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Rewriting abortion: deploying medical records in jurisdictional negotiation over a forbidden practice in Senegal

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Abstract

Boundary work refers to the strategies deployed by professionals in the arenas of the public, the law and the workplace to define and defend jurisdictional authority. Little attention has been directed to the role of documents in negotiating professional claims. While boundary work over induced abortion has been extensively documented, few studies have examined jurisdictional disputes over the treatment of abortion complications, or post-abortion care (PAC). This study explores how medical providers deploy medical records in boundary work over the treatment of complications of spontaneous and induced abortion in Senegal, where induced abortion is prohibited under any circumstance. Findings are based on an institutional ethnography of Senegal's national PAC program over a period of 13 months between 2010 and 2011. Data collection methods included in-depth interviews with 36 health care professionals, observation of PAC services at three hospitals, a review of abortion records at each hospital, and a case review of illegal abortions prosecuted by the state. Findings show that health providers produce a particular account of the type of abortion treated through a series of practices such as the patient interview and the clinical exam. Providers obscure induced abortion in medical documents in three ways: the use of terminology that does not differentiate between induced and spontaneous abortion in PAC registers, the omission of data on the type of abortion altogether in PAC registers, and reporting the total number but not the type of abortions treated in hospital data transmitted to state health authorities. The obscuration of suspected induced abortion in the record permits providers to circumvent police inquiry at the hospital. PAC has been implemented in nearly 50 countries worldwide. This study demonstrates the need for additional research on how medical professionals negotiate conflicting medical and legal obligations in the daily practice of treating abortion complications.

Keywords

Senegal; Professions; Boundary Work; Abortion; Medicine; Records; Ethnography; Sociology

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Introduction

Sometimes we're not sure if it's a case of induced or spontaneous abortion. But the midwife may write spontaneous (in the register) if she's not sure or even if she knows if it's an induced abortion because of the possibility of being called to testify. It happens often (Midwife).

A midwife at a state hospital illustrates the delicate position of health care professionals in Senegal who treat complications of abortion. Although induced abortion is prohibited in Senegal under any circumstance, the national post-abortion care (PAC) program has trained medical providers to treat complications of induced or spontaneous abortion (miscarriage) irrespective of the law. While the law does not explicitly require providers to report suspected cases of induced abortion to the police, this ethnographic study suggests that the severity of the law may lead providers to believe they are obligated to report such cases to the police to avoid being considered accomplices to an illegal act. Treating abortion complications in this context requires a delicate negotiation between medicine and criminal justice.

Scholars of reproduction have traced multiple jurisdictional disputes over abortion between health care professionals, paramedical practitioners, religious authorities, pro-choice and anti-abortion activists, women, and the state (Carranza, 2007; Freedman, 2010; Halfmann, 2011; Joffe, 1996; Luker, 1985; McNaughton, Mitchell, & Blandon, 2004; Mhlanga, 2003; Mohr, 1978; Reagan, 1998). Less attention has been directed to the practice of recordkeeping in maintaining professional jurisdiction over abortion. Medical records such as patient files or ward registers do not simply represent 'what happened' during the clinical encounter. As the institutional footprints of medical practice, these documents represent the 'preferred account' of the encounter (Berg, 1996; Berg & Bowker, 1997; Heath, 1982) in which providers' decision-making is rendered visible to those outside the clinic.

This paper examines how medical providers in Senegal deploy medical records in their strategies to negotiate professional jurisdiction over abortion in a context where this practice is highly restricted. I argue that the medical record represents a site where providers produce a particular account of 'what happened' through a series of medical practices such as the patient interview and the clinical exam. By classifying the majority of abortions treated as spontaneous abortion, this preferred account permits providers to contain suspected cases of illegal abortion within the hospital, undocumented and unreported to criminal justice authorities. In other words, providers render suspected cases of illegal abortion invisible in hospital records. This study seeks to advance our understanding of medical records as fundamental tools in the protection of professional autonomy from political interference, or what scholars have called 'boundary work (Gieryn, 1983).'

Background

National estimates of induced abortion in Senegal have not been established. Although the 2011 Demographic and Health Survey reports the maternal mortality ratio at 392 deaths per 100,000 live births, it does not estimate the contribution of unsafe induced abortion to maternal death (ANSD, 2012). The World Health Organization estimates the rate of unsafe

abortion in West Africa at 28 unsafe abortions per 1,000 women of reproductive age. This is less than the estimated 36 unsafe abortions per 1,000 women in Middle and East Africa, but far greater than the 6 unsafe abortions per 1,000 women in developed regions (WHO, 2011). Hospital data offer limited insight into the scope of induced abortion in Senegal. Maternal death reviews in hospitals have found that hemorrhage is the leading cause of maternal death while abortion accounts for very little mortality (Dumont et al., 2006; Kodio et al., 2002). However, complications of induced abortion are often misclassified as hemorrhage or sepsis (Barreto et al., 1992; Khan, Wojdyla, Say, Gülmezoglu, & Van Look, 2006).

In response to studies of abortion conducted in Senegalese hospitals during the 1990s, the public health community deemed complications of abortion a significant public health problem. Between 1993 and 1994, a study conducted in four hospitals in the capital city of Dakar estimated that nearly a quarter of patients admitted with complications of abortion had had an induced abortion (Diadhiou, 1995; Goyaux, Alihonou, Diadhiou, Leke, & Thonneau, 2001). Complications of abortion accounted for 7.4% of maternal mortality (Diadhiou, 1995). Between 2000 and 2002, a review of client records in 6 district hospitals and 12 health clinics in two regions of the country found that 95% of abortions were recorded as spontaneous (CEFOREP, 2003; EngenderHealth, 2003). Yet, up to 35% of PAC patients admitted that the pregnancy was unwanted. Among these women, 17% admitted to having an induced abortion (CEFOREP, 2003). Another study conducted between 2002 and 2003 at the national teaching hospital in Dakar showed that induced abortion accounted for only 5.6% of all abortions treated in the hospital (Cissé, Faye, & Moreau, 2007). The researchers note that induced abortions were likely underreported. In addition to significant variation in estimates of induced abortion among these hospital-based studies, this evidence is further limited by the omission of women who did not seek medical care for abortion complications.

Senegal's abortion law derives from the Napoleonic Code enacted in France in the early 19th century, prohibiting induced abortion under any circumstance. Women and any accomplices who procure induced abortion are subject to imprisonment and fines. Providers convicted of abortion may lose their professional license for up to 5 years or permanently in addition to imprisonment and fines (CRR, 2003; Knoppers, Brault, & Sloss, 1990; Scales-Trent, 2010). Although the penal code forbids induced abortion, the code of medical ethics permits therapeutic abortion if the woman's life is endangered by the pregnancy (CRR, 2003). According to Article 35 of the code of medical ethics, eligibility for therapeutic abortion must be confirmed by two other physicians, one of whom is a court-approved expert (CEFOREP, 1998; Touré, 1997). Health care professionals who participated in my study indicated that due to these administrative requirements, therapeutic abortion is rare.

The law does not require medical providers who treat complications of induced abortion to notify law enforcement officials. Article 7 of the code of medical ethics requires health providers to respect patient privacy (*le secret professionnel*). A law on reproductive health passed by the National Assembly in 2005 grants citizens the right to confidential health services. However, my review of the Senegalese press found that medical providers do indeed report suspected cases of illegal abortion. Over a span of just two months, between September and October 2011, three cases of suspected induced abortion brought to the

attention of the police by medical providers were reported in Dakar newspapers (Diedhiou, 2011a, 2011b; L'Observateur, 2011).

In the late 1990s, the Senegalese Ministry of Health introduced post-abortion care (PAC) to address mortality and morbidity related to unsafe abortion (Thiam, Suh, & Moreira, 2006). The global reproductive health community developed the PAC model in the early 1990s to train medical professionals to treat complications of abortion irrespective of the legal status of abortion (Corbett & Turner, 2003; Greenslade, McKay, Wolf, & McLaurin, 1994). The Ministry of Health introduced specialized registers for PAC to maternity wards in secondary and tertiary level hospitals throughout the country starting in the mid-2000s. Similar to other maternity registers for family planning and delivery, PAC registers retrieve a combination of clinical and socio-demographic data from patients, such as length of gestation, complications, name, age, address, and date and hour of arrival. The PAC register includes a column requiring medical providers to differentiate between induced and spontaneous abortion. Unlike the other specialized registers in the maternity ward, the PAC register requires providers to document the patient's marital status.

Recently, several civil society organizations and government agencies have advocated for the revision of the abortion law in Senegal. *L'Association des Juristes Sénégalaises (AJS)* / (Association of Women Lawyers) attempted to allow safe abortion for cases of rape and incest in the 2005 reproductive health law (Scales-Trent, 2010). Although abortion was eventually struck from the law, AJS continues to mobilize for social and legislative change. For example, AJS has held workshops with police officials, judges and health professionals to clarify the law and discuss strategies for managing cases of rape and incest. At the time of this study, the Ministry of Culture and Gender was in the process of advocating for coherence between Senegalese law and international treaties ratified by the Senegalese state such as the Maputo Protocol of 2005, which permits abortion for rape, incest, and the woman's physical and mental health. In 2010, the *Division de la Santé de la Reproduction (DSR)* / (Division of Reproductive Health) of the Ministry of Health conducted a strategic evaluation of unsafe abortion to increase awareness of this public health problem among policymakers (DSR, 2010). *L'Association des Médecins Femmes* / (Association of Women Physicians) delivered a presentation on the public health implications of unsafe abortion at a conference for International Women's Day in March 2011 that urged reform of the abortion law (Thiam, 2011). Scholars also actively contribute to the national discussion on abortion. That same month, in response to the case of a 14-year-old victim of rape who was arrested for induced abortion and taken directly from the hospital to the police station, Fatou Kine Camara, Professor of Law at the University Cheikh Anta Diop and Deputy Secretary General of AJS, called for the immediate application of the Maputo Protocol (Ba, 2011). A highly publicized rape/incest case involving a minor occurred in September 2011. Kaly Niang, a sociologist, argued that such cases demonstrated the need to revise the abortion law (Niang, 2011).

Research suggests that the stigma of abortion is locally produced according to gendered contexts rather than a universal fact. Abortion violates widely held assumptions regarding femininity that tie female sexuality exclusively to procreation, in turn rendering motherhood inevitable (Kumar, Hessini, & Mitchell, 2009). In Senegal, abortion threatens the social

importance of fertility and motherhood within the community, in which women's status within the family is linked to high parity (Foley, 2007). Studies of abortion in other African contexts have shown how the stigma of abortion drives women to seek abortion from clandestine practitioners, even in a country such as Ghana with a relatively permissive abortion law (Payne et al., 2013; Shellenberg et al., 2011). In both Christian and Muslim communities in Africa, abortion is considered shameful because it results from women's inappropriate sexuality outside marriage (Bleek, 1981; Johnson-Hanks, 2002; Rossier, Guiella, Ouédraogo, & Thiéba, 2006). Abortion may also be socially constructed as a contaminant that renders women infertile. Those living in proximity with women who have had induced abortions are also considered to be somehow 'infected' by the procedure (Levandowski et al., 2012).

Studies worldwide show that health care professionals who practice abortion are also subjected to abortion stigma. In the United States, abortion may be perceived as morally corrupt, 'dirty work' when equated to murder (O'Donnell, Weitz, & Freedman, 2011). Abortion practice may also mark such physicians as technically inferior to physicians in other areas of medicine (Harris, Debbink, Martin, & Hassinger, 2011; Harris, Martin, Debbink, & Hassinger, 2012). In the United States and Mexico, individuals who practice abortion may experience harassment and violence both inside and outside the work place (Harris et al., 2011; Mollmann, 2006). Nigerian physicians reported that professional reputation and disapproval from colleagues were more important disincentives against performing abortion than the risk of arrest and prosecution (Okonofua et al., 2005). In Ghana, the spending habits of physicians known to provide abortion are derided by the community as being supported by 'blood money' (Payne et al., 2013). Senegalese health professionals have been reluctant to support a liberalization of the abortion law to include non-therapeutic abortion (Ba, 2011; CEFORP, 1998; CRLP, 2001; Niang, 2011). Their attitudes towards abortion mirror those in studies of health providers in African countries with similarly restrictive abortion laws such as Cameroon (Wonkam & Hurst, 2007) as well as Ghana, where abortion is permitted for a range of reasons (Morhe, Morhe, & Danso, 2007; Payne et al., 2013).

Literature Review

This research lies at the intersection of multiple theoretical 'jurisdictions' within sociology, including the sociologies of medicine, the professions and reproduction. Sociologists have used the concept of boundary work to explain how professions define and defend their 'turf' (Gieryn, 1983). Boundary work occurs in three ways: the expansion of authority into the jurisdiction of another profession or occupation, the expulsion of outsiders through monopolization of professional authority and resources, and the protection of autonomy from political interference. Scientists have deployed each of these strategies as rhetorical, ideological devices in the public sphere to differentiate their field from various forms of non-science (Gieryn, 1983). In the United States, the medical profession established professional authority by obtaining legal monopolies on medical training and practice as well as by gaining cultural acceptance of its expertise (Freidson, 1988; Starr, 1982). Some sociologists have argued that jurisdictional boundary work is accomplished not only in the public and legal spheres but also through everyday practices in the workplace. Rather than

achieving professional dominance (Freidson, 1970), professions co-exist uneasily in an ecological system in which jurisdictional shifts in one profession or occupation shape the work practiced by other nearby professions (Abbott, 1988). The strength of this ecological approach to boundary work theory lies precisely in its implicit assumption of jurisdictional negotiation between multiple, competing stakeholders (Lamont & Molnar, 2002; Pachucki, Pendergrass, & Lamont, 2007). Using this approach, scholars have closely documented the medical profession's attempts to claim authority over conditions such as alcoholism, childbirth, homosexuality and hyperactive behavior in children (Conrad & Schneider, 1992; Halpern, 1990; Valverde, 1998; Wertz & Wertz, 1990). Much of this scholarship focuses on medical boundary work in advanced industrial countries in the global North.

Empirical accounts of health care provision illustrate the 'micropolitics' of boundary work (Allen, 2000) as medical professionals stake authoritative claims over knowledge and tasks in daily practice. Medical sociologists have identified structural and discursive boundary work strategies between doctors, nurses and auxiliary health workers (Allen, 1997, 2000; Hughes, 1988) and physicians and practitioners of complimentary and alternative medicine (Mizrachi & Shuval, 2005; Mizrachi, Shuval, & Gross, 2005; Shuval, 2006). Medical boundary work has also been described as 'gatekeeping' when health care workers draw on professional knowledge and expertise to regulate patients' access to services and resources (Chiarello, 2013). These accounts of boundary work also focus primarily on advanced industrial countries.

The drawing and redrawing of medical jurisdiction over abortion in the United States has been documented extensively (Freedman, 2010; Halfmann, 2011; Joffe, 1996, 2010; Luker, 1985; Mohr, 1978; Reagan, 1998). Physicians around the world have exercised authority over abortion through medical gatekeeping practices that both enhance and curtail women's access to this intervention across a variety of legal contexts (Amir & Biniamin, 1992; Carranza, 2007; Joffe, 1996; McNaughton, Blandón, & Altamirano, 2002; McNaughton et al., 2004; Reagan, 1998). Another boundary work strategy includes the deployment of rhetorical framing devices such as 'saving women' or 'menstrual regulation' to euphemize abortion in restrictive legal contexts (Amin, 2003; Dixon-Mueller, 1988; Pheterson & Azize, 2005; Rance, 2005). In the US, physicians deployed images of 'back-alley butchers' or 'criminal abortionists' to obtain legislative and public support for medical monopolies over abortion practice (Joffe, 1996; Reagan, 1998).

In contrast to extensive literature on jurisdictional disputes over induced abortion, little attention has been directed to the treatment of abortion complications, or post-abortion care (PAC), as a site of professional boundary work over abortion. The public health rationale for ensuring emergency treatment for complications of spontaneous or induced abortion to reduce maternal mortality is well-established (Corbett & Turner, 2003; Curtis, 2007; Greenslade et al., 1994; Singh, 2006; WHO, 2011). Operations research on PAC has yielded many best practices with respect to implementing high quality, accessible PAC services at various levels of the health system (Billings, Crane, Benson, Solo, & Fetters, 2007; Dao et al., 2007; Huntington, 1999; Johnson, Ndhlovu, Farr, & Chipato, 2002; PAC-Consortium, 1995; PopCouncil, 1999; Wood, Ottolenghi, & Marin, 2007). This literature offers little

insight into the legal implications of treating abortion complications for health providers in settings where abortion is legally restricted.

By exploring how Senegalese health care providers attempt to circumvent police involvement at the hospital, I offer an illustration of a type of boundary work described as the ‘protection of autonomy’ (Gieryn, 1983) in the context of the global South. My empirical study of the daily practices involved in protecting medical autonomy contributes to literature on the micropolitics of boundary work. I extend sociological literature on abortion by exploring the treatment of abortion complications as a site of jurisdictional dispute. While other studies have examined symbolic, discursive and structural practices used to police professional boundaries, I take daily recordkeeping practices and tools as units for analysis of boundary work. To further situate this particular form of boundary work, I turn now to sociological literature on the meaning of documents within medical practice.

Sociologists have placed significant emphasis on deciphering the meaning of medical records within the context and organization of medical practice. Medical records do not simply represent clinical events. Rather, documents are actively involved in selectively constructing the official transcript of events they are designed to document (Berg, 1996; Berg & Bowker, 1997; Timmermans & Berg, 2003). Medical records produce meaning within the institutional context of the hospital in at least three ways. First, the medical record is a site where new knowledge about the body is produced. Medical records remove the body from its social context, deconstruct it into multiple parts such as cells, veins, tissues or systems and transform these body parts into sites of medical intervention (Atkinson, 1995; Berg & Bowker, 1997; Berg & Mol, 1998). Although recordkeeping is embedded in social relations between patient and provider, the reconstruction of the body into medically actionable terms is performed primarily by medical providers (Berg, 1996). Medical providers control both the organization of the record (the questions that are asked) as well as the manner in which these data are recorded in standardized institutional documents (Macintyre, 1978; McKay, 2012).

Second, medical records arrange and enact the organizational context in which they are deployed. These documents organize and standardize data obtained at various stages of the medical encounter and from various parts of the clinic (Berg, 1996; Berg & Bowker, 1997). Medical providers draw on these data to make medical decisions, which are in turn organized and executed according to the division of labor within the clinic. Third, medical records connect the hospital to other bureaucracies involved in health planning such as government health agencies or health insurance companies (Berg, 1996; Berg & Bowker, 1997; Heath, 1982; McKay, 2012). As the hospital is embedded within a broader institutional context, medical records tend to produce a rational, standardized account of events that justifies the course of action taken between diagnosis and treatment. Sociologists suggest that this ‘preferred’ account of events renders invisible much of the decision-making process, which may be less linear, formal and physician-dominated than suggested by the record (Berg, 1996; Hughes, 1988). This is not to suggest that medical records are erroneous, or that medical providers lie when completing them, but that these documents

offer a particular representation of events designed to protect medical providers from outside scrutiny.

Although these studies illustrate how medical documents organize and enact medical practice, they do not adequately explain how documents operate as tools in negotiating professional jurisdiction. A study of obstetric care in four African hospitals illustrates the production of the ‘preferred’ account by medical records. In this context of under-resourced and frequently over-burdened health facilities, providers manipulate medical records in order to ‘rewrite’ the enactment of clinical practices (Jaffré, 2012). For example, medical providers complete the partograph, a labor-monitoring tool, *after* rather than *during* delivery. This permits providers to rewrite the clinical event to their advantage and deflect responsibility in the case of poor maternal and newborn outcomes.

The documentation of induced abortion in medical records is embedded in social relations between patients and providers. These dynamics unfold within the broader social and legal context of abortion. The underreporting of abortion in medical records complicates efforts to accurately measure the prevalence of induced abortion. Abortion underreporting occurs in a number of ways across a variety of legal contexts. The use of ambiguous language to describe abortion in hospital records such as ‘induced miscarriage’ or ‘missed abortion’ is one example (Barreto et al., 1992; Farquharson, Jauniaux, & Exalto, 2005; Grimes et al., 2006; WHO, 2011). Second, hospital records account only for women who seek medical care for abortion complications. Estimates of abortion calculated from hospital records represent only ‘the tip of the iceberg’ regarding the number of safe and unsafe abortions that have occurred in the surrounding community (Grimes et al., 2006; Warriner & Shah, 2006).

Third, women who seek treatment may hesitate to reveal to providers that they had an induced abortion due to fear of discrimination and arrest. Research in African countries with restrictive abortion laws shows that women and health providers may report the type of abortion differently (Dao et al., 2007; Taylor, Diop, Blum, Dolo, & Winikoff, 2011). Even in countries with liberal laws, such as Estonia and the United States, the stigma of abortion may limit the disclosure of abortion by women and practitioners (Anderson, Katus, Puur, & Silver, 1994; Jones & Forrest, 1992). A US study found that ethnicity and educational attainment influenced the accuracy of women’s abortion disclosure. Non-white women and women with lower educational attainment were more likely to underreport abortion (Udry, Gaughan, Schwingl, & van den Berg, 1996). Fourth, medical professionals may deliberately obscure abortion in hospital records. Prior to the legalization of abortion in the United States, some providers altered their records to disguise services related to treating abortion complications or practicing induced abortions (Pelletreau, 2003). In Costa Rica, abortion is only permitted to save a woman’s life or preserve her physical health. Yet, physicians in state hospitals may practice clandestine abortion and record the intervention as the treatment of complications (Carranza, 2007). Irrespective of the legal status of abortion, abortion data can thus be understood as a ‘preferred’ account of procedures related to a practice that can be deeply stigmatizing for patients and providers.

Methodology

I conducted an institutional ethnography of Senegal's national PAC program in three regions of the country between November 2010 and December 2011. The study was authorized by the Institutional Review Board of Columbia University and *le Comité National d'Ethique de la Recherche en Santé* (CNEERS)/ National Ethics Committee for Health Research of the Senegalese Ministry of Health. I selected the three regions because each received financial or technical support related to PAC from a different donor agency or non-governmental organization (NGO). Data collection methods included in-depth interviews, observation of PAC services and records at three hospitals, and archival review of PAC and abortion. I conducted in-depth interviews with 88 individuals, including medical providers, state health officials, personnel from NGO and donor agencies, criminal justice authorities and members of professional medical and legal associations. This article presents findings from in-depth interviews conducted with 36 medical providers who worked in eight health facilities in the three regions of study. I used theoretical sampling (Bernard & Ryan, 2009) to select medical providers according to gender, religion, profession, health facility and region of practice.

Table 1 displays the number and type of health provider interviewed by region, gender and type of health facility. The majority of health providers (83%) worked in the three observation hospitals described below. The remaining providers worked at a variety of health facilities, including a district hospital and a health post in Region 1 and a tertiary hospital and two health posts in Region 2. The majority of health professionals were women (78%). They were predominantly midwives (64%), followed by physicians (28%) and nurses (8%). The sample is predominantly female because midwives in the selected facilities provided the majority of PAC services, including treatment and family planning services. The majority of health providers self-identified as Muslim (81%) and the rest were Catholic (19%).

Medical providers were recruited in person or by telephone and provided written consent prior to being interviewed. Interviews were conducted in French and, with the consent of the participant, recorded with an audio recorder. A research assistant subsequently transcribed interviews. I took hand-written notes of interviews in which the participant did not consent to audio recording.

I observed PAC services for six months in three hospitals, one in each region of study. The hospitals in the first and third regions were tertiary level hospitals and the hospital in the second region was a secondary level or district hospital. Each hospital offered an ample caseload of PAC patients. Both midwives and physicians performed PAC services at these facilities. I observed service delivery during night and day shifts at the first hospital and during day shifts at the second and third hospitals. I observed staff meetings at the first and third hospitals. I periodically noted observations in shorthand in a notebook during observation and converted these notes into extended field notes after leaving the hospital.

I reviewed PAC registers from the maternity ward of each hospital and annual abortion data from the hospital administration. Table 2 displays the type and amount of abortion data collected from each hospital. For each year of PAC register data, I tallied the total number of

abortion treatments, the type of abortion (spontaneous, induced, other, or no information), and the method of treatment. I entered each month of data from my review of the 2009 and 2010 registers in Excel and calculated the proportions of induced and spontaneous abortion recorded in the registers during this period (see Table 3). As part of the review of the registers, I noted additional information for cases that were recorded as induced abortion as well as cases that were recorded as spontaneous but would likely have been considered suspicious by medical providers. For these cases, I recorded the practitioner responsible for treatment, notes related to the management of the case, as well as the patient's age, marital status, gestational age, and number of previous pregnancies and births. Particular attention was directed to the terminology employed to describe and classify abortion. I also noted any omitted data among the indicators described above. I collected and recorded in Excel several years of abortion data from hospital administrative units. At all three hospitals, annual data on abortion were compiled from quarterly reports, which were in turn calculated from PAC registers in the maternity ward. These data included the total number of abortions treated and the number of cases treated by various methods of uterine evacuation.

I conducted an archival review of PAC and abortion in Senegal. This included a review of literature (electronic and hard copy) from medical, public health, and social science sources. I reviewed accounts of illegal abortion in the Senegalese press throughout the fieldwork period. I also reviewed court records of 42 cases of illegal abortion prosecuted by the tribunal of one region of the country between 1987 and 2010.

Using a grounded theory approach (Corbin & Strauss, 2008), I simultaneously collected and analyzed data while in Senegal. I revised questionnaires and observational agendas to further investigate emerging themes. This approach is illustrated in my treatment of the medical records. At each facility, I simultaneously conducted interviews, observation and record review. To note cases that would likely have been considered suspicious, I drew on indicators identified as such by providers during interviews and observation. I shared and discussed preliminary results with staff members at each hospital as well as Ministry of Health officials and other stakeholders. I later used Atlas.ti to selectively code interview transcripts and field notes. I developed analytical memos and conceptual diagrams to further explore meanings and identify relationships between themes.

The triangulation of data from multiple sources was especially important in an ethnographic study of possibly incriminating practices. Providers may have been reluctant to share their actual recordkeeping practices during interviews with me. I draw on formal and informal interviews, observation, and archival review to construct a theoretical model for the accomplishment of professional boundary work among Senegalese health care professionals with respect to post-abortion care. I use triangulation not to obtain multiple viewpoints of one definitive account of boundary work in post-abortion care, but to enrich and add complexity to my investigation of the research questions guiding the project (Bryman, 2004; Hammersley, 2008).

In the following section, I explore the production of abortion data through various practices related to the treatment of abortion complications. I explain how providers differentiate between spontaneous and induced abortion, as well as how this differentiation unfolds at

various stages of the treatment process, including the patient interview, the clinical exam and the act of recordkeeping. These medical practices, and the social relations between patients and providers in which they are embedded, are situated within the broader social context in which induced abortion is deeply stigmatizing and legally punishable for both women and providers. I explore medical professionals' accounts of medical work related to treating abortion complications using in-depth interviews and observation of PAC services. I investigate providers' record-keeping strategies drawing on examples from 2009 and 2010 abortion data at three hospitals and from in-depth interviews and observation of services.

Findings

The type of abortion treated at the hospital

Results from my review of 2009 and 2010 PAC registers at the three study hospitals appear in Table 3. During both years, the majority of abortion cases treated (over 90%) were recorded as spontaneous. Less than 1% of cases were recorded as induced abortion. Between 3 and 8% of cases omitted the type of abortion completely. Between three and five percent of cases omitted the type of abortion completely. Cases recorded as something other than induced or spontaneous abortion accounted for between 1 and 4% of cases.

Providers' accounts of the emergence of suspicion of induced abortion

What happened when women arrived at a state hospital with complications of abortion? Medical providers triaged women according to their clinical state upon arrival at the facility. Women who arrived in a state of shock were treated immediately. If providers determined that a patient was stable, they conducted an interview to establish a standard medical history in order to appropriately manage the case. Known as 'the interrogation' (their word), this line of questioning sought physiological information such as the date of the last menstrual period and the duration and intensity of bleeding and pain. Providers asked a variety of socio-demographic questions, such as age, parity, profession and marital status. They conducted a clinical exam and an ultrasound to verify fetal viability. The patient was then treated, and if necessary, hospitalized. Providers noted the case in the PAC register after the completion of treatment.

If providers suspected induced abortion, they questioned the patient further, known as 'pushing the interrogation':

If we see complications we push the interrogation. If we suspect something, we push the interrogation in that direction... You have to interrogate them, push them to speak, in order to get certain information, otherwise they will not just admit it like that (Midwife).

We don't let them leave. If they don't tell us when they first come in, we wait until the next day and then we push the interrogation further (Midwife).

Although I did not observe treatment being withheld from women suspected of induced abortion at any of the hospitals, several providers suggested that they might threaten to withhold treatment unless the patient provided information about the abortion:

At first, they won't admit it but eventually they will. We tell them if you want to be treated you have to tell us what happened (Midwife).

Women usually don't want to admit it, but they (health providers) ask many questions in order to find out what happened. They may tell her they won't treat her until she admits to what she did. When there's pain, women will talk (Nurse).

Others suggested that women were retained at the hospital after treatment in case the police were notified of the case by the hospital or another party:

We keep the woman under observation for 72 hours...Someone could notify the police. Maybe someone knows she had an induced abortion and could notify the police. We don't want to lose her. If no one comes, we let her go (Midwife).

We keep her here until the police come, if it's an admitted or probable induced abortion. We tell each other, until the problem is resolved, we have to keep an eye on her, we can't let her escape. She needs to be watched. We had a woman like that who had material in her uterus. You make a note of it in the patient file. When the head doctor sees the file he will contact the police. Sometimes these women escape. You come in on your next shift and they're gone before anyone notices (Midwife).

If there was no suspicion of induced abortion, or if there was suspicion but not sufficient proof in the form of a verbal admission, the patient was released after recovering from treatment.

Over the course of my fieldwork at each hospital, providers often described a context of uncertainty in which they managed abortion complications. Only two out of 36 medical providers affirmed that they always know whether an abortion is induced or spontaneous. Providers indicated that due to the legal status of abortion, women rarely admitted to having an induced abortion:

In general, the women hide, they don't admit (Midwife).

A lot of women here drink concoctions to provoke abortion, made with traditional plants...and women rarely admit to taking them (Physician).

Sometimes the girls who know they had an induced abortion, when they come here, they don't admit it. They know it's punished by the law. So it's difficult to know (Physician).

'Pushing the interrogation' was an important strategy deployed by providers, faced with patients they perceived as reluctant, to obtain information that might determine the type of abortion.

Providers' accounts of differentiating between induced and spontaneous abortion

Although suspicion of induced abortion could emerge at any point during the management of a case, medical providers identified various indicators that could be used to differentiate between induced and spontaneous abortion. I have divided these indicators into three primary categories: patient demographics and behavior, physiological information, and

verbal admission of induced abortion. Table 4 displays various indicators in each category as well the methods used to obtain the information.

Providers nearly unanimously identified marital status as the main characteristic that elicited suspicion during the interrogation. Although widows and divorced women were also considered suspect, the following quote illustrates how providers were most likely to suspect young, never-married women of attempted abortion:

You can't imagine that a married woman would have an induced abortion, even if the pregnancy is unwanted. There's a lot of suspicion around single women. If it's a single woman, rest assured that the interrogation is more intense...because we think it may be an induced abortion (Midwife).

Some providers indicated that married women with abortion complications were not beyond suspicion of induced abortion:

Is she married? It's common among single women. Even married women, we ask if the husband is there (Midwife).

We do see cases of induced abortion, though. Young girls, but also married women whose husbands are absent... It happens often. They seek abortion because they want to avoid divorce. (Midwife).

Often it's single women or people with husbands who are absent (Physician).

A married patient with an absent husband, thus, raised the suspicion that she may have attempted to terminate an unwanted pregnancy from an extramarital liaison.

Other patient characteristics included profession and socio-economic status. Students and women who demonstrated economic hardship, such as being unable to pay for medication, were likely to raise suspicion:

We ask the woman's profession because often students will do anything to terminate an unwanted pregnancy (Midwife).

I once treated a student, and it really surprised me. She was a master's student. When I finished doing the aspiration, I said to myself, that girl, shouldn't I have interrogated her a bit more? She's a master's student, and she's pregnant (Physician).

Providers also suspected women who became anxious, incoherent or uncooperative during treatment, as well as those who arrived at the hospital without family members:

Those with complications of spontaneous abortion are more cooperative than the others. They are more at ease. They have nothing to hide. But the others, they are more difficult to manage. Because they don't always admit that it's an induced abortion.

They know it's illegal (Midwife). They give you a story that's doesn't make sense. They give different answers to the same question (Midwife).

If it's a case of spontaneous abortion, it's not the same. The woman isn't as stressed, and she's accompanied by the mother in law or by the husband. Women who've had induced abortions usually come alone or with the boyfriend (Nurse).

The next category of information that may arouse suspicion of induced abortion includes physiological indicators observed during the clinical exam. These indicators include severe hemorrhage or infection, cervical injury, foreign objects in the body, or uterine perforation:

There is obvious proof, when the woman comes here, with bits of gloves, with cannulae sometimes. You see things and you know it's induced. Or the woman comes with an infection... These are the signs that prove it's induced even though the interrogation helps clarify things. Once a woman came here with plastic in the uterus... you know that there was some sort of manipulation (Physician).

There are clinical signs, from the clinical exam, that make you strongly consider that she had an induced abortion. If you insist in the interrogation, you always end up with proof. For example, during the exam, with the speculum, or if you introduce a finger to the vagina, you see that the cervix is torn, or there are injuries on the cervix. It makes you think that something happened. Or if the woman is in a lot of pain, she's bleeding and the cervix is not dilating, that's often proof of induced abortion (Midwife).

Although providers used the ultrasound to evaluate fetal viability, they also indicated that this technology allowed them to assess the size, shape and contents of the uterus. Such information could be used to verify patient accounts of the last menstrual period, which was used to calculate gestational age, an indicator in the PAC register. Incoherence between the results of the ultrasound and the patient's account of the last menstrual period or gestational length could result in suspicion of induced abortion:

Sometimes the age of the pregnancy is difficult because if it's an induced abortion, she will not try to help you. She will tell you, 'I wasn't pregnant.' So it's up to you to investigate. If the pregnancy is already gone, you have no clues, you have to estimate because you're never sure about what they tell you. They will never tell you what they did, or they'll tell you 'I didn't see my period in two months.' Meanwhile, the pregnancy is four months if you see the ultrasound. The last time, she told me she didn't even know she was pregnant, or she'll tell you she had her period, but the ultrasound shows a fetus from a pregnancy (Midwife).

While gestational age could be used to verify patient stories, providers did not explicitly identify advanced gestational age among physiological indicators of suspicion. Gestational age therefore does not appear in Table 4. However, I include gestational age in the section below that describes providers' recordkeeping strategies. Advanced gestational age may increase the likelihood of complications of unsafe induced abortion. Hospital-based studies show that up to 20% of all pregnancies will end in spontaneous abortion or miscarriage. Most miscarriage occurs before twelve weeks of gestation and less than 4% occurs during the second trimester of pregnancy (Curtis, 2007; Farquharson et al., 2005; Kalumbi, Farquharson, & Quenby, 2005). In developing countries, adolescents and women of low socio-economic status may be more likely to pursue later term abortion due to barriers in

accessing safe first-trimester abortion. An estimated 59% of unsafe abortions in Africa occur among women under 25 years of age (Warriner & Shah, 2006). A study in Ghana suggested that most life-threatening abortion complications resulted from unsafe abortions performed after the first trimester of pregnancy (Payne et al., 2013).

The third category of information, the woman's admission, represented the ultimate proof of induced abortion. Only when a woman confessed to having attempted an induced abortion did providers record the case as such in the register. Without the woman's admission, providers recorded and managed such patients as cases of spontaneous abortion:

We know that most of them lie, but if she says it's spontaneous, you can't write induced, you have to write spontaneous...we record what the patient tells us, we write the words of the patient, we are not the police, we don't do investigations (Physician).

The first proof is an admission of the induced abortion without coercion, this is not Guantanamo (laughter). "Madame, what happened?" "I was pregnant, my boyfriend didn't want it, I went to a man who gave me something to swallow, or who used an instrument on me." It's formal. That's the first proof, we don't try to discuss further, she admitted. Or, you do the exam and you find a foreign object in the vagina, that's happened plenty of times. Sometimes it's compresses, cannulae, stalks, pills...She won't admit what it is, but you, you're sure that something...it's caustic soda, or bleach, or permanganate pills...So you have a bunch of elements that tell you that it's strongly suspicious, but if she hasn't admitted, she hadn't admitted. You stick to that (Physician)

The fact that the woman admits that she had an induced abortion, that's the first proof...if we don't have the proof that it's an induced abortion we treat her like it's a case of spontaneous abortion (Midwife).

In sum, the production of the official account of the type of abortion treated in the hospital (displayed in Table 3) occurs through a series of practices related to treating abortion complications. These practices include the patient interview or interrogation, the clinical exam and the ultrasound. Providers considered three main types of evidence when differentiating between induced and spontaneous abortion: patient demographics and behavior, physiological signs, and the patient's admission of induced abortion. The patient interview often elicited preliminary suspicions that prompted providers to question the patient further. Physiological signs observed during the clinical exam offered strong evidence of induced abortion. However, verbal confessions were more likely than the other two types of evidence to prompt providers to document cases as induced abortion in the PAC register. The tendency of providers to rely primarily on verbal evidence offers a partial explanation for the official account of abortion displayed in Table 3. To further explain this account, I now turn to how providers actually record abortion in the register.

Providers' record-keeping strategies

Table 5 presents one month of admitted and possible abortion data from each hospital for the years 2009 and 2010. A total of 26 cases of treated abortions appear in the table. While

admitted induced abortions were clearly marked as such in the register, I compiled the possible induced abortion cases using some of the indicators of suspicion described by providers displayed in Table 4. For each case, I list how providers recorded the patient's marital status (Column A), age (Column B), gestation/parity (Column C), gestational age (Column D), mode of uterine evacuation (Column E), and the practitioner responsible for treating the case (Column F). The last two columns indicate how providers recorded the type of abortion in the register (Column G) and the ultimate classification of the abortion (Column H).

While providers did not explicitly include gestational age as a marker of suspicion, I include it in Table 5 to add nuance to the description of findings related to record-keeping strategies. All institutions and individuals that appear in the table have been de-identified.

Among the 26 cases of abortion in Table 5, there were only four cases of confirmed induced abortion. Married women accounted for half of these cases and single women the other half. Among the 25 cases documenting patient age, the average age was 21.8, ranging from 13 to 38 years of age. Single women accounted for 78% of cases that documented marital status (14/18). Marital status was omitted in 27% of cases (7/26). Up to 42% of all cases (11/26) omitted information on the patient's gestational age. Both midwives and physicians managed cases of abortion.

My review of the PAC record suggests that providers used three primary strategies to record most cases as spontaneous abortion and thus obscure suspected cases: the use of non-differentiating terminology to document abortion in the register, the omission of information from the register, and the documentation of the total rather than type of abortions treated in hospital data submitted to the Ministry of Health. The first strategy involved the use of terminology to describe the case without specifying whether the abortion was spontaneous or induced. Providers used a variety of terms to describe abortion in Column G such as 'late,' 'hemorrhagic,' or 'incomplete' abortion. Case 1 in Hospital 1 in 2009 listed the type of abortion simply as 'abortion.' In medical terminology, 'abortion' refers to *any* pregnancy loss before the 24th week of gestation (Farquharson et al., 2005; WHO, 2008). Providers explained that any cases not explicitly marked as induced were by default considered to be spontaneous in the register itself (Column H). Table 5 illustrates how cases displaying indicators that would likely have been considered suspicious were documented using non-differentiating terminology in Column G and thus ultimately considered spontaneous (Column H). For example, cases 1 through 5 and case 7 in Hospital 3 in 2009 indicated that the patient was single or omitted the patient's marital status. None of these cases were documented using terminology that differentiated between induced and spontaneous abortion. All of them were ultimately considered spontaneous abortion.

Another strategy deployed to obscure suspected induced abortion was the omission of data from the register. Omission appeared as a completely blank entry or a question mark (?) recorded by the provider. This study's retrospective review of the register complicates the ability to determine whether the omission of information occurred because of the provider's inability to obtain information from the patient or from a deliberate decision to withhold possibly incriminating information. Nevertheless, the omission of information appeared to

reduce the likelihood that a case was classified as induced abortion. At all three hospitals in 2009 and 2010, none of the seven cases in which marital status was omitted was listed as an induced abortion. Providers recorded only the patient's age (13) in case 2 at Hospital 1 in 2009. This case was ultimately classified as a spontaneous abortion. At Hospital 2 in 2010, providers omitted gestational age and type of abortion for case 3, which was ultimately classified as a spontaneous abortion. In contrast, cases documented as induced abortion appeared to have fewer omissions. Among the four cases of induced abortion displayed in Table 5, only case 2 in Hospital 3 in 2010 was missing information (gestational age).

The third strategy entailed accounting for abortion in annual hospital data in aggregated terms. In Table 3, I report the number of induced abortions identified in the 2009 and 2010 registers. In 2009 and 2010, I found 11 and 7 induced abortions, respectively, in the registers at the three hospitals. My review of 2009 and 2010 hospital administrative records, however, found that hospitals document the *total* number but not the *type* of abortions treated. The induced abortions recorded in the 2009 and 2010 PAC registers were thus unidentifiable among the total number of treated cases transmitted to the Ministry of Health.

Factors related to the surrounding circumstances of the case also appeared to influence how the abortion was documented in the register. Examples include where the abortion occurred and how the patient ended up at the hospital. In case 6 at Hospital 3 in 2009 and case 4 at Hospital 1 in 2010, providers noted that the patients reported 'expulsing' the fetus at home prior to coming to the hospital for treatment and recorded these abortions as spontaneous.

The administrative or therapeutic involvement of other institutions also appeared to influence how providers recorded cases in the register. Cases 1 and 3 in Hospital 2 in 2009 and cases 1 and 8 in Hospital 3 in 2009 were referred to the hospitals by other health facilities. Only case 8 in Hospital 3 in 2009 was classified as induced abortion. In 2010, case 2 was brought to Hospital 2 by police officers from a nearby town and was recorded as an induced abortion. Cases involving a police presence, therefore, may have offered providers less room to manage and record the case as spontaneous than cases referred by other health facilities.

Table 5 displays five cases in which the provider documented gestational age beyond the first trimester: case 1 in Hospital 1 in 2009, case 4 in Hospital 1 in 2010, cases 1 and 2 in Hospital 2 in 2010, and case 5 in Hospital 3 in 2010. In case 4 at Hospital 1 in 2010, the patient reported expulsing the fetus at home. Among these cases, only one was documented as an induced abortion: case 2 in Hospital 2 in 2010. This was the same case mentioned above in which the patient was brought to the hospital by the police of a nearby town. These findings suggest that in the absence of police involvement, even cases involving advanced gestational age could be managed and recorded as spontaneous abortion.

The analysis of recordkeeping strategies in Table 5 is retrospective and therefore incomplete. My investigation of providers' record-keeping practices through interviews, observation and a *prospective* review of the medical register, adds additional insight into why providers obscured induced abortion in the medical record. While most providers acknowledged challenges in differentiating between induced and spontaneous abortion,

some providers indicated that they *deliberately* record suspected cases of spontaneous abortion in order to avoid police involvement:

Nurse: If a woman has her reasons for doing an abortion, we often have pity on her, and we are sensitive to her needs.

SS: Are some cases of induced abortion recorded as spontaneous abortion?

Nurse: Yes. There's complicity between patients and providers. It's because it's a nuisance to record a case as induced abortion.

Sometimes the midwife will say it's a spontaneous abortion when it's an induced abortion. There are implications for the provider if the case is pursued by the police...it's rare for the provider to write induced abortion. Because you have to prove it and you can't let the patient go after treatment. You have to do an investigation to say why you recorded an induced abortion. It's just easier to write spontaneous abortion...you won't have to be bothered with all that. It's better to let some cases go (Midwife).

Nurse: We record them all as spontaneous abortions, knowing that induced abortion is illegal, therefore there can't be any induced abortions. So we consider them to be spontaneous abortions and we record them as spontaneous abortions.

SS: But is it possible that there are some induced abortions among these abortions?

Nurse: Yes, it's very possible, but as I just told you, as long as there are no complications we can manage the situation (Nurse).

During my hospital fieldwork, I observed several instances in which patients suspected of induced abortion were managed and recorded as cases of spontaneous abortion and eventually released. At one hospital, a woman who self-identified as married arrived with a high fever and bleeding after two months of amenorrhea. During the 'interrogation,' the woman denied knowing that she was pregnant. She took a 'concoction' (provider's word) to relieve a headache after a disagreement with her husband. The providers involved in her case felt that her story did not add up and that she had likely knowingly induced the abortion. The woman continued to insist on her version of events. The providers treated the woman and released her the next day. In spite of suspicion regarding the circumstances of the abortion and repeated interrogation, providers recorded the case as 'incomplete' abortion (spontaneous) in the register.

At another hospital, during an early morning staff meeting, a physician instructed midwives to 'reinterrogate' a patient who had arrived the night before with complications after taking a 'concoction' (provider's word). When I followed up with the midwife who questioned the patient again, she explained, laughing skeptically, that the woman reported taking a concoction to 'clean her stomach' (provider's word). She reported not knowing she was pregnant. The midwife further explained that the woman was 17 weeks along (approximately 4 months), in her early 30s, unmarried and had an 11-year-old child. The

results of the ultrasound indicated that the fetus was no longer alive. The midwife indicated that she would give the patient medication to open the cervix and induce contractions in order to deliver the fetus. When I checked the PAC register, this patient suspected of induced abortion had been recorded as a 'late abortion,' indicating it was classified as spontaneous rather than induced abortion.

In sum, the use of non-differentiating terminology to describe abortion and the omission of data contributed to the classification of the majority of abortions as spontaneous in the medical register. Annual hospital data further obscured induced abortion by accounting only for the total number but not the type of cases treated. The circumstances surrounding the abortion, including where the expulsion of the fetus occurred and the type of institution that was administratively or therapeutically involved in the case, also appeared to influence how providers documented cases in the register. Some providers indicated that such practices were deliberately deployed to avoid police involvement at the hospital or participation as a witness in legal proceedings. Suspected cases of induced abortion thus passed through the hospital, obscured in the record as miscarriage.

Discussion

This study offers an example of the micropolitics of protecting medical autonomy from political interference (Gieryn, 1983) in a global South context. Specifically, this study shows how health care providers deploy the medical record as a tool of professional boundary work in the jurisdictional dispute over abortion between medicine and criminal justice. The data in Table 3 indicate that most abortions treated in three Senegalese hospitals between 2009 and 2010 were recorded as spontaneous. I do not dispute the terminology used by medical providers (displayed in Table 5) to describe abortion such as late or incomplete abortion. However, if this terminology, or the omission of any terminology at all, permits suspected cases of induced abortion to be recorded as spontaneous, it is highly likely that the registers underestimate the number of induced abortions treated at the hospitals. The few induced abortions recorded in the registers are included but de-identified in annual hospital statistics that document only the total number of cases treated. The documentation of abortion in hospital records represents the 'preferred' or 'public' account (Berg, 1996; Berg & Bowker, 1997; Heath, 1982) of the type of abortion treated in state hospitals, produced through a series of practices deployed to maintain professional control over abortion.

The calculus of abortion involves the interpretation of physiological and social indicators. Providers rely on the patient's verbal admission, even in the presence of other physiological signs of induced abortion, to ultimately record the case as such. I argue that *all* of these practices constitute medical boundary work because they are deployed to keep criminal justice authorities outside of the hospital. In other words, providers attempt to identify suspected cases of induced abortion in the hospital to prevent the police from doing so. Medical providers produce an account of treatment that is mundane and therefore unworthy of police scrutiny by describing suspected cases in terminology that does not differentiate between induced and spontaneous abortion, or by omitting data on the type of abortion altogether.

The preferred account of the type of abortion treated is not limited to the hospital. Rather, it is embedded within a broader assemblage of social, economic, and legal institutions (Berg, 1996; Berg & Bowker, 1997; Heath, 1982; McKay, 2012). My review of court records of illegal abortion in one region of the country found that in nearly 25 years, between 1987 and 2010, the state only prosecuted 42 cases of illegal abortion (less than two cases per year, on average). One of the three study hospitals was located in this region. Only in one case did a health provider from this hospital (or any other health facility in the region) appear in court records as a witness. The preferred account of the type of abortion may limit the capacity of criminal justice authorities to detect suspected cases of induced abortion at the hospital, thereby preserving medical providers' professional autonomy.

If providers make abortion invisible to criminal justice authorities, why do they attempt to differentiate between induced and spontaneous abortion in the first place? By investigating the type of abortion, providers protect themselves should the police inquire into a case of suspected induced abortion. Recall the midwife who reported retaining suspected women in case 'someone' notified the police. The following scenario described by another midwife underlines the importance for providers of knowing, or at least being able to demonstrate that they attempted to learn, the type of abortion:

I heard that some of the midwives were called to the police station in a case of suspected induced abortion. The police asked them questions. Finally they saw that it was a case of spontaneous abortion. The patient does not always tell you. You always have to know what you're doing, otherwise you're not covered. You have to do complete exams and in-depth interrogations. It's also better to do the ultrasound (Midwife).

Treating abortion complications brings medical professionals uncomfortably within reach of the criminal justice system. They may be called to serve as witnesses in a case of illegal abortion prosecuted by the state. Providers are also expected to cooperate with police investigations of illegal abortion at the hospital. The possibility of police involvement requires providers to exercise due diligence when confronted with suspected cases of induced abortion. I found no cases in the media or in the legal record of health providers that were charged as accomplices for recording induced abortions as miscarriages. However, the severity of the law with respect to complicity in abortion may compel providers to demonstrate that they reasonably and prudently attempted to differentiate between induced and spontaneous abortion.

The medical record's strength as a boundary work tool in this context should thus be interpreted with caution. Due to the silence of the abortion law on the obligation of reporting, health care professionals must decide for themselves whether or not to report suspected cases of induced abortion. This leads to a significant tension between their professional obligation to protect patient privacy (*le secret professionnel*) and the perceived obligation to report cases of induced abortion to the authorities to avoid charges of complicity. This study did not include a national survey of physicians on the practice of reporting. A study in El Salvador, where the law similarly forbids abortion under any circumstance but does not obligate providers to report induced abortion (Hitt, 2006), offers insight into how providers manage these tensions. More than half (56%) of 110 obstetrician-

gynecologists surveyed in this study indicated that they had notified the police when faced with a suspected case of illegal abortion. Among these physicians, up to 42% said they reported such cases to avoid being charged as an accomplice (McNaughton, Mitchell, Hernandez, Padilla, & Blandon, 2006).

The following quote from a Senegalese physician who participated in my study illustrates that in addition to legal concerns, professional expertise and credibility are also at stake in decision-making about reporting:

I'm not obligated to report, but I will never protect someone else before I protect myself. There have been cases where people in the neighborhood went to the police and said this girl had an induced abortion. The police investigate the case and find out she was treated at my hospital. They ask me, Dr. X, what do you think of this girl? And I say I didn't know it was an induced abortion. What does that say about me, that I didn't know it was an induced abortion? What does it say about my credibility as an obstetrician-gynecologist? It's all well and good to say you shouldn't report such cases, but there are things that happen to you that make you feel smaller than...you just want to crawl under the table. And I've never wanted to crawl under the table in my whole life (Physician).

While the medical record appears to offer a measure of professional autonomy, health care professionals must still navigate an ambiguous array of competing legal and professional obligations that are all too real in their consequences for providers and women patients.

The PAC register itself presents a profound paradox with respect to the reproduction of abortion stigma. I have argued that providers *obscured* suspected cases of induced abortion in the register to circumvent police involvement. Unlike any other register in the maternity ward, the PAC register required providers to document the patient's marital status, an indicator lacking clinical significance that nevertheless elicited suspicion and subsequently oriented the management of the case. The record *sought* induced abortion by prompting inquiry into patients' marital status. Suspicion toward young, single women echoed broader social disapproval of abortion as a practice that violates gendered expectations regarding the proper place of sexuality and motherhood within marriage (Foley, 2007). Suspicion towards married women reflected moral anxieties raised by the increasing visibility of the unsupervised wives of transnational migrant men (Hannaford, 2014). Similar anxieties around married women with absent husbands were observed in a study of unsafe abortion in Malawi, where men also migrate to neighboring countries to find work (Levandowski et al., 2012). The PAC register appears to constitute a site of the local, gendered production of abortion stigma (Kumar et al., 2009) within the hospital.

The process of obscuring suspected cases contributes to what abortion scholars have termed 'the prevalence paradox' of abortion stigma for women (Kumar et al., 2009). When transmitted to the Ministry of Health, these data support the preferred account that hospitals primarily treat complications of spontaneous abortion. The preferred account reinforces the notion that women who have induce abortions are deviant, thereby reproducing the stigma of abortion that discourages women from disclosing induced abortion. Fear of discriminatory treatment may also discourage women from seeking medical care for

abortion complications altogether (Levandowski et al., 2012; Payne et al., 2013; Shellenberg et al., 2011; WHO, 2011).

The medical record also contributes to what abortion scholars have termed ‘the legitimacy paradox’ of abortion stigma for health care providers (Harris et al., 2012). The lack of disclosure about treating abortion complications among providers reproduces the notion that work involving induced abortion constitutes illegitimate medical practice. While the medical record supports a degree of professional autonomy, it also contributes to the stigma of abortion for women and health providers.

This study is subject to several methodological limitations. First, it does not account for the contributions of women patients to the production of the preferred account of the type of abortion treated in the hospital. The preferred account is developed through a series of negotiations between patients and providers throughout the treatment process (Berg, 1996; Berg & Bowker, 1997). Yet, women’s participation in this study is only relayed through the perspectives of providers. Second, observation of post-abortion care boundary work was limited to secondary and tertiary level hospitals with referral maternity units. This study therefore does not account for the practices of health care professionals in rural health clinics, which for many women are among the earliest points of access in seeking care for abortion complications. Third, the scope of the study was limited to three hospitals in three regions of the country as well as to a case review of illegal abortion in only one region of the country.

Conclusions

This study demonstrates that both post-abortion care and induced abortion are sites of jurisdictional dispute between health care providers and criminal justice authorities. PAC activities are currently being implemented in at least 50 countries around the world with varying legal restrictions on abortion (PAC-Consortium, 2012). Globally, nearly 20% of women of reproductive age live in countries where abortion is not permitted at all or is restricted to saving the woman’s life (WHO, 2011). In developing countries, an estimated five million women are admitted each year to hospitals with complications of induced abortion (Singh, 2006). Post-abortion care is a reality of obstetric care for many health providers worldwide. Additional research is needed to better understand how different types of health providers across a variety of legal contexts negotiate conflicting professional and legal obligations with respect to treating suspected cases of illegal abortion. In addition to offering insight into professional boundary work around abortion, such studies would also improve our understanding of the local production of abortion stigma within the health care setting. From a public health perspective, such research would contribute to advocacy to publicize the constraints posed by restrictive abortion laws on health systems, medical providers and patients. They would also contribute to local efforts to confront and reduce the effects of abortion stigma for women who seek and health professionals who provide life-saving care.

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Research Highlights

- Offers an example of the protection of professional autonomy
- Demonstrates how medical records serve as tools of professional boundary work
- Demonstrates how post-abortion care is a site of jurisdictional dispute

Table 1

Number, profession, gender and institutional affiliation of health professionals interviewed in 3

Region	Type of health facility		Number, type and gender of health provider	Total number of Interviewees by Site	
Region 1	Observation Site 1	Regional hospital	2 male doctors	12	
			8 midwives		
	Supplementary health facilities	Tertiary level district hospital	1 midwife		
			Health clinic		1 midwife
Region 2	Observation Site 2	Secondary level district hospital	1 female doctor	11	
			1 female nurse		
			1 male nurse		
			4 midwives		
	Supplementary health facilities	Secondary level district hospital	1 female doctor		
			Health clinic		1 male nurse
			Health clinic		1 midwife
Region 3	Observation Site 3	Tertiary level district hospital	2 female doctors	13	
			4 male doctors		
			7 midwives		
Total Number of Interviewees				36	

Table 2

Abortion data collected from PAC registers and hospital administrative

	PAC registers	Hospital abortion data
Hospital 1	January 2009–February 2011	2005–2010
Hospital 2	January –December 2007; January 2009 – April 2011	2004–2011
Hospital 3	January –December 2007; January 2009 – April 2011	2006–2010

Table 3

Type of abortion recorded in the PAC register at 3 hospitals, 2009–2010

Year	Hospital	Total number of cases recorded in the PAC register		Cases recorded as spontaneous abortion		Cases recorded as induced abortion		Cases recorded as other than induced or spontaneous abortion		Cases with no information on the type of abortion	
		N	%	N	%	N	%	N	%	N	%
2009	Hospital 1	403	87	351	87	3	0.7	17	4.2	32	7.9
	Hospital 2	443	93.2	413	93.2	1	0.2	5	1.1	24	5.4
	Hospital 3	1467	92.5	1358	92.5	7	0.5	46	3.1	48	3.3
2010	Hospital 1	361	92.5	334	92.5	1	0.3	4	1.1	22	6.1
	Hospital 2	389	96.1	374	96.1	2	0.5	3	0.7	10	2.5
	Hospital 3	1092	95.6	1044	95.6	4	0.3	16	1.5	27	2.5

Table 4

Indicators used by providers to differentiate between induced and spontaneous abortion

Category of Information	Indicators	Method of obtaining information
Patient demographics and behavior	Marital status Age Presence/absence of family members Profession Socio-economic status Anxiety Lack of cooperation	Interrogation Observation
Physiological information	Hemorrhage Infection Objects in uterus or vagina Cervical injury Uterine perforation	Clinical exam Ultrasound Treatment
Verbal admission	Woman admits to having induced abortion	Interrogation Retention at the hospital Threats to withhold treatment

Table 5

Selected indicators of admitted and possible induced abortions in 6 months of PAC register data in 3 hospitals, 2009–2010

	Month of Observation in Each Hospital	Case number	Marital status (A)	Age (B)	Gestation/Parity (C)	Gestational age (D)	Mode of uterine evacuation (E)	Practitioner (F)	Type of abortion recorded in PAC register (G)	Ultimate classification of abortion (H)
2009	Hospital 1	1	Single	18	2/1	20 weeks	Expulsion, digital curettage	Midwife	Abortion	Spontaneous
		2	None listed	13	0/0	None listed	None listed	None listed	None listed	Spontaneous
	Hospital 2	1	Married	26	2/0	1 month	Manual Vacuum Aspiration	Midwife; patient referred from Clinic X	Induced Abortion	Induced Abortion
		2	None listed	30	1/1	2 months	Digital curettage	Midwife	Spontaneous	Spontaneous
		3	‘?’	18	1/0	2 months	Digital curettage	Midwife; patient referred from Clinic X	Spontaneous	Spontaneous
	Hospital 3	1	Single	18	1/0	None listed	Expulsion	Midwife; patient referred from Clinic X	Late abortion	Spontaneous
		2	Single	19	1/0	2 months	Manual Vacuum Aspiration	Physician	Incomplete abortion	Spontaneous
		3	Single	18	1/0	None listed	Manual Vacuum Aspiration	Physician	Molar abortion	Spontaneous
4		Single	19	1/0	None listed	Electric aspiration	Physician	Molar abortion	Spontaneous	
5		None listed	26	1/?	2 months	Dilation and curettage	Physician	Hemorrhagic abortion	Spontaneous	
6		‘?’	14	1/0	2 months	Expulsion at home	Midwife	None listed	Spontaneous	
7		Single	31	2/1	6 weeks	Manual Vacuum Aspiration	Physician	Ovulatory retention	Spontaneous	
2010	Hospital 1	1	None listed	22	3/3	None listed	Manual Vacuum Aspiration	Midwife	Incomplete abortion	Spontaneous abortion
		2	Single	38	6/4	1 month	Digital curettage	Midwife	Spontaneous abortion	Spontaneous abortion
		3	Single	18	1/0	2 months	Digital curettage	Midwife	None listed	Spontaneous abortion

Month of Observation in Each Hospital	Case number	Marital status (A)	Age (B)	Gestation/Parity (C)	Gestational age (D)	Mode of uterine evacuation (E)	Practitioner (F)	Type of abortion recorded in PAC register (G)	Ultimate classification of abortion (H)
Hospital 2	4	Single	'?'	2/1	4 months	Digital curettage; Expulsion of fetus at home, not brought to hospital, according to patient'	Midwife	Spontaneous abortion	Spontaneous abortion
	1	Married	17	1/0	7 months	Expulsion; hemorrhage	Midwife	Spontaneous	Spontaneous
	2	Married	19	1/0	5 months	Manual Vacuum Aspiration; complications of infection	Midwife; 'Patient brought by Police of Town X'	Induced Abortion	Induced Abortion
	3	Married	16	1/0	'?'	Manual removal of placenta	Midwife	'?'	Spontaneous abortion
Hospital 3	1	Single	22	2/1	None listed	Manual Vacuum Aspiration	Physician	Empty sac	Spontaneous abortion
	2	Single	23	2/1	None listed	Dilation & Curettage	Physician	Induced abortion	Induced abortion
	3	Single	19	1/0	None listed	Dilation & Curettage	Physician	Hemorrhagic abortion	Spontaneous abortion
	4	Married	30	1/0	None listed	Manual Vacuum Aspiration	Physician	None listed	Spontaneous abortion
	5	Single	18	1/0	4 months	Expulsion of 2 stillborn fetuses	Midwife	Fetal abortion	Spontaneous abortion
	6	None listed	23	5/3	None listed	Digital curettage	Physician	Late abortion	Spontaneous abortion
Total number of cases		26							