2003. *Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa*. Addis Ababa, Ethiopia. http://www.africa-union.org/Official_documents/Treaties_%20Conventions_%20Protocols/Protocol%20on%20the%20Rights%20of%20Women.pdf (last accessed 30 June 2005).

Agadjanian, Victor. 1998. "Quasi-legal" abortion services in a sub-Saharan setting: users' profile and motivations. *International Family Planning Perspectives*, 24:111-116.

Chapman, Rachel. 2003. Endangering safe motherhood in Mozambique: prenatal care as pregnancy risk. *Social Science & Medicine*, 57:355-374.

Department of Health and Human Services. 2005. *HHS/CDC Global AIDS Program (GAP) in Mozambique*. Atlanta, Centers for Disease Control and Prevention.

Fortney, Judith A. 2004. Averting maternal death and disability. *International Journal of Gynecology and Obstetrics*, 85:201-202.

Gallo, Maria F., Hailemichael Gebreselassie, Maria Teresa Victorino, Martinho Dgedge, Lilia Jamisse and Cassimo Bique. 2004. An assessment of abortion services in public health facilities in Mozambique: women's and providers' perspectives. *Reproductive Health Matters*, 12:218-226.

Greenslade, Forrest C., Ann H. Leonard, Janie Benson, Judith Winkler and Victoria L. Henderson. 1993. *Manual vacuum aspiration: A summary of clinical & programmatic experience worldwide*. Carrboro, NC, IPAS.

Grimes, David A. and Willard J. Cates. 1979. Complications from legally induced abortion: A review. *Obstetrics and Gynecological Survey*, 34:177-191.

Hyman, Alyson and Anu Kumar. 2004. A woman-centered model for comprehensive abortion care. *International Journal of Gynaecology and Obstetrics*, 86:409-410.

Instituto Nacional de Estatística (INE). Inquérito Nacional sobre saúde reprodutiva e comportamento sexual dos adolescentes e jovens: Relatório final. 2001. Maputo, Mozambique, INJAD.

Instituto Nacional de Estatística, Ministério da Saúde, MEASURE DHS+/ORC Macro. 2005. Moçambique: Inquérito Demográfico e de Saúde 2003.

Jamisse, Lilia, Francisco Songane, Aida Libombo, Cassimo Bique and Anibal Faundes. 2004. Reducing maternal mortality in Mozambique: Challenges, failures, successes and lessons learned. *International Journal of Gynaecology and Obstetrics*, 85:203-212.

Johnson, Brooke, Singatsho Ndhlovu, Sherry Farr and Tsungai Chipato. 2002. Reducing unplanned pregnancy and abortion in Zimbabwe through postabortion contraception. *Studies in Family Planning*, 33:195-202.

Jowett, Matthew. 2000. Safe motherhood interventions in low-income countries: An economic justification and evidence of cost effectiveness. *Health Policy*, 53:201-228.

Lawson, Herschel W., A. Frye, H. K. Atrash, J. C. Smith, H. B. Shulman and M. Ramick. 1994. Abortion mortality, United States, 1972 through 1987. *American Journal of Obstetrics and Gynecology*, 171:1365-1372.

Libombo, Aida. 2002. Challenges in the implementation of reproductive health: experiences within the United Nations Development Assistance Framework (UNDAF) approach in Mozambique. In: *A framework to assist countries in the development and strengthening of national and district health plans and programmes in reproductive health: Suggestions for programme managers. A report based on the meeting of Regional Advisers in Reproductive Health WHO, Geneva, 21-24 August 2000*. Geneva, WHO.

http://www.who.int/reproductive-health/publications/RHR_02_2/RHR_02_2_ax8.en.html (last accessed 5 July 2005).

Libombo, Aida and Momade Bay Ustá. 2001. Mozambique abortion situation: country report. *Expanding access: midlevel providers in menstrual regulation and elective abortion care*. IHCAR-Ipas conference report. Johannesburg. <http://www.ipasihcar.net/expacc/reports/MozambCR.html> (last accessed 21 June 2005).

MacKay H. Trent, Kenneth F. Schulz and David A. Grimes. 1985. Safety of local versus general anesthesia for second trimester dilatation and evacuation abortion. *Obstetrics and Gynecology*, 66:661-665.

Machungo, Fernanda. 2004. *O aborto inseguro em Maputo*. Unpublished paper presented at the Unsafe Abortion Conference, Maputo, Mozambique.

Machungo, Fernanda, Giovanni Zanconato and Staffan Bergstrom. 1997. Reproduction characteristics and post-abortion health consequences in women undergoing illegal and legal abortion in Maputo. *Social Science Medicine*, 45:1607-1613.

Machungo, Fernanda, G. Zanconato, K. Persson, I. Lind, B. Jorgensen, B. Herrmann and Staffan Bergstrom. 2002. Syphilis, gonorrhea and chlamydial infection among women undergoing legal or illegal abortion in Maputo. *International Journal of STD & AIDS*, 13:326-330.

- Matambo, J., J. Moodley and P. Chigumadzi. 1999. Analgesia for termination of pregnancy. *South African Medical Journal*, 89:816.
- Mocumbi, Pascoal. 2001. Prime Minister Address to the IHCAR-Ipas Conference in South Africa. *Expanding Access: Advancing the Roles of Midlevel Providers in Menstrual Regulation and Elective Abortion Care*. South Africa. <http://www.ipasihcar.net/expacc/inaugur.html> (last accessed 21 June 2005).
- Rogo, K. O. 1993. Induced abortion in sub-Saharan Africa. *East African Medical Journal*, 70:386-395.
- Suprpto, K. and S. Reed. 1984. Naproxen sodium for pain relief in first-trimester abortion. *American Journal of Obstetrics and Gynecology*, 150:1000-1001.
- Vaz, F., Staffan Berstrom, M. Vaz, J. Langa and A. Bugalho. 1999. Training medical assistants for surgery. *Bulletin of the World Health Organization*, 77:688-691.
- World Health Organization (WHO). 2003a. *Safe abortion: Technical and Policy Guidance for Health Systems*. Geneva, WHO.
- . 2003b. *Essential medicines: WHO model list*. 13th edition. Geneva, WHO. <http://www.who.int/medicines/organization/par/edl/eml.shtml> (last accessed 21 June 2005).
- . 2004a. *Unsafe abortion: global and regional estimates of incidence of unsafe abortion and associated mortality in 2000*. Fourth edition. Geneva, WHO. Available online http://www.who.int/reproductive-health/publications/unsafe_abortion_estimates_04/estimates.pdf, last accessed 21 June 2005.
- . 2004b. *The world health report: Change history*. Geneva, WHO. Available online http://www.who.int/reproductive-health/publications/unsafe_abortion_estimates_04/estimates.pdf, last accessed 21 June 2005.

training

support for providers

counseling

pain management

woman-centered care

quality

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