

OCCASIONAL PAPERS

Scaling Up Postabortion Care Services: Results from Senegal

Senegal has recently emerged as a leader in West Africa in the extension of postabortion care (PAC). This paper describes the extension of PAC to the district level in Senegal, where complications of abortion continue to claim too many women's lives.

Between November 2003 and June 2005, Management Sciences for Health introduced PAC services in 23 districts covering more than half the population of Senegal. The availability of PAC rapidly increased in both health centers and health posts. The proportion of health centers with a provider trained in PAC and that offered PAC services increased from 39% in 2003 to 100% in 2005. In 300 health posts, the proportion increased from 0% in 2003 to 72% in 2006.

The number of women who sought treatment for an incomplete abortion at a health center more than doubled between 2003 and 2005. The availability of PAC services in the 23 health centers probably contributed to this increase, as did community education efforts. The proportion of women with incomplete abortions who received counseling before leaving a facility increased from 36% in 2003–04 to 82% in 2005. Of those who received counseling, the proportion leaving a facility with a family planning method rose almost fourfold in two years, from 15% in 2003 to 56% in 2005.

This paper first presents background information about unsafe abortion as a preventable public health problem, demonstrating its relationships to maternal mortality and morbidity and to unmet contraceptive need.

Unsafe abortion accounts for nearly 13% of global maternal mortality. Postabortion care (PAC) for women suffering from complications

of abortion is essential in reducing morbidity and mortality related to unsafe abortion. Since the 1990s, PAC has been introduced primarily at the tertiary level of health systems in Africa, Asia, and Latin America. However, expanding PAC services from hospitals to lower levels of the health system is still a challenge in many countries.

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USAID
FROM THE AMERICAN PEOPLE

Nearly 40 years ago, the World Health Assembly declared unsafe abortion an important public health problem and urged countries to include family planning in basic health services (Ahman and Shah 2004). In spite of this declaration, data regarding abortion were limited for many years due to financial and political constraints related to restrictive policies, such as the Mexico City Policy, which prohibits local organizations from using US government funds to perform abortion and counsel clients about abortion (WHO 1996, Corbett and Turner 2003). Only in 1987, during the Safe Motherhood Conference in Nairobi, did the issue of abortion secure a position on the international platform to improve maternal health (WHO 1996). In the mid-1990s, the International Conference on Population and Development (ICPD) in Cairo and the Fourth World Conference on Women in Beijing reiterated this position and emphasized the importance of quality family planning services to prevent undesired pregnancy and repeat abortions (Ahman and Shah 2004).

Unsafe abortion is a preventable public health problem. In spite of the growing recognition of the tragedy of unsafe abortion, mortality and morbidity related to unsafe abortion remain unacceptably high. Nearly 22% of the 210 million pregnancies occurring each year worldwide are terminated by induced abortion (Alan Guttmacher Institute 1999). It is the complications related to unsafe abortion, and not abortion itself, that pose a significant public health problem.

According to the World Health Organization, unsafe abortion is “a procedure for terminating an unintended pregnancy carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both” (Ahman and Shah 2004). Of the nearly 46 million abortions that occur around the world each year to end undesired pregnancy (Alan Guttmacher Institute 1999, WHO 1996), nearly half, around 20 million,

take place in countries where highly restrictive abortion laws often drive women to seek unsafe abortion. Almost all of these illegal abortions (95%) occur in developing countries (Alan Guttmacher Institute 1999, WHO 1996).

Every year, an estimated 600,000 women die from complications related to pregnancy and child-birth. Complications related to unsafe abortion account for 13%, or 78,000, these deaths (Alan Guttmacher Institute 1999). It is estimated that 40% of these deaths take place in Africa (Ahman and Shah 2004). Women who survive unsafe abortion often suffer chronic health problems, such as chronic pain, depression, pelvic inflammatory disease, intestinal occlusion, and secondary infertility.

Unsafe abortion is an indicator of unmet contraceptive need. Globally, only 58% of married women are using contraception. Although this percentage is higher in developed regions, Latin America, the Caribbean, and East Asia, it is lower in the rest of Asia (42%) and strikingly low in Africa (20%). Among unmarried women, global estimates suggest that contraceptive utilization may be lower than 40% (Alan Guttmacher Institute 1999). In 1994, the ICPD Program of Action highlighted the role of quality family planning services in reducing unwanted pregnancy and unsafe abortion (Ahman and Shah 2004). Although evidence points to a global trend towards smaller families, many women still have more children than they would like (Alan Guttmacher Institute, 1999); the World Health Organization estimates that 40% of pregnancies are unplanned (Ahman and Shah 2004).

Many women have unplanned pregnancies because contraceptive services are inaccessible and unaffordable. Social and cultural norms regarding family and sexuality continue to complicate women’s desire and ability to space or limit children. Many women are not using

effective contraceptive methods due to provider bias, lack of counseling, and fear of side effects. However, studies suggest that high contraceptive use alone cannot reduce undesired pregnancy and unsafe abortion. Rather, women must have access to and be able to correctly use effective contraceptive methods (Ahman and Shah 2004, Marston and Cleland 2004).

This paper has five major sections:

- Section I identifies the context in which postabortion care was conceptualized and reviews the experiences of countries in Africa and Latin America that have introduced postabortion care and the few that have expanded PAC services beyond the tertiary level of the health system.
- Section II explores the evolution of PAC in Senegal, from the first operations research projects to the Ministry of Health's decision to scale up PAC in five regions.
- Section III describes the methodology used to implement the scale-up intervention in Senegal.
- Section IV shares results from this intervention.
- Section V discusses the implications for the next steps in Senegal's postabortion care program.

SECTION I: A Review of the Postabortion Care Experience

This section looks at the concept of postabortion care, essential elements of PAC, and experiences with PAC in various countries.

WHAT IS PAC?

The concept of postabortion care was developed to help integrate the treatment of abortion-related complications into reproductive health services in the context of an increasingly restrictive political environment (Corbett and Turner 2003). Ipas published the original model of postabortion care in 1994 (PAC Consortium 2002). Even in cases where abortion legislation is highly restrictive, this model facilitates the availability of quality services to treat women suffering from complications related to abortion. The three elements of the Ipas PAC model are:

- emergency treatment for complications of spontaneous or induced abortion;
- postabortion family planning counseling and services to prevent repeat abortion and undesired pregnancy;
- linkages to other reproductive health services.

This model recommended the use of manual vacuum aspiration (MVA)¹ for treatment of abortion complications because it can be applied by a range of providers at various levels of the health system. In addition, MVA is low cost, safe, and efficient and leads to fewer

¹ MVA is a surgical method of first-term abortion that uses a handheld vacuum aspirator and a plastic cannula inserted through the cervix to remove the contents of the uterus.

uterine evacuation complications (Corbett and Turner 2003, Baird and Flinn 2001). In 2002, the PAC Consortium enlarged the model to include two steps that highlight the importance of reproductive health counseling and partnerships between the community and providers (see Table 1). Implicating both health providers and communities, this updated model calls for a more holistic approach to women's reproductive health needs (PAC Consortium 2002, Corbett and Turner 2003).

RAISING AWARENESS OF THE PROBLEM

The series of international conferences held during the 1990s, particularly the ICPD of 1994, played an essential role in raising awareness among governments and donors about unsafe abortion and the importance of integrating PAC into maternal health programs and policies. Since the ICPD recommendation that countries focus special attention on the treatment of abortion-related complications as a strategy to reduce maternal mortality in 1994, more than 40 countries have introduced PAC activities into their health systems (Cobb et al. 2001).

OPERATIONS RESEARCH FINDINGS

A review of the literature indicates that although challenges remain in the implementation of PAC programs, there have been significant improvements in the quality and the availability of treatment services for women suffering from abortion-related complications. Since the early 1990s, many countries have documented operations research and pilot project experiences in introducing PAC. In countries such as Bolivia, Burkina Faso, Egypt, Honduras, Kenya, Mexico, and Peru, the introduction of PAC services has primarily involved the training of providers in MVA and

Table 1. Essential Elements of Postabortion Care

Community and service provider partnerships	<ul style="list-style-type: none"> ▪ Prevent unwanted pregnancies and unsafe abortion ▪ Mobilize resources to help women receive appropriate and timely care for abortion complications ▪ Ensure that health services reflect and meet community expectations and needs
Counseling	<ul style="list-style-type: none"> ▪ Identify and respond to women’s emotional and physical health needs and other concerns
Treatment	<ul style="list-style-type: none"> ▪ Treat incomplete and unsafe abortion and potentially life-threatening complications
Contraceptive and family planning services	<ul style="list-style-type: none"> ▪ Help women prevent unwanted pregnancy or practice birth spacing
Reproductive and other health services	<ul style="list-style-type: none"> ▪ Provide services, preferably on-site, or via referrals to other accessible facilities in providers’ networks

postabortion care counseling, including family planning counseling. In these countries, improvements were observed in the treatment and management of abortion after the introduction of PAC. The most significant improvements often occurred in the proportion of women treated with MVA instead of dilation and curettage (D&C), the proportion of women receiving postabortion counseling, and the proportion of women leaving the facility with a contraceptive method (Diaz et al. 1999, Huntington et al. 1995, Population Council 2000 [Burkina Faso], Solo et al. 1999, Population Council 2000 [Egypt], Billings et al. 2003, Langer et al. 1999, Benson and Huapaya 2002, Medina et al. 2001).

EXPERIENCE IN SCALING UP PAC SERVICES

Although these studies clearly demonstrate the benefits of PAC in treating and managing women suffering from abortion-related complications, they are for the most part limited to operations research experiences in urban hospitals. Although making PAC

services more widely available to women is essential in reducing morbidity and mortality related to abortion, few countries have undertaken the challenge of scaling up PAC services beyond the secondary and tertiary levels of the health care system. Mexico and Guatemala have emerged as pioneers in the extension of PAC services to rural areas. In Mexico, three major public health institutions—the Secretariat of Health, Mexican Institute of Social Security (IMSS), and IMSS Solidarity Program—extended PAC services to primary health care facilities and institutionalized PAC training and supervision in national reproductive health programs over a 10-year period beginning in the late 1980s. Since then, 30,000 health providers in nearly 60% of public hospitals, including rural facilities, have been trained in PAC, including the use of MVA and contraceptive counseling and services. By extending PAC services, these three institutions have contributed to an improvement in the technical capacity of health facilities, reduced the cost of services, and decreased maternal mortality and morbidity (Chambers et al. 2001).

In Guatemala, efforts to scale up PAC services took place in 22 out of 33 district hospitals between 2003 and 2004. The main interventions included PAC training, reorganization of services to integrate PAC, strengthening infrastructure to provide PAC, distribution of PAC informational material, and establishment of facility-based abortion surveillance systems. The program also mobilized support for PAC from the Ministry of Public Health, national hospital administrations, and medical and nonmedical personnel at the district level. As in the PAC studies conducted in the 1990s, improvements

were observed in the number of patients treated for abortion, the proportion of women treated with MVA, and the proportion of women receiving postabortion counseling and accepting contraceptive methods. Although reductions in abortion-related mortality and morbidity were not observed, the intervention permitted for the first time the collection of critical data on abortion complications in district hospitals. Efforts must also be made to reinforce the other components of PAC: linkages with other reproductive health services and partnerships between providers and the community (Kestler et al. 2006).

SECTION II: Postabortion Care in Senegal

THE PROBLEM IN SENEGAL

In Senegal, access to quality contraceptive services is often limited by sociocultural elements as well as factors related to the health system, including stock-outs, providers' attitudes, and poor linkages among reproductive health services. In 2005, although 60% of women expressed the desire to space or limit pregnancy, only 10.3% were using modern methods, and unmet contraceptive need was estimated at 33% (MSPM, CRDH, and Macro 2005). In 1998, a study conducted in three referral facilities during the introduction of postabortion care services estimated that 90% of patients treated for abortion complications were not using contraception when they became pregnant (CEFOREP 1998); this study is discussed in more detail in the following section. These data suggest the need for quality contraceptive services in the strategy for preventing maternal mortality and morbidity related to unsafe abortion.

Senegal also has a very high maternal mortality ratio, estimated at 480 deaths per 100,000 live births (MSPM, CRDH, and Macro 2005). Due to legal, political, religious, and cultural constraints, limited information exists to suggest how many of these deaths are related to abortion. Available data, although they come primarily from hospitals, provide some insight into the scope of the problem in Senegal. In 1992, a study conducted at the Obstetric and Gynecological Clinic of Le Dantec University Hospital in Dakar estimated that of the 21,760 abortions occurring each year, 40% were induced (Diadhiou et al. 1993). Between 1993 and 1994, a survey on mortality and morbidity related to unsafe abortion in four referral facilities in Dakar found that unsafe abortion accounted for 19–24% of all abortions. In addition, the study found that 87% of women hospitalized

for treatment of unsafe abortion did not want to be pregnant and that most of the patients (between 60 and 70%) were under the age of 25 (Diadhiou et al. 1995).

OPERATIONS RESEARCH RESULTS IN FRANCOPHONE AFRICA

Like Mexico and Guatemala, Guinea, Burkina Faso, and Senegal are pioneering the introduction and scaling up of PAC services in francophone West Africa. In Senegal, operations research has served as a major advocacy tool for PAC since the late 1990s. Results from these studies not only mobilized political support for the introduction and extension of PAC services, but have also contributed to a growing consensus to integrate PAC as part of the national strategy to reduce maternal mortality and morbidity.

Between 1997 and 1998, the Ministry of Health of Senegal initiated a PAC pilot project in collaboration with the regional Center for Training and Research in Reproductive Health (CEFOREP) and the Obstetric and Gynecological Clinic of Le Dantec University Hospital. The study aimed to assess the feasibility, acceptability, and efficiency of implementing the original PAC model in three referral facilities in the region of Dakar. Two of the facilities were maternity wards of the hospitals Principal and Le Dantec in the capital city of Dakar, and the third facility was a health center in the neighboring district of Guédiawaye. The study showed that nearly 97% of abortion cases were treated with digital curettage or D&C, and only 18% of patients received information about contraception after treatment (see Box 1). However, the study also pointed to the acceptability of the PAC model among providers, a reduction in the cost and length of hospitalization, an improved acceptance rate of family planning

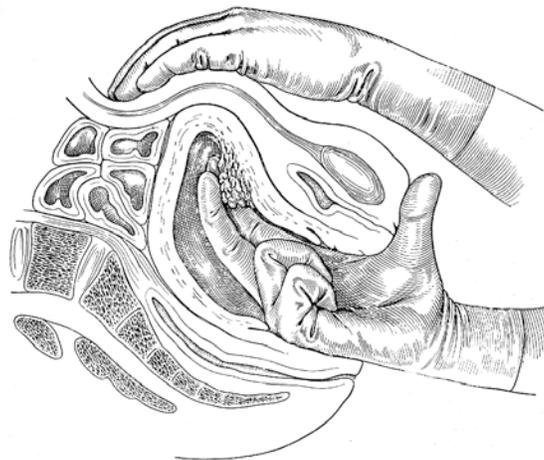
among patients, and the important contribution of midwives in the use of MVA to treat incomplete abortion (CEFOREP 1998).

Following this national study, UNFPA supported the Ministry of Health in evaluating the capacity of regional health structures, including regional hospitals and health centers, to introduce PAC in 1999. The study took place in two regional hospitals in Diourbel and Kaolack and in the district health center of Sokone. As regional facilities, these structures have fewer medical specialists and less equipment than referral hospitals at the national level in Dakar.

Nevertheless, this regional study showed results similar to those of the national study with regard to the acceptability of MVA among providers, a reduction in the cost and length of hospitalization, and improved acceptance of family planning among abortion clients. In addition, this study provided interesting insight into the delays in receiving care experienced by women suffering from abortion complications, who often seek medical attention from providers peripheral to the health system, such as traditional birth attendants and traditional healers, before visiting health facilities (CEFOREP 2001).

Box 1. Digital Curettage

Digital curettage involves the use of the fingers to conduct uterine evacuation in the treatment of incomplete first-term abortion. The provider places the left hand on the abdomen, fixing the uterus in place. The first two fingers of the right hand are introduced into the cervix to explore the uterus and evacuate products of conception. In order to conduct digital curettage, the cervix must be dilated enough to permit the insertion of two fingers. This method also requires the administration of anesthetics and analgesia to manage pain. Infection prevention measures (hand washing, sterile gloves, and antiseptic) must be taken. Postabortion care norms and protocols in Senegal authorize the use of digital curettage by nurses and midwives in health posts and by doctors and midwives in health centers.



MVA is not approved by the Ministry of Health for health posts. Therefore, digital curettage is the only method that nurses are permitted to

perform at posts. If there are serious complications or the cervix is closed, the woman is referred to a health center.

In 2001, Engender Health conducted an operations research study evaluating the feasibility of introducing PAC at health centers and health posts in six health districts of two primarily rural regions, Kaolack and Fatick. Study results indicated that quality PAC services could be offered at the primary and secondary levels of the health system. Researchers observed increasing use of MVA by providers, improved interaction between providers and clients, and improved record-keeping and infection prevention skills. However, several important barriers in the quality, accessibility, and availability of PAC services remained, including the high cost of treatment, poor observance of PAC-related infection prevention norms, lack of pain management, lack of counseling and referral, and a shortage of trained midwives and doctors available to offer PAC services 24 hours a day, 7 days a week (EngenderHealth 2003). Encouraged by operations research results from the national, regional, and district levels, the Ministry of Health developed PAC norms and standards and, with the help of its partners, initiated a PAC extension program for all levels of the health system. The annex presents a summary of PAC norms and protocols.

PILOT PROJECTS

In 2002, the PRIME II project of IntraHealth International conducted a pilot project that introduced PAC to the primary and community levels of the health system in a rural district in the region of Fatick. A baseline survey demonstrated numerous gaps in the provision of PAC, such as the limited technical skills of providers, poor quality of reproductive health services, limited knowledge at community level about danger signs in pregnancy, and virtually no community-based system to manage obstetric emergencies. The project trained nurses, midwives, district supervisors, and community health agents in PAC and reinforced referral and counter-referral systems. In addition, the project worked with communities to better

identify danger signs in pregnant women and develop linkages to health facilities for PAC and other reproductive health services. The final evaluation indicated that health post providers had improved their technical PAC skills and were increasingly managing abortion patients with digital curettage. All PAC patients received family planning counseling, and the proportion of patients who received a contraceptive method increased from 18% before the intervention to 62% after the intervention. Many communities established emergency funds and transportation systems to manage and refer obstetric emergencies (IntraHealth 2004).

FRANCOPHONE REGIONAL PAC INITIATIVE

Senegal's experience has served as a locomotive for mobilizing support for PAC in the subregion. In 2002, a consortium of regional and international agencies—including CEFORP, EngenderHealth, Family Care International, Ipas, JHPIEGO, the Population Council, Population Reference Bureau, the Swedish International Development Agency, the US Agency for International Development (USAID) and several USAID-funded projects (Advance Africa, FRONTIERS, POLICY, PRIME, Support for Analysis and Research in Africa [SARA]), and the World Health Organization (WHO)—created the Francophone Regional PAC Initiative to promote improved access to and quality of PAC in the subregion. Global partners of the initiative included the International Planned Parenthood Federation, the Ford Foundation, UNFPA, WHO, the David and Lucille Packard Foundation, and the Rockefeller Foundation.

The Francophone PAC Initiative hosted a conference in Dakar in 2002 to disseminate the lessons learned from PAC experiences in Burkina Faso, Guinea, Senegal, and Ghana. Attended by more than 200 representatives from 14 countries, as well as donors and partner agencies,

the conference examined the steps necessary to develop and expand the availability of PAC services in the subregion. In addition, the conference supported delegates from various coun-

tries in developing action plans to introduce and expand PAC services in their respective countries (AED 2004).

SECTION III: The Intervention in Senegal

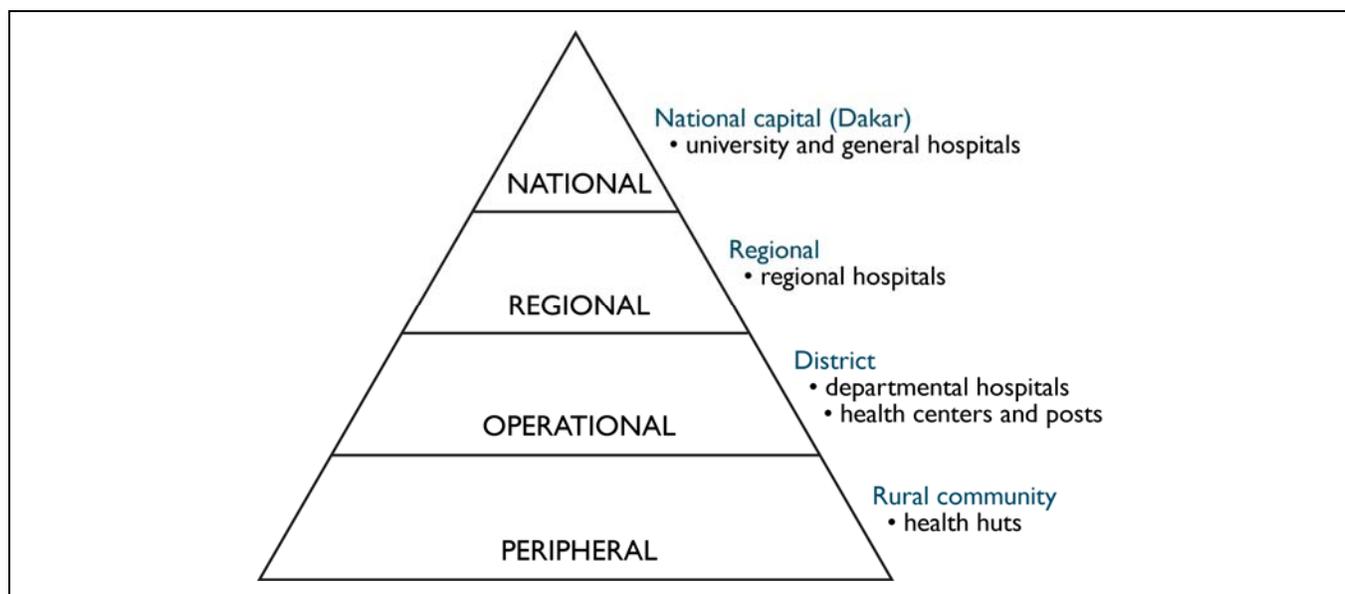
Senegal's estimated population is 11,658,000 (WHO 2006), with an annual growth rate of 2.7%. The population is predominantly Muslim (95%). Disparities in availability of, access to, and utilization of health services persist among poor and rural communities, which account for the majority of the population (60%).

SENEGAL'S HEALTH SYSTEM

Senegal's health system is divided between the public and private sectors, which include religious and military facilities. For many Senegalese, however, traditional healers remain the most accessible source of primary health care. The public sector provides the majority of ambulatory and hospital-based services and con-

sists of four levels of care (see Figure 1). The primary, or operational, level is composed of 50 health districts with a total of 60 health centers that serve as reference points for 913 health posts. In turn, health posts oversee 1,384 community-based health huts at the peripheral level. Health centers, in theory, should function as district hospitals, but they frequently fall short of their role as reference points due to a lack of medical specialists and equipment. The secondary or regional level of the health system includes 12 regional hospitals located in major regional cities. The tertiary or national level includes 2 university hospitals and 5 general hospitals located in the capital city of Dakar.

Figure 1. Senegal's Health System



PAC PROGRAM IN HEALTH DISTRICTS

Through its implementing agencies, USAID intervenes in five regions of the country that include up to 323 health facilities in 25 health districts and cover approximately 60% of the

population. Between November 2003 and June 2005, Management Sciences for Health (MSH), the implementing agency for USAID's Maternal Morbidity and Mortality Reduction Project, collaborated with the Ministry of Health to scale

up PAC services in health facilities in 23 health districts. The program aimed to integrate emergency treatment for abortion complications with postabortion family planning services and other reproductive health services. At health centers, emergency treatment included MVA with local anesthesia. The importance of psychological support for patients before, during, and after treatment was emphasized at all health facilities.

Needs assessment. MSH implemented the PAC program in four steps. The first step involved a needs assessment, conducted in maternity wards in 13 health centers and 4 hospitals, to evaluate the treatment and management of abortion complications and the availability of equipment and material. The needs assessment also examined the feasibility of scaling up PAC and collected baseline data. Results showed that although there was a significant demand for PAC, serious gaps existed in the quality and availability of PAC services. In most facilities, *matrones* (traditional birth attendants) treated abortion complications using digital curettage without pain management or infection prevention measures. Furthermore, postabortion family planning services were not systematically offered, and the proportion of women receiving counseling and who left the facility with a contraceptive method was low. In spite of these problems, the needs assessment suggested that PAC services could feasibly be introduced since all providers had a background in emergency obstetric care and family planning services.

Provider training. The second step involved PAC training for providers. The program first oriented 64 members of regional and district health management teams to the problem of unsafe abortion in Senegal and shared results from PAC operations research and the needs assessment. To encourage sustained supervision and to support providers in the implemen-

tation of PAC services at the operational levels, trainers also reviewed the concepts and technical elements of PAC with regional and district teams. Next, the program trained doctors, midwives, nurses, and counselors at health posts and health centers in PAC according to national norms and protocols for PAC, which limit the use of MVA to treat incomplete abortion to health centers and higher-level facilities. Providers in health centers (doctors, midwives, and nurses) received six days of training, including one morning of classroom practice on pelvic models (Zoe) and three mornings of practice on live patients.

Training was organized into four modules: initial assessment of the patient, infection prevention practices in PAC, use of MVA, and PAC counseling (including psychological support before, during, and after treatment, and counseling in family planning counseling and other reproductive health needs). Providers from health posts (nurses and midwives) received three days of training designed to improve access to PAC in rural areas. Because health post providers already had skills in emergency obstetric care and family planning, PAC training focused on evaluating and stabilizing patients with abortion-related complications, carrying out referral or digital curettage where possible, and family planning counseling and service provision. Counselors at health centers and health posts received training exclusively in PAC counseling. At the end of each training session, participants developed action plans to implement their newly acquired PAC skills. All health centers received MVA kits, and all facilities received family planning counseling tools for PAC to encourage the immediate application of PAC skills after training.

Data collection. Third, the program introduced a PAC register, developed in collaboration with the Ministry of Health, in all intervention facilities. The PAC register collects

all data related to the treatment and management of patients suffering from abortion complications (see the annex).

Supportive supervision. The fourth step of the PAC program instituted supportive supervision to evaluate and reinforce technical performance, assess equipment and infrastructure for PAC, and help providers identify and resolve problems encountered in providing PAC. Supervision tools included a checklist for PAC services, interviews with PAC clients, and a

worksheet summarizing the performance of each facility. Supervisors observed the work environment and availability of PAC equipment and essential drugs, including contraceptives. They also examined facility statistics and discussed with providers the reorganization of services to integrate PAC. At each facility, providers, district health management teams, and community members used supervision results to develop action plans to improve PAC.

SECTION IV: Results

INCREASING THE AVAILABILITY OF PAC

The program provided PAC training for 523 providers (doctors, midwives, nurses and counselors) from 323 health facilities in 23 health districts. Training took place between February and July of 2004. Figure 2 indicates the distribution of providers trained by type. Midwives, nurses and counselors—providers who are directly in contact with patients after an abortion—constituted the majority of providers trained (87%). The distribution of providers trained by type of facility was 69% in health posts and 31% in health centers. The majority of providers work in health posts, the level of the health system most accessible to the public.

Figure 3 illustrates the percentage of providers receiving the various modules of PAC training. More than half of all providers at health posts (52%) received training in PAC services using digital curettage as a form of treatment for incomplete abortion. The program trained 28% of providers in health centers (doctors, nurses, and midwives) in PAC services using MVA. Counselors at health posts and health centers were trained only in PAC counseling (20%).

Since patients should benefit from all elements of PAC, regardless of the method used to treat incomplete abortion, all 523 providers received training on counseling and contraception after abortion.

Follow-up visits with 72 midwives at health centers after PAC/MVA training indicated that most of them (92%) had used MVA after training. By contrast, none of the 6 doctors trained had used MVA since training. Reasons provided by midwives for not practicing MVA were inadequate space, lack of equipment, and lack of patients on whom to practice their skills after training. Doctors pointed to a lack of time due to competing obligations in the health district as the main reason for not practicing MVA. Figure 4 illustrates the evolution in the availability of space and equipment for performing PAC at 23 health centers. Performance related to these indicators rose from 29% in 2003 to 95% in 2006. In addition, all health centers in the intervention now have a room or a space in the delivery room reserved for MVA procedures and offer PAC services 24 hours a day, 7 days a week.

Figure 2. Providers Trained in Postabortion Care (n=523)

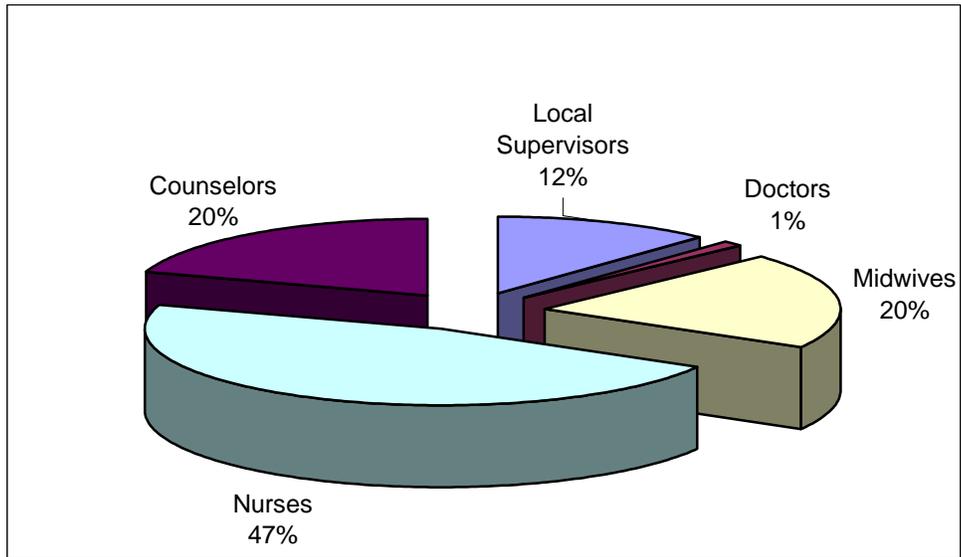


Figure 3. Providers Trained in PAC by Training Module (n=523)

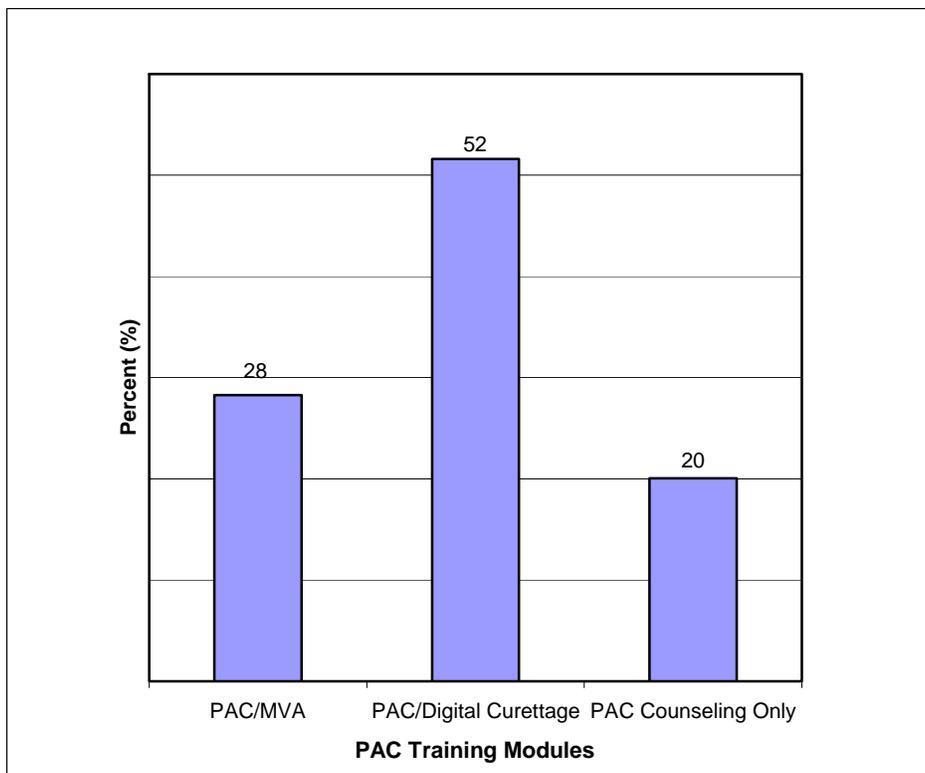
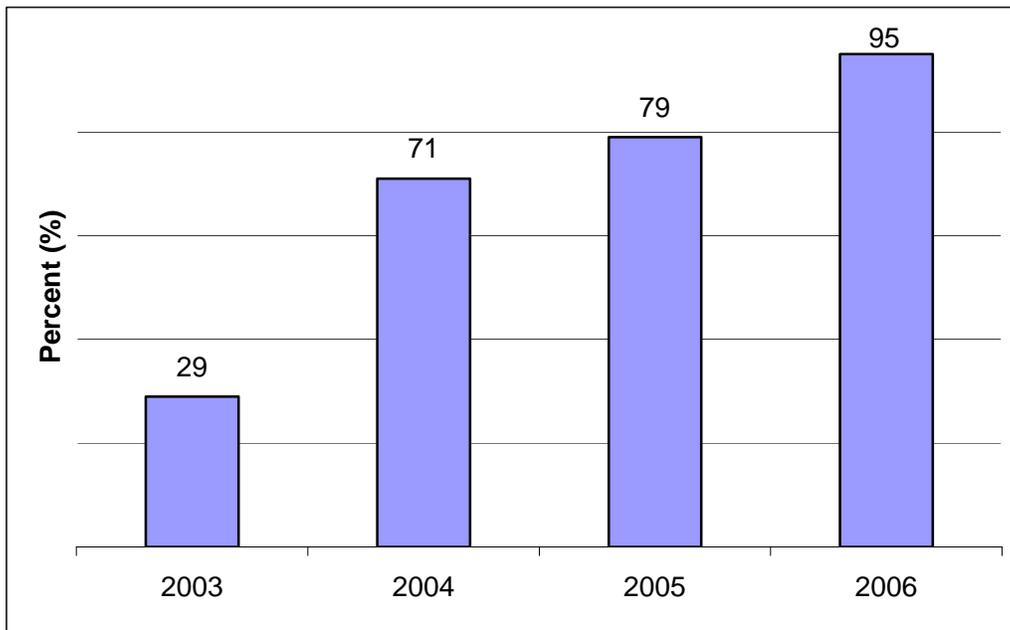


Figure 4. Health Centers with Adequate Space, Supplies, and Equipment for Quality PAC Services, 2003–06



Note: 2006 data are based on 16 of 23 health centers in the regions of Thiès, Louga, and Ziguinchor.

Figure 5 shows the evolution in the reorganization of services at 23 health centers to offer integrated and quality PAC. The indicators used to evaluate the reorganization of services were:

- availability of material and drugs necessary for 24/7 treatment of incomplete abortion at the treatment site;
- availability of psychological support before, during, and after treatment;
- availability of contraception and of the method selected by the patient at the facility;
- management of, or appropriate referral for, other reproductive health needs.

In 2006, 84% of health centers had reorganized and adapted their services to offer integrated

and quality PAC. According to providers, the main obstacles to the reorganization of services are inadequate management of other reproductive health needs and lapses in the availability of contraceptive methods at the treatment site, particularly the IUD and Norplant. The unavailability of contraceptive methods was related to not only the physical but also the operational separation between the family planning department and the delivery room. In many health centers, the family planning consulting room and the delivery room are located in different areas. The family planning consulting room, supervised by the district coordinator for reproductive health, is usually the sole venue for consulting patients and distributing contraceptives. The delivery room, supervised by the head midwife, is usually equipped to manage only emergencies.

Figure 5. Health Centers with Services Reorganized to Integrate PAC, 2003–06

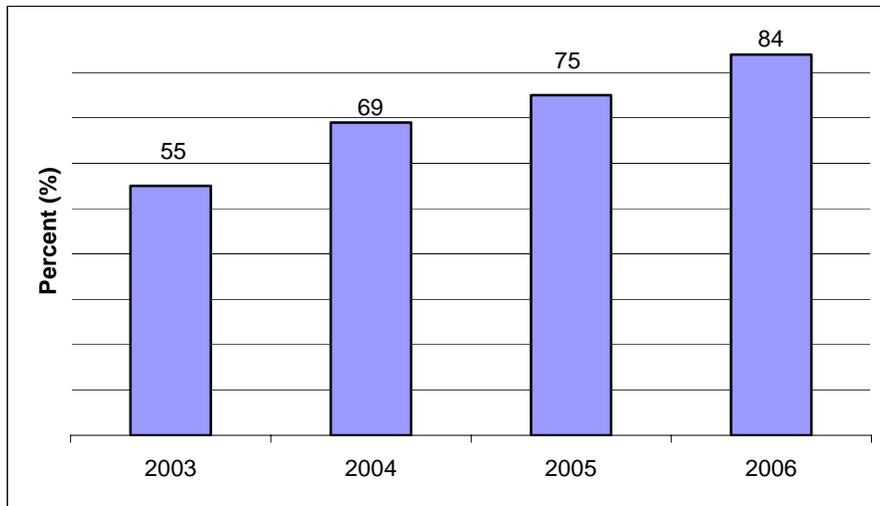
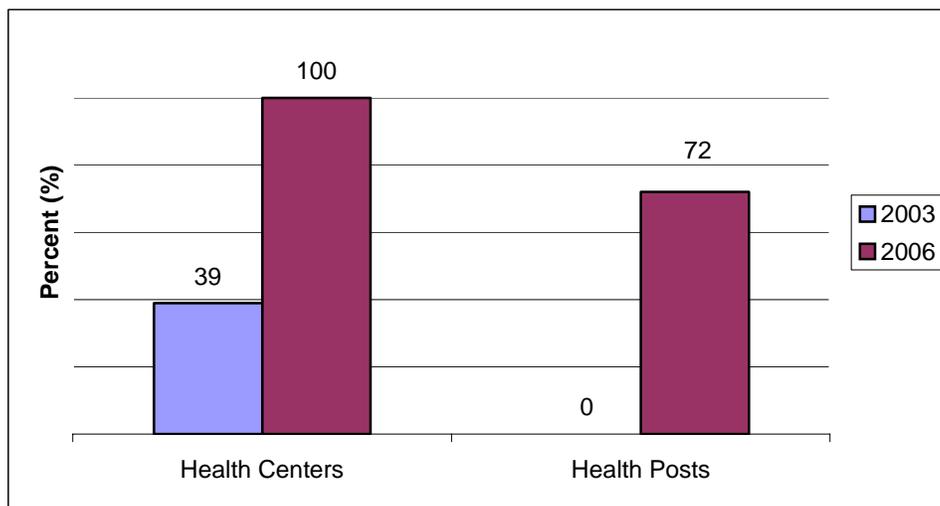


Figure 6 indicates that since the intervention, the availability of PAC has improved in both health centers and health posts. Availability at the facility level refers to the presence of at least one provider trained in PAC and the existence of PAC services. The proportion of health cen-

ters with a provider trained in PAC and that offered PAC services increased from 39% (9 of 23 health centers) in 2003 to 100% in 2005. In health posts, the proportion increased from 0 to 72% (216 of 300 health posts) in 2006.

Figure 6. Facilities with at Least One Provider Trained in PAC That Offer PAC Services, 2003–06



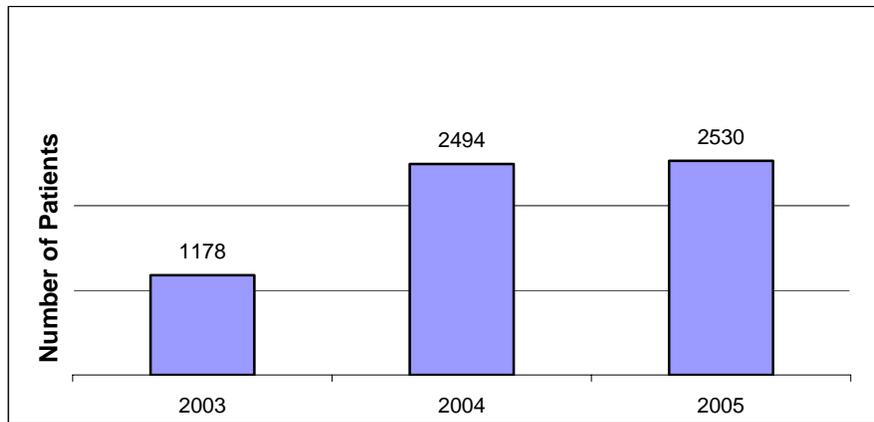
INCREASING THE UTILIZATION OF PAC

A fundamental aspect of the provision of quality PAC services involves strengthening providers' competence in the three essential elements of PAC. Follow-up visits in 23 health centers yielded important data on the management of abortion by providers after training. These data also provide insight into clients' utilization of PAC services.

Figure 7 indicates that the number of patients in the health centers who sought treatment for an incomplete abortion more than doubled between 2003 and 2005. Certainly, the availability

of PAC services in the 23 health centers may account for the significant increase of abortion patients seen in certain facilities between 2003 and 2004. However, there are other factors that may have contributed to this increase. The implementation of a PAC register may have permitted providers to improve the registration of abortion patients and the management of data related to abortion cases. The training of chief nurses in health posts in PAC may have increased the number of patients referred to health centers for MVA. The integration of abortion-related topics into facilities' IEC activities may also have contributed to this increase.

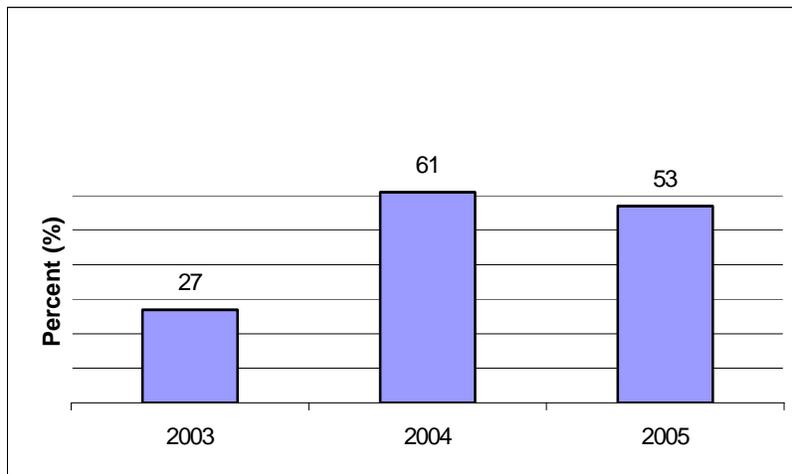
Figure 7. Patients Who Received Postabortion Care Services in 23 Health Centers, 2003 and 2005



With the extension of PAC, MVA has emerged as the preferred technique for uterine evacuation. Training providers in PAC has thus improved the emergency treatment of patients consulting for incomplete abortion. Figure 8

indicates that the percentage of patients treated by MVA in 23 health centers more than doubled between 2003 and 2005. These findings are consistent with studies in other countries

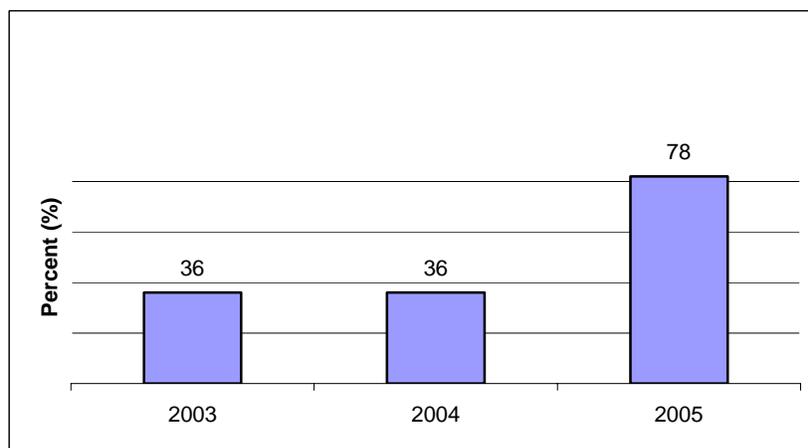
Figure 8. Abortion Patients Treated by MVA in 23 Health Centers, 2003–05



Counseling of patients in family planning after abortion has increased in the 23 health centers. Figure 9 shows that the proportion of abortion patients who received counseling before leaving the facility increased from 36% in 2003 and 2004 to 78% in 2005. Gaps in the completion of newly introduced abortion registers observed at health facilities may explain the stagnation of

results at 36% in 2004. Although providers were registering abortion patients and the type of treatment they received, supervisors noted that counseling, when conducted, was not consistently reported in the register. To address this problem, providers received on-the-spot orientation in record-keeping during subsequent follow-up visits.

Figure 9. Proportion of Patients Receiving Postabortion Counseling in 23 Health Centers, 2003–05



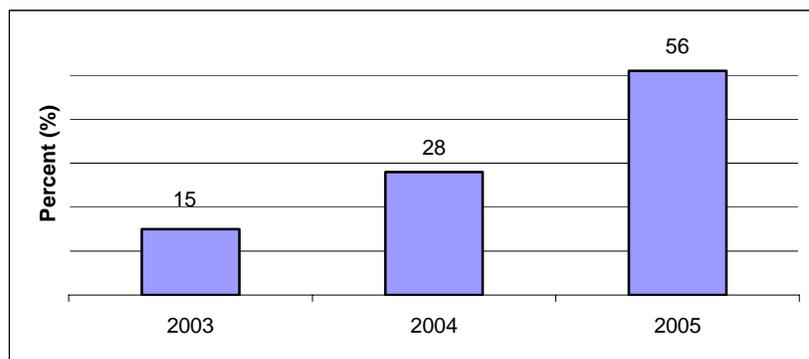
The patient's ability to make an informed choice about contraception and the availability of her desired method are also critical elements of quality PAC services. Figure 10 indicates that the proportion of patients who received coun-

seling and who left the facility with a family planning method rose from 15% in 2003 to 28% in 2004 and again in 2005 to 56%. These results are consistent with findings in other countries that suggest that providing abortion patients

with essential information about their health, such as the benefits of birth spacing, the rapid return of fertility after abortion, and the avail-

ability of safe and efficient contraceptive methods that can be used immediately, can improve the acceptance of contraception.

Figure 10. PAC Patients Who Received Counseling and Contraceptive Methods in 23 Health Facilities, 2003–05



Before the extension of PAC in Senegal, the availability of these services was limited to national hospitals. Treatment of incomplete abortion was performed in health centers with digital curettage by *matrones* (traditional birth attendants) or, with referral, in regional hospitals with operating rooms, specialized physicians, and anesthesiologists. Treatment at hospitals was more or less limited to an evacuation of the products of conception from the uterine cavity by curettage or electric vacuum aspiration under general anesthesia. Abortion patients rarely received information about their health, their treatment, or family planning, and even fewer women left the facility having made an informed decision about family planning.

ACHIEVEMENTS

Since the extension of PAC in 2003, the treatment and management of women suffering from postabortion complications in intervention zones has improved. Providers have been trained to provide emergency treatment for abortion complications, and providers at hospitals and health centers have been trained in MVA. As a result, the proportion of abortion patients treated with MVA has increased. Through supportive supervision, facilities have reorganized their services to ensure that patients' rights to privacy and confidentiality are respected and that family planning services are available at the site of emergency treatment. Postabortion care counseling has become more systematic, and more abortion patients are leaving facilities with a contraceptive method. The training of paramedical staff in MVA has empowered midwives and nurses to effectively treat and manage abortion, thereby reducing the number of patients treated by *matrones* or traditional birth attendants under unsafe conditions. In addition, training has improved the

clinical examination of patients and the development of appropriate diagnoses and treatment for abortion patients according to gestational stage of their pregnancies.

REMAINING CHALLENGES

However, several challenges remain in the scaling up of PAC services. At the level of health posts, laxity has been observed among nurses with regard to treating and managing abortion complications. Although nurses at health posts have been trained in digital curettage, they refer abortion patients almost systematically to health centers, where MVA is available. Another challenge is linking PAC to other reproductive health services. Testing and treatment for sexually transmitted infections; counseling, testing, and treatment for HIV; and prenatal care must be routinely available for abortion patients but are rarely offered at the facility level.² Although the PAC program introduced PAC registers to all facilities, analysis and utilization of data remain limited at the level of health facilities, districts, and regions. PAC registers offer an important source of data that can be used to develop local strategies for improving PAC and other reproductive health services.

A continuing challenge to the extension of PAC is the development of links between communities and providers to reinforce the availability of PAC services and increase their utilization. To address this issue, MSH recently supported the Ministry of Health in its revision of sexual and reproductive health policy, norms, and

² National norms and protocols include prenatal care in the package of reproductive health services for abortion patients who express an interest in becoming pregnant soon after treatment.

protocols to integrate the community element. In addition, in 2006 MSH collaborated with the Ministry of Health to initiate community-based PAC activities. The PAC program conducted a community-based survey in three districts (Kafrine, Mbour, and Ziguinchor) to assess knowledge, attitudes, and behavior regarding unsafe abortion and PAC, and disseminated results to key stakeholders in the community and the health system. The PAC program also sponsored in the southern region of Ziguinchor a theater competition among various youth groups to explore PAC-related issues such as sexuality, unwanted pregnancy, unsafe abortion, the community, and the role of the health system and care providers. In response to these activities, health care providers and educational and cultural professionals developed partnerships that contributed to the sensitization of nearly 900 youths to the risks of unwanted pregnancy, unsafe abortion, and strategies to prevent these problems. Although results from the Ziguinchor experience are encouraging, efforts must be continued to involve communities in PAC and form links with the health system.

Evidence suggests that the availability of modern contraception and the effective utilization of modern methods are essential to reduce undesired pregnancy and unsafe abortion (Ahman and Shah 2004, Marston and Cleland 2004). For this reason, efforts to reduce unwanted pregnancy and unsafe abortion in Senegal should concentrate on improving access to and utilization of high-quality PAC integrated with family planning services. All abortion patients, whether they are treated with MVA, D&C, or digital curettage, in public or private facilities, must receive family planning counseling and services in order to prevent future undesired pregnancies and unsafe abortions.

CONCLUSION

The introduction of PAC services into Senegal has demonstrated that community PAC services can be strengthened to rapidly increase the number of women being treated for unsafe abortion and who leave the facility with a modern family planning method. Availability of services and improved community education contributed to the doubling of women receiving improved health care with PAC services. Based on the experience of other countries, the strengthened PAC services and increased contraceptive use following incomplete abortion will reduce subsequent unintended pregnancies and unsafe abortions.

Operations research in Senegal has demonstrated that PAC is feasible and acceptable. This research has contributed to a political environment that is increasingly favorable to PAC. The PAC program spearheaded by MSH has affirmed that these services can be scaled up to the operational level of the health system. To maintain the momentum gained by this program and ensure that all regions benefit from PAC, scaling-up efforts should be carried forward by the Ministry of Health. At the same time, the Ministry should integrate PAC into basic provider training, review existing norms and protocols for improving the availability of PAC through the decentralization of MVA technology, implement regular supervision of PAC services, and establish an efficient provision system for MVA kits and other PAC material in order to institutionalize PAC in the health system. The involvement of the community must also be considered in the development of national PAC strategies. With the continued support and leadership of the Ministry of Health for PAC, we hope that the gains observed in the PAC program will be just one step among many in reducing the threat of unsafe abortion to the health and lives of women and girls in Senegal.

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Annex: Senegal's PAC Norms and Protocols

<i>Health System Level</i>	<i>Type of Provider</i>	<i>Services Available</i>	<i>Postabortion Family Planning</i>
Rural community (health huts, maternities)	Traditional birth attendant, community health worker, social worker	<ul style="list-style-type: none"> ▪ Refer women with signs of complication ▪ Monitor clients ▪ Provide psychosocial support ▪ IEC 	<ul style="list-style-type: none"> ▪ Condoms ▪ Spermicides ▪ Oral contraceptives
Health post (public, private)	Midwife, nurse	<ul style="list-style-type: none"> ▪ Observation ▪ Administration of anticonvulsants, antibiotics, or oxytocics ▪ Digital curettage ▪ Refer complications to health centers ▪ Monitor clients 	<ul style="list-style-type: none"> ▪ Same as above ▪ Norplant ▪ IUD ▪ Depo Provera
Health center (without operating room) and private medical office	Doctor, midwife	<ul style="list-style-type: none"> ▪ Same as above, plus uterine evacuation (MVA, digital curettage) ▪ Manage referred clients 	<ul style="list-style-type: none"> ▪ Same as above
Health center (with operating room) and hospital	Doctor, midwife	<ul style="list-style-type: none"> ▪ Same as above, plus D&C ▪ Manage referred clients 	<ul style="list-style-type: none"> ▪ Same as above

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