




# Treading the Thin Line: Pharmacy Workers' Perspectives on Medication Abortion Provision in Lusaka, Zambia

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**Context:** *Despite liberal abortion laws, safe abortion access in Zambia is impeded by limited legal awareness, lack of services, and restrictive clinical policies. As in many countries with restricted abortion access, women frequently seek abortions informally from pharmacies.* **Methods:** *We conducted 16 in-depth interviews in 2019 to understand the experiences and motivations of pharmacy workers who sell medication abortion (MA) drugs in Lusaka.* **Results:** *We found that pharmacy staff reluctantly assume a gatekeeper role for MA due to competing pressures from clients and from regulatory constraints. Pharmacy staff often decide to provide MA, motivated by their duty of care and desire to help clients, as well as financial interests. However, pharmacy workers' motivation to protect themselves from legal and business risk perpetuates inequalities in abortion access, as pharmacy workers improvise additional eligibility criteria based on personal risk and values such as age, partner approval, reason for abortion, and level of desperation.* **Conclusion:** *These findings highlight how pharmacy staff informally determine women's abortion access when laws and policies prevent comprehensive access to safe abortion. Reform of clinical guidelines, public education, strengthened public sector availability, task sharing, and improved access to prescription services are needed to ensure women can legally access safe abortion.*

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## INTRODUCTION

Although abortion is a simple and safe medical process that can be delivered by low-level health workers with adequate training (WHO 2012, 2015), almost half of the 73 million abortions that occur each year are unsafe, due to laws, policies, social stigma, and health system weaknesses that limit women's access to safe abortion care (Ganatra 2017, Bearak 2020).

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Abortion is more legally restricted in low- and middle-income countries, and 97 percent of unsafe abortions occur in these contexts (Singh 2018). Even in countries where the law allows women to have an abortion for a wide range of indications, safe abortion care can be made inaccessible by policies that restrict who can provide abortion, and where and how it can be provided (Singh 2018).

In recent years, medication (or medical) abortion (MA) sold by pharmacies (with or without accompanying information and advice for administration) has reduced the incidence and severity of complications from unsafe abortion in low- and middle-income countries (Harper 2007, Sherris 2005, Miller 2005). Pharmacy provision of MA has improved access to safer abortion care where abortion is legally restricted, such as countries in Latin America (Lara 2006), and where other regulatory barriers prevent women from accessing care formally through the health system, for example, India (Singh 2018). Pharmacies are able to sell the medication misoprostol for abortion, even in legally restricted settings, as the drugs are registered for other indications such as gastric ulcer. Pharmacies can also sell the more effective combined regimen of mifepristone and misoprostol, but this combination product is only indicated for medical abortion, so it tends to be less readily available (Footman 2018). MA can be safely provided by pharmacy workers with adequate training (Tamang 2018). Studies in Asia and sub-Saharan Africa have found MA that is self-managed (administered without clinical supervision) after purchasing medications from pharmacies can result in clinical outcomes comparable to MA provided formally through clinics (Tamang 2018; Stillman 2020). However, studies in low- and middle-income countries have documented challenges in the quality of pharmacy provision, as pharmacy workers often do not provide adequate information about how to safely and effectively use the medications (Footman 2018). Additionally, products (WHO 2016) and product information inserts (Frye 2020) can be of poor quality. Despite these challenges, pharmacy provision of MA is considered a harm reduction approach that can reduce mortality and morbidity from unsafe abortion (Hyman 2013).

Beyond the public health benefits of pharmacy access to MA, these pills are often seen as an agent of social change that can shift power dynamics and reduce health inequalities by enabling women to take more control over their own health and bodies, and by reconceptualizing the woman herself as the provider of care (Berer 2018; Erdman 2018; Oppeggaard 2018). However, studies in countries where abortion is legally restricted (Tanzania, Burkina Faso) have also identified that pharmacy provision of MA can be reliant on the will of the vendor (Solheim 2020) and on having adequate social networks and power to negotiate access to the drugs (Drabo 2019). A study in Uttar Pradesh, India, also identified that gendered inequalities in access to information can be reinforced by male-dominated pharmacy environments (Diamond-Smith 2019).

## **Study Aims**

This qualitative study aimed to understand the experiences of pharmacy workers who sell MA in Lusaka, Zambia, to inform efforts to improve the quality of their provision practices. The in-depth interviews were intended to explore the perspectives of pharmacy workers on the practice of women's self-management of MA from pharmacies, and their values, motivations, and beliefs surrounding MA provision. Although studies have explored the knowledge and practices of pharmacy staff in Zambia (Hendrickson 2015; Fetters 2014) and elsewhere

(Footman 2018), research to better understand pharmacy workers' motivations and perspectives is needed to further improve MA provision. Although MA provision by pharmacies has improved access to safe abortion methods, lack of accurate information and poor-quality products can negatively affect women's experiences of self-managing MA from pharmacies.

## **Abortion in Zambia**

Zambia has one of the least restrictive abortion laws in sub-Saharan Africa. The 1972 Termination of Pregnancy Act permits abortion on a wide range of grounds, including if continuing a pregnancy involves a risk to the life of the pregnant woman, her physical or mental health or that of any of her existing children, or if a child born of the pregnancy would suffer from physical or mental abnormalities (Government of Zambia 1972). The Penal Code was updated in 2005 to include rape or defilement of a female child as an indication for abortion. The law also allows providers to consider the woman's (actual or foreseeable) circumstances and her age, when assessing the legal indications for an abortion (Government of Zambia 1972). Ministry of Health guidelines permit MA up to nine gestational weeks and manual vacuum aspiration up to 12 weeks (or 14 weeks under certain circumstances) (Government of Zambia 2017). However, Zambian women have limited access to safe, quality abortion care due to poor service availability (Ministry of Health 2009; Cresswell et al. 2018), restrictive clinical regulations on who can provide care coupled with health worker shortages, health care provider refusal to offer abortion care (Freeman 2019), and poor awareness of abortion laws (Ministry of Health 2009; Coast 2016). One of the legal requirements for a woman to access an abortion is signatures of approval from three medical doctors, including a specialist, except in emergency cases (Government of Zambia 1972), which creates challenges in the context of severe health worker shortages (Prust 2019).

The 1972 Act allowed the Minister of Health to make regulations for better carrying out of the provisions of the Act by statutory instrument, and there has recently been more progress in the regulations surrounding abortion. New comprehensive abortion care guidelines published in 2017 enabled clinical officers, medical licentiates, and other health practitioners listed in the 2009 Health Professions Act to provide safe abortion services, as well as medical doctors (Government of Zambia 2017). The guidelines also clearly defined emergency circumstances to include the risk of unsafe abortion, allowing a single medical doctor to certify the procedure if a woman were considered at risk (Government of Zambia 2017). However, safe abortion laws and guidelines are still poorly disseminated and not well known among women and providers (Blystad 2019). Political leaders and policy makers have often been unwilling to take visible measures that improve access to abortion, in part because the declaration of Zambia as a Christian Nation has had a significant impact on politics and on health workers' willingness to be involved in legal abortion services (Haaland 2019). Additionally, providers are fearful of offering abortion services because those seeking or providing abortion under circumstances in which it is not permitted under the current law can face harsh punitive measures (7–14 years imprisonment) (Government of Zambia 2012).

In theory, safe abortion services are available at public health facilities (for free, though unofficial provider payments are common (Leone 2016)), as well as nongovernmental organization and private facilities. However, in practice, the availability of safe abortion care

in public facilities is limited. A recent study of Central Province found that only 21 percent of women lived within 15 km of a facility with basic capacity to provide safe abortion care under Zambia's law for non-emergency scenarios (Cresswell et al. 2018). These factors have combined to create high levels of unsafe abortion: 70 percent of all pregnancy terminations in the country were estimated to be unsafe in 2009 (Ministry of Health 2009), almost four decades after the abortion law was originally reformed. More recent data on abortion incidence and safety is lacking, but the 2017 comprehensive abortion care guidelines stated that abortion is one of the top five causes of maternal mortality, and that 30–50 percent of acute gynecological admissions are due to unsafe abortion complications (Government of Zambia 2017).

The combination pack of mifepristone and misoprostol for MA has been registered for use in Zambia since 2012 and can be legally purchased from a pharmacy with a valid prescription that has the required doctor approvals for the abortion (Ministry of Health 2009). The 1972 Termination of Pregnancy Act stated that abortions must be performed in a hospital or place designated by the Ministry of Health, and in 2017 the Ministry of Health guidelines stated that MA can be taken at a facility or at home. The 2017 guidelines also state that mifepristone–misoprostol or misoprostol-only regimens can be used for MA, and that patients must be informed about efficacy, side-effects, and risks and given an emergency contact if self-administering at home. Before the approval of the combination-pack, pharmacies were known to be providing the less clinically effective regimen of misoprostol alone informally for abortion (Hendrickson 2016), and provision of ineffective medications for abortion such as emergency contraceptive pills and contraceptives, or uterotonics such as pitocin or oxytocin have also been documented (Fetters 2014).

## **METHODS**

We conducted in-depth interviews with 16 pharmacy workers between September and December 2019.

The in-depth interviews presented in this paper were part of a larger study that evaluated an intervention which aimed to increase women's access to accurate information about MA through a hotline (under analysis). The intervention involved the promotion of a reproductive health advice hotline to clients purchasing MA through pharmacies. Promotional materials included posters, banners, pocket cards, branded lab coats / t-shirts for pharmacy staff, and stickers on MA products. These in-depth interviews were also intended to explore participants' perceptions of the intervention and were conducted 10–12 months after the intervention had been implemented.

### **Sample**

We approached individuals working at the pharmacies that were included in the intervention evaluation in Lusaka. The pharmacy intervention inclusion criteria were that the pharmacy was known to sell the MA combination pack, had a valid operating license, the pharmacy manager and at least one worker were willing to participate and were able to give informed consent, workers were age 18 or over, and the pharmacy had a private

dispensing room. Among 39 pharmacies approached, 22 agreed to participate in the intervention (56 percent). From these pharmacies, we selected pharmacy workers for interview based on the recommendation of pharmacy owners. The only additional inclusion criteria for the in-depth interview was that the pharmacy worker was known to be responsible for selling MA. Sixteen pharmacy workers agreed to take part (eight men, eight women) out of 22 pharmacies approached. Only one pharmacy worker was interviewed per pharmacy. Participants gave written, informed consent to take part in the research and were given the option to withdraw at any time. Participants were not compensated for taking part in the in-depth interview.

## Data Collection

Interviews were conducted by two researchers from Population Council (DM, CB) and two trained qualitative interviewers. All interviewers were female, experienced in conducting qualitative interviews, and received training in the research subject area. Debrief meetings between interviewers and researchers were conducted immediately after each interview to discuss key points from the interview, how questions were being received, and any changes required to the topic guide and interview process. Interviews took place in a private space in the pharmacy and were between 45–60 minutes long. We used a semistructured topic guide. The topic guide included background information about the participant and the pharmacy they worked at; their reasons for, concerns about and experiences of selling MA; the pricing of MA; perceptions of the intervention and of the reproductive health hotline; and their opinions about how MA clients could be better supported. The topic guide was reviewed and updated during data collection after the first two transcripts were reviewed by the study team. All interviews were conducted in English (preferred by the participant), recorded, and transcribed verbatim. Transcription was completed by the interviewers with support from a third research assistant.

## Analysis

Transcripts were imported into Dedoose for analysis. Initial coding began during data collection, but the analysis was completed after all interviews were conducted. We used thematic analysis (Attride-Stirling 2001): following an initial review of five transcripts, we developed a set of descriptive codes and two of the researchers (MD, KF) independently coded the five transcripts. The remaining transcripts were then coded by one researcher (MD). The codes were summarized into memos, and broad themes were identified. Coded excerpts were then reread and resummarized in order to further develop these themes.

## Ethics

The research received ethical approvals from the ERES Converge ethics committee in Zambia (2017-Sep-028), the MSI Reproductive Choices Independent Ethics Committee in the UK (010-19A), and the Population Council Institutional Review Board in the United States (861). The data that support the findings of this study are available from the corresponding author upon reasonable request.

## RESULTS

### Participant Characteristics

Participants had a mixture of backgrounds and levels of experience: some were pharmacy employees who had only worked a few years, others had 10–20 years' experience in the public, NGO, or private sector. Most (12) were pharmacists or pharmacy technologists with a degree or diploma in pharmacy, but the remainder worked in sales, logistics, or management of the facilities. Of the pharmacies, most were retail, but three were wholesale pharmacies, and the sample included both chain pharmacies and lone outlets. The sites varied in terms of number of clients seen per day (50–400) and the number of staff employed (3–20) and provided a range of services including over the counter and prescription medicines, tests for blood pressure, cholesterol, diabetes, HIV and malaria, and cosmetic sales. Participants had worked on average for five years at their current pharmacies, and half were owners or managers of the pharmacy. Of the 13 retail pharmacy employees, all had day-to-day experience of serving clients and dispensing medicines as well as ordering and managing stock, monitoring drug storage and expiry, accounting, and supervision of staff.

### Qualitative Findings

The main themes that arose from the findings were: the competing pressures experienced by pharmacy workers over the provision of abortion medications; the gatekeeping role that pharmacy workers reluctantly assumed as a result of these pressures; and the conflicting motivations (moral, risk-related and financial) that pharmacy workers navigate when making decisions about providing MA.

#### *On the Frontline: Facing Conflicting Pressures*

Pharmacy workers operate at the frontline of the health system, and as a result they experience conflicting pressures: from clients who need a safe abortion but cannot access care formally through the health system; from regulation which limits pharmacists' role as providers of safe abortion; and from their own conflicted internal values around abortion.

Pharmacy workers reported commonly receiving requests for MA from a diverse range of clients in terms of age, relationship status, and gender. They receive clients purchasing the medications for themselves or for others, sometimes with a prescription but more commonly without one. Pharmacy workers often displayed compassion and empathy when talking about the predicaments faced by these clients, and a desire to help them through an often-desperate situation. Pharmacy workers described feeling pressure to provide abortion medications, even to clients who did not have a prescription, as they were aware that women struggled to access safe abortion through the formal health system:

There are clients that would come, they don't want to go to the hospital, she knows she is pregnant and maybe she has a baby – she cannot keep that - then she has come to you to say, 'my brother I need your help, it's this and this and this'... yeah you would help in such cases. [Male pharmacy technologist; diploma; 1 year experience]

Pharmacy workers were aware of the challenges their clients faced when trying to access prescriptions: “it’s usually because it’s not easy to get a prescription from the hospital for such drugs so they prefer that they just talk to a pharmacy personnel” [male pharmacy technologist; diploma; 2 years’ experience]. Although abortion can be provided at lower level health facilities in Zambia, the hospital was the only alternative mentioned by pharmacy staff, possibly due to the requirement for doctors’ signed approvals. Hospitals and doctors were perceived to be likely to refuse to provide abortion care: “you know i can tell you 80% of doctors, if the patient goes with a genuine problem, still they don’t understand and they refuse the abortion” [male pharmacist; bachelor degree; 20 years’ experience]. Clients were also perceived to want to avoid hospitals due to confidentiality and quality concerns. One pharmacy worker described how clients “don’t want to go to the hospital... they say the nurses are mean” [male pharmacist; bachelor degree; 4 years’ experience], while another explained that “if they go to the government hospital to get a physical, that way they’ll have a curettage” [male pharmacist and pharmacy owner, bachelor degree, >20 years’ experience].

Most of the participants were aware that they should only sell abortion medications with a prescription, but a few were uncertain about the legal status of abortion. The uncertainty about abortion laws was also perceived to be felt by doctors, who turned clients away: “ahh it’s a risk so sometimes doctors refuse to do the abortion, that’s why they come here with the stress” [male pharmacist; bachelor degree; 20 years’ experience]. There was also uncertainty in the wider community. This created additional pressure for pharmacy staff who had to explain prescription requirements to clients and sometimes faced anger if they refused to sell without a prescription. Pharmacy staff therefore had to balance the legal requirement for a prescription with the pressure from clients who needed access to MA, and made pragmatic decisions based on their personal preferences and comfort, with one participant describing themselves as “more of a prescription type of person.”

Most pharmacy staff responded to these competing pressures by providing the drugs without a prescription in some cases. However, provision of MA could also clash with their internal values and beliefs. Most participants expressed pragmatic views on abortion, seeing it as a much-needed health service that is “safer for our communities” and acknowledging that “you can’t stop them” if a woman has decided to end a pregnancy. However, a few pharmacy workers described abortion as a “*sin*.” While one participant expressed that abortion “is not something that needs to be hidden, it is not something that womenfolk need to feel bad and guilty about,” he also acknowledged how provision of the medication could clash with the beliefs and values of pharmacy staff:

Health practitioners and pharmacists more so, we are also religious people and you will find in a lot of instances, what you do as a pharmacist or a health professional - clashes with your beliefs and principles and norms. So you need to tread carefully, and there’s a thin line—in terms of what to do and how to do it. I have colleagues who have completely distanced themselves from the vice because it is believed that it is against biblical principles. [Male pharmacist; bachelor degree; 9 years’ experience]

***Pharmacy Workers as Reluctant Gatekeepers***

Pharmacy workers described reluctantly taking on the position of a gatekeeper for abortion care, as they are forced to make decisions about who can access care whilst balancing their clients' needs with policy and health system constraints, and their own internal values:

There is that religious point of view for most of us, I think, so there is a very thin line between being a professional and trying to be religious... so bear with us if we don't assist all customers [laughs]. [Female pharmacist; bachelor degree; 5 years' previous experience]

In response, pharmacy staff develop their own sets of rules and eligibility criteria, with clients being requested to provide certain information to pharmacy workers to inform their final decision:

There are very few cases where I help out... when the customer really just explains to me why they need it... I do ask a lot of questions why they really need it before I even give them... if I am not convinced, I will not assist. [Female pharmacist; bachelor degree; 6 years' experience]

While some eligibility criteria imposed by pharmacy staff were legal or clinical criteria such as gestational age or possession of a prescription, other social requirements were improvised by pharmacy staff. These social criteria included the woman's reason for having an abortion, whether their partner or parent was aware and supportive, whether their age indicated they were mature enough to manage the process, whether they seemed desperate, whether they seem emotionally ready and whether they had tried to end the pregnancy already. If pharmacy workers did not feel that clients met these criteria, the clients could be denied care (as above) or charged a higher price to make the medications unaffordable:

The students and those will misuse, will abuse the drug. If they come, I will wait to sell them but if they bother too much then I give them the higher price so that they don't buy. [Male pharmacist; bachelor degree; 20 years' experience]

Alternatively clients may have to spend longer negotiating access, for example, this participant explained how she first advises the client against the abortion, but will eventually provide the medications if she hears compelling reasons for ending the pregnancy:

Interviewer: You mentioned "we are not for the idea at first" so are there times where you discourage them to say: "no you shouldn't do this"?

Participant: Yeah there are times; because you have to do that so that you know how serious they want this so that they kindly revisit their decision. [Female pharmacy technologist; diploma; >5 years' experience]

Pharmacy workers needed to trust the clients in order to provide the medications. They commonly feared clients would lie about gestational age to gain access: "a lot of people like to lie about it and say 'no it is just some days old or weeks old', meanwhile it is a very



big pregnancy” [female pharmacist; bachelor degree; 6 years’ experience]. In order to feel comfortable dispensing MA, the pharmacy staff also described needing to trust in the client’s ability to manage the process, avoid complications, and avoid unsafe methods.

### ***Motivations of Pharmacy Workers***

Pharmacy workers’ gatekeeping decisions seemed to be underpinned by multiple motivations: risk management, moral, and financial concerns.

Risk management was an important concern for many of the pharmacy workers. Participants feared their clients would experience complications due to taking the medications incorrectly, which created a great deal of anxiety for pharmacy workers: “usually when I even dispense those medicines I always sit and pray: let it just go well, let it just go well, that’s how it is” [male pharmacy technologist; diploma; 1 year experience]. Concerns about risk were related to clients’ wellbeing but were sourced in the fear that a complication would create problems for the pharmacy: “when clients are asking for this medication believe me they are nice, they are very nice people, but if anything happens to their bodies they will backfire and pin it on you” [female pharmacist; bachelor degree; 6 years’ experience]. Participants were also concerned that the clients’ previous use of unsafe methods would cause complications and clients would “come and point at us”. For most pharmacy staff, their stated preference would be to sell MA with a prescription to reduce their liability and ensure the process is well-supported (given their own lack of training) in case of adverse outcomes:

It’s good in a way that, when a client comes with a prescription, it assures me that it’s under supervision by registered medical personnel yes... where a person just comes you know empty-handed... you know the person could be in danger and stuff, and that could put me in it. [Female pharmacist; bachelor degree; 4 years’ experience]

We did not directly ask participants, but pharmacy workers were not specific about what “trouble” would be caused if they were found to be providing MA without a prescription. A couple of the participants mentioned the risk of inspectors, but participants did not mention specific risks such as business closure, legal action, or arrest. Risks were managed by ensuring clients had a prescription (some even turned down sales), providing antibiotics, and using personal phones to stay in touch with clients “until everything is done.” The eligibility criteria improvised by pharmacy workers also helped them to manage risk. For example, pharmacy workers described ensuring the partner was involved because a partner finding out about an abortion later could “trickle back down to us here” or denying care to younger girls who they did not think could cope with the process because “we feel they are too young and maybe when we give them, something bad happens to them, they can still come back. They are not mature enough to handle the situation” [female pharmacy owner; secondary school education; 10 years’ experience].

Moral language was also used to describe gatekeeping decisions, as pharmacy workers assessed whether clients were the “right person, the one who really needs it” [male pharmacist; bachelor degree; 7 years’ experience]. Several pharmacy staff framed dispensing of MA as part of their duty of care and role as health professionals, and as an important way of preventing harm from unsafe abortion. The same participant who discussed how provision of

the medication could clash with the beliefs and values of pharmacy staff also explained: “it is something that is difficult for us to do in certain instances. But we swore an oath that we will protect the public and serve the masses. So that’s that” [male pharmacist; bachelor degree; 9 years’ experience]. Both public health and rights language were used to justify gatekeeping decisions: their actions were described as “helping” and “necessary,” making communities safer by preventing unsafe abortion as well as upholding “freedom of choice.” Some expressed awareness of the complex paths women may be forced to take if they denied them care: “we don’t bounce the people you know, they can get the medicines easily you know, instead of going round and then you know they get stressed” [male pharmacist; bachelor degree; 20 years’ experience], and compassion for the challenging circumstances their clients faced: “most of them are coming from places where the men in their lives are not even supportive, so there is all those issues” [female pharmacist; bachelor degree; 6 years’ experience].

Financial motivations were also evident in some of the pharmacy workers’ descriptions of their gatekeeping decisions, as some made clear that “of course on the personal interest, again, there is money” and considered the product a profitable medication. However, most only mentioned the need to prevent unsafe abortion when asked about the benefits of selling MA. In addition, financial decisions about, for example, coselling antibiotics or “blood boosters” (iron capsules or syrup, folic acid) with MA were also portrayed as moral ones: “no, its business but again at the end of the day, you are still doing the right thing” as these products were (incorrectly) perceived to reduce risk of complications. Pricing strategy was also used moralistically by one pharmacy worker, with high prices used to prevent provision to some individuals who would “misuse” or “abuse” the drug, as compared to “genuine” people. Prices reported by pharmacy workers varied from 120–500 Kwacha (USD \$6.60–27.50). Most pharmacy workers would not reduce prices for those who could not afford the medications, with some making clear that “this is not a charitable organization” and “we are here to make money.” However, there were some who described charging prices based on what they thought the client could afford, or agreeing lower prices to help individuals access the drugs.

## DISCUSSION

This study found that pharmacy workers selling MA in Lusaka felt caught between regulations that limit women’s access to safe abortion, their own conflicted personal values, and their desire to prevent unsafe abortions. Pharmacy workers reluctantly assume the role of gatekeeper for safe abortion methods, and often decide to provide MA, motivated by their duty of care as well as financial interests. However, pharmacy workers’ motivation to protect themselves from legal and business risk perpetuates inequalities in access to safe abortion care, as pharmacy workers improvise additional eligibility criteria based on personal risk and values such as the client’s age, partner approval, reason for abortion, and level of desperation. These findings highlight the impact that limited implementation of abortion law reform and health system failures surrounding abortion have had on pharmacy staff. In recent years, progress has been made in expanding availability of MA and decentralizing care in Zambia (Fetters 2017), but the law remains ambiguous and this ambiguity can be used by those who seek to limit access to safe, legal abortion, as well as those who wish

to increase access (Haaland 2019). Stigma surrounding abortion prevents abortion-related issues being addressed in policy meetings and public settings (Haaland 2020), and while abortion policy issues are silenced or ignored, frontline workers such as pharmacy staff are forced into the conflicted position of making pragmatic decisions about who can access abortion care.

Pharmacies are often viewed primarily as businesses (Lowe 2009) but beyond the financial incentive for selling MA, gatekeeping decisions are motivated by personal and professional liability as well as moral values. Caught between urgent demands from clients and an uncertain regulatory environment, pharmacy staff act as street-level bureaucrats (Lipsky 1980). Pharmacists effectively translate policies into practice as they are forced to make decisions about who can access safe abortion care. Decisions are based on a desire to avoid harm from unsafe abortion while protecting their moral values, financial motivations, and perceived personal risk and liability. Lipsky's theory of street-level bureaucracy has previously been applied to abortion care in Ghana (Aniteye 2013) in research that identified how abortion policy implementation can be limited by midwives and doctors' values and attitudes, and their balancing of personal and professional dilemmas. By contrast, in this study, personal and professional dilemmas caused pharmacy staff to extend their practice beyond Zambia's policy framework, making pragmatic decisions about how to prevent unsafe abortion in response to the health system's failure to make safe abortion accessible for women. Though pharmacy staff sometimes made decisions that limited safe abortion access to protect themselves and their businesses, they spoke with empathy and compassion about the challenges faced by clients who need a safe abortion and saw the provision of MA as part of their professional ethics and duty of care.

Pharmacy workers' willingness to provide MA is known to reduce harm from unsafe abortion (Miller 2005; Sherris 2005; Harper 2007), but the potential impacts of pharmacy provision on reproductive rights and on health inequalities may be limited by their conflicted morals and motivations. For example, the criteria used by pharmacy staff to decide who can access care may contribute to inequalities in the safety of abortion, as those most likely to be turned away are younger, without partner or parental support, unable to afford to pay higher prices, and less trusted to be able to manage the abortion process in the eyes of the pharmacy worker. The impact of gender on access to safe abortion in Zambia has previously been identified (Freeman 2017). The finding that pharmacists may turn away clients who do not have male support provides evidence of one of the mechanisms through which these gender inequities may be reinforced. Pharmacies can play an important role in reducing unsafe abortion as they are on the frontline of the health system. However, being positioned outside of the abortion law in Zambia, without formal supporting structures to ensure they offer safe abortion care, means they can perpetuate health inequalities that impact most on younger, poorer women.

The research highlights the need for laws, policies, and regulations to ensure that women can access high quality abortion care, without facing fear of provider refusal. It has been estimated that the Zambian health system could save as much as US\$0.4 million annually if women being treated for unsafe abortion had a safe abortion instead (Parmar 2017). In Zambia, increasing access could mean removing the requirement for doctors' signatures and enabling task-sharing of abortion to mid-level providers, a proven safe and effective

practice (Barnard et al. 2015; WHO 2015). Public awareness of abortion laws and rights must be increased through awareness campaigns, and clear communication to health care professionals and regulatory bodies is needed to raise their knowledge of abortion laws. Use of pharmacists, as well as midlevel providers, has previously been recognized as an opportunity for increasing access to safe abortion care and reducing costs of unsafe abortion in Zambia (Leone 2016). Pharmacies can offer an important source of MA and are known to be able to provide care safely with adequate training and support (Tamang 2018). Interventions that enable pharmacies to work more closely with providers offering prescription and counselling services, for example, through telemedicine approaches or hotlines, could improve legal access to safe abortion care in Zambia (Endler 2019; Gerdtz 2020). The Covid-19 pandemic may offer an important impetus to rapidly deliver such regulatory or systemic change, since studies are beginning to show that women's access to abortion in health facilities is even more restricted than before (Riley 2020). Finally, pharmacy staff expressed conflicting values surrounding abortion, which in part determined the criteria used to decide who can access care. Values clarification and attitude transformation materials or workshops for pharmacy staff may support more equitable access to safe abortion (Turner 2018), though the sustainability of such interventions may be limited in the pharmacy context.

## LIMITATIONS

This research has several limitations. The topic was highly sensitive as participants were reporting on informal practices, and this will likely have affected the way that participants represented themselves in the interviews. The focus of many pharmacy workers on the public health justification for providing safe abortion, and limited discussion of financial motivations, may reflect the sensitive nature of the topic. Despite the sensitivity of the topic, most pharmacy workers did describe providing MA without a prescription, suggesting that the interviewers were able to put the participants sufficiently at ease. Participants within the pharmacy were selected on the recommendation of pharmacy owners, which may have led to us interviewing higher level staff rather than the lower level attendants who are known to most frequently serve clients. However, the perspectives of formal, higher level pharmacy staff will likely influence the practices of lower level attendants and the overall practice of the pharmacy. Pharmacy staff were selected from pharmacies that had agreed to take part in a larger intervention study. These pharmacies may be more comfortable providing MA, less risk averse, more conscientious about client care, or more likely to provide MA within the legal restrictions, than pharmacies that did not wish to be included in the intervention. It is also possible that their involvement in the intervention may have affected their perspectives on MA, but the intervention involved only the display of promotional materials within the pharmacies, so was not expected to alter the pharmacy workers' knowledge or behavior. Our sample was small, and limited to Lusaka, and further research could explore how the situation varies in other cities and towns in Zambia, and importantly in more rural pharmacies. Finally, this paper does not include the perspectives of clients, other types of health provider, or policy makers. Though we did aim to interview clients as well as pharmacy staff, low participation rates led us to end recruitment early, as few clients were willing to be interviewed, reflecting the sensitivity surrounding this practice of purchasing MA from pharmacies.

Including the perspectives of other types of health care provider, or those involved in setting health policy, could provide additional context to some of these findings.

## CONCLUSION

This study highlights how limited implementation of abortion law reform and health system failures surrounding abortion have turned pharmacy workers into reluctant gatekeepers of safe abortion methods in Zambia. Motivated by their duty of care and desire to prevent unsafe abortion, as well as financial gain, pharmacy workers expand access to safe abortion methods. However, pharmacy workers' motivation to protect themselves from legal and business risk can perpetuate inequalities in access to safe abortion care. Laws, policies, and regulations must be adapted to ensure women can access high quality abortion care. Removing the requirement for multiple doctors' signatures, enabling task sharing of abortion to mid-level providers and pharmacists, increasing public awareness of abortion laws and rights, values clarification and attitude transformation to reduce provider refusal, and increasing the ease with which pharmacists and women can access prescriptions through telemedicine approaches could improve legal access to safe abortion in Zambia.

## CONFLICT OF INTERESTS

The authors declare no conflict of interests.

## DATA AVAILABILITY STATEMENT

Anonymized data are available from the corresponding author upon request.

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