



Published in final edited form as:

Stud Fam Plann. 2010 December 1; 41(4): 291–300. doi:10.1111/j.1728-4465.2010.00254.x.

Providers' Views Concerning Family Planning Service Delivery to HIV-positive Women in Mozambique

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Abstract

This study explores challenges and obstacles in providing effective family planning services to HIV-positive women as described by staff of maternal and child health (MCH) clinics. It draws upon data from a survey of service providers carried out from late 2008 to early 2009 in 52 MCH clinics in southern Mozambique, some with and some without HIV services. In all clinics, surveyed providers reported that practical, financial, and social barriers made it difficult for HIV-positive clients to follow protocols to prevent mother-to-child transmission of the virus. Likewise, staff were skeptical of their seropositive clients' ability to adhere to recommendations to cease childbearing and to use condoms consistently. Providers' recommendations to HIV-positive clients and their assessment of barriers to adherence did not depend on availability of HIV services. Although integration of HIV and reproductive health services is advancing in Mozambique, service providers do not feel that they can influence the behaviors of HIV-positive women effectively.

The large-scale rollout of antiretroviral therapies is transforming HIV/AIDS from an untreatable and lethal disease to a chronic condition. As a result, increasing effort has been directed toward improving the quality of life of people living with HIV, and in particular toward managing their reproductive health and parenthood. In sub-Saharan Africa, HIV testing and treatment services have grown rapidly in the first decade of the twenty-first century. Voluntary counseling and testing (VCT) programs have become more widely available, allowing an increasing number of women to learn their HIV status. Recently developed regimens for the prevention of mother-to-child transmission (PMTCT) lower the likelihood of vertical transmission, and highly active antiretroviral therapy (HAART) can stall the progression of HIV infection to AIDS.

In theory, these technologies make pregnancy and childbirth for seropositive women possible with minimal risk of mother-to-child transmission, but in practice considerable logistical, financial, and cultural barriers inhibit their full implementation. The recent introduction of rapid and readily available HIV testing, regimens for the prevention of vertical transmission, and official policies for the treatment of seropositive women have created new requirements for specialized care. Prevention and treatment protocols are developed at the national and even international level, but are implemented by local clinic staff. These “street-level bureaucrats” (Lipsky 1980) make decisions about how to allocate limited resources and how to translate official recommendations into locally comprehensible advice—decisions that are shaped by their social position and cultural outlook as well as

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A previous version of this paper was presented at the International Union for the Scientific Study of Population International Conference, Marrakech, Morocco, 27 September-2 October 2009.

their personal agendas and individual capabilities (Shelton 2001). Previous research has demonstrated the importance of these factors for understanding the provision of family planning services (Kaler and Watkins 2001; Richey 2008), the implementation of health-care reform (Walker and Gilson 2004), and the introduction of HIV testing and treatment services (Buskens and Jaffe 2008; Angotti 2010). Building on this research, we examine how staff at maternal and child health (MCH) clinics understand and navigate the logistical and sociocultural challenges in family planning service provision during the rollout of VCT and PMTCT services.

This article contributes to the emerging body of research on strains and challenges produced by the integration of HIV-transmission prevention into established family planning services in resource-poor settings. Our analysis looks at these problems from the perspective of MCH service providers in a context of rapid change in the availability of services. The article begins with a brief overview of issues related to the provision of family planning services to seropositive women, then describes the setting of the study: Gaza Province in southern Mozambique, a predominantly rural area with high prevalence of HIV infection and large-scale rollout of PMTCT and HAART services. Data from a survey administered to the staff of MCH clinics with varying levels of HIV-service availability are used to examine service providers' perceptions of both logistical and sociocultural challenges that must be navigated in meeting the family planning needs of HIV-positive women.

Reproductive Health Care for Seropositive Women

Approximately 60 percent of people living with HIV/AIDS in sub-Saharan Africa are women, and most of these women are of reproductive age (MacCarthy et al. 2009; UNAIDS 2009). National health systems and international organizations have dedicated increasing attention to providing family planning services to these women as part of comprehensive reproductive health care (Kaida et al. 2009; Wilcher and Cates 2009 and 2010). Family planning for seropositive women can prevent unintended pregnancies and reduce vertical transmission of HIV, one of the ten priority areas of the United Nations Joint Programme on HIV/AIDS (UNAIDS 2009). In conjunction with HIV counseling and treatment programs, effective family planning services also promote safe pregnancies (for both mothers and children) among women who want to continue childbearing.

In much of rural sub-Saharan Africa, MCH clinics are the primary health-care facilities. As a result, HIV testing and care are introduced largely through integration with existing sexual and reproductive health (SRH) services, and family planning for HIV-positive women is provided mainly within these programs as well. Such integration potentially allows for more comprehensive care, makes more efficient use of both financial and human capital, and increases access to care for women whose primary interaction with the health system is through antenatal clinics (Shelton 1999; Askew and Berer 2003; Orner et al. 2008). However, integration of multiple programs under one institutional roof can also strain limited resources and contribute to overwork among staff, which affects clients in the form of increased waiting time and decreased quality of care (Mayhew 2000; Caldwell and Caldwell 2002; Foreit et al. 2002; Maharaj and Cleland 2005; Medley and Sweat 2008; Teasdale et al. 2008).

A growing body of research has demonstrated that integrated care can be effective, as measured by service access and uptake and client satisfaction (see Church and Mayhew 2009 and Spaulding et al. 2009 for recent reviews of this literature). Challenges remain, however, in the provision of family planning services to seropositive women. In recommending contraceptive methods, service providers must weigh the importance of using condoms to prevent transmission of HIV infection and reinfection against their

relatively lower (compared with hormonal methods) contraceptive efficacy and social acceptance. Providers must also navigate between public health approaches, which call for the prevention of vertical transmission by reducing childbearing among HIV-positive women, and rights-based approaches, which advocate empowering HIV-positive women to make their own decisions regarding childbearing (Rutenberg and Baek 2005).

Available treatments enable seropositive women to bear children with minimal risks to themselves and their children (MacCarthy et al. 2009). Attitudes toward childbearing among HIV-positive women are mixed, however; the high social importance placed on childbearing in sub-Saharan Africa conflicts with concerns about the impact of childbearing on the health of sero-positive women and about the stigma still cast on people living with HIV and AIDS (Baylies 2000; Rutenberg et al. 2000; Cooper et al. 2007). Early research on service integration found that many providers recommended that HIV-positive women cease childbearing altogether (de Bruyn 2002; Rutenberg et al. 2003). More recent research suggests greater variation in providers' attitudes. A study of health-care providers in urban clinics in Cape Town found that most providers recognized the importance of reproductive rights and supported seropositive women's right to make their own decisions about childbearing (Harries et al. 2007). A study in four sub-Saharan African countries found that 60 percent of providers surveyed in Rwanda but only 17 percent of providers surveyed in South Africa told HIV-positive women not to become pregnant (Adamchak et al. 2010). How much of this difference is attributable to variation in the timing of implementation of HIV testing and treatment programs, variation in training of service providers, or other factors is not clear.

Setting

The fieldwork for this study was carried out in Gaza Province of southern Mozambique. Fertility in Gaza, as elsewhere in Mozambique, remains high: according to the 2003 Demographic and Health Survey (DHS) (the most recent data available), the total fertility rate in Gaza was 5.4 children per woman. Virtually all DHS respondents in the province reported knowing at least one modern method of contraception. About 15 percent of women of reproductive age were using some form of modern contraception, primarily hormonal methods, and more than three-fourths of nonusers reported that they intend to use a method in the future. Nevertheless, ideal family size is high (a median of 4.3 children), and contraception is practiced largely for spacing at low parities (Instituto Nacional de Estatística et al. 2005).

The mainstay of Gaza's economy is subsistence agriculture, but agricultural yields are made unstable by low soil productivity, frequent droughts, and occasional devastating floods. Partly because of the precariousness of agricultural production and partly because of Gaza's proximity to South Africa (the region's economic engine), the province has historically experienced large-scale male labor out-migration, directed primarily toward Mozambique's more prosperous neighbor. The prolonged absence of men affects the dynamics of marital relationships and family and social structures more broadly. As in other similar settings, massive labor migration has also likely contributed to the country's elevated HIV levels (Decosas et al. 1995; Caldwell et al. 1997; Barreto et al. 2002). In Gaza Province, antenatal surveillance data estimated adult HIV prevalence at 27 percent in 2007, up from 19 percent in 2001 and the highest level of all of Mozambique's provinces (Ministry of Health [Mozambique] 2008). Despite the high estimated prevalence, the coverage of VCT services (recently renamed "Counseling, Testing, and Health" services) remained low until recent years. In a representative survey of married women aged 18–40 that we conducted in July 2006 in rural Gaza, more than 95 percent of parous respondents reported having had at least one antenatal consultation prior to the most recent birth, but less than one-fifth of the women

had ever been tested for HIV (authors' calculations). Furthermore, although effective HIV-testing programs promote testing among women before they become pregnant (Wilcher and Cates 2010), testing of nonpregnant women was still uncommon in our study area. Around 80 percent of the 2006 survey respondents who had been tested were tested at antenatal consultations.

Virtually all MCH care in Gaza is provided by state-run MCH clinics, which offer their services free of charge. Some of these clinics provide VCT/PMTCT/HAART services; where available, HIV testing and treatment, including all antiretroviral drugs, are also provided for free. Larger clinics, primarily located in district centers, employ several nurses with specialized duties (for example, first antenatal consultations, subsequent consultations, delivery care, postpartum care, and family planning counseling). Rural clinics usually have only one nurse, who offers the entire range of sexual and reproductive health services and often also provides all general health care in the area. Nurses are trained in post-secondary programs lasting between one and four years (Ferrinho and Omar 2006). Neither urban nor rural clinics typically have a permanent physician on staff.

In 2008, we conducted in-depth interviews with staff of selected clinics in one district in Gaza. These interviews illustrate the basic conditions of integration of HIV counseling and treatment into MCH clinics at that time (see Agadjanian and Hayford 2009 for a more complete discussion of the results of these interviews). Staff workload had grown, with no additional hiring or salary adjustment to reflect changing duties; staff training in complex PMTCT regimens and infant-feeding recommendations was limited and sporadic. In most clinics, the schedule for PMTCT treatments (check-ups, picking up medication, and so forth) was not coordinated with standard ante-natal visits, resulting in increased travel difficulties for HIV-positive pregnant women and increased service requirements for clinic staff. In many clinics, staff members responded to the added complexity of services for these women by creating a situation that in earlier analysis we called “integrated segregation,” whereby these women are scheduled on different days and treated according to a separate protocol from HIV-negative women. In this article, we focus on the provision of family planning services for seropositive women within this newly and still imperfectly integrated system.

Data and Methods

The data were collected in late 2008 and early 2009 by means of a survey conducted with nurses and staff of all MCH clinics ($N = 52$) in four contiguous districts of Gaza Province. The districts, which primarily represent the rural interior of the province rather than the more developed areas near the coast and around the provincial capital, have a combined area of about 5,900 square miles and a population of some 625,000 people. This study area was chosen because the four districts are the site of a multilevel longitudinal project on migration, HIV, and reproductive behavior. In addition to the survey of MCH clinic staff used for this article, the larger project includes several waves of individual- and community-level survey-data collection.

The MCH units surveyed were primarily rural clinics but also included clinics in the four district centers. Some units already offered HIV services (VCT, PMTCT, and HAART), some units planned to start offering services soon, and others had no plans to introduce them. Topics covered in the survey included the administrative structure of the clinic, the services provided, advice and recommendations given, and perceived barriers to clients' adherence. The survey protocol included both closed- and open-ended questions, and extensive probing was used. The full survey protocol and data are available from the authors upon request. The clinic survey protocol was reviewed and approved by the institutional

review board at the authors' home institution in the United States (Arizona State University) and by the National Bioethics Committee of Mozambique's Ministry of Health.

The survey was administered in person by female interviewers. A list of all clinics in the four selected districts was obtained from the Ministry of Health. The clinics were located and visited by the interviewers, and interviews were completed at all clinics. Interviews were conducted in either Portuguese (Mozambique's official language) or Changana (the area's main African language) according to the respondent's preference; interviewers recorded the responses in writing in Portuguese. The survey was designed to allow for multiple respondents in situations where one clinic staff member was not available for the entire interview or was not familiar with procedures in one area. In practice, all interviews were completed with a single respondent, in most cases the nurse responsible for all clinic services (that is, the only nurse on staff). Informed consent was obtained from all respondents before the interviews. The data presented here represent interviews with 52 nurses at 52 clinics. Only five respondents were male. The mean age of respondents was 35.

Findings are based largely on responses to three open-ended survey questions. In a module on family planning services, respondents were asked, "What advice is given in this clinic to seropositive women with many children and what advice is given to seropositive women with few children on the subject of becoming pregnant or not and on having children in the future, and why is this advice given?" They were asked what contraceptive methods were recommended to seropositive women with many children and with few children, and then for their perception of clients' compliance and their opinion concerning the reasons why women did not comply with the recommendations given by the clinic.

Responses to open-ended questions on family planning counseling services, HIV testing services, and PMTCT were analyzed using qualitative methods. After reading all responses, both authors discussed recurring themes from the responses and agreed on a comprehensive set of themes. The first author then coded responses in which these themes appeared. Data from closed-ended questions on services provided and the administration of the clinics were also analyzed to produce tabulations of clinic characteristics.

The results section below summarizes the main themes that emerged from the survey regarding family planning service provision to HIV-positive women, those that are critical to understanding the institutional contexts shaping reproductive and contraceptive decisionmaking among seropositive women. The views and opinions analyzed in this article come from clinic staff rather than from clients. Of course, staff perceptions of the constraints faced by women may not align with women's own perceptions of the social context and barriers to care. The observations, attitudes, and opinions of clinic staff are reflective of their interactions with clients and the clinic environment in general, however—two factors that are highly consequential for the health-care options presented to and chosen by women—and are, therefore, important in their own right.

Results

Table 1 summarizes the distribution of services for HIV-positive women available at MCH clinics in the four districts surveyed. Of the 52 clinics, 29 offered HIV-testing services. Specialized family planning counseling for HIV-positive women was provided at all of the 29 clinics that performed HIV tests. In addition to HIV-testing services, 26 clinics also offered PMTCT regimens; HAART regimens were available at ten of those clinics. Testing was not offered at 23 clinics. Specialized counseling was provided for seropositive women at some facilities where HIV diagnosis and treatment were not available ($n = 10$); some respondents in these clinics reported that the lack of direct information about women's

serostatus limited their ability to provide effective counseling. Other clinics without treatment capacity referred HIV-positive clients for counseling to nearby clinics with testing facilities ($n = 3$; in all three cases, the nearby clinics were larger urban clinics not included in our sample). Only ten clinics provided neither specialized counseling nor formal referrals for HIV-positive women.

Of the nurses interviewed, the majority had either elementary training (a one-year program; $n = 16$) or basic training (a two-to-three-year program; $n = 33$). Only three survey respondents had midlevel training, the highest level of training for nurses in Mozambique. In the clinics where PMTCT was available, the majority of respondents (24 of 26) had received some specialized training. For 6 nurses, this training lasted less than one week; for 12 nurses, between one and two weeks; and for 6 nurses the training lasted two weeks or more. The training was conducted between 2004 and 2008.

Family Planning Advice for HIV-positive Women

At clinics where specific family planning advice was offered to seropositive women, virtually all recommended that these women cease childbearing in order to protect their own health. Notably, nurses' family planning advice did not differ depending on the availability of PMTCT at the clinic. For the most part, recommendations did not depend on the woman's parity; women with few children as well as women with many children were counseled not to have more. Respondents explained their advice with reference to the stresses placed by pregnancy on women's immune system and on their overall physical health. Respondents also reported counseling clients to avoid pregnancy in order to prevent HIV reinfection and increasing viral load. (Field observations suggest that staff typically thought about reinfection in terms of increasing viral load rather than of its correct scientific meaning of infection with a different strain of HIV.) Clinic staff recommended that women use condoms consistently. Respondents were generally pessimistic about their clients' ability to follow these recommendations, however. Staff at most clinics recommended a second method of contraception in addition to condoms—usually Depo-Provera or the pill—often explicitly noting that they recommended two methods in the hope that women would use at least one consistently.

This pessimism with regard to contraceptive adherence among HIV-positive women contrasted with nurses' positive assessment of seronegative women's competence in the use of contraceptives. Clinics' limited resources for treating HIV-positive women, the continuing social stigma against HIV, and the widespread dislike of condoms all contributed to making counseling for seropositive women more challenging than for seronegative women. Although barriers to contraceptive use such as fear of side effects and resistance on the part of husbands and relatives were acknowledged even for seropositive women, most clinic staff reported that they and their clients were able to navigate these barriers successfully. Clinics have the resources to address clients' contraceptive needs (judging from respondents' reports, contraceptive stock-outs are infrequent), and family planning technology is relatively easy for women to use. The variety of free hormonal methods available allowed clinic staff flexibility to adjust to women's experiences of side effects and the social pressures they confront. Depo-Provera was seen as particularly well suited to women's desire to practice contraception without their husbands' knowledge.

A few respondents allowed that low-parity seropositive women might want to have more children, especially if their children were in poor health, and suggested that these women should wait until they themselves were in stable health, consult with doctors before deciding to become pregnant, and give birth in a facility that provides full PMTCT services. This advice appeared to be largely secondary, however—to be considered only if the primary advice to cease having children was unacceptable or could not be followed. Moreover, in

light of the lack of physicians in the clinics we studied, the instruction to consult with a doctor before becoming pregnant would be difficult if not impossible for clients to carry out. Overall, the growing availability of PMTCT services did not appear to have convinced clinic staff of the advisability of childbearing for HIV-positive women.

The limited availability of PMTCT treatment made fully incorporating such treatment difficult in counseling seropositive women. PMTCT was offered in only half the clinics at the time of the survey, and staff recognized that it was often expensive and time-consuming for women to travel to the facilities where it was offered. The restricted availability of PMTCT regimens at clinics does not fully explain its infrequent appearance in clinic staff recommendations, however. In fact, respondents mentioned PMTCT as a means for having children safely only marginally more often in those clinics where PMTCT was available (7 of 26 clinics) than in clinics where it was not (6 of 26 clinics). Even where PMTCT was available, limited resources made implementation a challenge. Many clinics lack electricity, water, space, and food for women delivering at the facility. As a result, women often choose or are compelled to give birth at home, a major obstacle to carrying out PMTCT regimens. Moreover, the uneven distribution of staff and resources across clinics, as well as the expense and inconvenience of transport, leads women to seek care from multiple clinics. Although some clinics provided integrated HIV and MCH services, not all clients of these clinics received integrated care. For example, a woman might travel to a distant integrated clinic for HIV testing, but receive antenatal care or contraceptive counseling from a nearby clinic that does not provide testing. This discontinuity of care made it difficult for service providers to follow up with individual women to address their needs and to integrate care fully. Either because of these limitations or because of its recent introduction, clinic staff did yet not appear to have included routine PMTCT counseling in the advice they provided to HIV-positive women who were seeking family planning services.

Barriers to Adherence

Although clinic staff were insistent in their recommendations to HIV-positive women to stop childbearing indefinitely, they were also skeptical about their clients' ability to prevent new pregnancies. The frequent interruption of care because of economic and logistical barriers the women face, as described above, was only one reason for that skepticism. Respondents perceived their clients to be subordinated within family and kinship networks. According to respondents, this subordination, even more than financial constraints, blocked women's adherence—and especially seropositive women's adherence—to advice regarding family planning. At clinics that lacked HIV-testing services, the absence of these services was cited as a barrier to providing counseling. At clinics that provided family planning counseling for HIV-positive women, however, staff focused on clients' concerns rather than the clinic's limitations as an explanation for noncompliance with family planning guidelines. Clinic staff emphasized clients' shortcomings regardless of the services provided by the clinic.

Respondents described women as pressured by their husbands and mothers-in-law to have more children. The respondents portrayed husbands as primary obstacles both to the practice of contraception and to HIV testing and PMTCT. Some men, respondents said, are active opponents of the clinics' agenda. They insist that their wives continue childbearing and refuse to use condoms. Respondents also described husbands as passive resisters to integrated care. The husbands of seropositive women do not attend clinics to be tested, nor do they attend family planning consultations even when they are encouraged to do so. The clinic staff surveyed explained that husbands do not come to consultations because their wives do not inform them about available HIV testing and counseling services, often because of fear of provoking their anger and physical violence. Limited time and money for travel may also explain husbands' lack of involvement. For the many men who migrate to

South Africa or to other parts of Mozambique for work, prolonged absence from home is a major constraint that prevents them from being tested or from attending consultations together with their wives. To the extent that women are compelled to ask for their husbands' permission to be tested or treated, men's migration also constrains wives' access to services by limiting their opportunities to discuss these matters with their husbands.

In households where husbands are absent, clinic staff reported that mothers-in-law take on the surveillance of women's sexual behavior. According to the respondents, mothers-in-law are generally opposed to women's use of contraceptives, in part because they suspect that their daughters-in-law use family planning methods to protect themselves during extramarital sexual relationships. Staff also reported that older women tend to distrust modern contraceptive methods and believe that women should be able to control the spacing of their children through abstinence and by means of breastfeeding for long periods (the lactational amenorrhea method) as their mothers-in-law did when they were building their families.

Some of the barriers described by staff as preventing HIV-positive women from following their advice are common to all women seeking to practice contraception. The problems are compounded for seropositive women in part because of the necessity of using male condoms, which are generally disliked and distrusted. Female condoms are hard to obtain and not widely known. Unlike hormonal methods, which can be used without informing husbands, using condoms requires not only husbands' consent but also their active participation. Moreover, whereas seronegative women generally are seeking to delay the next birth, HIV-positive women are advised to cease childbearing altogether. Acting on this long-term advice requires husbands' knowledge and agreement. Respondents noted that many women are afraid to disclose their HIV status to their families for fear that they will be abused or abandoned. Because they keep their test results secret, women are unable to obtain their husbands' support to stop childbearing. The necessity of concealing their serostatus also constrains women's ability to follow infant-feeding guidelines (for example, early weaning).

In describing the barriers arising from their clients' subordinate positions in the household, survey respondents were sympathetic to the problems their clients faced. Yet they also highlighted women's own resistance and reluctance to stop childbearing. More than for any other domain, reproductive counseling for HIV-positive women elicited reports from respondents of clients' mistrust and opposition. These reports, which appeared in surveys conducted in clinics that provided testing and treatment and in those that did not, likely stem from the cultural distance between clinic staff and their clients. Respondents consistently reported that HIV-positive women did not follow their advice to avoid pregnancy because they did not believe that they were infected—and, by extension, because they did not believe or value the advice they received at the clinic. Staff felt that women are able to surmount practical and financial obstacles to receiving care when they think that the care is important. For instance, they said that women are reliable about bringing their children to the clinic to be vaccinated, even though traveling to the clinic is expensive and difficult for them. Women's inability to follow HIV-specific recommendations was, therefore, interpreted as deliberate disregard for the recommendations and for the staff themselves.

Discussion and Conclusion

Although family planning services have been offered by government clinics in sub-Saharan Africa for decades, the understanding of HIV as a treatable medical condition is still relatively new, and testing and treatment for HIV at public clinics have been offered for only a few years at the longest (and for much less time in many clinics). Our analysis of a survey of MCH clinic staff in rural Mozambique indicates that respondents had not yet established

an effective way of working with seropositive clients within the constraints posed by economic, practical, and social conditions. In contrast to their generally positive feelings about the provision of contraception to HIV-negative women, clinic staff had little confidence in their capacity to alter the behavior or the reproductive outcomes of seropositive women. These women were viewed as being more difficult to work with because their needs are greater: they must use condoms, they must cease childbearing, and they must follow complex PMTCT regimens if they become pregnant. Seropositive women's perceived resistance to staff advice resulting from ignorance, distrust, or fear of disclosure of their serostatus further strengthened respondents' expectation that these clients would fail to follow their advice.

Whether because of this perceived opposition, because of their assessment of the practical impediments to following PMTCT regimens, or because of their own misgivings about the relatively new medical technology, respondents' recommendations rarely incorporated PMTCT as a mechanism for promoting safe pregnancy for seropositive women. Even in clinics where HIV services were available, nurses' main goal was to convince their HIV-positive clients to stop having children. They persisted in counseling their clients toward this goal despite their clear understanding that ceasing reproduction was neither feasible nor desirable for most of these clients, and despite the availability (in at least some clinics) of drugs to ensure safe pregnancy and childbirth. Clearly, new medical regimens have not been fully integrated into the repertoire of practical strategies for coping with HIV.

Ideally, integrated care would enable medical providers to offer care and advice that clients can successfully implement to carry out their own reproductive desires. The practical barriers—both economic and sociocultural—to achieving this goal are compounded by the newness of the task. These data suggest that staff have not developed a conception of HIV as a manageable chronic condition. Respondents advised clients to renounce the possibility of having children and to protect their own health even at the cost of ending their reproductive lives. In rural Mozambique, however, as elsewhere in sub-Saharan Africa, childbearing is an essential part of a normal life, and HIV-positive women may want to continue childbearing in order to maintain that normalcy (Yeatman 2009). This disagreement between nurses and clients means a lack of consensus on how to approach the treatment of HIV-positive women, which is exacerbated by the social isolation of the nursing staff, especially in rural clinics. Nurses typically have at least ten years of schooling (including professional training), whereas more than one-third of women of reproductive age in Gaza Province have never been to school, and less than 1 percent have completed secondary education (Instituto Nacional de Estatística et al. 2005). Furthermore, most nurses working in rural clinics are transplants from urban areas and move among clinics fairly frequently. As a result, clinic staff have little attachment to the rural communities where they work. Nurses' desire to distance themselves from rural life and return to more “civilized” urban living may lead them to overstate their clients' resistance and the social constraints clients face. The survey respondents may also have focused on external constraints to clients' compliance in part to avoid drawing attention to shortcomings in their provision of care.

Previous research suggests that support groups and local volunteers can play important roles in increasing adherence to PMTCT and HAART by bridging the social worlds of the clinic staff and rural communities (Chandisarewa et al. 2008; Jamisse et al. 2008; Teasdale et al. 2008; Agadjanian and Hayford 2009; Baek and Rutenberg 2010). In the clinics studied here, local seropositive women work as volunteers (*activistas* in Portuguese) to promote peer-to-peer transfer of information by reaching out to recently diagnosed women and by leading support groups. These informal actors facilitate communication between clinic staff and clients by helping to reconcile the antinatalist messages of the health sector to seropositive women and the pronatalist pressures from those women's sociocultural environments.

Therefore, they not only transfer knowledge between providers and the recipients of their services but also can help to produce new socially and culturally grounded—and more effective—models for care and counseling.

As services for HIV-positive women become more widespread and better established, some of the practical barriers to integrated care will be reduced. For example, when a greater number of clinics can provide PMTCT regimens, the distance that clients must travel to clinics will be reduced and the likelihood of their receiving different types of services at the same clinic will be increased. Clinic staff may also become more adept at navigating social barriers. The survey used for this article will be repeated at yearly intervals for at least two more years, and perhaps for longer, depending on the availability of funding. Data from these follow-up interviews can be used to track the evolution of family planning advice that is provided by clinics as HIV testing and PMTCT services are deployed in additional clinics throughout the study area.

This article is limited to an analysis of providers' perspectives on barriers to care. The attitudes and actions of providers are important because providers determine the care that seropositive women are offered and shape the outcome of that care. As noted above, the survey of the clinics analyzed here is part of a larger project that includes individual-level surveys and information linking clients to the clinics where they and their children receive care. By combining data from individuals and health-care units, we will be able to assess the impact of HIV-service availability at local clinics and across the health-care system and health-care providers' influence on individual women's reproductive health behavior.

Acknowledgments

The support of the Eunice Kennedy Shriver National Institute of Child Health and Human Development is gratefully acknowledged.

References

- Adamchak, Susan; Janowitz, Barbara; Liku, Jennifer; Munyambanza, Emmanuel; Grey, Thomas; Keyes, Emily. Study of family planning and HIV integrated services in five countries: Final report. Family Health International; Research Triangle Park, NC: 2010.
<http://www.fhi.org/NR/rdonlyres/e5riyw64cqhgg22lcsr5vpu_lzpdic6rufdpfzhcoi7tlr35lbsnjhi354dpgxd2gi2e33bqr26a/FPHIV_Int5countryreport.pdf>. Accessed 14 November 2010
- Agadjanian, Victor; Hayford, Sarah R. PMTCT, HAART, and childbearing in Mozambique: An institutional perspective. *AIDS and Behavior* 2009;13(S1):103–112. [PubMed: 19326206]
- Angotti, Nicole. Working outside the box: How HIV counselors in sub-Saharan Africa adapt Western HIV testing norms. *Social Science & Medicine* 2010;71(5):986–993. [PubMed: 20619944]
- Askew, Ian; Berer, Marge. The contribution of sexual and reproductive health services to the fight against HIV/AIDS: A review. *Reproductive Health Matters* 2003;11(22):51–73. [PubMed: 14708398]
- Baek, Carolyn; Rutenberg, Naomi. Horizons Synthesis Background Papers. Population Council; Washington, DC: 2010. Looking Backward, Moving Forward: Implementing PMTCT Programs in Resource-constrained Settings. Horizons Studies 1999-2007.
<http://www.popcouncil.org/pdfs/2010HIV_HorizonsPMTCTBackground.pdf>. Accessed 14 November 2010
- Barreto, AL.; Foreit, KG.; Noya, PA.; Nhatave, I.; Gaspar, MC. Cultural and demographic determinants of HIV prevalence in Mozambique; Presented at the XIV International AIDS Conference; Barcelona. 7–12 July; 2002.
- Baylies, Carolyn. The impact of HIV on family size preference in Zambia. *Reproductive Health Matters* 2000;8(15):77–86. [PubMed: 11424271]

- Buskens I, Jaffe A. Demotivating infant feeding counselling encounters in southern Africa: Do counsellors need more or different training? *AIDS Care* 2008;20(3):337–345. [PubMed: 18351482]
- Caldwell, John C.; Caldwell, Pat. Is integration the answer for Africa? *International Family Planning Perspectives* 2002;28(2):108–111.
- Caldwell, John C.; Anarfi, John K.; Caldwell, Pat. Mobility, migration, sex, STDs, and AIDS: An essay on sub-Saharan Africa with other parallels. In: Herdt, Gilbert, editor. *Sexual Cultures and Migration in the Era of AIDS: Anthropological and Demographic Perspectives*. Clarendon Press; Oxford: 1997. p. 41-54.
- Chandisarewa, W.; Chirapa, E.; Maruva, M., et al. Meaningful involvement and greater participation of PLWH within a PMTCT programme: Experience from urban Zimbabwe; Paper presented at the XVII International AIDS Conference; Mexico City. 3–8 August; 2008.
- Church, Kathryn; Mayhew, Susannah H. Integration of STI and HIV prevention, care, and treatment into family planning services: A review of the literature. *Studies in Family Planning* 2009;40(3): 171–186. [PubMed: 19852408]
- Cooper, Diane; Harries, Jane; Myer, Landon; Orner, Phyllis; Bracken, Hillary. 'Life is still going on': Reproductive intentions among HIV-positive women and men in South Africa. *Social Science & Medicine* 2007;65(2):274–283. [PubMed: 17451852]
- de Bruyn, Maria. *Reproductive choice and women living with HIV/AIDS*. Ipas; Chapel Hill, NC: 2002.
- Decosas J, Kane F, Anarfi JK, Sodji KDR, Wagner HU. Migration and AIDS. *Lancet* 1995;346(8,978):826–828. [PubMed: 7674750]
- Ferrinho, Paulo; Omar, Carolina. The human resources for health situation in Mozambique. World Bank; Washington, DC: 2006. Africa Region Human Development Working Paper Series, No. 91
- Foreit, Karen; Fleischman, G.; Hardee, Karen; Agarwal, Kokila. When does it make sense to consider integrating STI and HIV services with family planning services? *International Family Planning Perspectives* 2002;28(2):105–107.
- Harries, Jane; Cooper, Diane; Myer, Landon; Bracken, Hillary; Zweigenthal, Virginia; Orner, Phyllis. Policy maker and health care provider perspectives on reproductive decision-making amongst HIV-infected individuals in South Africa. *BMC Public Health* 2007;7:282. <<http://www.biomedcentral.com/1471-2458/7/282>>. Accessed 14 November 2010. [PubMed: 17919335]
- Instituto Nacional de Estatística, Ministério da Saúde, and ORC Macro. *Mozambique Demographic and Health Survey 2003*. ORC Macro; Calverton, MD: 2005.
- Jamisse, L.; Jacinto, E.; Robertson, M., et al. The complete package: Providing a standardized toolkit for PMTCT mothers' support groups in Mozambique; Paper presented at the XVII International AIDS Conference; Mexico City. 3–8 August; 2008.
- Kaida, Angela; Bangsberg, David R.; Gray, Glenda; Hogg, Robert S.; King, Rachel; Miller, Cari L. Editorial: Introduction to the supplement on HIV, HAART, and fertility in sub-Saharan Africa. *AIDS and Behavior* 2009;13(Supplement 1):S1–S4.
- Kaler, Amy; Watkins, Susan Cotts. Disobedient distributors: Street-level bureaucrats and would-be patrons in community-based family planning programs in rural Kenya. *Studies in Family Planning* 2001;32(3):254–269. [PubMed: 11677696]
- Lipsky, Michael. *Street-level Bureaucracy: Dilemmas of the Individual in Public Services*. Russell Sage Foundation; New York: 1980.
- MacCarthy, Sarah; Laher, Fatima; Nduna, Mzikazi; Farlane, Lindiwe; Kaida, Angela. Responding to her question: A review of the influence of pregnancy on HIV disease progression in the context of expanded access to HAART in sub-Saharan Africa. *AIDS and Behavior* 2009;13(Supplement):S66–S71.
- Maharaj, Pranitha; Cleland, John. Integration of sexual and reproductive health services in KwaZulu-Natal, South Africa. *Health Policy and Planning* 2005;20(5):310–318. [PubMed: 16113402]
- Mayhew, Susannah H. Integration of STI services into FP/MCH services: Health service and social contexts in rural Ghana. *Reproductive Health Matters* 2000;8(16):112–124. [PubMed: 11424239]
- Medley, A.; Sweat, M. Provider challenges in implementing prevention of mother-to child HIV programs in Uganda; Paper presented at the XVII International AIDS Conference; Mexico City. 3–8 August; 2008.

- Ministry of Health [Mozambique]. Relatório Sobre a Revisão dos Dados de Vigilância Epidemiológica do HIV – Ronda 2007. Ministry of Health; Maputo, Mozambique: 2008.
- Orner, Phyllis; Cooper, Diane; Myer, Landon; Zweigenthal, Virginia; Bekker, Linda-Gail; Moodley, Jennifer. Clients' perspectives on HIV/AIDS care and treatment and reproductive health services in South Africa. *AIDS Care* 2008;20(1):1–7. [PubMed: 18278609]
- Richey, Lisa Ann. Global knowledge/local bodies: Family planning service providers' interpretations of contraceptive knowledge(s). *Demographic Research* 2008;18:469–498.
- Rutenberg, Naomi; Baek, Carolyn. Field experiences integrating family planning into programs to prevent mother-to-child transmission of HIV. *Studies in Family Planning* 2005;36(3):235–245. [PubMed: 16209180]
- Rutenberg, Naomi; Baek, Carolyn; Kalibala, Sam; Rosen, James. Evaluation of United Nations-supported pilot projects for the prevention of mother-to-child transmission of HIV: Overview of findings. United Nations Children's Fund; New York: 2003.
- Rutenberg, Naomi; Biddlecom, Ann E.; Kaona, Frederick A.D. Reproductive decision-making in the context of HIV and AIDS: A qualitative study in Ndola, Zambia. *International Family Planning Perspectives* 2000;26(3):124–130.
- Shelton, James D. Prevention first: A three-pronged strategy to integrate family planning program efforts against HIV and sexually transmitted infections. *International Family Planning Perspectives* 1999;25(3):147–152.
- Shelton, James D. The provider perspective: Human after all. *International Family Planning Perspectives* 2001;27(3):152–53, 161.
- Spaulding, Alicen B.; Brickley, Deborah Bain; Kennedy, Caitlin, et al. Linking family planning with HIV/AIDS interventions: A systematic review of the evidence. *AIDS* 2009;23(Supplement 1):S79–S88. [PubMed: 20081392]
- Teasdale, C.; Besser, M.; Nolan, M.; Sonjica, N. PMTCT program task shifting to PLWHA peer educators; Paper presented at the XVII International AIDS Conference; Mexico City. 3–8 August; 2008.
- UNAIDS. Annual Report 2009. United Nations Joint Programme on HIV/AIDS; Geneva: 2009. <http://data.unaids.org/pub/Report/2010/2009_annual_report_en.pdf>. Accessed 14 November 2010
- Walker, Liz; Gilson, Lucy. 'We are bitter but we are satisfied': Nurses as street-level bureaucrats in South Africa. *Social Science & Medicine* 2004;59(6):1,251–1,261. [PubMed: 15087138]
- Wilcher, Rose; Cates, Willard, Jr. Reproductive choices for women with HIV. *Bulletin of the World Health Organization* 2009;87(11):833–839. [PubMed: 20072768]
- Wilcher, Rose; Cates, Willard, Jr. Reaching the underserved: Family planning for women with HIV. *Studies in Family Planning* 2010;41(2):125–128.
- Wilcher, Rose; Cates, Willard, Jr.; Gregson, Simon. Family planning and HIV: Strange bedfellows no longer. *AIDS* 2009;23(Supplement 1):S1–S6. [PubMed: 20081381]
- Yeatman, Sara. HIV infection and fertility preferences in rural Malawi. *Studies in Family Planning* 2009;40(4):261–276. [PubMed: 21151844]

Table 1

Among 52 maternal and child health clinics surveyed, number providing HIV testing and treatment, Gaza Province, Mozambique, 2008–09

Services offered	Number of clinics
HIV tests (including family planning counseling for HIV-positive women)	
Testing only	3
Testing and PMTCT but not HAART	16
Testing, PMTCT, and HAART	10
Total	29
No HIV tests	
Family planning counseling for HIV-positive women	10
Referrals to other clinics for HIV-positive women	3
No special counseling or services for HIV-positive women	10
Total	23

PMTCT = Prevention of mother-to-child transmission (of HIV). HAART = Highly active antiretroviral therapy.

Note: The sample included all maternal and child health clinics in four districts of Gaza Province, Mozambique, November 2008–January 2009.